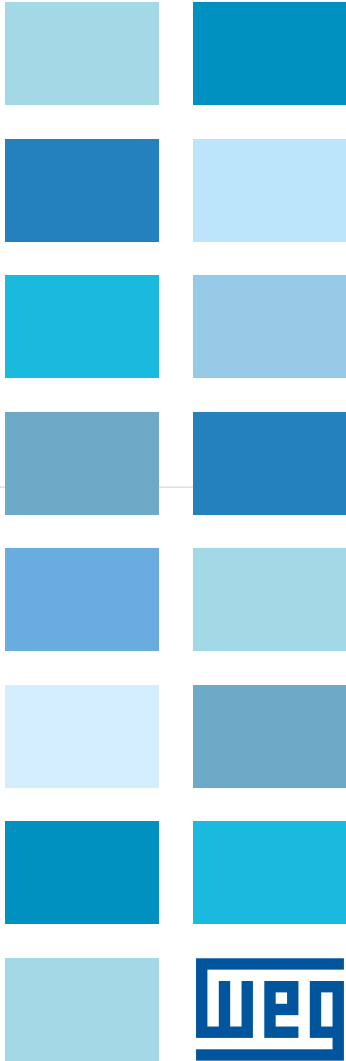
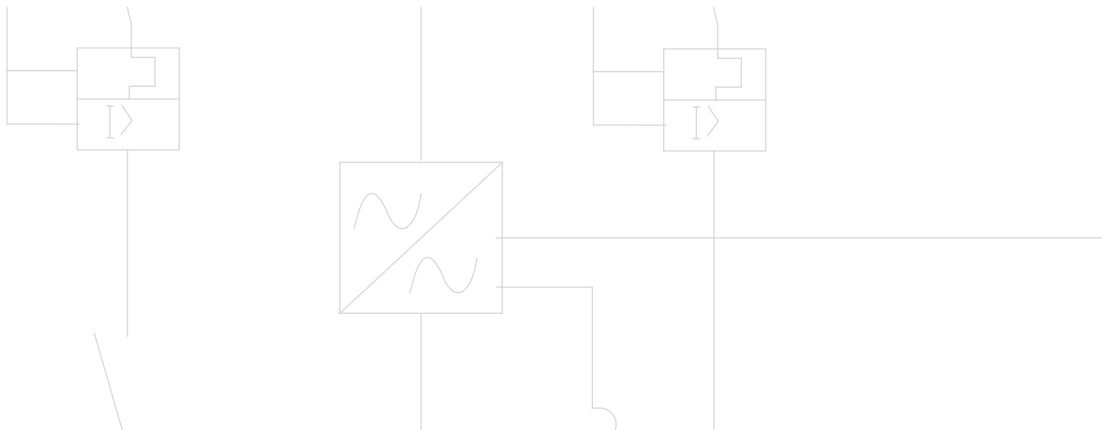


# Automation

## Soft-Starters





## Soft-Starters



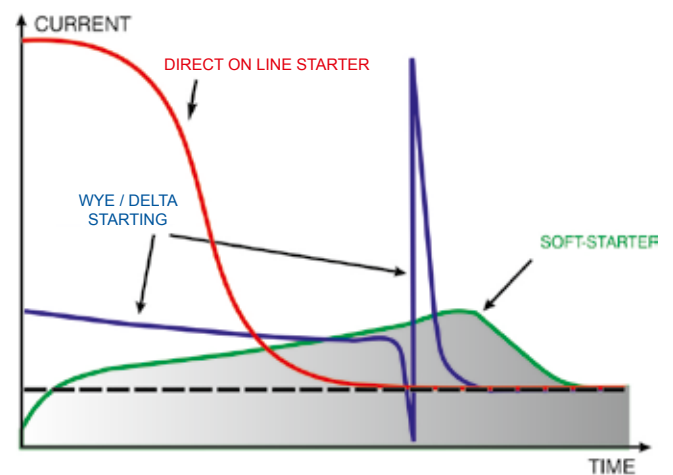
Soft-Starters are static starters that accelerate, decelerate and protect three-phase induction motors. The control of the voltage applied to the motor by means of adjustments to the firing angle of thyristors allows the soft-starter to start and stop an electric motor smoothly. With adequate adjustments 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).

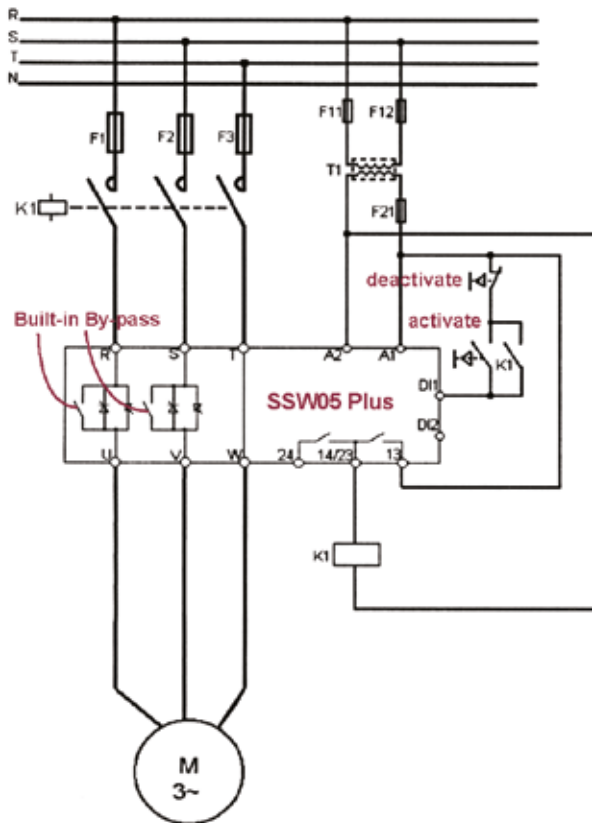
### Applications

- 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



## 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

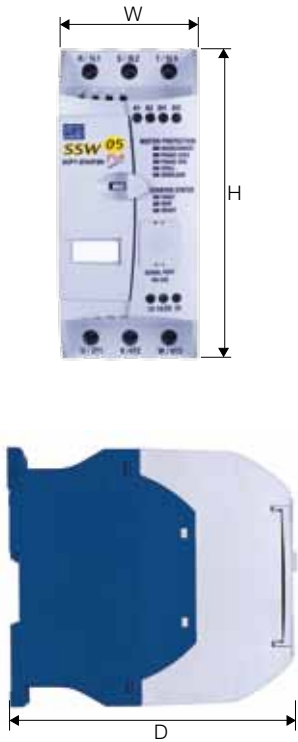
| Model          | Output Current | IEC - 50Hz |           | IEC - 60Hz |           | NEMA - 60Hz |      |
|----------------|----------------|------------|-----------|------------|-----------|-------------|------|
|                |                | 220V 230V  | 380V 415V | 220V 230V  | 440V 460V | 230V        | 460V |
|                | A              | kW         | kW        | HP         | HP        | HP          | 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        | HP        |
| 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

