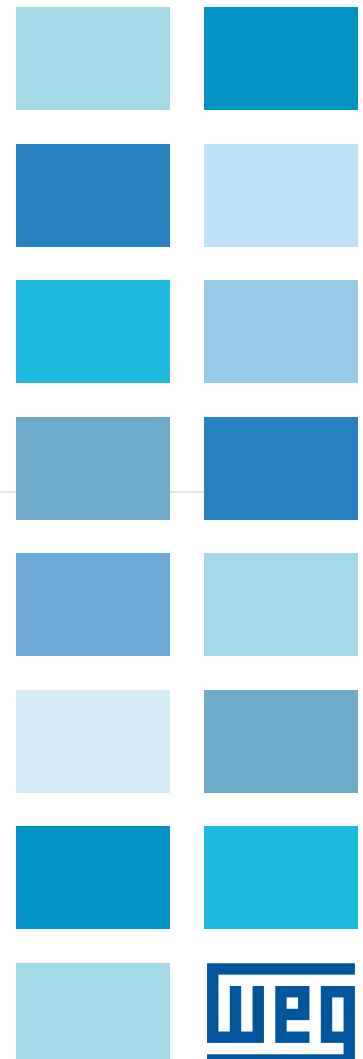
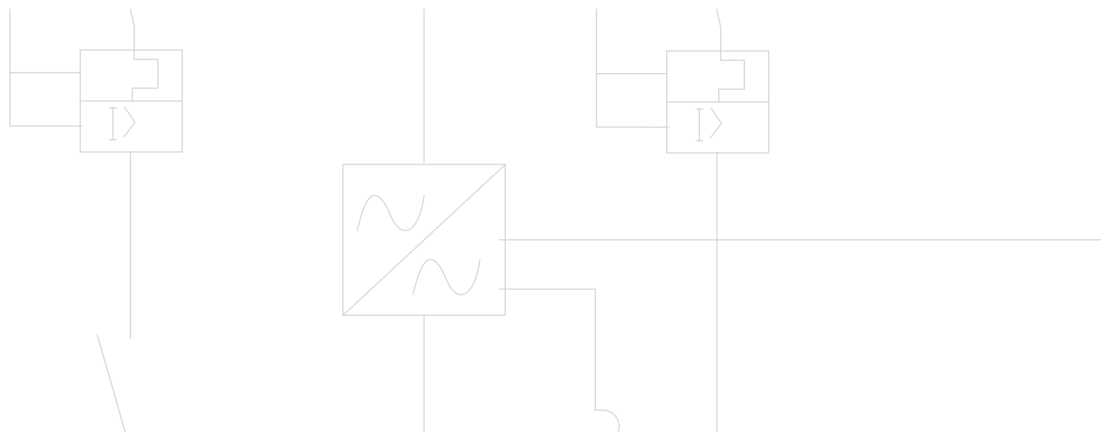


Automation

Soft-Starters



3 -

3 -



Soft-Starters



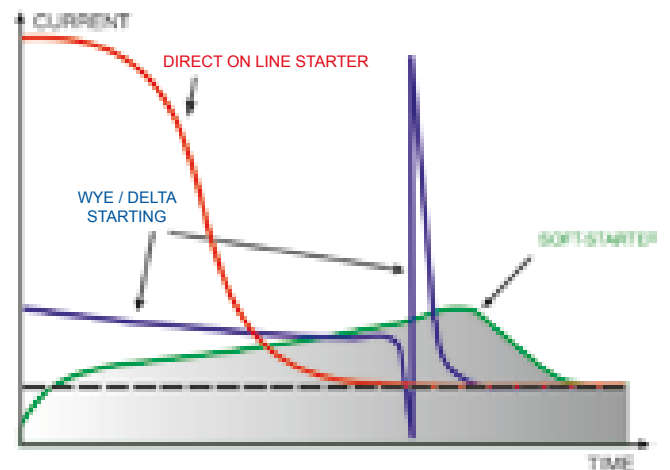
Soft-Starters are static starters that accelerate, decelerate and protect three-phase induction motors. The control of the voltage applied to the motor by means of adjustments to the firing angle of thyristors allows the soft-starter to start and stop an electric motor smoothly. With adequate adjustments of the variables, the torque produced is adjusted to the needs of the load, so that the required current is going to be the lowest possible for the starting procedure.

WEG Soft-Starters are micro processed, fully digital, state-of-the-art technology products designed to ensure the best starting and stopping performance of induction motors, presenting itself as a complete and low-cost solution. The human-machine interface allows easy adjustment of the parameters which helps set up and operation.

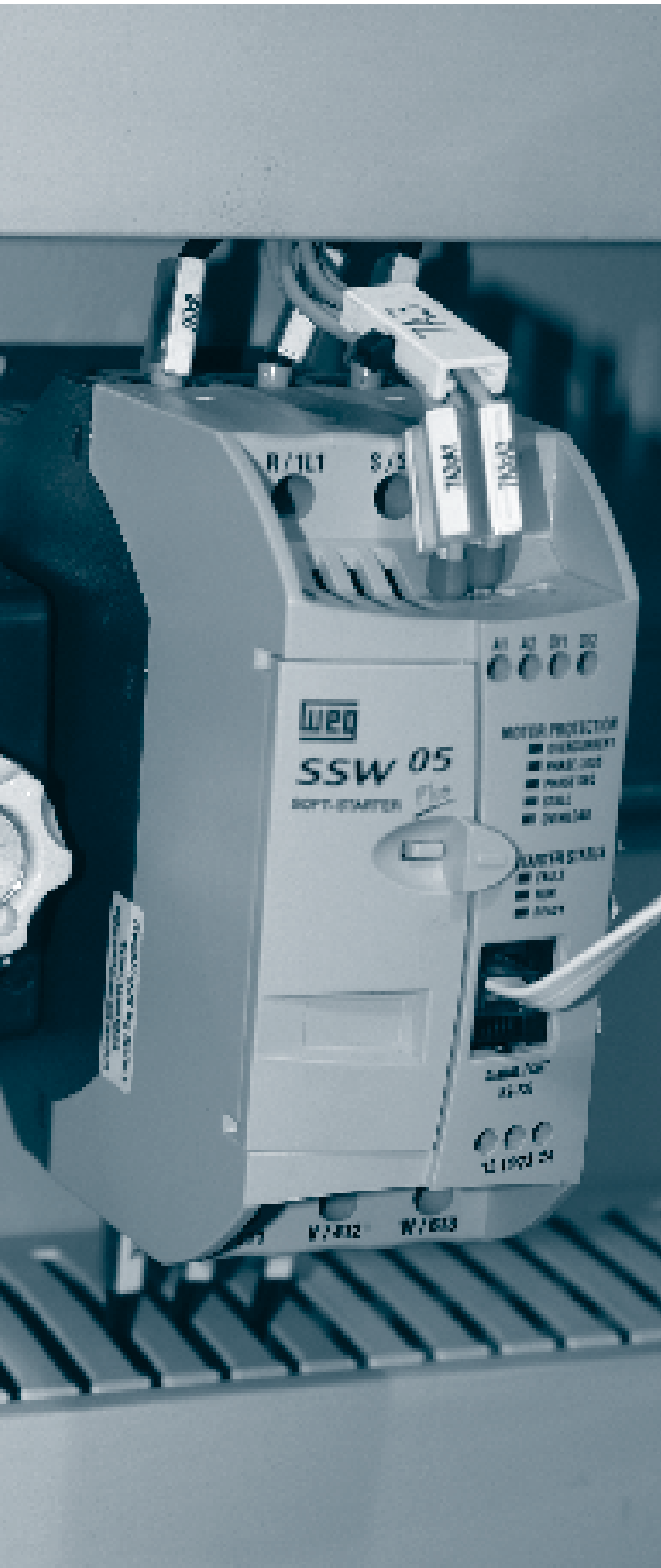
The soft-starter line is top-notch in motor starting and stopping with features that allow the starting, stopping and protection of electric motors in an easy and efficient manner.



Comparison of electric motor start-up methods



SSW-05



The SSW-05 Plus Micro Soft-Starters, with DSP control (Digital Signal Processor) have been designed to supply excellent performance during starting and stopping of electric motors with an excellent cost/benefit ratio. The Operator Interface allows easy parameter setting, simplifying the start-up and operation activities. The SSW-05 Plus Micro Soft-Starters are compact, optimizing the space in electrical panels. The SSW-05 Plus already incorporates protection for the driven motor.

Benefits

- Reduction of stress on couplings and other transmission devices during starting (gear boxes, sheaves).
- Extended lifetime of motor and mechanical components due to reduced mechanical stress.
- Easy operation, programming and maintenance.
- Simple electrical wiring.
- Operation in ambient up to 55°C (122°F).

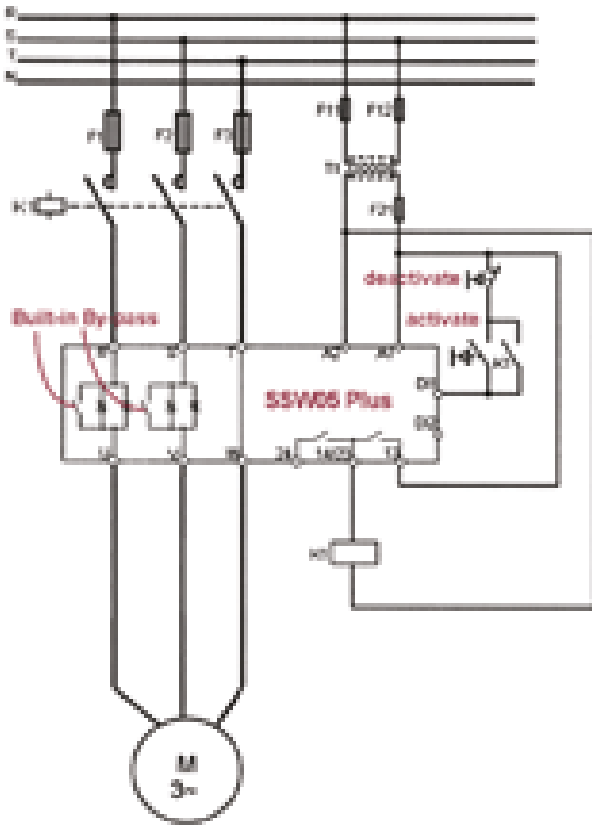
Applications

- Centrifugal Pumps
- Roller Tables
- Piston Compressors
- Mixers
- Fans

Certifications



SSW-05 Wiring Diagram



Settings and Indications

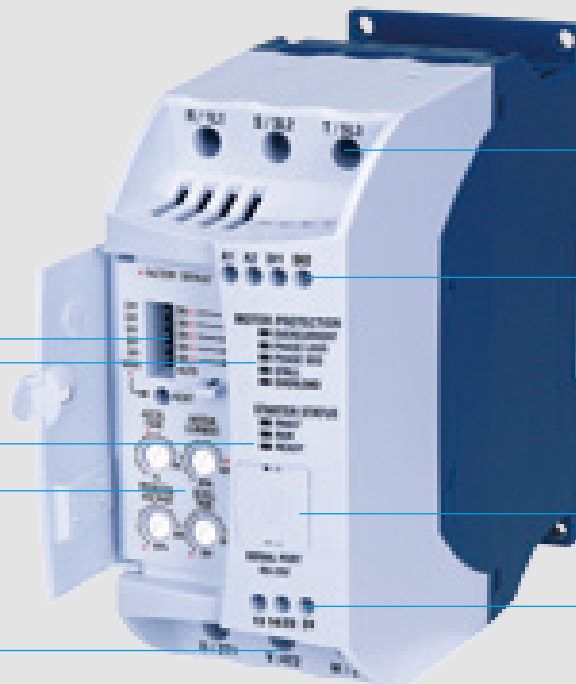
Dip-switch to enable/disable the motor protections

LEDs to indicate fault trips

LEDs to indicate the starter status

Potentiometers for pedestal voltage, acceleration/deceleration time and motor current settings.

Output to motor



Three phase power supply






Electronic power supply and digital inputs

Serial or remote HMI connector

Relay outputs

SSW-05 - Keypad

Remote Human-Machine Interface for remote operation on panel door or machine console. The HMI has a copy function incorporated, allowing copying of parameters from a soft-starter to others, allowing fast reliable setting of identical starters.

