

# DATASHEET

## Soft-Starter



### Main Features

|                |                   |
|----------------|-------------------|
| Reference      | : SSW070412T5SH2Z |
| Product code   | : 11043371        |
| Product family | : SSW07           |

### Basic data

|                               |                |
|-------------------------------|----------------|
| Power                         |                |
| - Rated current               | : 412 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 | : 150 / 110 |
| - 380/400V | : 300 / 225 |
| - 440/460V | : 350 / 260 |
| - 575V     | : 450 / 330 |
| - 690V     | : No        |

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

|            |      |
|------------|------|
| - 220/230V | : No |
| - 380/400V | : No |
| - 440/460V | : No |
| - 575V     | : No |

### Electronic and fan

|                          |            |
|--------------------------|------------|
| Supply voltage (control) | : 208-240V |
| Supply voltage (cooler)  | : 208-240V |

### Connection to the motor

|                          |       |
|--------------------------|-------|
| - Standard (3 leads)     | : Yes |
| - Inside delta (6 leads) | : No  |

### Duty cycle

|                            |                   |
|----------------------------|-------------------|
| - Estándar [1]             | : AC-53b 3-30:330 |
| - With ventilation kit [2] | : No              |

### Digital inputs

|                             |                             |
|-----------------------------|-----------------------------|
| - Quantity (standard)       | : 3                         |
| - Type                      | : AC                        |
| - Voltage                   | : 110 up to 240 Vac         |
| - Minimum high level        | : 93 Vac                    |
| - Maximum low level         | : 10 Vac                    |
| - Maximum voltage           | : 264 Vac                   |
| - Input current             | : 1.1 mA @ 220 Vac          |
| - Function                  | : Programmable via optional |
| - Reading via communication | : No                        |

### Input for motor thermistor

|                       |                           |
|-----------------------|---------------------------|
| - Quantity (standard) | : Available with optional |
| - Activation          | : Available with optional |
| - Deactivation        | : Available with optional |
| - Minimum resistance  | : Available with optional |

### Analog outputs

|                           |      |
|---------------------------|------|
| - Quantity (standard)     | : No |
| - Level                   | : No |
| - Resolution              | : No |
| - Function                | : No |
| - Write via communication | : No |

### Digital outputs

|                           |                             |
|---------------------------|-----------------------------|
| - Quantity                | : 2                         |
| - Type                    | : NO relay                  |
| - Maximum voltage         | : 250 Vac                   |
| - Maximum current         | : 1 A                       |
| - Function                | : Programmable via optional |
| - Write via communication | : No                        |

### Functions and Features

#### Control type start and stop

|                                  |       |
|----------------------------------|-------|
| - Voltage ramp                   | : Yes |
| - Voltage ramp and current limit | : No  |
| - Current limit                  | : Yes |

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- Current limitation ramp : Programmable via optional
- Pump control : Programmable via optional
- Torque control : No
- Direct on line start : Programmable via optional

### Functions/Features

#### Specials functions

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

#### Diagnosis

- Latest faults : Yes, 4 last
- Starting and cycle diagnosis : No
- Last previous faults : No
- Last previous alarms : No
- Last previous events : No

#### Others

- Set-up of the programmable fan : Programmable via optional
- Copy of the parameters via keypad : Yes
- User 1 and user 2 : No
- Oriented Start-up : No
- Protections actuation in errors and alarms : No
- Fault auto reset : Yes
- Real time clock (RTC) : No
- SoftPLC (ladder programming) : No

#### Slots (para accessories options)

- Quantity : 1
- Digital inputs and outputs expansion : No
- PTC inputs : Yes
- Pt-100 inputs : No
- Current sensor (by extern bypass) : No

#### Communications (see Communication)

##### Protections

###### Voltage

- Power supply phase loss : Yes
- Overvoltage and undervoltage : No
- Voltage imbalance : No
- Electronic undervoltage (control) : Yes

###### Current

- Overcurrent and undercurrent : Programmable via optional
- Current imbalance : Programmable via optional

###### Torque

- Overtorque e undertorque : No

###### Potencia

- Overpower and underpower : No

##### Temperature

- Thyristor overheating : Yes
- PTC thermistor motor overheating : Available with optional
- PT100 thermocouple motor overheating : No