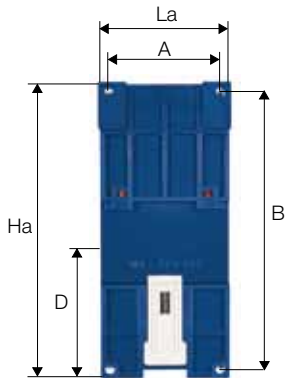
| Model          | Frame Size | Dimensions mm (in) |              |               | Weight kg (lb) | Degree of Protection | Inside Delta (6 cables) Connection | Internal Bypass |
|----------------|------------|--------------------|--------------|---------------|----------------|----------------------|------------------------------------|-----------------|
|                |            | H                  | W            | D             |                |                      |                                    |                 |
| SSW050003T2246 | 1          | 130<br>(5.12)      | 59<br>(2.32) | 145<br>(5.71) | 0.74<br>(1.63) | IP00                 | No                                 | Yes             |
| SSW050010T2246 |            |                    |              |               |                |                      |                                    |                 |
| SSW050016T2246 |            |                    |              |               |                |                      |                                    |                 |
| SSW050023T2246 |            |                    |              |               |                |                      |                                    |                 |
| SSW050030T2246 |            |                    |              |               |                |                      |                                    |                 |
| SSW050045T2246 | 2          | 185<br>(7.28)      | 79<br>(3.11) | 172<br>(2.79) | 1.67<br>(3.68) |                      |                                    |                 |
| SSW050060T2246 |            |                    |              |               |                |                      |                                    |                 |
| SSW050085T2246 |            |                    |              |               |                |                      |                                    |                 |
| SSW050003T4657 | 1          | 130<br>(5.12)      | 59<br>(2.32) | 145<br>(5.71) | 0.74<br>(1.63) | IP00                 | No                                 | Yes             |
| SSW050010T4657 |            |                    |              |               |                |                      |                                    |                 |
| SSW050016T4657 |            |                    |              |               |                |                      |                                    |                 |
| SSW050023T4657 |            |                    |              |               |                |                      |                                    |                 |
| SSW050030T4657 |            |                    |              |               |                |                      |                                    |                 |
| SSW050045T4657 | 2          | 185<br>(7.28)      | 79<br>(3.11) | 172<br>(2.79) | 1.67<br>(3.68) |                      |                                    |                 |
| 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                   |
| Finishing                |                                                           | 1000...4000m - with current derating (1%/ 100 m (328 ft) above 1000m (13.300ft) |
| Installation             | Colour                                                    | Frost gray (cover) and blue (base) WEG standard                                 |
| Conformities / Standards | Fastening                                                 | Fastening by bolts or assembling on DIN 35 mm rail                              |
|                          | 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

|       |      |   |      |   |   |    |    |   |
|-------|------|---|------|---|---|----|----|---|
| SSW05 | 0010 | T | 2246 | P | P | -- | -- | Z |
| 1     | 2    | 3 | 4    | 5 | 6 | 7  | 8  | 9 |

### 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 I<sup>2</sup>t 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

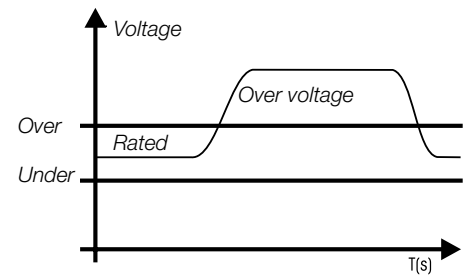
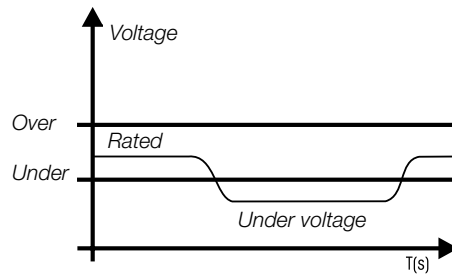
### Load transportation

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

## Voltage and Current Protections

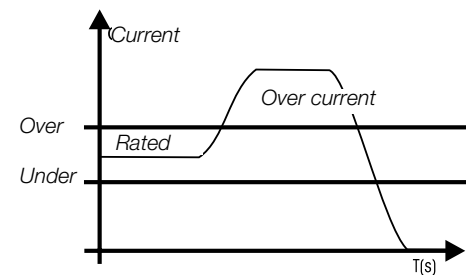
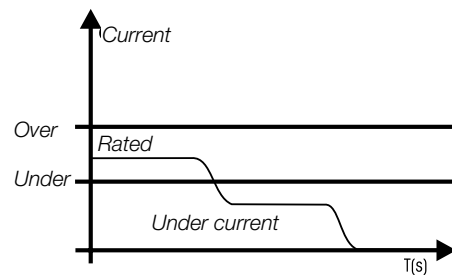
### Under and Over Voltage

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



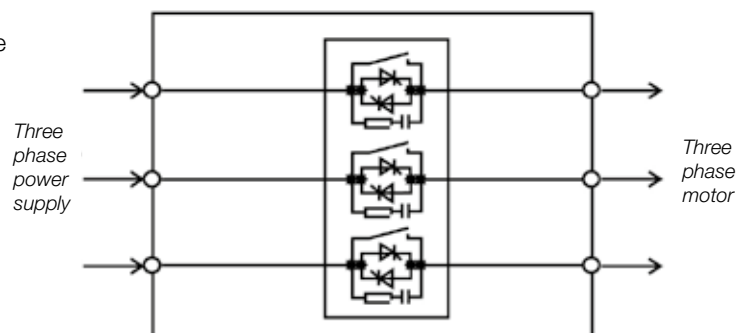
### Under and Over Current

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



## BY-PASS Built-in

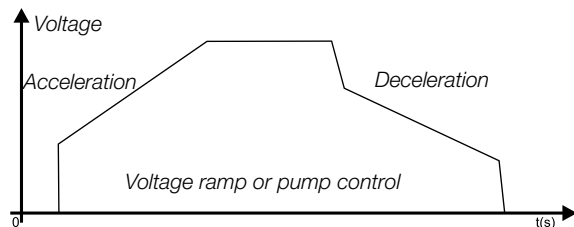
Built-in by-pass reduces power and heating losses in the thyristors, providing size reduction and energy saving. It is available in the models from 10A up to 820A.



## SSW-06 - Main Functions

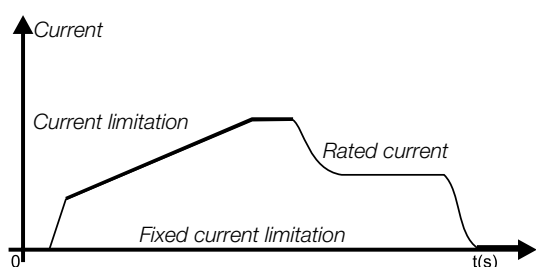
### Voltage Ramp

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



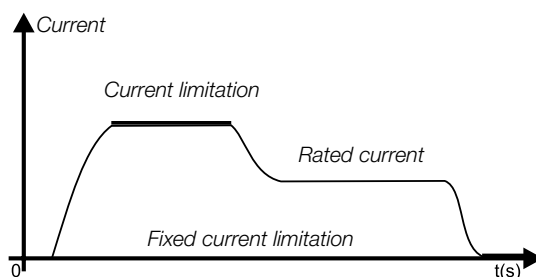
### Pump Control

Pump control provides a smooth deceleration avoiding "overshoots".



