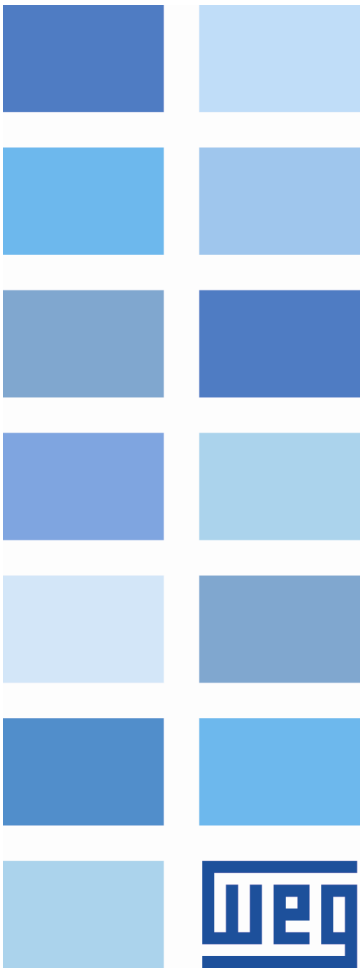
EtherNet/IP®

CFW900

Communication Manual



EtherNet/IP® Communication Manual

Series: CFW900

Software version: 1.09.XX

Language: English

Document: 10010168000 / 05

Publication Date: 05/2024

The information below describes the reviews made in this manual.

Version	Revision	Description
V1.07.XX	R00	First edition
V1.08.XX	R01	General review and parameter list update.
V1.08.XX	R02	General review.
V1.08.XX	R03	General review.
V1.09.XX	R04	General review and parameter list update.
V1.09.XX	R05	General review.

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ABOUT THE MANUAL

This manual supplies the necessary information for the operation of the CFW900 frequency inverter using the EtherNet/IP protocol. This manual must be used together with the CFW900 user's manual and programming manual.

NUMERICAL REPRESENTATION

Decimal numbers are represented by means of digits without suffix. Hexadecimal numbers are represented with the letter 'h' after the number. Binary numbers are represented with the letter 'b' after the number.

DOCUMENTS

The EtherNet/IP protocol was developed based on the following specifications and documents:

Document	Version	Source
Volume One - Common Industrial Protocol (CIP) Specification	3.32	ODVA
Volume Two - EtherNet/IP Adaptation of CIP	1.30	ODVA
Media Planning and Installation Manual - EtherNet/IP	PUB00148R0	ODVA
Guidelines for Using Device Level Ring with EtherNet/IP	PUB00316R2	ODVA

In order to obtain this documentation, consult ODVA, which is nowadays the organization that keeps, publishes and updates the information related to the EtherNet/IP network.

IMPORTANT NOTICE ABOUT CYBERSECURITY AND COMMUNICATIONS

This product/equipment can connect and exchange information through networks and communication protocols. It has been designed and subjected to tests to ensure correct operation with other automation systems using the protocols mentioned in this manual. Therefore, it is essential that the customer understands the responsibilities in connection with information and cybersecurity when using this equipment.

Consequently, it is the exclusive obligation of the customer to adopt in-depth defense strategies and implement policies and measures to ensure the security of the system as a whole, including with regard to communications sent and received by the equipment. Among such measures, we can point out the installation of firewalls, antivirus and malware protection applications, data encryption, authentication control and physical user access.

WEG and its affiliates take no liability for damages or losses arising from cybersecurity breaches, including, but not limited to, unauthorized access, intrusion, information, or data leak and/or theft, denial-of-service attacks, or any other form of security breach. Using this product under conditions for which it was not specifically designed is not recommended and may result in damage to the product, the network, and the automation system. Thus, it is essential that the customer understand that the external intervention by third-party software applications, such as sniffers or applications with similar actions, has the potential to cause interruptions or restrictions in the functionality of the equipment.

TRADEMARKS

EtherNet/IP is a trademark of ODVA, Inc.

All other trademarks are the property of their respective holders.

1 MAIN CHARACTERISTICS

Below are the main characteristics for communication of the frequency inverter CFW900.

- The interface follows the Fast Ethernet 100BASE-TX standard.
- It allows communication using the 10 or 100 Mbps rates in half or full duplex mode.
- It has a built-in, two-port Ethernet switch.
- The Ethernet ports work with Auto-MDIX (automatic medium-dependent interface crossover), a technology which automatically detects the type of cable used and configures the connection accordingly, eliminating the need of cross-over cables.
- It has a built-in WEB server (HTTP), which provides access to configuration and parameterization of the equipment.

1.1 ETHERNET/IP SPECIFIC CHARACTERISTICS

- It is supplied with an EDS file for the network master configuration.
- Allows up to 50 input words and 50 output words for cyclic data communication.
- Supports ODVA (AC Drive) and manufacturer-specific profiles.
- Acyclic data available for parameterization.
- Up to 4 CIP Class 1 and Class 3 connections.
- Support to Unconnected Explicit Messages.
- Announce-based Device Level Ring (DLR) to redundancy.

2 INTERFACE DESCRIPTION

2.1 CONNECTORS

The peripheral for EtherNet/IP communication has two RJ45 connectors for network connection. The connector pin out follows the Fast Ethernet 100BASE-TX standard, using two pairs of cables for data transmission and reception.

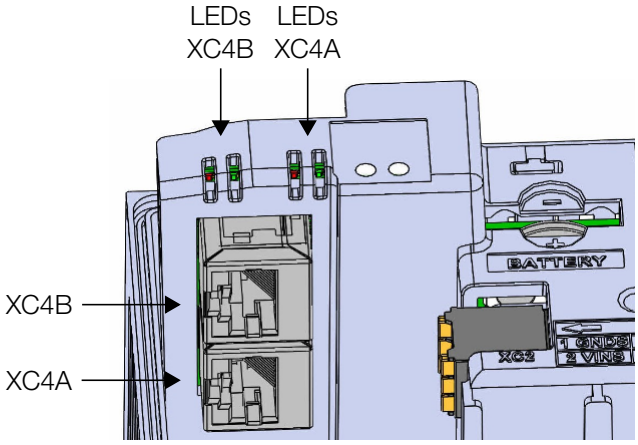


Figure 2.1: *Ethernet XC4A and XC4B connectors*

The housings of the Ethernet connectors, which are normally connected to the cable shield, have connections between themselves and to the protective earth via a RC circuit.

2.2 INDICATION LEDS

Each Ethernet port (XC4A and XC4B) has a LED for speed indication and another for link / network activity indication. These LEDs have the following functions and indications.

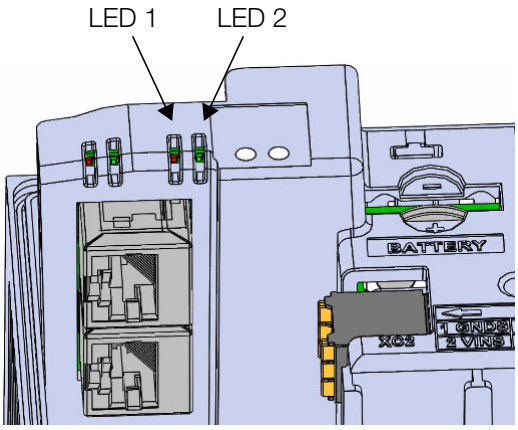


Table 2.1: *LED 1 - link/activity*

State	Description
Off	Equipment off or no link.
Red, solid	Link up and no activity.
Red, flashing	Link up and activity.

Table 2.2: *LED 2 - speed*

State	Description
Off	Equipment off or 10 Mbps link.
Green, solid	100 Mbps link.

3 ETHERNET/IP NETWORK INSTALLATION

This chapter presents recommendations related to equipment installation in an Ethernet network.

3.1 IP ADDRESS

Every equipment in an Ethernet network needs an IP address and subnet mask.

The IP addressing is unique in the network, and each equipment must have a different IP. The subnet mask is used to define which IP address range is valid in the network.

The CFW900 frequency inverter allows the use of two methods for programming these features, programmable via menu C9.4.1:

- Parameters: uses the configurations of IP address, mask and gateway as programmed on equipment parameters.
- DHCP: enable the configuration of the CFW900 via DHCP server. The DHCP can automatically assign IP addresses, subnet mask, etc. to the devices on the network. The configurations performed via parameters are disregarded.

3.2 COMMUNICATION RATE

The Ethernet interfaces of the CFW900 frequency inverter can communicate using the 10 or 100 Mbps rates in half or full duplex mode.

NOTE!
It is important that, for each Ethernet connection made between two points, the baud rate and the duplex mode are set to the same option. If the option AUTO is used in one of the points, you must set the other point also to AUTO, or to half duplex mode.

3.3 CABLE

Recommended characteristics of the cable used in the installation:

- Standard Ethernet cable, 100Base-TX (FastEthernet), CAT 5e or higher.
- Shielded cable.
- Maximum length between devices: 100 m.

For installation, it is recommended the use of shielded Ethernet cables specific for use in industrial environment.

3.4 NETWORK TOPOLOGY

To connect CFW900 frequency inverter in an Ethernet network, usually the star connection is made using an industrial switch.

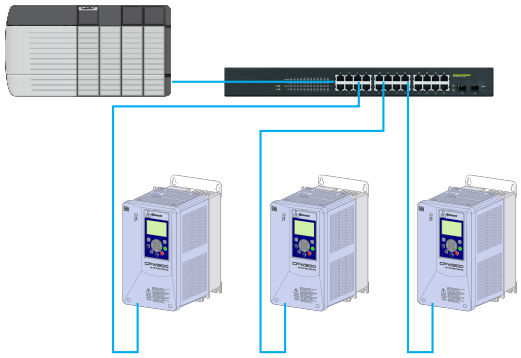


Figure 3.1: *Star topology*

It is also possible to make the connection in daisy chain and the connection in ring (Device Level Ring, DLR).

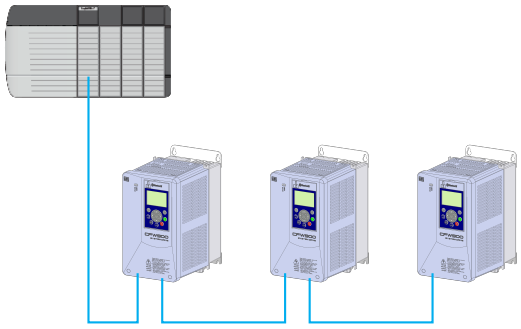


Figure 3.2: *Daisy chain topology*

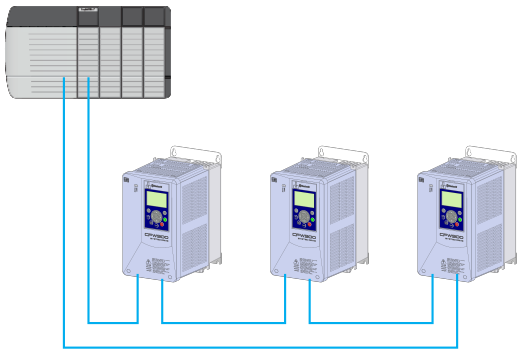


Figure 3.3: *Ring topology*

NOTE!
When the equipment is turned off, the built-in switch is also deactivated, preventing communication with the subsequent equipment.

3.5 RECOMMENDATIONS FOR GROUNDING CONNECTION AND CABLE ROUTING

The correct connection with the ground decreases problems caused by interference in an industrial environment. The following are some recommendations about grounding and cable routing:

- Always use shielded twisted pair Ethernet cables and connectors with metallic housing.
- Connect the equipment grounding via grounding terminal. Avoid the cable connection on multiple grounding points, especially where there are grounds with different potentials.

- Pass signal cables and communication cables in dedicated pathways. Prevent laying these cables next to power cables.

4 S STATUS

This menu contains the status information of the inverter, motor, control accessories and networks. It is also possible to access information related to the functional safety of the inverter. It allows viewing the reading variables of the CFW900.

NOTE!
All parameters present in this menu can only be seen on the HMI display and cannot be changed by the user unless they are linked to the parameters of the **Configurations** menu.

S5 COMMUNICATIONS

It allows viewing the parameters used for monitoring and controlling the CFW900 inverter using communication interfaces.

S5.1 Status and Commands

It allows viewing the CFW900 logical status and commands.

S5.1 Status and Commands	
.1 Status Word 1	0 ... 15 Bit
.2 Speed	-200.00 ... 200.00 %
.3 Status Word 2	0 ... 15 Bit
.4 Status Word 3	0 ... 1 Bit

.1 Status Word 1 It indicates the operating status of the inverter. Each bit represents a status.

Bit	Value/Description
Bit 0 STO	**0 = No**: STO function is inactive (inverter operational). **1 = Yes**: STO function is active (inverter locked).
Bit 1 Run Command	**0 = No**: no run command active. **1 = Yes**: run command active.
Bit 2 Local	**0 = No**: inverter in Remote command mode. **1 = Yes**: inverter in Local command mode (via HMI).
Bit 3 Not used	Not used.
Bit 4 No Quick Stop	**0 = No**: quick stop command active. **1 = Yes**: no quick stop command active.
Bit 5 2nd Ramp	**0 = No**: 1st acceleration and deceleration ramp by C6.1.1 and C6.1.2. **1 = Yes**: 2nd acceleration and deceleration ramp by C6.1.4 and C6.1.5.
Bit 6 Config. Mode	**0 = No**: inverter in normal operation. **1 = Yes**: inverter in configuration state. It indicates a special condition in which the inverter cannot be enabled.
Bit 7 Alarm	**0 = No**: without alarm. **1 = Yes**: with alarm active.
Bit 8 Running	**0 = No**: motor is stopped. **1 = Yes**: motor is running according to reference and command.
Bit 9 Enabled	**0 = No**: inverter is general disabled. **1 = Yes**: inverter is general enabled.
Bit 10 Reverse	**0 = No**: motor running in the forward direction. **1 = Yes**: motor running in the reverse direction.
Bit 11 JOG	**0 = No**: no JOG command active. **1 = Yes**: JOG command is active.
Bit 12 Remote 2	**0 = No**: inverter in Remote 1 command mode. **1 = Yes**: inverter in Remote 2 command mode.
Bit 13 Undervoltage	**0 = No**: without undervoltage. **1 = Yes**: with undervoltage.
Bit 14 Not used	Not used.
Bit 15 Fault	**0 = No**: normal operation. **1 = Yes**: fault acting.

.2 Speed It indicates the actual speed of the motor driven by the inverter in percentage of the maximum speed.
- S5.1.2 = 0.00 % ⇒ motor speed = 0 rpm
- S5.1.2 = 100.00 % ⇒ motor speed = C4.3.1.1.2

Intermediate or higher speed values can be obtained by using this scale. For example, if the value read is 25.0 %, considering C4.3.1.1.2 = 1800 rpm, to obtain the value in rpm you must calculate:

100.00 % : 1800 rpm
25.00 % : Speed

$$\text{Speed} = \frac{25.00 \times 1800}{100.00}$$

Speed = 450 rpm

Negative values indicate motor running in the reverse direction of rotation.

.3 Status Word 2 It indicates other status of the inverter functions. Each bit represents a status.

Bit	Value/Description
Bit 0 Self-tuning	**0 = No**: inverter is not running the Self-tuning routine. **1 = Yes**: inverter is running the Self-Tuning routine to estimate the motor parameters.
Bit 1 Not used	Not used.
Bit 2 Pre-Charge OK	**0 = No**: pre-charge of the DC link capacitors not completed. **1 = Yes**: pre-charge of the DC link capacitors completed.
Bit 3 Not used	Not used.
Bit 4 Not used	Not used.
Bit 5 Decel. Ramp	**0 = No**: no deceleration. **1 = Yes**: inverter decelerating.
Bit 6 Acc. Ramp	**0 = No**: no acceleration. **1 = Yes**: inverter accelerating.
Bit 7 Freeze Ramp	**0 = No**: ramp operating in normal conditions. **1 = Yes**: the path of the ramp is frozen by some command source or internal function.
Bit 8 Setpoint OK	**0 = No**: motor speed has not reached the reference yet. **1 = Yes**: motor speed has reached the reference.
Bit 9 DC Voltage Limitation	**0 = No**: DC link limitation inactive. **1 = Yes**: DC link limitation active.
Bit 10 Current Limitation	**0 = No**: current limitation inactive. **1 = Yes**: current limitation active.
Bit 11 Torque Limitation	**0 = No**: torque limitation inactive. **1 = Yes**: torque limitation active.
Bit 12 Ride-Through	**0 = No**: Ride-through not running. **1 = Yes**: Ride-through running.
Bit 13 Flying Start	**0 = No**: Flying start not running. **1 = Yes**: Flying start running.
Bit 14 DC Braking	**0 = No**: DC breaking inactive. **1 = Yes**: DC breaking active.
Bit 15 PWM pulses	**0 = No**: PWM voltage pulses at the output disabled. **1 = Yes**: PWM voltage pulses at the output enabled.

.4 Status Word 3 It indicates other status of the inverter functions. Each bit represents a status.

Bit	Value/Description
Bit 0 SD Card	SD card is only detected during the inverter initialization, so the inverter will not detect SD card disconnection during operation. **0 = No**: SD card not connected. **1 = Yes**: SD card connected.
Bit 1 Not used	Not used.

S5.3 Ethernet

It allows viewing the status of the Ethernet network interface and the commands received by this interface.

S5.3 Ethernet	
.1 Interface Status	0 ... 1 Bit
.2 Control Word	0 ... 7 Bit
.3 Speed Reference	-200.00 ... 200.00 %
.5 Actual IP Address	0.0.0.0 ... 255.255.255.255
.6 MQTT Status	0 ... 2
.7 Last Public. MQTT	YYYY-MM-DD HH:MM:SS
.8 SNTP - Status	0 ... 2
.9 SNTP - Last update	YYYY-MM-DD HH:MM:SS
.10 SymbiNet: Groups Status	0 ... 7 Bit

.1 Interface Status It indicates the status of the Ethernet network interface. Each bit represents a state.

Bit	Value/Description
Bit 0 Link 1	**0 = No**: No link on port 1. **1 = Yes**: Link active on port 1.
Bit 1 Link 2	**0 = No**: No link on port 2. **1 = Yes**: Link active on port 2.

.2 Control Word It indicates the status of the control word via Ethernet network interface. This parameter can only be changed via Ethernet network interface. For other sources, only read access is allowed.

For the commands written in this parameter to be executed, the inverter must be programmed to be commanded via Ethernet. This programming is done through menu C4.

Each bit of this word represents a command that can be executed on the inverter.

Bit	Value/Description
Bit 0 Enable Ramp	**0 = No**: stops the motor by deceleration ramp. **1 = Yes**: the motor turns according to the acceleration ramp until reaching the speed reference value.
Bit 1 General Enable	**0 = No**: disables the inverter completely, interrupting the motor power supply. **1 = Yes**: enables the inverter completely, allowing the operation of the motor.
Bit 2 Run Reverse	**0 = No**: runs the motor in the direction of the reference signal (forward). **1 = Yes**: runs the motor in the opposite direction of the reference signal (reverse).
Bit 3 Enable JOG	**0 = No**: disables the JOG function. **1 = Yes**: enables the JOG function.
Bit 4 R1/R2 Mode	**0 = R1**: selects the Remote 1 command mode. **1 = R2**: selects the Remote 2 command mode.
Bit 5 2nd Ramp	**0 = No**: 1st ramp acceleration and deceleration according to parameters C6.1.1 and C6.1.2. **1 = Yes**: 2nd ramp acceleration and deceleration according to parameters C6.1.4 and C6.1.5.
Bit 6 No Quick Stop	**0 = No**: enables quick stop. **1 = Yes**: disables quick stop.
Bit 7 Fault Reset	**0 = No**: not used. **1 = Yes**: in the transition, if in a fault state, it resets the fault.

.3 Speed Reference It indicates the speed reference sent via Ethernet network interface to the motor driven by the inverter in percentage of the maximum speed. This parameter can only be changed via Ethernet network interface. For other sources, only read access is allowed.

For the reference written in this parameter to be used, the inverter must be programmed to use the speed reference via Ethernet. This programming is done through menu C4.
- S5.3.3 = 0.00 % ⇒ speed reference = 0 rpm
- S5.3.3 = 100.00 % ⇒ speed reference = C4.3.1.1.2

Intermediate or higher speed values can be obtained by using this scale. For example, if the desired value for the

reference is 900 rpm, considering C4.3.1.1.2 = 1800 rpm, it should be calculated:

100.00 % : 1800 rpm
Reference % : 900 rpm

$$\text{Reference \%} = \frac{900 \times 100.00}{1800}$$

Reference % = 50 %

Negative values can be used to reverse the direction of rotation of the motor. The direction of rotation of the motor, however, also depends on the value of the rotation direction command bit in S5.3.2:

- Bit Direction of Rotation = 0 and S5.3.3 > 0: reference for the forward direction
- Bit Direction of Rotation = 0 and S5.3.3 < 0: reference for the reverse direction
- Bit Direction of Rotation = 1 and S5.3.3 > 0: reference for the reverse direction
- Bit Direction of Rotation = 1 and S5.3.3 < 0: reference for the forward direction

.5 Actual IP Address It allows viewing the IP address in use by the device.

.6 MQTT Status It indicates the status of the MQTT communication, regarding settings and the sending of data to the server.

Indication	Description
0 = Inactive	It indicates that the Embedded Drive Scan function is not set; it is disabled.
1 = No Connection	It indicates that the Embedded Drive Scan function has been set and is enabled, but there is currently no active connection to the configured Broker.
2 = Connected	It indicates that the Embedded Drive Scan function has been set up and is enabled and has an active connection to the configured Broker.

.7 Last Public. MQTT It indicates the date and time of the last successful sending of collected data to the MQTT communication.

.8 SNTP - Status It indicates the status of the NTP server, regarding configuration and receiving data from the server.

Indication	Description
0 = Inactive	It indicates that the NTP server is not configured; it is disabled.
1 = No Connection	It indicates that the NTP server has been set up and is enabled, but currently has no active connection.
2 = Connected	It indicates that the NTP server has been set up and is enabled, and has active connection.

.9 SNTP - Last update It indicates the date and time of the last NTP server update.

.10 SymbiNet: Groups Status It indicates the communication status for the groups programmed for SymbiNet communication. Each bit represents the state of one group, where bit 0 indicates the state of group 1, and bit 7 indicates the state of group 8.

Bit	Value/Description
Bit 0 Group 1 Status	**0 = Inactive**: Indicates the group for SymbiNet communication is inactive (no data received within the programmed period), or the group is not programmed. **1 = Active**: Indicates the group for SymbiNet communication is active, meaning the group data has been received and is update.
Bit 1 Group 2 Status	**0 = Inactive**: Indicates the group for SymbiNet communication is inactive (no data received within the programmed period), or the group is not programmed. **1 = Active**: Indicates the group for SymbiNet communication is active, meaning the group data has been received and is update.
Bit 2 Group 3 Status	**0 = Inactive**: Indicates the group for SymbiNet communication is inactive (no data received within the programmed period), or the group is not programmed. **1 = Active**: Indicates the group for SymbiNet communication is active, meaning the group data has been received and is update.
Bit 3 Group 4 Status	**0 = Inactive**: Indicates the group for SymbiNet communication is inactive (no data received within the programmed period), or the group is not programmed. **1 = Active**: Indicates the group for SymbiNet communication is active, meaning the group data has been received and is update.
Bit 4 Group 5 Status	**0 = Inactive**: Indicates the group for SymbiNet communication is inactive (no data received within the programmed period), or the group is not programmed. **1 = Active**: Indicates the group for SymbiNet communication is active, meaning the group data has been received and is update.
Bit 5 Group 6 Status	**0 = Inactive**: Indicates the group for SymbiNet communication is inactive (no data received within the programmed period), or the group is not programmed. **1 = Active**: Indicates the group for SymbiNet communication is active, meaning the group data has been received and is update.
Bit 6 Group 7 Status	**0 = Inactive**: Indicates the group for SymbiNet communication is inactive (no data received within the programmed period), or the group is not programmed. **1 = Active**: Indicates the group for SymbiNet communication is active, meaning the group data has been received and is update.
Bit 7 Group 8 Status	**0 = Inactive**: Indicates the group for SymbiNet communication is inactive (no data received within the programmed period), or the group is not programmed. **1 = Active**: Indicates the group for SymbiNet communication is active, meaning the group data has been received and is update.

S5.4 EtherNet/IP

It allows viewing information about the EtherNet/IP protocol.

S5.4 EtherNet/IP	
.1 EIP Master Status	0 ... 1
.2 Communication Status	0 ... 4
.3 DLR Topology	0 ... 1
.4 DLR Status	0 ... 2

.1 EIP Master Status It indicates the status of the EtherNet/IP network master. It may be in operation mode (Run) or in configuration mode (Idle).

Indication	Description
0 = Run	Reading and writing telegrams are processed and updated normally by the master.
1 = Idle	Only reading telegrams from the slaves are updated by the master. Writing, in this case, is disabled.

.2 Communication Status It indicates the status of the Ethernet/IP network interface.

Indication	Description
0 = Inactive	Not used.
1 = No Connection	It indicates that the EtherNet/IP network interface has been initialized, but is not communicating with the network master.
2 = Connected	It indicates that communication with the network master has been established, and I/O data is being successfully communicated.
3 = I/O Connection Timeout	I/O type connection has expired.
4 = Duplicate IP	Not used.

.3 DLR Topology It indicates the network topology.

Indication	Description
0 = Linear	It indicates linear topology.
1 = Ring	It indicates ring topology.

.4 DLR Status It indicates the network status.

Indication	Description
0 = Idle State	Ring Node is in Idle state.
1 = Normal State	Ring Node is in Normal state.
2 = Fault State	Ring Node is in Fault state.

5 C CONFIGURATIONS

It allows changing the CFW900 configuration parameters. Depending on the parameter property, it is possible to set its value according to the table below.

Property	Description
Stopped	Parameter can only be changed with the motor stopped.
Model	Default value may change according to inverter model.

NOTE!
Parameter options with the description ”Not used” are for WEG’s exclusive use.

C9 COMMUNICATIONS

It sets the CFW900 to exchange information via communication network.

C9.2 I/O Data

It sets the cyclic data exchange area of the communication networks.

C9.2.1 Reading Data

It configures a set of 16-bit parameters to be read via communication network.

C9.2.1 Reading Data
C9.2.1.1 Word #1

C9.2.1.1 to C9.2.1.100

C9.2.1 Reading Data
C9.2.1.100 Word #100
Range: 0 ... 9999 **Default:** 0
Properties: Stopped

Description:
It selects the address (Net Id) of the parameter whose content should be provided in the reading area for the fieldbus interfaces (input: sent to the network master).

The size of the referenced parameter must be taken into account. If the data size is greater than 16 bits, the configuration parameter of the next programmable word must be set to the same address.

C9.2.2 Writing Data

It configures a set of 16-bit parameters to be written via communication network.

C9.2.2 Writing Data
C9.2.2.1 Update Delay
Range: 0.0 ... 999.0 s **Default:** 0.0 s
Properties:

Description:
Whenever there is a transition from offline (without cyclic data) to online (with cyclic writing data), the data received via communication network (writing words) is ignored during this programmed time, remaining in the state it was before the beginning of the reception.

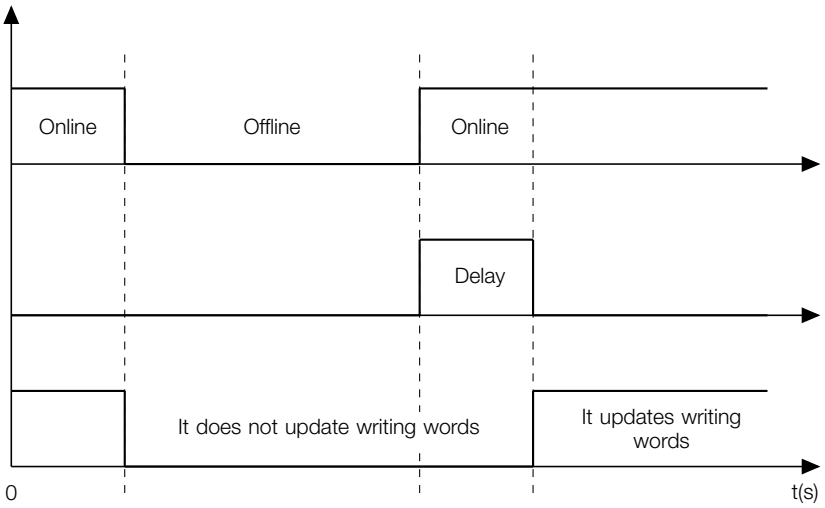


Figure 5.1: *Delay in the update of the I/O words*

C9.2.2 Writing Data
C9.2.2.2 Word #1

C9.2.2.2 to C9.2.2.101

C9.2.2 Writing Data
C9.2.2.101 Word #100

Range:	0 ... 9999	**Default:** 0
Properties:	Stopped	

Description:
It selects the address (Net Id) of the parameter whose content should be provided in the writing area for the fieldbus interfaces (output: received from the network master).

The size of the referenced parameter must be taken into account. If the data size is greater than 16 bits, the configuration parameter of the next programmable word must be set to the same address.

C9.4 Ethernet

Settings for the product built-in Ethernet port.

For a detailed description, refer to the CFW900 Modbus TCP Communication Manual, available in electronic format.

C9.4 Ethernet
C9.4.1 IP Address Settings

Range:	0 ... 1	**Default:** 1
Properties:		

Description:
It allows setting the IP address for the built-in Ethernet interface.

Indication	Description
0 = Parameters	The IP address, subnet mask and gateway must be set through the product parameters.
1 = DHCP	Enables the DHCP function. The IP address and other network settings are received from a DHCP server via network.

C9.4 Ethernet
C9.4.2 IP Address

Range: 0.0.0.0 ... 255.255.255.255 **Default:** 192.168.0.10
Properties:

Description:
It allows programming the IP address of the Ethernet interface. It only takes effect if the address was set via parameters.

C9.4 Ethernet
C9.4.3 Network Mask

Range: 0 ... 31 **Default:** 24
Properties:

Description:
It allows programming the subnet mask used for the Ethernet interface. It only takes effect if the address was set via parameters.

The following table shows the allowable values for CIDR and the equivalent dot-separated notation for the subnet mask:

Indication	Description
0 = Not used	Subnet mask.
1 = 128.0.0.0	Subnet mask.
2 = 192.0.0.0	Subnet mask.
3 = 224.0.0.0	Subnet mask.
4 = 240.0.0.0	Subnet mask.
5 = 248.0.0.0	Subnet mask.
6 = 252.0.0.0	Subnet mask.
7 = 254.0.0.0	Subnet mask.
8 = 255.0.0.0	Subnet mask.
9 = 255.128.0.0	Subnet mask.
10 = 255.192.0.0	Subnet mask.
11 = 255.224.0.0	Subnet mask.
12 = 255.240.0.0	Subnet mask.
13 = 255.248.0.0	Subnet mask.
14 = 255.252.0.0	Subnet mask.
15 = 255.254.0.0	Subnet mask.
16 = 255.255.0.0	Subnet mask.
17 = 255.255.128.0	Subnet mask.
18 = 255.255.192.0	Subnet mask.
19 = 255.255.224.0	Subnet mask.
20 = 255.255.240.0	Subnet mask.
21 = 255.255.248.0	Subnet mask.
22 = 255.255.252.0	Subnet mask.
23 = 255.255.254.0	Subnet mask.
24 = 255.255.255.0	Subnet mask. Factory setting.
25 = 255.255.255.128	Subnet mask.
26 = 255.255.255.192	Subnet mask.
27 = 255.255.255.224	Subnet mask.
28 = 255.255.255.240	Subnet mask.
29 = 255.255.255.248	Subnet mask.
30 = 255.255.255.252	Subnet mask.
31 = 255.255.255.254	Subnet mask.

C9.4 Ethernet
C9.4.4 Gateway

Range: 0.0.0.0 ... 255.255.255.255 **Default:** 0.0.0.0
Properties:

Description:
It allows programming the IP address of the default gateway used by the Ethernet interface. It only takes effect if the address was set via parameters.

C9.4 Ethernet
C9.4.5 SNTP - Server 1

Range: 0.0.0.0 ... 255.255.255.255 **Default:** 0.0.0.0
Properties:

Description:
It allows programming the IP address of the NTP primary server. If the value is zero, the NTP client is disabled.

C9.4 Ethernet
C9.4.6 SNTP - Server 2

Range: 0.0.0.0 ... 255.255.255.255 **Default:** 0.0.0.0
Properties:

Description:
It allows programming the IP address of the NTP secondary server.

C9.4 Ethernet
C9.4.7 SNTP - Update
Range: 0 ... 65535 **Default:** 0
Properties:

Description:
It indicates the NTP server date and time update interval. If the value is zero, the NTP client is disabled. The minimum interval is 15 seconds.

C9.4 Ethernet
C9.4.8 Enable protocols
Range: 0 ... 2 Bit **Default:** 3
Properties:

Description:
It allows enabling and disabling functionalities of some protocols, limiting the exposure of the inverter via network.

Bit	Value/Description
Bit 0 Web Server	**0 = Disabled**: Protocol disabled. **1 = Enabled**: Protocol enabled.
Bit 1 Not used	Not used.
Bit 2 Not used	Not used.

C9.5 EtherNet/IP

It allows programming how the EtherNet/IP network protocol writing and reading data exchange should be using the CFW900 built-in Ethernet port.

C9.5 EtherNet/IP

C9.5.1 EtherNet/IP I/O Instances

Range: 0 ... 10 **Default:** 0

Properties: Stopped

Description:

It allows selecting the Assembly class instance used for the exchange of I/O data with the network master.

The CFW900 frequency inverter has eleven setting options. Four of them follow the standard defined in the ODVA AC/DC Drive Profile. The others represent specific words for the CFW900 frequency inverter. The table below details each of these control and status words.

Section 6.1 details each instance.

Indication	Description
0 = 20/70 CIP	Basic Speed; these instances represent the simplest operation interface of a device according to the AC/DC Drive Profile.
1 = 21/71 CIP	Extended Speed; these instances represent a slightly improved interface for operating the device that follows the AC/DC Device Profile.
2 ... 3 = Not used	Not used.
4 = 120/170 CIP + I/O data	They have the same data format as the 20/70 CIP Basic Speed Control instances. In addition, it is possible to program up to 48 parameters of the equipment itself for reading and/or 48 for writing via network.
5 = 121/171 CIP + I/O data	They have the same data format as the 21/71 CIP Extended Speed Control instances. In addition, it is possible to program up to 48 parameters of the equipment itself for reading and/or 48 for writing via network.
6 ... 7 = Not used	Not used.
8 = 100/150 Manuf. + I/O data	These instances represent the operating interface of the equipment according to the CFW900 frequency inverter profile. Besides the control and status words, speed reference and effective value, it is possible to program up to 48 parameters of the device itself for reading and/or 48 for writing via network.
9 = 101/151 Manuf. + I/O data	These instances represent an interface very similar to the 100/150 Manufacturer Speed Control + configurable I/O data, with the only difference being the possibility of sending the torque limit.
10 = 102/152 Config I/O data	In these instances it is possible to program up to 50 parameters of the equipment itself for reading and/or 50 for writing via network.

C9.5 EtherNet/IP

C9.5.2 Readings 1st Word

Range: 1 ... 100 **Default:** 1

Properties: Stopped

Description:

It sets the index of the first programmable reading word for data exchange with the network (input to the network master), configured in C9.5.2.

C9.5 EtherNet/IP

C9.5.3 Readings Quantity

Range: 0 ... 50 **Default:** 0

Properties: Stopped

Description:

It sets the number of programmable reading words for data exchange with the network (input to the network master), from the first word set in C9.5.3.

C9.5 EtherNet/IP

C9.5.4 Writings 1st Word

Range: 1 ... 100 **Default:** 1

Properties: Stopped

Description:
It sets the index of the first programmable writing word for data exchange with the network (output to the network master), configured in C9.5.4.

C9.5 EtherNet/IP		
C9.5.5 Writings Quantity		
Range:	0 ... 50	**Default:** 0
Properties:	Stopped	

Description:
It sets the number of programmable writing words for data exchange with the network (output to the network master), from the first word set in C9.5.5.

6 OPERATION IN THE ETHERNET/IP NETWORK

6.1 I/O INSTANCES

The bits of each instance of the Assembly class are described below, with the mappings of the control and status words of the drive.

C9.5.1 = 0, 20/70 CIP Basic Speed (2 words):

Status (Input)

Instance	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
70	0						Running1		Faulted
	1	-							
	2	Speed Actual (low byte)							
	3	Speed Actual (high byte)							

Control (Output)

Instance	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
20	0						Fault Reset		Run Fwd
	1	-							
	2	Speed Reference (low byte)							
	3	Speed Reference (high byte)							

NOTE!
In item 6.1.1, the function of each bit of the words of this instance is described.

C9.5.1 = 1, 21/71 CIP Extended Speed (2 words):

Status (Input)

Instance	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
71	0	At Reference	Ref. from Net	Ctrl from Net	Ready	Running2 (Rev)	Running1 (Fwd)	Warning	Faulted
	1	Drive State							
	2	Speed Actual (low byte)							
	3	Speed Actual (high byte)							

Control (Output)

Instance	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
21	0		NetRef	NetCtrl			Fault Reset	Run Rev	Run Fwd
	1	-							
	2	Speed Reference (low byte)							
	3	Speed Reference (high byte)							

NOTE!
In item 6.1.1, the function of each bit of the words of this instance is described.

C9.5.1 = 4, 120/170 CIP Basic Speed (2 words) + I/O data (up to 48 words):

It has the same semantics as the instances of the 20/70 class but with the possibility of programming up to 48 reading words (C9.5.2 and C9.5.3) and/or 48 drive writing words (C9.5.4 and C9.5.5).

Status (Input)

	Instance	16-bit words	Function
Fixed	170	#1	CIP Status Word
		#2	Actual Speed
Programmable		#3	Reading #1 EtherNet/IP
		#4	Reading #2 EtherNet/IP
		#5	Reading #3 EtherNet/IP
		⋮	⋮
		#50	Reading #48 EtherNet/IP

C9.5.3: 0, 1, 2, 3, 48

Control (Output)

	Instance	16-bit words	Function
Fixed	120	#1	CIP Control Word
		#2	Speed Reference
Programmable		#3	Writing #1 EtherNet/IP
		#4	Writing #2 EtherNet/IP
		#5	Writing #3 EtherNet/IP
		⋮	⋮
		#50	Writing #48 EtherNet/IP

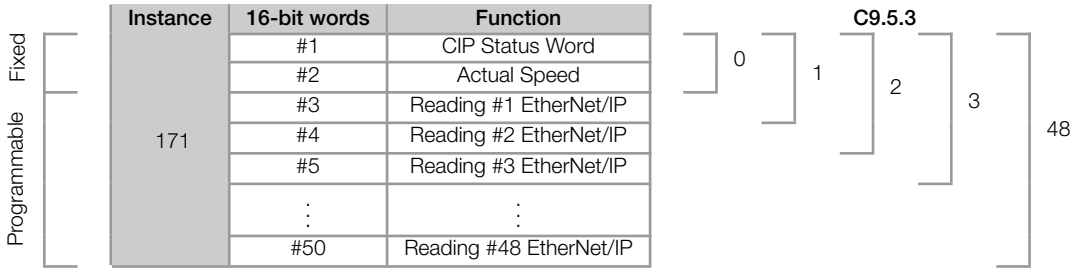
C9.5.5: 0, 1, 2, 3, 48

NOTE!
In item 6.1.1, the function of each bit of the words of this instance is described.

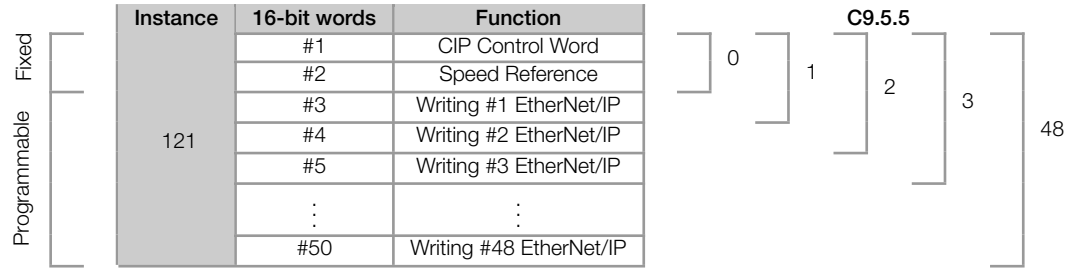
C9.5.1 = 5, 121/171 CIP Extended Speed (2 words) + I/O data (up to 48 words):

It has the same semantics as the instances of the 21/71 class but with the possibility of programming up to 48 reading words (C9.5.2 and C9.5.3) and/or 48 drive writing words (C9.5.4 and C9.5.5).

Status (Input)



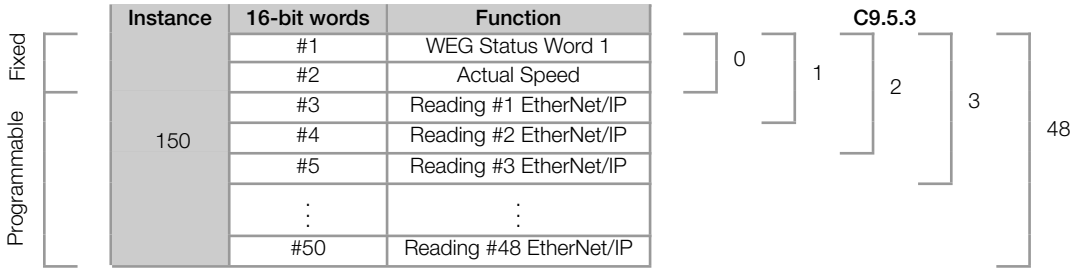
Control (Output)



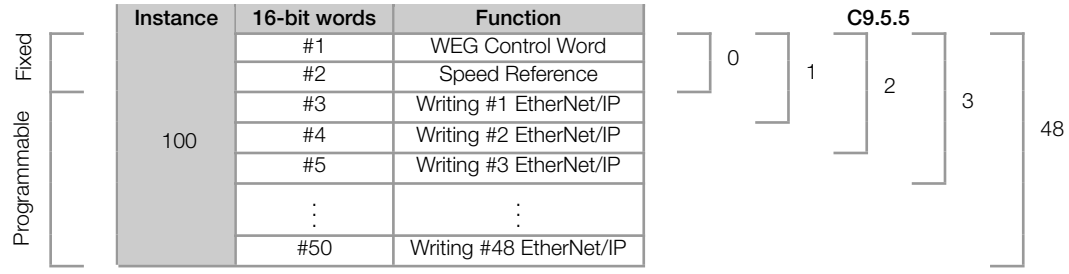
NOTE!
In item 6.1.1, the function of each bit of the words of this instance is described.