-  Start the soft-starter
-  Stop the soft-starter. Resets the soft-starter after a fault trip has occurred
-  Scroll up parameters or parameter value
-  Scroll down parameters or parameter value
-  Parameter content access/escape/enter



Model	Model	Item
CAB-RS-1	1m Cable for serial remote HMI	10050268
CAB-RS-2	2m Cable for serial remote HMI	10190951
CAB-RS-3	3m Cable for serial remote HMI	10211478
HMI-SSW05-RS	Remote HMI for CAB-RS cable up to 3m	10193351

SUPERDRIVE Software

Windows-based software for setting parameters, control and monitoring SSW-05 Soft-Starters.

It allows setting parameters on-line directly to the Soft-Starters and/or setting of parameters off-line into a file. Possibility to store user parameters from existent SSW-05 Soft-Starters. The communication between the Soft-Starter and the computer is provided through RS-232 serial interface.



SSW-05 - Models



3 to 30 A

45 to 85 A

SSW-05 - Drive ratings

The tables below present the expected motor power for each soft-starter model under light load application (e.g.: centrifugal pump). However, for the proper selection of soft-starters, please use the SDW software.

Use the motor power ratings below only as a guidance. Motor rated currents may vary with speed and manufacturer. IEC motor powers are based on WEG 4-pole motors; NEMA motor powers are based on NEC table 430-150.

Motor voltages between 220V and 460V

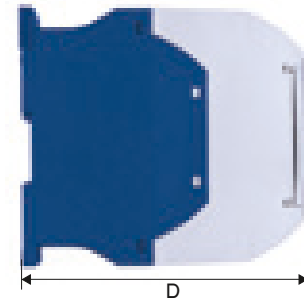
Model	Output Current	IEC - 50Hz		IEC - 60Hz		NEMA - 60Hz	
		220V 230V	380V 415V	220V 230V	440V 460V	230V	460V
		A	kW	kW	HP	HP	HP
SSW050003T2246	3	0.55	1.1	1	1.5	0.5	1.5
SSW050010T2246	10	2.2	4	3	7.5	3	5
SSW050016T2246	16	4	7.5	5	10	5	10
SSW050023T2246	23	5.5	11	7.5	15	7.5	15
SSW050030T2246	30	7.5	15	10	20	10	20
SSW050045T2246	45	11	22	15	30	15	30
SSW050060T2246	60	15	30	20	40	20	40
SSW050085T2246	85	22	45	30	60	30	60

Motor voltages between 525V and 575V

Model	Output Current	IEC	NEMA
		50Hz 525V	60Hz 575V
		A	kW
SSW050003T4657	3	1.5	2
SSW050010T4657	10	5.5	7.5
SSW050016T4657	16	9.2	10
SSW050023T4657	23	15	20
SSW050030T4657	30	18.5	25
SSW050045T4657	45	30	40
SSW050060T4657	60	37	50
SSW050085T4657	85	55	75

SSW-05 - Dimensions and Weight

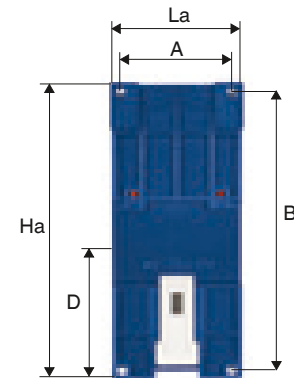
Model	Frame Size	Dimensions mm (in)			Weight kg (lb)	Degree of Protection	Inside Delta (6 cables) Connection	Internal Bypass
		H	W	D				
SSW050003T2246	1	130 (5.12)	59 (2.32)	145 (5.71)	0.74 (1.63)	IP00	No	Yes
SSW050010T2246								
SSW050016T2246								
SSW050023T2246								
SSW050030T2246								
SSW050045T2246	2	185 (7.28)	79 (3.11)	172 (2.79)	1.67 (3.68)	IP00	No	Yes
SSW050060T2246								
SSW050085T2246								
SSW050003T4657	1	130 (5.12)	59 (2.32)	145 (5.71)	0.74 (1.63)	IP00	No	Yes
SSW050010T4657								
SSW050016T4657								
SSW050023T4657								
SSW050030T4657								
SSW050045T4657	2	185 (7.28)	79 (3.11)	172 (2.79)	1.67 (3.68)	IP00	No	Yes
SSW050060T4657								
SSW050085T4657								



Mechanical Mounting

Size	With L (mm)		Height H		Depth P (mm)	Mounting A (mm)	Mounting B (mm)	Mounting D (mm)	Mounting	Weight (Kg)
	L	La	H	Ha						
1	59	60,4	130	130,7	145	51	122	61	Bold M4/Rail	0.74
2	79	80,4	185	185,7	172	71	177	99	Bold M4/Rail	1.64

La, Ha, Mounting (Only for setting with screw)

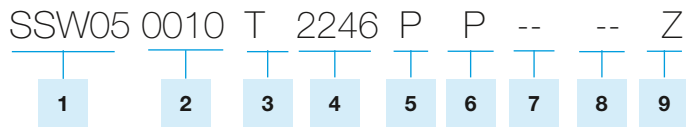


SSW-05 - Technical Data

MODEL		SSW-05 Plus
Power Supply	Voltage	220 - 460 Vac (+10%, -15%) 460 - 575 Vac (+10%, -15%)
	Frequency	50 / 60 Hz
	Electronic Supply	Switched mode power supply (90 – 250 Vac)
Enclosure	Cabiner Plastic	IP00
Control	Method	Motor Voltage Variation
	CPU	DSP Microcontroller
Starting Duty Cycle	Standard	300% (3 x Inom.) during 10 s, 4 starts per hour
Inputs	Digital	01 input for starting and stopping
		01 input for error reset
Outputs	Digital	01 relay output for full voltage indication (By-Pass)
		01 relay output for operation indication
Communication	Serial Interface	RS-232C
Safety	Protections	Motor overload
		Phase sequency
		Phase loss
		Locked rotor
		SCRs overload
		Overcurrent
Internal fault (watchdog)		
Functions	Starting Voltage	30 - 80% of the rated voltage
Resources	Programmable Acceleration Ramp	1 – 20 s
	Programmable Deceleration Ramp	Off – 20 s
	Motor Rated Current and Soft-Starter Rated Current Ration	30 - 100%
Ambient	Temperature	0 ... 55 °C - standard operation at rated current
	Humidity	0 ... 90% non condensing
	Altitude	0 ... 1000 m (3,300 ft) - standard operation at rated current 1000...4000m - with current derating (1%/ 100 m (328 ft) above 1000m (13.300ft)
Finishing	Colour	Frost gray (cover) and blue (base) WEG standard
Installation	Fastening	Fastening by bolts or assembling on DIN 35 mm rail
Conformities / Standards	Safety	UL 508 Standard – Industrial Control Equipment / IRAM
	Low Voltage	IEC 60947-4-2
	EMC	EMC Directive 89 / 336 / EEC - Industrial Environment



SSW-05 - Coding



1 - Soft-Starter line SSW-05

2 - Rated output current:

0003 = 3 A
 0010 = 10 A
 0016 = 16 A
 0023 = 23 A
 0030 = 30 A
 0045 = 45 A
 0060 = 60 A
 0085 = 85 A

3 - Input power supply voltage:

T= Three-phase

4 - Power supply voltage:

2246 = 220 ... 460 V
 4657 = 460 ... 575 V

5 - Product manual language:

P = Portuguese
 E = English
 S = Spanish
 G = German

6 - Product version

P = Plus

7 - Special hardware

Blank = Standard (not available)
 Hx = Optional version x (H1 ... Hn)

8 - Special software

Blank = Standard (not available)
 Sx = Optional version x (S1 ... Sn)

9 - Code end

Z = Digit indicating code end

Ex.: SSW050060T4657PPZ



SSW-06

WEG SSW-06 series soft-starters are micro-processor controlled, fully digital and designed with state-of-the-art technology.

Excellent acceleration and deceleration control is achieved with an optimized cost to benefit ratio.

The HMI allows easy programming during commissioning and operation. The built-in “Pump Control” function gives optimized pre-set pump application parameters, avoiding “Water Hammer”.



Benefits

- 32 Bits RISC high performance microcontroller;
- Electronic motor protection;
- Removable Human Machine interface with double display (LED/LCD);
- Fully programmable control methods;
- Totally flexible torque control;
- “Kick-start” function for high break-away torque
- “Pump control” function for intelligent control of pumping systems;
- Avoids “water hammer” in pumps;
- Current peaks limits on the power supply;
- Voltage drop limits during starting;
- Voltage Range (220 to 575Vac and 575 to 690Vac);
- The control board power supply has EMC filter (94 to 253 Vac);
- Built-in bypass up 820A, providing size reduction and saving;
- Back-up memory of motor protection I²t thermal image;
- Voltage and current unbalance protection;
- Over/under voltage and current protection;
- Input for motor PTC;
- Reduction of mechanical stress;
- Reduction of stress over couplings and transmission devices (gearboxes, sheaves, belts, etc...);
- Increases the lifetime of the motor and mechanical equipment of the driven machine;
- Easy operation, programming and maintenance via Keypad;
- Simplified electrical installation;
- Oriented start-up;
- Possibility for standard three leads or inside delta size cable connection;
- All protections and function available for both types of connection (unique in the market);
- Serial or fieldbus communication errors protection;
- Operational environment up to 55° C (without current reduction). For model range 10A to 820A and up to 40° C (without current reduction) for model range 950A to 1400A.
- International certifications such as IRAM, C-Tick, UL, cUL, Gost and CE.

SSW-06 - Applications

Chemical and Petrochemical

- Fans / Exhaust fans
- Centrifugal pumps
- Dosing / Process pumps
- Centrifugal pumps
- Agitators / mixers
- Compressors
- Soap extruders

Plastic and Rubber

- Extruding machines
- Blow Molding
- Mixers
- Calenders
- Grinders

Pulp and Paper

- Dosing pumps
- Process pumps
- Fans / Exhaust fans
- Agitators / Mixers
- Rotatory filters
- Rotatory kilns
- Scrap conveyor
- Papers refiners

Sugar and Alcohol

- Fans / Exhaust fans
- Process pumps
- Conveyor belts

Juice and Beverages

- Centrifugal pumps
- Agitators / Mixers
- Roller tables
- Conveyor belts
- Bottling lines

Cement and Mining

- Dosing / Process pumps
- Sifting Machines / Rotating tables
- Dynamic graders
- Conveyor belts

Food and Ration

- Dosing / Process pumps
- Fans / Exhaust fans
- Agitators / Mixers
- Dryers / Furnaces
- Pellet mills
- Hoist / Monorails

Textile

- Agitators / Mixers
- Dryers / washing machines

Siderurgy and Metallurgy

- Fans / Exhaust fans
- Conveyor belt
- Drilling & Grinding machines
- Pumps

Ceramic

- Fans / Exhaust fans
- Dryers / Furnaces
- Ball mills
- Roller tables
- Converyor belts

Glasses

- Fans / Exhaust fans
- Bottle manufacturing machine
- Roller tables
- Converyor belts

Refrigeration

- Process pumps
- Fans / Exhaust fans
- Compressors

Wood

- Slicing Machine
- Polishing Machine
- Cutting machines
- Wood chippers
- Saw and plains

Waste water treatment

- Axial flow pumps
- Impulsion systems

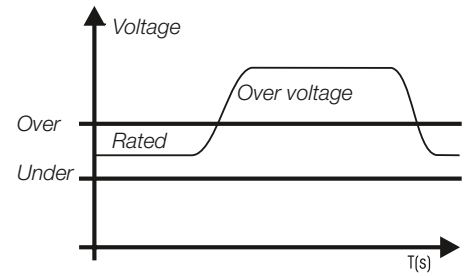
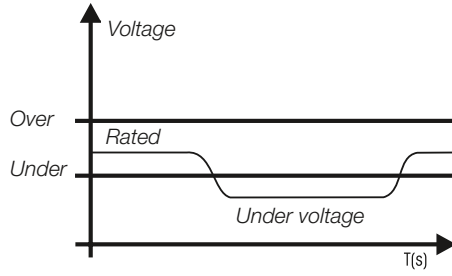
Load transportation

- Conveyors / Belts / Chains
- Roller tables
- Monorails / Hoist
- Escalators
- Baggage conveyors (airports)

Voltage and Current Protections

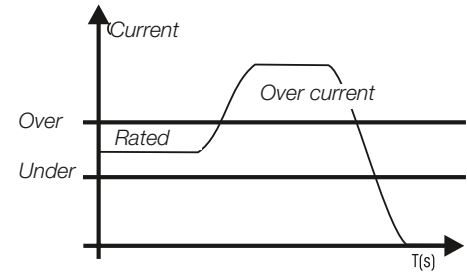
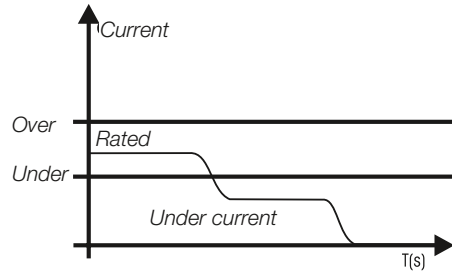
Under and Over Voltage

It allows adjustment of the limits for under and over voltage protection. It is available in both types of connections to the motor.