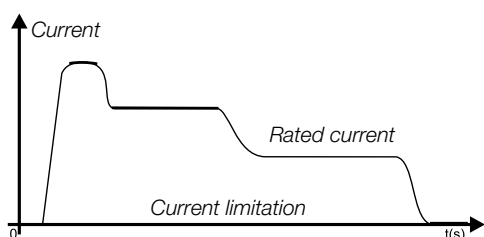
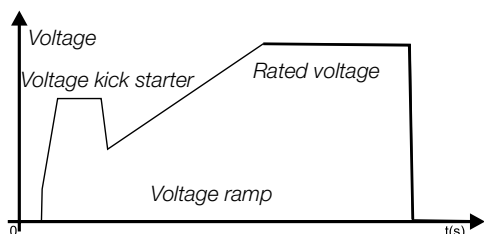
### Current Limitation

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



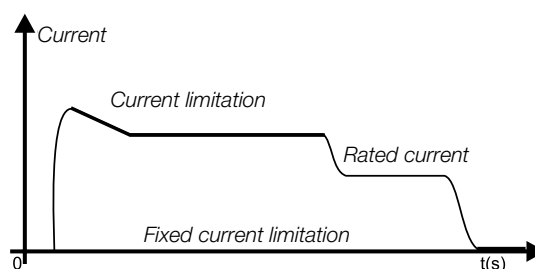
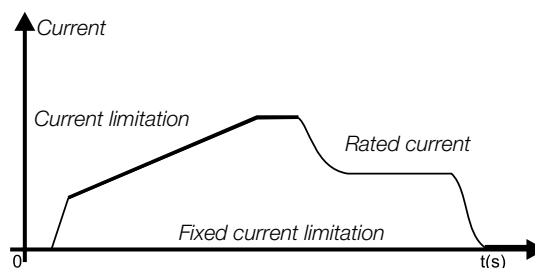
### Voltage and current Kick Starter

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.

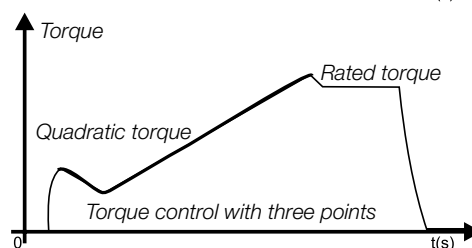
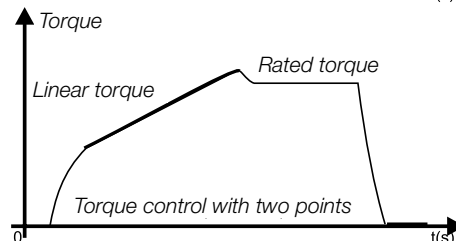
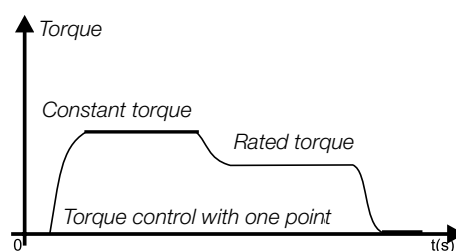


### Torque Control

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)

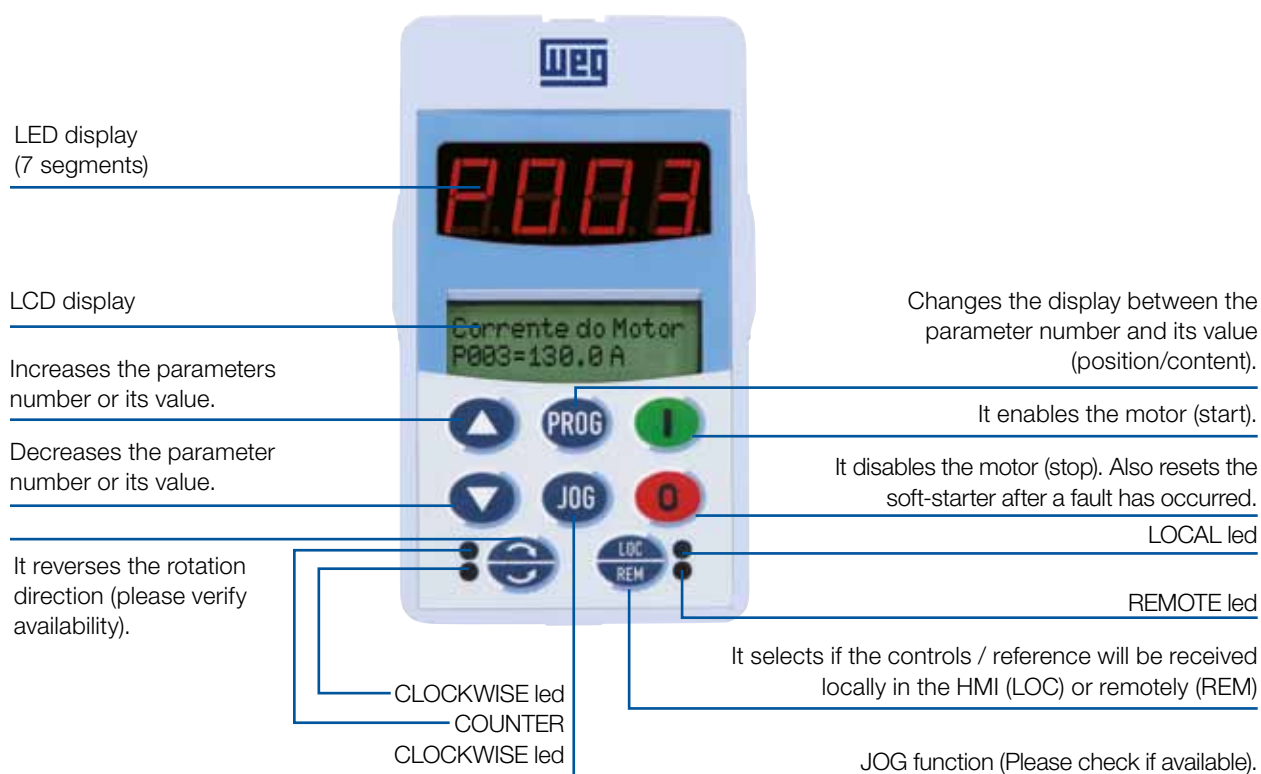
### Intelligent Interface

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

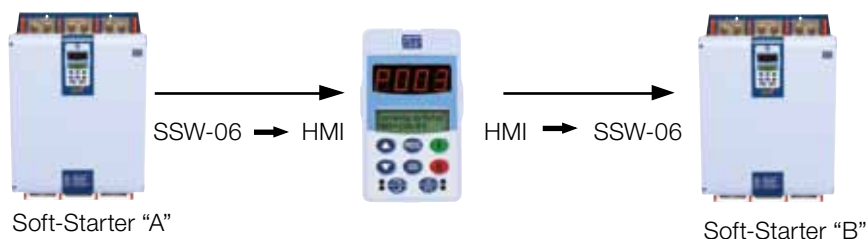
Intelligent operation interface allows the user to choose the language to be used for programming and display of parameters and messages in the LCD display.

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.