###### Overload

- Motor overload (thermal class) : Yes
- Thyristor overload : Yes
- Inverted phase sequence : Yes
- External fault : Programmable via optional
- Not connected motor : Yes
- Wrong motor connection : No
- 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 : No
- Time after starting : Programmable via optional
- Time between starting : No
- Locked rotor at start : Yes

###### Communications

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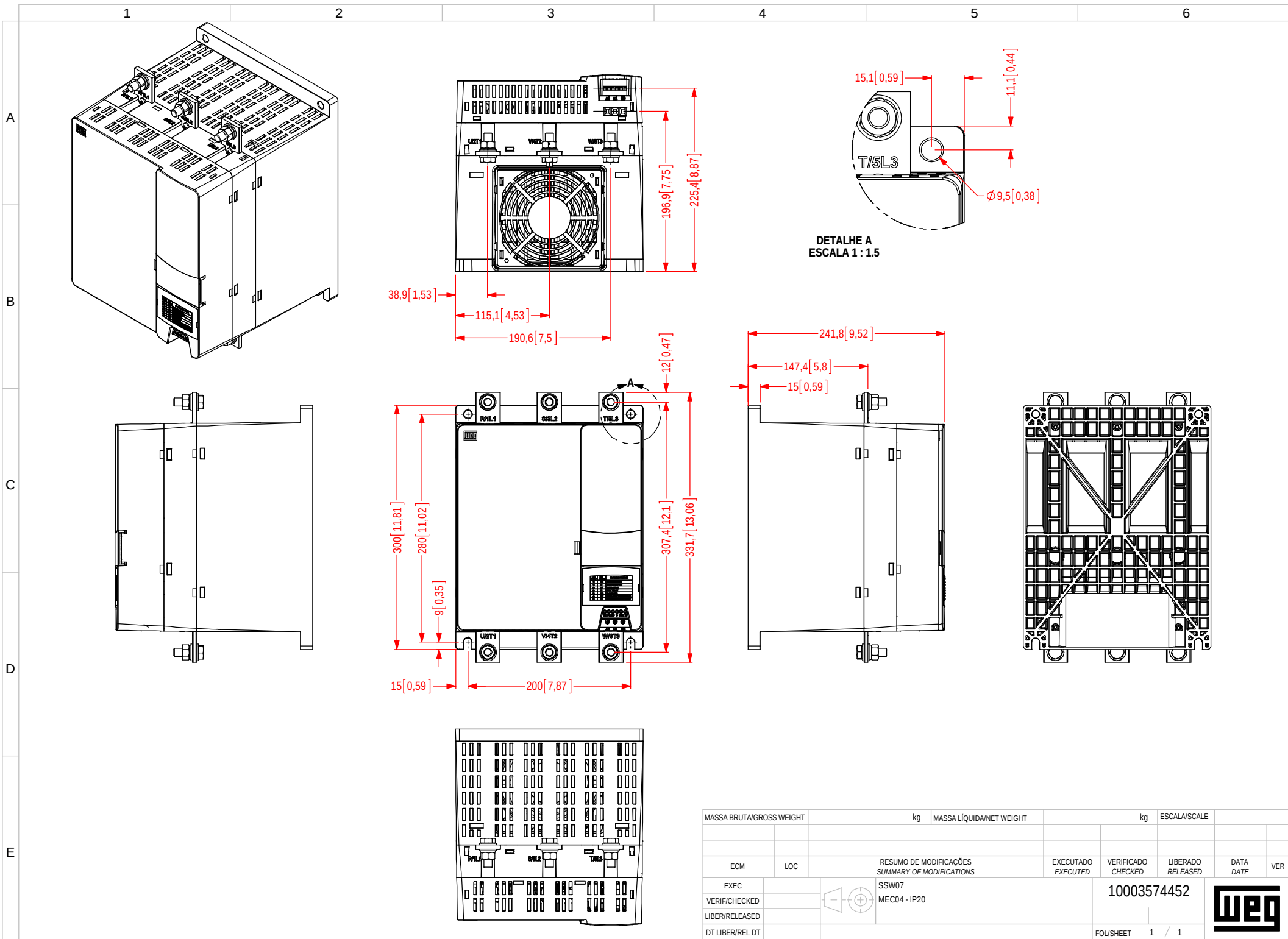
|                                                  |                                 |
|--------------------------------------------------|---------------------------------|
| - Programming error                              | : Yes                           |
| - Communication faults                           | : Yes                           |
| Potencia                                         |                                 |
| - Power short circuit with motor switched off    | : Yes                           |
| - Thyristor fault                                | : No                            |
| - Hardware self-diagnosis                        | : No                            |
| <b>Parameterization</b>                          |                                 |
| - Parameterization via trimpots and dip switches | : Yes                           |
| - Parameterization via keypad                    | : Available with optional       |
| - Parameterization via software                  | : Superdrive G2                 |
| Local HMI                                        |                                 |
| - Type                                           | : Optional                      |
| Remote HMI                                       |                                 |
| - Type                                           | : Optional                      |
| - Frame for HMI                                  | : No                            |
| - HMI degree of protection                       | : IP54                          |
| - Maximum cable length                           | : 10 m / 32.8 ft                |
| Local or remote HMI data                         |                                 |
| - Display                                        | : LED numeric                   |
| - Keys                                           | : 8 keys                        |
| - Password                                       | : Yes                           |
| - Language                                       | : No                            |
| - Help                                           | : No                            |
| - Copy function                                  | : Yes                           |
| - Status graphic (read)                          | : No                            |
| - HMI USB                                        | : No                            |
| <b>Communication</b>                             |                                 |
| - Modbus-RTU RS-232                              | : Available with optional       |
| - Modbus-RTU RS-485                              | : Available with optional       |
| - Modbus-RTU USB                                 | : No                            |
| - WEG Bus                                        | : No                            |
| - Modbus-TCP                                     | : No                            |
| - Profibus-DP                                    | : No                            |
| - Profibus-DPV1                                  | : No                            |
| - Profinet                                       | : No                            |
| - DeviceNet                                      | : Available with optional       |
| - EtherNet/IP                                    | : No                            |
| - EtherNet/IP 2P                                 | : No                            |
| - Profinet IO 2P                                 | : No                            |
| - CANopen                                        | : No                            |
| <b>Ambient conditions</b>                        |                                 |
| - Enclosure                                      | : IP00                          |
| - Pollution degree (UL 508)                      | : 2                             |
| <b>Temperature</b>                               |                                 |
| - Minimum                                        | : 0 °C / 32 °F                  |
| - Rated                                          | : 55 °C / 131 °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                                          | : 4                             |
| - Height                                         | : 331 mm / 13.0 in              |
| - Width                                          | : 227 mm / 8.9 in               |
| - Depth                                          | : 242 mm / 9.5 in               |
| - Weight                                         | : 11.5 kg / 25.35 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, CS, IRAM and C-TICK   |