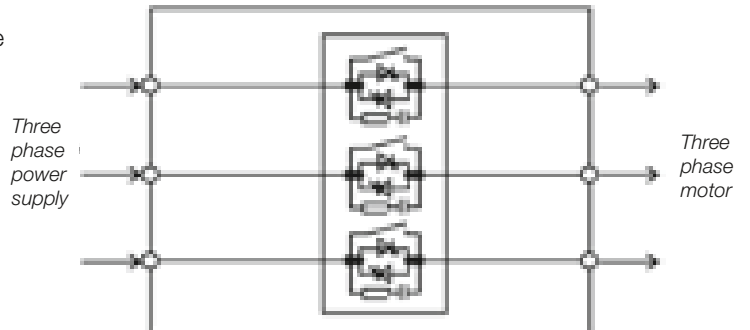
Under and Over Current

It allows adjustment of the limits for under and over current protection.



BY-PASS Built-in

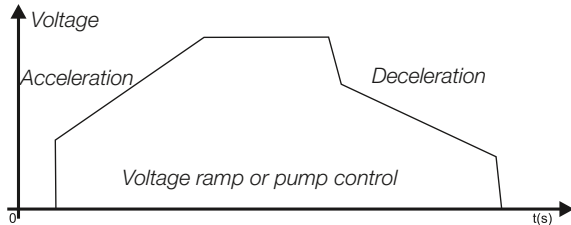
Built-in by-pass reduces power and heating losses in the thyristors, providing size reduction and energy saving. It is available in the models from 10A up to 820A.



SSW-06 - Main Functions

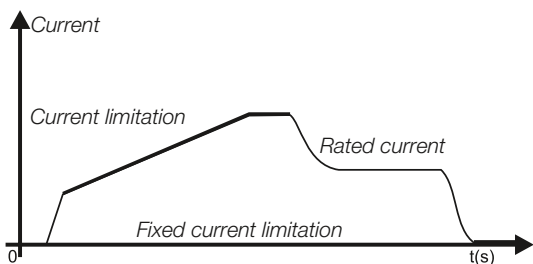
Voltage Ramp

It provides smooth acceleration and / or deceleration by using voltage ramps.



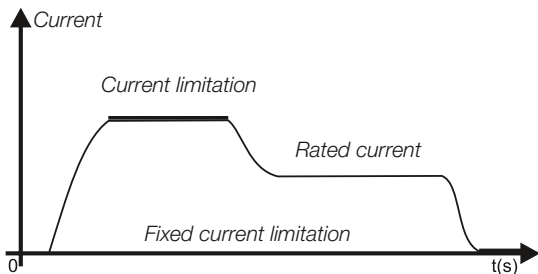
Pump Control

Pump control provides a smooth deceleration avoiding "overshoots".



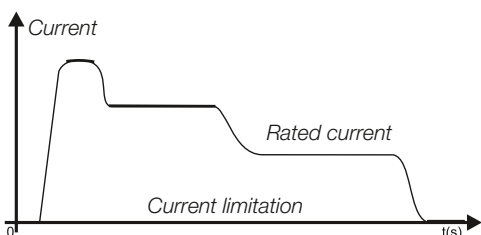
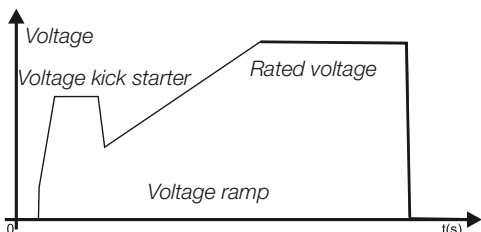
Current Limitation

It allows the torque limitation adjustment during the starting procedure based on application requirements.



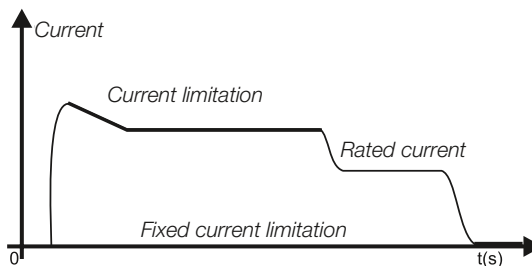
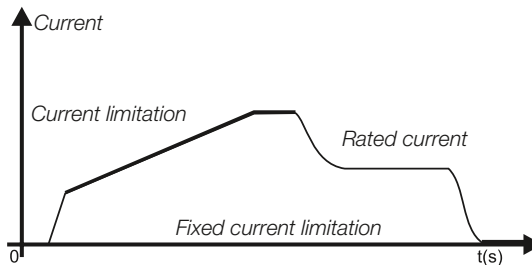
Voltage and current Kick Starter

It provides an initial pulse of voltage or current that when applied in the motor provides an additional initial torque to the start the motor. Required for loads with high initial torque.



Current Ramp

It allows to adjust the current limitation for the beginning of the start. Applicable to load with higher or lower initial torque.

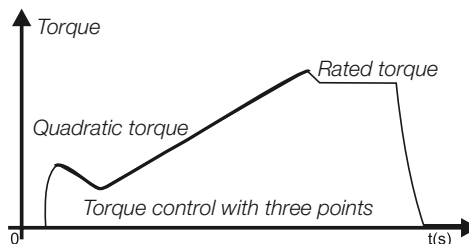
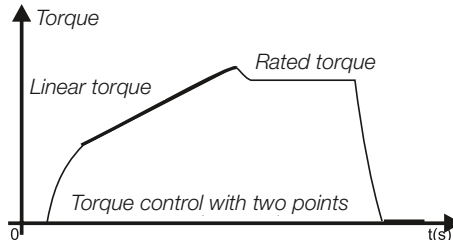
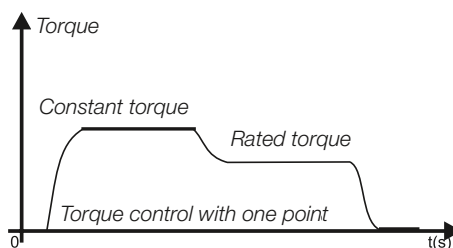


Torque Control

The SSW-06 has a torque control algorithm with high performance and total flexibility for any application requirements.

It is available in both types of connection to the motor (standard / within the delta of the motor).

- 1 adjustment point - Constant torque.
- 2 adjustment points - Linear torque ramp.
- 3 adjustment points - Quadratic torque ramp.



SSW-06 - Keypad (HMI)

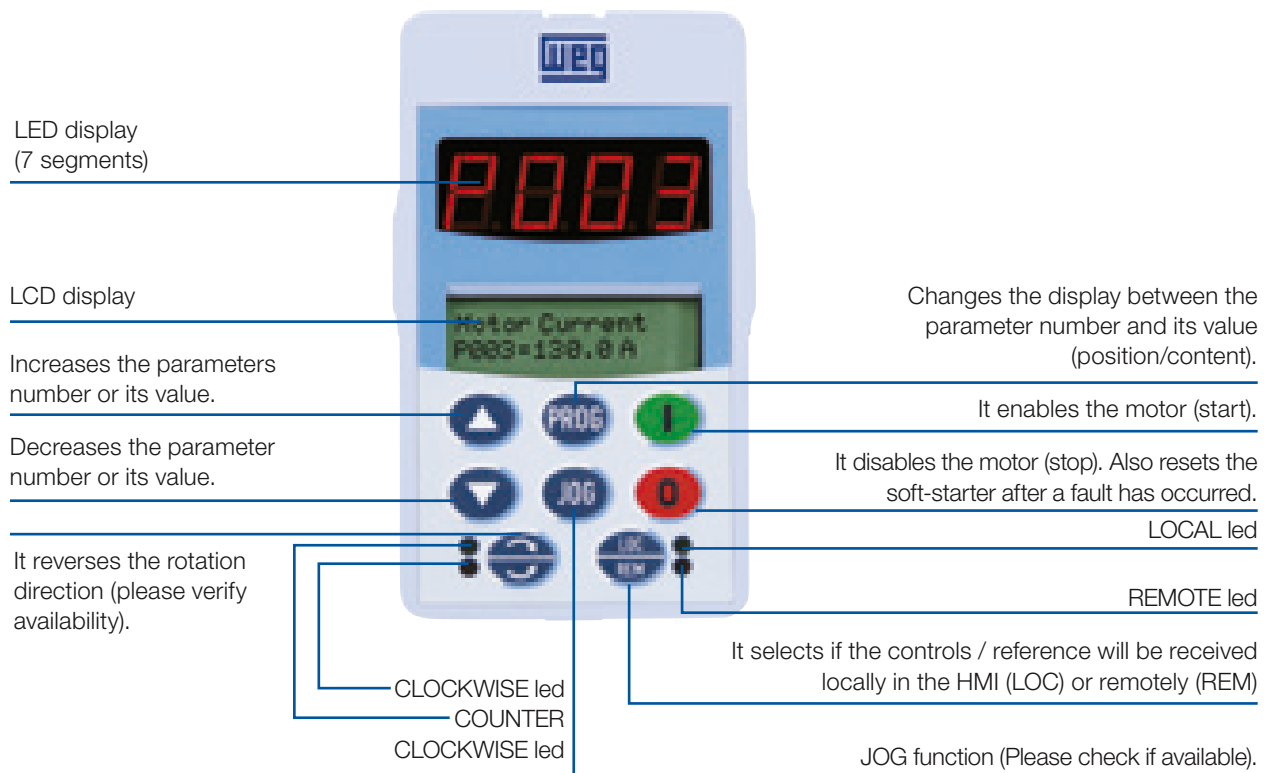
Intelligent Interface

Intelligent operation interface with double display, LED (7 segments) and LCD (2 lines of 16 characters), which allows excellent long distance visibility, with a detailed description of all parameters and messages via alphanumeric LCD display.

Selectable Language

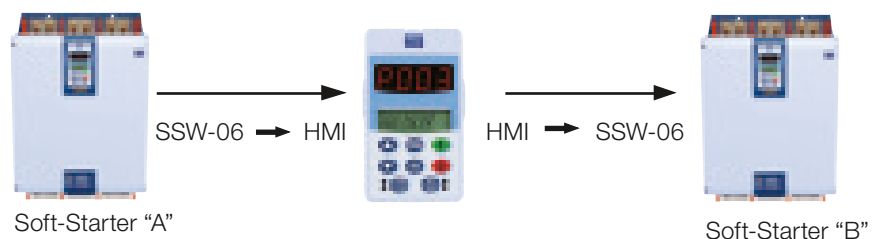
Intelligent operation interface allows the user to choose the language to be used for programming and display of parameters and messages in the LCD display.

The high level of hardware and software capacity of the product offers the user many options of language such as: Portuguese, English, German and Spanish, in order to adapt to any user in the world.



COPY Function

The intelligent interface also offers the "COPY" function that allows copying the parameters of a soft-starter to another, bringing speed, reliability and programming repetition to similar applications.



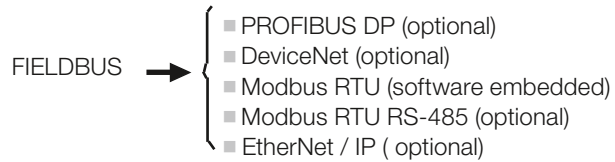
Oriented Start-Up

Soft-starters are equipment intended to start induction motors, where adaptation and response are directly related to the motor characteristics as well as the power supply.

The soft-starters from SSW-06 series have a programming option specially developed to simplify the start-up, by an oriented and automatic sequence that guides the user to the sequential programming of the minimum characteristics required for adaptation of the soft-starter to the driven motor and load.