C9.5.1 = 8, 100/150 Manufacturer Speed (2 words) + I/O data (up to 48 words):

Status (Input)



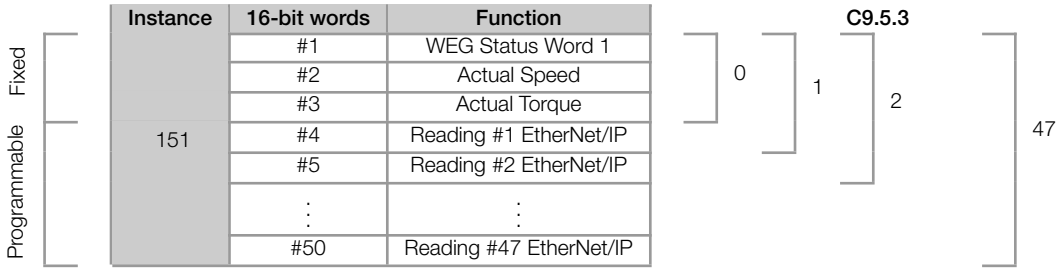
Control (Output)



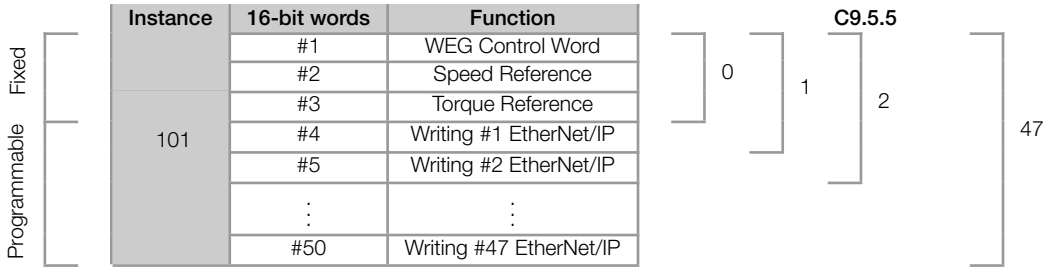
NOTE!
In items S5.1.1 and S5.3.2, the functions of each bit of the control and status words of this instance are described.

C9.5.1 = 9, 101/151 Manufacturer Speed and Torque (3 words) + I/O data (up to 47 words):

Status (Input)



Control (Output)

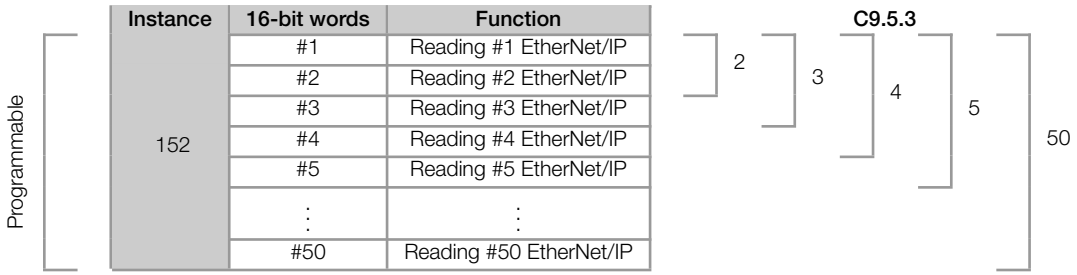


NOTE!
In items S5.1.1 and S5.3.2, the functions of each bit of the control and status words of this instance are described.

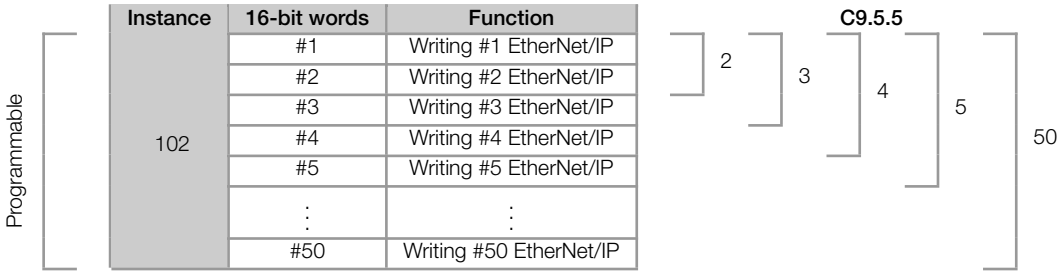
C9.5.1 = 10, 102/152 Configurable I/O data (up to 50 words):

This instance is completely open and allows the user to program any equipment parameter up to the limit of 50 reading words (C9.5.2 and C9.5.3) and/or 50 writing words (C9.5.4 and C9.5.5).

Status (Input)



Control (Output)



6.1.1 WORDS ODVA AC/DC DRIVE PROFILE

The following tables describe the control and status words for instances 20/70, 21/71, 120/170 and 121/171. Each bit represents a state.

CIP status word bits (Input)

Bit	Value/Description
Bit 0 Faulted	**0**: drive is not in a fault condition **1**: a fault has been recorded by the drive
Bit 1 Warning	**0**: drive is not in alarm condition **1**: drive is in alarm condition
Bit 2 Running1 (Fwd)	**0**: motor is not rotating **1**: motor is rotating
Bit 3 Running2 (Rev)	**0**: motor is not rotating **1**: motor is rotating
Bit 4 Ready	**0**: drive is not ready to operate **1**: drive is ready to operate (states Ready, Enabled or Stopping)
Bit 5 Ctrl from Net	**0**: drive is controlled locally **1**: drive is controlled remotely
Bit 6 Ref. from Net	**0**: speed/torque reference received via network is disregarded **1**: using speed/torque reference received via network
Bit 7 At Reference	**0**: drive has not yet reached the programmed speed **1**: drive has reached the programmed speed

- Byte 1 indicates the drive status:
  - 0 = Non Existent
  - 1 = Startup
  - 2 = Not Ready
  - 3 = Ready
  - 4 = Enabled
  - 5 = Stopping
  - 6 = Fault Stop
  - 7 = Faulted
- Bytes 2 (low) and 3 (high) represent the actual motor speed in rpm.

CIP control word bits (Output)

Bit	Value/Description
Bit 0 Run Fwd	**0**: it stops the motor **1**: it runs the motor clockwise
Bit 1 Run Rev	**0**: it stops the motor **1**: it runs the motor counterclockwise
Bit 2 Fault Reset	**0**: no function **1**: if in a fault condition, then it executes the inverter reset
Bits 3 and 4	Reserved
Bit 5 NetCtrl	**0**: it selects the local mode **1**: it selects the remote mode
Bit 6 NetRef	**0**: speed reference is not being sent via network **1**: speed reference being sent via the network
Bits 7	Reserved

- Bytes 2 (low) and 3 (high) represent motor speed setpoint in rpm.
- Bytes 4 (low) and 5 (high) represent motor torque setpoint in N.m.

NOTE!
Bit 2 (Fault Reset) and bit 5 (NetCtrl) are mapped, respectively, in bit 7 and bit 4 to the WEG control word.

NOTE!
ODVA AC/DC Drive Profile uses a scaling factor for speed and torque.
Please note this attribute must be set whenever drive is powered up.

The relationship between scale and actual values is given by the formula below:

$$\text{Unit} = (\text{RPM or N.m}) \times 2^{(-1 \times \text{ODVA scale value})}$$

Table 6.1: *ODVA Scale*

ODVA Scale Value	Unit (RPM or N.m)
-2	4
-1	2
0 (default)	1
1	0.5
2	0.25

The reference units and actual speeds are according to the ODVA speed scale[1]. For example, considering C4.3.1.1.2 = 1800 rpm with a unit of 1 rpm and a speed reference of 900 rpm, the speed reference is:

$$\text{SpeedRef \%} = \frac{900 \times 1 \text{ rpm} \times 100}{1800 \text{ rpm}}$$

$$\text{SpeedRef \%} = 50 \text{ \%}$$

The reference units and actual torque are according to the ODVA torque scale[2]. For example, for a rated motor torque of 500 N.m with a unit of 0.5 N.m and a reference torque of 200 N.m, the torque reference is:

$$\text{TorqueRef \%} = \frac{200 \times 0.5 \text{ N.m} \times 100}{500 \text{ N.m}}$$

$$\text{TorqueRef \%} = 20 \text{ \%}$$

NOTE!
The speed reference values are converted and written to the speed reference word via Ethernet (S5.3.3).
The torque reference values are converted and written to the torque reference parameter (C4.3.3.1).

6.2 CYCLIC DATA

Cyclic data is the data normally used for status monitoring and equipment control. For EtherNet/IP protocol, the interface supports an I/O connection as configured through instances of the Assembly class available for the product.

The instances of the Assembly class are used to configure the I/O data communicated with the master of EtherNet/IP network. According to the selected profile, it is possible to define the format, size and content of the I/O data.

It is necessary the configuration to be made both at the slave and master, i.e., the same amount of input words and output words must be set in the frequency inverter CFW900 and in the master.

The selection of the I/O instance used for communication is made by the user through the parameter C9.5.1. For the following examples, we suppose C9.5.1 EtherNet/IP I/O Instances is equal to 102/152 Config I/O data.

[1] The speed scale is changed via AC/DC Drive Instance, Attribute 22.
[2] The torque scale is changed via AC/DC Drive Instance, Attribute 24.

6.2.1 Input words

The CFW900 frequency inverter has a reading area with 100 16-bit words available for cyclic data exchange of communication networks. The data available in the reading area (input) is sent to the network master. This area is shared by all communication protocols.

To map an object in the reading area, follow the steps below.

1. Configure parameter C9.5.2. This parameter indicate which of the reading words starts the input area.
2. Configure on parameter C9.5.3 the quantity of input words which must be transmitted via network.
3. Parameters C9.2.1.1 up to C9.2.1.100 enable to configure the data that must be provided on the reading words. Those parameters must contain the network addresses (Net Id) of the data that must be transmitted on the respective reading words. The Net Id list is available in the table 12.1. Consider the size of each parameter mentioned in this list when programming each word.

Example

The example below presents a configuration for EtherNet/IP considering the following parameters to be mapped:

- S5.1.1 Status and Commands Status Word 1.
- S5.1.3 Status and Commands Status Word 2.
- S5.1.2 Status and Commands Speed.
- S2.3.1 Inverter Output Current.

Searching for parameter information on the table 12.1:

Mapped Parameter	Net Id	Size	Qty Mapped Words	Example Value
S5.1.1 Status and Commands Status Word 1	680	16bit	1	786 = 0312h
S5.1.3 Status and Commands Status Word 2	690	16bit	1	33288 = 8208h
S5.1.2 Status and Commands Speed	681	16bit	1	6500 (65.00 %)
S2.3.1 Inverter Output Current	3	16bit	1	23 (2.3 A)

Therefore, the configuration must be performed as shown below:

1. C9.5.2 EtherNet/IP Readings 1st Word = 1 → first transmitted word via network is word #1.
2. C9.5.3 EtherNet/IP Readings Quantity = 4 → sum of column “Qty mapped words”.
3. Table 6.2 presents the configuration parameters of the words and the content of the reading words.

Table 6.2: *Example of reading words configuration.*

Configuration Parameter	Mapped Parameter	Net Id	Input Area Value
C9.2.1.1 Reading Data Word #1	S5.1.1	680	0312h
C9.2.1.2 Reading Data Word #2	S5.1.3	690	8208h
C9.2.1.3 Reading Data Word #3	S5.1.2	681	1964h
C9.2.1.4 Reading Data Word #4	S2.3.1	3	0017h

NOTE!
- Mapping of invalid parameters or not available will return zero value.
- The data is transmitted as an integer value, without the indication of the decimal places.
- To obtain the network address (Net Id) of the parameters and the number of decimal places, refer to the item 12.

6.2.2 Output Words

The CFW900 frequency inverter has a writing area with 100 16-bit words available for cyclic data exchange of communication networks. The data available in the write area (output) is received from the network master. This area is shared by all communication protocols.

To map an object in the writing area, follow the steps below.

1. Configure parameter C9.5.4. This parameter indicate which of the writing words starts the output area.
2. Configure on parameter C9.5.5 the quantity of writing words which must be transmitted via network.
3. Parameters C9.2.2.2 up to C9.2.2.101 enable to configure the data that must be provided on the writing words. Those parameters must contain the network address (Net Id) of the data that must be transmitted on the respective writing words. The Net Id list is available on the table 12.1. Consider the size of each parameter mentioned in list when programming each word.

Example

The example below presents a configuration for EtherNet/IP considering the following parameters to be mapped:

- S5.3.2 Ethernet Control Word.
- S5.3.3 Ethernet Speed Reference.
- C6.1.1 Speed Control Ramps Acceleration Time.

Searching parameter information in the table 12.1:

Mapped Parameter	Net Id	Size	Qty Mapped Words	Example Value
S5.3.2 Ethernet Control Word	664	16bit	1	83 = 0053h
S5.3.3 Ethernet Speed Reference	665	16bit	1	2500 (25.00) = 9C4h
C6.1.1 Speed Control Ramps Acceleration Time	100	16bit	1	100 (10.0) = 0064h

Therefore, the configuration must be performed as shown below:

1. C9.5.4 EtherNet/IP Writings 1st Word = 1 → first word transmitted via network is the word #1.
2. C9.5.5 EtherNet/IP Writings Quantity = 3 → sum of column “Qty mapped words”.
3. The table 6.3 presents the configuration parameters of the words and the content of the writing words.

Table 6.3: *Example of configuration of the writing words.*

Configuration Parameter	Mapped Parameter	Net Id	Output Area Value
C9.2.2.2 Writing Data Word #1	S5.3.2	664	0053h
C9.2.2.3 Writing Data Word #2	S5.3.3	665	9C4h
C9.2.2.4 Writing Data Word #3	C6.1.1	100	0064h

NOTE!

- Mapping of readonly parameters (status, diagnostics) or invalid parameters will have no effect.
- Parameters that have the property *Stopped*, when mapped on the writing words, are only changed when the motor is stopped.
- The parameters written using these words are not saved in non-volatile memory. Thus, if the equipment is turned off and back on, these parameters will return to their original value.
- The data is transmitted as an integer value, without the indication of the decimal places.
- To obtain the network address (Net Id) of the parameters, refer to the item 12.

6.3 ACYCLIC DATA

In addition to the cyclic data, the interface also provides acyclic data via *explicit messaging*. Using this type of communication, you can access any equipment parameter. Access to this type of data is commonly done using instructions for reading or writing data, which should indicate the class, instance, and attribute to the desired parameter. The table 6.33 describes how to address the parameters for CFW900 frequency inverter.

6.4 EDS FILE

Each device on an EtherNet/IP network has an EDS configuration file, which contains information about the device functions on the network. This file is used by a master or configuration software to program devices present at EtherNet/IP network.

The EDS file is available from WEG website (**http://www.weg.net**). It is important to check if the EDS configuration file is compatible with the firmware version of the CFW900 frequency inverter.

6.5 SUPPORTED OBJECT CLASSES

Every EtherNet/IP equipment is modeled as a set of objects. The objects are responsible for defining the function that each device will have. In other words, depending on the objects the device implements, it may be a communication adapter, an AC/DC drive, a photoelectric sensor, etc. Mandatory and optional objects are defined for each Device Profile. The CFW900 frequency inverter supports all mandatory classes defined for the AC/DC Device Profile. It also supports Manufacturer Specific classes.

The following sections present detailed information about these object classes.

6.5.1 Identity Class (01h)

This class provides general information about the device identity such as VendorID, Product Name, Serial Number, etc.. The following attributes are implemented:

Table 6.4: *Identity Class attributes (Instance #0)*

Attribute	Method	Name	Min/Max	Description
1	GET	Revision	1 - 65535	Revision of the definition of the Identity Class Object upon which the implementation was based.
2	GET	Max Instance	1 - 65535	Maximum number of instances.
3	GET	Number of Instances	1 - 65535	Number of ports instantiated.
6	GET	Max Number Class Attributes	1 - 65535	Number of the last implemented class attribute on the device.
7	GET	Max Number Instance Attributes	1 - 65535	Number of the last implemented instance attribute on the device.

Table 6.5: *Identity Class instance attributes (Instance #1)*

Attribute	Method	Name	Default	Description
1	GET	Vendor ID	355h	Manufacturer identifier.
2	GET	Device Type	02h	Product Type.
3	GET	Product Code	1800h	Product Code.
4	GET	Revision	-	Firmware revision.
5	GET	Status	-	Device status.
6	GET	Serial Number	-	Serial Number.
7	GET	Product Name	CFW900	Product name.

6.5.2 Message Router Class (02h)

This class provides information on the explicit message router object. The following attributes are implemented:

Table 6.6: *Message Router Class attributes (Instance #0)*

Attribute	Method	Name	Min/Max	Description
1	GET	Revision	1 - 65535	Revision of the definition of the Message Router Class Object upon which the implementation was based.
2	GET	Max Instance	1 - 65535	Maximum number of instances.
3	GET	Number of Instances	1 - 65535	Number of ports instantiated.
4	GET	Opcional Attribute List	1 - 65535	List of optional attributes used.
5	GET	Opcional Service List	1 - 65535	List of optional services used.
6	GET	Max Number Class Attributes	1 - 65535	Number of the last implemented class attribute on the device.
7	GET	Max Number Instance Attributes	1 - 65535	Number of the last implemented instance attribute on the device.

Table 6.7: *Message Router Class instance attributes (Instance #1)*

Attribute	Method	Name	Default	Description
1	GET	Object List	-	List of supported objects.
2	GET	Number Available	-	Maximum number of connections supported.
3	GET	Number Active	-	Number of active connections.

6.5.3 Assembly Class (04h)

This class is responsible for grouping several attributes in only one connection. The following attributes are implemented:

Table 6.8: *Assembly Class attributes (Instance #0)*

Attribute	Method	Name	Min/Max	Description
1	GET	Revision	1 - 65535	Revision of the definition of the Assembly Class Object upon which the implementation was based.
2	GET	Max Instance	1 - 65535	Maximum number of instances.
3	GET	Number of Instances	1 - 65535	Number of ports instantiated.
4	GET	Opcional Attribute List	1 - 65535	List of optional attributes used.
6	GET	Max Number Class Attributes	1 - 65535	Number of the last implemented class attribute on the device.
7	GET	Max Number Instance Attributes	1 - 65535	Number of the last implemented instance attribute on the device.

Table 6.9: *Assembly Class instance attributes (Instance #1)*

Atribute	Method	Name	Description
3	GET	Data	Data contained in the Assembly Object Class.
4	GET	Size	Number of bytes of Data.

The Assembly class contains the following instances in the CFW900:

Table 6.10: *Assembly class instances*

Output instance	Input instance	Size	Description
20	70	2 bytes	Consuming and Producing Instances.
21	71	2 bytes	Consuming and Producing Instances.
22	72	3 bytes	Consuming and Producing Instances.
23	73	3 bytes	Consuming and Producing Instances.
100	150	up to 100 bytes	Consuming and Producing Instances.
101	151	up to 100 bytes	Consuming and Producing Instances.
102	152	up to 100 bytes	Consuming and Producing Instances.
120	170	up to 100 bytes	Consuming and Producing Instances.
121	171	up to 100 bytes	Consuming and Producing Instances.
122	172	up to 100 bytes	Consuming and Producing Instances.
123	173	up to 100 bytes	Consuming and Producing Instances.

6.5.4 Connection Manager Class (06h)

This class allocates and manages the internal resources associated with both I/O and Explicit Messaging Connections.

Table 6.11: *Connection Manager Class attributes (Instance #0)*

Attribute	Method	Name	min/Max	Description
1	GET	Revision	1 - 65535	Revision of the definition of the Connection Manager Class Object upon which the implementation was based.
2	GET	Max Instance	1 - 65535	Maximum number of instances.
3	GET	Number of Instances	1 - 65535	Number of ports instantiated.
4	GET	Opcional Attribute List	1 - 65535	List of optional attributes used.
6	GET	Max Number Class Attributes	1 - 65535	Number of the last implemented class attribute on the device.
7	GET	Max Number Instance Attributes	1 - 65535	Number of the last implemented instance attribute on the device.

Table 6.12: *Connection Manager Class instance attributes (Instance #1)*

Atribute	Method	Name	Description
1	GET	Open Requests	Number of Forward_Open service requests received.
2	GET	Open Format Rejects	Number of Forward_Open service requests which were rejected due to bad format.
3	GET	Open Resource Rejects	Number of Forward_Open service requests which were rejected due to lack of resources.
4	GET	Open Other Rejects	Number of Forward_Open service requests which were rejected for reasons other than bad format or lack of resources.
5	GET	Close Requests	Number of Forward_Close service requests received.
6	GET	Close Format Requests	Number of Forward_Close service requests which were rejected due to bad format.
7	GET	Close Other Requests	Number of Forward_Close service requests which were rejected for reasons other than bad format.
8	GET	Connection Timeouts	Total number of connection timeouts.

6.5.5 Motor Data Class (28h)

This class stores the information on the motor connected to the product. The following attributes have been implemented:

Table 6.13: *Motor Data Class attributes (Instance #0)*

Attribute	Method	Name	Min/Max	Description
1	GET	Revision	1 - 65535	Revision of the definition of the Motor Data Class Object upon which the implementation was based.
2	GET	Max Instance	1 - 65535	Maximum number of instances.
3	GET	Number of Instances	1 - 65535	Number of ports instantiated.
6	GET	Max Number Class Attributes	1 - 65535	Number of the last implemented class attribute on the device.
7	GET	Max Number Instance Attributes	1 - 65535	Number of the last implemented instance attribute on the device.

Table 6.14: *Motor Data Class instance attributes (Instance #1)*

Attribute	Method	Name	Min/Max	Unit	Default	Description
3	GET	Motor Type	0 - 10	-	7	0 = Non Standard Motor. 1 = PM DC Motor. 2 = FC DC Motor. 3 = PM Synchronous Motor. 4 = FC Synchronous Motor. 5 = Switched Reluctance Motor. 6 = Wound Rotor Induction Motor. 7 = Squirrel Cage Induction Motor. 8 = Stepper Motor. 9 = Sinusoidal PM BL Motor. 10 = Trapezoidal PM BL Motor.
6	GET/SET	Rated Current	0 - 999.9	100mA		Nominal Current.
7	GET/SET	Rated Voltage	0 - 600	V		Nominal Voltage.

6.5.6 Control Supervisor Class (29h)

This class is responsible for modeling the drive management functions. The following attributes have been implemented:

Table 6.15: *Control Supervisor Class attributes (Instance #0)*

Attribute	Method	Name	Min/Max	Description
1	GET	Revision	1 - 65535	Revision of the definition of the Control Supervisor Class Object upon which the implementation was based.
2	GET	Max Instance	1 - 65535	Maximum number of instances.
3	GET	Number of Instances	1 - 65535	Number of ports instantiated.
6	GET	Max Number Class Attributes	1 - 65535	Number of the last implemented class attribute on the device.
7	GET	Max Number Instance Attributes	1 - 65535	Number of the last implemented instance attribute on the device.

Table 6.16: *Control Supervisor Class instance attributes (Instance #1)*

Attribute	Method	Name	Min/Max	Default	Description
3	GET/SET	Run 1	0 - 1	-	Run Fwd.
4	GET/SET	Run 2	0 - 1	-	Run Rev.
5	GET/SET	NetCtrl	0 - 1	0	0 = Local Control. 1 = Remote Control.
6	GET	State	0 - 7	-	0 = Vendor Specific. 1 = Startup. 2 = Not Ready. 3 = Ready. 4 = Enable. 5 = Stopping. 6 = Fault Stop. 7 = Fault.
7	GET	Running 1	0 - 1	0	0 = Other State. 1 = (Enabled and Run1) or (Stopping and Running1) or (Fault Stop and Running1).
8	GET	Running 2	0 - 1	0	0 = Other State. 1 = (Enabled and Run2) or (Stopping and Running2) or (Fault Stop and Running2).
9	GET	Ready	0 - 1	0	0 = Other State. 1 = Ready or Enabled or Stopping.
10	GET	Faulted	0 - 1	0	0 = No Error. 1 = Error.
11	GET	Warning	0 - 1	0	0 = No Warnings.
12	GET/SET	Fault Reset	0 - 1	0	0 = No Action. 0 -> 1 = Error Reset.
15	GET	Ctrl from Net	0 - 1	0	0 = Local Control. 1 = Remote Control.

6.5.7 AC/DC Drive Class (2Ah)

This class contains specific information of an AC/DC Drive such as operation mode, speed and torque ranges. The following attributes have been implemented:

Table 6.17: *AC/DC Drive Class attributes (Instance #0)*

Attribute	Method	Name	Min/Max	Description
1	GET	Revision	1 - 65535	Revision of the definition of the AC/DC Drive Class Object upon which the implementation was based.
2	GET	Max Instance	1 - 65535	Maximum number of instances.
3	GET	Number of Instances	1 - 65535	Number of ports instantiated.
6	GET	Max Number Class Attributes	1 - 65535	Number of the last implemented class attribute on the device.
7	GET	Max Number Instance Attributes	1 - 65535	Number of the last implemented instance attribute on the device.

Table 6.18: *AC/DC Drive Class instance attributes (Instance #1)*

Attribute	Method	Name	Min/Max	Default	Description
4	GET/SET	NetRef 2	0 - 1	0	0 = Local Reference. 1 = Remote Reference.
6	GET	DriveMode	1 - 2	-	1 = Speed Control (open loop). 2 = Speed Control (closed loop).
7	GET	Speed Actual	0 - 9999	0	Actual Speed (best approximation).
8	GET/SET	Speed Ref	0 - 9999	0	Speed Reference.
11	GET	Torque Actual	0 - 9999	0	Actual Torque (best approximation).
12	GET/SET	Torque Ref	0 - 9999	0	Torque Reference.
22	GET/SET	Speed Scale	-128 - 127	0	Speed Scale.
24	GET/SET	Torque Scale	-128 - 127	0	Torque Scale.

NOTE!
The CFW900 will work in speed mode independently of the content of the DriveMode attribute.

6.5.8 Device Level Ring Class (47h)

This class provides the status information for the DLR protocol. The following attributes have been implemented:

Table 6.19: *Device Level Ring Class attributes (Instance #0)*

Attribute	Method	Name	Min/Max	Description
1	GET	Revision	1 - 65535	Revision of the definition of the Device Level Ring Class Object upon which the implementation was based.
2	GET	Max Instance	1 - 65535	Maximum number of instances.
3	GET	Number of Instances	1 - 65535	Number of ports instantiated.
6	GET	Max Number Class Attributes	1 - 65535	Number of the last implemented class attribute on the device.
7	GET	Max Number Instance Attributes	1 - 65535	Number of the last implemented instance attribute on the device.

Table 6.20: *Device Level Ring Class instance attributes (Instance #1)*

Attribute	Method	Name	Min/Max	Default	Description
1	GET	Network Topology	0 - 1	0	0 = Linear. 1 = Ring.
2	GET	Network Status	0 - 4	0	0 = Normal. 1 = Ring Fault. 2 = Unexpected Loop Detected. 3 = Partial Network Fault. 4 = Rapid Fault/Restore Cycle.
10	GET	Active Supervisor Address	-	-	IP and/or MAC address of the active ring supervisor.
12	GET	Capability Flags	-	81h	Announce-based Ring Node, supports the Flush_Tables frame.

6.5.9 QoS Class (48h)

This class provides a means to configure Quality of Service (QoS) on EtherNet/IP devices. The following attributes have been implemented:

Table 6.21: *QoS Class attributes (Instance #0)*

Attribute	Method	Name	Min/Max	Description
1	GET	Revision	1 - 65535	Revision of the definition of the QoS Class Object upon which the implementation was based.
2	GET	Max Instance	1 - 65535	Maximum number of instances.
3	GET	Number of Instances	1 - 65535	Number of ports instantiated.
6	GET	Max Number Class Attributes	1 - 65535	Number of the last implemented class attribute on the device.
7	GET	Max Number Instance Attributes	1 - 65535	Number of the last implemented instance attribute on the device.

Table 6.22: QoS Class instance attributes (Instance #1)

Attribute	Method	Name	Min/Max	Default	Description
4	SET	DSCP Urgent	0 - 63	55	CIP transport class 1 messages with priority Urgent.
5	SET	DSCP Scheduled	0 - 63	47	CIP transport class 1 messages with priority Scheduled.
6	SET	DSCP High	0 - 63	43	CIP transport class 1 messages with priority High.
7	SET	DSCP Low	0 - 63	31	CIP transport class 1 messages with priority Low.
8	SET	DSCP Explicit	0 - 63	27	CIP UCMM and CIP class 3.

6.5.10 SNMP Class (52h)

This class provides a means to configure of the SNMP Agent in the device. The following attributes have been implemented:

Table 6.23: SNMP Class attributes (Instance #0)

Attribute	Method	Name	Min/Max	Description
1	GET	Revision	1 - 65535	Revision of the definition of the SNMP Class Object upon which the implementation was based.
2	GET	Max Instance	1 - 65535	Maximum number of instances.
3	GET	Number of Instances	1 - 65535	Number of ports instantiated.
6	GET	Max Number Class Attributes	1 - 65535	Number of the last implemented class attribute on the device.
7	GET	Max Number Instance Attributes	1 - 65535	Number of the last implemented instance attribute on the device.

Table 6.24: SNMP Class instance attributes (Instance #1)

Attribute	Method	Name	Min/Max	Default	Description
1	GET/SET	SnmpAgent	0 - 1	1	0 = Disabled. 1 = Enabled.
2	GET	SnmpAgentVersion	1 - 31	1	1 = SNMPv1. 3 = SNMPv3. 31 = SNMPv1+v3.
3	GET/SET	PrimaryNetworkManagmentIdentifier	-	0.0.0.0	Primary SNMP manager IP address.
4	GET/SET	SecondaryNetworkManagmentIdentifier	-	0.0.0.0	Secondary SNMP manager IP address.
5	GET/SET	Notifications	0 - 1	1	0 = Disabled. 1 = Enabled.
6	GET	TrapType	1 - 2	1	1 = TrapV1Pdu. 2 = TrapV2Pdu.

6.5.11 Port Class (F4h)

This class describes the communication interfaces that are present on the device and visible to CIP.

Table 6.25: *Port Class attributes (Instance #0)*

Attribute	Method	Name	Min/Max	Description
1	GET	Revision	1 - 65535	Revision of the definition of the Port Class Object upon which the implementation was based.
2	GET	Max Instance	1 - 65535	Maximum number of instances.
3	GET	Number of Instances	1 - 65535	Number of ports instantiated.
6	GET	Max Number Class Attributes	1 - 65535	Number of the last implemented class attribute on the device.
7	GET	Max Number Instance Attributes	1 - 65535	Number of the last implemented instance attribute on the device.
8	GET	Entry Port	1 - 65535	Returns the instance of the Port Object that describes the port through which this request entered the device.
9	GET	Port Instance Info	1 - 65535	Informations of the attributes each instance.

Table 6.26: *Port Class instance attributes (Instance #1)*

Attribute	Method	Name	Default	Description
1	GET	Port Type	-	Type of port.
2	GET	Port Number	-	CIP port number associated with this port.
3	GET	Logical Link Object	-	-
4	GET	Port Name	-	String which names the communications interface.
5	GET	Node Address	-	-
6	GET	Port Routing Capabilities	-	-

6.5.12 TCP/IP Interface Class (F5h)

This class provides the mechanism to configure a device's TCP/IP network interface. The following attributes have been implemented:

Table 6.27: *TCP/IP Interface Class attributes (Instance #0)*

Attribute	Method	Name	Min/Max	Description
1	GET	Revision	1 - 65535	Revision of the definition of the TCP/IP Interface Class Object upon which the implementation was based.
2	GET	Max Instance	1 - 65535	Maximum number of instances.
3	GET	Number of Instances	1 - 65535	Number of ports instantiated.
4	GET	Opcional Attribute List	1 - 65535	List of optional attributes used.
6	GET	Max Number Class Attributes	1 - 65535	Number of the last implemented class attribute on the device.
7	GET	Max Number Instance Attributes	1 - 65535	Number of the last implemented instance attribute on the device.

Table 6.28: *TCP/IP Interface Class instance attributes (Instance #1)*

Attribute	Method	Name	Min/Max	Default	Description
1	GET	Status	-	-	Indicates the status of the TCP/IP network interface.
2	GET	Configuration Capability	-	-	Indicates the device's support for optional network configuration capability.
3	GET/SET	Configuration Control	-	-	Control network configuration options.
4	GET	Physical Link Object	-	-	Identifies the object associated with the underlying physical communications interface (e.g., an 802.3 interface).
5	GET/SET	Interface Configuration	-	-	Contains the configuration parameters required for a device to operate as a TCP/IP node.
6	GET/SET	Host Name	-	-	Contains the device's host name, which can be used for informational purposes.
13	GET	Encapsulation Inactivity Timeout	-	-	Used to enable TCP socket cleanup (closing) when the defined number of seconds have elapsed with no Encapsulation activity.

6.5.13 Ethernet Link Class (F6h)

This class maintains link-specific counters and status information for an IEEE802.3 communications interface. The following attributes have been implemented:

Table 6.29: *Ethernet Link Class attributes (Instance #0)*

Attribute	Method	Name	Min/Max	Description
1	GET	Revision	1 - 65535	Revision of the definition of the Ethernet Link Class Object upon which the implementation was based.
2	GET	Max Instance	1 - 65535	Maximum number of instances.
3	GET	Number of Instances	1 - 65535	Number of ports instantiated.
4	GET	Opcional Attribute List	1 - 65535	List of optional attributes used.
6	GET	Max Number Class Attributes	1 - 65535	Number of the last implemented class attribute on the device.
7	GET	Max Number Instance Attributes	1 - 65535	Number of the last implemented instance attribute on the device.

Table 6.30: *Ethernet Link Class instance attributes (Instance #1)*

Attribute	Method	Name	Min/Max	Default	Description
1	GET	Interface Speed	-	-	Indicate the speed at which the interface is currently running (e.g., 10 Mbps, 100 Mbps, 1 Gbps, etc.).
2	GET	Interface Flags	-	-	Contains status and configuration information about the physical interface.
3	GET	Physical Address	-	-	Contains the interface's MAC address.
4	GET	Interface Counters	-	-	Contains counters to the receipt of packets on the interface.
5	GET	Media Counters	-	-	Contains specific counters for the Ethernet interface.
6	GET/SET	Interface Control	-	-	Configuration for physical interface.
11	GET	Interface Capability	-	-	Indicate the set of capabilities for the interface.

6.5.14 LLDP Management Class (109h)

This class contains information for the LLDP protocol for the EtherNet/IP. The following attributes have been implemented:

Table 6.31: *LLDP Management Class attributes (Instance #0)*

Attribute	Method	Name	Min/Max	Description
1	GET	Revision	1 - 65535	Revision of the definition of the LLDP Management Class Object upon which the implementation was based.
2	GET	Max Instance	1 - 65535	Maximum number of instances.
3	GET	Number of Instances	1 - 65535	Number of ports instantiated.
6	GET	Max Number Class Attributes	1 - 65535	Number of the last implemented class attribute on the device.
7	GET	Max Number Instance Attributes	1 - 65535	Number of the last implemented instance attribute on the device.

Table 6.32: *LLDP Class instance attributes (Instance #1)*

Attribute	Method	Name	Min/Max	Default	Description
1	GET/SET	LLDP Enable	0 - 1	1	Enabled or disabled the transmission of LLDP telegrams.
2	GET/SET	msgTxInterval	1 - 3600	30	Message Transmission Interval for LLDP frames.
3	GET/SET	msgTxHold	1 - 100	4	Message Transmission Multiplier for LLDP frames.
4	GET	LLDP Datastore	-	2	Bit: 1 = LLDP Data Table Object 2 = SNMP 3 = NETCONF YANG 4 = RESTCONF YANG 4-15 = Reserved
5	GET	Last Change	-	-	Time in seconds since the last time an entry in the LLDP database was changed.

6.5.15 Manufacturer Specific Class (64h)

For CFW900 frequency inverter, the manufacturer specific classes are used for mapping all device parameters. These classes allow the user to read from and write to any parameter through the network. For this, EtherNet/IP CIP Class 3 messages or Unconnected Explicit messages can be used.

CFW900 uses class 100 for parameter access, and the parameter number is defined according to instance and attribute, as shown in table 6.33:

Table 6.33: *Manufacturer Specific Class*

Class	Instance	Attributes	Accessed Parameters
Classe 100 (64h) (Vendor Specific)	1	100 ... 199	Parameters with Net ID 0 - 99
Classe 100 (64h) (Vendor Specific)	2	100 ... 199	Parameters with Net ID 100 - 199
Classe 100 (64h) (Vendor Specific)	3	100 ... 199	Parameters with Net ID 200 - 299
Classe 100 (64h) (Vendor Specific)	4	100 ... 199	Parameters with Net ID 300 - 399
Classe 100 (64h) (Vendor Specific)	5	100 ... 199	Parameters with Net ID 400 - 499
Classe 100 (64h) (Vendor Specific)	6	100 ... 199	Parameters with Net ID 500 - 599
⋮	⋮	⋮	⋮
Classe 100 (64h) (Vendor Specific)	10	100 ... 199	Parameters with Net ID 900 - 999
Classe 100 (64h) (Vendor Specific)	11	100 ... 199	Parameters with Net ID 1000 - 1099
⋮	⋮	⋮	⋮

For this list, status and diagnostics objects typically allow read-only access, while configuration objects allow read/write access:

- For read access (Get Attribute Single), the request must contain 1 byte with the size in bytes of the data read.
- For write access (Set Attribute Single), the request must contain the number of bytes written according to the size of the data accessed.

Examples:

- Net ID 681 - S5.1.2 Status and Commands Speed: class 64h, instance 7, attribute 181, size 2 bytes.
- Net ID 680 - S5.1.1 Status and Commands Status Word 1: class 64h, instance 7, attribute 180, size 2 bytes.
- Net ID 664 - S5.3.2 Ethernet Control Word: class 64h, instance 7, attribute 164, size 2 bytes.

NOTE!

- Invalid or unavailable parameter mapping return zero value.
- The data is transmitted as an integer value, without the indication of the decimal places.
- To obtain the network address (Net Id) used to identify the instance number of the parameters, as well as the size of the data accessed, refer to the item 12.

7 STARTUP GUIDE - ETHERNET/IP

The main steps to start up the CFW900 frequency inverter in EtherNet/IP network are described below. These steps represent an example of use. Check out the specific chapters for details on the indicated steps.

7.1 INSTALLING

1. Connect the cables, considering the recommended instructions in network installation, as described in item 3.5:
   - Use shielded cable.
   - Properly ground network equipment.
   - Avoid laying communication cables next to power cables.

7.2 CONFIGURING THE EQUIPMENT

1. Follow the recommendations described in the user manual to program the device parameters related to the motor parameterization, desired functions for the I/O signals, etc.
2. Program the command sources as desired for the application in menu C4.
3. Configure communication parameters, such as DHCP, IP address, communication rate, etc. in C9.4.
4. Program the desired action for the equipment in case of communication fault in C9.1.
5. Define the instance and quantity of I/O words used through the menu C9.5.
6. Define additional I/O data for reading and writing, as per the menu C9.2.

7.3 CONFIGURING THE MASTER

The way the network configuration is done depends greatly on the used client and the configuration tool. It is essential to know the tools used to perform this activity. In general, the following steps are necessary to perform the network configuration.

1. Load the EDS file[3] to the list of devices in the network configuration tool.
2. Select CFW900 frequency inverter from the available list of devices in the network configuration tool. This can be done manually or automatically, if allowed by the tool. The EtherNet/IP module is described in the network as “CFW900”.
3. For the master configuration, in addition to the IP address used by the EtherNet/IP module, you must indicate the number of instances of I/O and the amount of data exchanged with the master in each instance. For the communication module for EtherNet/IP, the following values must be programmed:
   - Input instances: 70, 71, 150, 151, 152, 170 or 171, according to the value of C9.5.1. The number of words read by the network master also depends on the programming of the C9.5.3 menu.
   - Output instances: 20, 21, 100, 101, 102, 120 or 121, according to the value of C9.5.1. The number of words written by the network master also depends on the programming of the C9.5.5 menu.

[3]The EDS file is available from WEG website (**http://www.weg.net**). It is important to note if the EDS configuration file is compatible with the firmware version of the CFW900 frequency inverter.

7.4 COMMUNICATION STATUS

Once the network is assembled and the master programmed, it is possible to use the LEDs and parameters of the equipment to identify some status related to the communication.

- The Link LEDs provide information about the status of the interface.
- The parameter S5.4.2 indicates the status of communication between the device and the network master.
- The parameter S5.4.1 indicates whether the master is in IDLE or RUN mode.

The master of the network must also supply information about the communication with the slave.

7.5 OPERATION USING PROCESS DATA

Once the communication is established, the data mapped in the I/O area is automatically updated between master and slave. Among the main parameters that can be used to control the device, we can mention:

- S5.1.1 Status and Commands Status Word 1 (reading).
- S5.1.2 Status and Commands Speed (reading).
- S5.3.2 Ethernet Control Word (writing).
- S5.3.3 Ethernet Speed Reference (writing).

It is important to know these parameters to program the master as desired for the application.

7.6 ACCESS TO PARAMETERS – ACYCLIC MESSAGES

Besides the I/O data (cyclic) communication, the EtherNet/IP protocol also defines a kind of acyclic telegram (*explicit messages*), used especially in asynchronous tasks, such as parameter setting and configuration of the equipment.

The item 6.3 describes how to address the parameters of the frequency inverter CFW900 via acyclic messages.

8 WEB SERVER

Besides the communication protocol, the peripheral also provides a WEB server with a HTML page to access data in the CFW900 frequency inverter. If the IP address is known, you can use a web browser by typing the IP address in the browser address bar, and it will present a web page with links to interface settings and device data.

Figure 8.1: *WEB page showing CFW900's status.*

9 SNTP CLIENT

The SNTP is a protocol used to synchronize clocks in a network. Devices can synchronize the date and time through one or more servers.

The frequency inverter CFW900 has a built-in SNTP client and uses this protocol to request date and time information from a server, and automatically change its settings. The SNTP server sends the date and time in UTC (Universal Time Coordinated) format and the current local time must be set according to the time zone.

Using the HMI, you can configure the SNTP client of frequency inverter CFW900. The IP addresses of the primary and secondary server must be informed, as indicated in the parameters C9.4.5 and C9.4.6, to which CFW900 must connect to synchronize date and time information. The secondary server is used when the primary server is not accessible on the network. You can configure the time interval between updates, according to the parameter C9.4.7.

NOTE!
If the primary server is 0.0.0.0 or the update interval is zero, the SNTP client is inactive.

The states of the primary and secondary servers are indicated in the parameter S5.3.8 and the time of the last synchronization performed by the SNTP server, according to the parameter S5.3.9.

NOTE!
The frequency inverter CFW900 not getting a response from the primary or secondary servers, after 30 seconds of the first connection attempt will indicate the alarm A145.

10 FAULTS AND ALARMS

Fault/Alarm	Description	Possible Causes
A136: Master in Idle	It actuates when communicating with the network master in Run mode, and transition to Idle mode is detected.	- Set the switch that controls the master operation mode to Run or the corresponding bit on the configuration word of the master software. For further explanations, see the documentation of the master in use.
A145: SNTP Connection Timeout	It indicates that the inverter tried to connect to the NTP server and got no response. It occurs after starting connection with the NTP server and the server has not returned the response requested by the inverter.	▪ Check the configuration and IP address. ▪ Check if the NTP server is active.
A147: EtherNet/IP Communication Offline	It indicates communication error with EtherNet/IP master. It occurs when, for any reason, after the cyclic communication of the master with the product is started, this communication is interrupted. This is detected if the I/O Exclusive Owner connection times out.	▪ Check the status of the network master. ▪ Check network installation, broken cable or failed/poor contact on the network connections.
F236: Master in Idle	It actuates when communicating with the network master in Run mode, and transition to Idle mode is detected.	- Set the switch that controls the master operation mode to Run or the corresponding bit on the configuration word of the master software. For further explanations, see the documentation of the master in use.
F247: EtherNet/IP Communication Offline	It indicates communication error with EtherNet/IP master. It occurs when, for any reason, after the cyclic communication of the master with the product is started, this communication is interrupted. This is detected if the I/O Exclusive Owner connection times out.	▪ Check the status of the network master. ▪ Check network installation, broken cable or failed/poor contact on the network connections.

