

# DATASHEET

## Soft-Starter



### Main Features

|                |                    |
|----------------|--------------------|
| Reference      | : SSW900F0820T5E3B |
| Product code   | : 15825439         |
| Product family | : SSW900           |

### Basic data

|                               |                |
|-------------------------------|----------------|
| Power                         |                |
| - Rated current               | : 820 A        |
| - Power supply                | : 220-575V     |
| - Power supply type           | : TT / TN / IT |
| - Frequency                   | : 50/60Hz      |
| - Number of controlled phases | : 3 phases     |
| - Integrated bypass           | : Yes          |

### Motor power - standard connection (cv/kW)

|            |             |
|------------|-------------|
| - 220/230V | : 350 / 260 |
| - 380/400V | : 550 / 410 |
| - 440/460V | : 700 / 525 |
| - 575V     | : 800 / 600 |
| - 690V     | : No        |

### Motor power - delta inside connection (cv/kW)

|            |               |
|------------|---------------|
| - 220/230V | : 600 / 450   |
| - 380/400V | : 1000 / 750  |
| - 440/460V | : 1200 / 900  |
| - 575V     | : 1550 / 1140 |

|                            |                   |
|----------------------------|-------------------|
| Electronic and fan         |                   |
| Supply voltage (control)   | : 110-130V        |
| Supply voltage (cooler)    | : 110-130V        |
| Connection to the motor    |                   |
| - Standard (3 leads)       | : Yes             |
| - Inside delta (6 leads)   | : Yes             |
| Duty cycle                 |                   |
| - Estándar [1]             | : AC-53b 3-30:690 |
| - With ventilation kit [2] | : No              |

### Digital inputs

|                             |                  |
|-----------------------------|------------------|
| - Quantity (standard)       | : 6              |
| - Type                      | : DC NPN / PNP   |
| - Voltage                   | : 24 Vdc         |
| - Minimum high level        | : 18 Vdc         |
| - Maximum low level         | : 3 Vdc          |
| - Maximum voltage           | : 30 Vdc         |
| - Input current             | : 11 mA @ 24 Vdc |
| - Function                  | : Programmable   |
| - Reading via communication | : Yes            |

### Input for motor thermistor

|                       |            |
|-----------------------|------------|
| - Quantity (standard) | : 1        |
| - Activation          | : 3k9 Ohms |
| - Deactivation        | : 1k6 Ohms |
| - Minimum resistance  | : 100 Ohms |

### Analog outputs

|                           |                              |
|---------------------------|------------------------------|
| - Quantity (standard)     | : 1                          |
| - Level                   | : 0 to 10 Vdc and 0 to 20 mA |
| - Resolution              | : 10 bits                    |
| - Function                | : Programmable               |
| - Write via communication | : Yes                        |

### Digital outputs

|                           |                               |
|---------------------------|-------------------------------|
| - Quantity                | : 3                           |
| - Type                    | : 2 x NO relay, 1 NO/NC relay |
| - Maximum voltage         | : 250 Vac                     |
| - Maximum current         | : 1 A                         |
| - Function                | : Programmable                |
| - Write via communication | : Yes                         |

### Functions and Features

|                                  |       |
|----------------------------------|-------|
| Control type start and stop      |       |
| - Voltage ramp                   | : Yes |
| - Voltage ramp and current limit | : Yes |
| - Current limit                  | : Yes |

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- Current limitation ramp : Yes
- Pump control : Yes
- Torque control : Yes
- Direct on line start : Yes

### Functions/Features

#### Specials functions

- Torque pulse at start (kick start) : Yes
- Jog : Yes
- DC braking (with contactor) : Yes
- Optimal Braking (without contactor) : Yes
- Reverse braking : Yes
- Changing of the rotation direction : Yes
- Multimotor application : No
- Emergency start (Fire Mode) : Yes

#### Diagnosis

- Latest faults : Yes, LOG
- Starting and cycle diagnosis : Yes
- Last previous faults : Yes
- Last previous alarms : Yes
- Last previous events : Yes

#### Others

- Set-up of the programmable fan : Yes
- Copy of the parameters via keypad : Yes
- User 1 and user 2 : Yes
- Oriented Start-up : Yes
- Protections actuation in errors and alarms : Yes
- Fault auto reset : Yes
- Real time clock (RTC) : Yes
- SoftPLC (ladder programming) : Yes, 4K bytes

#### Slots (para accessories options)

- Quantity : 2
- Digital inputs and outputs expansion : No
- PTC inputs : No
- Pt-100 inputs : Yes
- Current sensor (by extern bypass) : No

#### Communications (see Communication)

##### Protections

###### Voltage

- Power supply phase loss : Yes
- Overvoltage and undervoltage : Yes
- Voltage imbalance : Yes
- Electronic undervoltage (control) : Yes

###### Current

- Overcurrent and undercurrent : Yes
- Current imbalance : Yes

###### Torque

- Overtorque e undertorque : Yes

###### Potencia

- Overpower and underpower : Yes

##### Temperature

- Thyristor overheating : Yes
- PTC thermistor motor overheating : Yes
- PT100 thermocouple motor overheating : Available with optional