SSW-06 - Fieldbus Communication

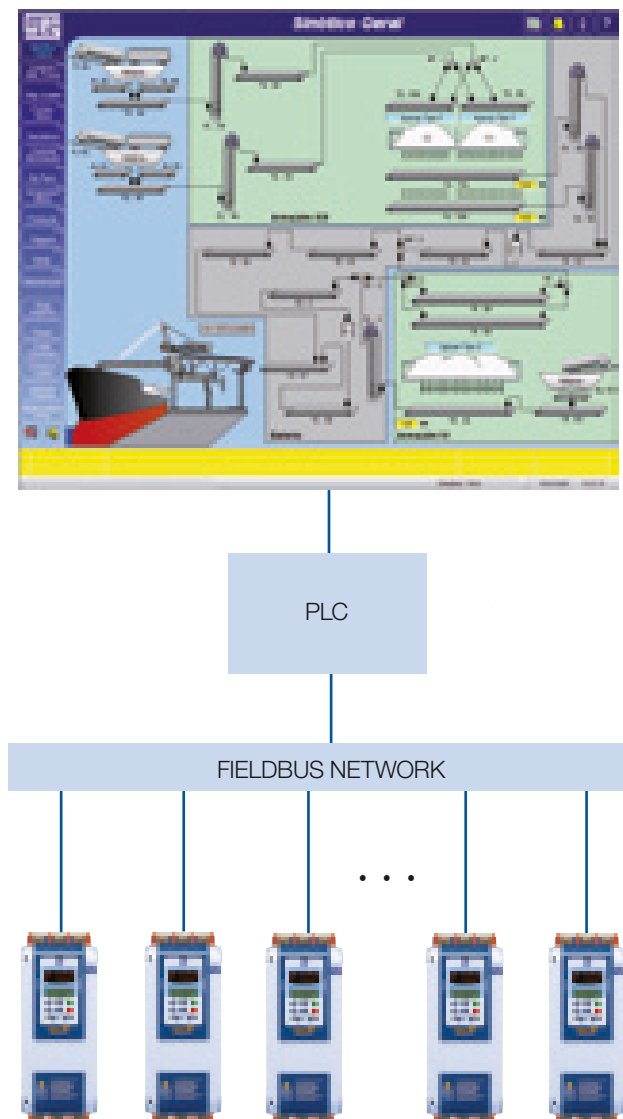
The SSW-06 soft-starters can be communicated to fieldbus communication network through the most common standard protocols in the world, as it follows:



Mainly intended to integrate large automation plants, communication networks offer many advantages in the supervision, monitoring and on-line control of the soft-starters, providing high performance and great operational flexibility.

To be connected to communication protocols, as Profibus DP, DeviceNet and EtherNet IP, optional modules need to be fitted in the SoftStarter. For connecting the SSW-06 to Modbus RTU network the RS-232 or RS-485 adapter can be used.

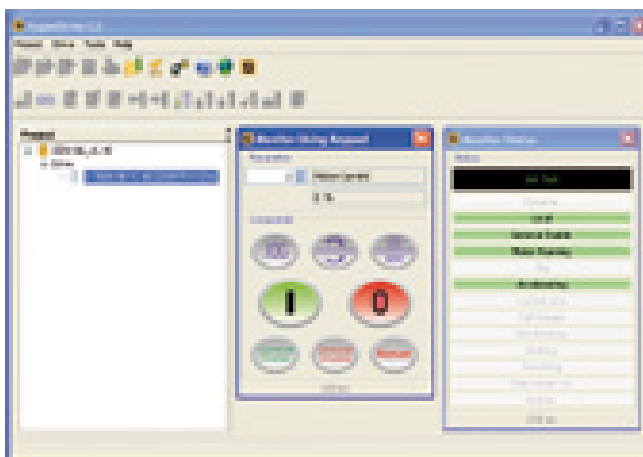
Besides providing protection, monitoring and motor control, it is allowable the use of digital and analog I/Os of the SSW-06 as a remote unit in a profibus DP network.



SSW-06 - Superdrive G2

Windows-based Software, for SSW-06 programming, control and monitoring.

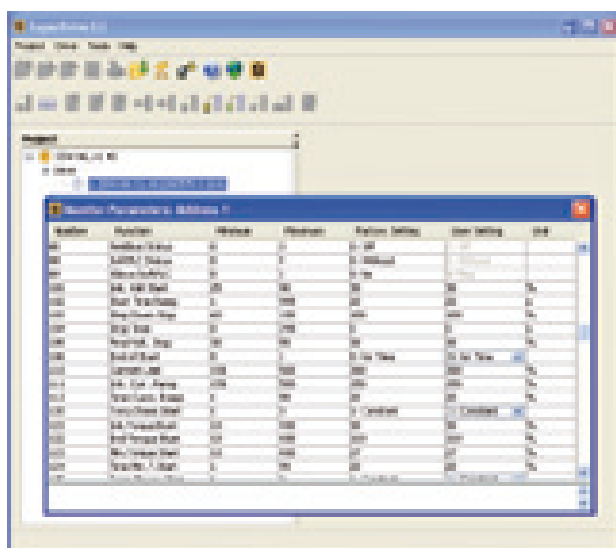
- Automatic SSW-06 identification.
- Reads SSW-06 parameters.
- Writes SSW-06 parameters.
- Online parameters settings.
- Offline parameters settings allow an user application to be created.
- Allows documentation of the application to be created.
- Easily accessible.
- The TRACE FUNCTION provided with Superdrive G2 version, through waveforms gives the user the possibility of status of the Soft Starter at normal operating conditions as well as for troubleshooting.
- A 2m shielded USB cable is provided with the product.
- Online help.
- Free software on the site www.weg.net



Integrated Environment

Number	Position	Minimun	Maximun	Factory Setting	User Setting	LED
01	Acceleration	0	2	0.5	0.5	
02	Deceleration	0	2	0.5	0.5	
03	Motor Locking	0	1	0	0	
04	Stop Time	0	100	10	10	
05	Stop Time (Stop)	0	100	10	10	
06	Stop Time (Stop)	0	100	10	10	
07	Stop Time (Stop)	0	100	10	10	
08	Stop Time (Stop)	0	100	10	10	
09	Stop Time (Stop)	0	100	10	10	
10	Stop Time (Stop)	0	100	10	10	
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38	Stop Time (Stop)	0	100	10	10	
39	Stop Time (Stop)	0	100	10	10	
40	Stop Time (Stop)	0	100	10	10	
41	Stop Time (Stop)	0	100	10	10	
42	Stop Time (Stop)	0	100	10	10	
43	Stop Time (Stop)	0	100	10	10	
44	Stop Time (Stop)	0	100	10	10	
45	Stop Time (Stop)	0	100	10	10	
46	Stop Time (Stop)	0	100	10	10	
47	Stop Time (Stop)	0	100	10	10	
48	Stop Time (Stop)	0	100	10	10	
49	Stop Time (Stop)	0	100	10	10	
50	Stop Time (Stop)	0	100	10	10	

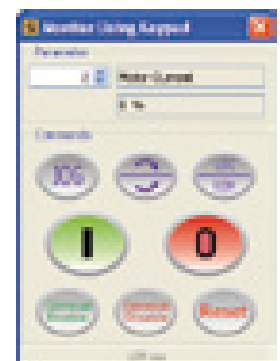
Monitoring and parameterization of the list of parameters comparison to factory default easy



Trace function configuration in the G2 superdrive



Status monitoring

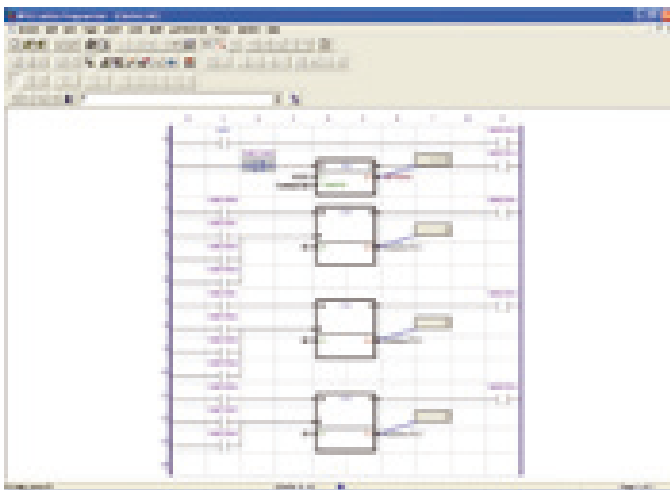


Monitoring and control window using virtual HMI

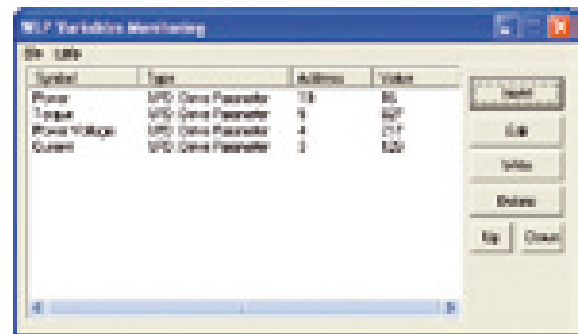
SSW-06 - SOFTPLC Function

A resource that provides PLC functions in the SSW-06 giving flexibility to the user and allowing development of customized user application programs.

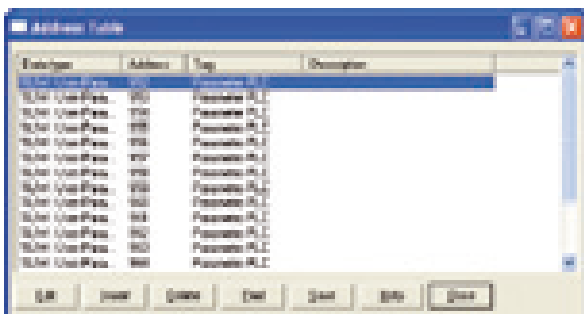
- LADDER programming language – WLP Software.
- Access to all inverter parameters and I/Os.
- PLC, mathematical and control blocks.
- Download, upload and online monitoring.
- Memory capacity of 1kbytes.
- Allows documentation of the application to be created.
- Online help.
- Free software on the site www.weg.net



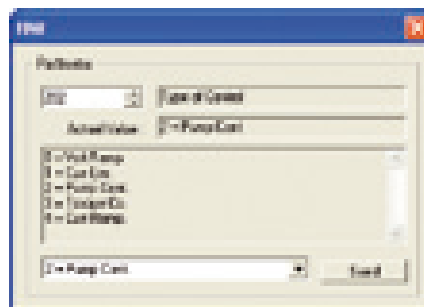
Simple and practical programming environment



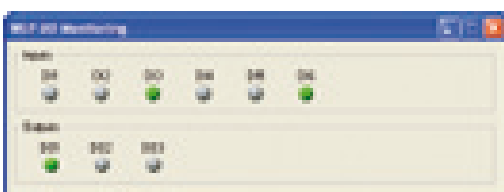
On-line monitoring



User's parameters



Virtual HMI for alteration of parameters



Digital input and output monitoring

SSW-06 - Accessories and Options

Operation interface with double display

LED and LCD, with COPY function, for local installation (in the cover of the soft-starter) or remotely in the door of a panel. Maximum distance 5 m (without frame).



COMPLETE HUMAN-MACHINE INTERFACE (standard)

Installation frame / human-machine interface

Remote mounting of the HMI to the door of a panel or to a machine console. Maximum distance 5 m.



REMOTE INTERFACE FRAME KIT KMR – SSW-06

Cable length for HMI and SSW-06

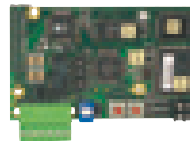
Cable length (X) 1, 2, 3 and 5 m.



REMOTE INTERFACE INTERCONNECTION CABLES CAB – HMI SSW-06-X

Fieldbus Cards

These cards enable SSW06 control via fieldbus.



FIELDBUS COMMUNICATION KITS
 Profibus DP → KFB-PD
 DeviceNet → KFB-DN
 Profibus DPV1 → KFB-PDPV1
 DeviceNet Acyclic → KFB-DD
 EtherNet /IP → KFB-ENIP

RS-485 communication kit

Enables the connection of the SSW06 to a Modbus-RTU fieldbus via an isolated RS485.