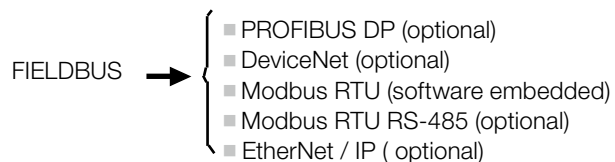
### Oriented Start-Up

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

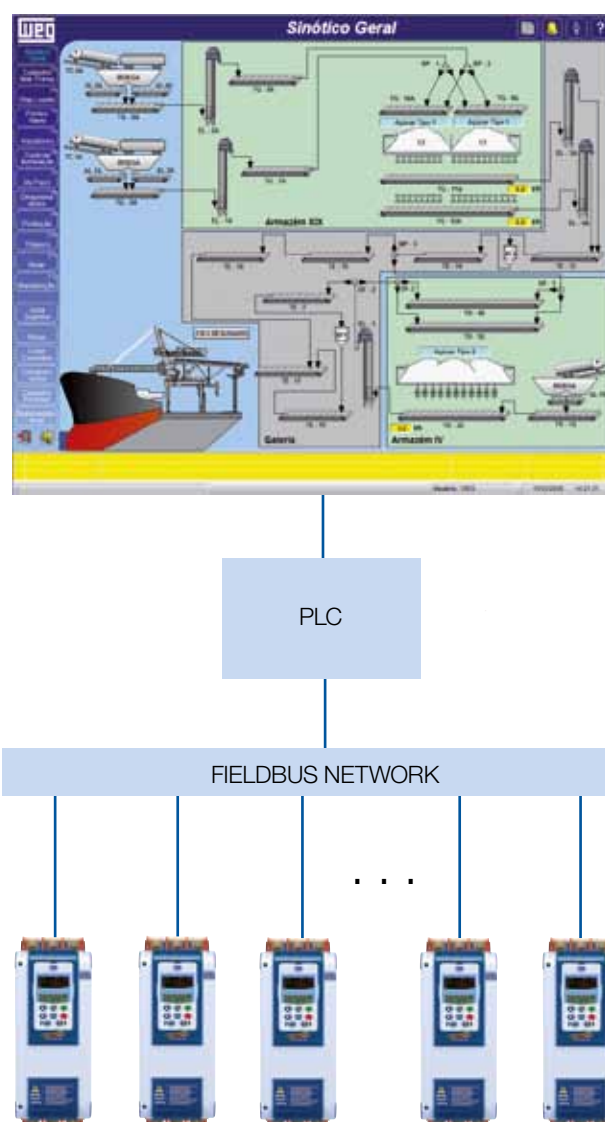
The SSW-06 soft-starters can be communicated to fieldbus communication network through the most common standard protocols in the world, as it follows:



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](http://www.weg.net)

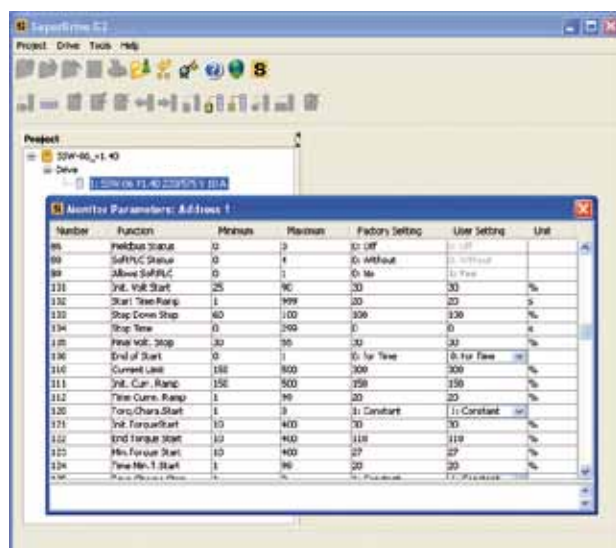


Monitor Parameters: Address 1

| Number | Function         | Minimum | Maximum | Factory Setting | User Setting | Unit |
|--------|------------------|---------|---------|-----------------|--------------|------|
| 85     | Fieldbus Status  | 0       | 3       | 0: OFF          | 0: OFF       |      |
| 88     | SoftPLC Status   | 0       | 4       | 0: Without      | 0: Without   |      |
| 89     | Allows SoftPLC   | 0       | 1       | 0: No           | 0: Yes       |      |
| 101    | Init. Volt Start | 25      | 90      | 30              | 30           | %    |
| 102    | Start Time Ramp  | 1       | 999     | 20              | 20           | s    |
| 103    | Stop Down Stop   | 60      | 100     | 100             | 100          | %    |
| 104    | Stop Time        | 0       | 299     | 0               | 0            | s    |
| 105    | Final Volt. Stop | 30      | 95      | 30              | 30           | %    |
| 106    | End of Start     | 0       | 1       | 0: for Time     | 0: for Time  |      |
| 110    | Current Limit    | 150     | 500     | 300             | 300          | %    |
| 111    | Init. Cur. Ramp  | 150     | 500     | 150             | 150          | %    |
| 112    | Time Curve, Ramp | 1       | 99      | 20              | 20           | %    |
| 120    | Torq.Chars.Start | 1       | 3       | 1: Constant     | 1: Constant  |      |
| 121    | Init.TorqueStart | 10      | 400     | 30              | 30           | %    |
| 122    | End Torque Start | 10      | 400     | 110             | 110          | %    |
| 123    | Min.Torque Start | 10      | 400     | 27              | 27           | %    |
| 124    | Time Min.T.Start | 1       | 99      | 20              | 20           | %    |

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

Integrated Environment



Trace function configuration in the G2 superdrive



Status monitoring

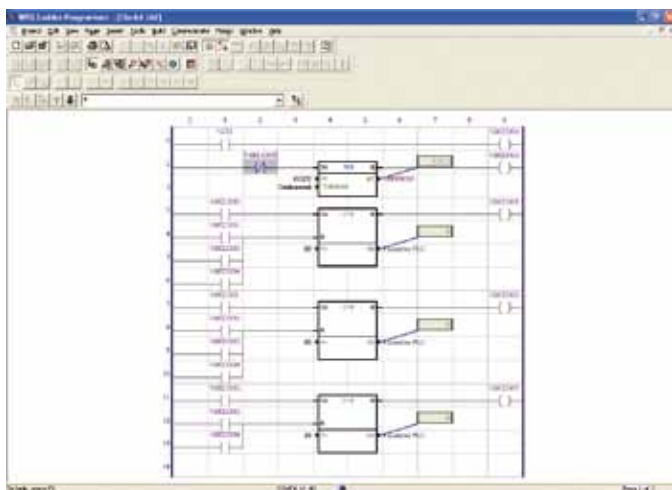
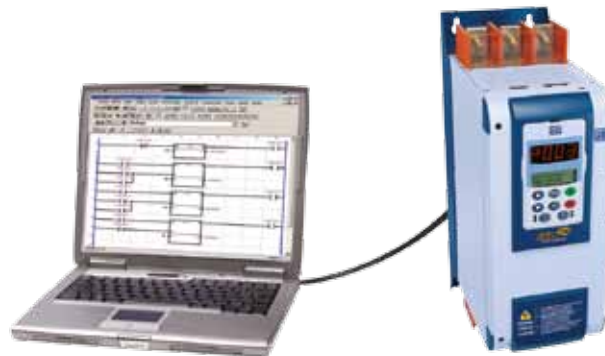


Monitoring and control window using virtual HMI

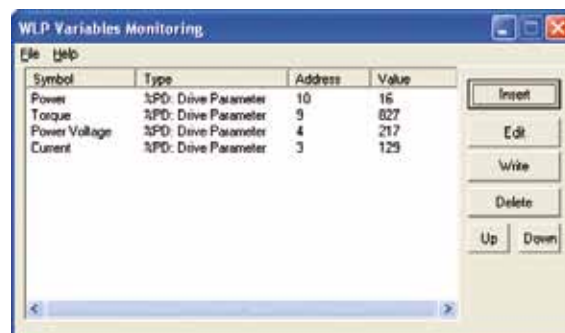
## SSW-06 - SOFTPLC Function

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

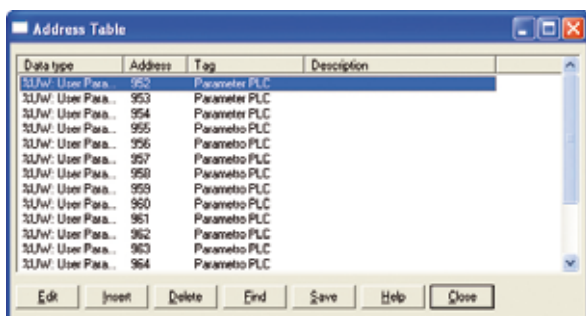
- LADDER programming language – WLP Software.
- Access to all inverter parameters and I/Os.
- PLC, mathematical and control blocks.
- Download, upload and online monitoring.
- Memory capacity of 1kbytes.
- Allows documentation of the application to be created.
- Online help.
- Free software on the site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