11 PARAMETER STRUCTURE

S Status

- S1 Inverter
  - S1.1 Status
  - S1.2 Software Version
    - S1.2.2 Details
  - S1.3 Inverter Data
  - S1.4 Control Accessory Data
    - S1.4.1 Backplane
    - S1.4.2 Slot A
    - S1.4.3 Slot B
    - S1.4.4 Slot C
    - S1.4.5 Slot D
    - S1.4.6 Slot E
    - S1.4.7 Slot F
    - S1.4.8 Slot G
  - S1.5 Date/Hour
  - S1.6 Control Words
- S2 Measurements
  - S2.1 Motor Speed
  - S2.2 Motor Torque
  - S2.3 Inverter Output
  - S2.4 Motor Temperatures
  - S2.5 Inverter Temperatures
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C Configurations (cont.)

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    - C5.2.5 Slot A-Encoder
    - C5.2.6 Slot A-Temperatures
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    - C5.3.1 Slot B-Analog Inputs
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    - C5.4.1 Slot C-Analog Inputs
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C Configurations (cont.)

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C Configurations (cont.)

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Table 12.1: *Characteristics of parameters for the communication protocol*

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
S1 Status\Inverter										
S1.1	Status									
S1.1.1	Inverter	0 = Ready 1 = Run 2 = Undervoltage 3 = Fault 4 = Configuration 5 = STO 6 = Power Off 7 = Disabled 8 = SS1 9 = Self-tuning 10 = Sleep	-	64h	01h	6Ah	USINT	6	enum	1
S1.1.2	HMI	0 = Ready 1 = Run 2 = Sub 3 = Fault 4 = Config 5 = STO 6 = P.Off 7 = Disab. 8 = SS1 9 = SelfTun 10 = Sleep	-	64h	0Bh	6Eh	USINT	1010	enum	1
S1.1.3	Pre-Charge	0 = Running 1 = Completed	-	64h	15h	97h	USINT	2051	enum	1
S1.1.4	Config	0 = No Config 1 = Run/Stop DIx 2 = Forward R1 3 = Forward R2 4 = Reverse R1 5 = Reverse R2 6 = 3-wire Start/Stop 7 = Direction of Rotation DIx 8 = JOG DIx 9 = R1/R2 DIx 10 = Ramp selection DIx 11 = Oriented Startup 12 = Backup 13 = Not used 14 = SS1 configuration	-	64h	01h	95h	USINT	49	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		15 = Switching Frequency 16 = Undefined model 17 = Encoder Vector Control 18 = ENC Acc. not configured 19 = AIx/FIx Speed Ref. 20 = SM Motor Control 21 = General Enable DIx 22 = Multispeed 23 = Not used 24 = Electronic Potentiometer 25 = FI used as DI 26 = AIx/FIx Torque Ref. 27 = SP Source PID 28 = PV Source PID 29 = DI Source PID 30 = Supply Voltage								
S1.2	Software Version									
S1.2.1	Package	to	0	64h	01h	7Ah	NONE	22	NONE	2
S1.2.2	Details									
S1.3	Inverter Data									
S1.3.1	Model	1 to 40	0	64h	64h	64h	NONE	9900	NONE	0
S1.3.2	Inverter Serial No.	0 to 4294967295	0	64h	15h	9Ch	UDINT	2056	32bit	2
S1.3.3	Power Board Serial No.	0 to 4294967295	0	64h	15h	9Eh	UDINT	2058	32bit	2
S1.3.4	Power - Options/Voltages	Bit 0 = 200 V Bit 1 = 208/220/230/240 V Bit 2 = 380 V Bit 3 = 400/415 V Bit 4 = 440/460 V Bit 5 = 480 V Bit 6 = 500/525 V Bit 7 = 550/575/600 V Bit 8 = 660/690 V Bit 9 = DC Link Power Supply Bit 10 = Single-phase Power Supply Bit 11 = Three-phase Power Supply Bit 12 = Not used	-	64h	15h	A4h	WORD	2064	13bit	1
S1.3.5	Rated Current	0.0 to 6553.0 A	1	64h	0Dh	C3h	UINT	1295	16bit	1
S1.3.6	Effective Rated Current	0.0 to 6553.0 A	1	64h	0Dh	C7h	UINT	1299	16bit	1
S1.3.7	Inverter Model Version	0 to 4294967295	0	64h	64h	96h	UDINT	9950	32bit	2
S1.4	Control Accessory Data									
S1.4.1	Backplane									
S1.4.1.1	Model	0 = Disconnected 1 = CFW900-4SLOTS 2 = CFW900-7SLOTS	-	64h	47h	64h	USINT	7000	enum	1
S1.4.2	Slot A									
S1.4.2.1	Accessory Identified	0 = Unknown	-	64h	4Ah	6Eh	USINT	7310	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		1 = No Accessory 2 = CFW900-IOAI-01 3 = CFW900-IOD-01 4 = CFW900-REL-01 5 = CFW900-TEMP-01 6 = CFW900-ENC-01 7 = Not used 8 = CFW900-CCAN-W 9 = CFW900-C...-N (Anybus)								
S1.4.3	Slot B									
S1.4.3.1	Accessory Identified	0 = Unknown 1 = No Accessory 2 = CFW900-IOAI-01 3 = CFW900-IOD-01 4 = CFW900-REL-01 5 = CFW900-TEMP-01 6 = CFW900-ENC-01 7 = Not used 8 = CFW900-CCAN-W 9 = CFW900-C...-N (Anybus)	-	64h	4Dh	6Eh	USINT	7610	enum	1
S1.4.4	Slot C									
S1.4.4.1	Accessory Identified	0 = Unknown 1 = No Accessory 2 = CFW900-IOAI-01 3 = CFW900-IOD-01 4 = CFW900-REL-01 5 = CFW900-TEMP-01 6 = CFW900-ENC-01 7 = Not used 8 = CFW900-CCAN-W 9 = CFW900-C...-N (Anybus)	-	64h	50h	6Eh	USINT	7910	enum	1
S1.4.5	Slot D									
S1.4.5.1	Accessory Identified	0 = Unknown 1 = No Accessory 2 = CFW900-IOAI-01 3 = CFW900-IOD-01 4 = CFW900-REL-01 5 = CFW900-TEMP-01 6 = CFW900-ENC-01 7 = Not used 8 = CFW900-CCAN-W 9 = CFW900-C...-N (Anybus)	-	64h	53h	6Eh	USINT	8210	enum	1
S1.4.6	Slot E									
S1.4.6.1	Accessory Identified	0 = Unknown 1 = No Accessory	-	64h	56h	6Eh	USINT	8510	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		2 = CFW900-IOAI-01 3 = CFW900-IOD-01 4 = CFW900-REL-01 5 = CFW900-TEMP-01 6 = CFW900-ENC-01 7 = Not used 8 = CFW900-CCAN-W 9 = CFW900-C...-N (Anybus)								
S1.4.7	Slot F									
S1.4.7.1	Accessory Identified	0 = Unknown 1 = No Accessory 2 = CFW900-IOAI-01 3 = CFW900-IOD-01 4 = CFW900-REL-01 5 = CFW900-TEMP-01 6 = CFW900-ENC-01 7 = Not used 8 = CFW900-CCAN-W 9 = CFW900-C...-N (Anybus)	-	64h	59h	6Eh	USINT	8810	enum	1
S1.4.8	Slot G									
S1.4.8.1	Accessory Identified	0 = Unknown 1 = No Accessory 2 = CFW900-IOAI-01 3 = CFW900-IOD-01 4 = CFW900-REL-01 5 = CFW900-TEMP-01 6 = CFW900-ENC-01 7 = Not used 8 = CFW900-CCAN-W 9 = CFW900-C...-N (Anybus)	-	64h	5Ch	6Eh	USINT	9110	enum	1
S1.5	Date/Hour									
S1.5.1	Actual	0 to 2147483647	0	64h	0Bh	6Ch	UDINT	1008	NONE	2
S1.6	Control Words									
S1.6.1	Global	Bit 0 = Enable Ramp Bit 1 = General Enable Bit 2 = Run Reverse Bit 3 = Enable JOG Bit 4 = R1/R2 Mode Bit 5 = 2nd Ramp Bit 6 = No Quick Stop Bit 7 = Fault Reset	-	64h	07h	A6h	WORD	666	8bit	1
S1.6.2	HMI	Bit 0 = Enable Ramp Bit 1 = General Enable Bit 2 = Run Reverse Bit 3 = Enable JOG	-	64h	07h	A8h	WORD	668	8bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		Bit 4 = LOC/REM Mode Bit 5 = 2nd Ramp Bit 6 = No Quick Stop Bit 7 = Fault Reset								
S1.6.3	DI	Bit 0 = Enable Ramp Bit 1 = General Enable Bit 2 = Run Reverse Bit 3 = Enable JOG Bit 4 = R1/R2 Mode Bit 5 = 2nd Ramp Bit 6 = No Quick Stop Bit 7 = Fault Reset	-	64h	07h	AAh	WORD	670	8bit	1
S2 Status\Measurements										
S2.1	Motor Speed									
S2.1.1	Reference	0 to 60000 rpm	0	64h	01h	65h	UINT	1	16bit	1
S2.1.2	Total Reference	0 to 60000 rpm	0	64h	0Bh	6Fh	UINT	1011	16bit	1
S2.1.3	Actual Value	0 to 60000 rpm	0	64h	01h	66h	UINT	2	16bit	1
S2.1.4	Encoder	0 to 65535 rpm	0	64h	01h	8Ah	UINT	38	16bit	1
S2.1.5	Estimated Value	0 to 60000 rpm	0	64h	01h	8Bh	UINT	39	16bit	1
S2.2	Motor Torque									
S2.2.1	Reference	-400.0 to 400.0 %	1	64h	01h	70h	INT	12	s16bit	1
S2.2.2	Total Reference	-400.0 to 400.0 %	1	64h	1Fh	A8h	REAL	3068	TIME	2
S2.2.3	Estimated Value	-400.0 to 400.0 %	1	64h	01h	6Dh	INT	9	s16bit	1
S2.3	Inverter Output									
S2.3.1	Current	0.0 to 4500.0 A	1	64h	01h	67h	UINT	3	16bit	1
S2.3.2	Voltage	0 to 2000 V	0	64h	01h	6Bh	UINT	7	16bit	1
S2.3.3	Frequency	0.0 to 1020.0 Hz	1	64h	01h	69h	UINT	5	16bit	1
S2.3.4	cos phi	-1.00 to 1.00	2	64h	01h	6Fh	INT	11	s16bit	1
S2.3.5	Power	0.00 to 655.35 kW	2	64h	01h	6Eh	UINT	10	16bit	1
S2.3.6	Energy GWh	0 to 999 GWh	0	64h	1Fh	91h	UINT	3045	16bit	1
S2.3.7	Energy MWh	0 to 999 MWh	0	64h	1Fh	92h	UINT	3046	16bit	1
S2.3.8	Energy kWh	0.0 to 999.9 kWh	1	64h	01h	94h	UINT	48	16bit	1
S2.3.9	Current Switc. Freq.	0.00 to 16.00 kHz	2	64h	1Fh	8Ch	UINT	3040	16bit	1
S2.4	Motor Temperatures									
S2.4.1	Thermal Image	0.00 to 655.35 %	2	64h	04h	A4h	UINT	364	16bit	1
S2.4.3	Sensor Measured Value	-100.0 to 250.0 °C	1	64h	04h	A5h	INT	365	s16bit	1
S2.5	Inverter Temperatures									
S2.5.1	IGBT Temperature									
S2.5.1.1	Phase U/T1 IGBT1	-50.0 to 250.0 °C	1	64h	15h	78h	INT	2020	s16bit	1
S2.5.1.2	Phase V/T2 IGBT1	-50.0 to 250.0 °C	1	64h	15h	79h	INT	2021	s16bit	1
S2.5.1.3	Phase W/T3 IGBT1	-50.0 to 250.0 °C	1	64h	15h	7Ah	INT	2022	s16bit	1
S2.5.3	Internal Air Temperature									
S2.5.3.1	Power	-50.0 to 250.0 °C	1	64h	15h	81h	INT	2029	s16bit	1
S2.5.3.2	Control	-50.0 to 250.0 °C	1	64h	0Ah	BEh	INT	990	s16bit	1
S2.7	DC Link									
S2.7.1	Voltage	0 to 2000 V	0	64h	01h	68h	UINT	4	16bit	1
S2.8	Torque Current Limitation									

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
S2.8.1	AIx Global Torque	0.0 to 400.0 %	1	64h	1Fh	BEh	UINT	3090	16bit	1
S3 Status\I/Os										
S3.1	Slot X Status									
S3.1.1	Analog Inputs									
S3.1.1.1	AI1	-100.00 to 100.00 %	2	64h	47h	75h	INT	7017	s16bit	1
S3.1.1.2	AI2	-100.00 to 100.00 %	2	64h	47h	76h	INT	7018	s16bit	1
S3.1.2	Analog Outputs									
S3.1.2.1	AO1	-100.00 to 100.00 %	2	64h	47h	83h	INT	7031	s16bit	1
S3.1.2.2	AO1 Network	-100.00 to 100.00 %	2	64h	47h	87h	INT	7035	s16bit	1
S3.1.2.3	AO1 SoftPLC	-100.00 to 100.00 %	2	64h	47h	8Bh	INT	7039	s16bit	1
S3.1.2.4	AO2	-100.00 to 100.00 %	2	64h	47h	84h	INT	7032	s16bit	1
S3.1.2.5	AO2 Network	-100.00 to 100.00 %	2	64h	47h	88h	INT	7036	s16bit	1
S3.1.2.6	AO2 SoftPLC	-100.00 to 100.00 %	2	64h	47h	8Ch	INT	7040	s16bit	1
S3.1.3	Digital Inputs									
S3.1.3.1	DI	Bit 0 = DI1 Bit 1 = DI2 Bit 2 = DI3 Bit 3 = DI4 Bit 4 = DI5 Bit 5 = DI6	-	64h	47h	74h	WORD	7016	6bit	1
S3.1.3.2	FI5	-100.00 to 100.00 %	2	64h	47h	BAh	INT	7086	s16bit	1
S3.1.3.3	FI5 (Hz)	0 to 32000 Hz	0	64h	47h	BCh	UINT	7088	16bit	1
S3.1.3.4	FI6	-100.00 to 100.00 %	2	64h	47h	BBh	INT	7087	s16bit	1
S3.1.3.5	FI6 (Hz)	0 to 32000 Hz	0	64h	47h	BDh	UINT	7089	16bit	1
S3.1.4	Digital Outputs									
S3.1.4.1	DO	Bit 0 = DO1 Bit 1 = DO2	-	64h	47h	7Fh	WORD	7027	2bit	1
S3.1.4.2	DO Network	Bit 0 = DO1 Bit 1 = DO2	-	64h	47h	80h	WORD	7028	2bit	1
S3.1.4.3	DO SoftPLC	Bit 0 = DO1 Bit 1 = DO2	-	64h	47h	81h	WORD	7029	2bit	1
S3.1.4.4	FO1	-100.00 to 100.00 %	2	64h	47h	BEh	INT	7090	s16bit	1
S3.1.4.5	FO1 (Hz)	0 to 32000 Hz	0	64h	47h	C0h	UINT	7092	16bit	1
S3.1.4.6	FO1 Network	-100.00 to 100.00 %	2	64h	47h	C2h	INT	7094	s16bit	1
S3.1.4.7	FO1 SoftPLC	-100.00 to 100.00 %	2	64h	47h	C4h	INT	7096	s16bit	1
S3.1.4.8	FO2	-100.00 to 100.00 %	2	64h	47h	BFh	INT	7091	s16bit	1
S3.1.4.9	FO2 (Hz)	0 to 32000 Hz	0	64h	47h	C1h	UINT	7093	16bit	1
S3.1.4.10	FO2 Network	-100.00 to 100.00 %	2	64h	47h	C3h	INT	7095	s16bit	1
S3.1.4.11	FO2 SoftPLC	-100.00 to 100.00 %	2	64h	47h	C5h	INT	7097	s16bit	1
S3.1.5	Encoder									
S3.1.5.1	Number of Revolutions	0 to 65535	0	64h	47h	6Fh	UINT	7011	16bit	1
S3.1.5.2	Revolution Fraction	0 to 65535	0	64h	47h	70h	UINT	7012	16bit	1
S3.1.5.3	Speed	-60000 to 60000 rpm	0	64h	47h	72h	DINT	7014	s32bit	2
S3.2	Slot A Status									

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
S3.2.1	Analog Inputs									
S3.2.1.1	AI1	-100.00 to 100.00 %	2	64h	4Ah	75h	INT	7317	s16bit	1
S3.2.1.2	AI2	-100.00 to 100.00 %	2	64h	4Ah	76h	INT	7318	s16bit	1
S3.2.1.3	AI3	-100.00 to 100.00 %	2	64h	4Ah	77h	INT	7319	s16bit	1
S3.2.2	Analog Outputs									
S3.2.2.1	AO1	-100.00 to 100.00 %	2	64h	4Ah	83h	INT	7331	s16bit	1
S3.2.2.2	AO1 Network	-100.00 to 100.00 %	2	64h	4Ah	87h	INT	7335	s16bit	1
S3.2.2.3	AO1 SoftPLC	-100.00 to 100.00 %	2	64h	4Ah	8Bh	INT	7339	s16bit	1
S3.2.2.4	AO2	-100.00 to 100.00 %	2	64h	4Ah	84h	INT	7332	s16bit	1
S3.2.2.5	AO2 Network	-100.00 to 100.00 %	2	64h	4Ah	88h	INT	7336	s16bit	1
S3.2.2.6	AO2 SoftPLC	-100.00 to 100.00 %	2	64h	4Ah	8Ch	INT	7340	s16bit	1
S3.2.3	Digital Inputs									
S3.2.3.1	DI	Bit 0 = DI1 Bit 1 = DI2 Bit 2 = DI3 Bit 3 = DI4 Bit 4 = DI5 Bit 5 = DI6 Bit 6 = DI7 Bit 7 = DI8	-	64h	4Ah	74h	WORD	7316	8bit	1
S3.2.4	Digital Outputs									
S3.2.4.1	DO	Bit 0 = DO1 Bit 1 = DO2 Bit 2 = DO3 Bit 3 = DO4 Bit 4 = DO5 Bit 5 = DO6 Bit 6 = DO7 Bit 7 = DO8	-	64h	4Ah	7Fh	WORD	7327	8bit	1
S3.2.4.2	DO Network	Bit 0 = DO1 Bit 1 = DO2 Bit 2 = DO3 Bit 3 = DO4 Bit 4 = DO5 Bit 5 = DO6 Bit 6 = DO7 Bit 7 = DO8	-	64h	4Ah	80h	WORD	7328	8bit	1
S3.2.4.3	DO SoftPLC	Bit 0 = DO1 Bit 1 = DO2 Bit 2 = DO3 Bit 3 = DO4 Bit 4 = DO5 Bit 5 = DO6 Bit 6 = DO7 Bit 7 = DO8	-	64h	4Ah	81h	WORD	7329	8bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
S3.2.5	Encoder									
S3.2.5.1	Number of Revolutions	0 to 65535	0	64h	4Ah	6Fh	UINT	7311	16bit	1
S3.2.5.2	Revolution Fraction	0 to 65535	0	64h	4Ah	70h	UINT	7312	16bit	1
S3.2.5.3	Speed	-60000 to 60000 rpm	0	64h	4Ah	72h	DINT	7314	s32bit	2
S3.2.5.4	Search Zero	0 = Inactive 1 = Completed	-	64h	4Ah	71h	USINT	7313	enum	1
S3.2.6	Temperatures									
S3.2.6.1	Sensor 1	-100.0 to 250.0 °C	1	64h	4Ah	79h	INT	7321	s16bit	1
S3.2.6.2	Sensor 2	-100.0 to 250.0 °C	1	64h	4Ah	7Ah	INT	7322	s16bit	1
S3.2.6.3	Sensor 3	-100.0 to 250.0 °C	1	64h	4Ah	7Bh	INT	7323	s16bit	1
S3.2.6.4	Sensor 4	-100.0 to 250.0 °C	1	64h	4Ah	7Ch	INT	7324	s16bit	1
S3.2.6.5	Sensor 5	-100.0 to 250.0 °C	1	64h	4Ah	7Dh	INT	7325	s16bit	1
S3.2.6.6	Sensor 6	-100.0 to 250.0 °C	1	64h	4Ah	7Eh	INT	7326	s16bit	1
S3.3	Slot B Status									
S3.3.1	Analog Inputs									
S3.3.1.1	AI1	-100.00 to 100.00 %	2	64h	4Dh	75h	INT	7617	s16bit	1
S3.3.1.2	AI2	-100.00 to 100.00 %	2	64h	4Dh	76h	INT	7618	s16bit	1
S3.3.1.3	AI3	-100.00 to 100.00 %	2	64h	4Dh	77h	INT	7619	s16bit	1
S3.3.2	Analog Outputs									
S3.3.2.1	AO1	-100.00 to 100.00 %	2	64h	4Dh	83h	INT	7631	s16bit	1
S3.3.2.2	AO1 Network	-100.00 to 100.00 %	2	64h	4Dh	87h	INT	7635	s16bit	1
S3.3.2.3	AO1 SoftPLC	-100.00 to 100.00 %	2	64h	4Dh	8Bh	INT	7639	s16bit	1
S3.3.2.4	AO2	-100.00 to 100.00 %	2	64h	4Dh	84h	INT	7632	s16bit	1
S3.3.2.5	AO2 Network	-100.00 to 100.00 %	2	64h	4Dh	88h	INT	7636	s16bit	1
S3.3.2.6	AO2 SoftPLC	-100.00 to 100.00 %	2	64h	4Dh	8Ch	INT	7640	s16bit	1
S3.3.3	Digital Inputs									
S3.3.3.1	DI	Bit 0 = DI1 Bit 1 = DI2 Bit 2 = DI3 Bit 3 = DI4 Bit 4 = DI5 Bit 5 = DI6 Bit 6 = DI7 Bit 7 = DI8	-	64h	4Dh	74h	WORD	7616	8bit	1
S3.3.4	Digital Outputs									
S3.3.4.1	DO	Bit 0 = DO1 Bit 1 = DO2 Bit 2 = DO3 Bit 3 = DO4 Bit 4 = DO5 Bit 5 = DO6 Bit 6 = DO7 Bit 7 = DO8	-	64h	4Dh	7Fh	WORD	7627	8bit	1
S3.3.4.2	DO Network	Bit 0 = DO1 Bit 1 = DO2	-	64h	4Dh	80h	WORD	7628	8bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		Bit 2 = DO3 Bit 3 = DO4 Bit 4 = DO5 Bit 5 = DO6 Bit 6 = DO7 Bit 7 = DO8								
S3.3.4.3	DO SoftPLC	 Bit 0 = DO1 Bit 1 = DO2 Bit 2 = DO3 Bit 3 = DO4 Bit 4 = DO5 Bit 5 = DO6 Bit 6 = DO7 Bit 7 = DO8	-	64h	4Dh	81h	WORD	7629	8bit	1
S3.3.5	Encoder									
S3.3.5.1	Number of Revolutions	0 to 65535	0	64h	4Dh	6Fh	UINT	7611	16bit	1
S3.3.5.2	Revolution Fraction	0 to 65535	0	64h	4Dh	70h	UINT	7612	16bit	1
S3.3.5.3	Speed	-60000 to 60000 rpm	0	64h	4Dh	72h	DINT	7614	s32bit	2
S3.3.5.4	Search Zero	 0 = Inactive 1 = Completed	-	64h	4Dh	71h	USINT	7613	enum	1
S3.3.6	Temperatures									
S3.3.6.1	Sensor 1	-100.0 to 250.0 °C	1	64h	4Dh	79h	INT	7621	s16bit	1
S3.3.6.2	Sensor 2	-100.0 to 250.0 °C	1	64h	4Dh	7Ah	INT	7622	s16bit	1
S3.3.6.3	Sensor 3	-100.0 to 250.0 °C	1	64h	4Dh	7Bh	INT	7623	s16bit	1
S3.3.6.4	Sensor 4	-100.0 to 250.0 °C	1	64h	4Dh	7Ch	INT	7624	s16bit	1
S3.3.6.5	Sensor 5	-100.0 to 250.0 °C	1	64h	4Dh	7Dh	INT	7625	s16bit	1
S3.3.6.6	Sensor 6	-100.0 to 250.0 °C	1	64h	4Dh	7Eh	INT	7626	s16bit	1
S3.4	Slot C Status									
S3.4.1	Analog Inputs									
S3.4.1.1	AI1	-100.00 to 100.00 %	2	64h	50h	75h	INT	7917	s16bit	1
S3.4.1.2	AI2	-100.00 to 100.00 %	2	64h	50h	76h	INT	7918	s16bit	1
S3.4.1.3	AI3	-100.00 to 100.00 %	2	64h	50h	77h	INT	7919	s16bit	1
S3.4.2	Analog Outputs									
S3.4.2.1	AO1	-100.00 to 100.00 %	2	64h	50h	83h	INT	7931	s16bit	1
S3.4.2.2	AO1 Network	-100.00 to 100.00 %	2	64h	50h	87h	INT	7935	s16bit	1
S3.4.2.3	AO1 SoftPLC	-100.00 to 100.00 %	2	64h	50h	8Bh	INT	7939	s16bit	1
S3.4.2.4	AO2	-100.00 to 100.00 %	2	64h	50h	84h	INT	7932	s16bit	1
S3.4.2.5	AO2 Network	-100.00 to 100.00 %	2	64h	50h	88h	INT	7936	s16bit	1
S3.4.2.6	AO2 SoftPLC	-100.00 to 100.00 %	2	64h	50h	8Ch	INT	7940	s16bit	1
S3.4.3	Digital Inputs									
S3.4.3.1	DI	 Bit 0 = DI1 Bit 1 = DI2 Bit 2 = DI3 Bit 3 = DI4 Bit 4 = DI5 Bit 5 = DI6	-	64h	50h	74h	WORD	7916	8bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		Bit 6 = DI7 Bit 7 = DI8								
S3.4.4	Digital Outputs									
S3.4.4.1	DO	Bit 0 = DO1 Bit 1 = DO2 Bit 2 = DO3 Bit 3 = DO4 Bit 4 = DO5 Bit 5 = DO6 Bit 6 = DO7 Bit 7 = DO8	-	64h	50h	7Fh	WORD	7927	8bit	1
S3.4.4.2	DO Network	Bit 0 = DO1 Bit 1 = DO2 Bit 2 = DO3 Bit 3 = DO4 Bit 4 = DO5 Bit 5 = DO6 Bit 6 = DO7 Bit 7 = DO8	-	64h	50h	80h	WORD	7928	8bit	1
S3.4.4.3	DO SoftPLC	Bit 0 = DO1 Bit 1 = DO2 Bit 2 = DO3 Bit 3 = DO4 Bit 4 = DO5 Bit 5 = DO6 Bit 6 = DO7 Bit 7 = DO8	-	64h	50h	81h	WORD	7929	8bit	1
S3.4.5	Encoder									
S3.4.5.1	Number of Revolutions	0 to 65535	0	64h	50h	6Fh	UINT	7911	16bit	1
S3.4.5.2	Revolution Fraction	0 to 65535	0	64h	50h	70h	UINT	7912	16bit	1
S3.4.5.3	Speed	-60000 to 60000 rpm	0	64h	50h	72h	DINT	7914	s32bit	2
S3.4.5.4	Search Zero	0 = Inactive 1 = Completed	-	64h	50h	71h	USINT	7913	enum	1
S3.4.6	Temperatures									
S3.4.6.1	Sensor 1	-100.0 to 250.0 °C	1	64h	50h	79h	INT	7921	s16bit	1
S3.4.6.2	Sensor 2	-100.0 to 250.0 °C	1	64h	50h	7Ah	INT	7922	s16bit	1
S3.4.6.3	Sensor 3	-100.0 to 250.0 °C	1	64h	50h	7Bh	INT	7923	s16bit	1
S3.4.6.4	Sensor 4	-100.0 to 250.0 °C	1	64h	50h	7Ch	INT	7924	s16bit	1
S3.4.6.5	Sensor 5	-100.0 to 250.0 °C	1	64h	50h	7Dh	INT	7925	s16bit	1
S3.4.6.6	Sensor 6	-100.0 to 250.0 °C	1	64h	50h	7Eh	INT	7926	s16bit	1
S3.5	Slot D Status									
S3.5.1	Analog Inputs									
S3.5.1.1	AI1	-100.00 to 100.00 %	2	64h	53h	75h	INT	8217	s16bit	1
S3.5.1.2	AI2	-100.00 to 100.00 %	2	64h	53h	76h	INT	8218	s16bit	1
S3.5.1.3	AI3	-100.00 to 100.00 %	2	64h	53h	77h	INT	8219	s16bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
S3.5.2	Analog Outputs									
S3.5.2.1	AO1	-100.00 to 100.00 %	2	64h	53h	83h	INT	8231	s16bit	1
S3.5.2.2	AO1 Network	-100.00 to 100.00 %	2	64h	53h	87h	INT	8235	s16bit	1
S3.5.2.3	AO1 SoftPLC	-100.00 to 100.00 %	2	64h	53h	8Bh	INT	8239	s16bit	1
S3.5.2.4	AO2	-100.00 to 100.00 %	2	64h	53h	84h	INT	8232	s16bit	1
S3.5.2.5	AO2 Network	-100.00 to 100.00 %	2	64h	53h	88h	INT	8236	s16bit	1
S3.5.2.6	AO2 SoftPLC	-100.00 to 100.00 %	2	64h	53h	8Ch	INT	8240	s16bit	1
S3.5.3	Digital Inputs									
S3.5.3.1	DI	Bit 0 = DI1 Bit 1 = DI2 Bit 2 = DI3 Bit 3 = DI4 Bit 4 = DI5 Bit 5 = DI6 Bit 6 = DI7 Bit 7 = DI8	-	64h	53h	74h	WORD	8216	8bit	1
S3.5.4	Digital Outputs									
S3.5.4.1	DO	Bit 0 = DO1 Bit 1 = DO2 Bit 2 = DO3 Bit 3 = DO4 Bit 4 = DO5 Bit 5 = DO6 Bit 6 = DO7 Bit 7 = DO8	-	64h	53h	7Fh	WORD	8227	8bit	1
S3.5.4.2	DO Network	Bit 0 = DO1 Bit 1 = DO2 Bit 2 = DO3 Bit 3 = DO4 Bit 4 = DO5 Bit 5 = DO6 Bit 6 = DO7 Bit 7 = DO8	-	64h	53h	80h	WORD	8228	8bit	1
S3.5.4.3	DO SoftPLC	Bit 0 = DO1 Bit 1 = DO2 Bit 2 = DO3 Bit 3 = DO4 Bit 4 = DO5 Bit 5 = DO6 Bit 6 = DO7 Bit 7 = DO8	-	64h	53h	81h	WORD	8229	8bit	1
S3.5.5	Encoder									
S3.5.5.1	Number of Revolutions	0 to 65535	0	64h	53h	6Fh	UINT	8211	16bit	1
S3.5.5.2	Revolution Fraction	0 to 65535	0	64h	53h	70h	UINT	8212	16bit	1
S3.5.5.3	Speed	-60000 to 60000 rpm	0	64h	53h	72h	DINT	8214	s32bit	2

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
S3.5.5.4	Search Zero	0 = Inactive 1 = Completed	-	64h	53h	71h	USINT	8213	enum	1
S3.5.6	Temperatures									
S3.5.6.1	Sensor 1	-100.0 to 250.0 °C	1	64h	53h	79h	INT	8221	s16bit	1
S3.5.6.2	Sensor 2	-100.0 to 250.0 °C	1	64h	53h	7Ah	INT	8222	s16bit	1
S3.5.6.3	Sensor 3	-100.0 to 250.0 °C	1	64h	53h	7Bh	INT	8223	s16bit	1
S3.5.6.4	Sensor 4	-100.0 to 250.0 °C	1	64h	53h	7Ch	INT	8224	s16bit	1
S3.5.6.5	Sensor 5	-100.0 to 250.0 °C	1	64h	53h	7Dh	INT	8225	s16bit	1
S3.5.6.6	Sensor 6	-100.0 to 250.0 °C	1	64h	53h	7Eh	INT	8226	s16bit	1
S3.6	Slot E Status									
S3.6.1	Analog Inputs									
S3.6.1.1	AI1	-100.00 to 100.00 %	2	64h	56h	75h	INT	8517	s16bit	1
S3.6.1.2	AI2	-100.00 to 100.00 %	2	64h	56h	76h	INT	8518	s16bit	1
S3.6.1.3	AI3	-100.00 to 100.00 %	2	64h	56h	77h	INT	8519	s16bit	1
S3.6.2	Analog Outputs									
S3.6.2.1	AO1	-100.00 to 100.00 %	2	64h	56h	83h	INT	8531	s16bit	1
S3.6.2.2	AO1 Network	-100.00 to 100.00 %	2	64h	56h	87h	INT	8535	s16bit	1
S3.6.2.3	AO1 SoftPLC	-100.00 to 100.00 %	2	64h	56h	8Bh	INT	8539	s16bit	1
S3.6.2.4	AO2	-100.00 to 100.00 %	2	64h	56h	84h	INT	8532	s16bit	1
S3.6.2.5	AO2 Network	-100.00 to 100.00 %	2	64h	56h	88h	INT	8536	s16bit	1
S3.6.2.6	AO2 SoftPLC	-100.00 to 100.00 %	2	64h	56h	8Ch	INT	8540	s16bit	1
S3.6.3	Digital Inputs									
S3.6.3.1	DI	Bit 0 = DI1 Bit 1 = DI2 Bit 2 = DI3 Bit 3 = DI4 Bit 4 = DI5 Bit 5 = DI6 Bit 6 = DI7 Bit 7 = DI8	-	64h	56h	74h	WORD	8516	8bit	1
S3.6.4	Digital Outputs									
S3.6.4.1	DO	Bit 0 = DO1 Bit 1 = DO2 Bit 2 = DO3 Bit 3 = DO4 Bit 4 = DO5 Bit 5 = DO6 Bit 6 = DO7 Bit 7 = DO8	-	64h	56h	7Fh	WORD	8527	8bit	1
S3.6.4.2	DO Network	Bit 0 = DO1 Bit 1 = DO2 Bit 2 = DO3 Bit 3 = DO4 Bit 4 = DO5 Bit 5 = DO6	-	64h	56h	80h	WORD	8528	8bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		Bit 6 = DO7 Bit 7 = DO8								
S3.6.4.3	DO SoftPLC	 Bit 0 = DO1 Bit 1 = DO2 Bit 2 = DO3 Bit 3 = DO4 Bit 4 = DO5 Bit 5 = DO6 Bit 6 = DO7 Bit 7 = DO8	-	64h	56h	81h	WORD	8529	8bit	1
S3.6.5	Encoder									
S3.6.5.1	Number of Revolutions	0 to 65535	0	64h	56h	6Fh	UINT	8511	16bit	1
S3.6.5.2	Revolution Fraction	0 to 65535	0	64h	56h	70h	UINT	8512	16bit	1
S3.6.5.3	Speed	-60000 to 60000 rpm	0	64h	56h	72h	DINT	8514	s32bit	2
S3.6.5.4	Search Zero	 0 = Inactive 1 = Completed	-	64h	56h	71h	USINT	8513	enum	1
S3.6.6	Temperatures									
S3.6.6.1	Sensor 1	-100.0 to 250.0 °C	1	64h	56h	79h	INT	8521	s16bit	1
S3.6.6.2	Sensor 2	-100.0 to 250.0 °C	1	64h	56h	7Ah	INT	8522	s16bit	1
S3.6.6.3	Sensor 3	-100.0 to 250.0 °C	1	64h	56h	7Bh	INT	8523	s16bit	1
S3.6.6.4	Sensor 4	-100.0 to 250.0 °C	1	64h	56h	7Ch	INT	8524	s16bit	1
S3.6.6.5	Sensor 5	-100.0 to 250.0 °C	1	64h	56h	7Dh	INT	8525	s16bit	1
S3.6.6.6	Sensor 6	-100.0 to 250.0 °C	1	64h	56h	7Eh	INT	8526	s16bit	1
S3.7	Slot F Status									
S3.7.1	Analog Inputs									
S3.7.1.1	AI1	-100.00 to 100.00 %	2	64h	59h	75h	INT	8817	s16bit	1
S3.7.1.2	AI2	-100.00 to 100.00 %	2	64h	59h	76h	INT	8818	s16bit	1
S3.7.1.3	AI3	-100.00 to 100.00 %	2	64h	59h	77h	INT	8819	s16bit	1
S3.7.2	Analog Outputs									
S3.7.2.1	AO1	-100.00 to 100.00 %	2	64h	59h	83h	INT	8831	s16bit	1
S3.7.2.2	AO1 Network	-100.00 to 100.00 %	2	64h	59h	87h	INT	8835	s16bit	1
S3.7.2.3	AO1 SoftPLC	-100.00 to 100.00 %	2	64h	59h	8Bh	INT	8839	s16bit	1
S3.7.2.4	AO2	-100.00 to 100.00 %	2	64h	59h	84h	INT	8832	s16bit	1
S3.7.2.5	AO2 Network	-100.00 to 100.00 %	2	64h	59h	88h	INT	8836	s16bit	1
S3.7.2.6	AO2 SoftPLC	-100.00 to 100.00 %	2	64h	59h	8Ch	INT	8840	s16bit	1
S3.7.3	Digital Inputs									
S3.7.3.1	DI	 Bit 0 = DI1 Bit 1 = DI2 Bit 2 = DI3 Bit 3 = DI4 Bit 4 = DI5 Bit 5 = DI6 Bit 6 = DI7 Bit 7 = DI8	-	64h	59h	74h	WORD	8816	8bit	1
S3.7.4	Digital Outputs									
S3.7.4.1	DO		-	64h	59h	7Fh	WORD	8827	8bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		Bit 0 = DO1 Bit 1 = DO2 Bit 2 = DO3 Bit 3 = DO4 Bit 4 = DO5 Bit 5 = DO6 Bit 6 = DO7 Bit 7 = DO8								
S3.7.4.2	DO Network	Bit 0 = DO1 Bit 1 = DO2 Bit 2 = DO3 Bit 3 = DO4 Bit 4 = DO5 Bit 5 = DO6 Bit 6 = DO7 Bit 7 = DO8	-	64h	59h	80h	WORD	8828	8bit	1
S3.7.4.3	DO SoftPLC	Bit 0 = DO1 Bit 1 = DO2 Bit 2 = DO3 Bit 3 = DO4 Bit 4 = DO5 Bit 5 = DO6 Bit 6 = DO7 Bit 7 = DO8	-	64h	59h	81h	WORD	8829	8bit	1
S3.7.5	Encoder									
S3.7.5.1	Number of Revolutions	0 to 65535	0	64h	59h	6Fh	UINT	8811	16bit	1
S3.7.5.2	Revolution Fraction	0 to 65535	0	64h	59h	70h	UINT	8812	16bit	1
S3.7.5.3	Speed	-60000 to 60000 rpm	0	64h	59h	72h	DINT	8814	s32bit	2
S3.7.5.4	Search Zero	0 = Inactive 1 = Completed	-	64h	59h	71h	USINT	8813	enum	1
S3.7.6	Temperatures									
S3.7.6.1	Sensor 1	-100.0 to 250.0 °C	1	64h	59h	79h	INT	8821	s16bit	1
S3.7.6.2	Sensor 2	-100.0 to 250.0 °C	1	64h	59h	7Ah	INT	8822	s16bit	1
S3.7.6.3	Sensor 3	-100.0 to 250.0 °C	1	64h	59h	7Bh	INT	8823	s16bit	1
S3.7.6.4	Sensor 4	-100.0 to 250.0 °C	1	64h	59h	7Ch	INT	8824	s16bit	1
S3.7.6.5	Sensor 5	-100.0 to 250.0 °C	1	64h	59h	7Dh	INT	8825	s16bit	1
S3.7.6.6	Sensor 6	-100.0 to 250.0 °C	1	64h	59h	7Eh	INT	8826	s16bit	1
S3.8	Slot G Status									
S3.8.1	Analog Inputs									
S3.8.1.1	AI1	-100.00 to 100.00 %	2	64h	5Ch	75h	INT	9117	s16bit	1
S3.8.1.2	AI2	-100.00 to 100.00 %	2	64h	5Ch	76h	INT	9118	s16bit	1
S3.8.1.3	AI3	-100.00 to 100.00 %	2	64h	5Ch	77h	INT	9119	s16bit	1
S3.8.2	Analog Outputs									
S3.8.2.1	AO1	-100.00 to 100.00 %	2	64h	5Ch	83h	INT	9131	s16bit	1
S3.8.2.2	AO1 Network	-100.00 to 100.00 %	2	64h	5Ch	87h	INT	9135	s16bit	1
S3.8.2.3	AO1 SoftPLC	-100.00 to 100.00 %	2	64h	5Ch	8Bh	INT	9139	s16bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
S3.8.2.4	AO2	-100.00 to 100.00 %	2	64h	5Ch	84h	INT	9132	s16bit	1
S3.8.2.5	AO2 Network	-100.00 to 100.00 %	2	64h	5Ch	88h	INT	9136	s16bit	1
S3.8.2.6	AO2 SoftPLC	-100.00 to 100.00 %	2	64h	5Ch	8Ch	INT	9140	s16bit	1
S3.8.3	Digital Inputs									
S3.8.3.1	DI	Bit 0 = DI1 Bit 1 = DI2 Bit 2 = DI3 Bit 3 = DI4 Bit 4 = DI5 Bit 5 = DI6 Bit 6 = DI7 Bit 7 = DI8	-	64h	5Ch	74h	WORD	9116	8bit	1
S3.8.4	Digital Outputs									
S3.8.4.1	DO	Bit 0 = DO1 Bit 1 = DO2 Bit 2 = DO3 Bit 3 = DO4 Bit 4 = DO5 Bit 5 = DO6 Bit 6 = DO7 Bit 7 = DO8	-	64h	5Ch	7Fh	WORD	9127	8bit	1
S3.8.4.2	DO Network	Bit 0 = DO1 Bit 1 = DO2 Bit 2 = DO3 Bit 3 = DO4 Bit 4 = DO5 Bit 5 = DO6 Bit 6 = DO7 Bit 7 = DO8	-	64h	5Ch	80h	WORD	9128	8bit	1
S3.8.4.3	DO SoftPLC	Bit 0 = DO1 Bit 1 = DO2 Bit 2 = DO3 Bit 3 = DO4 Bit 4 = DO5 Bit 5 = DO6 Bit 6 = DO7 Bit 7 = DO8	-	64h	5Ch	81h	WORD	9129	8bit	1
S3.8.5	Encoder									
S3.8.5.1	Number of Revolutions	0 to 65535	0	64h	5Ch	6Fh	UINT	9111	16bit	1
S3.8.5.2	Revolution Fraction	0 to 65535	0	64h	5Ch	70h	UINT	9112	16bit	1
S3.8.5.3	Speed	-60000 to 60000 rpm	0	64h	5Ch	72h	DINT	9114	s32bit	2
S3.8.5.4	Search Zero	0 = Inactive 1 = Completed	-	64h	5Ch	71h	USINT	9113	enum	1
S3.8.6	Temperatures									