COMMUNICATION KIT RS-485
 RS-485 → KRS-485

IP 20 Kit

Protection of the power terminal blocks



POWER CONNECTION TERMINALS PROTECTION KIT (for models from 85A up to 820A)

KIT IP20-M2 (85A to 130A)
 KIT IP20-M3 (170A to 205A)
 KIT IP20-M4 (255A to 365A)
 KIT IP20-M5 (412A to 604A)
 KIT IP20-M6 (670A to 820A)

USB Kit

It allows communication with a PC via USB port



COMMUNICATION KIT

I/O Expansion Kit

6 Isolated Digital Inputs and Outputs to use with SOFTPLC.



DIGITAL I/O EXPANSION

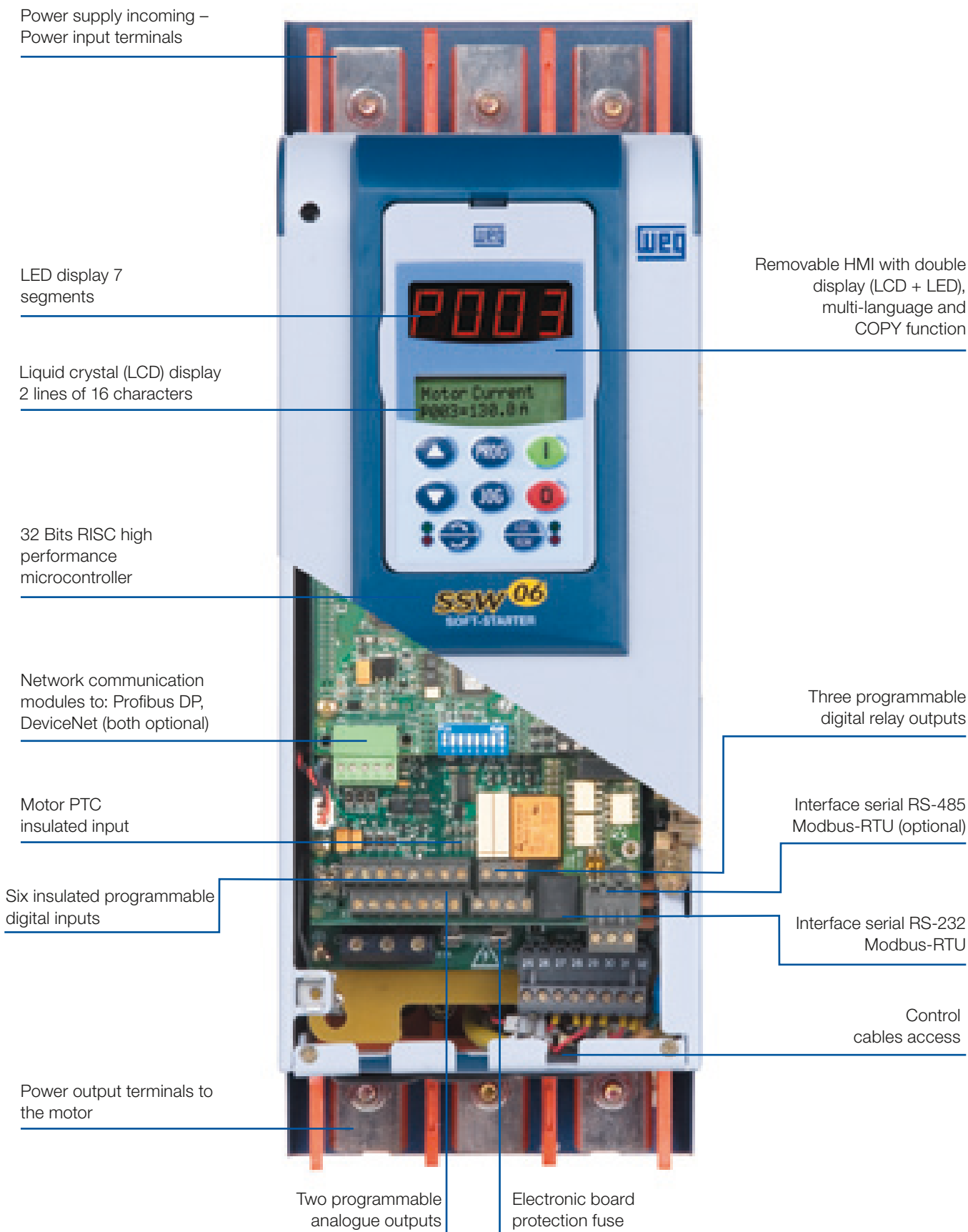
External Current Acquisition Kit

To be used when external By-Pass is required to keep protections activated.



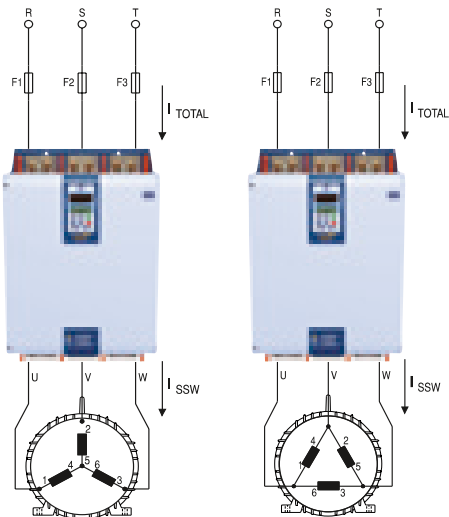
CURRENT ACQUISITION KIT K-ECA (for models 255A to 1400A)

SSW-06 - A Complete, Flexible and Compact Product



SSW-06 - Typical Wiring Diagrams

Standard (3 leads)



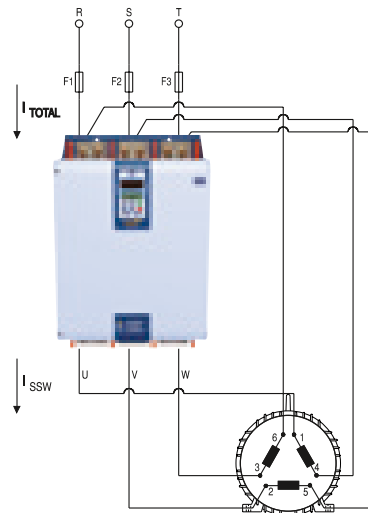
SSW-06 Standard Connection

Motor in Y

Motor in Δ

$$I_{\text{Soft- Starter}} = I_{\text{Full Current}}$$

Inside Delta Connection (6 leads)



SSW-06 Delta Connected

$$I_{\text{Soft- Starter}} = \frac{I_{\text{required}}}{\sqrt{3}} = 58\% \text{ of } I_{\text{required}} \text{ (after the start)}$$

$$I_{\text{Soft- Starter}} = \frac{I_{\text{required}}}{1,5} = 67\% \text{ of } I_{\text{required}} \text{ (during start)}$$

Notes

- At the Starting, for the same motor power, the Inside Delta connection (6leads) allows for a reduction of 33% of the Soft Starter current if compared to the 3 leads connection. Even when the motor is up to speed a reduction of 43% of the Soft Starter current is achieved by using 6 leads connection. Basically the Inside Delta connection option offered by the SSW-06 gives the customer alternative ways of reducing cost and size when it comes to Soft Starter solutions.
- A 6 leads motor is required when Inside Delta Connection is used.

MOTOR	6 leads connection
220V - Δ / 380V-Y	220V - Δ
380V - Δ / 660V-Y	380V - Δ
440V - Δ / 760V-Y	440V - Δ
575V - Δ	575V - Δ
220V - Δ / 380V- Y/ 440V - Δ / 760V-Y	220V - Δ 440V - Δ

- For the same motor power, the connection within the Delta Inside Connection' (6 leads), a reduction of 42% of the soft-starter current compared to the standard connection (3 leads).
- The connection within the delta of the motor (6 leads) allows the soft-starter to start a motor 73% greater than the standard connection (3 leads).
- The connection within the delta of the motor requires 6 leads from the soft-starter to the motor.
- During the start, the motor current can be 1.5 times greater than the soft-starter one.
- After the start, the motor current can be 1.73 times greater than the soft-starter.

SSW-06 - Drive Ratings

The tables below present the expected motor power for each soft-starter model under light load application (e.g.: centrifugal pump). However, for the proper selection of soft-starters, please use the SDW software.

Use the motor power ratings below only as a guidance. Motor rated currents may vary with speed and manufacturer. IEC motor powers are based on WEG 4-pole motors; NEMA motor powers are based on NEC table 430-150 (ratings up to 500 HP) and on WEG 4-pole motors (ratings above 500 HP).

Inline (3 leads) connection

Motor voltages between 220V and 575V

Model	Output Current	IEC - 50Hz			IEC - 60Hz		NEMA - 60Hz		
		220V 230V	380V 415V	525V	220V 230V	440V 460V	230V	460V	575V
		A	kW	kW	HP	HP	HP	HP	HP
SSW060010T2257	10	2.2	4	5.5	3	7.5	3	5	7.5
SSW060016T2257	16	4	7.5	9.2	5	10	5	10	10
SSW060023T2257	23	5.5	11	15	7.5	15	7.5	15	20
SSW060030T2257	30	7.5	15	18.5	10	20	10	20	25
SSW060045T2257	45	11	22	30	15	30	15	30	40
SSW060060T2257	60	15	30	37	20	40	20	40	50
SSW060085T2257	85	22	45	55	30	60	30	60	75
SSW060130T2257	130	37	55	90	50	100	50	100	125
SSW060170T2257	170	45	90	110	60	125	60	125	150
SSW060205T2257	205	55	110	132	75	150	75	150	200
SSW060255T2257	255	75	132	185	100	200	100	200	250
SSW060312T2257	312	90	160	220	125	250	125	250	300
SSW060365T2257	365	110	185	250	150	300	150	300	350
SSW060412T2257	412	110	220	300	150	350	150	300	450
SSW060480T2257	480	132	250	355	200	400	200	400	500
SSW060604T2257	604	185	315	450	250	500	250	500	600
SSW060670T2257	670	200	355	500	270	550	-	600	700
SSW060820T2257	820	250	450	560	350	700	-	700	900
SSW060950T2257	950	280	500	710	400	800	-	800	1000
SSW061100T2257	1100	315	560	800	450	900	-	900	1100
SSW061400T2257	1400	400	710	1000	550	1250	-	1100	1500

Motor voltage 690V

Model	Output Current	IEC
		50Hz 690V
		A
		kW
SSW060045T5769	45	37
SSW060060T5769	60	55
SSW060085T5769	85	75
SSW060130T5769	130	110
SSW060170T5769	170	160
SSW060205T5769	205	185
SSW060255T5769	255	250
SSW060312T5769	312	300
SSW060365T5769	365	355
SSW060412T5769	412	400
SSW060480T5769	480	450
SSW060604T5769	604	560
SSW060670T5769	670	630
SSW060820T5769	820	800
SSW060950T5769	950	900
SSW061100T5769	1100	1120
SSW061400T5769	1400	1400

NOTES:

1- The maximum power of the motors in the table have been calculated based on WEG 2 and 4 poles motors.

For motors with another polarity (Ex.: 6 or 8 poles), or another voltage (Ex.: 230, 400 or 460 V) and/or another supplier, please specify the soft-starter based on the motor rated current.

2 - In 950 A model, the fan voltage must be specified as 110 or 220 Vac.

3 - In 10A and 1400A models, the fan voltage is always 220 Vac.

