Motors

Automation

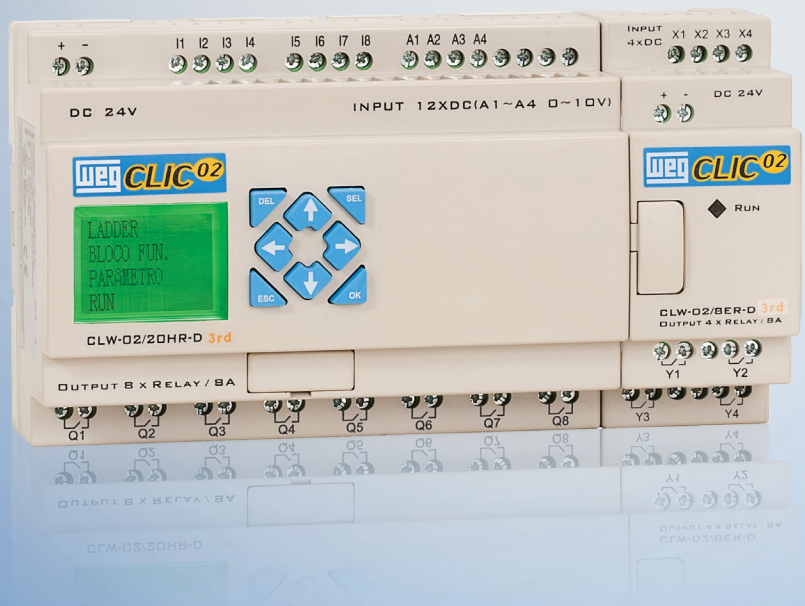
Energy

Transmission and Distribution

Coatings

CLIC02 - PROGRAMMABLE RELAY

Excellent cost-benefit solution suitable for basic and general purpose applications



Driving efficiency and sustainability

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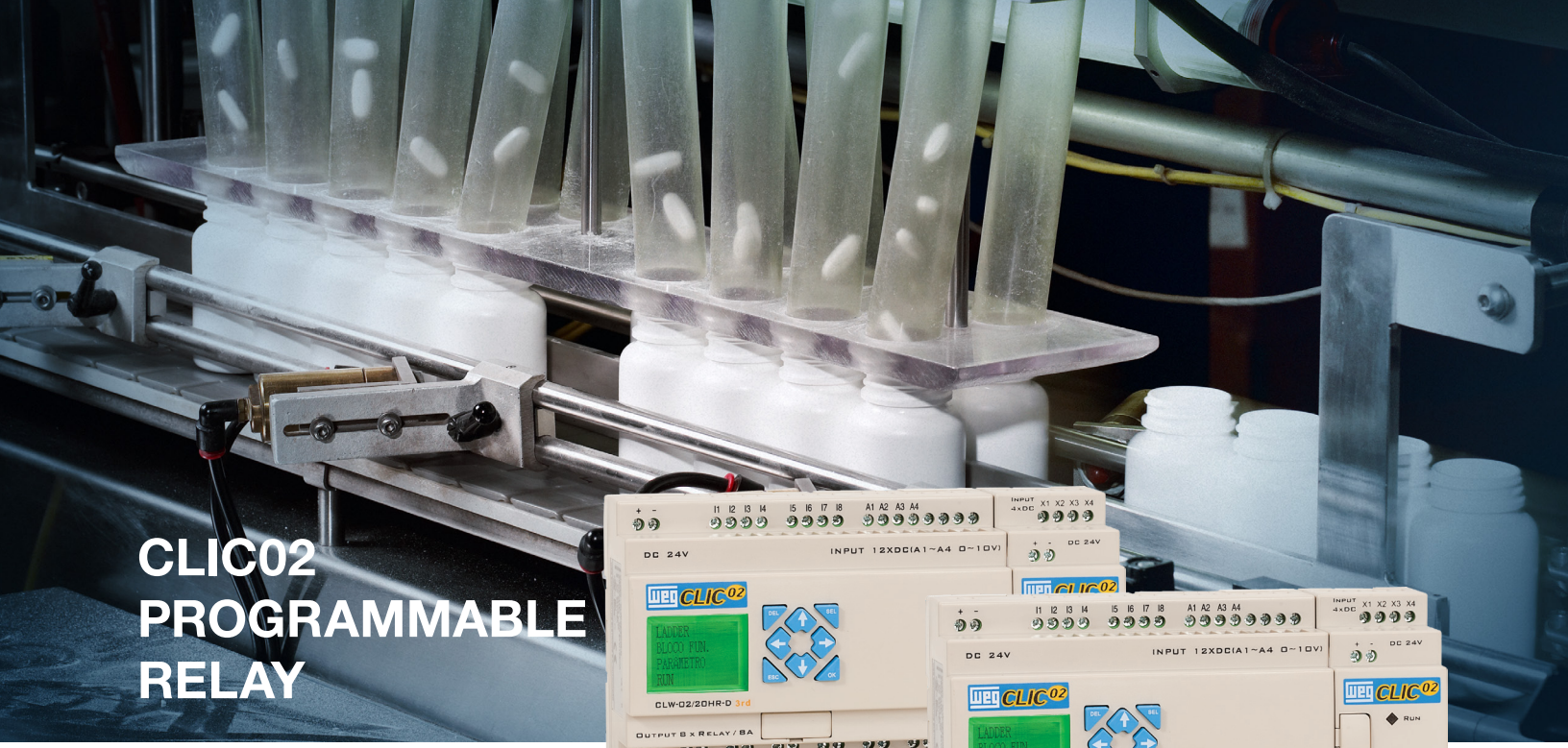