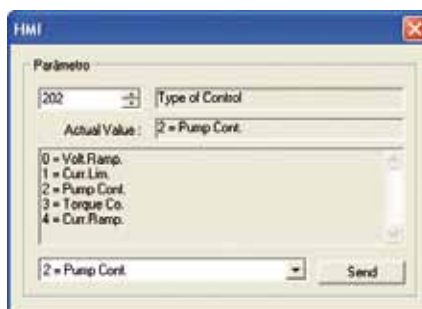
Simple and practical programming environment



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/Os EXPANSION

### External Current Acquisition Kit

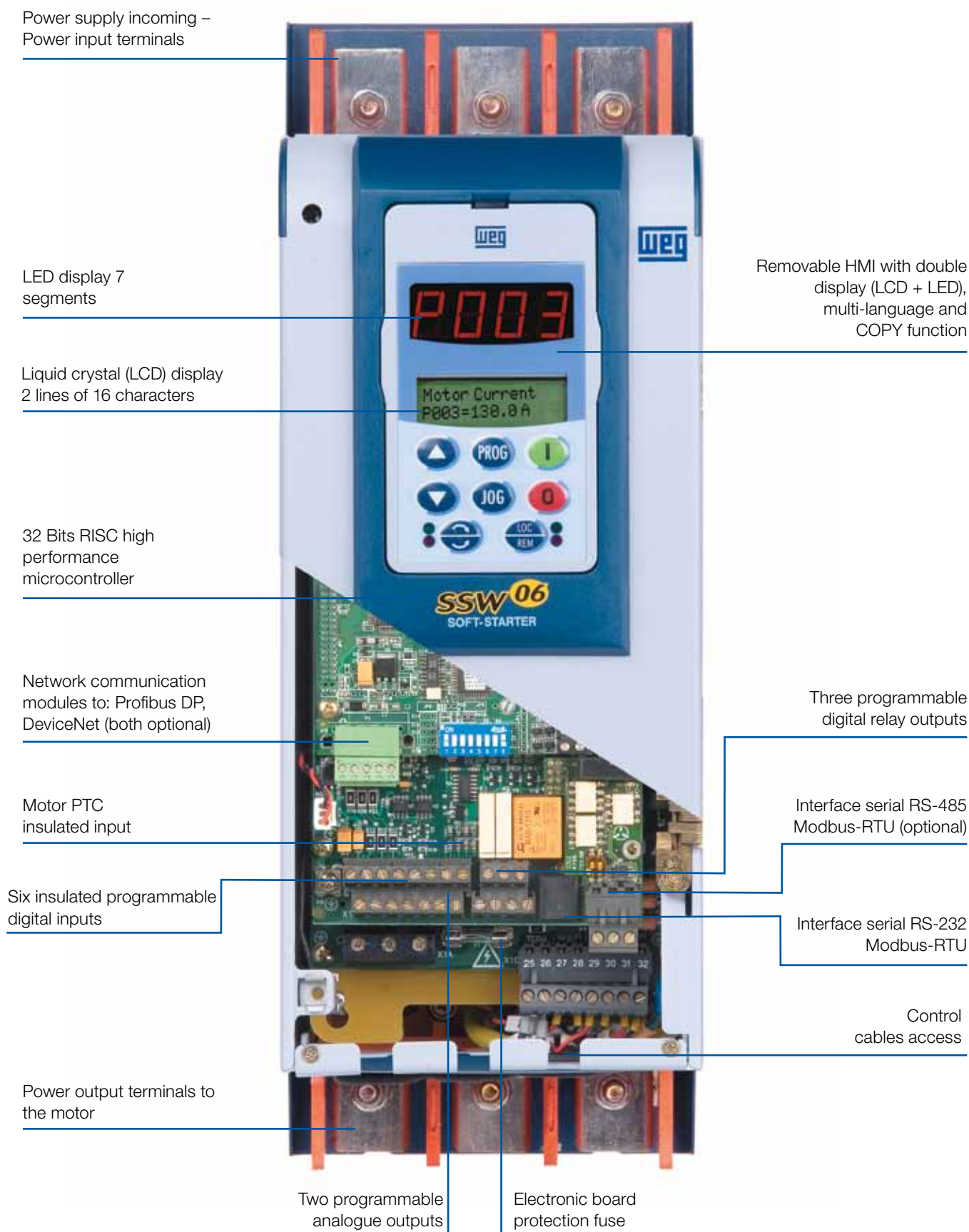
To be used when external By-Pass is required to keep protections activated.



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

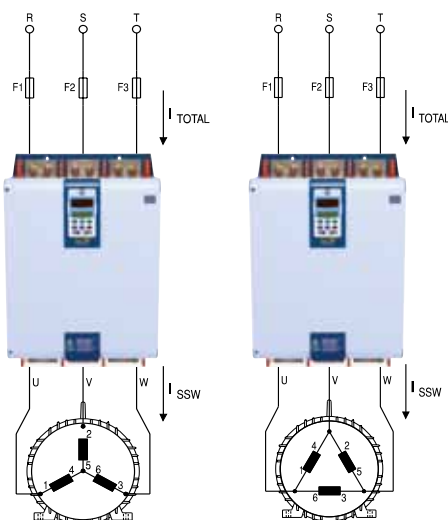


## SSW-06 - A Complete, Flexible and Compact Product



## SSW-06 - Typical Wiring Diagrams

### Standard (3 leads)



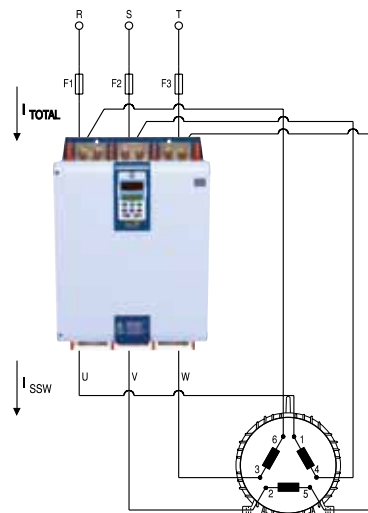
SSW-06 Standard Connection

Motor in Y

Motor in  $\Delta$

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

### 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 - $\Delta$ / 380V-Y                            | 220V - $\Delta$                   |
| 380V - $\Delta$ / 660V-Y                            | 380V - $\Delta$                   |
| 440V - $\Delta$ / 760V-Y                            | 440V - $\Delta$                   |
| 575V - $\Delta$                                     | 575V - $\Delta$                   |
| 220V - $\Delta$ / 380V-Y / 440V - $\Delta$ / 760V-Y | 220V - $\Delta$ / 440V - $\Delta$ |

- 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         |
| 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<br>230V | 380V<br>415V | 525V | 220V<br>230V | 440V<br>460V | 230V        | 460V | 575V |
|                |                | A            | kW           | kW   | HP           | 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