###### Overload

- Motor overload (thermal class) : Yes
- Thyristor overload : Yes
- Inverted phase sequence : Yes
- External fault : Yes
- Not connected motor : Yes
- Wrong motor connection : Yes
- Frequency out of range : Yes

###### Ground fault

- Ground fault : No

###### Bypass

- Bypass not opened : Yes
- Bypass not closed : Yes
- Overcurrent before closing the bypass : Yes
- Undercurrent before closing the bypass : Yes

###### Time

- Time before starting : Yes
- Time after starting : Yes
- Time between starting : Yes
- Locked rotor at start : Yes

###### Communications

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|                                                  |                                 |
|--------------------------------------------------|---------------------------------|
| - Programming error                              | : Yes                           |
| - Communication faults                           | : Yes                           |
| Potencia                                         |                                 |
| - Power short circuit with motor switched off    | : Yes                           |
| - Thyristor fault                                | : Yes                           |
| - Hardware self-diagnosis                        | : Programmable via optional     |
| <b>Parameterization</b>                          |                                 |
| - Parameterization via trimpots and dip switches | : No                            |
| - Parameterization via keypad                    | : Yes                           |
| - Parameterization via software                  | : WPS                           |
| Local HMI                                        |                                 |
| - Type                                           | : Yes, removable                |
| Remote HMI                                       |                                 |
| - Type                                           | : Local removable               |
| - Frame for HMI                                  | : Optional                      |
| - HMI degree of protection                       | : IP56                          |
| - Maximum cable length                           | : 20 m / 65.6 ft                |
| Local or remote HMI data                         |                                 |
| - Display                                        | : LCD graphic                   |
| - Keys                                           | : 12 keys                       |
| - Password                                       | : Yes                           |
| - Language                                       | : Yes                           |
| - Help                                           | : Yes                           |
| - Copy function                                  | : Yes                           |
| - Status graphic (read)                          | : Yes                           |
| - HMI USB                                        | : Yes                           |
| <b>Communication</b>                             |                                 |
| - Modbus-RTU RS-232                              | : No                            |
| - Modbus-RTU RS-485                              | : Available with optional       |
| - Modbus-RTU USB                                 | : Yes                           |
| - WEG Bus                                        | : No                            |
| - Modbus-TCP                                     | : Available with optional       |
| - Profibus-DP                                    | : Available with optional       |
| - Profibus-DPV1                                  | : Available with optional       |
| - Profinet                                       | : Available with optional       |
| - DeviceNet                                      | : Available with optional       |
| - EtherNet/IP                                    | : No                            |
| - EtherNet/IP 2P                                 | : Available with optional       |
| - Profinet IO 2P                                 | : Available with optional       |
| - CANopen                                        | : Available with optional       |
| <b>Ambient conditions</b>                        |                                 |
| - Enclosure                                      | : IP00                          |
| - Pollution degree (UL 508)                      | : 2                             |
| <b>Temperature</b>                               |                                 |
| - Minimum                                        | : -10 °C / 14 °F                |
| - Rated                                          | : 40 °C / 104 °F                |
| - Current reduction factor above nominal [3]     | : 2% for each degree            |
| <b>Relative humidity (non-condensing)</b>        |                                 |
| - Minimum                                        | : 5 %                           |
| - Maximum                                        | : 90 %                          |
| <b>Altitude</b>                                  |                                 |
| - Under rated operating conditions               | : 1000 m (3281 ft)              |
| - Maximum allowed with reduction factor [4]      | : 4000 m (13123 ft)             |
| - Current reduction factor above 1000 m [5]      | : 1 % for each 100 m (328 ft)   |
| - Voltage reduction factor above 2000 m [6]      | : 1.1 % for each 100 m (328 ft) |
| <b>Dimensions</b>                                |                                 |
| - Frame                                          | : F                             |
| - Height                                         | : 760 mm / 29.9 in              |
| - Width                                          | : 464 mm / 18.3 in              |
| - Depth                                          | : 316 mm / 12.4 in              |
| - Weight                                         | : 75.4 kg / 166.2 lb            |
| <b>Sustainability Directives</b>                 |                                 |
| - RoHS                                           | : Yes                           |
| - Conformal coating                              | : 3C2                           |
| <b>Standards Compliance</b>                      |                                 |
| - Safety                                         | : UL 508                        |
| - Low voltage                                    | : EN 60947-4-2                  |
| - Overvoltage category                           | : III (UL508 / EN61010)         |
| - EMC                                            | : Directive 89/336/EEC          |
| <b>Certifications</b>                            |                                 |
| - Product certification                          | : UL, CE and EAC                |

### Notes

1) Starting duty cycle AC-53b 3-30:690:



- 3 x Rated current of the SSW900 during ;
  - ;
  - 100% of the time with rated current;
  - With bypass;
  - from 0 to 55 °C without current derating
- 3) For temperature over the rated value;
- 4) With reduction factor;
- 5) For altitude above 1000 m (3281 ft);
- 6) For altitude above 2000 m (6562 ft);
- 7) Image merely illustrative;
- 8) For further information consult the product manuals SSW900.