CLIC02 PROGRAMMABLE RELAY

It is a device conceived for ***small to medium-sized applications*** in interlocking, timing, counting and basic math operation tasks, with the advantage of replacing auxiliary contactors, timers and electromechanical counters, ***reducing space and significantly simplifying*** maintenance jobs.

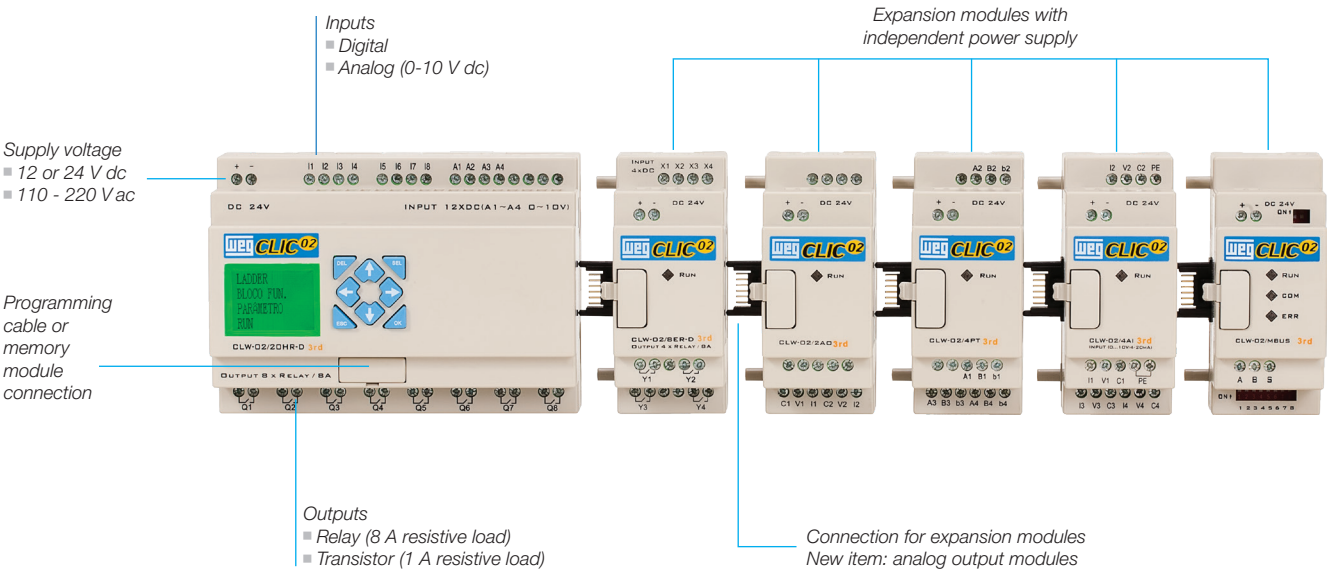
The CLIC02 3rd has PID control, arithmetical functions (addition, subtraction, multiplication and division), greater programming capacity, a greater number of expansions and timers, markers, counters, in addition to the possibility of being master of a Modbus communication network.

