

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 - 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. *
	Rated Starting Capability	The SSW05 is for Light Duty only. *		The SSW05 is for Light Duty only. *	The SSW05 is for Light Duty only. *
	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 for download at automationdirect.com/support

WEG SSW05 Series Compact Soft Starters



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	\$282.00	230VAC	3	10	1	5.1 x 2.3 x 5.7 [129.5 x 58.4 x 144.8]	3 [1.4]
SSW050016T2246TPZ	\$320.00		5	16	1		
SSW050023T2246TPZ	\$368.00		7.5	23	1		
SSW050030T2246TPZ	\$400.00		10	30	1	7.3 x 3.1 x 6.8 [185.4 x 78.7 x 172.7]	6 [2.7]
SSW050045T2246TPZ	\$500.00		15	45	2		
SSW050060T2246TPZ	\$602.00		20	60	2		
SSW050085T2246TPZ	\$733.00		30	85	2		
Input Power Supply: 3-Phase, 460VAC							
SSW050010T2246TPZ	\$282.00	460VAC	5	10	1	5.1 x 2.3 x 5.7 [129.5 x 58.4 x 144.8]	3 [1.4]
SSW050016T2246TPZ	\$320.00		10	16	1		
SSW050023T2246TPZ	\$368.00		15	23	1		
SSW050030T2246TPZ	\$400.00		20	30	1	7.3 x 3.1 x 6.8 [185.4 x 78.7 x 172.7]	6 [2.7]
SSW050045T2246TPZ	\$500.00		30	45	2		
SSW050060T2246TPZ	\$602.00		40	60	2		
SSW050085T2246TPZ	\$733.00		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

<i>UL Maximum Overcurrent Protection Devices ^{1, 2}</i>				
<i>Soft Starter Model Number</i>	<i>Voltage</i>	<i>Max Current</i>	<i>Standard Fault</i>	<i>Fuse</i>
SSW050010T2246EPZ	220-460 VAC	10A	5kA	Bussman, 170M1563D, 40A, 690V, gr
SSW050016T2246EPZ	220-460 VAC	16A	5kA	Bussman, 170M1563D, 40A, 690V, gr
SSW050023T2246EPZ	220-460 VAC	23A	5kA	Bussman, 170M1563D, 40A, 690V, gr
SSW050030T2246EPZ	220-460 VAC	30A	5kA	Bussman, 170M1565D, 63A, 690V, gr
SSW050045T2246EPZ	220-460 VAC	45A	5kA	Bussman, 170M1566D, 80A, 690V, gr
SSW050060T2246EPZ	220-460 VAC	60A	10kA (≥440VAC)	Bussman, 170M1569D, 160A, 690V, gr
SSW050085T2246EPZ	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.)