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
S3.8.6.1	Sensor 1	-100.0 to 250.0 °C	1	64h	5Ch	79h	INT	9121	s16bit	1
S3.8.6.2	Sensor 2	-100.0 to 250.0 °C	1	64h	5Ch	7Ah	INT	9122	s16bit	1
S3.8.6.3	Sensor 3	-100.0 to 250.0 °C	1	64h	5Ch	7Bh	INT	9123	s16bit	1
S3.8.6.4	Sensor 4	-100.0 to 250.0 °C	1	64h	5Ch	7Ch	INT	9124	s16bit	1
S3.8.6.5	Sensor 5	-100.0 to 250.0 °C	1	64h	5Ch	7Dh	INT	9125	s16bit	1
S3.8.6.6	Sensor 6	-100.0 to 250.0 °C	1	64h	5Ch	7Eh	INT	9126	s16bit	1
			S4 Status\Functional Safety							
S4.1	Status	0 = Not used 1 = STO 2 = Operational 3 = Programming 4 = SS1-t 5 = Fault	-	64h	01h	BEh	USINT	90	enum	1
S4.2	SS1-t Delay Time	0 to 999 s	0	64h	01h	C0h	UINT	92	16bit	1
			S5 Status\Communications							
S5.1	Status and Commands									
S5.1.1	Status Word 1	Bit 0 = STO Bit 1 = Run Command Bit 2 = Local Bit 3 = Not used Bit 4 = No Quick Stop Bit 5 = 2nd Ramp Bit 6 = Config. Mode Bit 7 = Alarm Bit 8 = Running Bit 9 = Enabled Bit 10 = Reverse Bit 11 = JOG Bit 12 = Remote 2 Bit 13 = Undervoltage Bit 14 = Not used Bit 15 = Fault	-	64h	07h	B4h	WORD	680	16bit	1
S5.1.2	Speed	-200.00 to 200.00 %	2	64h	07h	B5h	INT	681	s16bit	1
S5.1.3	Status Word 2	Bit 0 = Self-tuning Bit 1 = Not used Bit 2 = Pre-Charge OK Bit 3 ... 4 = Not used Bit 5 = Decel. Ramp Bit 6 = Acc. Ramp Bit 7 = Freeze Ramp Bit 8 = Setpoint OK Bit 9 = DC Voltage Limitation Bit 10 = Current Limitation Bit 11 = Torque Limitation Bit 12 = Ride-Through Bit 13 = Flying Start Bit 14 = DC Braking	-	64h	07h	BEh	WORD	690	16bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		Bit 15 = PWM pulses								
S5.1.4	Status Word 3	Bit 0 = SD Card Bit 1 = Not used	-	64h	07h	BFh	WORD	691	2bit	1
S5.2	Serial RS485									
S5.2.1	Interface Status	0 = Inactive 1 = Active 2 = Timeout Error	-	64h	08h	87h	USINT	735	enum	1
S5.2.2	Control Word	Bit 0 = Enable Ramp Bit 1 = General Enable Bit 2 = Run Reverse Bit 3 = Enable JOG Bit 4 = R1/R2 Mode Bit 5 = 2nd Ramp Bit 6 = No Quick Stop Bit 7 = Fault Reset	-	64h	07h	B6h	WORD	682	8bit	1
S5.2.3	Speed Reference	-200.00 to 200.00 %	2	64h	07h	B7h	INT	683	s16bit	1
S5.2.5	Received Telegrams	0 to 65535	0	64h	08h	88h	UINT	736	16bit	1
S5.2.6	Transmitted Telegrams	0 to 65535	0	64h	08h	89h	UINT	737	16bit	1
S5.2.7	Telegrams with Error	0 to 65535	0	64h	08h	8Ah	UINT	738	16bit	1
S5.2.8	Reception Errors	0 to 65535	0	64h	08h	8Bh	UINT	739	16bit	1
S5.3	Ethernet									
S5.3.1	Interface Status	Bit 0 = Link 1 Bit 1 = Link 2	-	64h	09h	BEh	WORD	890	2bit	1
S5.3.2	Control Word	Bit 0 = Enable Ramp Bit 1 = General Enable Bit 2 = Run Reverse Bit 3 = Enable JOG Bit 4 = R1/R2 Mode Bit 5 = 2nd Ramp Bit 6 = No Quick Stop Bit 7 = Fault Reset	-	64h	07h	A4h	WORD	664	8bit	1
S5.3.3	Speed Reference	-200.00 to 200.00 %	2	64h	07h	A5h	INT	665	s16bit	1
S5.3.5	Actual IP Address	0.0.0.0 to 255.255.255.255	-	64h	09h	92h	UDINT	846	STRING	2
S5.3.6	MQTT Status	0 = Inactive 1 = No Connection 2 = Connected	-	64h	09h	8Dh	USINT	841	enum	1
S5.3.7	Last Public. MQTT	0 to 2147483647	0	64h	09h	8Eh	UDINT	842	NONE	2
S5.3.8	SNTP - Status	0 = Inactive 1 = No Connection 2 = Connected	-	64h	08h	B2h	USINT	778	enum	1
S5.3.9	SNTP - Last update	0 to 2147483647	0	64h	08h	B4h	UDINT	780	NONE	2
S5.3.10	SymbiNet: Groups Status		-	64h	0Bh	A7h	WORD	1067	8bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		Bit 0 = Group 1 Status Bit 1 = Group 2 Status Bit 2 = Group 3 Status Bit 3 = Group 4 Status Bit 4 = Group 5 Status Bit 5 = Group 6 Status Bit 6 = Group 7 Status Bit 7 = Group 8 Status								
S5.4	EtherNet/IP									
S5.4.1	EIP Master Status	0 = Run 1 = Idle	-	64h	09h	A9h	USINT	869	enum	1
S5.4.2	Communication Status	0 = Inactive 1 = No Connection 2 = Connected 3 = I/O Connection Timeout 4 = Duplicate IP	-	64h	09h	AAh	USINT	870	enum	1
S5.4.3	DLR Topology	0 = Linear 1 = Ring	-	64h	09h	B0h	USINT	876	enum	1
S5.4.4	DLR Status	0 = Idle State 1 = Normal State 2 = Fault State	-	64h	09h	B1h	USINT	877	enum	1
S5.5	Modbus TCP									
S5.5.1	Communication Status	0 = Inactive 1 = No Connection 2 = Connected 3 = Timeout Error	-	64h	09h	A0h	USINT	860	enum	1
S5.5.2	Received Telegrams	0 to 65535	0	64h	09h	A1h	UINT	861	16bit	1
S5.5.3	Transmitted Telegrams	0 to 65535	0	64h	09h	A2h	UINT	862	16bit	1
S5.5.4	Active Connections	0 to 4	0	64h	09h	A3h	UINT	863	16bit	1
S5.6	Anybus									
S5.6.1	Identification	0 = Inactive 1 = PROFIBUS DP-V1 2 = EtherCAT 3 = PROFINET IRT 4 ... 5 = Not used	-	64h	08h	96h	USINT	750	enum	1
S5.6.2	Communication Status	0 = Inactive 1 = Not Supported 2 = Access Error 3 = Offline 4 = Online	-	64h	08h	97h	USINT	751	enum	1
S5.6.3	Control Word	Bit 0 = Enable Ramp	-	64h	07h	A0h	WORD	660	8bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		Bit 1 = General Enable Bit 2 = Run Reverse Bit 3 = Enable JOG Bit 4 = R1/R2 Mode Bit 5 = 2nd Ramp Bit 6 = No Quick Stop Bit 7 = Fault Reset								
S5.6.4	Speed Reference	-200.00 to 200.00 %	2	64h	07h	A1h	INT	661	s16bit	1
S5.7	CAN/CANopen/DNet									
S5.7.1	CAN Controller Status	0 = Inactive 1 = Auto-Baud 2 = CAN Active 3 = Warning 4 = Error Passive 5 = Bus Off 6 = No Bus Power	-	64h	08h	69h	USINT	705	enum	1
S5.7.2	Control Word	Bit 0 = Enable Ramp Bit 1 = General Enable Bit 2 = Run Reverse Bit 3 = Enable JOG Bit 4 = R1/R2 Mode Bit 5 = 2nd Ramp Bit 6 = No Quick Stop Bit 7 = Fault Reset	-	64h	07h	B8h	WORD	684	8bit	1
S5.7.3	Speed Reference	-200.00 to 200.00 %	2	64h	07h	B9h	INT	685	s16bit	1
S5.7.5	Received Telegrams	0 to 65535	0	64h	08h	6Ah	UINT	706	16bit	1
S5.7.6	Transmitted Telegrams	0 to 65535	0	64h	08h	6Bh	UINT	707	16bit	1
S5.7.7	Bus Off Counter	0 to 65535	0	64h	08h	6Ch	UINT	708	16bit	1
S5.7.8	Lost Messages	0 to 65535	0	64h	08h	6Dh	UINT	709	16bit	1
S5.7.9	CANopen Comm. Status	0 = Inactive 1 = Not used 2 = Comm. Enabled 3 = Error Ctrl. Enab. 4 = Guarding Error 5 = Heartbeat Error	-	64h	08h	79h	USINT	721	enum	1
S5.7.10	CANopen Node Status	0 = Inactive 1 = Initialization 2 = Stopped 3 = Operational 4 = Pre-Operational	-	64h	08h	7Ah	USINT	722	enum	1
S5.7.11	DNet Network Status	0 = Offline 1 = Online Not Connec. 2 = Online, Connected 3 = Connection Timed Out 4 = Link Failure	-	64h	08h	74h	USINT	716	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		5 = Auto-Baud								
S5.7.12	DNet Master Status	0 = Run 1 = Idle	-	64h	08h	75h	USINT	717	enum	1
S5.9	Bluetooth									
S5.9.1	MAC Address	00:00:00:00:00:00 to FF:FF:FF:FF:FF:FF	-	64h	09h	65h	NONE	801	NONE	3
			S6 Status\SoftPLC							
S6.1	Program Execution									
S6.1.1	Status	0 = No Program 1 = Saving Program 2 = Invalid Program 3 = Program Stopped 4 = Program Running	-	64h	33h	64h	USINT	5000	enum	1
S6.1.2	Time	0 to 65535 ms	0	64h	33h	65h	UINT	5001	16bit	1
S6.2	Control and References									
S6.2.1	Control Word	Bit 0 = Enable Ramp Bit 1 = General Enable Bit 2 = Run Reverse Bit 3 = Enable JOG Bit 4 = R1/R2 Mode Bit 5 = 2nd Ramp Bit 6 = No Quick Stop Bit 7 = Fault Reset	-	64h	34h	6Eh	WORD	5110	8bit	1
S6.2.3	Speed Reference	-200.00 to 200.00 %	2	64h	34h	70h	INT	5112	s16bit	1
			S7 Status\User							
S7.1	Login Active	0 = Administrator 1 = Operator 2 ... 5 = Not used	-	64h	02h	C7h	USINT	199	enum	1
			D1 Diagnostics\Faults							
D1.1	Actual									
D1.1.1	Fault 1	0 to 1999	0	64h	01h	A0h	UINT	60	16bit	1
D1.1.2	Fault 2	0 to 1999	0	64h	01h	A1h	UINT	61	16bit	1
D1.1.3	Fault 3	0 to 1999	0	64h	01h	A2h	UINT	62	16bit	1
D1.1.4	Fault 4	0 to 1999	0	64h	01h	A3h	UINT	63	16bit	1
D1.1.5	Fault 5	0 to 1999	0	64h	01h	A4h	UINT	64	16bit	1
D1.2	History									
D1.3	Simplified History									
D1.3.1	Last Fault	0 to 9999	0	64h	2Ah	64h	UINT	4100	16bit	1
D1.3.2	Date and Time Last Fault	0 to 2147483647	0	64h	2Ah	66h	UDINT	4102	NONE	2
D1.3.3	Second Fault	0 to 9999	0	64h	2Ah	68h	UINT	4104	16bit	1
D1.3.4	Date and Time Second Fault	0 to 2147483647	0	64h	2Ah	6Ah	UDINT	4106	NONE	2
D1.3.5	Third Fault	0 to 9999	0	64h	2Ah	6Ch	UINT	4108	16bit	1
D1.3.6	Date and Time Third Fault	0 to 2147483647	0	64h	2Ah	6Eh	UDINT	4110	NONE	2
D1.3.7	Fourth Fault	0 to 9999	0	64h	2Ah	70h	UINT	4112	16bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
D1.3.8	Date and Time Fourth Fault	0 to 2147483647	0	64h	2Ah	72h	UDINT	4114	NONE	2
D1.3.9	Fifth Fault	0 to 9999	0	64h	2Ah	74h	UINT	4116	16bit	1
D1.3.10	Date and Time Fifth Fault	0 to 2147483647	0	64h	2Ah	76h	UDINT	4118	NONE	2
D1.3.11	Sixth Fault	0 to 9999	0	64h	2Ah	78h	UINT	4120	16bit	1
D1.3.12	Date and Time Sixth Fault	0 to 2147483647	0	64h	2Ah	7Ah	UDINT	4122	NONE	2
D1.3.13	Seventh Fault	0 to 9999	0	64h	2Ah	7Ch	UINT	4124	16bit	1
D1.3.14	Date and Time Seventh Fault	0 to 2147483647	0	64h	2Ah	7Eh	UDINT	4126	NONE	2
D1.3.15	Eighth Fault	0 to 9999	0	64h	2Ah	80h	UINT	4128	16bit	1
D1.3.16	Date and Time Eighth Fault	0 to 2147483647	0	64h	2Ah	82h	UDINT	4130	NONE	2
D1.3.17	Ninth Fault	0 to 9999	0	64h	2Ah	84h	UINT	4132	16bit	1
D1.3.18	Date and Time Ninth Fault	0 to 2147483647	0	64h	2Ah	86h	UDINT	4134	NONE	2
D1.3.19	Tenth Fault	0 to 9999	0	64h	2Ah	88h	UINT	4136	16bit	1
D1.3.20	Date and Time Tenth Fault	0 to 2147483647	0	64h	2Ah	8Ah	UDINT	4138	NONE	2
D2 Diagnostics\Alarms										
D2.1	Actual									
D2.1.1	Alarm 1	0 to 1999	0	64h	01h	96h	UINT	50	16bit	1
D2.1.2	Alarm 2	0 to 1999	0	64h	01h	97h	UINT	51	16bit	1
D2.1.3	Alarm 3	0 to 1999	0	64h	01h	98h	UINT	52	16bit	1
D2.1.4	Alarm 4	0 to 1999	0	64h	01h	99h	UINT	53	16bit	1
D2.1.5	Alarm 5	0 to 1999	0	64h	01h	9Ah	UINT	54	16bit	1
D2.2	History									
D2.3	Simplified History									
D2.3.1	Last Alarm	0 to 9999	0	64h	2Ah	96h	UINT	4150	16bit	1
D2.3.2	Date and Time Last Alarm	0 to 2147483647	0	64h	2Ah	98h	UDINT	4152	NONE	2
D2.3.3	Second Alarm	0 to 9999	0	64h	2Ah	9Ah	UINT	4154	16bit	1
D2.3.4	Date and Time Second Alarm	0 to 2147483647	0	64h	2Ah	9Ch	UDINT	4156	NONE	2
D2.3.5	Third Alarm	0 to 9999	0	64h	2Ah	9Eh	UINT	4158	16bit	1
D2.3.6	Date and Time Third Alarm	0 to 2147483647	0	64h	2Ah	A0h	UDINT	4160	NONE	2
D2.3.7	Fourth Alarm	0 to 9999	0	64h	2Ah	A2h	UINT	4162	16bit	1
D2.3.8	Date and Time Fourth Alarm	0 to 2147483647	0	64h	2Ah	A4h	UDINT	4164	NONE	2
D2.3.9	Fifth Alarm	0 to 9999	0	64h	2Ah	A6h	UINT	4166	16bit	1
D2.3.10	Date and Time Fifth Alarm	0 to 2147483647	0	64h	2Ah	A8h	UDINT	4168	NONE	2
D2.3.11	Sixth Alarm	0 to 9999	0	64h	2Ah	AAh	UINT	4170	16bit	1
D2.3.12	Date and Time Sixth Alarm	0 to 2147483647	0	64h	2Ah	ACh	UDINT	4172	NONE	2
D2.3.13	Seventh Alarm	0 to 9999	0	64h	2Ah	AEh	UINT	4174	16bit	1
D2.3.14	Date and Time Seventh Alarm	0 to 2147483647	0	64h	2Ah	B0h	UDINT	4176	NONE	2
D2.3.15	Eighth Alarm	0 to 9999	0	64h	2Ah	B2h	UINT	4178	16bit	1
D2.3.16	Date and Time Eighth Alarm	0 to 2147483647	0	64h	2Ah	B4h	UDINT	4180	NONE	2
D2.3.17	Ninth Alarm	0 to 9999	0	64h	2Ah	B6h	UINT	4182	16bit	1
D2.3.18	Date and Time Ninth Alarm	0 to 2147483647	0	64h	2Ah	B8h	UDINT	4184	NONE	2
D2.3.19	Tenth Alarm	0 to 9999	0	64h	2Ah	BAh	UINT	4186	16bit	1
D2.3.20	Date and Time Tenth Alarm	0 to 2147483647	0	64h	2Ah	BCh	UDINT	4188	NONE	2
D3 Diagnostics\Hour Control										
D3.1	Time Powered	0 to 65536 h	0	64h	01h	8Eh	NONE	42	NONE	2
D3.2	Hours Enabled	0 to 65536 h	0	64h	01h	90h	NONE	44	NONE	2
D3.3	Fan Running Hours	0 to 65536 h	0	64h	01h	92h	NONE	46	NONE	2
D4 Diagnostics\Inverter and Control Access.										
D4.1	Inverter									
D4.1.1	Fan Speed									

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
D4.1.1.1	Power Fan 1 Speed	0 to 30000 rpm	0	64h	15h	72h	UINT	2014	16bit	1
D4.1.1.2	Power Fan 2 Speed	0 to 30000 rpm	0	64h	15h	73h	UINT	2015	16bit	1
D4.1.1.3	Power Fan 3 Speed	0 to 30000 rpm	0	64h	15h	74h	UINT	2016	16bit	1
D4.1.1.4	Power Fan 4 Speed	0 to 30000 rpm	0	64h	15h	75h	UINT	2017	16bit	1
D4.1.1.5	Int. Fan 1 Speed	0 to 30000 rpm	0	64h	15h	76h	UINT	2018	16bit	1
D4.1.1.6	Int. Fan 2 Speed	0 to 30000 rpm	0	64h	15h	77h	UINT	2019	16bit	1
D4.1.2	Temperatures									
D4.1.2.2	Control Temperature 2	-50.0 to 250.0 °C	1	64h	0Ah	BFh	INT	991	s16bit	1
D4.1.2.3	Control Temperature 3	-50.0 to 250.0 °C	1	64h	0Ah	C0h	INT	992	s16bit	1
D4.1.2.4	Power Temp. 2	-50.0 to 250.0 °C	1	64h	15h	82h	INT	2030	s16bit	1
D4.1.3	DC Link									
D4.1.3.1	100 Hz Harmonic	0.0 to 999.9 V	1	64h	07h	7Ch	UINT	624	16bit	1
D4.1.3.2	120 Hz Harmonic	0.0 to 999.9 V	1	64h	07h	7Dh	UINT	625	16bit	1
D4.1.4	Control Voltages									
D4.1.4.1	Voltage 24V IO	0.00 to 655.35 V	2	64h	0Bh	68h	UINT	1004	16bit	1
D4.1.4.2	Battery Voltage	0.00 to 655.35 V	2	64h	0Bh	67h	UINT	1003	16bit	1
D4.1.4.3	Voltage 3.3V Control	0.00 to 655.35 V	2	64h	0Bh	69h	UINT	1005	16bit	1
D4.1.4.4	Voltage 24V Control	0.00 to 655.35 V	2	64h	0Bh	6Ah	UINT	1006	16bit	1
D4.1.4.5	Voltage 3.3V IO	0.00 to 655.35 V	2	64h	0Bh	6Bh	UINT	1007	16bit	1
D4.1.4.6	Voltage 5V AUI	0.00 to 655.35 V	2	64h	0Bh	66h	UINT	1002	16bit	1
D4.1.5	Motor Overl. Fault									
D4.1.5.1	Ixt Motor Level	0 to 100 %	0	64h	01h	89h	UINT	37	16bit	1
D4.1.6	Thermal Management									
D4.1.6.1	IGBT Overload Status	0 = No Overload 1 = Slow Curve Overload 2 = Fast Curve 1 Overload 3 = Fast Curve 2 Overload	-	64h	0Dh	64h	USINT	1200	enum	1
D4.1.6.2	IGBT Overload Counter	0.00 to 100.00 %	2	64h	0Dh	65h	UINT	1201	16bit	1
D4.1.6.3	Heat Sink Temp.	0.00 to 655.35 °C	2	64h	1Fh	A3h	UINT	3063	16bit	1
D4.1.6.4	IGBT Junction Temp.	0.00 to 655.35 °C	2	64h	1Fh	A2h	UINT	3062	16bit	1
D4.1.6.5	Diode Junction Temp.	0.00 to 655.35 °C	2	64h	1Fh	A6h	UINT	3066	16bit	1
D4.2	Control Accessories									
D4.2.1	Diag. Slot A									
D4.2.1.1	Status	0 = Not Connected 1 = Initializing 2 = Active 3 = Error	-	64h	4Bh	64h	USINT	7400	enum	1
D4.2.1.2	Error Cause	0 = No Error 1 ... 2 = Not used 3 = Initialization Error 4 ... 5 = Not used 6 = Disconnected 7 = Data Error 1 8 = Not used	-	64h	4Bh	65h	USINT	7401	enum	1
D4.2.1.3	Temperature	-100.0 to 250.0 °C	1	64h	4Bh	6Ah	INT	7406	s16bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
D4.2.2	Diag. Slot B									
D4.2.2.1	Status	0 = Not Connected 1 = Initializing 2 = Active 3 = Error	-	64h	4Eh	64h	USINT	7700	enum	1
D4.2.2.2	Error Cause	0 = No Error 1 ... 2 = Not used 3 = Initialization Error 4 ... 5 = Not used 6 = Disconnected 7 = Data Error 1 8 = Not used	-	64h	4Eh	65h	USINT	7701	enum	1
D4.2.2.3	Temperature	-100.0 to 250.0 °C	1	64h	4Eh	6Ah	INT	7706	s16bit	1
D4.2.3	Diag. Slot C									
D4.2.3.1	Status	0 = Not Connected 1 = Initializing 2 = Active 3 = Error	-	64h	51h	64h	USINT	8000	enum	1
D4.2.3.2	Error Cause	0 = No Error 1 ... 2 = Not used 3 = Initialization Error 4 ... 5 = Not used 6 = Disconnected 7 = Data Error 1 8 = Not used	-	64h	51h	65h	USINT	8001	enum	1
D4.2.3.3	Temperature	-100.0 to 250.0 °C	1	64h	51h	6Ah	INT	8006	s16bit	1
D4.2.4	Diag. Slot D									
D4.2.4.1	Status	0 = Not Connected 1 = Initializing 2 = Active 3 = Error	-	64h	54h	64h	USINT	8300	enum	1
D4.2.4.2	Error Cause	0 = No Error 1 ... 2 = Not used 3 = Initialization Error 4 ... 5 = Not used 6 = Disconnected 7 = Data Error 1 8 = Not used	-	64h	54h	65h	USINT	8301	enum	1
D4.2.4.3	Temperature	-100.0 to 250.0 °C	1	64h	54h	6Ah	INT	8306	s16bit	1
D4.2.5	Diag. Slot E									
D4.2.5.1	Status	0 = Not Connected 1 = Initializing	-	64h	57h	64h	USINT	8600	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		2 = Active 3 = Error								
D4.2.5.2	Error Cause	0 = No Error 1 ... 2 = Not used 3 = Initialization Error 4 ... 5 = Not used 6 = Disconnected 7 = Data Error 1 8 = Not used	-	64h	57h	65h	USINT	8601	enum	1
D4.2.5.3	Temperature	-100.0 to 250.0 °C	1	64h	57h	6Ah	INT	8606	s16bit	1
D4.2.6	Diag. Slot F									
D4.2.6.1	Status	0 = Not Connected 1 = Initializing 2 = Active 3 = Error	-	64h	5Ah	64h	USINT	8900	enum	1
D4.2.6.2	Error Cause	0 = No Error 1 ... 2 = Not used 3 = Initialization Error 4 ... 5 = Not used 6 = Disconnected 7 = Data Error 1 8 = Not used	-	64h	5Ah	65h	USINT	8901	enum	1
D4.2.6.3	Temperature	-100.0 to 250.0 °C	1	64h	5Ah	6Ah	INT	8906	s16bit	1
D4.2.7	Diag. Slot G									
D4.2.7.1	Status	0 = Not Connected 1 = Initializing 2 = Active 3 = Error	-	64h	5Dh	64h	USINT	9200	enum	1
D4.2.7.2	Error Cause	0 = No Error 1 ... 2 = Not used 3 = Initialization Error 4 ... 5 = Not used 6 = Disconnected 7 = Data Error 1 8 = Not used	-	64h	5Dh	65h	USINT	9201	enum	1
D4.2.7.3	Temperature	-100.0 to 250.0 °C	1	64h	5Dh	6Ah	INT	9206	s16bit	1
D5 Diagnostics\Changed Parameters										
D5.1	Configurations									
D5.2	Application									
C1 Configurations\Inverter and Power Supply										
C1.1	Power Supply									
C1.1.1	Type	0 = Three-phase AC	-	64h	0Dh	C2h	USINT	1294	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		1 = Single-phase AC 2 = DC								
C1.1.2	Rated Voltage	1 to 1200 V	0	64h	0Dh	C4h	UINT	1296	16bit	1
C1.2	Inverter Use									
C1.2.1	Overload Type	0 = Normal Duty (ND) 1 = Heavy Duty (HD)	-	64h	0Dh	C6h	USINT	1298	enum	1
C1.3	Switching Frequency									
C1.3.1	User	1.0 to 16.0 kHz	1	64h	0Dh	C5h	UINT	1297	16bit	1
C1.3.2	Minimum	1.00 to 16.00 kHz	2	64h	1Fh	8Ah	UINT	3038	16bit	1
C1.4	PWM Modulation									
C1.4.1	Type	0 = SVM 1 = ePWM 2 = Long Cable Modulation	-	64h	29h	64h	USINT	4000	enum	1
C1.4.4	PMW Wid. Adj. Long Cab.	0.00 to 1.00	2	64h	1Fh	A1h	UINT	3061	16bit	1
C1.4.5	Dead Time Compensation	0 = Disable 1 = Enable	-	64h	04h	9Ch	USINT	356	enum	1
C1.5	Fans Configuration									
C1.5.1	Power Fan Setting	0 = Off 1 = On 2 = Temp. Control w/ Init.Test 3 = Control by Temperature	-	64h	15h	64h	USINT	2000	enum	1
C1.5.2	Internal Fan Setting	0 = Off 1 = On 2 = Temp. Control w/ Init.Test 3 = Control by Temperature	-	64h	15h	65h	USINT	2001	enum	1
C1.6	Other Inverter Settings									
C1.6.1	Invert Output Phase Seq.	0 = U(T1)/V(T2)/W(T3) 1 = W(T3)/V(T2)/U(T1)	-	64h	1Fh	A0h	USINT	3060	enum	1
C1.6.2	Reset Counters	0 = Disabled 1 = Energy 2 = Fan On 3 = Inverter Enabled	-	64h	1Fh	93h	USINT	3047	enum	1
C1.6.3	User Temp. Delta	0.0 to 100.0 °C	1	64h	0Dh	C1h	INT	1293	s16bit	1
C1.6.4	Manual Inom Derating	0.0 to 100.0 %	1	64h	0Dh	C0h	UINT	1292	16bit	1
		C2 Configurations\Motor								
C2.1	Motor Data									
C2.1.1	Motor Type	0 = Induction 1 = Synchronous - IPSM 2 = Synchronous - SPSM 3 = Synchronous - HSRM	-	64h	03h	69h	USINT	205	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		4 = Not used								
C2.1.2	Motor Power Unit	0 = HP/cv 1 = kW	-	64h	05h	69h	USINT	405	enum	1
C2.1.3	Rated Power	0.0 to 2000.0	1	64h	05h	68h	UINT	404	16bit	1
C2.1.4	Rated Voltage	1 to 690 V	0	64h	05h	64h	UINT	400	16bit	1
C2.1.5	Rated Current	0.0 to 2223.0 A	1	64h	05h	65h	UINT	401	16bit	1
C2.1.6	Rated Frequency	1 to 500 Hz	0	64h	05h	67h	UINT	403	16bit	1
C2.1.7	Number of Pole Pairs	1 to 90	0	64h	05h	83h	UINT	431	16bit	1
C2.1.8	Rated Speed	0 to 30000 rpm	0	64h	05h	66h	UINT	402	16bit	1
C2.1.9	Rated Efficiency	50.0 to 99.9 %	1	64h	04h	C7h	UINT	399	16bit	1
C2.1.10	Rated cos phi	0.50 to 0.99	2	64h	05h	6Bh	UINT	407	16bit	1
C2.1.11	Service Factor	1.00 to 1.50	2	64h	04h	C6h	UINT	398	16bit	1
C2.1.12	Ventilation	0 = Self-ventilated 1 = Independent	-	64h	05h	6Ah	USINT	406	enum	1
C2.2	Motor Model Parameters									
C2.2.1	Stator Resistance	0.000 to 30.000 Ω	3	64h	05h	6Dh	UINT	409	16bit	1
C2.2.2	Magnetizing Reactance	0.0 to 800.0 Ω	1	64h	05h	6Eh	UINT	410	16bit	1
C2.2.3	Leakage Reactance	0.00 to 100.00 Ω	2	64h	05h	6Fh	UINT	411	16bit	1
C2.2.4	Rotor Resistance	0.000 to 30.000 Ω	3	64h	05h	70h	UINT	412	16bit	1
C2.2.5	Rotor Reactance	0.00 to 100.00 Ω	2	64h	05h	71h	UINT	413	16bit	1
C2.2.6	Ld Inductance	0.00 to 650.00 mH	2	64h	05h	86h	UINT	434	16bit	1
C2.2.7	Lq Inductance	0.00 to 650.00 mH	2	64h	05h	85h	UINT	433	16bit	1
C2.2.8	Ke Constant	0.0 to 2000.0	1	64h	05h	87h	UINT	435	16bit	1
		C3 Configurations\Control								
C3.1	Configuration									
C3.1.1	Control Type	0 = Scalar 1 = VVW+ 2 = Encoder Vector 3 = Sensorless Vector	-	64h	03h	66h	USINT	202	enum	1
C3.2	Scalar and VVW+ Control									
C3.2.1	V/F Curve									
C3.2.1.1	Manual Torque Boost	0.0 to 20.0 %	1	64h	02h	88h	REAL	136	TIME	2
C3.2.1.2	Low Output Voltage	0.0 to 100.0 %	1	64h	02h	90h	REAL	144	TIME	2
C3.2.1.3	Interm. Output Voltage	0.0 to 100.0 %	1	64h	02h	8Fh	REAL	143	TIME	2
C3.2.1.4	Maximum Output Voltage	0.0 to 100.0 %	1	64h	02h	8Eh	REAL	142	TIME	2
C3.2.1.5	Low Speed	0.0 to 200.0 %	1	64h	02h	93h	UINT	147	16bit	1
C3.2.1.6	Intermediate Speed	0.0 to 200.0 %	1	64h	02h	92h	UINT	146	16bit	1
C3.2.1.7	Field Weakening Start Speed	0.0 to 200.0 %	1	64h	02h	91h	UINT	145	16bit	1
C3.2.1.8	Rated Flux	0.0 to 120.0 %	1	64h	02h	94h	REAL	148	TIME	2
C3.2.2	VVW+ Optimization									
C3.2.2.1.1	Slip Compensator Gain	0.00 to 10.00	2	64h	1Fh	7Ah	UINT	3022	16bit	1
C3.2.2.1.2	Voltage Comp. Gain	0.00 to 5.00	2	64h	1Fh	7Bh	UINT	3023	16bit	1
C3.2.2.1.3	Filter	1 to 100 ms	0	64h	1Fh	BCh	UINT	3088	16bit	1
C3.2.2.2.1	MTPA Function	0 = Disable 1 = Enable	-	64h	07h	77h	USINT	619	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
C3.2.2.2.2	MTPA Optimizer	0 = Disable 1 = Enable	-	64h	07h	71h	USINT	613	enum	1
C3.2.2.2.3	MTPA Minimum Speed	0 to 100 %	0	64h	07h	76h	UINT	618	16bit	1
C3.2.2.2.4	Efficiency Adjustment Gain	0.000 to 4.000	3	64h	07h	78h	UINT	620	16bit	1
C3.2.2.2.5	Kp MTPA Gain	0.000 to 1.000	3	64h	07h	75h	UINT	617	16bit	1
C3.2.2.2.6	Ki MTPA Gain	0.000 to 1.000	3	64h	07h	74h	UINT	616	16bit	1
C3.2.2.2.7	MTPA Reference	0 to 100 %	0	64h	07h	73h	INT	615	s16bit	1
C3.2.2.2.8	MTPA Minimum Voltage	0 to 100 %	0	64h	07h	72h	UINT	614	16bit	1
C3.2.2.2.9	Voltage Comp. Gain	0.00 to 5.00	2	64h	20h	70h	UINT	3112	16bit	1
C3.2.3	Current Stabilization									
C3.2.3.1	Enable Function	0 = Disable 1 = Enable	-	64h	04h	9Fh	USINT	359	enum	1
C3.2.3.2	Stabilization Kp Gain	0.000 to 1.999	3	64h	07h	79h	UINT	621	16bit	1
C3.2.3.3	Stabilization Ki Gain	0.000 to 1.999	3	64h	07h	7Ah	UINT	622	16bit	1
C3.2.3.4	Stab. PI Saturation	0.0 to 10.0 %	1	64h	07h	7Bh	UINT	623	16bit	1
C3.2.3.5	Max. Operation Freq.	0 to 300 %	0	64h	1Fh	A7h	UINT	3067	16bit	1
C3.2.4	Pre-Magnetization									
C3.2.4.1	Enable Function	0 = Disable 1 = Enable	-	64h	1Fh	B1h	USINT	3077	enum	1
C3.2.4.2	Current	0 to 350 %	0	64h	1Fh	7Dh	UINT	3025	16bit	1
C3.2.4.3	Time	0 to 5000 ms	0	64h	1Fh	7Ch	UINT	3024	16bit	1
C3.2.4.4	Gain	1.0 to 7.0	1	64h	1Fh	7Fh	UINT	3027	16bit	1
C3.2.5	I/F Control									
C3.2.5.1	Enable	0 = Disable 1 = Enable	-	64h	1Fh	C1h	USINT	3093	enum	1
C3.2.5.2	Enable at Reversal	0 = Disable 1 = Enable	-	64h	1Fh	C7h	USINT	3099	enum	1
C3.2.5.3	Current	0 to 200 %	0	64h	1Fh	C2h	UINT	3094	16bit	1
C3.2.5.4	Transition Speed	0 to 100 %	0	64h	1Fh	C3h	UINT	3095	16bit	1
C3.2.5.5	Drag Time	0 to 10 s	0	64h	1Fh	C4h	UINT	3096	16bit	1
C3.2.5.6	Drag Speed	0 to 50 %	0	64h	1Fh	C5h	UINT	3097	16bit	1
C3.3	Vector Control									
C3.3.1	Configuration									
C3.3.1.1	Control Mode	0 = Speed 1 = Torque 2 = Defined by DI	-	64h	1Fh	64h	USINT	3000	enum	1
C3.3.1.2	Control Mode DI Config.	0 = Inactive 1 = DI X-1 2 = DI X-2 3 = DI X-3 4 = DI X-4 5 = DI X-5	-	64h	1Fh	65h	USINT	3001	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		6 = DI X-6 7 = DI A-1 8 = DI A-2 9 = DI A-3 10 = DI A-4 11 = DI A-5 12 = DI A-6 13 = DI A-7 14 = DI A-8 15 = DI B-1 16 = DI B-2 17 = DI B-3 18 = DI B-4 19 = DI B-5 20 = DI B-6 21 = DI B-7 22 = DI B-8 23 = DI C-1 24 = DI C-2 25 = DI C-3 26 = DI C-4 27 = DI C-5 28 = DI C-6 29 = DI C-7 30 = DI C-8 31 = DI D-1 32 = DI D-2 33 = DI D-3 34 = DI D-4 35 = DI D-5 36 = DI D-6 37 = DI D-7 38 = DI D-8 39 = DI E-1 40 = DI E-2 41 = DI E-3 42 = DI E-4 43 = DI E-5 44 = DI E-6 45 = DI E-7 46 = DI E-8 47 = DI F-1 48 = DI F-2 49 = DI F-3 50 = DI F-4 51 = DI F-5 52 = DI F-6 53 = DI F-7 54 = DI F-8 55 = DI G-1 56 = DI G-2								