Characteristics

- 12 V dc, 24 V dc or 110-220 V ac (50/60 Hz) voltage supply
- Basic units available with 10, 12 and 20 digital input and output points and 2 or 4 analog input points (0-10 V dc/12 bits)
- Digital (relay or transistor), analog or Pt100 input and output expansion modules
- Digital relay (8 A for resistive loads) or transistor (1 A for resistive loads) outputs
- Maximum configuration of up to 44 digital input and output points, 4 Pt100 points, 4 analog inputs and 4 analog outputs
- Real-time clock
- Two 1 kHz fast inputs
- Two PWM outputs and pulse train 1 kHz
- 4-line x 16-character LCD display
- CLIC02 Edit V3 free programming software
- Programable in ladder or function block diagram (FBD)
- Capacity of 300 ladder programming lines or 260 function logic blocks
- PID control and arithmetic functions
- Menus in English and 6 more languages
- Communication in master/slave Modbus and RS485 (available in the 20VR-D and 20VT-D models) and slave Modbus communication, using the Modbus 3rd expansion
- PM05-3rd memory card (optional item)

Characteristics

Hardware

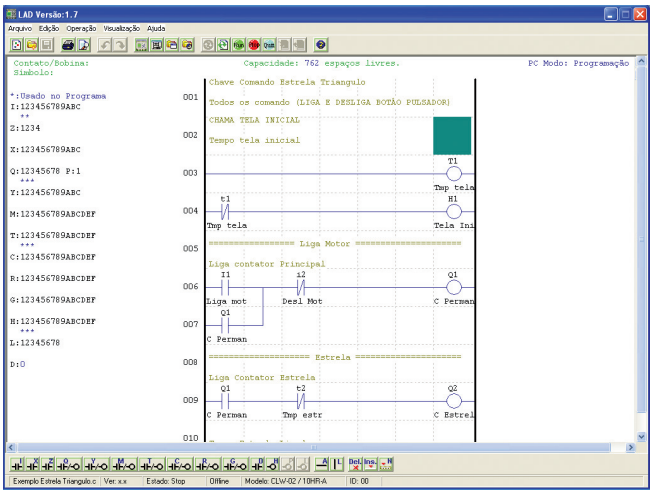


CLIC02 Edit V3 Programming Software

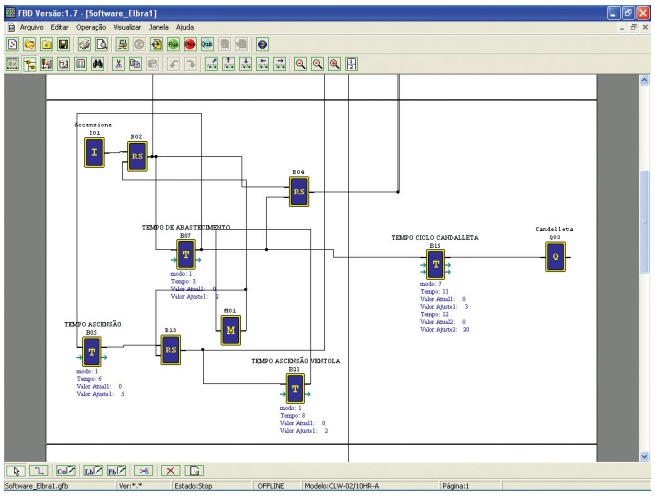
In addition to the direct programming on the display, the CLIC02 Edit V3 software can be used through a personal computer (PC), simplifying even more your programming.

