



WEG SSW05 Series Compact Soft Starters

Overview

The WEG SSW05 Soft Starter is a compact, fully digital soft starter with a state-of-the-art DSP (Digital Signal Processor) controller. Its digital construction provides optimum operation, diagnostics capability and full motor protection.

Simplicity in set-up and operation is assured since all parameters and set-up selections are made via DIP switches and potentiometers. Status LEDs alert the user of the operational status of the SSW05. Simplicity, ease of set-up, and the small panel assure quick and easy installation and operation.

Features

- 208-480 VAC, 50/60 Hz input power supply
- Duty cycle: 300% rated current for 10 seconds, 4 starts per hour
- Built-in bypass contactor
- One digital input for Start/Stop (90-250 VAC)
- One digital input for Fault Reset (90-250 VAC)
- One relay output for Run indication (1A, 250V)
- RS-232 serial port for HMI connection only
- Adjustable acceleration and deceleration ramps (1-20 sec)
- Adjustable pedestal voltage (30-80% of line voltage)
- Protective features:
 - - Motor overload
 - - Overcurrent and locked rotor
 - - SCR overload
 - Phase loss and phase sequence
- DIN rail or direct mount
- Ambient:
 - 0°C [32°F] to 55°C [131°F]
 - 3300ft (1000m) altitude
 - 90% non-condensing humidity
- Remote keypad (optional)
- For high inertia loads, see the SSW07 product line



Advantages

- Reduction of stress on couplings and other transmission devices during starting (gearboxes, sheaves, etc.)
- Extended lifetime of motor and mechanical components due to reduced mechanical stress
- Easy operation, programming and maintenance
- Simple electrical wiring
- Operation in ambient temperatures up to 55°C [131°F]

Optional Accessories

- Remote HMI module

Applications

- Centrifugal pumps
- Roller tables
- Piston compressors
- Mixers
- Fans
- Roller tables (no load starting)
- Axial fans (low inertia – light load)

Certifications





WEG SSW05 Series Compact Soft Starters

Selecting the Right Soft Starter

| SSW05 Soft Starters – Selection – Steps 1 & 2 (of 4) | | | | | |
|---|--|--|---|--|--|
| Step 1: Select the application from the list and follow that column down. | Typical Applications | | | | |
| | Standard Duty | | Medium Duty* | | Heavy Duty* |
| | Default Agitator Bow Thruster - Zero Pitch Compressor - Rotary Vane Compressor - Scroll Conveyor - Unloaded Fan - Low Inertia < 85A Feeder - screw Lathe machines Mixer - Unloaded | Molding Machine Plastic and textile machines Pump - Submersible Centrifugal Pump - Unloaded Submersible Rotodynamic Saw - Band Transformers, voltage regulators | Ball mill Bow Thruster - Loaded Compressor - Centrifugal Compressor - Reciprocating Compressor - Rotary Screw Conveyor - Loaded Grinder Hammer mill Mills - Flour, etc. Mixer - Loaded Pelletizers | Pump - Positive displacement Reciprocating Pump - Positive displacement Rotary Pump Jack Rolling mill Roots Blower Saw - Circular Screen - Vibrating Tumblers | Centrifuge* *For centrifuges make selection at I(A) = motor FLA x 2.3 Crusher Fan - High Inertia > 85A Shredder Wood chipper Press, flywheel |
| Step 2: Confirm the rated starting capability of the soft start against the application. | Trip Class | The SSW05 is for Light Duty only. * | The SSW05 is for Light Duty only. * | The SSW05 is for Light Duty only. * | 5 |
| | Rated Starting Capability | The SSW05 is for Light Duty only. * | The SSW05 is for Light Duty only. * | The SSW05 is for Light Duty only. * | 3x Motor Current - 10s |
| | Max Starts per Hour | 4 starts/hr Index Rating Standard (Class5) AC53b: 3-10:890; Overcurrent = 3 x soft starter rated current for 10 seconds Warning: Applying more starts per hour than the specified 4 starts/hr will cause the starter to overheat and fail. | | | |

* For Standard, Medium or Heavy Duty applications, consider the SSW07 family or the SR33 or SR55 Stellar family soft starters.