4 - Ambient temperature (Ta) = 0... 55 C is only valid for 10A up to 820A models, for the 950A, 110A and 1400A models, Ta= 0... 40 C

SSW-06 - Drive Ratings

Inside Delta (6 leads) connection

Motor voltages between 220V and 575V

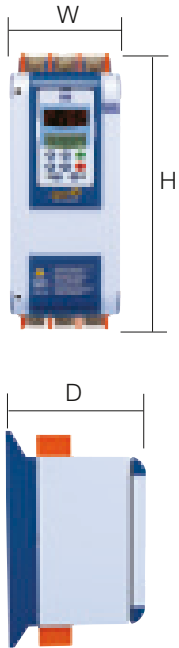
Model	Output Current	IEC - 50Hz			IEC - 60Hz		NEMA - 60Hz		
		220V 230V	380V 415V	525V	220V 230V	440V 460V	230V	460V	575V
		A	kW	kW	kW	HP	HP	HP	HP
SSW060010T2257	-	-	-	-	-	-	-	-	-
SSW060016T2257	-	-	-	-	-	-	-	-	-
SSW060023T2257	-	-	-	-	-	-	-	-	-
SSW060030T2257	-	-	-	-	-	-	-	-	-
SSW060045T2257	77	22	37	55	30	60	25	60	75
SSW060060T2257	103	30	55	75	40	75	30	75	100
SSW060085T2257	147	37	75	90	60	125	50	100	150
SSW060130T2257	225	55	110	160	75	175	75	150	200
SSW060170T2257	294	75	160	220	125	200	100	200	300
SSW060205T2257	355	110	185	250	150	300	125	250	350
SSW060255T2257	441	132	220	315	175	350	150	350	450
SSW060312T2257	540	160	250	400	200	450	200	450	600
SSW060365T2257	631	185	315	450	250	550	250	500	700
SSW060412T2257	713	220	370	500	300	600	-	600	800
SSW060480T2257	831	250	450	630	350	700	-	700	900
SSW060604T2257	1046	315	560	800	450	900	-	900	1100
SSW060670T2257	1160	355	630	900	450	950	-	1000	1250
SSW060820T2257	1420	400	800	1000	550	1250	-	1250	1500
SSW060950T2257	1645	-	900	1250	650	1350	-	1350	1750
SSW061100T2257	1905	-	1000	1400	800	1500	-	1500	2000
SSW061400T2257	2424	-	1250	1800	1000	2000	-	2000	2500

NOTES:

- 1- The maximum power of the motors in the table have been calculated based on WEG 2 and 4 poles motors.
- For motors with another polarity (Ex.: 6 or 8 poles), or another voltage (Ex.: 230, 400 or 460 V) and/or another supplier, please specify the soft-starter based on the motor rated current.
- 2 - In 950 A model, the fan voltage must be specified as 110 or 220 Vac.
- 3 - In 10A and 1400A models, the fan voltage is always 220 Vac.
- 4 - Ambient temperature (Ta) = 0... 55 C is only valid for 10A up to 820A models, for the 950A, 110A and 1400A models, Ta= 0... 40 C

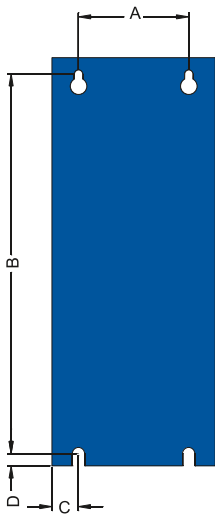


SSW-06 - Dimensions and Weight



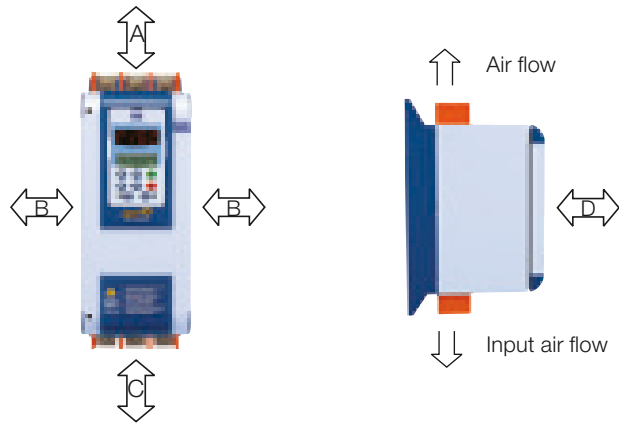
Model	Frame Size	Dimensions mm (in)			Weight kg (lb)	Degree of Protection	Inside Delta (6 cables) Connection	Internal Bypass
		H	W	D				
SSW060010T2257	1	256 (10.08)	132 (5.20)	182 (7.16)	3.3 (7.3)	IP20	No	Yes
SSW060016T2257								
SSW060023T2257								
SSW060030T2257	2	370 (14.57)	132 (5.20)	244 (9.61)	8.5 (18.7)	IP00 (IP20 as optional)	Yes	
SSW060045T2257								
SSW060060T2257								
SSW060085T2257	3	440 (17.32)	223 (8.78)	278 (10.94)	18.5 (40.8)	IP00 (IP20 as optional)	Yes	
SSW060130T2257								
SSW060170T2257								
SSW060205T2257	4	550 (21.65)	370 (14.57)	311 (12.24)	41.5 (91.5)	IP00 (IP20 as optional)	Yes	
SSW060255T2257								
SSW060312T2257								
SSW060365T2257	5	650 (25.59)	370 (14.57)	347 (13.66)	55 (121.3)	IP00 (IP20 as optional)	Yes	
SSW060412T2257								
SSW060480T2257								
SSW060604T2257	6	795 (31.30)	540 (21.26)	357 (14.05)	120 (264.6)	IP00 (IP20 as optional)	Yes	
SSW060670T2257								
SSW060820T2257								
SSW060950T2257	7	845 (33.27)	570 (22.44)	347 (13.66)	107 (235.9)	IP00	Yes	No
SSW061100T2257	8	1147 (45.16)	685 (26.97)	432 (17.01)	217.5 (479.5)	IP00	Yes	No
SSW061400T2257								
SSW060045T5769	2	370 (14.57)	132 (5.20)	244 (9.61)	8.5 (18.7)	IP00 (IP20 as optional)	No	Yes
SSW060060T5769								
SSW060085T5769								
SSW060130T5769	3	440 (17.32)	223 (8.78)	278 (10.94)	18.5 (40.8)			
SSW060170T5769								
SSW060205T5769								
SSW060255T5769	4	550 (21.65)	370 (14.57)	311 (12.24)	41.5 (91.5)			
SSW060312T5769								
SSW060365T5769								
SSW060412T5769	5	650 (25.59)	370 (14.57)	347 (13.66)	55 (121.3)			
SSW060480T5769								
SSW060604T5769								
SSW060670T5769	6	795 (31.30)	540 (21.26)	357 (14.05)	120 (264.6)			
SSW060820T5769								
SSW060950T5769								
SSW061100T5769	8	1147 (45.16)	685 (26.97)	432 (17.01)	217.5 (479.5)	IP00	No	No
SSW061400T5769								

Mechanical Mounting



Model	A mm (in)	B mm (in)	C mm (in)	D mm (in)	Fixation Bolt	Size
SSW060010	75 (2.95)	239 (9.40)	28 (1.10)	8.5 (0.33)	M5	1
SSW060016						
SSW060023						
SSW060030	75 (2.95)	350 (13.78)	28.5 (1.12)	8.5 (0.33)	M5	2
SSW060045						
SSW060060						
SSW060085	150 (5.91)	425 (16.73)	36.5 (1.44)	5.9 (0.23)	M6	3
SSW060130						
SSW060170						
SSW060205	200 (7.87)	527.5 (20.77)	85 (3.35)	10 (0.39)	M6	4
SSW060255						
SSW060312						
SSW060365	200 (7.87)	627.5 (24.70)	85 (3.35)	10 (0.39)	M6	5
SSW060412						
SSW060480						
SSW060604	350 (13.78)	775 (30.51)	95 (3.74)	7.5 (0.29)	M8	6
SSW060670						
SSW060820						
SSW060950	400 (15.75)	810 (31.89)	84 (3.31)	10 (0.39)	M8	7
SSW061100						
SSW061400	500 (19.68)	1110 (43.70)	93 (3.66)	15 (0.59)	M8	8

SSW-06 - Mounting Clearance



MODEL	A mm (in)	B mm (in)	C mm (in)	D mm (in)	Size
SSW060010	150 (5.90)	30 (1.18)	150 (5.90)	50 (1.96)	1
SSW060016					
SSW060023					
SSW060030	150 (5.90)	30 (1.18)	150 (5.90)	50 (1.96)	2
SSW060045					
SSW060060					
SSW060085	150 (5.90)	30 (1.18)	150 (5.90)	50 (1.96)	3
SSW060130					
SSW060170	150 (5.90)	30 (1.18)	150 (5.90)	50 (1.96)	4
SSW060205					
SSW060255	150 (5.90)	30 (1.18)	150 (5.90)	50 (1.96)	5
SSW060312					
SSW060365					
SSW060412	150 (5.90)	30 (1.18)	150 (5.90)	150 (1.96)	6
SSW060480					
SSW060604					
SSW060670	150 (5.90)	30 (1.18)	150 (5.90)	50 (1.96)	7
SSW060820					
SSW060950	150 (5.90)	30 (1.18)	150 (5.90)	50 (1.96)	8
SSW061100					
SSW061400	150 (5.90)	100 (1.18)	150 (5.90)	50 (1.96)	



SSW-06 - Technical Data

Power Supply	Power	(220 to 690) Vac (-15% to +10%)	
	Control	(110 to 230) Vac (-15% to +10%), or (94 to 253) Vac	
	Fan	Models from 255 to 820 A: 115 Vac (104 to 127) Vac / 230 vac (207 to 253) Vac Model 950 A: 115 Vac (103,5 to 122) Vac / 230 vac (207 to 243,8) Vac Models from 1100 to 1400 A: 230 vac (207 to 243,8) Vac	
	Frequency	(50 to 60) Hz (+/- 10%), or (45 to 66) Hz	
Degree of Protection	Metallic cabinet	IP20 for 10A up to 30A / IP 00 from 45A	
Control	Control method	Motor voltage variation (Three phase induction motor)	
	CPU	32 Bits RISC microcontroller	
	Types of control	Voltage ramp	
		Current limitation	
		Current limitation ramp	
Pump control			
		Torque control 1,2 or 3 points	
Starting Duty Cycles (10 starts / hour)	Rated	300% (3 x I nom.) during 30 s for 3 cables connection and during 25 s for 6 cables connection	
	Heavy	450% (4,5 X I nom.) during 30 s with 33% rated current reduction; 450 % (4,5 x I nom.) during 25 s for 6 cables connection	
Inputs	Digital	5 x 24 Vdc insulated programmable inputs 1 x 24 Vdc insulated programmable input for motor PTC	
	Relay	3 programmable outputs 250 V / 2 A: (2 x NA) + (1 x NO + NC – Fault)	
Outputs	Analog	1 Programmable output (11 bits) 0...10 Vdc 1 programmable output (11 bits) 0...20 mA or 4...20 mA	
Safety	Protections	Over voltage	Power supply phase loss
		Under voltage	Output phase loss (motor)
		Voltage unbalance	Thyristor failure
		Under current	CPU failure (watch dog)
		Over current	Programming error
		Current unbalance	Serial communication error
		Overload (motor) – i ² t	Self-check error
		Thyristors over temperature	HMI-SSW06 communication error
		Motor over temperature / PTC	Starting time expired
		Phase sequence failure	Fieldbus communication error
		External fault	Serial communication error
		Open by-pass contact failure (1)	Under voltage in the electronic board
		Closed by-pass contact failure (1)	Frequency out of range
		Over current in the by-pass (1)	
Under current before by-pass closing (1)			
Functions/Resources	Standard	Removable Human-Machine Interface with double display LED + LCD	
		Programming access password	
		HMI language selection: Portuguese, English, Spanish and German	
		Control type selection: Voltage ramp, current limitation, current limitation ramp, pump control and torque control	
		Local/ Remote operation selection	
		Self-checking and fault auto-reset	
		Oriented start-up according to the control type	
		Standard connection or Inside delta connection (not available for 690V)	
		All protections and functions available in both types of connection to the motor	
		PUMP CONTROL function (protection against “water hummer” in pumps)	
		COPY function (Soft-starter -> HMI or HMI -> soft-starter)	
		Built-in by-pass for the models 85 to 820 A	
		Serial interface RS-232 with Modbus RTU protocol. RS-485 optional	
		Insulated input for motor PTC	
		Standard or user parameters reset (Brings back the standard or user values)	
		Special features: Running hours	
		Programmable over and undervoltage and voltage unbalance between phases	
		Programmable over and undercurrent and current unbalance between phases	
		Under and over current before by-pass	
		Programmable immediate over current	
		Programmable time for immediate over current	
		Programmable immediate under current	
		Programmable time for immediate under current	
		Programmable line nominal voltage	
		Fully programmable voltage ramp	
		Programmable current limitation	
		Programmable current ramp	
		Programmable pump control	
		Fully flexible torque control	
		Auto reset of the programmable thermal memory	
Thermal class protection (motor overload) programmable from class 5 to 45.			