- Free software in English
- Programable in ladder (contact diagram) or logic blocks (FBD)
- Program storage in files
- Printed documents of the program with comments on the lines and addressing variables
- Full simulation of the program operation without a CLIC02 connected to a personal computer (PC)
- Online monitoring of the program parameters and logic
- Online parameter modification (timers, counters, among others)
- PC communication via USB cable
- Available to download at: www.weg.net

Ladder



FBD

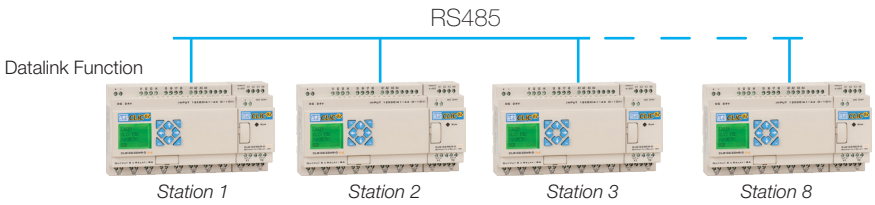


Connectivity

The CLIC02 3rd line of programmable relays enables network communication, meeting the requirements of a great variety of applications in automation processes.

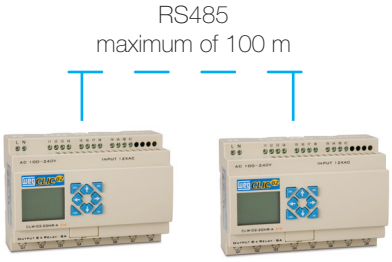
Datalink

This function allows high-speed data exchange between CLIC02 3rd, devices, being able to communicate with up to eight stations.
Maximum recommended distance: 100 m (shielded twisted pair).



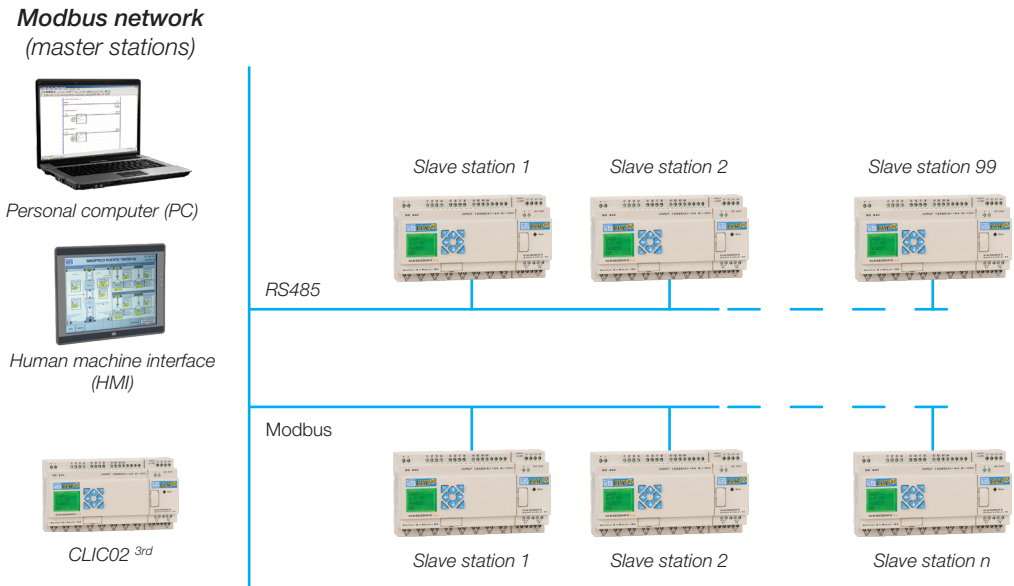
Remote Mode

In remote mode, you can double the input and output (I/O) capacity of the CLIC02 3rd by connecting it to another CLIC02 3rd via a twisted pair cable. In this configuration, expansion modules cannot be added to the setup.