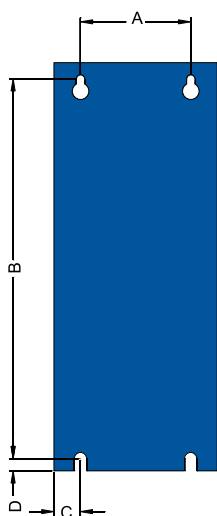


## SSW-06 - Dimensions and Weight



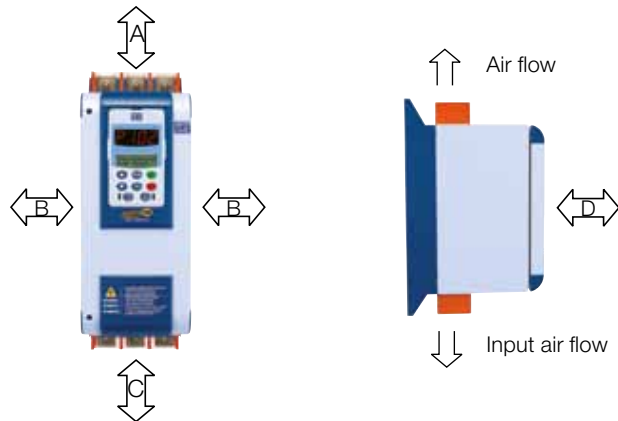
| Model          | Frame Size | Dimensions mm (in) |             |             | Weight kg (lb) | Degree of Protection    | Inside Delta (6 cables) Connection | Internal Bypass |    |
|----------------|------------|--------------------|-------------|-------------|----------------|-------------------------|------------------------------------|-----------------|--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

## Mechanical Mounting



| Model     | A mm (in)      | B mm (in)        | C mm (in)      | D mm (in)     | Fixation Bolt | Size |
|-----------|----------------|------------------|----------------|---------------|---------------|------|
| SSW060010 | 75<br>(2.95)   | 239<br>(9.40)    | 28<br>(1.10)   | 8,5<br>(0.33) | M5            | 1    |
| SSW060016 |                |                  |                |               |               |      |
| SSW060023 |                |                  |                |               |               |      |
| SSW060030 |                |                  |                |               |               |      |
| SSW060045 | 75<br>(2.95)   | 350<br>(13.78)   | 28,5<br>(1.12) | 8,5<br>(0.33) | M5            | 2    |
| SSW060060 |                |                  |                |               |               |      |
| SSW060085 |                |                  |                |               |               |      |
| SSW060130 |                |                  |                |               |               |      |
| SSW060170 | 150<br>(5.91)  | 425<br>(16.73)   | 36,5<br>(1.44) | 5,9<br>(0.23) | M6            | 3    |
| SSW060205 |                |                  |                |               |               |      |
| SSW060255 | 200<br>(7.87)  | 527,5<br>(20.77) | 85<br>(3.35)   | 10<br>(0.39)  | M6            | 4    |
| SSW060312 |                |                  |                |               |               |      |
| SSW060365 |                |                  |                |               |               |      |
| SSW060412 | 200<br>(7.87)  | 627,5<br>(24.70) | 85<br>(3.35)   | 10<br>(0.39)  | M6            | 5    |
| SSW060480 |                |                  |                |               |               |      |
| SSW060604 |                |                  |                |               |               |      |
| SSW060670 | 350<br>(13.78) | 775<br>(30.51)   | 95<br>(3.74)   | 7,5<br>(0.29) | M8            | 6    |
| SSW060820 |                |                  |                |               |               |      |
| SSW060950 | 400<br>(15.75) | 810<br>(31.89)   | 84<br>(3.31)   | 10<br>(0.39)  | M8            | 7    |
| SSW061100 | 500<br>(19.68) | 1110<br>(43.70)  | 93<br>(3.66)   | 15<br>(0.59)  | M8            | 8    |
| SSW061400 |                |                  |                |               |               |      |

## SSW-06 - Mounting Clearance



| MODEL      | A<br>mm (in)  | B<br>mm (in)  | C<br>mm (in)  | D<br>mm (in)  | Size |
|------------|---------------|---------------|---------------|---------------|------|
| SSW060010  | 150<br>(5.90) | 30<br>(1.18)  | 150<br>(5.90) | 50<br>(1.96)  | 1    |
| SSW060016  |               |               |               |               |      |
| SSW060023  |               |               |               |               |      |
| SSW060030  |               |               |               |               |      |
| SSW060045  | 150<br>(5.90) | 30<br>(1.18)  | 150<br>(5.90) | 50<br>(1.96)  | 2    |
| SSW060060  |               |               |               |               |      |
| SSW060085  |               |               |               |               |      |
| SSW060130  |               |               |               |               |      |
| SSW060170  | 150<br>(5.90) | 30<br>(1.18)  | 150<br>(5.90) | 50<br>(1.96)  | 3    |
| SSW060205  |               |               |               |               |      |
| SSW060255  | 150<br>(5.90) | 30<br>(1.18)  | 150<br>(5.90) | 50<br>(1.96)  | 4    |
| SSW060312  |               |               |               |               |      |
| SSW060365  |               |               |               |               |      |
| SSW060412  | 150<br>(5.90) | 30<br>(1.18)  | 150<br>(5.90) | 150<br>(1.96) | 5    |
| SSW060480  |               |               |               |               |      |
| SSW060604  |               |               |               |               |      |
| SSW060670  | 150<br>(5.90) | 30<br>(1.18)  | 150<br>(5.90) | 50<br>(1.96)  | 6    |
| SSW060820  |               |               |               |               |      |
| SSW060950  | 150<br>(5.90) | 30<br>(1.18)  | 150<br>(5.90) | 50<br>(1.96)  | 7    |
| SSW061100  | 150<br>(5.90) | 100<br>(1.18) | 150<br>(5.90) | 50<br>(1.96)  | 8    |
| SSW0601400 |               |               |               |               |      |



## 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                                                           |                                       |
| Degree of Protection                                                       | Frequency                      | Models from 1100 to 1400 A: 230 vac (207 to 243,8) Vac                                                                         |                                       |
|                                                                            | Metallic cabinet               | (50 to 60) Hz (+/- 10%), or (45 to 66) Hz                                                                                      |                                       |
| Control                                                                    | Control method                 | IP20 for 10A up to 30A / IP 00 from 45A                                                                                        |                                       |
|                                                                            | CPU                            | Motor voltage variation (Three phase induction motor)                                                                          |                                       |
|                                                                            | Types of control               | 32 Bits RISC microcontroller                                                                                                   |                                       |
|                                                                            |                                | Voltage ramp                                                                                                                   |                                       |
|                                                                            |                                | Current limitation                                                                                                             |                                       |
|                                                                            |                                | Current limitation ramp                                                                                                        |                                       |
| Starting Duty Cycles<br>(10 starts / hour)                                 | Pump control                   |                                                                                                                                |                                       |
|                                                                            | Torque control 1,2 or 3 points |                                                                                                                                |                                       |
| Inputs                                                                     | 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;<br>450 % ( 4,5 x I nom.) during 25 s for 6 cables connection |                                       |
| Outputs                                                                    | Digital                        | 5 x 24 Vdc insulated programmable inputs                                                                                       |                                       |
|                                                                            | Relay                          | 1 x 24 Vdc insulated programmable input for motor PTC                                                                          |                                       |
| Safety                                                                     | Analog                         | 3 programmable outputs 250 V / 2 A: (2 x NA) + (1 x NO + NC – Fault)                                                           |                                       |
|                                                                            | Protections                    | 1 Programmable output (11 bits) 0...10 Vdc                                                                                     |                                       |
| Functions/Resources                                                        | Standard                       | 1 programmable output (11 bits) 0...20 mA or 4...20 mA                                                                         |                                       |
|                                                                            |                                | 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) – i²t                                                                                                         | 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<br>(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 <sub>n</sub> )                                                                                                       |
|                                            |                         | Motor current (% Motor I <sub>n</sub> )                                                                                                              |
|                                            |                         | Motor current (A)                                                                                                                                    |
|                                            |                         | Line frequency (0...99.9 Hz)                                                                                                                         |
|                                            |                         | Line voltage (0...999 V)                                                                                                                             |
|                                            |                         | Output voltage (0...999 V)                                                                                                                           |
|                                            |                         | Motor torque (% motor I <sub>n</sub> )                                                                                                               |
|                                            |                         | 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<br>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

|       |      |   |      |   |   |   |   |    |    |    |
|-------|------|---|------|---|---|---|---|----|----|----|
| SSW06 | 0085 | T | 22XX | P | O | _ | _ | SI | _  | Z  |
| 1     | 2    | 3 | 4    | 5 | 6 | 7 | 8 | 9  | 10 | 11 |