### Notes

1) Starting duty cycle AC-53b 3-30:330:



- 3 x Rated current of the SSW07 during 30 s;
  - 10 starts per hour;
  - 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 SSW07.



|                          |     |                                                    |  |                          |                       |                       |                      |                                                                                       |     |
|--------------------------|-----|----------------------------------------------------|--|--------------------------|-----------------------|-----------------------|----------------------|---------------------------------------------------------------------------------------|-----|
| MASSA BRUTA/GROSS WEIGHT |     | kg                                                 |  | MASSA LÍQUIDA/NET WEIGHT |                       | kg                    |                      | ESCALA/SCALE                                                                          |     |
|                          |     |                                                    |  |                          |                       |                       |                      |                                                                                       |     |
| ECM                      | LOC | RESUMO DE MODIFICAÇÕES<br>SUMMARY OF MODIFICATIONS |  |                          | EXECUTADO<br>EXECUTED | VERIFICADO<br>CHECKED | LIBERADO<br>RELEASED | DATA<br>DATE                                                                          | VER |
| EXEC                     |     | SSW07                                              |  |                          |                       | 10003574452           |                      |  |     |
| VERIF/CHECKED            |     | MEC04 - IP20                                       |  |                          |                       |                       |                      |                                                                                       |     |
| LIBER/RELEASED           |     |                                                    |  |                          |                       |                       |                      |                                                                                       |     |
| DT LIBER/REL DT          |     |                                                    |  |                          |                       | FOL/SHEET 1 / 1       |                      |                                                                                       |     |