Modbus

This function allows the CLIC02 3rd to work as the master or slave of a Modbus network. Maximum recommended distance: 100 m.



Note: the above functions are only available for the 20VT-D and 20VR-D models or using the CLW02 MBUS 3RD communication module.

Coding

CLW - 02 / 10 H R - A 3rd — Version

- Supply voltage: A = 110/220 V ac; D = 24 V dc; 12D = 12 V dc
- Digital relay outputs: R = Relay; T = Transistor
- Accessories: H = Maximum expansion up to 8 modules with clock; V = Same as H, but with option of communication \ with other CLIC02 and built-in Modbus protocol; E = Expansion unit
- Number of inputs and outputs (I/O)
- CLIC series 02 Programmable Logic Controller and Relay

Notes: High-speed counter up to 1 kHz (2 channels), in 24 V dc (D) models only.
PWM (pulse train) output 1 kHz on transistor output models only.

Specification

Basic Units

Reference	Supply voltage	Inputs		Digital outputs		Maximum configuration (analog)			Maximum configuration (digital)	RS485 Modbus
		Digital	Analog 0-10 V dc	Relay (8 A)	Transistor (1 A)	Inputs	Outputs	Pt-100		
CLW-02 10HR-A	100-240 V ac	6	-	4	-	4	4	4	34	No
CLW-02 12HR-D	24 V dc	6 (8)	2[1)]	4	-	4	4	4	36	No
CLW-02 12HT-D		6 (8)	2[1)]	-	4	4	4	4	36	No
CLW-02 20HR-A	100-240 V ac	12	-	8	-	4	4	4	44	No
CLW-02 20HR-D	24 V dc	8 (12)	4[1)]	8	-	4	4	4	44	No
CLW02 20HT-D		8 (12)	4[1)]	-	8	4	4	4	44	No
CLW02 20HR-12D	12 V dc	8 (12)	4[1)]	8	-	4	4	4	44	No
CLW02 20VR-D	24 V dc	8 (12)	4[1)]	8	-	4	4	4	44	Yes
CLW02 20VT-D	24 V dc	8 (12)	4[1)]	-	8	4	4	4	44	Yes

Digital Expansion Unit

Reference	Description	Supply voltage	Digital inputs	Digital outputs	
				Relay (8 A)	Transistor (0.5 A)
CLW-02 8ER-A	Expansion with 4 digital inputs 110/220 V ac and 4 relay outputs	110/220 V ac	4	4	-
CLW-02 8ER-D	Expansion with 4 digital inputs 24 V dc and 4 relay outputs	24 V dc	4	4	-
CLW-02 8ET-D	Expansion with 4 digital inputs 24 V dc and 4 transistor outputs		4	-	4

Analog Expansion Units

Reference	Description
CLW-02 2AO 3RD	Expansion with 2 analog outputs 0-10 V dc / 0-20 mA - 12 bits
CLW-02 4PT-3RD	Expansion with 4 Pt100 inputs - 12 bits
CLW-02 4AI 3D	Expansion with 4 analog inputs 0-10 V dc / 0-20 mA - 12 bits

Accessories

Reference	Description
CLW-02 /UNLINK	CLIC02 programming cable (third generation version only 3rd) - USB
CLW-02 PM05 3RD	Memory for backup / CLIC02 3rd program copy
SFM-10-3-1	Noise suppressor line filter for CLIC02

Network Communication Expansion Units

Reference	Description
CLW-02 MBUS 3RD	Communication module, RS485, Modbus-RTU slave

Notes: 1) The analog inputs of the basic module can be used as digital inputs.
Maximum configuration: 1 basic unit, 3 digital modules, 1 Pt100 input module, 1 analog input module, 2 analog output modules and 1 Modbus slave communication module firmware version 3.0.