| SSW05 Soft Starters – Selection – Step 3 (of 4) | |
|---|---|
| Step 3: Consider the operating environment and make the model selection based on a higher horsepower rating. | |
| Height Above Sea Level | Standard operating height is 3280ft. For every 328ft, increase motor HP by 1%, up to 13,200ft. Example: For a 100HP motor at 4900ft, make model selection based on 105HP (5% higher). |
| Operating Temperature | Standard operating temperature is 55°C [122°F]. |
| Increased Starts per Hour | See SSW07 model for more than 4 starts/hr |



| SSW05 Soft Starters – Selection – Step 4 (of 4) | | | | | |
|--|--------------|--------------|-------------------------------|-------------------|--------------------------------|
| Step 4: Select SSW05 model based on your motor voltage and horsepower | | | | | |
| Motor Size | | | Soft Starter Size | | |
| In-Line Connection | | | Application Trip Class | | Maximum Starts Per Hour |
| I (A) | HP @ | | Class 5 | | |
| | 230V* | 460V* | | | |
| 10 | 3 | 5 | 1 | SSW050010T2246TPZ | 4 |
| 16 | 5 | 10 | 1 | SSW050016T2246TPZ | 4 |
| 23 | 7.5 | 15 | 1 | SSW050023T2246TPZ | 4 |
| 30 | 10 | 20 | 1 | SSW050030T2246TPZ | 4 |
| 45 | 15 | 30 | 2 | SSW050045T2246TPZ | 4 |
| 60 | 20 | 40 | 2 | SSW050060T2246TPZ | 4 |
| 85 | 30 | 60 | 2 | SSW050085T2246TPZ | 4 |

* 230V=208-240V, 460V=440-480V

WEG Soft Starter Selection Tool Software is available online at automationdirect.com/selectors/softstarters



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| WEG SSW05 Compact Soft Starters Selection Chart ^{1, 2, 3} | | | | | | | |
|--|----------|-------------|----------|-------------------|------------|--|--------------------------|
| Part Number | Price | Motor Volts | Motor HP | Soft Starter Amps | Frame Size | Dimensions (HxWxD) (in [mm]) | Approx. Weight (lb [kg]) |
| Input Power Supply: 3-Phase, 230VAC | | | | | | | |
| SSW050010T2246TPZ | \$324.00 | 230VAC | 3 | 10 | 1 | 5.1 x 2.3 x 5.7 [129.5 x 58.4 x 144.8] | 3 [1.4] |
| SSW050016T2246TPZ | \$368.00 | | 5 | 16 | 1 | | |
| SSW050023T2246TPZ | \$423.00 | | 7.5 | 23 | 1 | | |
| SSW050030T2246TPZ | \$460.00 | | 10 | 30 | 1 | 7.3 x 3.1 x 6.8 [185.4 x 78.7 x 172.7] | 6 [2.7] |
| SSW050045T2246TPZ | \$575.00 | | 15 | 45 | 2 | | |
| SSW050060T2246TPZ | \$693.00 | | 20 | 60 | 2 | | |
| SSW050085T2246TPZ | \$843.00 | | 30 | 85 | 2 | | |
| Input Power Supply: 3-Phase, 460VAC | | | | | | | |
| SSW050010T2246TPZ | \$324.00 | 460VAC | 5 | 10 | 1 | 5.1 x 2.3 x 5.7 [129.5 x 58.4 x 144.8] | 3 [1.4] |
| SSW050016T2246TPZ | \$368.00 | | 10 | 16 | 1 | | |
| SSW050023T2246TPZ | \$423.00 | | 15 | 23 | 1 | | |
| SSW050030T2246TPZ | \$460.00 | | 20 | 30 | 1 | 7.3 x 3.1 x 6.8 [185.4 x 78.7 x 172.7] | 6 [2.7] |
| SSW050045T2246TPZ | \$575.00 | | 30 | 45 | 2 | | |
| SSW050060T2246TPZ | \$693.00 | | 40 | 60 | 2 | | |
| SSW050085T2246TPZ | \$843.00 | | 60 | 85 | 2 | | |

Notes:

- 1) "HP" rating based on Table 430-150 of the NEC. Use as a guide only. Motor FLA may vary with speed and manufacturer. ALWAYS compare motor FLA to Nominal Amps of starter.
- 2) 90-250 VAC control power supply required.
- 3) For other technical data, please refer to WEG product manual

| WEG SSW05 Compact Soft Starters Specifications | | |
|--|--|--|
| Power supply | Main Voltage | 220-460 VAC (+10%, -15%) |
| | Control Voltage | 90-250 VAC |
| | Frequency | 50/60 Hz (+/- 5Hz) |
| Enclosure | IPOO protected chassis | |
| Duty cycle | 300% rated current during 10 seconds, 4 starts per hour | |
| Digital control inputs | One input for Start/Stop (90-250 VAC) One input for Fault Reset (90-250 VAC) | |
| Communication | N/A | |
| Safety protections | Motor overload* Locked rotor* Overcurrent* Phase sequence* Phase loss* SCR overload | |
| Control features | Pedestal voltage | 30-80% of line voltage |
| | Accel ramp | 1-20 seconds |
| | Decel ramp | Off-20 seconds |
| | Motor current | 30-100% of SSW05 rating |
| | Fault reset | Manual or automatic |
| Ambient | Temperature | 32-131°F [0-55°C] |
| | Humidity | 0-90% non-condensing |
| | Altitude | 0-1000 m [0-3300 ft] - standard operation at rated current Up to 4000m [13,200 ft] - with current derating (1% per 100m [328ft] above 1000m [3281ft]) |
| Conformities | Low voltage | UL508 - Industrial Control Equipment IEC60947-4-2 |
| | EMC | EMC Directive 89/336/EEC - Industrial Environment, Class A |

* Can be disabled



WEG SSW05 Series Compact Soft Starters

SSW05 Max UL Overcurrent Protection

| UL Maximum Overcurrent Protection Devices ^{1, 2} | | | | |
|---|-------------|-------------|----------------|------------------------------------|
| Soft Starter Model Number | Voltage | Max Current | Standard Fault | Fuse |
| <u>SSW050010T2246TPZ</u> | 220-460 VAC | 10A | 5kA | Bussman, 170M1563D, 40A, 690V, gr |
| <u>SSW050016T2246TPZ</u> | 220-460 VAC | 16A | 5kA | Bussman, 170M1563D, 40A, 690V, gr |
| <u>SSW050023T2246TPZ</u> | 220-460 VAC | 23A | 5kA | Bussman, 170M1563D, 40A, 690V, gr |
| <u>SSW050030T2246TPZ</u> | 220-460 VAC | 30A | 5kA | Bussman, 170M1565D, 63A, 690V, gr |
| <u>SSW050045T2246TPZ</u> | 220-460 VAC | 45A | 5kA | Bussman, 170M1566D, 80A, 690V, gr |
| <u>SSW050060T2246TPZ</u> | 220-460 VAC | 60A | 10kA (≥440VAC) | Bussman, 170M1569D, 160A, 690V, gr |
| <u>SSW050085T2246TPZ</u> | 220-460 VAC | 85A | 10kA (≥380VAC) | Bussman, 170M1569D, 160A, 690V, gr |

1) Maximum trip ratings are for non-time-delay overcurrent protection devices.

2) Motor branch circuit protection must be based on MOTOR Full Load Current and must comply with applicable local electrical codes. The 2008 NEC section 430.52 recommends a maximum of 175% (up to 225% absolute maximum) of motor FLC for time-delay fuses. (Class CC time-delay fuses are permitted up to the non-time-delay fuse maximum rating.)