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		57 = DI G-3 58 = DI G-4 59 = DI G-5 60 = DI G-6 61 = DI G-7 62 = DI G-8								
C3.3.1.3	Control Encoder	0 = Slot X 1 = Slot A 2 = Slot B 3 = Slot C 4 = Slot D 5 = Slot E 6 = Slot F 7 = Slot G 8 = None	-	64h	1Fh	75h	USINT	3017	enum	1
C3.3.1.6	Magnetization Mode	0 = General Enable 1 = Run/Stop	-	64h	02h	B5h	USINT	181	enum	1
C3.3.2	Regulators									
C3.3.2.1.1	Adaptive Gain	0 = Disable 1 = Enable	-	64h	02h	A0h	USINT	160	enum	1
C3.3.2.1.2	Proportional Gain	0.0 to 50.0	1	64h	02h	A1h	UINT	161	16bit	1
C3.3.2.1.3	Integral Gain	0.001 to 1.000	3	64h	02h	A2h	UINT	162	16bit	1
C3.3.2.1.4	Differential Gain	0.00 to 7.99	2	64h	02h	A6h	UINT	166	16bit	1
C3.3.2.1.5	Filter	12 to 1000 ms	0	64h	02h	A5h	UINT	165	16bit	1
C3.3.2.2.1	Proportional Gain	0.00 to 5.00	2	64h	1Fh	66h	UINT	3002	16bit	1
C3.3.2.2.2	Integral Gain	0.000 to 1.000	3	64h	1Fh	67h	UINT	3003	16bit	1
C3.3.2.2.3	Differential Gain	0.00 to 7.99	2	64h	1Fh	B8h	UINT	3084	16bit	1
C3.3.2.2.4	Filter	12 to 10000 ms	0	64h	1Fh	74h	UINT	3016	16bit	1
C3.3.2.3.1	Rated Flux	0.0 to 120.0 %	1	64h	02h	B2h	UINT	178	16bit	1
C3.3.2.3.2	Proportional Gain	0.00 to 5.00	2	64h	02h	AFh	UINT	175	16bit	1
C3.3.2.3.3	Integral Gain	0.00 to 100.00	2	64h	02h	B0h	UINT	176	16bit	1
C3.3.2.4.1	Id Prop. Gain	0.00 to 5.00	2	64h	05h	8Ch	UINT	440	16bit	1
C3.3.2.4.2	Id Integral Gain	0.01 to 100.00	2	64h	05h	8Dh	UINT	441	16bit	1
C3.3.2.4.3	Iq Prop. Gain	0.00 to 5.00	2	64h	05h	8Ah	UINT	438	16bit	1
C3.3.2.4.4	Iq Integral Gain	0.01 to 100.00	2	64h	05h	8Bh	UINT	439	16bit	1
C3.3.3	Output Voltage Limiter									
C3.3.3.1	Maximum Output Voltage	0.0 to 120.0 %	1	64h	02h	BEh	UINT	190	16bit	1
C3.3.3.2	Proportional Gain	0.00 to 5.00	2	64h	1Fh	82h	UINT	3030	16bit	1
C3.3.3.3	Integral Gain	0.00 to 100.00	2	64h	1Fh	83h	UINT	3031	16bit	1
C3.3.3.4	Speed for MTPV	0 to 600 %	0	64h	20h	6Fh	UINT	3111	16bit	1
C3.3.4	Torque Mode									
C3.3.4.1.1	Forward Speed	0 to 32000 rpm	0	64h	02h	ABh	UINT	171	16bit	1
C3.3.4.1.2	Reverse Speed	0 to 32000 rpm	0	64h	02h	ACh	UINT	172	16bit	1
C3.3.4.1.3	Proportional Gain	0.00 to 5.00	2	64h	1Fh	8Fh	UINT	3043	16bit	1
C3.3.4.1.4	Integral Gain	0.000 to 1.000	3	64h	1Fh	90h	UINT	3044	16bit	1
C3.3.5	Speed Mode									
C3.3.5.1.1	Global Torque	0.0 to 400.0 %	1	64h	1Fh	73h	UINT	3015	16bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
C3.3.5.1.2	Torque Q1	0.0 to 400.0 %	1	64h	02h	A9h	UINT	169	16bit	1
C3.3.5.1.3	Torque Q2	0.0 to 400.0 %	1	64h	02h	AAh	UINT	170	16bit	1
C3.3.5.1.4	Torque Q3	0.0 to 400.0 %	1	64h	1Fh	71h	UINT	3013	16bit	1
C3.3.5.1.5	Torque Q4	0.0 to 400.0 %	1	64h	1Fh	72h	UINT	3014	16bit	1
C3.3.5.1.6	Global Torque AI Config.	0 = Inactive 1 = AI X-1 2 = AI X-2 3 = AI A-1 4 = AI A-2 5 = AI A-3 6 = Not used 7 = AI B-1 8 = AI B-2 9 = AI B-3 10 = Not used 11 = AI C-1 12 = AI C-2 13 = AI C-3 14 = Not used 15 = AI D-1 16 = AI D-2 17 = AI D-3 18 = Not used 19 = AI E-1 20 = AI E-2 21 = AI E-3 22 = Not used 23 = AI F-1 24 = AI F-2 25 = AI F-3 26 = Not used 27 = AI G-1 28 = AI G-2 29 = AI G-3 30 = Not used	-	64h	1Fh	6Fh	USINT	3011	enum	1
C3.3.5.1.7	Proportional Gain	0.00 to 5.00	2	64h	1Fh	84h	UINT	3032	16bit	1
C3.3.5.1.8	Integral Gain	0.00 to 100.00	2	64h	1Fh	85h	UINT	3033	16bit	1
C3.3.7	Speed Steady State Estimator									
C3.3.7.1	Speed Setting	0.10 to 10.00	2	64h	1Fh	B3h	UINT	3079	16bit	1
C3.3.7.2	Regenerative Compensator	0.00 to 2.00	2	64h	1Fh	9Fh	UINT	3059	16bit	1
C3.3.7.3	Proportional Gain	0.00 to 10.00	2	64h	1Fh	99h	UINT	3053	16bit	1
C3.3.7.4	Integral Gain	0.00 to 10.00	2	64h	1Fh	9Ah	UINT	3054	16bit	1
C3.3.7.5	Synchronous Angle Filter	1 to 15 ms	0	64h	1Fh	B7h	UINT	3083	16bit	1
C3.3.7.6	Observer transition speed	0 to 50 %	0	64h	20h	65h	UINT	3101	16bit	1
C3.3.7.7	Home Position Displacement	-50 to 50 °	0	64h	20h	67h	INT	3103	s16bit	1
C3.3.8	Low Speed Estimator									
C3.3.8.1	Enable Function	0 = Disable 1 = Enable	-	64h	1Fh	94h	USINT	3048	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
C3.3.8.2	Carrier Amplitude	0.00 to 50.00	2	64h	1Fh	95h	UINT	3049	16bit	1
C3.3.8.3	Carrier Frequency	0 to 5000 Hz	0	64h	1Fh	96h	UINT	3050	16bit	1
C3.3.8.4	Proportional Gain	0.00 to 10.00	2	64h	1Fh	97h	UINT	3051	16bit	1
C3.3.8.5	Integral Gain	0.00 to 10.00	2	64h	1Fh	98h	UINT	3052	16bit	1
C3.3.8.6	Identification of the Magnetic Pole	0.00 to 0.50	2	64h	20h	66h	UINT	3102	16bit	1
C3.3.9	Online Parameters Estimator									
C3.3.9.1	Estimator Configuration	Bit 0 = Enable Xm Estimator Bit 1 = Enable Taus Estimator Bit 2 = Enable Taur Estimator	-	64h	1Fh	9Eh	WORD	3058	3bit	1
C3.3.10	Maximum Torque per Ampere									
C3.3.10.1	MTPA Manual Setting	0.00 to 2.00	2	64h	20h	68h	UINT	3104	16bit	1
C3.4	Current Limiter									
C3.4.1	Actuation Level	0 to 300 %	0	64h	02h	87h	UINT	135	16bit	1
C3.4.3	Proportional Gain	0.00 to 5.00	2	64h	1Fh	86h	UINT	3034	16bit	1
C3.4.4	Integral Gain	0.00 to 100.00	2	64h	1Fh	87h	UINT	3035	16bit	1
C3.4.5	Overcurrent Fault Level	100 to 250 %	0	64h	20h	6Eh	UINT	3110	16bit	1
C3.5	DC Link Voltage Limiter									
C3.5.1	DC Link Volt. Limit. Config.									
C3.5.1.1	Enable Function	0 = Disable 1 = Enable	-	64h	1Fh	81h	USINT	3029	enum	1
C3.5.2	Scalar and VVW+ Control									
C3.5.2.1	DC Link Volt. Lim.-Level	114.0 to 160.0 %	1	64h	02h	97h	UINT	151	16bit	1
C3.5.2.2	DC Link Volt. Lim.-Kp Gain	0.00 to 5.00	2	64h	02h	98h	UINT	152	16bit	1
C3.5.2.3	DC Link Volt. Lim.-Ki Gain	0.000 to 5.000	3	64h	1Fh	76h	UINT	3018	16bit	1
C3.5.2.4	DC Link Volt. Lim.-Est. Gain	0.000 to 9.999	3	64h	1Fh	7Eh	INT	3026	s16bit	1
C3.5.3	Vector Control									
C3.5.3.1	Optim. Braking Func. Enable	0 = No 1 = Yes	-	64h	02h	B8h	USINT	184	enum	1
C3.5.3.2	DC Link Volt. Lim.-Level	114.0 to 160.0 %	1	64h	02h	B9h	UINT	185	16bit	1
C3.5.3.3	DC Link Volt. Lim.-Kp Gain	0.00 to 5.00	2	64h	02h	BAh	UINT	186	16bit	1
C3.5.3.4	DC Link Volt. Lim.-Ki Gain	0.000 to 5.000	3	64h	02h	BBh	UINT	187	16bit	1
C3.6	Dynamic Braking									
C3.6.1	DC Link Voltage Level	0.1 to 100.0 %	1	64h	02h	99h	UINT	153	16bit	1
C3.6.2	Resistor	0.0 to 500.0 Ω	1	64h	02h	9Ah	UINT	154	16bit	1
C3.6.3	Power	0.02 to 650.00 kW	2	64h	02h	9Bh	UINT	155	16bit	1
C3.7	DC Braking									
C3.7.1	Enable Function	0 = Disable 1 = Only Start 2 = Only Stop 3 = Start and Stop 4 = Always Enabled	-	64h	04h	6Bh	USINT	307	enum	1
C3.7.2	DC-Braking Start Time	0.0 to 15.0 s	1	64h	03h	C7h	UINT	299	16bit	1
C3.7.3	DC-Braking Stop Time	0.0 to 15.0 s	1	64h	04h	64h	UINT	300	16bit	1
C3.7.4	Starting Speed	0 to 450 rpm	0	64h	04h	65h	UINT	301	16bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
C3.7.5	Current	0.0 to 100.0 %	1	64h	04h	66h	UINT	302	16bit	1
C3.8	Flying Start									
C3.8.1	Flying Start Setting									
C3.8.1.1	Enable Function	0 = Disable 1 = Enable	-	64h	1Fh	6Ch	USINT	3008	enum	1
C3.8.1.2	Function Reset	0 = General Enable 1 = Run/Stop	-	64h	04h	7Fh	USINT	327	enum	1
C3.8.1.3	Tracking	0 = Two Trackings 1 = One Tracking	-	64h	04h	80h	USINT	328	enum	1
C3.8.1.4	Ramp	0.2 to 60.0 s	1	64h	04h	83h	UINT	331	16bit	1
C3.8.1.5	Disable Flying Start	0 = Inactive 1 = DI X-1 2 = DI X-2 3 = DI X-3 4 = DI X-4 5 = DI X-5 6 = DI X-6 7 = DI A-1 8 = DI A-2 9 = DI A-3 10 = DI A-4 11 = DI A-5 12 = DI A-6 13 = DI A-7 14 = DI A-8 15 = DI B-1 16 = DI B-2 17 = DI B-3 18 = DI B-4 19 = DI B-5 20 = DI B-6 21 = DI B-7 22 = DI B-8 23 = DI C-1 24 = DI C-2 25 = DI C-3 26 = DI C-4 27 = DI C-5 28 = DI C-6 29 = DI C-7 30 = DI C-8 31 = DI D-1 32 = DI D-2 33 = DI D-3 34 = DI D-4 35 = DI D-5	-	64h	3Dh	70h	USINT	6012	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		36 = DI D-6 37 = DI D-7 38 = DI D-8 39 = DI E-1 40 = DI E-2 41 = DI E-3 42 = DI E-4 43 = DI E-5 44 = DI E-6 45 = DI E-7 46 = DI E-8 47 = DI F-1 48 = DI F-2 49 = DI F-3 50 = DI F-4 51 = DI F-5 52 = DI F-6 53 = DI F-7 54 = DI F-8 55 = DI G-1 56 = DI G-2 57 = DI G-3 58 = DI G-4 59 = DI G-5 60 = DI G-6 61 = DI G-7 62 = DI G-8								
C3.8.2	Scalar and VVW+ Control									
C3.8.2.1	Current	0.0 to 100.0 %	1	64h	04h	84h	UINT	332	16bit	1
C3.8.3	Vector Control									
C3.8.3.1	Flux Reference	0.0 to 100.0 %	1	64h	04h	81h	REAL	329	TIME	2
C3.9	Ride-Through									
C3.9.1	Ride-Through Config.									
C3.9.1.1	Function Enable	0 = Disable 1 = Enable	-	64h	04h	78h	USINT	320	enum	1
C3.9.2	Scalar and VVW+ Control									
C3.9.2.1	DC Link Volt.-Ride-Through	76.0 to 95.0 %	1	64h	1Fh	79h	UINT	3021	16bit	1
C3.9.2.2	Ride-Through-Gain Kp	0.00 to 2.00	2	64h	1Fh	77h	UINT	3019	16bit	1
C3.9.2.3	Ride-Through-Gain Ki	0.000 to 1.000	3	64h	1Fh	78h	UINT	3020	16bit	1
C3.9.3	Vector Control									
C3.9.3.1	DC Link Volt.-Ride-Through	76.0 to 95.0 %	1	64h	04h	7Ah	UINT	322	16bit	1
C3.9.3.2	Ride-Through-Gain Kp	0.00 to 2.00	2	64h	04h	7Dh	UINT	325	16bit	1
C3.9.3.3	Ride-Through-Gain Ki	0.000 to 1.000	3	64h	04h	7Eh	UINT	326	16bit	1
C3.10	Advanced Energy Saving									
C3.10.1	Enable Function	0 = Disable 1 = Enable	-	64h	1Fh	80h	USINT	3028	enum	1
C3.10.2	Adv. Optimum Flux Config.		-	64h	06h	C0h	USINT	592	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		0 = Disable 1 = Enable								
C3.10.3	Cos phi Reference	0.50 to 0.99	2	64h	1Fh	6Dh	INT	3009	s16bit	1
C3.10.4	Maximum Torque	0 to 150 %	0	64h	06h	BCh	INT	588	s16bit	1
C3.10.5	Minimum Voltage	40 to 80 %	0	64h	06h	BDh	INT	589	s16bit	1
C3.10.6	Minimum Speed	0 to 100 %	0	64h	06h	BEh	INT	590	s16bit	1
C3.10.7	Torque Hysteresis	0 to 30 %	0	64h	06h	BFh	INT	591	s16bit	1
C4 Configurations\Commands and References										
C4.1	LOC/REM Mode Config.									
C4.1.1	Command mode	0 = Always Local 1 = Remote 1 2 = Remote 2 3 = Serial 4 = Anybus 5 = CAN/CO/DN 6 = SoftPLC 7 = Not used 8 = Ethernet 9 = Digital Input (DI)	-	64h	03h	78h	USINT	220	enum	1
C4.1.2	DI Remote 1/Remote 2	0 = Inactive 1 = DI X-1 2 = DI X-2 3 = DI X-3 4 = DI X-4 5 = DI X-5 6 = DI X-6 7 = DI A-1 8 = DI A-2 9 = DI A-3 10 = DI A-4 11 = DI A-5 12 = DI A-6 13 = DI A-7 14 = DI A-8 15 = DI B-1 16 = DI B-2 17 = DI B-3 18 = DI B-4 19 = DI B-5 20 = DI B-6 21 = DI B-7 22 = DI B-8 23 = DI C-1 24 = DI C-2 25 = DI C-3 26 = DI C-4 27 = DI C-5 28 = DI C-6	-	64h	3Dh	6Fh	USINT	6011	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		29 = DI C-7 30 = DI C-8 31 = DI D-1 32 = DI D-2 33 = DI D-3 34 = DI D-4 35 = DI D-5 36 = DI D-6 37 = DI D-7 38 = DI D-8 39 = DI E-1 40 = DI E-2 41 = DI E-3 42 = DI E-4 43 = DI E-5 44 = DI E-6 45 = DI E-7 46 = DI E-8 47 = DI F-1 48 = DI F-2 49 = DI F-3 50 = DI F-4 51 = DI F-5 52 = DI F-6 53 = DI F-7 54 = DI F-8 55 = DI G-1 56 = DI G-2 57 = DI G-3 58 = DI G-4 59 = DI G-5 60 = DI G-6 61 = DI G-7 62 = DI G-8								
C4.1.3	HMI LOC/REM Key	0 = Disable 1 = Enable	-	64h	63h	67h	USINT	9803	enum	1
C4.2	Commands									
C4.2.1	R1 Command Config.									
C4.2.1.1	General Enable	0 = Always enabled 1 = HMI 2 = Serial 3 = Anybus 4 = CAN/CO/DN 5 = SoftPLC 6 = Not used 7 = Ethernet 8 = Digital Input (DI)	-	64h	03h	8Ch	USINT	240	enum	1
C4.2.1.2	Run/Stop		-	64h	03h	7Ch	USINT	224	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		0 = HMI I/O Keys 1 = Serial 2 = Anybus 3 = CAN/CO/DN 4 = SoftPLC 5 = Not used 6 = Ethernet 7 = Run/Stop DI 8 = Forward/Reverse DI 9 = 3-Wire Start/Stop DI								
C4.2.1.3	Direction of Rotation	0 = Forward 1 = HMI DR Key 2 = Serial 3 = Anybus 4 = CAN/CO/DN 5 = SoftPLC 6 = Not used 7 = Ethernet 8 = Direction of Rotation DI 9 = Forward/Reverse DI 10 = Speed Reference	-	64h	03h	7Bh	USINT	223	enum	1
C4.2.1.4	JOG	0 = Inactive 1 = HMI JOG Key 2 = Serial 3 = Anybus 4 = CAN/CO/DN 5 = SoftPLC 6 = Not used 7 = Ethernet 8 = Digital Input (DI)	-	64h	03h	7Dh	USINT	225	enum	1
C4.2.2	R2 Command Config.									
C4.2.2.1	General Enable	0 = Always enabled 1 = HMI 2 = Serial 3 = Anybus 4 = CAN/CO/DN 5 = SoftPLC 6 = Not used 7 = Ethernet 8 = Digital Input (DI)	-	64h	03h	8Dh	USINT	241	enum	1
C4.2.2.2	Run/Stop	0 = HMI I/O Keys 1 = Serial 2 = Anybus 3 = CAN/CO/DN 4 = SoftPLC 5 = Not used	-	64h	03h	7Fh	USINT	227	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		6 = Ethernet 7 = Run/Stop DI 8 = Forward/Reverse DI 9 = 3-Wire Start/Stop DI								
C4.2.2.3	Direction of Rotation	0 = Forward 1 = HMI DR Key 2 = Serial 3 = Anybus 4 = CAN/CO/DN 5 = SoftPLC 6 = Not used 7 = Ethernet 8 = Direction of Rotation DI 9 = Forward/Reverse DI 10 = Speed Reference	-	64h	03h	7Eh	USINT	226	enum	1
C4.2.2.4	JOG	0 = Inactive 1 = HMI JOG Key 2 = Serial 3 = Anybus 4 = CAN/CO/DN 5 = SoftPLC 6 = Not used 7 = Ethernet 8 = Digital Input (DI)	-	64h	03h	80h	USINT	228	enum	1
C4.2.3	DI Config. for Commands									
C4.2.3.1	General Enable	0 = Inactive 1 = DI X-1 2 = DI X-2 3 = DI X-3 4 = DI X-4 5 = DI X-5 6 = DI X-6 7 = DI A-1 8 = DI A-2 9 = DI A-3 10 = DI A-4 11 = DI A-5 12 = DI A-6 13 = DI A-7 14 = DI A-8 15 = DI B-1 16 = DI B-2 17 = DI B-3 18 = DI B-4 19 = DI B-5 20 = DI B-6 21 = DI B-7	-	64h	3Dh	64h	USINT	6000	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		22 = DI B-8 23 = DI C-1 24 = DI C-2 25 = DI C-3 26 = DI C-4 27 = DI C-5 28 = DI C-6 29 = DI C-7 30 = DI C-8 31 = DI D-1 32 = DI D-2 33 = DI D-3 34 = DI D-4 35 = DI D-5 36 = DI D-6 37 = DI D-7 38 = DI D-8 39 = DI E-1 40 = DI E-2 41 = DI E-3 42 = DI E-4 43 = DI E-5 44 = DI E-6 45 = DI E-7 46 = DI E-8 47 = DI F-1 48 = DI F-2 49 = DI F-3 50 = DI F-4 51 = DI F-5 52 = DI F-6 53 = DI F-7 54 = DI F-8 55 = DI G-1 56 = DI G-2 57 = DI G-3 58 = DI G-4 59 = DI G-5 60 = DI G-6 61 = DI G-7 62 = DI G-8								
C4.2.3.2	Run/Stop	0 = Inactive 1 = DI X-1 2 = DI X-2 3 = DI X-3 4 = DI X-4 5 = DI X-5 6 = DI X-6 7 = DI A-1 8 = DI A-2	-	64h	3Dh	68h	USINT	6004	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		9 = DI A-3 10 = DI A-4 11 = DI A-5 12 = DI A-6 13 = DI A-7 14 = DI A-8 15 = DI B-1 16 = DI B-2 17 = DI B-3 18 = DI B-4 19 = DI B-5 20 = DI B-6 21 = DI B-7 22 = DI B-8 23 = DI C-1 24 = DI C-2 25 = DI C-3 26 = DI C-4 27 = DI C-5 28 = DI C-6 29 = DI C-7 30 = DI C-8 31 = DI D-1 32 = DI D-2 33 = DI D-3 34 = DI D-4 35 = DI D-5 36 = DI D-6 37 = DI D-7 38 = DI D-8 39 = DI E-1 40 = DI E-2 41 = DI E-3 42 = DI E-4 43 = DI E-5 44 = DI E-6 45 = DI E-7 46 = DI E-8 47 = DI F-1 48 = DI F-2 49 = DI F-3 50 = DI F-4 51 = DI F-5 52 = DI F-6 53 = DI F-7 54 = DI F-8 55 = DI G-1 56 = DI G-2 57 = DI G-3 58 = DI G-4 59 = DI G-5								

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		60 = DI G-6 61 = DI G-7 62 = DI G-8								
C4.2.3.3	3-Wire Start	0 = Inactive 1 = DI X-1 2 = DI X-2 3 = DI X-3 4 = DI X-4 5 = DI X-5 6 = DI X-6 7 = DI A-1 8 = DI A-2 9 = DI A-3 10 = DI A-4 11 = DI A-5 12 = DI A-6 13 = DI A-7 14 = DI A-8 15 = DI B-1 16 = DI B-2 17 = DI B-3 18 = DI B-4 19 = DI B-5 20 = DI B-6 21 = DI B-7 22 = DI B-8 23 = DI C-1 24 = DI C-2 25 = DI C-3 26 = DI C-4 27 = DI C-5 28 = DI C-6 29 = DI C-7 30 = DI C-8 31 = DI D-1 32 = DI D-2 33 = DI D-3 34 = DI D-4 35 = DI D-5 36 = DI D-6 37 = DI D-7 38 = DI D-8 39 = DI E-1 40 = DI E-2 41 = DI E-3 42 = DI E-4 43 = DI E-5 44 = DI E-6 45 = DI E-7 46 = DI E-8	-	64h	3Dh	69h	USINT	6005	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		47 = DI F-1 48 = DI F-2 49 = DI F-3 50 = DI F-4 51 = DI F-5 52 = DI F-6 53 = DI F-7 54 = DI F-8 55 = DI G-1 56 = DI G-2 57 = DI G-3 58 = DI G-4 59 = DI G-5 60 = DI G-6 61 = DI G-7 62 = DI G-8								
C4.2.3.4	3-Wire Stop	0 = Inactive 1 = DI X-1 2 = DI X-2 3 = DI X-3 4 = DI X-4 5 = DI X-5 6 = DI X-6 7 = DI A-1 8 = DI A-2 9 = DI A-3 10 = DI A-4 11 = DI A-5 12 = DI A-6 13 = DI A-7 14 = DI A-8 15 = DI B-1 16 = DI B-2 17 = DI B-3 18 = DI B-4 19 = DI B-5 20 = DI B-6 21 = DI B-7 22 = DI B-8 23 = DI C-1 24 = DI C-2 25 = DI C-3 26 = DI C-4 27 = DI C-5 28 = DI C-6 29 = DI C-7 30 = DI C-8 31 = DI D-1 32 = DI D-2 33 = DI D-3	-	64h	3Dh	6Ah	USINT	6006	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		34 = DI D-4 35 = DI D-5 36 = DI D-6 37 = DI D-7 38 = DI D-8 39 = DI E-1 40 = DI E-2 41 = DI E-3 42 = DI E-4 43 = DI E-5 44 = DI E-6 45 = DI E-7 46 = DI E-8 47 = DI F-1 48 = DI F-2 49 = DI F-3 50 = DI F-4 51 = DI F-5 52 = DI F-6 53 = DI F-7 54 = DI F-8 55 = DI G-1 56 = DI G-2 57 = DI G-3 58 = DI G-4 59 = DI G-5 60 = DI G-6 61 = DI G-7 62 = DI G-8							
C4.2.3.5	Forward	0 = Inactive 1 = DI X-1 2 = DI X-2 3 = DI X-3 4 = DI X-4 5 = DI X-5 6 = DI X-6 7 = DI A-1 8 = DI A-2 9 = DI A-3 10 = DI A-4 11 = DI A-5 12 = DI A-6 13 = DI A-7 14 = DI A-8 15 = DI B-1 16 = DI B-2 17 = DI B-3 18 = DI B-4 19 = DI B-5 20 = DI B-6	-	64h	3Dh	6Bh	USINT	6007	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		21 = DI B-7 22 = DI B-8 23 = DI C-1 24 = DI C-2 25 = DI C-3 26 = DI C-4 27 = DI C-5 28 = DI C-6 29 = DI C-7 30 = DI C-8 31 = DI D-1 32 = DI D-2 33 = DI D-3 34 = DI D-4 35 = DI D-5 36 = DI D-6 37 = DI D-7 38 = DI D-8 39 = DI E-1 40 = DI E-2 41 = DI E-3 42 = DI E-4 43 = DI E-5 44 = DI E-6 45 = DI E-7 46 = DI E-8 47 = DI F-1 48 = DI F-2 49 = DI F-3 50 = DI F-4 51 = DI F-5 52 = DI F-6 53 = DI F-7 54 = DI F-8 55 = DI G-1 56 = DI G-2 57 = DI G-3 58 = DI G-4 59 = DI G-5 60 = DI G-6 61 = DI G-7 62 = DI G-8								
C4.2.3.6	Reverse	0 = Inactive 1 = DI X-1 2 = DI X-2 3 = DI X-3 4 = DI X-4 5 = DI X-5 6 = DI X-6 7 = DI A-1	-	64h	3Dh	6Ch	USINT	6008	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		8 = DI A-2 9 = DI A-3 10 = DI A-4 11 = DI A-5 12 = DI A-6 13 = DI A-7 14 = DI A-8 15 = DI B-1 16 = DI B-2 17 = DI B-3 18 = DI B-4 19 = DI B-5 20 = DI B-6 21 = DI B-7 22 = DI B-8 23 = DI C-1 24 = DI C-2 25 = DI C-3 26 = DI C-4 27 = DI C-5 28 = DI C-6 29 = DI C-7 30 = DI C-8 31 = DI D-1 32 = DI D-2 33 = DI D-3 34 = DI D-4 35 = DI D-5 36 = DI D-6 37 = DI D-7 38 = DI D-8 39 = DI E-1 40 = DI E-2 41 = DI E-3 42 = DI E-4 43 = DI E-5 44 = DI E-6 45 = DI E-7 46 = DI E-8 47 = DI F-1 48 = DI F-2 49 = DI F-3 50 = DI F-4 51 = DI F-5 52 = DI F-6 53 = DI F-7 54 = DI F-8 55 = DI G-1 56 = DI G-2 57 = DI G-3 58 = DI G-4								

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		59 = DI G-5 60 = DI G-6 61 = DI G-7 62 = DI G-8								
C4.2.3.7	Quick Stop	0 = Inactive 1 = DI X-1 2 = DI X-2 3 = DI X-3 4 = DI X-4 5 = DI X-5 6 = DI X-6 7 = DI A-1 8 = DI A-2 9 = DI A-3 10 = DI A-4 11 = DI A-5 12 = DI A-6 13 = DI A-7 14 = DI A-8 15 = DI B-1 16 = DI B-2 17 = DI B-3 18 = DI B-4 19 = DI B-5 20 = DI B-6 21 = DI B-7 22 = DI B-8 23 = DI C-1 24 = DI C-2 25 = DI C-3 26 = DI C-4 27 = DI C-5 28 = DI C-6 29 = DI C-7 30 = DI C-8 31 = DI D-1 32 = DI D-2 33 = DI D-3 34 = DI D-4 35 = DI D-5 36 = DI D-6 37 = DI D-7 38 = DI D-8 39 = DI E-1 40 = DI E-2 41 = DI E-3 42 = DI E-4 43 = DI E-5 44 = DI E-6 45 = DI E-7	-	64h	3Dh	65h	USINT	6001	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		46 = DI E-8 47 = DI F-1 48 = DI F-2 49 = DI F-3 50 = DI F-4 51 = DI F-5 52 = DI F-6 53 = DI F-7 54 = DI F-8 55 = DI G-1 56 = DI G-2 57 = DI G-3 58 = DI G-4 59 = DI G-5 60 = DI G-6 61 = DI G-7 62 = DI G-8								
C4.2.3.8	Direction of Rotation	0 = Inactive 1 = DI X-1 2 = DI X-2 3 = DI X-3 4 = DI X-4 5 = DI X-5 6 = DI X-6 7 = DI A-1 8 = DI A-2 9 = DI A-3 10 = DI A-4 11 = DI A-5 12 = DI A-6 13 = DI A-7 14 = DI A-8 15 = DI B-1 16 = DI B-2 17 = DI B-3 18 = DI B-4 19 = DI B-5 20 = DI B-6 21 = DI B-7 22 = DI B-8 23 = DI C-1 24 = DI C-2 25 = DI C-3 26 = DI C-4 27 = DI C-5 28 = DI C-6 29 = DI C-7 30 = DI C-8 31 = DI D-1 32 = DI D-2	-	64h	3Dh	6Eh	USINT	6010	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		33 = DI D-3 34 = DI D-4 35 = DI D-5 36 = DI D-6 37 = DI D-7 38 = DI D-8 39 = DI E-1 40 = DI E-2 41 = DI E-3 42 = DI E-4 43 = DI E-5 44 = DI E-6 45 = DI E-7 46 = DI E-8 47 = DI F-1 48 = DI F-2 49 = DI F-3 50 = DI F-4 51 = DI F-5 52 = DI F-6 53 = DI F-7 54 = DI F-8 55 = DI G-1 56 = DI G-2 57 = DI G-3 58 = DI G-4 59 = DI G-5 60 = DI G-6 61 = DI G-7 62 = DI G-8							
C4.2.3.9	JOG	0 = Inactive 1 = DI X-1 2 = DI X-2 3 = DI X-3 4 = DI X-4 5 = DI X-5 6 = DI X-6 7 = DI A-1 8 = DI A-2 9 = DI A-3 10 = DI A-4 11 = DI A-5 12 = DI A-6 13 = DI A-7 14 = DI A-8 15 = DI B-1 16 = DI B-2 17 = DI B-3 18 = DI B-4 19 = DI B-5	-	64h	3Dh	6Dh	USINT	6009	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		20 = DI B-6 21 = DI B-7 22 = DI B-8 23 = DI C-1 24 = DI C-2 25 = DI C-3 26 = DI C-4 27 = DI C-5 28 = DI C-6 29 = DI C-7 30 = DI C-8 31 = DI D-1 32 = DI D-2 33 = DI D-3 34 = DI D-4 35 = DI D-5 36 = DI D-6 37 = DI D-7 38 = DI D-8 39 = DI E-1 40 = DI E-2 41 = DI E-3 42 = DI E-4 43 = DI E-5 44 = DI E-6 45 = DI E-7 46 = DI E-8 47 = DI F-1 48 = DI F-2 49 = DI F-3 50 = DI F-4 51 = DI F-5 52 = DI F-6 53 = DI F-7 54 = DI F-8 55 = DI G-1 56 = DI G-2 57 = DI G-3 58 = DI G-4 59 = DI G-5 60 = DI G-6 61 = DI G-7 62 = DI G-8								
C4.2.3.10	Ramp Selection	0 = Inactive 1 = DI X-1 2 = DI X-2 3 = DI X-3 4 = DI X-4 5 = DI X-5 6 = DI X-6	-	64h	3Dh	67h	USINT	6003	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		7 = DI A-1 8 = DI A-2 9 = DI A-3 10 = DI A-4 11 = DI A-5 12 = DI A-6 13 = DI A-7 14 = DI A-8 15 = DI B-1 16 = DI B-2 17 = DI B-3 18 = DI B-4 19 = DI B-5 20 = DI B-6 21 = DI B-7 22 = DI B-8 23 = DI C-1 24 = DI C-2 25 = DI C-3 26 = DI C-4 27 = DI C-5 28 = DI C-6 29 = DI C-7 30 = DI C-8 31 = DI D-1 32 = DI D-2 33 = DI D-3 34 = DI D-4 35 = DI D-5 36 = DI D-6 37 = DI D-7 38 = DI D-8 39 = DI E-1 40 = DI E-2 41 = DI E-3 42 = DI E-4 43 = DI E-5 44 = DI E-6 45 = DI E-7 46 = DI E-8 47 = DI F-1 48 = DI F-2 49 = DI F-3 50 = DI F-4 51 = DI F-5 52 = DI F-6 53 = DI F-7 54 = DI F-8 55 = DI G-1 56 = DI G-2 57 = DI G-3								

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		58 = DI G-4 59 = DI G-5 60 = DI G-6 61 = DI G-7 62 = DI G-8								
C4.2.3.11	Fault Reset	0 = Inactive 1 = DI X-1 2 = DI X-2 3 = DI X-3 4 = DI X-4 5 = DI X-5 6 = DI X-6 7 = DI A-1 8 = DI A-2 9 = DI A-3 10 = DI A-4 11 = DI A-5 12 = DI A-6 13 = DI A-7 14 = DI A-8 15 = DI B-1 16 = DI B-2 17 = DI B-3 18 = DI B-4 19 = DI B-5 20 = DI B-6 21 = DI B-7 22 = DI B-8 23 = DI C-1 24 = DI C-2 25 = DI C-3 26 = DI C-4 27 = DI C-5 28 = DI C-6 29 = DI C-7 30 = DI C-8 31 = DI D-1 32 = DI D-2 33 = DI D-3 34 = DI D-4 35 = DI D-5 36 = DI D-6 37 = DI D-7 38 = DI D-8 39 = DI E-1 40 = DI E-2 41 = DI E-3 42 = DI E-4 43 = DI E-5 44 = DI E-6	-	64h	3Dh	66h	USINT	6002	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		45 = DI E-7 46 = DI E-8 47 = DI F-1 48 = DI F-2 49 = DI F-3 50 = DI F-4 51 = DI F-5 52 = DI F-6 53 = DI F-7 54 = DI F-8 55 = DI G-1 56 = DI G-2 57 = DI G-3 58 = DI G-4 59 = DI G-5 60 = DI G-6 61 = DI G-7 62 = DI G-8								
C4.2.4	HMI Config. for Commands									
C4.2.4.1	Stop Key Function	0 = Stop by Ramp 1 = General Enable to Stop 2 = Quick Stop	-	64h	03h	81h	USINT	229	enum	1
C4.3	References									
C4.3.1	Speed									
C4.3.1.1.1	Minimum Reference	0 to 60000 rpm	0	64h	02h	85h	UINT	133	16bit	1
C4.3.1.1.2	Maximum Reference	1 to 60000 rpm	0	64h	02h	86h	UINT	134	16bit	1
C4.3.1.2.1	Remote 1 Mode	0 = HMI 1 = E.P. 2 = Multispeed 3 = Serial 4 = Anybus 5 = CAN/CO/DN 6 = Ethernet 7 = Not used 8 = SoftPLC 9 = Analog Input (AI) 10 = Frequency Input (FI) 11 = PID Controller	-	64h	03h	79h	USINT	221	enum	1
C4.3.1.2.2	Remote 2 Mode	0 = HMI 1 = E.P. 2 = Multispeed 3 = Serial 4 = Anybus 5 = CAN/CO/DN 6 = Ethernet 7 = Not used 8 = SoftPLC	-	64h	03h	7Ah	USINT	222	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		9 = Analog Input (AI) 10 = Frequency Input (FI) 11 = PID Controller								
C4.3.1.3.1	Speed Ref. via HMI	0 to 60000 rpm	0	64h	02h	79h	UINT	121	16bit	1
C4.3.1.3.2	R1 Speed Ref. AI Config.	0 = Inactive 1 = AI X-1 2 = AI X-2 3 = AI A-1 4 = AI A-2 5 = AI A-3 6 = Not used 7 = AI B-1 8 = AI B-2 9 = AI B-3 10 = Not used 11 = AI C-1 12 = AI C-2 13 = AI C-3 14 = Not used 15 = AI D-1 16 = AI D-2 17 = AI D-3 18 = Not used 19 = AI E-1 20 = AI E-2 21 = AI E-3 22 = Not used 23 = AI F-1 24 = AI F-2 25 = AI F-3 26 = Not used 27 = AI G-1 28 = AI G-2 29 = AI G-3 30 = Not used	-	64h	3Dh	75h	USINT	6017	enum	1
C4.3.1.3.3	Speed Ref. FI Config.	0 = Inactive 1 = FI X-5 2 = FI X-6	-	64h	3Dh	76h	USINT	6018	enum	1
C4.3.1.3.4	R2 Speed Ref. AI Config.	0 = Inactive 1 = AI X-1 2 = AI X-2 3 = AI A-1 4 = AI A-2 5 = AI A-3 6 = Not used 7 = AI B-1 8 = AI B-2 9 = AI B-3	-	64h	3Dh	77h	USINT	6019	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		10 = Not used 11 = AI C-1 12 = AI C-2 13 = AI C-3 14 = Not used 15 = AI D-1 16 = AI D-2 17 = AI D-3 18 = Not used 19 = AI E-1 20 = AI E-2 21 = AI E-3 22 = Not used 23 = AI F-1 24 = AI F-2 25 = AI F-3 26 = Not used 27 = AI G-1 28 = AI G-2 29 = AI G-3 30 = Not used								
C4.3.1.4.1	DI Increase E.P.	0 = Inactive 1 = DI X-1 2 = DI X-2 3 = DI X-3 4 = DI X-4 5 = DI X-5 6 = DI X-6 7 = DI A-1 8 = DI A-2 9 = DI A-3 10 = DI A-4 11 = DI A-5 12 = DI A-6 13 = DI A-7 14 = DI A-8 15 = DI B-1 16 = DI B-2 17 = DI B-3 18 = DI B-4 19 = DI B-5 20 = DI B-6 21 = DI B-7 22 = DI B-8 23 = DI C-1 24 = DI C-2 25 = DI C-3 26 = DI C-4 27 = DI C-5 28 = DI C-6	-	64h	3Dh	85h	USINT	6033	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		29 = DI C-7 30 = DI C-8 31 = DI D-1 32 = DI D-2 33 = DI D-3 34 = DI D-4 35 = DI D-5 36 = DI D-6 37 = DI D-7 38 = DI D-8 39 = DI E-1 40 = DI E-2 41 = DI E-3 42 = DI E-4 43 = DI E-5 44 = DI E-6 45 = DI E-7 46 = DI E-8 47 = DI F-1 48 = DI F-2 49 = DI F-3 50 = DI F-4 51 = DI F-5 52 = DI F-6 53 = DI F-7 54 = DI F-8 55 = DI G-1 56 = DI G-2 57 = DI G-3 58 = DI G-4 59 = DI G-5 60 = DI G-6 61 = DI G-7 62 = DI G-8								
C4.3.1.4.2	DI Decrease E.P.	0 = Inactive 1 = DI X-1 2 = DI X-2 3 = DI X-3 4 = DI X-4 5 = DI X-5 6 = DI X-6 7 = DI A-1 8 = DI A-2 9 = DI A-3 10 = DI A-4 11 = DI A-5 12 = DI A-6 13 = DI A-7 14 = DI A-8 15 = DI B-1	-	64h	3Dh	86h	USINT	6034	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		16 = DI B-2 17 = DI B-3 18 = DI B-4 19 = DI B-5 20 = DI B-6 21 = DI B-7 22 = DI B-8 23 = DI C-1 24 = DI C-2 25 = DI C-3 26 = DI C-4 27 = DI C-5 28 = DI C-6 29 = DI C-7 30 = DI C-8 31 = DI D-1 32 = DI D-2 33 = DI D-3 34 = DI D-4 35 = DI D-5 36 = DI D-6 37 = DI D-7 38 = DI D-8 39 = DI E-1 40 = DI E-2 41 = DI E-3 42 = DI E-4 43 = DI E-5 44 = DI E-6 45 = DI E-7 46 = DI E-8 47 = DI F-1 48 = DI F-2 49 = DI F-3 50 = DI F-4 51 = DI F-5 52 = DI F-6 53 = DI F-7 54 = DI F-8 55 = DI G-1 56 = DI G-2 57 = DI G-3 58 = DI G-4 59 = DI G-5 60 = DI G-6 61 = DI G-7 62 = DI G-8								
C4.3.1.5.1	Multispeed Ref. 1	0 to 60000 rpm	0	64h	02h	7Ch	UINT	124	16bit	1
C4.3.1.5.2	Multispeed Ref. 2	0 to 60000 rpm	0	64h	02h	7Dh	UINT	125	16bit	1
C4.3.1.5.3	Multispeed Ref. 3	0 to 60000 rpm	0	64h	02h	7Eh	UINT	126	16bit	1
C4.3.1.5.4	Multispeed Ref. 4	0 to 60000 rpm	0	64h	02h	7Fh	UINT	127	16bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
C4.3.1.5.5	Multispeed Ref. 5	0 to 60000 rpm	0	64h	02h	80h	UINT	128	16bit	1
C4.3.1.5.6	Multispeed Ref. 6	0 to 60000 rpm	0	64h	02h	81h	UINT	129	16bit	1
C4.3.1.5.7	Multispeed Ref. 7	0 to 60000 rpm	0	64h	02h	82h	UINT	130	16bit	1
C4.3.1.5.8	Multispeed Ref. 8	0 to 60000 rpm	0	64h	02h	83h	UINT	131	16bit	1
C4.3.1.5.9	Multispeed 1 DI Config.	0 = Inactive 1 = DI X-1 2 = DI X-2 3 = DI X-3 4 = DI X-4 5 = DI X-5 6 = DI X-6 7 = DI A-1 8 = DI A-2 9 = DI A-3 10 = DI A-4 11 = DI A-5 12 = DI A-6 13 = DI A-7 14 = DI A-8 15 = DI B-1 16 = DI B-2 17 = DI B-3 18 = DI B-4 19 = DI B-5 20 = DI B-6 21 = DI B-7 22 = DI B-8 23 = DI C-1 24 = DI C-2 25 = DI C-3 26 = DI C-4 27 = DI C-5 28 = DI C-6 29 = DI C-7 30 = DI C-8 31 = DI D-1 32 = DI D-2 33 = DI D-3 34 = DI D-4 35 = DI D-5 36 = DI D-6 37 = DI D-7 38 = DI D-8 39 = DI E-1 40 = DI E-2 41 = DI E-3 42 = DI E-4 43 = DI E-5 44 = DI E-6 45 = DI E-7	-	64h	3Dh	82h	USINT	6030	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		46 = DI E-8 47 = DI F-1 48 = DI F-2 49 = DI F-3 50 = DI F-4 51 = DI F-5 52 = DI F-6 53 = DI F-7 54 = DI F-8 55 = DI G-1 56 = DI G-2 57 = DI G-3 58 = DI G-4 59 = DI G-5 60 = DI G-6 61 = DI G-7 62 = DI G-8								
C4.3.1.5.10	Multispeed 2 DI Config.	0 = Inactive 1 = DI X-1 2 = DI X-2 3 = DI X-3 4 = DI X-4 5 = DI X-5 6 = DI X-6 7 = DI A-1 8 = DI A-2 9 = DI A-3 10 = DI A-4 11 = DI A-5 12 = DI A-6 13 = DI A-7 14 = DI A-8 15 = DI B-1 16 = DI B-2 17 = DI B-3 18 = DI B-4 19 = DI B-5 20 = DI B-6 21 = DI B-7 22 = DI B-8 23 = DI C-1 24 = DI C-2 25 = DI C-3 26 = DI C-4 27 = DI C-5 28 = DI C-6 29 = DI C-7 30 = DI C-8 31 = DI D-1 32 = DI D-2	-	64h	3Dh	83h	USINT	6031	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		33 = DI D-3 34 = DI D-4 35 = DI D-5 36 = DI D-6 37 = DI D-7 38 = DI D-8 39 = DI E-1 40 = DI E-2 41 = DI E-3 42 = DI E-4 43 = DI E-5 44 = DI E-6 45 = DI E-7 46 = DI E-8 47 = DI F-1 48 = DI F-2 49 = DI F-3 50 = DI F-4 51 = DI F-5 52 = DI F-6 53 = DI F-7 54 = DI F-8 55 = DI G-1 56 = DI G-2 57 = DI G-3 58 = DI G-4 59 = DI G-5 60 = DI G-6 61 = DI G-7 62 = DI G-8								
C4.3.1.5.11	Multispeed 3 DI Config.	0 = Inactive 1 = DI X-1 2 = DI X-2 3 = DI X-3 4 = DI X-4 5 = DI X-5 6 = DI X-6 7 = DI A-1 8 = DI A-2 9 = DI A-3 10 = DI A-4 11 = DI A-5 12 = DI A-6 13 = DI A-7 14 = DI A-8 15 = DI B-1 16 = DI B-2 17 = DI B-3 18 = DI B-4 19 = DI B-5	-	64h	3Dh	84h	USINT	6032	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		20 = DI B-6 21 = DI B-7 22 = DI B-8 23 = DI C-1 24 = DI C-2 25 = DI C-3 26 = DI C-4 27 = DI C-5 28 = DI C-6 29 = DI C-7 30 = DI C-8 31 = DI D-1 32 = DI D-2 33 = DI D-3 34 = DI D-4 35 = DI D-5 36 = DI D-6 37 = DI D-7 38 = DI D-8 39 = DI E-1 40 = DI E-2 41 = DI E-3 42 = DI E-4 43 = DI E-5 44 = DI E-6 45 = DI E-7 46 = DI E-8 47 = DI F-1 48 = DI F-2 49 = DI F-3 50 = DI F-4 51 = DI F-5 52 = DI F-6 53 = DI F-7 54 = DI F-8 55 = DI G-1 56 = DI G-2 57 = DI G-3 58 = DI G-4 59 = DI G-5 60 = DI G-6 61 = DI G-7 62 = DI G-8								
C4.3.1.6.1	Speed 1	0 to 60000 rpm	0	64h	04h	67h	UINT	303	16bit	1
C4.3.1.6.2	Speed 2	0 to 60000 rpm	0	64h	04h	68h	UINT	304	16bit	1
C4.3.1.6.3	Speed 3	0 to 60000 rpm	0	64h	04h	69h	UINT	305	16bit	1
C4.3.1.6.4	Skip Range	0 to 750 rpm	0	64h	04h	6Ah	UINT	306	16bit	1
C4.3.2	JOG Speed									
C4.3.2.1	JOG Reference	0 to 60000 rpm	0	64h	02h	76h	UINT	118	16bit	1
C4.3.3	Torque									
C4.3.3.1	Torque Reference via HMI	-400.0 to 400.0 %	1	64h	02h	77h	INT	119	s16bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
C4.3.3.2	Maximum Torque	0.0 to 400.0 %	1	64h	1Fh	AAh	UINT	3070	16bit	1
C4.3.3.3	Minimum Torque	0.0 to 400.0 %	1	64h	1Fh	ABh	UINT	3071	16bit	1
C4.3.3.4	Torque Ref. Source	0 = HMI 1 = Analog Input (AI) 2 = Frequency Input (FI)	-	64h	63h	66h	USINT	9802	enum	1
C4.3.3.5	Torque Ref. AI Config.	0 = Inactive 1 = AI X-1 2 = AI X-2 3 = AI A-1 4 = AI A-2 5 = AI A-3 6 = Not used 7 = AI B-1 8 = AI B-2 9 = AI B-3 10 = Not used 11 = AI C-1 12 = AI C-2 13 = AI C-3 14 = Not used 15 = AI D-1 16 = AI D-2 17 = AI D-3 18 = Not used 19 = AI E-1 20 = AI E-2 21 = AI E-3 22 = Not used 23 = AI F-1 24 = AI F-2 25 = AI F-3 26 = Not used 27 = AI G-1 28 = AI G-2 29 = AI G-3 30 = Not used	-	64h	63h	65h	USINT	9801	enum	1
C4.3.3.6	Torque Ref. FI Config.	0 = Inactive 1 = FI X-5 2 = FI X-6	-	64h	63h	64h	USINT	9800	enum	1
C5 Configurations\I/Os										
C5.1	Slot X									
C5.1.1	Slot X - Analog Inputs									
C5.1.1.1	AI1 Settings	Bit 0 = Detect Disconnection Bit 2 = Signal Config.	-	64h	48h	7Eh	WORD	7126	2bit	1
C5.1.1.2	AI1 Filter	0.00 to 16.00 s	2	64h	48h	82h	UINT	7130	16bit	1
C5.1.1.3	AI1 Gain	0.000 to 9.999	3	64h	48h	86h	UINT	7134	16bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
C5.1.1.4	AI1 Offset	-100.00 to 100.00 %	2	64h	48h	8Ah	INT	7138	s16bit	1
C5.1.1.5	AI1 Dead Zone	0.00 to 100.00 %	2	64h	48h	8Eh	UINT	7142	16bit	1
C5.1.1.6	AI2 Settings	Bit 0 = Detect Disconnection Bit 2 = Signal Config.	-	64h	48h	7Fh	WORD	7127	2bit	1
C5.1.1.7	AI2 Filter	0.00 to 16.00 s	2	64h	48h	83h	UINT	7131	16bit	1
C5.1.1.8	AI2 Gain	0.000 to 9.999	3	64h	48h	87h	UINT	7135	16bit	1
C5.1.1.9	AI2 Offset	-100.00 to 100.00 %	2	64h	48h	8Bh	INT	7139	s16bit	1
C5.1.1.10	AI2 Dead Zone	0.00 to 100.00 %	2	64h	48h	8Fh	UINT	7143	16bit	1
C5.1.2	Slot X - Analog Outputs									
C5.1.2.1	AO1 Signal Type	0 = 0 to 20 mA 1 = 4 to 20 mA 2 = 20 to 0 mA 3 = 20 to 4 mA 4 = 0 to 10 V 5 = 10 to 0 V	-	64h	48h	B3h	USINT	7179	enum	1
C5.1.2.2	AO1 Gain	0.000 to 9.999	3	64h	48h	B7h	UINT	7183	16bit	1
C5.1.2.3	AO1 Function	0 = Off (0 %) 1 = On (100 %) 2 = Speed Ref. 3 = Total Speed Ref. 4 = Real Speed 5 ... 6 = Not used 7 = Output Current 8 = Process Var. 9 = Not used 10 = Output Power 11 = PID Setpoint 12 = Not used 13 = Motor Torque 14 = SoftPLC 15 = PTC 16 = Motor Ixt 17 = Encoder Speed 18 = Network 19 = Not used 20 = Torque Ref. 21 = Total Torque Ref.	-	64h	48h	BBh	USINT	7187	enum	1
C5.1.2.4	AO1 Offset	-100.00 to 100.00 %	2	64h	48h	BFh	INT	7191	s16bit	1
C5.1.2.5	AO2 Signal Type	0 = 0 to 20 mA 1 = 4 to 20 mA 2 = 20 to 0 mA 3 = 20 to 4 mA 4 = 0 to 10 V 5 = 10 to 0 V	-	64h	48h	B4h	USINT	7180	enum	1
C5.1.2.6	AO2 Gain	0.000 to 9.999	3	64h	48h	B8h	UINT	7184	16bit	1
C5.1.2.7	AO2 Function		-	64h	48h	BCh	USINT	7188	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		0 = Off (0 %) 1 = On (100 %) 2 = Speed Ref. 3 = Total Speed Ref. 4 = Real Speed 5 ... 6 = Not used 7 = Output Current 8 = Process Var. 9 = Not used 10 = Output Power 11 = PID Setpoint 12 = Not used 13 = Motor Torque 14 = SoftPLC 15 = PTC 16 = Motor Ixt 17 = Encoder Speed 18 = Network 19 = Not used 20 = Torque Ref. 21 = Total Torque Ref.								
C5.1.2.8	AO2 Offset	-100.00 to 100.00 %	2	64h	48h	C0h	INT	7192	s16bit	1
C5.1.3	Slot X - Digital Inputs									
C5.1.3.4	DI5 Operation Mode	0 = Polling 1 = Not used 2 = Frequency 3 = Encoder	-	64h	49h	BDh	USINT	7289	enum	1
C5.1.3.5	FI5 Min Frequency	0 to 32000 Hz	0	64h	49h	ADh	UINT	7273	16bit	1
C5.1.3.6	FI5 Max Frequency	0 to 32000 Hz	0	64h	49h	ABh	UINT	7271	16bit	1
C5.1.3.7	FI5 Gain	0.000 to 9.999	3	64h	49h	A9h	UINT	7269	16bit	1
C5.1.3.8	FI5 Offset	-100.00 to 100.00 %	2	64h	49h	A7h	INT	7267	s16bit	1
C5.1.3.9	DI6 Operation Mode	0 = Polling 1 = Not used 2 = Frequency 3 = Encoder	-	64h	49h	BEh	USINT	7290	enum	1
C5.1.3.10	FI6 Min Frequency	0 to 32000 Hz	0	64h	49h	AEh	UINT	7274	16bit	1
C5.1.3.11	FI6 Max Frequency	0 to 32000 Hz	0	64h	49h	ACh	UINT	7272	16bit	1
C5.1.3.12	FI6 Gain	0.000 to 9.999	3	64h	49h	AAh	UINT	7270	16bit	1
C5.1.3.13	FI6 Offset	-100.00 to 100.00 %	2	64h	49h	A8h	INT	7268	s16bit	1
C5.1.4	Slot X - Digital Outputs									
C5.1.4.1	DO1 Operation Mode	0 = Polling 1 = Frequency	-	64h	49h	C1h	USINT	7293	enum	1
C5.1.4.2	DO1 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx	-	64h	48h	9Bh	USINT	7155	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.1.4.3	FO1 Function	0 = Off (0 %) 1 = On (100 %) 2 = Speed Ref. 3 = Total Speed Ref. 4 = Real Speed 5 ... 6 = Not used 7 = Output Current 8 = Process Var. 9 = Not used 10 = Output Power 11 = PID Setpoint 12 = Not used 13 = Motor Torque 14 = SoftPLC 15 = Not used 16 = Motor Ixt 17 = Encoder Speed 18 = Network 19 = Not used 20 = Torque Ref. 21 = Total Torque Ref.	-	64h	49h	AFh	USINT	7275	enum	1
C5.1.4.4	FO1 Min Frequency	0 to 32000 Hz	0	64h	49h	B7h	UINT	7283	16bit	1
C5.1.4.5	FO1 Max Frequency	0 to 32000 Hz	0	64h	49h	B5h	UINT	7281	16bit	1
C5.1.4.6	FO1 Gain	0.000 to 9.999	3	64h	49h	B3h	UINT	7279	16bit	1
C5.1.4.7	FO1 Offset	-100.00 to 100.00 %	2	64h	49h	B1h	INT	7277	s16bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
C5.1.4.8	DO2 Operation Mode	0 = Polling 1 = Frequency	-	64h	49h	C2h	USINT	7294	enum	1
C5.1.4.9	DO2 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	48h	9Ch	USINT	7156	enum	1
C5.1.4.10	FO2 Function	0 = Off (0 %) 1 = On (100 %) 2 = Speed Ref. 3 = Total Speed Ref. 4 = Real Speed 5 ... 6 = Not used 7 = Output Current 8 = Process Var. 9 = Not used 10 = Output Power 11 = PID Setpoint 12 = Not used 13 = Motor Torque 14 = SoftPLC 15 = Not used 16 = Motor Ixt 17 = Encoder Speed	-	64h	49h	B0h	USINT	7276	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		18 = Network 19 = Not used 20 = Torque Ref. 21 = Total Torque Ref.								
C5.1.4.11	FO2 Min Frequency	0 to 32000 Hz	0	64h	49h	B8h	UINT	7284	16bit	1
C5.1.4.12	FO2 Max Frequency	0 to 32000 Hz	0	64h	49h	B6h	UINT	7282	16bit	1
C5.1.4.13	FO2 Gain	0.000 to 9.999	3	64h	49h	B4h	UINT	7280	16bit	1
C5.1.4.14	FO2 Offset	-100.00 to 100.00 %	2	64h	49h	B2h	INT	7278	s16bit	1
C5.1.5	Slot X-Encoder									
C5.1.5.1	Number of Pulses	1 to 65535 ppr	0	64h	48h	7Bh	UINT	7123	16bit	1
C5.2	Slot A									
C5.2.1	Slot A-Analog Inputs									
C5.2.1.1	AI1 Settings	Bit 0 = Detect Disconnection Bit 2 = Signal Config.	-	64h	4Bh	7Eh	WORD	7426	2bit	1
C5.2.1.2	AI1 Filter	0.00 to 16.00 s	2	64h	4Bh	82h	UINT	7430	16bit	1
C5.2.1.3	AI1 Gain	0.000 to 9.999	3	64h	4Bh	86h	UINT	7434	16bit	1
C5.2.1.4	AI1 Offset	-100.00 to 100.00 %	2	64h	4Bh	8Ah	INT	7438	s16bit	1
C5.2.1.5	AI1 Dead Zone	0.00 to 100.00 %	2	64h	4Bh	8Eh	UINT	7442	16bit	1
C5.2.1.6	AI2 Settings	Bit 0 = Detect Disconnection Bit 2 = Signal Config.	-	64h	4Bh	7Fh	WORD	7427	2bit	1
C5.2.1.7	AI2 Filter	0.00 to 16.00 s	2	64h	4Bh	83h	UINT	7431	16bit	1
C5.2.1.8	AI2 Gain	0.000 to 9.999	3	64h	4Bh	87h	UINT	7435	16bit	1
C5.2.1.9	AI2 Offset	-100.00 to 100.00 %	2	64h	4Bh	8Bh	INT	7439	s16bit	1
C5.2.1.10	AI2 Dead Zone	0.00 to 100.00 %	2	64h	4Bh	8Fh	UINT	7443	16bit	1
C5.2.1.11	AI3 Settings	Bit 0 = Detect Disconnection Bit 2 = Signal Config.	-	64h	4Bh	80h	WORD	7428	2bit	1
C5.2.1.12	AI3 Filter	0.00 to 16.00 s	2	64h	4Bh	84h	UINT	7432	16bit	1
C5.2.1.13	AI3 Gain	0.000 to 9.999	3	64h	4Bh	88h	UINT	7436	16bit	1
C5.2.1.14	AI3 Offset	-100.00 to 100.00 %	2	64h	4Bh	8Ch	INT	7440	s16bit	1
C5.2.1.15	AI3 Dead Zone	0.00 to 100.00 %	2	64h	4Bh	90h	UINT	7444	16bit	1
C5.2.2	Slot A - Analog Outputs									
C5.2.2.1	AO1 Signal Type	0 = 0 to 20 mA 1 = 4 to 20 mA 2 = 20 to 0 mA 3 = 20 to 4 mA 4 = 0 to 10 V 5 = 10 to 0 V 6 ... 7 = Not used	-	64h	4Bh	B3h	USINT	7479	enum	1
C5.2.2.2	AO1 Gain	0.000 to 9.999	3	64h	4Bh	B7h	UINT	7483	16bit	1
C5.2.2.3	AO1 Function	0 = Off (0 %) 1 = On (100 %) 2 = Speed Ref. 3 = Total Speed Ref. 4 = Real Speed	-	64h	4Bh	BBh	USINT	7487	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		5 ... 6 = Not used 7 = Output Current 8 = Process Var. 9 = Not used 10 = Output Power 11 = PID Setpoint 12 = Not used 13 = Motor Torque 14 = SoftPLC 15 = PTC 16 = Motor Ixt 17 = Encoder Speed 18 = Network 19 = Not used 20 = Torque Ref. 21 = Total Torque Ref.								
C5.2.2.4	AO1 Offset	-100.00 to 100.00 %	2	64h	4Bh	BFh	INT	7491	s16bit	1
C5.2.2.5	AO2 Signal Type	0 = 0 to 20 mA 1 = 4 to 20 mA 2 = 20 to 0 mA 3 = 20 to 4 mA 4 = 0 to 10 V 5 = 10 to 0 V 6 ... 7 = Not used	-	64h	4Bh	B4h	USINT	7480	enum	1
C5.2.2.6	AO2 Gain	0.000 to 9.999	3	64h	4Bh	B8h	UINT	7484	16bit	1
C5.2.2.7	AO2 Function	0 = Off (0 %) 1 = On (100 %) 2 = Speed Ref. 3 = Total Speed Ref. 4 = Real Speed 5 ... 6 = Not used 7 = Output Current 8 = Process Var. 9 = Not used 10 = Output Power 11 = PID Setpoint 12 = Not used 13 = Motor Torque 14 = SoftPLC 15 = PTC 16 = Motor Ixt 17 = Encoder Speed 18 = Network 19 = Not used 20 = Torque Ref. 21 = Total Torque Ref.	-	64h	4Bh	BCh	USINT	7488	enum	1
C5.2.2.8	AO2 Offset	-100.00 to 100.00 %	2	64h	4Bh	C0h	INT	7492	s16bit	1
C5.2.4	Slot A - Digital Outputs									