### 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

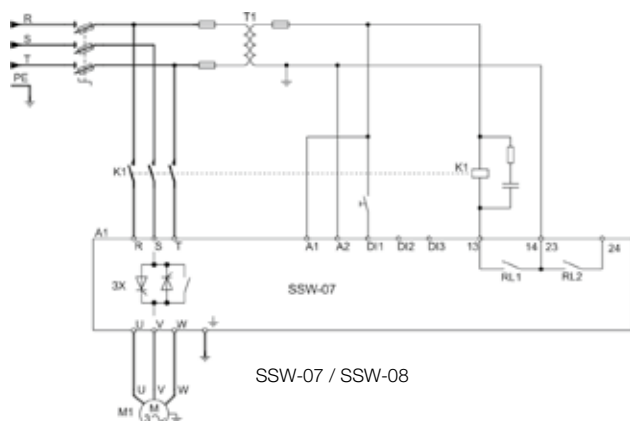
### TYPICAL EXAMPLE OF LIGHT AND MODERATE LOADS

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

### TYPICAL EXAMPLE OF HEAVY LOADS

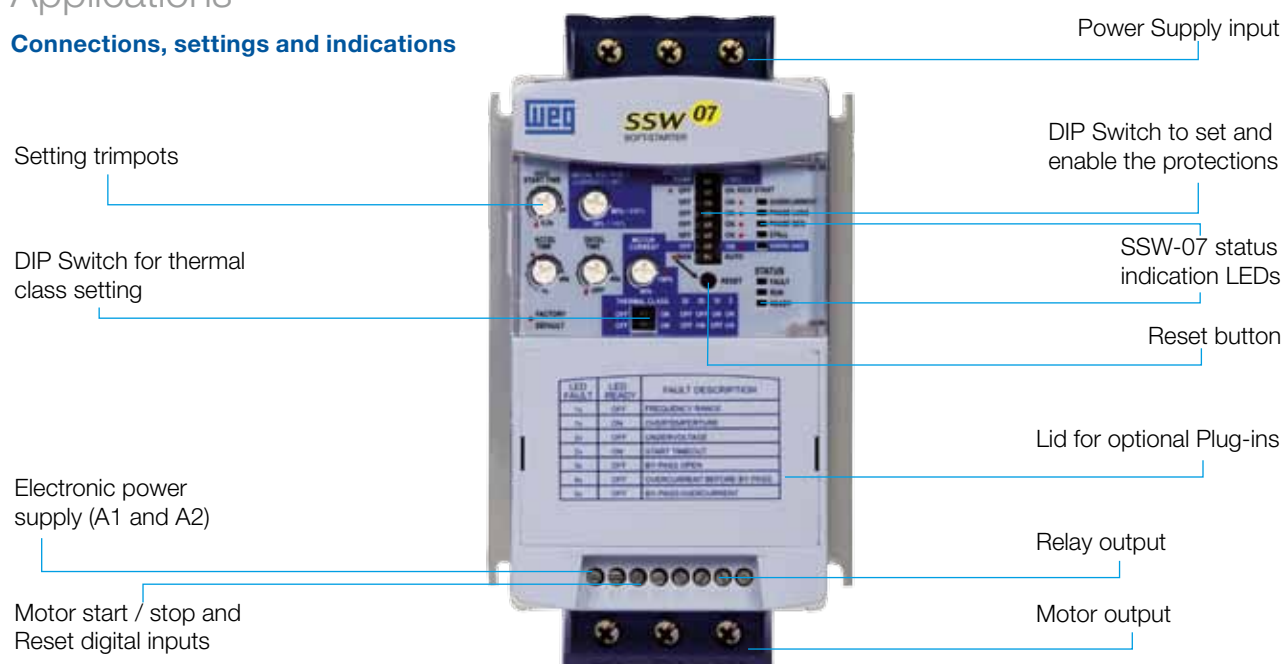
- Stone Crusher
- Centrifuge
- Wood Chipper
- Wood Slicing machine
- Conveyor
- Axial and Centrifugal Fan
- Ball Mill (Ceramic)
- Hammer Mill

## SSW-07 and SSW-08 Wiring Diagram



## Applications

### Connections, settings and indications



## SSW-07 and SSW-08 - Accessories and Options

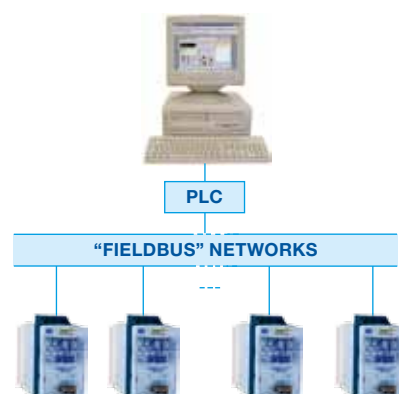
The SSW-07 and SSW-08 soft-starters can be communicated to fieldbus communication network through the most common standard protocols in the world, as follows:

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](http://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.

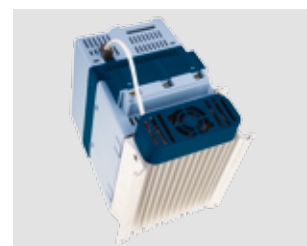


**Cable** for connecting RS-232. Cable length in 3 and 10m



### 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

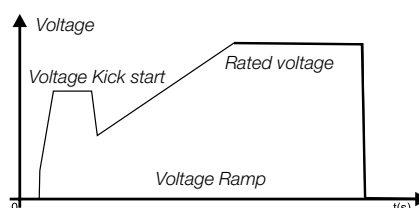
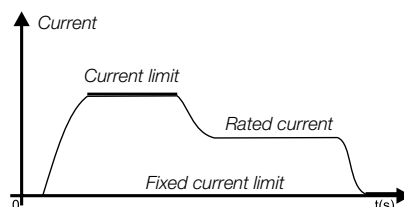
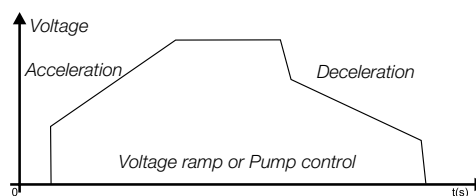
Allows smooth acceleration and/or deceleration, through voltage ramps.

### Current limit

Allows the setting of current limit during acceleration.