Addressing

Variable / function block	Input	Output	Quantity	Memory area
M auxiliary relay	M	M	63	M01 - M3F
N auxiliary relay	N	N	63	N01 - N3F
Temperature input	AT	-	4	AT01 - AT04
Analog output	-	AQ	4	AQ01 - AQ04
PWM	-	P	2	P01 - P02 (P01 includes PLSY)
IHM	-	-	31	H01 -1F
Timer	T	T	Ladder: 31 / FBD: 250	Ladder: T01 - T1F / FBD: T01 - TFA
Counter	C	C	Ladder: 31 / FBD: 250	Ladder: C01 - C1F / FBD: C01 - CFA
RTC	R	R	Ladder: 31 / FBD: 250	Ladder: R01 - R1F / FBD: R01 - RFA
Analog comparator	G	G	Ladder: 31 / FBD: 250	Ladder: G01 - G1F / FBD: G01 - GFA
AS (Addition-Subtraction)	-	-	Ladder: 31 / FBD: 250	Ladder: AS01 - AS1F / FBD: AS01 - ASFA
MD (Multiplication-Division)			Ladder: 31 / FBD: 250	Ladder: G01 - G1F / FBD: G01 - GFA
PID			Ladder: 15 / FBD: 250	Ladder: PI01 - PI0F / FBD: PI01 - PI1E
MX (Multiplexer)			Ladder: 15 / FBD: 250	Ladder: MX01 - MX0F / FBD: MX01 - MXFA
AR (Analog Ramp)			Ladder: 15 / FBD: 250	Ladder: AR01 - AR0F / FBD: AR01 - AR1E
DR (Data Recorder)			240	DR01 - DRF0
MU (Modbus)			Ladder: 15 FBD: 250	Ladder: MU01 - MUOF FBD: MU1 - MUFA
Block	B	B	BOOLEAN logic function	
			260	B001 - B260 (the capacity of each block may be changed and the total block capacity is 6,000 bytes)

Technical Data

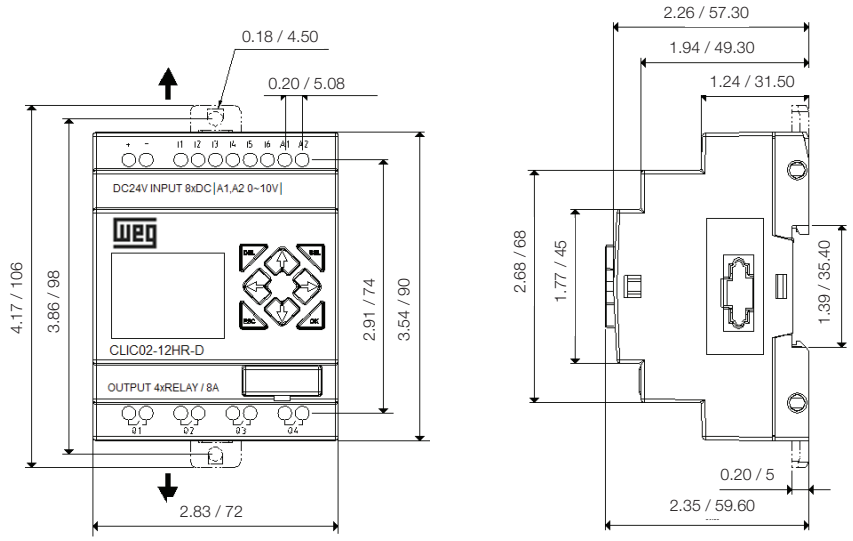
Power supply		
Input voltage range	Models	Voltage range
	24 V dc	20.4 - 28.8 V dc
	12 V dc	10.4 - 14.4 V dc
	V ac power supply	100 - 240 V ac
Energy consumption	Models	Current consumption
	24 V dc - 12 points	125 mA
	24 V dc - 20 points	185 mA
	12 V dc - 12 points	195 mA
	12 V dc - 20 points	265 mA
	V ac power supply	100 mA
Installation cable (all terminals)	26 to 14 AWG - 0.13 to 2.1 mm² of cross-section	
Programming		
Programming language	Ladder / FBD	
Maximum program size	300 lines or 260 function blocks	
Program storage	Flash memory	
Processing speed	10 ms/cycle	
LCD display size	4 lines x 16 characters	
Timing relays		
Maximum amount of instructions	Ladder: 31; FBD: 250	
Adjustable time range	0.01s - 9,999min	
Contactors		
Maximum amount of instructions	Ladder: 31; FBD: 250	
Maximum count value	999,999	
Resolution	1 unit	
RTC (real time clock)		
Maximum amount of instructions	Ladder: 31; FBD: 250	
Resolution	1min	
Available time measurement	Week, year, month, day, hour, minute	
Available comparisons	Analog input, timer, counter, temperature input (AT), analog output (AQ), AS, MD, PI, MX, AR, DR and constant values	