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
C5.2.4.1	DO1 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	4Bh	9Bh	USINT	7455	enum	1
C5.2.4.2	DO2 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO	-	64h	4Bh	9Ch	USINT	7456	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.2.4.3	DO3 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	4Bh	9Dh	USINT	7457	enum	1
C5.2.4.4	DO4 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx	-	64h	4Bh	9Eh	USINT	7458	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.2.4.5	DO5 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	4Bh	9Fh	USINT	7459	enum	1
C5.2.4.6	DO6 Function	0 = Off 1 = On	-	64h	4Bh	A0h	USINT	7460	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.2.4.7	DO7 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm	-	64h	4Bh	A1h	USINT	7461	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.2.4.8	DO8 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	4Bh	A2h	USINT	7462	enum	1
C5.2.5	Slot A-Encoder									
C5.2.5.1	Number of Pulses	1 to 65535 ppr	0	64h	4Bh	7Bh	UINT	7423	16bit	1
C5.2.5.2	Settings	Bit 0 = Broken Cable A Bit 2 = Broken Cable B Bit 4 = Broken Cable Z Bit 6 = Search Zero Bit 7 = Signal Direction	-	64h	4Bh	7Ch	WORD	7424	5bit	1
C5.2.6	Slot A-Temperatures									
C5.2.6.1	Sensor Type	0 = PT100 1 = PT1000 2 = Single PTC 3 = Triple PTC	-	64h	4Bh	92h	USINT	7446	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
C5.2.6.2	Overtemperature Config.	Bit 0 = S1 Sensor F/A Bit 2 = S2 Sensor F/A Bit 4 = S3 Sensor F/A Bit 6 = S4 Sensor F/A Bit 8 = S5 Sensor F/A Bit 10 = S6 Sensor F/A	-	64h	4Bh	93h	WORD	7447	6bit	1
C5.2.6.3	Measurement Error Config.	Bit 0 = S1 Sensor F/A Bit 2 = S2 Sensor F/A Bit 4 = S3 Sensor F/A Bit 6 = S4 Sensor F/A Bit 8 = S5 Sensor F/A Bit 10 = S6 Sensor F/A	-	64h	4Bh	94h	WORD	7448	6bit	1
C5.2.6.4	Sensor 1 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	4Bh	95h	INT	7449	s16bit	1
C5.2.6.5	Sensor 2 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	4Bh	96h	INT	7450	s16bit	1
C5.2.6.6	Sensor 3 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	4Bh	97h	INT	7451	s16bit	1
C5.2.6.7	Sensor 4 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	4Bh	98h	INT	7452	s16bit	1
C5.2.6.8	Sensor 5 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	4Bh	99h	INT	7453	s16bit	1
C5.2.6.9	Sensor 6 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	4Bh	9Ah	INT	7454	s16bit	1
C5.3	Slot B									
C5.3.1	Slot B-Analog Inputs									
C5.3.1.1	AI1 Settings	Bit 0 = Detect Disconnection Bit 2 = Signal Config.	-	64h	4Eh	7Eh	WORD	7726	2bit	1
C5.3.1.2	AI1 Filter	0.00 to 16.00 s	2	64h	4Eh	82h	UINT	7730	16bit	1
C5.3.1.3	AI1 Gain	0.000 to 9.999	3	64h	4Eh	86h	UINT	7734	16bit	1
C5.3.1.4	AI1 Offset	-100.00 to 100.00 %	2	64h	4Eh	8Ah	INT	7738	s16bit	1
C5.3.1.5	AI1 Dead Zone	0.00 to 100.00 %	2	64h	4Eh	8Eh	UINT	7742	16bit	1
C5.3.1.6	AI2 Settings	Bit 0 = Detect Disconnection Bit 2 = Signal Config.	-	64h	4Eh	7Fh	WORD	7727	2bit	1
C5.3.1.7	AI2 Filter	0.00 to 16.00 s	2	64h	4Eh	83h	UINT	7731	16bit	1
C5.3.1.8	AI2 Gain	0.000 to 9.999	3	64h	4Eh	87h	UINT	7735	16bit	1
C5.3.1.9	AI2 Offset	-100.00 to 100.00 %	2	64h	4Eh	8Bh	INT	7739	s16bit	1
C5.3.1.10	AI2 Dead Zone	0.00 to 100.00 %	2	64h	4Eh	8Fh	UINT	7743	16bit	1
C5.3.1.11	AI3 Settings	Bit 0 = Detect Disconnection Bit 2 = Signal Config.	-	64h	4Eh	80h	WORD	7728	2bit	1
C5.3.1.12	AI3 Filter	0.00 to 16.00 s	2	64h	4Eh	84h	UINT	7732	16bit	1
C5.3.1.13	AI3 Gain	0.000 to 9.999	3	64h	4Eh	88h	UINT	7736	16bit	1
C5.3.1.14	AI3 Offset	-100.00 to 100.00 %	2	64h	4Eh	8Ch	INT	7740	s16bit	1
C5.3.1.15	AI3 Dead Zone	0.00 to 100.00 %	2	64h	4Eh	90h	UINT	7744	16bit	1
C5.3.2	Slot B-Analog Outputs									
C5.3.2.1	AO1 Signal Type	0 = 0 to 20 mA 1 = 4 to 20 mA 2 = 20 to 0 mA 3 = 20 to 4 mA	-	64h	4Eh	B3h	USINT	7779	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		4 = 0 to 10 V 5 = 10 to 0 V 6 ... 7 = Not used								
C5.3.2.2	AO1 Gain	0.000 to 9.999	3	64h	4Eh	B7h	UINT	7783	16bit	1
C5.3.2.3	AO1 Function	0 = Off (0 %) 1 = On (100 %) 2 = Speed Ref. 3 = Total Speed Ref. 4 = Real Speed 5 ... 6 = Not used 7 = Output Current 8 = Process Var. 9 = Not used 10 = Output Power 11 = PID Setpoint 12 = Not used 13 = Motor Torque 14 = SoftPLC 15 = PTC 16 = Motor Ixt 17 = Encoder Speed 18 = Network 19 = Not used 20 = Torque Ref. 21 = Total Torque Ref.	-	64h	4Eh	BBh	USINT	7787	enum	1
C5.3.2.4	AO1 Offset	-100.00 to 100.00 %	2	64h	4Eh	BFh	INT	7791	s16bit	1
C5.3.2.5	AO2 Signal Type	0 = 0 to 20 mA 1 = 4 to 20 mA 2 = 20 to 0 mA 3 = 20 to 4 mA 4 = 0 to 10 V 5 = 10 to 0 V 6 ... 7 = Not used	-	64h	4Eh	B4h	USINT	7780	enum	1
C5.3.2.6	AO2 Gain	0.000 to 9.999	3	64h	4Eh	B8h	UINT	7784	16bit	1
C5.3.2.7	AO2 Function	0 = Off (0 %) 1 = On (100 %) 2 = Speed Ref. 3 = Total Speed Ref. 4 = Real Speed 5 ... 6 = Not used 7 = Output Current 8 = Process Var. 9 = Not used 10 = Output Power 11 = PID Setpoint 12 = Not used 13 = Motor Torque 14 = SoftPLC	-	64h	4Eh	BCh	USINT	7788	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		15 = PTC 16 = Motor Ixt 17 = Encoder Speed 18 = Network 19 = Not used 20 = Torque Ref. 21 = Total Torque Ref.								
C5.3.2.8	AO2 Offset	-100.00 to 100.00 %	2	64h	4Eh	C0h	INT	7792	s16bit	1
C5.3.4	Slot B-Digital Outputs									
C5.3.4.1	DO1 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	4Eh	9Bh	USINT	7755	enum	1
C5.3.4.2	DO2 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx	-	64h	4Eh	9Ch	USINT	7756	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.3.4.3	DO3 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	4Eh	9Dh	USINT	7757	enum	1
C5.3.4.4	DO4 Function	0 = Off 1 = On	-	64h	4Eh	9Eh	USINT	7758	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.3.4.5	DO5 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm	-	64h	4Eh	9Fh	USINT	7759	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.3.4.6	DO6 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	4Eh	A0h	USINT	7760	enum	1
C5.3.4.7	DO7 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used	-	64h	4Eh	A1h	USINT	7761	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.3.4.8	DO8 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	4Eh	A2h	USINT	7762	enum	1
C5.3.5	Slot B-Encoder									
C5.3.5.1	Number of Pulses	1 to 65535 ppr	0	64h	4Eh	7Bh	UINT	7723	16bit	1
C5.3.5.2	Settings	Bit 0 = Broken Cable A Bit 2 = Broken Cable B Bit 4 = Broken Cable Z	-	64h	4Eh	7Ch	WORD	7724	5bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		Bit 6 = Search Zero Bit 7 = Signal Direction								
C5.3.6	Slot B-Temperatures									
C5.3.6.1	Sensor Type	0 = PT100 1 = PT1000 2 = Single PTC 3 = Triple PTC	-	64h	4Eh	92h	USINT	7746	enum	1
C5.3.6.2	Overtemperature Config.	Bit 0 = S1 Sensor F/A Bit 2 = S2 Sensor F/A Bit 4 = S3 Sensor F/A Bit 6 = S4 Sensor F/A Bit 8 = S5 Sensor F/A Bit 10 = S6 Sensor F/A	-	64h	4Eh	93h	WORD	7747	6bit	1
C5.3.6.3	Broken Cable Config.	Bit 0 = S1 Sensor F/A Bit 2 = S2 Sensor F/A Bit 4 = S3 Sensor F/A Bit 6 = S4 Sensor F/A Bit 8 = S5 Sensor F/A Bit 10 = S6 Sensor F/A	-	64h	4Eh	94h	WORD	7748	6bit	1
C5.3.6.4	Sensor 1 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	4Eh	95h	INT	7749	s16bit	1
C5.3.6.5	Sensor 2 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	4Eh	96h	INT	7750	s16bit	1
C5.3.6.6	Sensor 3 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	4Eh	97h	INT	7751	s16bit	1
C5.3.6.7	Sensor 4 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	4Eh	98h	INT	7752	s16bit	1
C5.3.6.8	Sensor 5 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	4Eh	99h	INT	7753	s16bit	1
C5.3.6.9	Sensor 6 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	4Eh	9Ah	INT	7754	s16bit	1
C5.4	Slot C									
C5.4.1	Slot C-Analog Inputs									
C5.4.1.1	AI1 Settings	Bit 0 = Detect Disconnection Bit 2 = Signal Config.	-	64h	51h	7Eh	WORD	8026	2bit	1
C5.4.1.2	AI1 Filter	0.00 to 16.00 s	2	64h	51h	82h	UINT	8030	16bit	1
C5.4.1.3	AI1 Gain	0.000 to 9.999	3	64h	51h	86h	UINT	8034	16bit	1
C5.4.1.4	AI1 Offset	-100.00 to 100.00 %	2	64h	51h	8Ah	INT	8038	s16bit	1
C5.4.1.5	AI1 Dead Zone	0.00 to 100.00 %	2	64h	51h	8Eh	UINT	8042	16bit	1
C5.4.1.6	AI2 Settings	Bit 0 = Detect Disconnection Bit 2 = Signal Config.	-	64h	51h	7Fh	WORD	8027	2bit	1
C5.4.1.7	AI2 Filter	0.00 to 16.00 s	2	64h	51h	83h	UINT	8031	16bit	1
C5.4.1.8	AI2 Gain	0.000 to 9.999	3	64h	51h	87h	UINT	8035	16bit	1
C5.4.1.9	AI2 Offset	-100.00 to 100.00 %	2	64h	51h	8Bh	INT	8039	s16bit	1
C5.4.1.10	AI2 Dead Zone	0.00 to 100.00 %	2	64h	51h	8Fh	UINT	8043	16bit	1
C5.4.1.11	AI3 Settings	Bit 0 = Detect Disconnection Bit 2 = Signal Config.	-	64h	51h	80h	WORD	8028	2bit	1
C5.4.1.12	AI3 Filter	0.00 to 16.00 s	2	64h	51h	84h	UINT	8032	16bit	1
C5.4.1.13	AI3 Gain	0.000 to 9.999	3	64h	51h	88h	UINT	8036	16bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
C5.4.1.14	AI3 Offset	-100.00 to 100.00 %	2	64h	51h	8Ch	INT	8040	s16bit	1
C5.4.1.15	AI3 Dead Zone	0.00 to 100.00 %	2	64h	51h	90h	UINT	8044	16bit	1
C5.4.2	Slot C-Analog Outputs									
C5.4.2.1	AO1 Signal Type	0 = 0 to 20 mA 1 = 4 to 20 mA 2 = 20 to 0 mA 3 = 20 to 4 mA 4 = 0 to 10 V 5 = 10 to 0 V 6 ... 7 = Not used	-	64h	51h	B3h	USINT	8079	enum	1
C5.4.2.2	AO1 Gain	0.000 to 9.999	3	64h	51h	B7h	UINT	8083	16bit	1
C5.4.2.3	AO1 Function	0 = Off (0 %) 1 = On (100 %) 2 = Speed Ref. 3 = Total Speed Ref. 4 = Real Speed 5 ... 6 = Not used 7 = Output Current 8 = Process Var. 9 = Not used 10 = Output Power 11 = PID Setpoint 12 = Not used 13 = Motor Torque 14 = SoftPLC 15 = PTC 16 = Motor Ixt 17 = Encoder Speed 18 = Network 19 = Not used 20 = Torque Ref. 21 = Total Torque Ref.	-	64h	51h	BBh	USINT	8087	enum	1
C5.4.2.4	AO1 Offset	-100.00 to 100.00 %	2	64h	51h	BFh	INT	8091	s16bit	1
C5.4.2.5	AO2 Signal Type	0 = 0 to 20 mA 1 = 4 to 20 mA 2 = 20 to 0 mA 3 = 20 to 4 mA 4 = 0 to 10 V 5 = 10 to 0 V 6 ... 7 = Not used	-	64h	51h	B4h	USINT	8080	enum	1
C5.4.2.6	AO2 Gain	0.000 to 9.999	3	64h	51h	B8h	UINT	8084	16bit	1
C5.4.2.7	AO2 Function	0 = Off (0 %) 1 = On (100 %) 2 = Speed Ref. 3 = Total Speed Ref. 4 = Real Speed	-	64h	51h	BCh	USINT	8088	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		5 ... 6 = Not used 7 = Output Current 8 = Process Var. 9 = Not used 10 = Output Power 11 = PID Setpoint 12 = Not used 13 = Motor Torque 14 = SoftPLC 15 = PTC 16 = Motor Ixt 17 = Encoder Speed 18 = Network 19 = Not used 20 = Torque Ref. 21 = Total Torque Ref.								
C5.4.2.8	AO2 Offset	-100.00 to 100.00 %	2	64h	51h	C0h	INT	8092	s16bit	1
C5.4.4	Slot C-Digital Outputs									
C5.4.4.1	DO1 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	51h	9Bh	USINT	8055	enum	1
C5.4.4.2	DO2 Function	0 = Off 1 = On	-	64h	51h	9Ch	USINT	8056	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.4.4.3	DO3 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm	-	64h	51h	9Dh	USINT	8057	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.4.4.4	DO4 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	51h	9Eh	USINT	8058	enum	1
C5.4.4.5	DO5 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used	-	64h	51h	9Fh	USINT	8059	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.4.4.6	DO6 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	51h	A0h	USINT	8060	enum	1
C5.4.4.7	DO7 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny	-	64h	51h	A1h	USINT	8061	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.4.4.8	DO8 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC	-	64h	51h	A2h	USINT	8062	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.4.5	Slot C-Encoder									
C5.4.5.1	Number of Pulses	1 to 65535 ppr	0	64h	51h	7Bh	UINT	8023	16bit	1
C5.4.5.2	Settings	Bit 0 = Broken Cable A Bit 2 = Broken Cable B Bit 4 = Broken Cable Z Bit 6 = Search Zero Bit 7 = Signal Direction	-	64h	51h	7Ch	WORD	8024	5bit	1
C5.4.6	Slot C-Temperatures									
C5.4.6.1	Sensor Type	0 = PT100 1 = PT1000 2 = Single PTC 3 = Triple PTC	-	64h	51h	92h	USINT	8046	enum	1
C5.4.6.2	Overtemperature Config.	Bit 0 = S1 Sensor F/A Bit 2 = S2 Sensor F/A Bit 4 = S3 Sensor F/A Bit 6 = S4 Sensor F/A Bit 8 = S5 Sensor F/A Bit 10 = S6 Sensor F/A	-	64h	51h	93h	WORD	8047	6bit	1
C5.4.6.3	Broken Cable Config.	Bit 0 = S1 Sensor F/A Bit 2 = S2 Sensor F/A Bit 4 = S3 Sensor F/A Bit 6 = S4 Sensor F/A Bit 8 = S5 Sensor F/A Bit 10 = S6 Sensor F/A	-	64h	51h	94h	WORD	8048	6bit	1
C5.4.6.4	Sensor 1 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	51h	95h	INT	8049	s16bit	1
C5.4.6.5	Sensor 2 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	51h	96h	INT	8050	s16bit	1
C5.4.6.6	Sensor 3 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	51h	97h	INT	8051	s16bit	1
C5.4.6.7	Sensor 4 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	51h	98h	INT	8052	s16bit	1
C5.4.6.8	Sensor 5 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	51h	99h	INT	8053	s16bit	1
C5.4.6.9	Sensor 6 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	51h	9Ah	INT	8054	s16bit	1
C5.5	Slot D									
C5.5.1	Slot D-Analog Inputs									
C5.5.1.1	AI1 Settings	Bit 0 = Detect Disconnection Bit 2 = Signal Config.	-	64h	54h	7Eh	WORD	8326	2bit	1
C5.5.1.2	AI1 Filter	0.00 to 16.00 s	2	64h	54h	82h	UINT	8330	16bit	1
C5.5.1.3	AI1 Gain	0.000 to 9.999	3	64h	54h	86h	UINT	8334	16bit	1
C5.5.1.4	AI1 Offset	-100.00 to 100.00 %	2	64h	54h	8Ah	INT	8338	s16bit	1
C5.5.1.5	AI1 Dead Zone	0.00 to 100.00 %	2	64h	54h	8Eh	UINT	8342	16bit	1
C5.5.1.6	AI2 Settings	Bit 0 = Detect Disconnection Bit 2 = Signal Config.	-	64h	54h	7Fh	WORD	8327	2bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
C5.5.1.7	AI2 Filter	0.00 to 16.00 s	2	64h	54h	83h	UINT	8331	16bit	1
C5.5.1.8	AI2 Gain	0.000 to 9.999	3	64h	54h	87h	UINT	8335	16bit	1
C5.5.1.9	AI2 Offset	-100.00 to 100.00 %	2	64h	54h	8Bh	INT	8339	s16bit	1
C5.5.1.10	AI2 Dead Zone	0.00 to 100.00 %	2	64h	54h	8Fh	UINT	8343	16bit	1
C5.5.1.11	AI3 Settings	Bit 0 = Detect Disconnection Bit 2 = Signal Config.	-	64h	54h	80h	WORD	8328	2bit	1
C5.5.1.12	AI3 Filter	0.00 to 16.00 s	2	64h	54h	84h	UINT	8332	16bit	1
C5.5.1.13	AI3 Gain	0.000 to 9.999	3	64h	54h	88h	UINT	8336	16bit	1
C5.5.1.14	AI3 Offset	-100.00 to 100.00 %	2	64h	54h	8Ch	INT	8340	s16bit	1
C5.5.1.15	AI3 Dead Zone	0.00 to 100.00 %	2	64h	54h	90h	UINT	8344	16bit	1
C5.5.2	Slot D-Analog Outputs									
C5.5.2.1	AO1 Signal Type	0 = 0 to 20 mA 1 = 4 to 20 mA 2 = 20 to 0 mA 3 = 20 to 4 mA 4 = 0 to 10 V 5 = 10 to 0 V 6 ... 7 = Not used	-	64h	54h	B3h	USINT	8379	enum	1
C5.5.2.2	AO1 Gain	0.000 to 9.999	3	64h	54h	B7h	UINT	8383	16bit	1
C5.5.2.3	AO1 Function	0 = Off (0 %) 1 = On (100 %) 2 = Speed Ref. 3 = Total Speed Ref. 4 = Real Speed 5 ... 6 = Not used 7 = Output Current 8 = Process Var. 9 = Not used 10 = Output Power 11 = PID Setpoint 12 = Not used 13 = Motor Torque 14 = SoftPLC 15 = PTC 16 = Motor Ixt 17 = Encoder Speed 18 = Network 19 = Not used 20 = Torque Ref. 21 = Total Torque Ref.	-	64h	54h	BBh	USINT	8387	enum	1
C5.5.2.4	AO1 Offset	-100.00 to 100.00 %	2	64h	54h	BFh	INT	8391	s16bit	1
C5.5.2.5	AO2 Signal Type	0 = 0 to 20 mA 1 = 4 to 20 mA 2 = 20 to 0 mA 3 = 20 to 4 mA 4 = 0 to 10 V	-	64h	54h	B4h	USINT	8380	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		5 = 10 to 0 V 6 ... 7 = Not used								
C5.5.2.6	AO2 Gain	0.000 to 9.999	3	64h	54h	B8h	UINT	8384	16bit	1
C5.5.2.7	AO2 Function	0 = Off (0 %) 1 = On (100 %) 2 = Speed Ref. 3 = Total Speed Ref. 4 = Real Speed 5 ... 6 = Not used 7 = Output Current 8 = Process Var. 9 = Not used 10 = Output Power 11 = PID Setpoint 12 = Not used 13 = Motor Torque 14 = SoftPLC 15 = PTC 16 = Motor Ixt 17 = Encoder Speed 18 = Network 19 = Not used 20 = Torque Ref. 21 = Total Torque Ref.	-	64h	54h	BCh	USINT	8388	enum	1
C5.5.2.8	AO2 Offset	-100.00 to 100.00 %	2	64h	54h	C0h	INT	8392	s16bit	1
C5.5.4	Slot D-Digital Outputs									
C5.5.4.1	DO1 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm	-	64h	54h	9Bh	USINT	8355	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.5.4.2	DO2 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	54h	9Ch	USINT	8356	enum	1
C5.5.4.3	DO3 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used	-	64h	54h	9Dh	USINT	8357	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.5.4.4	DO4 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	54h	9Eh	USINT	8358	enum	1
C5.5.4.5	DO5 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny	-	64h	54h	9Fh	USINT	8359	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.5.4.6	DO6 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC	-	64h	54h	A0h	USINT	8360	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.5.4.7	DO7 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	54h	A1h	USINT	8361	enum	1
C5.5.4.8	DO8 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode	-	64h	54h	A2h	USINT	8362	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.5.5	Slot D-Encoder									
C5.5.5.1	Number of Pulses	1 to 65535 ppr	0	64h	54h	7Bh	UINT	8323	16bit	1
C5.5.5.2	Settings	Bit 0 = Broken Cable A Bit 2 = Broken Cable B Bit 4 = Broken Cable Z Bit 6 = Search Zero Bit 7 = Signal Direction	-	64h	54h	7Ch	WORD	8324	5bit	1
C5.5.6	Slot D-Temperatures									
C5.5.6.1	Sensor Type	0 = PT100 1 = PT1000 2 = Single PTC 3 = Triple PTC	-	64h	54h	92h	USINT	8346	enum	1
C5.5.6.2	Overtemperature Config.	Bit 0 = S1 Sensor F/A Bit 2 = S2 Sensor F/A Bit 4 = S3 Sensor F/A Bit 6 = S4 Sensor F/A Bit 8 = S5 Sensor F/A Bit 10 = S6 Sensor F/A	-	64h	54h	93h	WORD	8347	6bit	1
C5.5.6.3	Broken Cable Config.	Bit 0 = S1 Sensor F/A Bit 2 = S2 Sensor F/A Bit 4 = S3 Sensor F/A Bit 6 = S4 Sensor F/A Bit 8 = S5 Sensor F/A Bit 10 = S6 Sensor F/A	-	64h	54h	94h	WORD	8348	6bit	1
C5.5.6.4	Sensor 1 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	54h	95h	INT	8349	s16bit	1
C5.5.6.5	Sensor 2 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	54h	96h	INT	8350	s16bit	1
C5.5.6.6	Sensor 3 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	54h	97h	INT	8351	s16bit	1
C5.5.6.7	Sensor 4 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	54h	98h	INT	8352	s16bit	1
C5.5.6.8	Sensor 5 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	54h	99h	INT	8353	s16bit	1
C5.5.6.9	Sensor 6 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	54h	9Ah	INT	8354	s16bit	1
C5.6	Slot E									
C5.6.1	Slot E-Analog Inputs									
C5.6.1.1	AI1 Settings		-	64h	57h	7Eh	WORD	8626	2bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		Bit 0 = Detect Disconnection Bit 2 = Signal Config.								
C5.6.1.2	AI1 Filter	0.00 to 16.00 s	2	64h	57h	82h	UINT	8630	16bit	1
C5.6.1.3	AI1 Gain	0.000 to 9.999	3	64h	57h	86h	UINT	8634	16bit	1
C5.6.1.4	AI1 Offset	-100.00 to 100.00 %	2	64h	57h	8Ah	INT	8638	s16bit	1
C5.6.1.5	AI1 Dead Zone	0.00 to 100.00 %	2	64h	57h	8Eh	UINT	8642	16bit	1
C5.6.1.6	AI2 Settings	Bit 0 = Detect Disconnection Bit 2 = Signal Config.	-	64h	57h	7Fh	WORD	8627	2bit	1
C5.6.1.7	AI2 Filter	0.00 to 16.00 s	2	64h	57h	83h	UINT	8631	16bit	1
C5.6.1.8	AI2 Gain	0.000 to 9.999	3	64h	57h	87h	UINT	8635	16bit	1
C5.6.1.9	AI2 Offset	-100.00 to 100.00 %	2	64h	57h	8Bh	INT	8639	s16bit	1
C5.6.1.10	AI2 Dead Zone	0.00 to 100.00 %	2	64h	57h	8Fh	UINT	8643	16bit	1
C5.6.1.11	AI3 Settings	Bit 0 = Detect Disconnection Bit 2 = Signal Config.	-	64h	57h	80h	WORD	8628	2bit	1
C5.6.1.12	AI3 Filter	0.00 to 16.00 s	2	64h	57h	84h	UINT	8632	16bit	1
C5.6.1.13	AI3 Gain	0.000 to 9.999	3	64h	57h	88h	UINT	8636	16bit	1
C5.6.1.14	AI3 Offset	-100.00 to 100.00 %	2	64h	57h	8Ch	INT	8640	s16bit	1
C5.6.1.15	AI3 Dead Zone	0.00 to 100.00 %	2	64h	57h	90h	UINT	8644	16bit	1
C5.6.2	Slot E-Analog Outputs									
C5.6.2.1	AO1 Signal Type	0 = 0 to 20 mA 1 = 4 to 20 mA 2 = 20 to 0 mA 3 = 20 to 4 mA 4 = 0 to 10 V 5 = 10 to 0 V 6 ... 7 = Not used	-	64h	57h	B3h	USINT	8679	enum	1
C5.6.2.2	AO1 Gain	0.000 to 9.999	3	64h	57h	B7h	UINT	8683	16bit	1
C5.6.2.3	AO1 Function	0 = Off (0 %) 1 = On (100 %) 2 = Speed Ref. 3 = Total Speed Ref. 4 = Real Speed 5 ... 6 = Not used 7 = Output Current 8 = Process Var. 9 = Not used 10 = Output Power 11 = PID Setpoint 12 = Not used 13 = Motor Torque 14 = SoftPLC 15 = PTC 16 = Motor Ixt 17 = Encoder Speed 18 = Network 19 = Not used	-	64h	57h	BBh	USINT	8687	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		20 = Torque Ref. 21 = Total Torque Ref.								
C5.6.2.4	AO1 Offset	-100.00 to 100.00 %	2	64h	57h	BFh	INT	8691	s16bit	1
C5.6.2.5	AO2 Signal Type	0 = 0 to 20 mA 1 = 4 to 20 mA 2 = 20 to 0 mA 3 = 20 to 4 mA 4 = 0 to 10 V 5 = 10 to 0 V 6 ... 7 = Not used	-	64h	57h	B4h	USINT	8680	enum	1
C5.6.2.6	AO2 Gain	0.000 to 9.999	3	64h	57h	B8h	UINT	8684	16bit	1
C5.6.2.7	AO2 Function	0 = Off (0 %) 1 = On (100 %) 2 = Speed Ref. 3 = Total Speed Ref. 4 = Real Speed 5 ... 6 = Not used 7 = Output Current 8 = Process Var. 9 = Not used 10 = Output Power 11 = PID Setpoint 12 = Not used 13 = Motor Torque 14 = SoftPLC 15 = PTC 16 = Motor Ixt 17 = Encoder Speed 18 = Network 19 = Not used 20 = Torque Ref. 21 = Total Torque Ref.	-	64h	57h	BCh	USINT	8688	enum	1
C5.6.2.8	AO2 Offset	-100.00 to 100.00 %	2	64h	57h	C0h	INT	8692	s16bit	1
C5.6.4	Slot E-Digital Outputs									
C5.6.4.1	DO1 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx	-	64h	57h	9Bh	USINT	8655	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.6.4.2	DO2 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	57h	9Ch	USINT	8656	enum	1
C5.6.4.3	DO3 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx	-	64h	57h	9Dh	USINT	8657	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.6.4.4	DO4 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network	-	64h	57h	9Eh	USINT	8658	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.6.4.5	DO5 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	57h	9Fh	USINT	8659	enum	1
C5.6.4.6	DO6 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode	-	64h	57h	A0h	USINT	8660	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.6.4.7	DO7 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	57h	A1h	USINT	8661	enum	1
C5.6.4.8	DO8 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used	-	64h	57h	A2h	USINT	8662	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.6.5	Slot E-Encoder									
C5.6.5.1	Number of Pulses	1 to 65535 ppr	0	64h	57h	7Bh	UINT	8623	16bit	1
C5.6.5.2	Settings	Bit 0 = Broken Cable A Bit 2 = Broken Cable B Bit 4 = Broken Cable Z Bit 6 = Search Zero Bit 7 = Signal Direction	-	64h	57h	7Ch	WORD	8624	5bit	1
C5.6.6	Slot E-Temperatures									
C5.6.6.1	Sensor Type	0 = PT100 1 = PT1000 2 = Single PTC 3 = Triple PTC	-	64h	57h	92h	USINT	8646	enum	1
C5.6.6.2	Overtemperature Config.	Bit 0 = S1 Sensor F/A Bit 2 = S2 Sensor F/A Bit 4 = S3 Sensor F/A Bit 6 = S4 Sensor F/A Bit 8 = S5 Sensor F/A Bit 10 = S6 Sensor F/A	-	64h	57h	93h	WORD	8647	6bit	1
C5.6.6.3	Broken Cable Config.	Bit 0 = S1 Sensor F/A Bit 2 = S2 Sensor F/A Bit 4 = S3 Sensor F/A Bit 6 = S4 Sensor F/A Bit 8 = S5 Sensor F/A Bit 10 = S6 Sensor F/A	-	64h	57h	94h	WORD	8648	6bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
C5.6.6.4	Sensor 1 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	57h	95h	INT	8649	s16bit	1
C5.6.6.5	Sensor 2 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	57h	96h	INT	8650	s16bit	1
C5.6.6.6	Sensor 3 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	57h	97h	INT	8651	s16bit	1
C5.6.6.7	Sensor 4 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	57h	98h	INT	8652	s16bit	1
C5.6.6.8	Sensor 5 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	57h	99h	INT	8653	s16bit	1
C5.6.6.9	Sensor 6 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	57h	9Ah	INT	8654	s16bit	1
C5.7	Slot F									
C5.7.1	Slot F-Analog Inputs									
C5.7.1.1	AI1 Settings	Bit 0 = Detect Disconnection Bit 2 = Signal Config.	-	64h	5Ah	7Eh	WORD	8926	2bit	1
C5.7.1.2	AI1 Filter	0.00 to 16.00 s	2	64h	5Ah	82h	UINT	8930	16bit	1
C5.7.1.3	AI1 Gain	0.000 to 9.999	3	64h	5Ah	86h	UINT	8934	16bit	1
C5.7.1.4	AI1 Offset	-100.00 to 100.00 %	2	64h	5Ah	8Ah	INT	8938	s16bit	1
C5.7.1.5	AI1 Dead Zone	0.00 to 100.00 %	2	64h	5Ah	8Eh	UINT	8942	16bit	1
C5.7.1.6	AI2 Settings	Bit 0 = Detect Disconnection Bit 2 = Signal Config.	-	64h	5Ah	7Fh	WORD	8927	2bit	1
C5.7.1.7	AI2 Filter	0.00 to 16.00 s	2	64h	5Ah	83h	UINT	8931	16bit	1
C5.7.1.8	AI2 Gain	0.000 to 9.999	3	64h	5Ah	87h	UINT	8935	16bit	1
C5.7.1.9	AI2 Offset	-100.00 to 100.00 %	2	64h	5Ah	8Bh	INT	8939	s16bit	1
C5.7.1.10	AI2 Dead Zone	0.00 to 100.00 %	2	64h	5Ah	8Fh	UINT	8943	16bit	1
C5.7.1.11	AI3 Settings	Bit 0 = Detect Disconnection Bit 2 = Signal Config.	-	64h	5Ah	80h	WORD	8928	2bit	1
C5.7.1.12	AI3 Filter	0.00 to 16.00 s	2	64h	5Ah	84h	UINT	8932	16bit	1
C5.7.1.13	AI3 Gain	0.000 to 9.999	3	64h	5Ah	88h	UINT	8936	16bit	1
C5.7.1.14	AI3 Offset	-100.00 to 100.00 %	2	64h	5Ah	8Ch	INT	8940	s16bit	1
C5.7.1.15	AI3 Dead Zone	0.00 to 100.00 %	2	64h	5Ah	90h	UINT	8944	16bit	1
C5.7.2	Slot F-Analog Outputs									
C5.7.2.1	AO1 Signal Type	0 = 0 to 20 mA 1 = 4 to 20 mA 2 = 20 to 0 mA 3 = 20 to 4 mA 4 = 0 to 10 V 5 = 10 to 0 V 6 ... 7 = Not used	-	64h	5Ah	B3h	USINT	8979	enum	1
C5.7.2.2	AO1 Gain	0.000 to 9.999	3	64h	5Ah	B7h	UINT	8983	16bit	1
C5.7.2.3	AO1 Function	0 = Off (0 %) 1 = On (100 %) 2 = Speed Ref. 3 = Total Speed Ref. 4 = Real Speed 5 ... 6 = Not used 7 = Output Current 8 = Process Var. 9 = Not used 10 = Output Power	-	64h	5Ah	BBh	USINT	8987	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		11 = PID Setpoint 12 = Not used 13 = Motor Torque 14 = SoftPLC 15 = PTC 16 = Motor Ixt 17 = Encoder Speed 18 = Network 19 = Not used 20 = Torque Ref. 21 = Total Torque Ref.								
C5.7.2.4	AO1 Offset	-100.00 to 100.00 %	2	64h	5Ah	BFh	INT	8991	s16bit	1
C5.7.2.5	AO2 Signal Type	0 = 0 to 20 mA 1 = 4 to 20 mA 2 = 20 to 0 mA 3 = 20 to 4 mA 4 = 0 to 10 V 5 = 10 to 0 V 6 ... 7 = Not used	-	64h	5Ah	B4h	USINT	8980	enum	1
C5.7.2.6	AO2 Gain	0.000 to 9.999	3	64h	5Ah	B8h	UINT	8984	16bit	1
C5.7.2.7	AO2 Function	0 = Off (0 %) 1 = On (100 %) 2 = Speed Ref. 3 = Total Speed Ref. 4 = Real Speed 5 ... 6 = Not used 7 = Output Current 8 = Process Var. 9 = Not used 10 = Output Power 11 = PID Setpoint 12 = Not used 13 = Motor Torque 14 = SoftPLC 15 = PTC 16 = Motor Ixt 17 = Encoder Speed 18 = Network 19 = Not used 20 = Torque Ref. 21 = Total Torque Ref.	-	64h	5Ah	BCh	USINT	8988	enum	1
C5.7.2.8	AO2 Offset	-100.00 to 100.00 %	2	64h	5Ah	C0h	INT	8992	s16bit	1
C5.7.4	Slot F-Digital Outputs									
C5.7.4.1	DO1 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx	-	64h	5Ah	9Bh	USINT	8955	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.7.4.2	DO2 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network	-	64h	5Ah	9Ch	USINT	8956	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.7.4.3	DO3 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	5Ah	9Dh	USINT	8957	enum	1
C5.7.4.4	DO4 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode	-	64h	5Ah	9Eh	USINT	8958	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.7.4.5	DO5 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	5Ah	9Fh	USINT	8959	enum	1
C5.7.4.6	DO6 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used	-	64h	5Ah	A0h	USINT	8960	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.7.4.7	DO7 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through	-	64h	5Ah	A1h	USINT	8961	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		30 = Pre-Charge OK								
C5.7.4.8	DO8 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	5Ah	A2h	USINT	8962	enum	1
C5.7.5	Slot F-Encoder									
C5.7.5.1	Number of Pulses	1 to 65535 ppr	0	64h	5Ah	7Bh	UINT	8923	16bit	1
C5.7.5.2	Settings	Bit 0 = Broken Cable A Bit 2 = Broken Cable B Bit 4 = Broken Cable Z Bit 6 = Search Zero Bit 7 = Signal Direction	-	64h	5Ah	7Ch	WORD	8924	5bit	1
C5.7.6	Slot F-Temperatures									
C5.7.6.1	Sensor Type	0 = PT100 1 = PT1000 2 = Single PTC 3 = Triple PTC	-	64h	5Ah	92h	USINT	8946	enum	1
C5.7.6.2	Overtemperature Config.	Bit 0 = S1 Sensor F/A Bit 2 = S2 Sensor F/A Bit 4 = S3 Sensor F/A Bit 6 = S4 Sensor F/A	-	64h	5Ah	93h	WORD	8947	6bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		Bit 8 = S5 Sensor F/A Bit 10 = S6 Sensor F/A								
C5.7.6.3	Broken Cable Config.	Bit 0 = S1 Sensor F/A Bit 2 = S2 Sensor F/A Bit 4 = S3 Sensor F/A Bit 6 = S4 Sensor F/A Bit 8 = S5 Sensor F/A Bit 10 = S6 Sensor F/A	-	64h	5Ah	94h	WORD	8948	6bit	1
C5.7.6.4	Sensor 1 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	5Ah	95h	INT	8949	s16bit	1
C5.7.6.5	Sensor 2 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	5Ah	96h	INT	8950	s16bit	1
C5.7.6.6	Sensor 3 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	5Ah	97h	INT	8951	s16bit	1
C5.7.6.7	Sensor 4 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	5Ah	98h	INT	8952	s16bit	1
C5.7.6.8	Sensor 5 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	5Ah	99h	INT	8953	s16bit	1
C5.7.6.9	Sensor 6 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	5Ah	9Ah	INT	8954	s16bit	1
C5.8	Slot G									
C5.8.1	Slot G-Analog Inputs									
C5.8.1.1	AI1 Settings	Bit 0 = Detect Disconnection Bit 2 = Signal Config.	-	64h	5Dh	7Eh	WORD	9226	2bit	1
C5.8.1.2	AI1 Filter	0.00 to 16.00 s	2	64h	5Dh	82h	UINT	9230	16bit	1
C5.8.1.3	AI1 Gain	0.000 to 9.999	3	64h	5Dh	86h	UINT	9234	16bit	1
C5.8.1.4	AI1 Offset	-100.00 to 100.00 %	2	64h	5Dh	8Ah	INT	9238	s16bit	1
C5.8.1.5	AI1 Dead Zone	0.00 to 100.00 %	2	64h	5Dh	8Eh	UINT	9242	16bit	1
C5.8.1.6	AI2 Settings	Bit 0 = Detect Disconnection Bit 2 = Signal Config.	-	64h	5Dh	7Fh	WORD	9227	2bit	1
C5.8.1.7	AI2 Filter	0.00 to 16.00 s	2	64h	5Dh	83h	UINT	9231	16bit	1
C5.8.1.8	AI2 Gain	0.000 to 9.999	3	64h	5Dh	87h	UINT	9235	16bit	1
C5.8.1.9	AI2 Offset	-100.00 to 100.00 %	2	64h	5Dh	8Bh	INT	9239	s16bit	1
C5.8.1.10	AI2 Dead Zone	0.00 to 100.00 %	2	64h	5Dh	8Fh	UINT	9243	16bit	1
C5.8.1.11	AI3 Settings	Bit 0 = Detect Disconnection Bit 2 = Signal Config.	-	64h	5Dh	80h	WORD	9228	2bit	1
C5.8.1.12	AI3 Filter	0.00 to 16.00 s	2	64h	5Dh	84h	UINT	9232	16bit	1
C5.8.1.13	AI3 Gain	0.000 to 9.999	3	64h	5Dh	88h	UINT	9236	16bit	1
C5.8.1.14	AI3 Offset	-100.00 to 100.00 %	2	64h	5Dh	8Ch	INT	9240	s16bit	1
C5.8.1.15	AI3 Dead Zone	0.00 to 100.00 %	2	64h	5Dh	90h	UINT	9244	16bit	1
C5.8.2	Slot G-Analog Outputs									
C5.8.2.1	AO1 Signal Type	0 = 0 to 20 mA 1 = 4 to 20 mA 2 = 20 to 0 mA 3 = 20 to 4 mA 4 = 0 to 10 V 5 = 10 to 0 V 6 ... 7 = Not used	-	64h	5Dh	B3h	USINT	9279	enum	1
C5.8.2.2	AO1 Gain	0.000 to 9.999	3	64h	5Dh	B7h	UINT	9283	16bit	1
C5.8.2.3	AO1 Function		-	64h	5Dh	BBh	USINT	9287	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		0 = Off (0 %) 1 = On (100 %) 2 = Speed Ref. 3 = Total Speed Ref. 4 = Real Speed 5 ... 6 = Not used 7 = Output Current 8 = Process Var. 9 = Not used 10 = Output Power 11 = PID Setpoint 12 = Not used 13 = Motor Torque 14 = SoftPLC 15 = PTC 16 = Motor Ixt 17 = Encoder Speed 18 = Network 19 = Not used 20 = Torque Ref. 21 = Total Torque Ref.								
C5.8.2.4	AO1 Offset	-100.00 to 100.00 %	2	64h	5Dh	BFh	INT	9291	s16bit	1
C5.8.2.5	AO2 Signal Type	0 = 0 to 20 mA 1 = 4 to 20 mA 2 = 20 to 0 mA 3 = 20 to 4 mA 4 = 0 to 10 V 5 = 10 to 0 V 6 ... 7 = Not used	-	64h	5Dh	B4h	USINT	9280	enum	1
C5.8.2.6	AO2 Gain	0.000 to 9.999	3	64h	5Dh	B8h	UINT	9284	16bit	1
C5.8.2.7	AO2 Function	0 = Off (0 %) 1 = On (100 %) 2 = Speed Ref. 3 = Total Speed Ref. 4 = Real Speed 5 ... 6 = Not used 7 = Output Current 8 = Process Var. 9 = Not used 10 = Output Power 11 = PID Setpoint 12 = Not used 13 = Motor Torque 14 = SoftPLC 15 = PTC 16 = Motor Ixt 17 = Encoder Speed 18 = Network 19 = Not used	-	64h	5Dh	BCh	USINT	9288	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		20 = Torque Ref. 21 = Total Torque Ref.								
C5.8.2.8	AO2 Offset	-100.00 to 100.00 %	2	64h	5Dh	C0h	INT	9292	s16bit	1
C5.8.4	Slot G-Digital Outputs									
C5.8.4.1	DO1 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	5Dh	9Bh	USINT	9255	enum	1
C5.8.4.2	DO2 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode	-	64h	5Dh	9Ch	USINT	9256	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.8.4.3	DO3 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	5Dh	9Dh	USINT	9257	enum	1
C5.8.4.4	DO4 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used	-	64h	5Dh	9Eh	USINT	9258	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.8.4.5	DO5 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through	-	64h	5Dh	9Fh	USINT	9259	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		30 = Pre-Charge OK								
C5.8.4.6	DO6 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	5Dh	A0h	USINT	9260	enum	1
C5.8.4.7	DO7 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready	-	64h	5Dh	A1h	USINT	9261	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK								
C5.8.4.8	DO8 Function	0 = Off 1 = On 2 = N* > Nx 3 = N > Nx 4 = N < Ny 5 = N = N* 6 ... 7 = Not used 8 = F > Fx 9 = Is > Ix 10 = Is < Ix 11 = Torque > Tx 12 = Torque < Tx 13 = Hours Enabled > Hx 14 ... 15 = Not used 16 = Local Mode 17 = Remote 1 Mode 18 = Remote 2 Mode 19 = Run 20 = Ready 21 = STO 22 = No Fault 23 = With Fault 24 = No Alarm 25 = No Fault and Alarm 26 = Network 27 = SoftPLC 28 = Forward Direction 29 = Ride-Through 30 = Pre-Charge OK	-	64h	5Dh	A2h	USINT	9262	enum	1
C5.8.5	Slot G-Encoder									
C5.8.5.1	Number of Pulses	1 to 65535 ppr	0	64h	5Dh	7Bh	UINT	9223	16bit	1
C5.8.5.2	Settings	Bit 0 = Broken Cable A Bit 2 = Broken Cable B Bit 4 = Broken Cable Z Bit 6 = Search Zero Bit 7 = Signal Direction	-	64h	5Dh	7Ch	WORD	9224	5bit	1
C5.8.6	Slot G-Temperatures									
C5.8.6.1	Sensor Type		-	64h	5Dh	92h	USINT	9246	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		0 = PT100 1 = PT1000 2 = Single PTC 3 = Triple PTC								
C5.8.6.2	Overtemperature Config.	Bit 0 = S1 Sensor F/A Bit 2 = S2 Sensor F/A Bit 4 = S3 Sensor F/A Bit 6 = S4 Sensor F/A Bit 8 = S5 Sensor F/A Bit 10 = S6 Sensor F/A	-	64h	5Dh	93h	WORD	9247	6bit	1
C5.8.6.3	Broken Cable Config.	Bit 0 = S1 Sensor F/A Bit 2 = S2 Sensor F/A Bit 4 = S3 Sensor F/A Bit 6 = S4 Sensor F/A Bit 8 = S5 Sensor F/A Bit 10 = S6 Sensor F/A	-	64h	5Dh	94h	WORD	9248	6bit	1
C5.8.6.4	Sensor 1 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	5Dh	95h	INT	9249	s16bit	1
C5.8.6.5	Sensor 2 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	5Dh	96h	INT	9250	s16bit	1
C5.8.6.6	Sensor 3 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	5Dh	97h	INT	9251	s16bit	1
C5.8.6.7	Sensor 4 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	5Dh	98h	INT	9252	s16bit	1
C5.8.6.8	Sensor 5 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	5Dh	99h	INT	9253	s16bit	1
C5.8.6.9	Sensor 6 Temp. Setpoint	-100.0 to 250.0 °C	1	64h	5Dh	9Ah	INT	9254	s16bit	1
C5.9	DO Operation Levels									
C5.9.1	Fx Frequency	0.0 to 300.0 Hz	1	64h	03h	B5h	UINT	281	16bit	1
C5.9.2	Fx Hysteresis	0.0 to 15.0 Hz	1	64h	03h	B6h	UINT	282	16bit	1
C5.9.3	Nx/Ny Hysteresis	0 to 900 rpm	0	64h	03h	BBh	UINT	287	16bit	1
C5.9.4	Nx Speed	0 to 30000 rpm	0	64h	03h	BCh	UINT	288	16bit	1
C5.9.5	Ny Speed	0 to 30000 rpm	0	64h	03h	BDh	UINT	289	16bit	1
C5.9.6	Ix Current	0.0 to 200.0 %	1	64h	03h	BEh	UINT	290	16bit	1
C5.9.8	N = N* Band	0 to 30000 rpm	0	64h	03h	C0h	UINT	292	16bit	1
C5.9.9	Tx Torque	0.0 to 200.0 %	1	64h	03h	C1h	UINT	293	16bit	1
C5.9.10	Hx Hours	0 to 65536 h	0	64h	03h	C2h	NONE	294	NONE	2
C5.10	DOs delay									
C5.10.1	Timer 1 DO	0 = Inactive 1 = DO X-1 2 = DO X-2 3 = DO A-1 4 = DO A-2 5 = DO A-3 6 = DO A-4 7 = DO A-5 8 = DO A-6 9 = DO A-7 10 = DO A-8 11 = DO B-1 12 = DO B-2 13 = DO B-3	-	64h	04h	6Ch	USINT	308	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		14 = DO B-4 15 = DO B-5 16 = DO B-6 17 = DO B-7 18 = DO B-8 19 = DO C-1 20 = DO C-2 21 = DO C-3 22 = DO C-4 23 = DO C-5 24 = DO C-6 25 = DO C-7 26 = DO C-8 27 = DO D-1 28 = DO D-2 29 = DO D-3 30 = DO D-4 31 = DO D-5 32 = DO D-6 33 = DO D-7 34 = DO D-8 35 = DO E-1 36 = DO E-2 37 = DO E-3 38 = DO E-4 39 = DO E-5 40 = DO E-6 41 = DO E-7 42 = DO E-8 43 = DO F-1 44 = DO F-2 45 = DO F-3 46 = DO F-4 47 = DO F-5 48 = DO F-6 49 = DO F-7 50 = DO F-8 51 = DO G-1 52 = DO G-2 53 = DO G-3 54 = DO G-4 55 = DO G-5 56 = DO G-6 57 = DO G-7 58 = DO G-8								
C5.10.2	T1 Delay ON	0.0 to 300.0 s	1	64h	04h	6Dh	UINT	309	16bit	1
C5.10.3	T1 Delay OFF	0.0 to 300.0 s	1	64h	04h	6Eh	UINT	310	16bit	1
C5.10.4	Timer 2 DO	0 = Inactive 1 = DO X-1 2 = DO X-2	-	64h	04h	6Fh	USINT	311	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		3 = DO A-1 4 = DO A-2 5 = DO A-3 6 = DO A-4 7 = DO A-5 8 = DO A-6 9 = DO A-7 10 = DO A-8 11 = DO B-1 12 = DO B-2 13 = DO B-3 14 = DO B-4 15 = DO B-5 16 = DO B-6 17 = DO B-7 18 = DO B-8 19 = DO C-1 20 = DO C-2 21 = DO C-3 22 = DO C-4 23 = DO C-5 24 = DO C-6 25 = DO C-7 26 = DO C-8 27 = DO D-1 28 = DO D-2 29 = DO D-3 30 = DO D-4 31 = DO D-5 32 = DO D-6 33 = DO D-7 34 = DO D-8 35 = DO E-1 36 = DO E-2 37 = DO E-3 38 = DO E-4 39 = DO E-5 40 = DO E-6 41 = DO E-7 42 = DO E-8 43 = DO F-1 44 = DO F-2 45 = DO F-3 46 = DO F-4 47 = DO F-5 48 = DO F-6 49 = DO F-7 50 = DO F-8 51 = DO G-1 52 = DO G-2 53 = DO G-3								