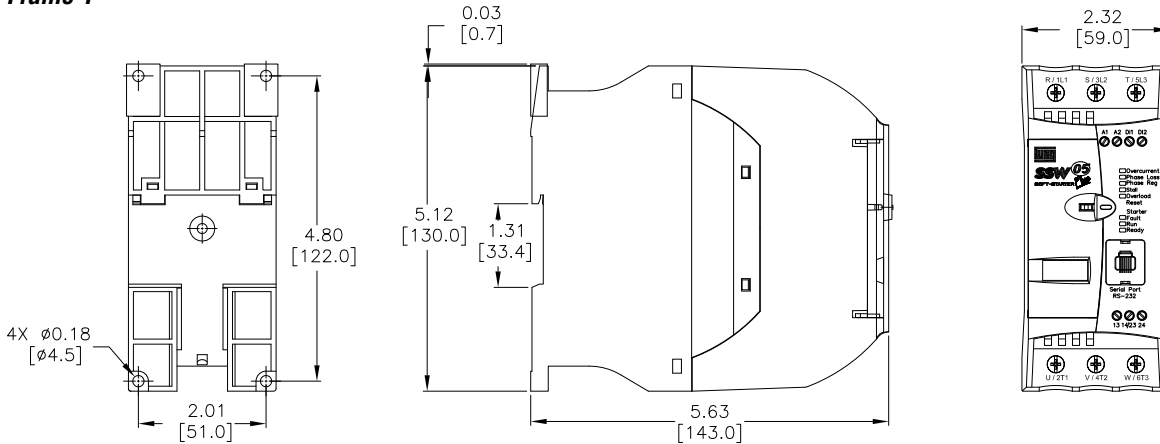
WEG SSW05 Series Compact Soft Starters



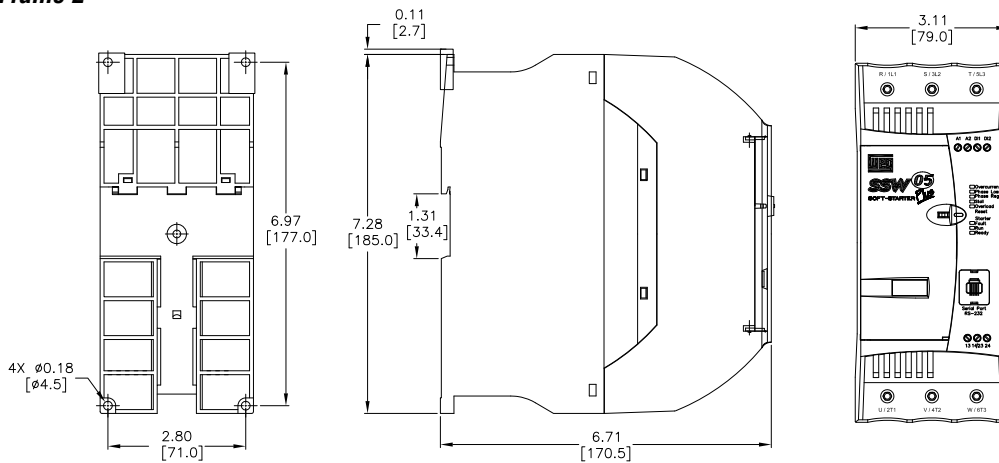
SSW05 Series Dimensions

Inches [mm]

Frame 1



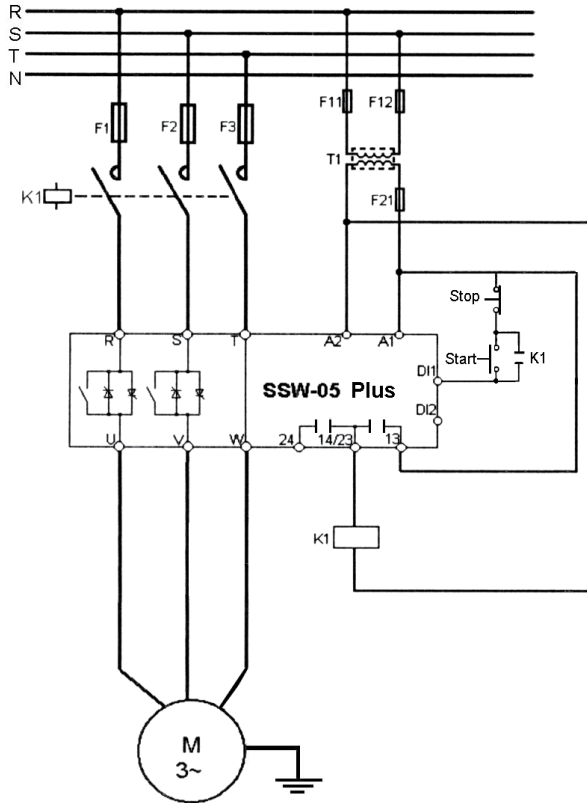
Frame 2



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
SSW05-HMI-RS	\$64.00	Remote HMI module
SSW05-07-08-CRS-3M	\$22.00	3m [9.84 ft] cable for serial remote HMI
SSW05-07-08-CRS-5M	\$28.00	5m [16.40 ft] cable for serial remote HMI



SSW05-HMI-RS



SSW05-07-08-CRS-3M



SSW05-07-08-CRS-5M