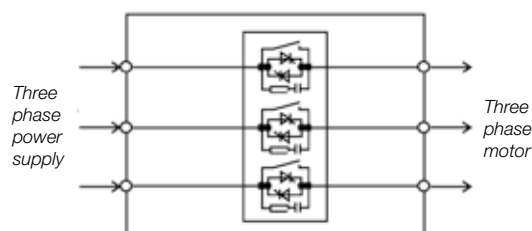
### Voltage Kick Start

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<br>230V | 380V<br>415V | 525V | 220V<br>230V | 440V<br>460V | 230V        | 460V | 575V |
|             | A              | kW           | kW           | kW   | HP           | HP           | 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

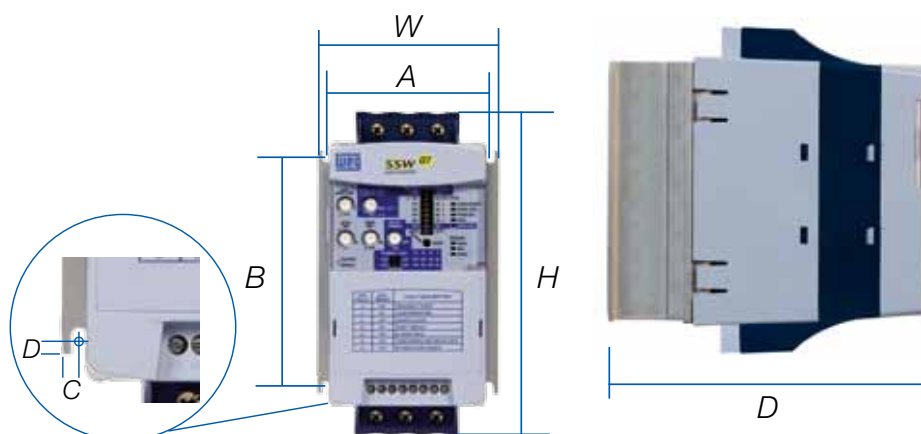
| Model       | Frame Size | Dimensions mm (in) |            |            | Weight kg (lb) | Degree of Protection    | Inside Delta (6 cables) Connection | Internal Bypass |
|-------------|------------|--------------------|------------|------------|----------------|-------------------------|------------------------------------|-----------------|
|             |            | 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<br>SSW070024<br>SSW070030 | 85<br>(3.35)  | 120<br>(4.72) | 5<br>(0.20)  | 4<br>(0.16)   | M4            | 1.3<br>(2.9)   | 1    |
| SSW070045<br>SSW070061<br>SSW070085 | 132<br>(5.2)  | 148<br>(5.83) | 6<br>(0.24)  | 3.4<br>(0.13) | M4            | 3.3<br>(7.28)  | 2    |
| SSW070130<br>SSW070171<br>SSW070200 | 208<br>(8.19) | 210<br>(8.27) | 7.5<br>(0.3) | 5<br>(0.2)    | M5            | 7.6<br>(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<br>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                                                                                                                              |
|                                                        |                                  | Overcurrent before By-pass                                                                                                               |
|                                                        |                                  | Phase loss                                                                                                                               |
|                                                        |                                  | Inverted phase sequence                                                                                                                  |
|                                                        |                                  | Overtemperature in power heatsink                                                                                                        |
|                                                        |                                  | Motor Overload (class 5 to 30)                                                                                                           |
|                                                        | Protections (with Accessory)     | Locked rotor                                                                                                                             |
|                                                        |                                  | Excess starting time                                                                                                                     |
|                                                        |                                  | Frequency outside tolerance                                                                                                              |
|                                                        |                                  | By-pass contact open                                                                                                                     |
| Functions / Resources                                  | Standard                         | Undervoltage in control supply                                                                                                           |
|                                                        |                                  | Undercurrent                                                                                                                             |
|                                                        |                                  | Programming error                                                                                                                        |
|                                                        |                                  | Current imbalance                                                                                                                        |
|                                                        |                                  | Serial communication error                                                                                                               |
|                                                        |                                  | Under subcurrent before By-pass                                                                                                          |
|                                                        |                                  | HMI communication error                                                                                                                  |
|                                                        |                                  | External fault                                                                                                                           |
|                                                        |                                  | Overtemperature in motor PTC                                                                                                             |
|                                                        |                                  | Voltage ramp (Initial voltage: 30% to 90%)                                                                                               |
| Programming Accessory<br>(HMI or Serial communication) | Command                          | Current limitation (150% to 450% of SSW-07 rated current)                                                                                |
|                                                        |                                  | Starting time (1 to 40s)                                                                                                                 |
|                                                        | Additional Functions / Resources | Kick Start (Off - 0.2 to 2s)                                                                                                             |
|                                                        |                                  | Deceleration ramp ( 0 to 40s)                                                                                                            |
|                                                        |                                  | Motor and SSW-07 current relation (50% to 100%)                                                                                          |
|                                                        |                                  | Faults auto-reset                                                                                                                        |
|                                                        | Supervision (Reading)            | Thermal memory auto-reset                                                                                                                |
|                                                        |                                  | Factory standard reset                                                                                                                   |
|                                                        |                                  | Soft-starter built-in By-pass                                                                                                            |
|                                                        |                                  | On, Off / Reset and Parameterization (function programming)                                                                              |
|                                                        |                                  | 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)                                                                                        |
|                                                        |                                  | Programmable rated voltage                                                                                                               |
|                                                        |                                  | Motor current (%Soft-Starter In)                                                                                                         |
|                                                        |                                  | Motor current (%motor In)                                                                                                                |
|                                                        |                                  | Motor current (A)                                                                                                                        |
|                                                        |                                  | Current indication in each phase R-S-T                                                                                                   |
| Accessories and Options                                | Options                          | Supply network frequency                                                                                                                 |
|                                                        |                                  | Apparent power supplied to load (kVA)                                                                                                    |
|                                                        |                                  | Soft-Starter status                                                                                                                      |
|                                                        |                                  | Digital input and output status                                                                                                          |
|                                                        |                                  | Last 4 faults                                                                                                                            |
|                                                        |                                  | Soft-Starter Software Version                                                                                                            |
|                                                        |                                  | Heatsink temperature                                                                                                                     |
|                                                        |                                  | Motor thermal protection status                                                                                                          |
|                                                        |                                  | Plug-in type local HMI                                                                                                                   |
|                                                        |                                  | HMI remote Kit                                                                                                                           |
| Finishing                                              | Color                            | 1,2,3,5,7.5 and 10m cable for remote HMI interconnection                                                                                 |
|                                                        |                                  | RS-232 communication kit                                                                                                                 |
| Conformities / Standards                               | Safety                           | SSW-07 interconnection cables>>> PC Serial (RS-232) 3 and 10m                                                                            |
|                                                        |                                  | RS-485 communication kit                                                                                                                 |
|                                                        |                                  | Motor PTC kit                                                                                                                            |
|                                                        |                                  | Ventilation kit for size 2 (45 to 85 A)                                                                                                  |
|                                                        |                                  | Ventilation kit for size 3 (130 to 200 A)                                                                                                |
|                                                        |                                  | IP20 kit for size 3 (130 to 200 A)                                                                                                       |
| Conformities / Standards                               | Low voltage                      | 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                                                                                        |
|                                                        |                                  | Underwriters Laboratories Inc. – USA                                                                                                     |
| Conformities / Standards                               | UL (USA) / cUL (Canada)          | Conformity test conducted by EPCOS                                                                                                       |
|                                                        |                                  | Australian Communication Authority                                                                                                       |
| Conformities / Standards                               | CE (Europe)                      |                                                                                                                                          |
|                                                        |                                  |                                                                                                                                          |
| Conformities / Standards                               | C-Tick (Australia)               |                                                                                                                                          |
|                                                        |                                  |                                                                                                                                          |

(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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