SSW-06 - Technical Data

Functions/Resources	Optional	Frame for remote HMI	
		Cable to interconnect the soft-starter with the remote HMI 1, 2, 3 and 5 m	
		Rs-485 communication kit	
		PROFIBUS-DP communication kit	
		Device Net communication kit	
Human-Machine Interface (HMI-SSW06-LCD)	Controls	IP20 protection for the models from 45A up to 820 A	
		Start, stop, reset and parameterization (main functions programming)	
	Supervision (read)	Increase and decrease parameters and their values	
		Motor current (% Soft-starter I _n)	
		Motor current (% Motor I _n)	
		Motor current (A)	
		Line frequency (0...99.9 Hz)	
		Line voltage (0...999 V)	
		Output voltage (0...999 V)	
		Motor torque (% motor I _n)	
		Load active power – (kW)	
		Load apparent power – (kVA)	
		Soft-starter status	
		Digital and analogue inputs and outputs status	
		Load Cos (φ) – (0.00 – 0.99)	
		Powered-up Time hours	
		Enabled hours Operating Time	
		Last four error codes memory	
		Soft-starter software version	
		kWh hours Monitoring	
		Analog output Monitoring	
		SoftPLC status	
		Storage of the 6 most recent faults and fault diagnostics	
		Motor thermal memory monitoring	
		Fieldbus Communication status	
		Operating status	
	Environment Conditions	Temperature	0 to 55 C (Models from 85 to 820 A) standard operation at rated current 0 to 40 C (Models from 950 to 1400 A) standard operation at rated current
		Humidity	5...90 %, non condensation
Altitude		0... 1000 m: standard operation at rated current 1000... 4000 m; with output current reduction of 1%/100 m, over 1000 m	
Finishing Painting	Color	Cover: opaque gray Cabinet: opaque blue	
Standards	Safety	UL 508 Standard – Industrial control equipment (2)	
	Low voltage	EN 60947-4-2 Standard; LVD 73/23/EEC – Low voltage directive	
	EMC	EMC directive 89 / 336 / EEC – Industrial environment	
	UL (USA) / cUL (Canadá)	Underwriters Laboratories Inc. – USA (2)	
	CE (Europe)	Certified by EPCOS	
	IRAM (Argentina)	Instituto Argentino de Normalización (2)	
	C-Tick (Australia)	Australian Communications Authority	

Notes: (1) Models from 85A up to 820A
(2) Models from 85A up to 1400A approved, models from 10A up to 60A pending



SSW-06 - Coding



1 - WEG soft-starter SSW-06 series

2 - Soft-starter rated output current

0010 = 10A	0085 = 85A	0365 = 365A	0950 = 950A
0016 = 16A	00130 = 130A	0412 = 412A	1100 = 1100A
0023 = 23A	00170 = 170A	0480 = 480A	1400 = 1400A
0030 = 30A	0205 = 205A	0604 = 604A	
0045 = 45A	0255 = 255A	0670 = 670A	
0060 = 60A	0312 = 312A	0820 = 820A	

3 - Power supply:

T= three-phase

4 - Power supply voltage:

2257 = 220... 575 V
5769 = 575... 690V

5 - Manual language:

P = Portuguese
E = English
S = Spanish

6 - Product version:

S = standard
O = With options

7 - Degree of protection (IP):

Blank = Standard (see technical data table)

8 - Human-Machine Interface (HMI):

Blank = Standard (with LED + LCD HMI)
SI = Without HMI

9 - Special hardware:

Blank = Standard
H1 = Fan 115V (950A model)
H2 = Fan 220V (950A up to 1400A model)

10 - Special software:

Blank = Standard
S1 = optional with special software version

11 - Code end:

Z = Product final codification indication digit

NOTE:

- 1 - Communication kits are optional
- 2 - From 950A up to 1400A models the ventilation voltage must be defined (H1 or H2)

SSW-07 and SSW-08

The SSW-07 and SSW-08, with DSP (Digital Signal Processor) control were designed for high performance on motor starts and stops with an excellent cost-benefit ratio. Easy to set up, it simplifies start-up activities and daily operation.

The SSW-07 and SSW-08 are compact optimizing space in electric panels.

It already incorporates electric motor protection. It adapts to customer needs through its easy-to-install optional accessories. Thus, a keypad and a communication interface or a motor PTC input can be added to the product.

The new models of Soft Starter SSW-07 and SSW-08 series has been developed on the matter of achieving the best cost-benefit ratio. The by-pass built-in allows energy saving as well as increased Soft Starter lifetime.

The SSW-07 and SSW-08 are equipped with the same functionalities, being the SSW07 applied for heavy load starts and the SSW-08 for light and moderate load starts.



Benefits

- Reduction of mechanical stresses over the coupling and transmission devices (gearboxes, pulleys, gears, conveyors, etc) during the start;
- Increases motor and machine mechanical equipment lifetime due to the reduction of mechanical stress;
- Easy operation, setup and maintenance;
- Simple electrical installation;
- Operates in environments up to 55 °C (without current reduction for all models);
- Integral, electronic motor protection;
- “Kick-Start” function for starting high breakaway torque loads;
- Reduces “Water Hammer” in pump applications;
- Limitation of voltage drop during start;
- Voltage Range (220 to 575Vac);
- Switched mode power supply with EMC filter for the control of electronics (110 to 240 Vac);
- Built-in by-pass providing size reduction and energy saving;
- Voltage monitoring of the electronics allows to back-up I x t values (thermal image).

Applications

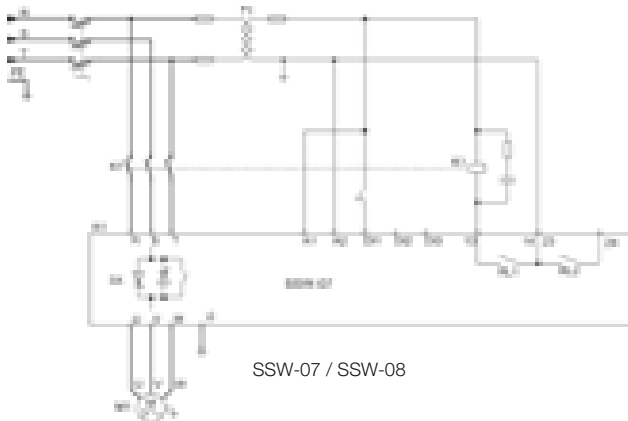
TYPICAL EXAMPLE OF LIGHT AND MODERATE LOADS

- Centrifugal Pump
- Immersed Centrifugal Pump
- Blade Vacuum Pump
- Screw Compressor
- Paper Refiner
- Sieving Machine
- Misturer

TYPICAL EXAMPLE OF HEAVY LOADS

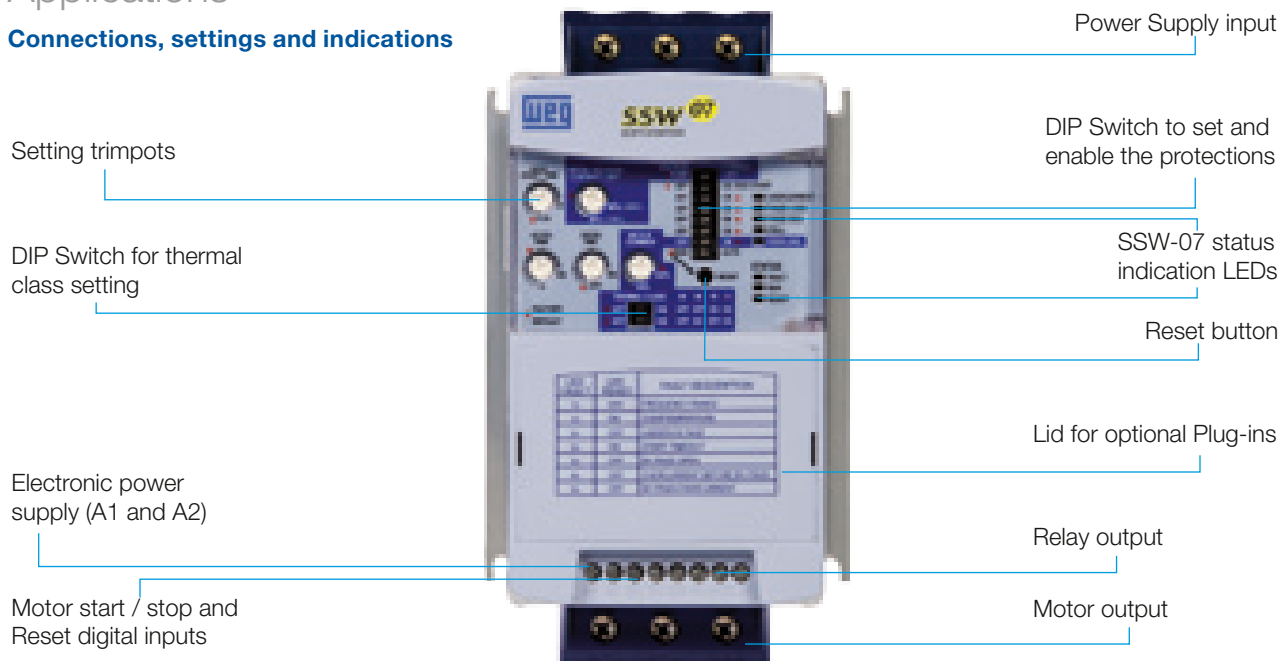
- Stone Crusher
- Centrifuge
- Wood Chipper
- Wood Slicing machine
- Conveyor
- Axial and Centrifugal Fan
- Ball Mill (Ceramic)
- Hammer Mill

SSW-07 and SSW-08 Wiring Diagram



Applications

Connections, settings and indications



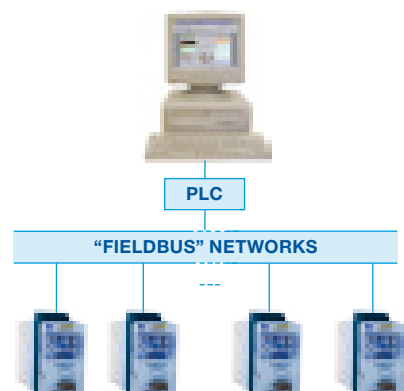
SSW-07 and SSW-08 - Accessories and Options

The SSW-07 and SSW-08 soft-starters can be communicated to fieldbus communication network through the most common standard protocols in the world, as follows:

- FIELDBUS →
- PROFIBUS DP (with MFW01)
 - DeviceNet (optional)
 - Modbus RTU RS-232 (optional)
 - Modbus RTU RS-485 (optional)

Mainly intended to integrate large automation plants, communication networks offer many advantages in the supervision, monitoring and on-line control of the soft-starters, providing high performance and great operational flexibility.

To be connected to communication protocols, as Profibus DP and DeviceNet, the SSW-07 and SSW-08 Series offer plug-in accessories to install according to the desired protocol. For the Modbus RTU protocol, the connection can be done via RS-232 or RS-485 (optional) interface.



SSW-07 and SSW-08 - Keypad

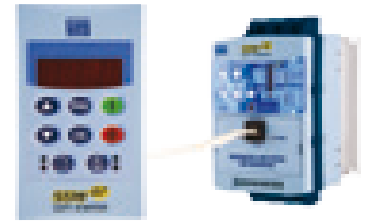
Operation interface with display, LED (7 segments), which allows excellent long distance visibility. The HMI with “copy function” built-in allows copy of certain user configuration from an existent Soft Starter to others. It gives reliability for applications where the same parameters settings is desired for more than one Soft Starter.

Local
Plug-in type HMI.



SSW-07 and SSW-08 local HMI

Remote
Remote HMI for placing at the panel door or machinery console.



SSW-07 and SSW-08 remote HMI
Cable for connecting HMI to SSW-07 and SSW-08.
Cable length: 1,2,3,5,7.5 and 10m.

SUPERDRIVE G2



Windows-based Software, for SSW-07 and SSW-08 parameter setting, control and monitoring. The following functionalities are provided with the Superdrive G2:

- SSW-07 and SSW-08 automatic identification.
- SSW-07 and SSW-08 reading parameters
- Online parameters settings for SSW-07 and SSW-08
- Offline parameters settings to create a user application
- Easily accessible.
- Supplied with a 3m RS-232 serial cable when the Superdrive G2 software is acquired.
- Free version available at WEG's website www.weg.net

SSW-07 and SSW-08 - Accessories and options



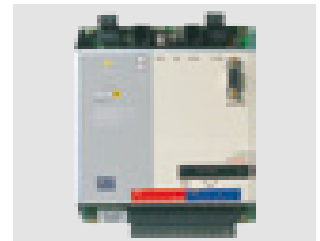
Modbus RTU - RS - 232
Optional Plug-in type module for Modbus RTU communication in RS-232



Modbus RTU - RS - 485
Optional Plug-in type module for Modbus RTU communication in RS-485



DeviceNet
Optional Plug-in type module for DeviceNet communication.