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		54 = DO G-4 55 = DO G-5 56 = DO G-6 57 = DO G-7 58 = DO G-8								
C5.10.5	T2 Delay ON	0.0 to 300.0 s	1	64h	04h	70h	UINT	312	16bit	1
C5.10.6	T2 Delay OFF	0.0 to 300.0 s	1	64h	04h	71h	UINT	313	16bit	1
C5.10.7	Timer 3 DO	0 = Inactive 1 = DO X-1 2 = DO X-2 3 = DO A-1 4 = DO A-2 5 = DO A-3 6 = DO A-4 7 = DO A-5 8 = DO A-6 9 = DO A-7 10 = DO A-8 11 = DO B-1 12 = DO B-2 13 = DO B-3 14 = DO B-4 15 = DO B-5 16 = DO B-6 17 = DO B-7 18 = DO B-8 19 = DO C-1 20 = DO C-2 21 = DO C-3 22 = DO C-4 23 = DO C-5 24 = DO C-6 25 = DO C-7 26 = DO C-8 27 = DO D-1 28 = DO D-2 29 = DO D-3 30 = DO D-4 31 = DO D-5 32 = DO D-6 33 = DO D-7 34 = DO D-8 35 = DO E-1 36 = DO E-2 37 = DO E-3 38 = DO E-4 39 = DO E-5 40 = DO E-6 41 = DO E-7 42 = DO E-8	-	64h	04h	72h	USINT	314	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		43 = DO F-1 44 = DO F-2 45 = DO F-3 46 = DO F-4 47 = DO F-5 48 = DO F-6 49 = DO F-7 50 = DO F-8 51 = DO G-1 52 = DO G-2 53 = DO G-3 54 = DO G-4 55 = DO G-5 56 = DO G-6 57 = DO G-7 58 = DO G-8								
C5.10.8	T3 Delay ON	0.0 to 300.0 s	1	64h	04h	73h	UINT	315	16bit	1
C5.10.9	T3 Delay OFF	0.0 to 300.0 s	1	64h	04h	74h	UINT	316	16bit	1
		C6 Configurations\Ramps								
C6.1	Speed Control Ramps									
C6.1.1	Acceleration Time	0.1 to 999.9 s	1	64h	02h	64h	UINT	100	16bit	1
C6.1.2	Deceleration Time	0.1 to 999.9 s	1	64h	02h	65h	UINT	101	16bit	1
C6.1.3	1st/2nd Ramp Selection	0 = 1st Ramp 1 = 2nd Ramp 2 = Serial 3 = Not used 4 = CAN/CO/DN 5 = SoftPLC 6 = Not used 7 = Ethernet 8 = DI Ramp Selection	-	64h	02h	69h	USINT	105	enum	1
C6.1.4	2nd Ramp Acceleration Time	0.1 to 999.9 s	1	64h	02h	66h	UINT	102	16bit	1
C6.1.5	2nd Ramp Deceleration Time	0.1 to 999.9 s	1	64h	02h	67h	UINT	103	16bit	1
C6.1.6	Quick Stop Time	0.1 to 999.9 s	1	64h	02h	6Ah	UINT	106	16bit	1
C6.1.7	Ramp Type	0 = Linear 1 = S Ramp	-	64h	02h	68h	USINT	104	enum	1
C6.2	Torque Control Ramps									
C6.2.1	Increment Ramp	0.1 to 999.9 s	1	64h	29h	65h	UINT	4001	16bit	1
C6.2.2	Decrement Ramp	0.1 to 999.9 s	1	64h	29h	66h	UINT	4002	16bit	1
		C7 Configurations\Protections								
C7.1	Power Supply Phase Loss									
C7.1.1	Min. Detection Time	0 to 60 s	0	64h	04h	9Dh	UINT	357	16bit	1
C7.1.2	Level Fine Setting	0.1 to 5.0	1	64h	04h	9Eh	UINT	358	16bit	1
C7.2	Ground Fault									
C7.2.1	Configuration	0 = Inactive 1 = Fault Enab.; Standard Level	-	64h	15h	66h	USINT	2002	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		2 = Fault Enab.; Extended Level								
C7.3	Motor Current Unbal.									
C7.3.1	Enable Fault	0 = Disable 1 = Enable	-	64h	04h	8Eh	USINT	342	enum	1
C7.4	Motor Overload Fault									
C7.4.1	Enable Fault	0 = Disable 1 = Fault and Alarm 2 = Fault 3 = Alarm	-	64h	04h	94h	USINT	348	enum	1
C7.4.2	Alarm Level	10 to 100 %	0	64h	04h	95h	UINT	349	16bit	1
C7.4.3	Factor @ 100% Rat. Speed	0 to 200 %	0	64h	02h	9Ch	INT	156	s16bit	1
C7.4.4	Factor @ 50% Rat. Speed	0 to 200 %	0	64h	02h	9Dh	INT	157	s16bit	1
C7.4.5	Factor @ 5% Rat, Speed	0 to 200 %	0	64h	02h	9Eh	INT	158	s16bit	1
C7.4.6	Motor Thermal Class	0 = Class 5E 1 = Class 10E 2 = Class 15 3 = Class 20E 4 = Class 25 5 = Class 30E 6 = Class 35 7 = Class 40 8 = Class 45	-	64h	02h	9Fh	USINT	159	enum	1
C7.5	Over/Undertemp. Prot.									
C7.5.1	Configuration	Bit 0 = IGBT Overtemp. Bit 1 = Rectifier Overtemp. Bit 2 = Power Circ. Overtemp. Bit 3 = Cont. Circ. Overtemp. Bit 4 = Undertemperature	-	64h	04h	99h	WORD	353	5bit	1
C7.5.2	Motor Overtemp. Conf.	0 = Alarm and Fault 1 = Fault 2 = Alarm 3 = Disabled	-	64h	04h	97h	USINT	351	enum	1
C7.6	Fan Speed Fault									
C7.6.1	Power Fan Setting	0 = Alarm/Fault 1 = Alarm	-	64h	04h	9Ah	USINT	354	enum	1
C7.6.2	Internal Fan Setting	0 = Alarm/Fault 1 = Alarm	-	64h	0Bh	9Ah	USINT	1054	enum	1
C7.7	Motor Overspeed									
C7.7.1	Maximum Overspeed Level	0 to 100 %	0	64h	02h	84h	REAL	132	TIME	2
C7.8	Pre-charge									
C7.8.1	Pre-charge Fault Config.		-	64h	15h	6Ch	WORD	2008	4bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		Bit 0 = Phase disconnected Bit 1 = Freq. out of range Bit 2 = Input Voltage Unbalance Bit 3 = Input Phase Unbalance								
C7.9	Auto-Reset									
C7.9.1	Time	0 to 3600 s	0	64h	04h	8Ch	UINT	340	16bit	1
C7.10	External Fault/Alarm									
C7.10.1	External Alarm DI	0 = Inactive 1 = DI X-1 2 = DI X-2 3 = DI X-3 4 = DI X-4 5 = DI X-5 6 = DI X-6 7 = DI A-1 8 = DI A-2 9 = DI A-3 10 = DI A-4 11 = DI A-5 12 = DI A-6 13 = DI A-7 14 = DI A-8 15 = DI B-1 16 = DI B-2 17 = DI B-3 18 = DI B-4 19 = DI B-5 20 = DI B-6 21 = DI B-7 22 = DI B-8 23 = DI C-1 24 = DI C-2 25 = DI C-3 26 = DI C-4 27 = DI C-5 28 = DI C-6 29 = DI C-7 30 = DI C-8 31 = DI D-1 32 = DI D-2 33 = DI D-3 34 = DI D-4 35 = DI D-5 36 = DI D-6 37 = DI D-7 38 = DI D-8 39 = DI E-1 40 = DI E-2 41 = DI E-3	-	64h	3Dh	8Ah	USINT	6038	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		42 = DI E-4 43 = DI E-5 44 = DI E-6 45 = DI E-7 46 = DI E-8 47 = DI F-1 48 = DI F-2 49 = DI F-3 50 = DI F-4 51 = DI F-5 52 = DI F-6 53 = DI F-7 54 = DI F-8 55 = DI G-1 56 = DI G-2 57 = DI G-3 58 = DI G-4 59 = DI G-5 60 = DI G-6 61 = DI G-7 62 = DI G-8								
C7.10.2	External Fault DI	0 = Inactive 1 = DI X-1 2 = DI X-2 3 = DI X-3 4 = DI X-4 5 = DI X-5 6 = DI X-6 7 = DI A-1 8 = DI A-2 9 = DI A-3 10 = DI A-4 11 = DI A-5 12 = DI A-6 13 = DI A-7 14 = DI A-8 15 = DI B-1 16 = DI B-2 17 = DI B-3 18 = DI B-4 19 = DI B-5 20 = DI B-6 21 = DI B-7 22 = DI B-8 23 = DI C-1 24 = DI C-2 25 = DI C-3 26 = DI C-4 27 = DI C-5 28 = DI C-6	-	64h	3Dh	89h	USINT	6037	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		29 = DI C-7 30 = DI C-8 31 = DI D-1 32 = DI D-2 33 = DI D-3 34 = DI D-4 35 = DI D-5 36 = DI D-6 37 = DI D-7 38 = DI D-8 39 = DI E-1 40 = DI E-2 41 = DI E-3 42 = DI E-4 43 = DI E-5 44 = DI E-6 45 = DI E-7 46 = DI E-8 47 = DI F-1 48 = DI F-2 49 = DI F-3 50 = DI F-4 51 = DI F-5 52 = DI F-6 53 = DI F-7 54 = DI F-8 55 = DI G-1 56 = DI G-2 57 = DI G-3 58 = DI G-4 59 = DI G-5 60 = DI G-6 61 = DI G-7 62 = DI G-8								
C7.11	Thermal Management									
C7.11.2	Temperature Regulator Config.	Bit 0 = Heat sink Temp. Reg. with fsw Operation Bit 1 = Junction Temperature Regulator Bit 2 = Heat sink Temp. Reg. w/ Power Fan Speed	-	64h	1Fh	89h	WORD	3037	3bit	1
C7.12	Encoder									
C7.12.1	Encoder Protection Config.	0 = F67 inactive 1 = F67 active	-	64h	04h	9Bh	USINT	355	enum	1
C7.13	History									
C7.13.1	Enable Alarm Hist.	0 = Disabled 1 = Enabled	-	64h	2Ah	BEh	USINT	4190	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
C8 Configurations\Functional Safety										
C8.1	SS1-t Ramp Deceleration Time	0.1 to 999.9 s	1	64h	01h	C4h	UINT	96	16bit	1
C9 Configurations\Communications										
C9.1	Communication Errors									
C9.1.1	Master Offline									
C9.1.1.1	Mode	0 = Inactive 1 = Fault 2 = Alarm	-	64h	09h	C3h	USINT	895	enum	1
C9.1.1.2	Alarm Action	0 = Off 1 = Stop by Ramp 2 = General Disable 3 = Go to R1 4 = Go to R2	-	64h	09h	C4h	USINT	896	enum	1
C9.1.2	Master Idle/Prog									
C9.1.2.1	Mode	0 = Inactive 1 = Fault 2 = Alarm	-	64h	09h	C5h	USINT	897	enum	1
C9.1.2.2	Alarm Action	0 = Off 1 = Stop by Ramp 2 = General Disable 3 = Go to R1 4 = Go to R2	-	64h	09h	C6h	USINT	898	enum	1
C9.2	I/O Data									
C9.2.1	Reading Data									
C9.2.1.1	Word #1	0 to 9999	0	64h	0Eh	64h	INT	1300	s16bit	1
C9.2.1.2	Word #2	0 to 9999	0	64h	0Eh	65h	INT	1301	s16bit	1
C9.2.1.3	Word #3	0 to 9999	0	64h	0Eh	66h	INT	1302	s16bit	1
C9.2.1.4	Word #4	0 to 9999	0	64h	0Eh	67h	INT	1303	s16bit	1
C9.2.1.5	Word #5	0 to 9999	0	64h	0Eh	68h	INT	1304	s16bit	1
C9.2.1.6	Word #6	0 to 9999	0	64h	0Eh	69h	INT	1305	s16bit	1
C9.2.1.7	Word #7	0 to 9999	0	64h	0Eh	6Ah	INT	1306	s16bit	1
C9.2.1.8	Word #8	0 to 9999	0	64h	0Eh	6Bh	INT	1307	s16bit	1
C9.2.1.9	Word #9	0 to 9999	0	64h	0Eh	6Ch	INT	1308	s16bit	1
C9.2.1.10	Word #10	0 to 9999	0	64h	0Eh	6Dh	INT	1309	s16bit	1
C9.2.1.11	Word #11	0 to 9999	0	64h	0Eh	6Eh	INT	1310	s16bit	1
C9.2.1.12	Word #12	0 to 9999	0	64h	0Eh	6Fh	INT	1311	s16bit	1
C9.2.1.13	Word #13	0 to 9999	0	64h	0Eh	70h	INT	1312	s16bit	1
C9.2.1.14	Word #14	0 to 9999	0	64h	0Eh	71h	INT	1313	s16bit	1
C9.2.1.15	Word #15	0 to 9999	0	64h	0Eh	72h	INT	1314	s16bit	1
C9.2.1.16	Word #16	0 to 9999	0	64h	0Eh	73h	INT	1315	s16bit	1
C9.2.1.17	Word #17	0 to 9999	0	64h	0Eh	74h	INT	1316	s16bit	1
C9.2.1.18	Word #18	0 to 9999	0	64h	0Eh	75h	INT	1317	s16bit	1
C9.2.1.19	Word #19	0 to 9999	0	64h	0Eh	76h	INT	1318	s16bit	1
C9.2.1.20	Word #20	0 to 9999	0	64h	0Eh	77h	INT	1319	s16bit	1
C9.2.1.21	Word #21	0 to 9999	0	64h	0Eh	78h	INT	1320	s16bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
C9.2.1.22	Word #22	0 to 9999	0	64h	0Eh	79h	INT	1321	s16bit	1
C9.2.1.23	Word #23	0 to 9999	0	64h	0Eh	7Ah	INT	1322	s16bit	1
C9.2.1.24	Word #24	0 to 9999	0	64h	0Eh	7Bh	INT	1323	s16bit	1
C9.2.1.25	Word #25	0 to 9999	0	64h	0Eh	7Ch	INT	1324	s16bit	1
C9.2.1.26	Word #26	0 to 9999	0	64h	0Eh	7Dh	INT	1325	s16bit	1
C9.2.1.27	Word #27	0 to 9999	0	64h	0Eh	7Eh	INT	1326	s16bit	1
C9.2.1.28	Word #28	0 to 9999	0	64h	0Eh	7Fh	INT	1327	s16bit	1
C9.2.1.29	Word #29	0 to 9999	0	64h	0Eh	80h	INT	1328	s16bit	1
C9.2.1.30	Word #30	0 to 9999	0	64h	0Eh	81h	INT	1329	s16bit	1
C9.2.1.31	Word #31	0 to 9999	0	64h	0Eh	82h	INT	1330	s16bit	1
C9.2.1.32	Word #32	0 to 9999	0	64h	0Eh	83h	INT	1331	s16bit	1
C9.2.1.33	Word #33	0 to 9999	0	64h	0Eh	84h	INT	1332	s16bit	1
C9.2.1.34	Word #34	0 to 9999	0	64h	0Eh	85h	INT	1333	s16bit	1
C9.2.1.35	Word #35	0 to 9999	0	64h	0Eh	86h	INT	1334	s16bit	1
C9.2.1.36	Word #36	0 to 9999	0	64h	0Eh	87h	INT	1335	s16bit	1
C9.2.1.37	Word #37	0 to 9999	0	64h	0Eh	88h	INT	1336	s16bit	1
C9.2.1.38	Word #38	0 to 9999	0	64h	0Eh	89h	INT	1337	s16bit	1
C9.2.1.39	Word #39	0 to 9999	0	64h	0Eh	8Ah	INT	1338	s16bit	1
C9.2.1.40	Word #40	0 to 9999	0	64h	0Eh	8Bh	INT	1339	s16bit	1
C9.2.1.41	Word #41	0 to 9999	0	64h	0Eh	8Ch	INT	1340	s16bit	1
C9.2.1.42	Word #42	0 to 9999	0	64h	0Eh	8Dh	INT	1341	s16bit	1
C9.2.1.43	Word #43	0 to 9999	0	64h	0Eh	8Eh	INT	1342	s16bit	1
C9.2.1.44	Word #44	0 to 9999	0	64h	0Eh	8Fh	INT	1343	s16bit	1
C9.2.1.45	Word #45	0 to 9999	0	64h	0Eh	90h	INT	1344	s16bit	1
C9.2.1.46	Word #46	0 to 9999	0	64h	0Eh	91h	INT	1345	s16bit	1
C9.2.1.47	Word #47	0 to 9999	0	64h	0Eh	92h	INT	1346	s16bit	1
C9.2.1.48	Word #48	0 to 9999	0	64h	0Eh	93h	INT	1347	s16bit	1
C9.2.1.49	Word #49	0 to 9999	0	64h	0Eh	94h	INT	1348	s16bit	1
C9.2.1.50	Word #50	0 to 9999	0	64h	0Eh	95h	INT	1349	s16bit	1
C9.2.1.51	Word #51	0 to 9999	0	64h	0Eh	96h	INT	1350	s16bit	1
C9.2.1.52	Word #52	0 to 9999	0	64h	0Eh	97h	INT	1351	s16bit	1
C9.2.1.53	Word #53	0 to 9999	0	64h	0Eh	98h	INT	1352	s16bit	1
C9.2.1.54	Word #54	0 to 9999	0	64h	0Eh	99h	INT	1353	s16bit	1
C9.2.1.55	Word #55	0 to 9999	0	64h	0Eh	9Ah	INT	1354	s16bit	1
C9.2.1.56	Word #56	0 to 9999	0	64h	0Eh	9Bh	INT	1355	s16bit	1
C9.2.1.57	Word #57	0 to 9999	0	64h	0Eh	9Ch	INT	1356	s16bit	1
C9.2.1.58	Word #58	0 to 9999	0	64h	0Eh	9Dh	INT	1357	s16bit	1
C9.2.1.59	Word #59	0 to 9999	0	64h	0Eh	9Eh	INT	1358	s16bit	1
C9.2.1.60	Word #60	0 to 9999	0	64h	0Eh	9Fh	INT	1359	s16bit	1
C9.2.1.61	Word #61	0 to 9999	0	64h	0Eh	A0h	INT	1360	s16bit	1
C9.2.1.62	Word #62	0 to 9999	0	64h	0Eh	A1h	INT	1361	s16bit	1
C9.2.1.63	Word #63	0 to 9999	0	64h	0Eh	A2h	INT	1362	s16bit	1
C9.2.1.64	Word #64	0 to 9999	0	64h	0Eh	A3h	INT	1363	s16bit	1
C9.2.1.65	Word #65	0 to 9999	0	64h	0Eh	A4h	INT	1364	s16bit	1
C9.2.1.66	Word #66	0 to 9999	0	64h	0Eh	A5h	INT	1365	s16bit	1
C9.2.1.67	Word #67	0 to 9999	0	64h	0Eh	A6h	INT	1366	s16bit	1
C9.2.1.68	Word #68	0 to 9999	0	64h	0Eh	A7h	INT	1367	s16bit	1
C9.2.1.69	Word #69	0 to 9999	0	64h	0Eh	A8h	INT	1368	s16bit	1
C9.2.1.70	Word #70	0 to 9999	0	64h	0Eh	A9h	INT	1369	s16bit	1
C9.2.1.71	Word #71	0 to 9999	0	64h	0Eh	AAh	INT	1370	s16bit	1
C9.2.1.72	Word #72	0 to 9999	0	64h	0Eh	ABh	INT	1371	s16bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
C9.2.1.73	Word #73	0 to 9999	0	64h	0Eh	ACh	INT	1372	s16bit	1
C9.2.1.74	Word #74	0 to 9999	0	64h	0Eh	ADh	INT	1373	s16bit	1
C9.2.1.75	Word #75	0 to 9999	0	64h	0Eh	AEh	INT	1374	s16bit	1
C9.2.1.76	Word #76	0 to 9999	0	64h	0Eh	AFh	INT	1375	s16bit	1
C9.2.1.77	Word #77	0 to 9999	0	64h	0Eh	B0h	INT	1376	s16bit	1
C9.2.1.78	Word #78	0 to 9999	0	64h	0Eh	B1h	INT	1377	s16bit	1
C9.2.1.79	Word #79	0 to 9999	0	64h	0Eh	B2h	INT	1378	s16bit	1
C9.2.1.80	Word #80	0 to 9999	0	64h	0Eh	B3h	INT	1379	s16bit	1
C9.2.1.81	Word #81	0 to 9999	0	64h	0Eh	B4h	INT	1380	s16bit	1
C9.2.1.82	Word #82	0 to 9999	0	64h	0Eh	B5h	INT	1381	s16bit	1
C9.2.1.83	Word #83	0 to 9999	0	64h	0Eh	B6h	INT	1382	s16bit	1
C9.2.1.84	Word #84	0 to 9999	0	64h	0Eh	B7h	INT	1383	s16bit	1
C9.2.1.85	Word #85	0 to 9999	0	64h	0Eh	B8h	INT	1384	s16bit	1
C9.2.1.86	Word #86	0 to 9999	0	64h	0Eh	B9h	INT	1385	s16bit	1
C9.2.1.87	Word #87	0 to 9999	0	64h	0Eh	BAh	INT	1386	s16bit	1
C9.2.1.88	Word #88	0 to 9999	0	64h	0Eh	BBh	INT	1387	s16bit	1
C9.2.1.89	Word #89	0 to 9999	0	64h	0Eh	BCh	INT	1388	s16bit	1
C9.2.1.90	Word #90	0 to 9999	0	64h	0Eh	BDh	INT	1389	s16bit	1
C9.2.1.91	Word #91	0 to 9999	0	64h	0Eh	BEh	INT	1390	s16bit	1
C9.2.1.92	Word #92	0 to 9999	0	64h	0Eh	BFh	INT	1391	s16bit	1
C9.2.1.93	Word #93	0 to 9999	0	64h	0Eh	C0h	INT	1392	s16bit	1
C9.2.1.94	Word #94	0 to 9999	0	64h	0Eh	C1h	INT	1393	s16bit	1
C9.2.1.95	Word #95	0 to 9999	0	64h	0Eh	C2h	INT	1394	s16bit	1
C9.2.1.96	Word #96	0 to 9999	0	64h	0Eh	C3h	INT	1395	s16bit	1
C9.2.1.97	Word #97	0 to 9999	0	64h	0Eh	C4h	INT	1396	s16bit	1
C9.2.1.98	Word #98	0 to 9999	0	64h	0Eh	C5h	INT	1397	s16bit	1
C9.2.1.99	Word #99	0 to 9999	0	64h	0Eh	C6h	INT	1398	s16bit	1
C9.2.1.100	Word #100	0 to 9999	0	64h	0Eh	C7h	INT	1399	s16bit	1
C9.2.2	Writing Data									
C9.2.2.1	Update Delay	0.0 to 999.0 s	1	64h	09h	C7h	UINT	899	16bit	1
C9.2.2.2	Word #1	0 to 9999	0	64h	0Fh	64h	INT	1400	s16bit	1
C9.2.2.3	Word #2	0 to 9999	0	64h	0Fh	65h	INT	1401	s16bit	1
C9.2.2.4	Word #3	0 to 9999	0	64h	0Fh	66h	INT	1402	s16bit	1
C9.2.2.5	Word #4	0 to 9999	0	64h	0Fh	67h	INT	1403	s16bit	1
C9.2.2.6	Word #5	0 to 9999	0	64h	0Fh	68h	INT	1404	s16bit	1
C9.2.2.7	Word #6	0 to 9999	0	64h	0Fh	69h	INT	1405	s16bit	1
C9.2.2.8	Word #7	0 to 9999	0	64h	0Fh	6Ah	INT	1406	s16bit	1
C9.2.2.9	Word #8	0 to 9999	0	64h	0Fh	6Bh	INT	1407	s16bit	1
C9.2.2.10	Word #9	0 to 9999	0	64h	0Fh	6Ch	INT	1408	s16bit	1
C9.2.2.11	Word #10	0 to 9999	0	64h	0Fh	6Dh	INT	1409	s16bit	1
C9.2.2.12	Word #11	0 to 9999	0	64h	0Fh	6Eh	INT	1410	s16bit	1
C9.2.2.13	Word #12	0 to 9999	0	64h	0Fh	6Fh	INT	1411	s16bit	1
C9.2.2.14	Word #13	0 to 9999	0	64h	0Fh	70h	INT	1412	s16bit	1
C9.2.2.15	Word #14	0 to 9999	0	64h	0Fh	71h	INT	1413	s16bit	1
C9.2.2.16	Word #15	0 to 9999	0	64h	0Fh	72h	INT	1414	s16bit	1
C9.2.2.17	Word #16	0 to 9999	0	64h	0Fh	73h	INT	1415	s16bit	1
C9.2.2.18	Word #17	0 to 9999	0	64h	0Fh	74h	INT	1416	s16bit	1
C9.2.2.19	Word #18	0 to 9999	0	64h	0Fh	75h	INT	1417	s16bit	1
C9.2.2.20	Word #19	0 to 9999	0	64h	0Fh	76h	INT	1418	s16bit	1
C9.2.2.21	Word #20	0 to 9999	0	64h	0Fh	77h	INT	1419	s16bit	1
C9.2.2.22	Word #21	0 to 9999	0	64h	0Fh	78h	INT	1420	s16bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
C9.2.2.23	Word #22	0 to 9999	0	64h	0Fh	79h	INT	1421	s16bit	1
C9.2.2.24	Word #23	0 to 9999	0	64h	0Fh	7Ah	INT	1422	s16bit	1
C9.2.2.25	Word #24	0 to 9999	0	64h	0Fh	7Bh	INT	1423	s16bit	1
C9.2.2.26	Word #25	0 to 9999	0	64h	0Fh	7Ch	INT	1424	s16bit	1
C9.2.2.27	Word #26	0 to 9999	0	64h	0Fh	7Dh	INT	1425	s16bit	1
C9.2.2.28	Word #27	0 to 9999	0	64h	0Fh	7Eh	INT	1426	s16bit	1
C9.2.2.29	Word #28	0 to 9999	0	64h	0Fh	7Fh	INT	1427	s16bit	1
C9.2.2.30	Word #29	0 to 9999	0	64h	0Fh	80h	INT	1428	s16bit	1
C9.2.2.31	Word #30	0 to 9999	0	64h	0Fh	81h	INT	1429	s16bit	1
C9.2.2.32	Word #31	0 to 9999	0	64h	0Fh	82h	INT	1430	s16bit	1
C9.2.2.33	Word #32	0 to 9999	0	64h	0Fh	83h	INT	1431	s16bit	1
C9.2.2.34	Word #33	0 to 9999	0	64h	0Fh	84h	INT	1432	s16bit	1
C9.2.2.35	Word #34	0 to 9999	0	64h	0Fh	85h	INT	1433	s16bit	1
C9.2.2.36	Word #35	0 to 9999	0	64h	0Fh	86h	INT	1434	s16bit	1
C9.2.2.37	Word #36	0 to 9999	0	64h	0Fh	87h	INT	1435	s16bit	1
C9.2.2.38	Word #37	0 to 9999	0	64h	0Fh	88h	INT	1436	s16bit	1
C9.2.2.39	Word #38	0 to 9999	0	64h	0Fh	89h	INT	1437	s16bit	1
C9.2.2.40	Word #39	0 to 9999	0	64h	0Fh	8Ah	INT	1438	s16bit	1
C9.2.2.41	Word #40	0 to 9999	0	64h	0Fh	8Bh	INT	1439	s16bit	1
C9.2.2.42	Word #41	0 to 9999	0	64h	0Fh	8Ch	INT	1440	s16bit	1
C9.2.2.43	Word #42	0 to 9999	0	64h	0Fh	8Dh	INT	1441	s16bit	1
C9.2.2.44	Word #43	0 to 9999	0	64h	0Fh	8Eh	INT	1442	s16bit	1
C9.2.2.45	Word #44	0 to 9999	0	64h	0Fh	8Fh	INT	1443	s16bit	1
C9.2.2.46	Word #45	0 to 9999	0	64h	0Fh	90h	INT	1444	s16bit	1
C9.2.2.47	Word #46	0 to 9999	0	64h	0Fh	91h	INT	1445	s16bit	1
C9.2.2.48	Word #47	0 to 9999	0	64h	0Fh	92h	INT	1446	s16bit	1
C9.2.2.49	Word #48	0 to 9999	0	64h	0Fh	93h	INT	1447	s16bit	1
C9.2.2.50	Word #49	0 to 9999	0	64h	0Fh	94h	INT	1448	s16bit	1
C9.2.2.51	Word #50	0 to 9999	0	64h	0Fh	95h	INT	1449	s16bit	1
C9.2.2.52	Word #51	0 to 9999	0	64h	0Fh	96h	INT	1450	s16bit	1
C9.2.2.53	Word #52	0 to 9999	0	64h	0Fh	97h	INT	1451	s16bit	1
C9.2.2.54	Word #53	0 to 9999	0	64h	0Fh	98h	INT	1452	s16bit	1
C9.2.2.55	Word #54	0 to 9999	0	64h	0Fh	99h	INT	1453	s16bit	1
C9.2.2.56	Word #55	0 to 9999	0	64h	0Fh	9Ah	INT	1454	s16bit	1
C9.2.2.57	Word #56	0 to 9999	0	64h	0Fh	9Bh	INT	1455	s16bit	1
C9.2.2.58	Word #57	0 to 9999	0	64h	0Fh	9Ch	INT	1456	s16bit	1
C9.2.2.59	Word #58	0 to 9999	0	64h	0Fh	9Dh	INT	1457	s16bit	1
C9.2.2.60	Word #59	0 to 9999	0	64h	0Fh	9Eh	INT	1458	s16bit	1
C9.2.2.61	Word #60	0 to 9999	0	64h	0Fh	9Fh	INT	1459	s16bit	1
C9.2.2.62	Word #61	0 to 9999	0	64h	0Fh	A0h	INT	1460	s16bit	1
C9.2.2.63	Word #62	0 to 9999	0	64h	0Fh	A1h	INT	1461	s16bit	1
C9.2.2.64	Word #63	0 to 9999	0	64h	0Fh	A2h	INT	1462	s16bit	1
C9.2.2.65	Word #64	0 to 9999	0	64h	0Fh	A3h	INT	1463	s16bit	1
C9.2.2.66	Word #65	0 to 9999	0	64h	0Fh	A4h	INT	1464	s16bit	1
C9.2.2.67	Word #66	0 to 9999	0	64h	0Fh	A5h	INT	1465	s16bit	1
C9.2.2.68	Word #67	0 to 9999	0	64h	0Fh	A6h	INT	1466	s16bit	1
C9.2.2.69	Word #68	0 to 9999	0	64h	0Fh	A7h	INT	1467	s16bit	1
C9.2.2.70	Word #69	0 to 9999	0	64h	0Fh	A8h	INT	1468	s16bit	1
C9.2.2.71	Word #70	0 to 9999	0	64h	0Fh	A9h	INT	1469	s16bit	1
C9.2.2.72	Word #71	0 to 9999	0	64h	0Fh	AAh	INT	1470	s16bit	1
C9.2.2.73	Word #72	0 to 9999	0	64h	0Fh	ABh	INT	1471	s16bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
C9.2.2.74	Word #73	0 to 9999	0	64h	0Fh	ACh	INT	1472	s16bit	1
C9.2.2.75	Word #74	0 to 9999	0	64h	0Fh	ADh	INT	1473	s16bit	1
C9.2.2.76	Word #75	0 to 9999	0	64h	0Fh	AEh	INT	1474	s16bit	1
C9.2.2.77	Word #76	0 to 9999	0	64h	0Fh	AFh	INT	1475	s16bit	1
C9.2.2.78	Word #77	0 to 9999	0	64h	0Fh	B0h	INT	1476	s16bit	1
C9.2.2.79	Word #78	0 to 9999	0	64h	0Fh	B1h	INT	1477	s16bit	1
C9.2.2.80	Word #79	0 to 9999	0	64h	0Fh	B2h	INT	1478	s16bit	1
C9.2.2.81	Word #80	0 to 9999	0	64h	0Fh	B3h	INT	1479	s16bit	1
C9.2.2.82	Word #81	0 to 9999	0	64h	0Fh	B4h	INT	1480	s16bit	1
C9.2.2.83	Word #82	0 to 9999	0	64h	0Fh	B5h	INT	1481	s16bit	1
C9.2.2.84	Word #83	0 to 9999	0	64h	0Fh	B6h	INT	1482	s16bit	1
C9.2.2.85	Word #84	0 to 9999	0	64h	0Fh	B7h	INT	1483	s16bit	1
C9.2.2.86	Word #85	0 to 9999	0	64h	0Fh	B8h	INT	1484	s16bit	1
C9.2.2.87	Word #86	0 to 9999	0	64h	0Fh	B9h	INT	1485	s16bit	1
C9.2.2.88	Word #87	0 to 9999	0	64h	0Fh	BAh	INT	1486	s16bit	1
C9.2.2.89	Word #88	0 to 9999	0	64h	0Fh	BBh	INT	1487	s16bit	1
C9.2.2.90	Word #89	0 to 9999	0	64h	0Fh	BCh	INT	1488	s16bit	1
C9.2.2.91	Word #90	0 to 9999	0	64h	0Fh	BDh	INT	1489	s16bit	1
C9.2.2.92	Word #91	0 to 9999	0	64h	0Fh	BEh	INT	1490	s16bit	1
C9.2.2.93	Word #92	0 to 9999	0	64h	0Fh	BFh	INT	1491	s16bit	1
C9.2.2.94	Word #93	0 to 9999	0	64h	0Fh	C0h	INT	1492	s16bit	1
C9.2.2.95	Word #94	0 to 9999	0	64h	0Fh	C1h	INT	1493	s16bit	1
C9.2.2.96	Word #95	0 to 9999	0	64h	0Fh	C2h	INT	1494	s16bit	1
C9.2.2.97	Word #96	0 to 9999	0	64h	0Fh	C3h	INT	1495	s16bit	1
C9.2.2.98	Word #97	0 to 9999	0	64h	0Fh	C4h	INT	1496	s16bit	1
C9.2.2.99	Word #98	0 to 9999	0	64h	0Fh	C5h	INT	1497	s16bit	1
C9.2.2.100	Word #99	0 to 9999	0	64h	0Fh	C6h	INT	1498	s16bit	1
C9.2.2.101	Word #100	0 to 9999	0	64h	0Fh	C7h	INT	1499	s16bit	1
C9.3	Serial RS485									
C9.3.1	Protocol	0 ... 1 = Not used 2 = Modbus RTU	-	64h	08h	82h	USINT	730	enum	1
C9.3.2	Address	1 to 247	0	64h	08h	83h	USINT	731	8bit	1
C9.3.3	Baud Rate	0 = 9600 bit/s 1 = 19200 bit/s 2 = 38400 bit/s 3 = 57600 bit/s	-	64h	08h	84h	USINT	732	enum	1
C9.3.4	Bytes Configuration	0 = 8-bits, no, 1 1 = 8-bits, even, 1 2 = 8-bits, odd, 1 3 = 8-bits, no, 2 4 = 8-bits, even, 2 5 = 8-bits, odd, 2	-	64h	08h	85h	USINT	733	enum	1
C9.3.5	RS485 Timeout	0.0 to 999.0 s	1	64h	08h	86h	UINT	734	16bit	1
C9.4	Ethernet									
C9.4.1	IP Address Settings	0 = Parameters 1 = DHCP	-	64h	09h	96h	USINT	850	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
C9.4.2	IP Address	0.0.0.0 to 255.255.255.255	-	64h	09h	98h	UDINT	852	STRING	2
C9.4.3	Network Mask	0 = Not used 1 = 128.0.0.0 2 = 192.0.0.0 3 = 224.0.0.0 4 = 240.0.0.0 5 = 248.0.0.0 6 = 252.0.0.0 7 = 254.0.0.0 8 = 255.0.0.0 9 = 255.128.0.0 10 = 255.192.0.0 11 = 255.224.0.0 12 = 255.240.0.0 13 = 255.248.0.0 14 = 255.252.0.0 15 = 255.254.0.0 16 = 255.255.0.0 17 = 255.255.128.0 18 = 255.255.192.0 19 = 255.255.224.0 20 = 255.255.240.0 21 = 255.255.248.0 22 = 255.255.252.0 23 = 255.255.254.0 24 = 255.255.255.0 25 = 255.255.255.128 26 = 255.255.255.192 27 = 255.255.255.224 28 = 255.255.255.240 29 = 255.255.255.248 30 = 255.255.255.252 31 = 255.255.255.254	-	64h	09h	9Bh	USINT	855	enum	1
C9.4.4	Gateway	0.0.0.0 to 255.255.255.255	-	64h	09h	9Ch	UDINT	856	STRING	2
C9.4.5	SNTP - Server 1	0.0.0.0 to 255.255.255.255	-	64h	08h	AAh	UDINT	770	STRING	2
C9.4.6	SNTP - Server 2	0.0.0.0 to 255.255.255.255	-	64h	08h	AEh	UDINT	774	STRING	2
C9.4.7	SNTP - Update	0 to 65535	0	64h	08h	B3h	UINT	779	16bit	1
C9.4.8	Enable protocols	Bit 0 = Web Server Bit 1 ... 2 = Not used	-	64h	08h	C6h	WORD	798	3bit	1
C9.5	EtherNet/IP									
C9.5.1	EtherNet/IP I/O Instances	0 = 20/70 CIP 1 = 21/71 CIP 2 ... 3 = Not used 4 = 120/170 CIP + I/O data 5 = 121/171 CIP + I/O data 6 ... 7 = Not used 8 = 100/150 Manuf. + I/O data	-	64h	09h	ABh	USINT	871	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		9 = 101/151 Manuf. + I/O data 10 = 102/152 Config I/O data								
C9.5.2	Readings 1st Word	1 to 100	0	64h	09h	ACh	INT	872	s16bit	1
C9.5.3	Readings Quantity	0 to 50	0	64h	09h	ADh	INT	873	s16bit	1
C9.5.4	Writings 1st Word	1 to 100	0	64h	09h	AEh	INT	874	s16bit	1
C9.5.5	Writings Quantity	0 to 50	0	64h	09h	AFh	INT	875	s16bit	1
C9.6	Modbus TCP									
C9.6.1	TCP Port	0 to 65535	0	64h	09h	A5h	UINT	865	16bit	1
C9.6.3	Timeout	0.0 to 999.0 s	1	64h	09h	A8h	UINT	868	16bit	1
C9.7	Anybus									
C9.7.1	Readings 1st Word	1 to 100	0	64h	08h	99h	USINT	753	8bit	1
C9.7.2	Readings Quantity	2 to 50	0	64h	08h	9Ah	USINT	754	8bit	1
C9.7.3	Writings 1st Word	1 to 100	0	64h	08h	9Bh	USINT	755	8bit	1
C9.7.4	Writings Quantity	2 to 50	0	64h	08h	9Ch	USINT	756	8bit	1
C9.7.5	Address	0 to 255	0	64h	08h	9Dh	UINT	757	16bit	1
C9.7.8	IP Address Settings	0 = Parameters 1 = DHCP	-	64h	08h	A0h	USINT	760	enum	1
C9.7.9	IP Address	0.0.0.0 to 255.255.255.255	-	64h	08h	A2h	UDINT	762	STRING	2
C9.7.10	CIDR Subnet	0 = Not used 1 = 128.0.0.0 2 = 192.0.0.0 3 = 224.0.0.0 4 = 240.0.0.0 5 = 248.0.0.0 6 = 252.0.0.0 7 = 254.0.0.0 8 = 255.0.0.0 9 = 255.128.0.0 10 = 255.192.0.0 11 = 255.224.0.0 12 = 255.240.0.0 13 = 255.248.0.0 14 = 255.252.0.0 15 = 255.254.0.0 16 = 255.255.0.0 17 = 255.255.128.0 18 = 255.255.192.0 19 = 255.255.224.0 20 = 255.255.240.0 21 = 255.255.248.0 22 = 255.255.252.0 23 = 255.255.254.0 24 = 255.255.255.0 25 = 255.255.255.128 26 = 255.255.255.192 27 = 255.255.255.224 28 = 255.255.255.240 29 = 255.255.255.248	-	64h	08h	A1h	USINT	761	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		30 = 255.255.255.252 31 = 255.255.255.254								
C9.7.11	Gateway	0.0.0.0 to 255.255.255.255	-	64h	08h	A6h	UDINT	766	STRING	2
C9.8	CAN/CANopen/DNet									
C9.8.1	Protocol	0 = Disabled 1 = CANopen 2 = DeviceNet	-	64h	08h	64h	USINT	700	enum	1
C9.8.2	Address	0 to 127	0	64h	08h	65h	UINT	701	16bit	1
C9.8.3	Baud Rate	0 = 1 Mbps/Auto 1 = Not used/Auto 2 = 500 Kbps 3 = 250 Kbps 4 = 125 Kbps 5 = 100 Kbps/Auto	-	64h	08h	66h	USINT	702	enum	1
C9.8.4	Bus Off Reset	0 = Manual 1 = Automatic	-	64h	08h	67h	USINT	703	enum	1
C9.8.5	DeviceNet I/O Instances	0 = 20/70 CIP 1 = 21/71 CIP 2 ... 3 = Not used 4 = 120/170 CIP + I/O data 5 = 121/171 CIP + I/O data 6 ... 7 = Not used 8 = 100/150 Manuf. + I/O data 9 = 101/151 Manuf. + I/O data 10 = 102/152 Config I/O data	-	64h	08h	6Eh	USINT	710	enum	1
C9.8.6	DNet Reading 1st Word	1 to 100	0	64h	08h	70h	INT	712	s16bit	1
C9.8.7	DNet Reading Quantity	0 to 50	0	64h	08h	71h	INT	713	s16bit	1
C9.8.8	DNet Writing 1st Word	1 to 100	0	64h	08h	72h	INT	714	s16bit	1
C9.8.9	DNet Writing Quantity	0 to 50	0	64h	08h	73h	INT	715	s16bit	1
C9.9	Bluetooth									
C9.9.1	Mode	0 = Inactive 1 = Active	-	64h	09h	64h	USINT	800	enum	1
C9.9.2	PIN	6 to 6	0	64h	09h	68h	NONE	804	NONE	0
C9.9.3	Device Name	1 to 15	0	64h	09h	6Ch	NONE	808	NONE	0
C9.10	SymbiNet									
C9.10.1	Enable Protocol	0 = Disable 1 = Enable	-	64h	0Bh	A0h	USINT	1060	enum	1
C9.10.2	Publication Time	2 to 100 ms	0	64h	0Bh	A1h	UINT	1061	16bit	1
C9.10.3	Grp1: Source Addr.	0 to 254	0	64h	0Bh	A8h	UINT	1068	16bit	1
C9.10.4	Grp1: Source Reg.	0 to 65535	0	64h	0Bh	A9h	UINT	1069	16bit	1
C9.10.5	Grp1: Dest. Reg.	0 to 65535	0	64h	0Bh	AAh	UINT	1070	16bit	1
C9.10.6	Grp1: Num. of Registers	0 to 8	0	64h	0Bh	ABh	UINT	1071	16bit	1
C9.10.7	Grp2: Source Addr.	0 to 254	0	64h	0Bh	ACh	UINT	1072	16bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
C9.10.8	Grp2: Source Reg.	0 to 65535	0	64h	0Bh	ADh	UINT	1073	16bit	1
C9.10.9	Grp2: Dest. Reg.	0 to 65535	0	64h	0Bh	AEh	UINT	1074	16bit	1
C9.10.10	Grp2: Num. of Registers	0 to 8	0	64h	0Bh	AFh	UINT	1075	16bit	1
C9.10.11	Grp3: Source Addr.	0 to 254	0	64h	0Bh	B0h	UINT	1076	16bit	1
C9.10.12	Grp3: Source Reg.	0 to 65535	0	64h	0Bh	B1h	UINT	1077	16bit	1
C9.10.13	Grp3: Dest. Reg.	0 to 65535	0	64h	0Bh	B2h	UINT	1078	16bit	1
C9.10.14	Grp3: Num. of Registers	0 to 8	0	64h	0Bh	B3h	UINT	1079	16bit	1
C9.10.15	Grp4: Source Addr.	0 to 254	0	64h	0Bh	B4h	UINT	1080	16bit	1
C9.10.16	Grp4: Source Reg.	0 to 65535	0	64h	0Bh	B5h	UINT	1081	16bit	1
C9.10.17	Grp4: Dest. Reg.	0 to 65535	0	64h	0Bh	B6h	UINT	1082	16bit	1
C9.10.18	Grp4: Num. of Registers	0 to 8	0	64h	0Bh	B7h	UINT	1083	16bit	1
C9.10.19	Grp5: Source Addr.	0 to 254	0	64h	0Bh	B8h	UINT	1084	16bit	1
C9.10.20	Grp5: Source Reg.	0 to 65535	0	64h	0Bh	B9h	UINT	1085	16bit	1
C9.10.21	Grp5: Dest. Reg.	0 to 65535	0	64h	0Bh	BAh	UINT	1086	16bit	1
C9.10.22	Grp5: Num. of Registers	0 to 8	0	64h	0Bh	BBh	UINT	1087	16bit	1
C9.10.23	Grp6: Source Addr.	0 to 254	0	64h	0Bh	BCh	UINT	1088	16bit	1
C9.10.24	Grp6: Source Reg.	0 to 65535	0	64h	0Bh	BDh	UINT	1089	16bit	1
C9.10.25	Grp6: Dest. Reg.	0 to 65535	0	64h	0Bh	BEh	UINT	1090	16bit	1
C9.10.26	Grp6: Num. of Registers	0 to 8	0	64h	0Bh	BFh	UINT	1091	16bit	1
C9.10.27	Grp7: Source Addr.	0 to 254	0	64h	0Bh	C0h	UINT	1092	16bit	1
C9.10.28	Grp7: Source Reg.	0 to 65535	0	64h	0Bh	C1h	UINT	1093	16bit	1
C9.10.29	Grp7: Dest. Reg.	0 to 65535	0	64h	0Bh	C2h	UINT	1094	16bit	1
C9.10.30	Grp7: Num. of Registers	0 to 8	0	64h	0Bh	C3h	UINT	1095	16bit	1
C9.10.31	Grp8: Source Addr.	0 to 254	0	64h	0Bh	C4h	UINT	1096	16bit	1
C9.10.32	Grp8: Source Reg.	0 to 65535	0	64h	0Bh	C5h	UINT	1097	16bit	1
C9.10.33	Grp8: Dest. Reg.	0 to 65535	0	64h	0Bh	C6h	UINT	1098	16bit	1
C9.10.34	Grp8: Num. of Registers	0 to 8	0	64h	0Bh	C7h	UINT	1099	16bit	1
C10 Configurations\SoftPLC										
C10.1	Configuration									
C10.1.1	Command	0 = Stop 1 = Run 2 ... 4 = Not used 5 = Erase	-	64h	34h	64h	USINT	5100	enum	1
C10.1.2	Active Application	0 = User Application 1 1 = User Application 2 2 ... 6 = Not used	-	64h	34h	65h	USINT	5101	enum	1
C10.1.3	Application Stopped Action	0 = Inactive 1 = Generate Alarm 2 = Trip Fault	-	64h	34h	66h	USINT	5102	enum	1
C10.2	Engineering Unit									
C10.2.1	Engineering Unit 1	0 = No Unit 1 = A 2 = bar 3 = °C 4 = CPM 5 = CV	-	64h	34h	78h	USINT	5120	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		6 = ft³ 7 = ft³/h 8 = ft³/min 9 = ft³/s 10 = m³ 11 = m³/h 12 = m³/min 13 = m³/s 14 = °F 15 = ft 16 = ft/h 17 = ft/min 18 = ft/s 19 = gal 20 = gal/h 21 = gal/min 22 = gal/s 23 = H 24 = Hz 25 = HP 26 = h 27 = in 28 = InWC 29 = K 30 = kg 31 = kgf 32 = kgf/cm² 33 = kgf/m² 34 = kl/h 35 = kPa 36 = kW 37 = kWh 38 = l 39 = l/h 40 = l/min 41 = l/s 42 = lbf 43 = mA 44 = mca 45 = m 46 = m/h 47 = m/min 48 = m/s 49 = mbar 50 = ms 51 = min 52 = MPa 53 = mwc 54 = N 55 = Nm 56 = Pa								