Technical Data

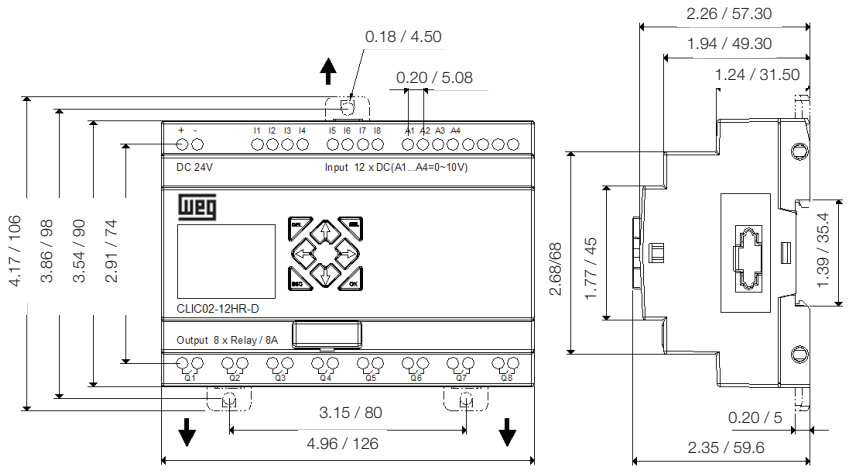
Analog comparison		
Maximum amount of instructions	Ladder: 31; FBD: 250	
Available comparisons	Analog input, timer, counter, temperature input (AT), analog output (AQ), AS, MD, PI, MX, AR, DR and constant values	
Environmental		
Enclosure type	IP20	
Maximum vibration	1 G according to IEC 60068-2-6	
Operating temperature	-4°F to 131°F (-20°C to 55°C)	
Storage temperature	-40°F to 158°F (-40°C to 70°C)	
Maximum humidity	90% (relative, non-condensing)	
Vibration	0.075 mm amplitude, 1.0 g acceleration	
Weight	8 points: 6.7 oz (190g) 10, 12 points: 8.1 oz (230g) (type C: 5.6 oz (160g)) 20 points: 12.2 oz (345g) (type C: 8.8 oz (250g))	
Certifications	CE / cULus Listed	
Digital inputs		
Current consumption	Power supply	Current
	24 V dc	3.2 mA
	12 V dc	4.0 mA
	100 - 240 V ac	1.3 mA
Input voltage signal to the Off state	Power supply	Voltage level
	24 V dc	<5 V dc
	12 V dc	<2.5 V dc
	100 - 240 V ac	<40 V ac
Input voltage signal to the On state	Power supply	Voltage level
	24 V dc	>15 V dc
	12 V dc	>7.5 V dc
	100 - 240 V ac	>79 V ac
	24 V ac	>14 V ac
Off > on response time	Input voltage	Response time
	24 V dc / 12 V ac	5ms
	220 V ac	22/18ms - 50/60 Hz
	110 V ac	50/45ms - 50/60 Hz
On > off response time	Input voltage	Response time
	24 V dc / 12 V dc	3ms
	220 V ac	90/85ms - 50/60 Hz
	110 V ac	50/45ms - 50/60 Hz
Compatibility with transistor devices	NPN, 3-wire devices only	
High-speed input frequency	1 kHz	
Default input frequency	<40 Hz	
Protection required	Reverse voltage protection	
Analog inputs		
Resolution	Basic unit	12 bits
	Expansion unit	12 bits
Acceptable voltage range	Basic unit	0 - 10 V dc or 24 V dc when used as digital input
	Expansion unit	0 - 10 V dc or 0 - 20 mA
Input voltage signal to the Off state	<5 V dc (when used as digital input 24 V dc)	
Input voltage signal to the On state	>9.8 V dc (when used as digital input 24 V dc)	
Insulation	None	
Short-circuit protection	Yes	
Available quantity	Basic unit	A01-A04
	Expansion unit	A05-A08
Relay output		
Contact material	Silver alloy	
Current regime	8 A	
HP regime - can drive motors directly at this power	120 V ac: 1/3 HP 250 V ac: 1/2 HP	
Maximum load	Resistive: 8 A / point Inductive: 4 A / point	
Response time	15ms (normal condition)	
Life expectancy	100,000 operations at rated load	
Minimum load	16.7 mA	
Output transistor		
Maximum PWM output frequency	1 kHz (0.5 ms On, 0.5 ms Off)	
Maximum default output frequency	100 Hz	
Voltage specifications	20 - 28.8 V dc	
Current capacity	1 A	
Maximum load	Resistive: 0.5 A / point	
	Inductive: 0.3 A / point	
Minimum load	0.2 mA	