Profibus-DP
Via MFW-01/PD



IP20 Kit
For models from 130 A to 200 A, this kit guarantees protection against contact with energized parts.



Cable for connecting RS-232. Cable length in 3 and 10m



Motor PTC
Optional module for motor PTC connection.



Ventilation kit
For models from 45 A to 200 A. A ventilation kit is necessary for heavy duty starting cycle.

SSW-07 and SSW-08 Modes of Operation

All settings necessary for starting any type of load is available through trimpots and dip-switches.

Voltage ramp

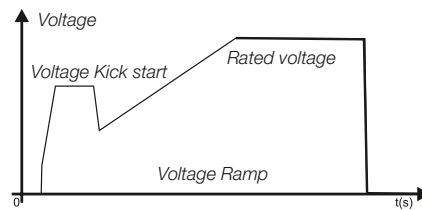
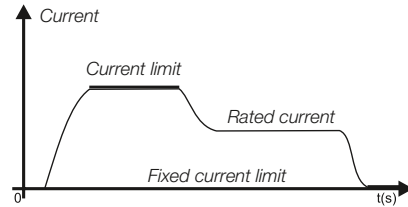
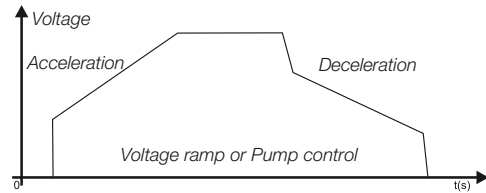
Allows smooth acceleration and/or deceleration, through voltage ramps.

Current limit

Allows the setting of current limit during acceleration.

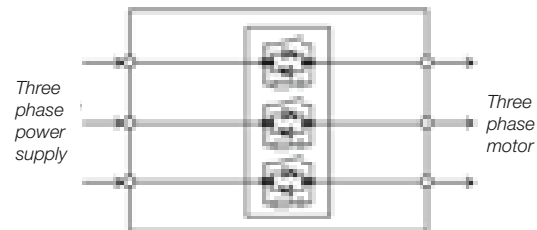
Voltage Kick Start

It enables an initial voltage pulse which provides on initial starting torque increase. This is required for starting high breakway torque loads.



Built-in by pass

Both SSW-07 and SSW-08 Series have built-in bypass to minimize power losses and heat dissipation in the thyristors, providing size reduction and contributing to energy saving. This is available in all models.



SSW-07 and SSW-08 - Drive Ratings

The tables below present the expected motor power for each soft-starter model under light load application (e.g.: centrifugal pump). However, for the proper selection of soft-starters, please use the SDW software.

Use the motor power ratings below only as a guidance. Motor rated currents may vary with speed and manufacturer. IEC motor powers are based on WEG 4-pole motors; NEMA motor powers are based on NEC table 430-150.

Motor voltages between 220V and 575V

Model	Output Current	IEC - 50Hz			IEC - 60Hz		NEMA - 60Hz		
		220V	380V	525V	220V	440V	230V	460V	575V
		230V	415V		230V	460V	HP	HP	HP
SSW070017T5	17	4	7.5	11	6	12.5	5	10	15
SSW070024T5	24	5.5	11	15	7.5	15	7.5	15	20
SSW070030T5	30	7.5	15	18.5	10	20	10	20	25
SSW070045T5	45	11	22	30	15	30	15	30	40
SSW070061T5	61	15	30	37	20	40	20	40	50
SSW070085T5	85	22	45	55	30	60	30	60	75
SSW070130T5	130	37	55	90	37	100	50	100	125
SSW070171T5	171	45	90	110	60	125	60	125	150
SSW070200T5	200	55	110	132	75	150	75	150	200
SSW080017T5	17	4	7.5	11	6	12.5	5	10	15
SSW080024T5	24	5.5	11	15	7.5	15	7.5	15	20
SSW080030T5	30	7.5	15	18.5	10	20	10	20	25
SSW080045T5	45	11	22	30	15	30	15	30	40
SSW080061T5	61	15	30	37	20	40	20	40	50
SSW080085T5	85	22	45	55	30	60	30	60	75
SSW080130T5	130	37	55	90	37	100	50	100	125
SSW080171T5	171	45	90	110	60	125	60	125	150
SSW080200T5	200	55	110	132	75	150	75	150	200

NOTES: The above maximum motor power ratings were calculated based on WEG models, 4 poles, IP55, standard, 55°C ambient temperature.

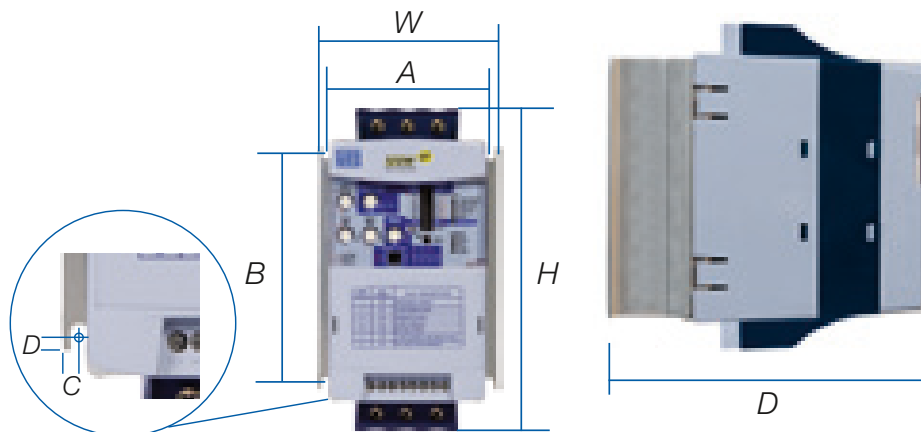
SSW-07 and SSW-08 - Dimensions and Weight

Model	Frame Size	Dimensions mm (in)			Weight kg (lb)	Degree of Protection	Inside Delta (6 cables) Connection	Internal Bypass
		H	W	D				
SSW070017T5	1	162 (6.38)	95 (3.74)	157 (6.18)	1.3 (2.9)	IP20	No	Yes
SSW070024T5								
SSW070030T5								
SSW070045T5	2	208 (8.19)	144 (5.67)	203 (7.99)	3.3 (7.3)			
SSW070061T5								
SSW070085T5								
SSW070130T5	3	276 (10.87)	223 (8.78)	220 (8.66)	7.6 (16.8)	IP00 (IP20 as optional)		
SSW070171T5								
SSW070200T5								
SSW080017T5	1	162 (6.38)	95 (3.74)	157 (6.18)	1.3 (2.9)	IP20	No	Yes
SSW080024T5								
SSW080030T5								
SSW080045T5	2	208 (8.19)	144 (5.67)	203 (7.99)	3.3 (7.3)			
SSW080061T5								
SSW080085T5								
SSW080130T5	3	276 (10.87)	223 (8.78)	220 (8.66)	7.6 (16.8)	IP00 (IP20 as optional)		
SSW080171T5								
SSW080200T5								

Mechanical Mounting

SSW-07 / SSW-08 Model	A mm (In)	B mm (In)	C mm (In)	D mm (In)	Mounting bolt	Weight kg (lb)	Size
SSW070017 SSW070024 SSW070030	85 (3.35)	120 (4.72)	5 (0.20)	4 (0.16)	M4	1.3 (2.9)	1
SSW070045 SSW070061 SSW070085	132 (5.2)	148 (5.83)	6 (0.24)	3.4 (0.13)	M4	3.3 (7.28)	2
SSW070130 SSW070171 SSW070200	208 (8.19)	210 (8.27)	7.5 (0.3)	5 (0.2)	M5	7.6 (16.8)	3

Table 3.1 Data for installation with dimensions in mm (in)
*Option for IP20 Kit



SSW-07 and SSW-08 - Technical Data

Power Supply	Power	220 to 690 Vac	
	Control	110 to 240 Vac (-15% to +10%), or 94 to 264 Vac	
	Frequency	50 to 60 Hz (+/- 10%), or 45 to 66 Hz	
Degree of Protection	Injected molded plastic case	IP20 in models from 17 to 85 A IP00 in models from 130 to 200 A (IP20 an option)	
Control	Control Method	Motor Voltage Variation	
	CPU	DSP type microprocessor (Digital Signal Processor)	
	Types of Control	Voltage ramp Current limit	
Starting Duty Cycle	Frame Size 1	3 x In during 30s, 10 starts per hour	
	Frame Size 2 and 3	3 x In during 30s, 03 starts per hour (availability of ventilation kit for applications where 4 up to 10 starts per hour is demanded.)	
Inputs	Digital	3 isolated programmable inputs	
Outputs	Relay	02 relays with NO contacts, 240Vac, 1A, programmable functions	
Safety	Protections (Standard)	Overcurrent	Locked rotor
		Overcurrent before By-pass	Excess starting time
		Phase loss	Frequency outside tolerance
		Inverted phase sequence	By-pass contact open
		Overtemperature in power heatsink	Undervoltage in control supply
	Protections (with Accessory)	Motor Overload (class 5 to 30)	
		Undercurrent	Programming error
		Current imbalance	Serial communication error
		Under subcurrent before By-pass	HMI communication error
		External fault	Overtemperature in motor PTC
Functions / Resources	Standard	Voltage ramp (Initial voltage: 30% to 90%)	
		Current limitation (150% to 450% of SSW-07 rated current)	
		Starting time (1 to 40s)	
		Kick Start (Off - 0.2 to 2s)	
		Deceleration ramp (0 to 40s)	
		Motor and SSW-07 current relation (50% to 100%)	
		Faults auto-reset	
		Thermal memory auto-reset	
		Factory standard reset	
		Soft-starter built-in By-pass	
Programming Accessory (HMI or Serial communication)	Command	On, Off / Reset and Parameterization (function programming)	
	Additional Functions / Resources	Starting time up to 999s	
		Deceleration time up to 999s	
		Program enabling password	
		Selection for Local / Remote operation	
		COPY function (SSW-07 >>> HMI and HMI >>> SSW-07)	
	Supervision (Reading)	Programmable rated voltage	
		Motor current (%Soft-Starter In)	
		Motor current (%motor In)	
		Motor current (A)	
		Current indication in each phase R-S-T	
		Supply network frequency	
		Apparent power supplied to load (kVA)	
		Soft-Starter status	
		Digital input and output status	
Last 4 faults			
Accessories and Options	Options	Soft-Starter Software Version	
		Heatsink temperature	
		Motor thermal protection status	
		Plug-in type local HMI	
		HMI remote Kit	
		1,2,3,5,7.5 and 10m cable for remote HMI interconnection	
		RS-232 communication kit	
		SSW-07 interconnection cables>>> PC Serial (RS-232) 3 and 10m	
		RS-485 communication kit	
		Motor PTC kit	
Finishing	Color	Ventilation kit for size 2 (45 to 85 A)	
		Ventilation kit for size 3 (130 to 200 A)	
Conformities / Standards	Safety	Lid: Gray Ultra Mat	
		Cabinet: Blue Ultra Mat	
		UL 508 Standard- Industrial Control Equipment	
		EN60947-4-2;LVD 2006/95/EC Standard – Low voltage Directive	
		EMC 89/336/EEC Directive – Industrial Environment	
		UL (USA) / cUL (Canada)	Underwriters Laboratories Inc. – USA
CE (Europe)	Conformity test conducted by EPCOS		
	C-Tick (Australia)	Australian Communication Authority	

(1) For the 45 to 200 A currents using the ventilation kit.

SSW-07 and SSW-08 - Coding

EX	SSW0X	0017	T	5	S	--	--	--	Z
1	2	3	4	5	6	7	8	9	10

1 - Market / Manual:

EX= Export/English,
Spanish and Portuguese

2 - WEG SSW-07 and SSW-08 Series Soft-Starter

3 - Soft-Starter rated output current

4 - Soft-Starter input power supply:

T = Three-phase

5 - Power supply voltage:

5 = 220 to 575 V range

6 - Product version:

S = Standard
O = with Options

7 - Enclosure:

Blank = Standard
IP = IP20 for models from
130 A to 200 A

8 - Special Hardware:

Blank = Standard

9 - Special Software:

Blank = Standard

10 - End of code:

Z = End of product code
indicator digit.



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