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		57 = % 58 = psi 59 = rpm 60 = s 61 = V 62 = W 63 = W/m² 64 = Wh/m²								
C10.2.2	Dec. Point Eng. Unit 1	0 to 3	0	64h	34h	79h	USINT	5121	8bit	1
C10.2.3	Engineering Unit 2	0 = No Unit 1 = A 2 = bar 3 = °C 4 = CPM 5 = CV 6 = ft³ 7 = ft³/h 8 = ft³/min 9 = ft³/s 10 = m³ 11 = m³/h 12 = m³/min 13 = m³/s 14 = °F 15 = ft 16 = ft/h 17 = ft/min 18 = ft/s 19 = gal 20 = gal/h 21 = gal/min 22 = gal/s 23 = H 24 = Hz 25 = HP 26 = h 27 = in 28 = InWC 29 = K 30 = kg 31 = kgf 32 = kgf/cm² 33 = kgf/m² 34 = kl/h 35 = kPa 36 = kW 37 = kWh 38 = l 39 = l/h 40 = l/min	-	64h	34h	7Ah	USINT	5122	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		41 = l/s 42 = lbf 43 = mA 44 = mca 45 = m 46 = m/h 47 = m/min 48 = m/s 49 = mbar 50 = ms 51 = min 52 = MPa 53 = mwc 54 = N 55 = Nm 56 = Pa 57 = % 58 = psi 59 = rpm 60 = s 61 = V 62 = W 63 = W/m² 64 = Wh/m²								
C10.2.4	Dec. Point Eng. Unit 2	0 to 3	0	64h	34h	7Bh	USINT	5123	8bit	1
C10.2.5	Engineering Unit 3	0 = No Unit 1 = A 2 = bar 3 = °C 4 = CPM 5 = CV 6 = ft³ 7 = ft³/h 8 = ft³/min 9 = ft³/s 10 = m³ 11 = m³/h 12 = m³/min 13 = m³/s 14 = °F 15 = ft 16 = ft/h 17 = ft/min 18 = ft/s 19 = gal 20 = gal/h 21 = gal/min 22 = gal/s 23 = H 24 = Hz	-	64h	34h	7Ch	USINT	5124	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		25 = HP 26 = h 27 = in 28 = InWC 29 = K 30 = kg 31 = kgf 32 = kgf/cm² 33 = kgf/m² 34 = kl/h 35 = kPa 36 = kW 37 = kWh 38 = l 39 = l/h 40 = l/min 41 = l/s 42 = lbf 43 = mA 44 = mca 45 = m 46 = m/h 47 = m/min 48 = m/s 49 = mbar 50 = ms 51 = min 52 = MPa 53 = mwc 54 = N 55 = Nm 56 = Pa 57 = % 58 = psi 59 = rpm 60 = s 61 = V 62 = W 63 = W/m² 64 = Wh/m²								
C10.2.6	Dec. Point Eng. Unit 3	0 to 3	0	64h	34h	7Dh	USINT	5125	8bit	1
C10.2.7	Engineering Unit 4	0 = No Unit 1 = A 2 = bar 3 = °C 4 = CPM 5 = CV 6 = ft³ 7 = ft³/h 8 = ft³/min	-	64h	34h	7Eh	USINT	5126	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		9 = ft³/s 10 = m³ 11 = m³/h 12 = m³/min 13 = m³/s 14 = °F 15 = ft 16 = ft/h 17 = ft/min 18 = ft/s 19 = gal 20 = gal/h 21 = gal/min 22 = gal/s 23 = H 24 = Hz 25 = HP 26 = h 27 = in 28 = InWC 29 = K 30 = kg 31 = kgf 32 = kgf/cm² 33 = kgf/m² 34 = kl/h 35 = kPa 36 = kW 37 = kWh 38 = l 39 = l/h 40 = l/min 41 = l/s 42 = lbf 43 = mA 44 = mca 45 = m 46 = m/h 47 = m/min 48 = m/s 49 = mbar 50 = ms 51 = min 52 = MPa 53 = mwc 54 = N 55 = Nm 56 = Pa 57 = % 58 = psi 59 = rpm								

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		60 = s 61 = V 62 = W 63 = W/m² 64 = Wh/m²								
C10.2.8	Dec. Point Eng. Unit 4	0 to 3	0	64h	34h	7Fh	USINT	5127	8bit	1
			C11 Configurations\HMI							
C11.1	Configuration									
C11.1.1	Time Zone	0 = UTC-12:00 1 = UTC-11:30 2 = UTC-11:00 3 = UTC-10:30 4 = UTC-10:00 5 = UTC-09:30 6 = UTC-09:00 7 = UTC-08:30 8 = UTC-08:00 9 = UTC-07:30 10 = UTC-07:00 11 = UTC-06:30 12 = UTC-06:00 13 = UTC-05:30 14 = UTC-05:00 15 = UTC-04:30 16 = UTC-04:00 17 = UTC-03:30 18 = UTC-03:00 19 = UTC-02:30 20 = UTC-02:00 21 = UTC-01:30 22 = UTC-01:00 23 = UTC-00:30 24 = UTC+00:00 25 = UTC+00:30 26 = UTC+01:00 27 = UTC+01:30 28 = UTC+02:00 29 = UTC+02:30 30 = UTC+03:00 31 = UTC+03:30 32 = UTC+04:00 33 = UTC+04:30 34 = UTC+05:00 35 = UTC+05:30 36 = UTC+06:00 37 = UTC+06:30 38 = UTC+07:00 39 = UTC+07:30 40 = UTC+08:00 41 = UTC+08:30	-	64h	02h	C4h	USINT	196	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		42 = UTC+09:00 43 = UTC+09:30 44 = UTC+10:00 45 = UTC+10:30 46 = UTC+11:00 47 = UTC+11:30 48 = UTC+12:00 49 = UTC+12:30 50 = UTC+13:00 51 = UTC+13:30 52 = UTC+14:00								
C11.1.2	Date/Hour	0 to 2147483647	0	64h	02h	C2h	UDINT	194	NONE	2
C11.1.3	Language	0 = Português 1 = English 2 = Español 3 = Deutsch 4 = Français 5 = Italiano 6 = Nederlands	-	64h	03h	65h	USINT	201	enum	1
C11.1.4	Display Brightness	0 to 100 %	0	64h	03h	74h	UINT	216	16bit	1
C11.1.5	Contrast	0 to 100 %	0	64h	03h	75h	UINT	217	16bit	1
C11.1.6	Inc./Dec. Parameter	0 = Disabled 1 = Speed Ref. via HMI 2 = Torque Reference via HMI 3 = PID Setpoint 4 ... 10 = Not used 11 = User Parameter 1 12 = User Parameter 2 13 = User Parameter 3 14 = User Parameter 4 15 = User Parameter 5 16 = User Parameter 6 17 = User Parameter 7 18 = User Parameter 8 19 = User Parameter 9 20 = User Parameter 10	-	64h	03h	76h	USINT	218	enum	1
C11.2	Main Screen									
C11.3	User									
C11.3.1	Login									
C11.3.2	Change password									
C12 Configurations\Backup										
C12.1	Load Parameters	0 = Not Used 1 = Default 60 Hz 2 = Default 50 Hz 3 = Param. Set 1 -> CFW 4 = Param. Set 2 -> CFW	-	64h	03h	68h	USINT	204	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		5 = Param. Set 3 -> CFW 6 = CFW -> Param. Set 1 7 = CFW -> Param. Set 2 8 = CFW -> Param. Set 3 9 = SD Card -> CFW 10 = CFW -> SD Card 11 = HMI -> CFW 12 = CFW -> HMI								
A1 Application\User Parameters A2 Application\PID Controller										
A2.1	Monitoring									
A2.1.1	Setpoint	-32768 to 32767	0	64h	06h	68h	INT	504	s16bit	1
A2.1.3	Process Variable	-32768 to 32767	0	64h	06h	66h	INT	502	s16bit	1
A2.1.5	Controller Output	0 to 60000 rpm	0	64h	06h	6Bh	UINT	507	16bit	1
A2.1.6	Logical Status	Bit 0 = Operation State Bit 1 = Sleep Mode Bit 2 = Automatic Mode Bit 3 = PV Low Level Alarm Bit 4 = PV Low Level Fault Bit 5 = PV High Level Alarm Bit 6 = PV High Level Fault	-	64h	06h	6Dh	WORD	509	7bit	1
A2.2	Regulation									
A2.2.1	Setpoint									
A2.2.1.1	Automatic Mode	-32768 to 32767	0	64h	06h	6Fh	INT	511	s16bit	1
A2.2.1.2	Manual Mode	0 to 60000 rpm	0	64h	06h	7Dh	UINT	525	16bit	1
A2.2.1.3	Filter	0.000 to 9.999 s	3	64h	06h	86h	UINT	534	16bit	1
A2.2.2	Gains									
A2.2.2.1	Proportional	0.00 to 99.99	2	64h	06h	78h	UINT	520	16bit	1
A2.2.2.2	Integral	0.00 to 99.99	2	64h	06h	79h	UINT	521	16bit	1
A2.2.2.3	Derivative	0.00 to 99.99	2	64h	06h	7Ah	UINT	522	16bit	1
A2.3	Configuration									
A2.3.1	Control									
A2.3.1.1	Action Control Selection	0 = Direct 1 = Reverse	-	64h	06h	7Fh	USINT	527	enum	1
A2.3.1.2	Sampling Period	0.050 to 9.999 s	3	64h	06h	7Bh	UINT	523	16bit	1
A2.3.2	Setpoint									
A2.3.2.1	Source Selection	0 = Parameter 1 = Analog Input 2 = Not used	-	64h	06h	80h	USINT	528	enum	1
A2.3.3	Process Variable									
A2.3.3.1	Source Selection	0 = Analog Input 1 = Not used 2 = AI Differential	-	64h	06h	7Ch	USINT	524	enum	1
A2.3.3.2	Unit	1 to 7	0	64h	06h	A4h	NONE	564	NONE	0

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
A2.3.3.3	Decimal Places	0 = wxyz 1 = wxy.z 2 = wx.yz 3 = w.xyz	-	64h	06h	A8h	USINT	568	enum	1
A2.3.3.4	Minimum Level	-32768 to 32767	0	64h	06h	88h	INT	536	s16bit	1
A2.3.3.5	Maximum Level	-32768 to 32767	0	64h	06h	8Ah	INT	538	s16bit	1
A2.3.4	Operating Mode									
A2.3.4.1	MAN/AUTO Source	0 = Parameter 1 = Selection via DI	-	64h	06h	83h	USINT	531	enum	1
A2.3.4.2	MAN/AUTO Selection	0 = Manual 1 = Automatic	-	64h	06h	84h	USINT	532	enum	1
A2.3.4.3	SP Automatic Setting	0 = Both SP Inactive 1 = Active Automatic SP 2 = Active Manual SP 3 = Both SP Active	-	64h	06h	85h	USINT	533	enum	1
A2.3.5	Command Sources									
A2.3.5.1	AI for Setpoint	0 = Inactive 1 = AI X-1 2 = AI X-2 3 = AI A-1 4 = AI A-2 5 = AI A-3 6 = Not used 7 = AI B-1 8 = AI B-2 9 = AI B-3 10 = Not used 11 = AI C-1 12 = AI C-2 13 = AI C-3 14 = Not used 15 = AI D-1 16 = AI D-2 17 = AI D-3 18 = Not used 19 = AI E-1 20 = AI E-2 21 = AI E-3 22 = Not used 23 = AI F-1 24 = AI F-2 25 = AI F-3 26 = Not used 27 = AI G-1 28 = AI G-2	-	64h	06h	97h	USINT	551	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		29 = AI G-3 30 = Not used								
A2.3.5.3	AI for Process Var. 1	0 = Inactive 1 = AI X-1 2 = AI X-2 3 = AI A-1 4 = AI A-2 5 = AI A-3 6 = Not used 7 = AI B-1 8 = AI B-2 9 = AI B-3 10 = Not used 11 = AI C-1 12 = AI C-2 13 = AI C-3 14 = Not used 15 = AI D-1 16 = AI D-2 17 = AI D-3 18 = Not used 19 = AI E-1 20 = AI E-2 21 = AI E-3 22 = Not used 23 = AI F-1 24 = AI F-2 25 = AI F-3 26 = Not used 27 = AI G-1 28 = AI G-2 29 = AI G-3 30 = Not used	-	64h	06h	99h	USINT	553	enum	1
A2.3.5.4	AI for Process Var. 2	0 = Inactive 1 = AI X-1 2 = AI X-2 3 = AI A-1 4 = AI A-2 5 = AI A-3 6 = Not used 7 = AI B-1 8 = AI B-2 9 = AI B-3 10 = Not used 11 = AI C-1 12 = AI C-2 13 = AI C-3 14 = Not used 15 = AI D-1	-	64h	06h	9Ah	USINT	554	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		16 = AI D-2 17 = AI D-3 18 = Not used 19 = AI E-1 20 = AI E-2 21 = AI E-3 22 = Not used 23 = AI F-1 24 = AI F-2 25 = AI F-3 26 = Not used 27 = AI G-1 28 = AI G-2 29 = AI G-3 30 = Not used								
A2.3.5.6	DI for Manual/Automatic	0 = Inactive 1 = DI X-1 2 = DI X-2 3 = DI X-3 4 = DI X-4 5 = DI X-5 6 = DI X-6 7 = DI A-1 8 = DI A-2 9 = DI A-3 10 = DI A-4 11 = DI A-5 12 = DI A-6 13 = DI A-7 14 = DI A-8 15 = DI B-1 16 = DI B-2 17 = DI B-3 18 = DI B-4 19 = DI B-5 20 = DI B-6 21 = DI B-7 22 = DI B-8 23 = DI C-1 24 = DI C-2 25 = DI C-3 26 = DI C-4 27 = DI C-5 28 = DI C-6 29 = DI C-7 30 = DI C-8 31 = DI D-1 32 = DI D-2 33 = DI D-3 34 = DI D-4	-	64h	06h	9Ch	USINT	556	enum	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
		35 = DI D-5 36 = DI D-6 37 = DI D-7 38 = DI D-8 39 = DI E-1 40 = DI E-2 41 = DI E-3 42 = DI E-4 43 = DI E-5 44 = DI E-6 45 = DI E-7 46 = DI E-8 47 = DI F-1 48 = DI F-2 49 = DI F-3 50 = DI F-4 51 = DI F-5 52 = DI F-6 53 = DI F-7 54 = DI F-8 55 = DI G-1 56 = DI G-2 57 = DI G-3 58 = DI G-4 59 = DI G-5 60 = DI G-6 61 = DI G-7 62 = DI G-8								
A2.3.6	Faults and Alarms									
A2.3.6.1	Config. for PV Low Level	0 = Inactive 1 = Alarm 2 = Fault 3 = Alarm and Fault	-	64h	06h	8Fh	USINT	543	enum	1
A2.3.6.2	Value for PV Low Level	-32768 to 32767	0	64h	06h	90h	INT	544	s16bit	1
A2.3.6.3	Time for PV Low Level	0.0 to 999.9 s	1	64h	06h	91h	UINT	545	16bit	1
A2.3.6.4	Config. for PV High Level	0 = Inactive 1 = Alarm 2 = Fault 3 = Alarm and Fault	-	64h	06h	8Ch	USINT	540	enum	1
A2.3.6.5	Value for PV High Level	-32768 to 32767	0	64h	06h	8Dh	INT	541	s16bit	1
A2.3.6.6	Time for PV High Level	0.0 to 999.9 s	1	64h	06h	8Eh	UINT	542	16bit	1
A2.3.7	Sleep Mode									
A2.3.7.1	Sleep Mode Config.	0 = Disabled 1 = Enabled	-	64h	06h	92h	USINT	546	enum	1
A2.3.7.2	PV Deviation to Wake up	-32768 to 32767	0	64h	06h	93h	INT	547	s16bit	1
A2.3.7.3	Time to Wake Up	0.0 to 999.9 s	1	64h	06h	94h	UINT	548	16bit	1
A2.3.7.4	Speed for Sleep Mode	0 to 60000 rpm	0	64h	06h	95h	UINT	549	16bit	1

Parameter	Description	Range of values	Decimal places	Class	Instance	Attribute	CIP data type	Net Id	Size	Qty words mapped
A2.3.7.5	Time for Sleep Mode	0.0 to 999.9 s	1	64h	06h	96h	UINT	550	16bit	1

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