Dimensions (in/mm)

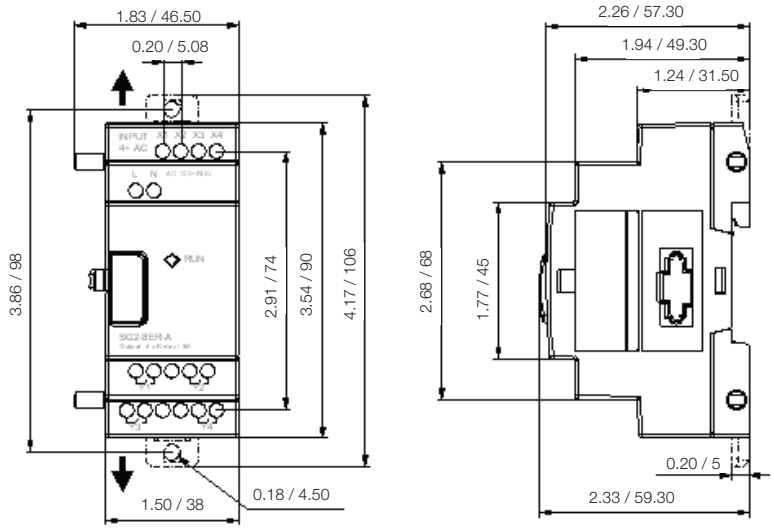
10/12 Points



20 Points



Expansion Module



Note: for further details, refer to the user's manual.

WEG's scope of solutions is not limited to the products and solutions presented in this brochure.
Contact WEG for information on additional products and solutions.

For WEG's worldwide operations visit our website

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