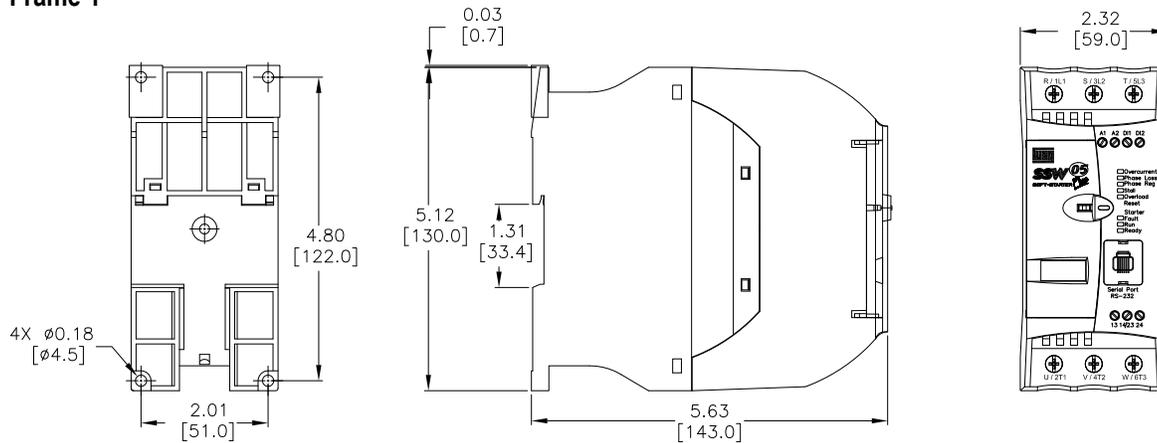


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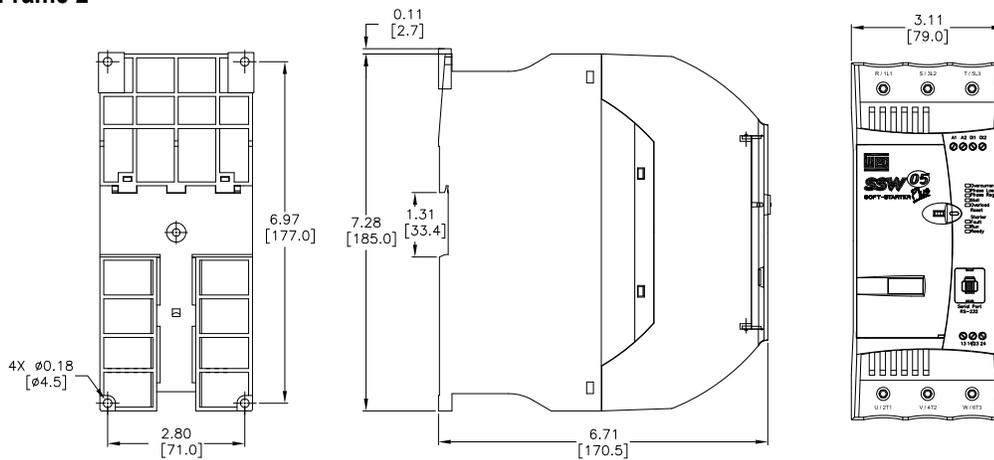
SSW05 Series Dimensions

Inches [mm]

Frame 1



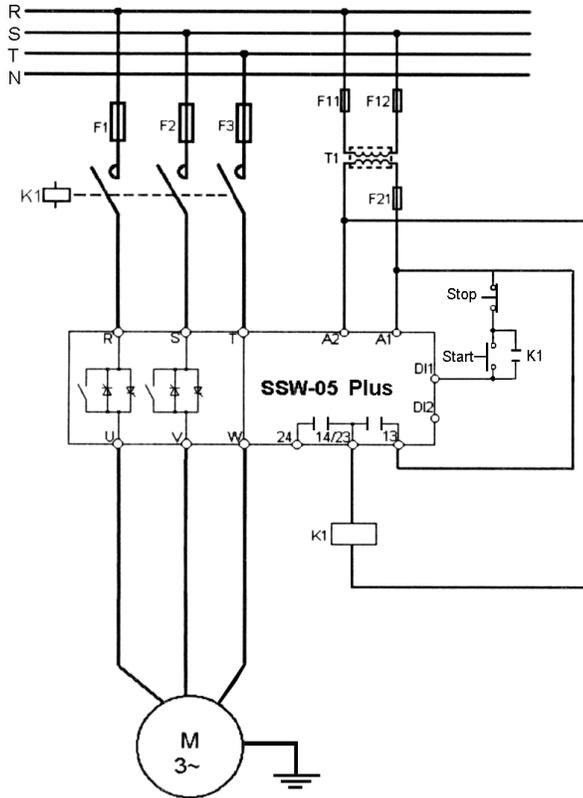
Frame 2





WEG SSW05 Series Compact Soft Starters

Starting and Stopping Using Contactor and Push Buttons



For further information, please reference additional diagrams available in the SSW05 User Manual.



WEG SSW05 Series Compact Soft Starters

Accessories

| Accessories | | |
|----------------------------------|---------|---|
| Part Number | Price | Description |
| <u>SSW05-HMI-RS</u> | \$73.00 | Remote HMI module |
| <u>SSW05-07-08-CRS-3M</u> | \$25.00 | 3m [9.84 ft] cable for serial remote HMI |
| <u>SSW05-07-08-CRS-5M</u> | \$31.00 | 5m [16.40 ft] cable for serial remote HMI |



SSW05-HMI-RS



SSW05-07-08-CRS-3M



SSW05-07-08-CRS-5M