

# SSW900 - SOFT STARTER

The Next Generation Advanced Soft starter



Motors | Automation | Energy | Transmission & Distribution | Coatings

# SSW900

## SOFT STARTER

Soft starters are devices dedicated to the smooth acceleration and deceleration of three-phase induction motors by controlling the voltage applied to it.

Combining convenience and innovation, the SSW900 is the right choice for a complete motor protection and start/stop control. Developed for industrial or professional use, the new line of soft-starters allows easy and simple access to the configuration settings and application data.

Using a well structured menu interface, the SSW900 line provides an unprecedented experience of interactivity with the user, allowing adjustments and configurations with online parameter help right on the HMI. In addition, event logs with date and time set up assistant are available. The equipment has a built in bypass, which contributes to extending the life of the soft starter, optimizing space, and reducing heat dissipation inside electric panels.



\* Frames F and G are not available to purchase. They will be available in 4th Q of 2021.

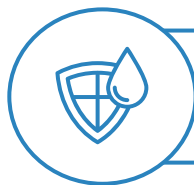




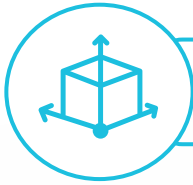
# POWER AND FULL PROTECTION TO THE MOTOR



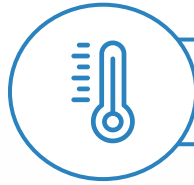
Connectivity



Varnishing of the boards class 3C2 in the standard product or 3C3 as optional, according to IEC 60721-3-3



Smaller dimensions



Connection for motor thermistor (PTC)



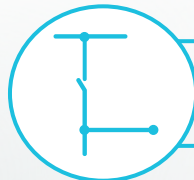
Fire mode  
(emergency start)



Graphic HMI



Optimal cost effectiveness



Built-in bypass

Certifications

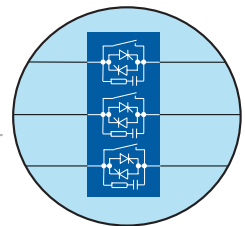






### Characteristics

- Current ranges from 10 to 1,400 A
- Supply voltage from 220 to 575 V AC
- Oriented start-up
- Standard connection (3 cables) or motor inside delta connection (6 cables)
- Elimination of starting mechanical shock to couplings and driven equipment
- Pump control function for smart control of pumping systems that prevent water hammer and pressure overshoots in the hydraulic piping
- Integral motor thermal protection
- Increased motor and equipment lifetime
- Reduction of voltage drops during motor start
- Great reduction of the mechanical stresses on the couplings and driving devices (gear boxes, pulleys, gears, belts, etc.) during the motor start
- Operation at ambient temperature up to 55 °C without current<sup>1)</sup> derating
- Three braking methods to stop the motor and the load faster. Braking methods with or without an external contactor
- Built-in bypass: minimizing power losses and heat dissipation in the thyristor, providing space reduction, contributing to energy saving and increasing the product's life.



## MORE + ADVANTAGES

The SSW900 can substitute direct online starters or star-delta starters, bringing benefits to your application, such as:

- Electric energy savings
- Greater protection and increased durability of the electric motor
- Diagnosis and fault history
- Flexibility, it allows the installation of accessories in the application (plug and play)
- Graphic monitoring
- Customizable main screens



Menu navigation



Easy to install



Easy to operate



Simple monitoring

Note: 1) Models A to D.



## Easy to Use

### USB Port

Easy monitoring via PC or firmware updating

### Removable HMI

Possibility of installation on panel or machine door

Easy access to the control terminals: digital and analog inputs and outputs

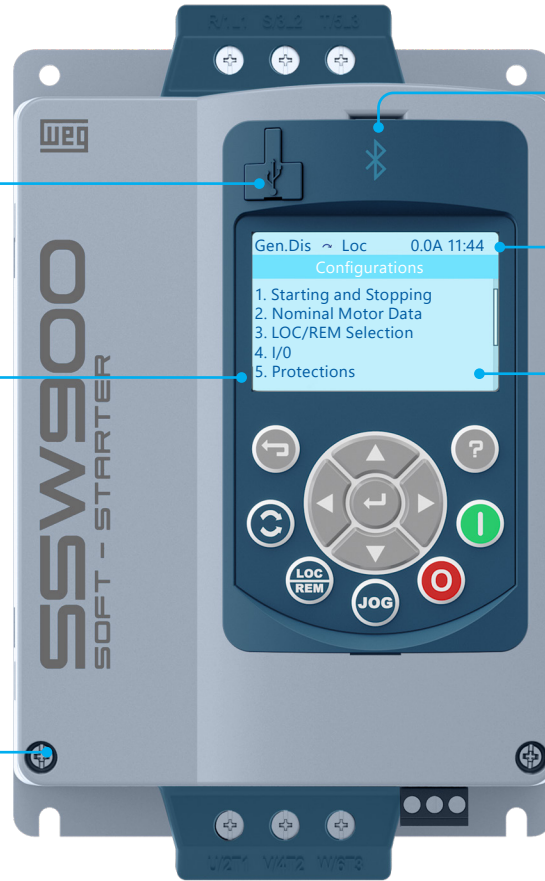
Bluetooth connectivity

### RTC

Real time clock with event log including date and time

### Graphic HMI

Intuitive, customizable, complete



## Flexibility

### LED

Visual status indication

### Two Slots

Possibility to use two accessory modules

RTC (Real time clock) Battery

### Quick Connection

Easily detachable terminals

Power supply connection

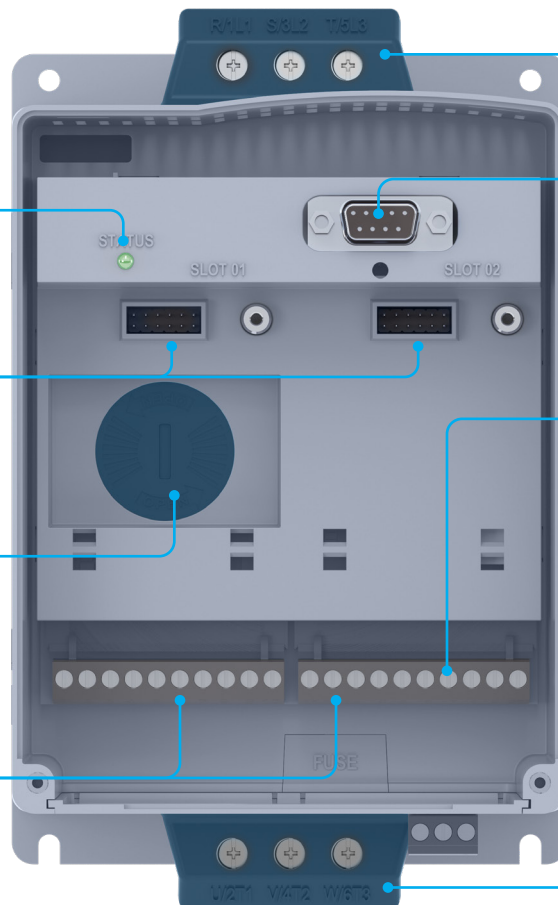
HMI connection

### I/O

Totally programmable inputs and outputs

- 5 isolated **digital inputs** 24 V dc
- 1 **analog output** 0-10 V dc / 4-20 mA
- 1 **input** for motor PTC thermistor
- 3 **relay outputs** 1.0 A / 240 V dc

Motor connection





## Protections

The SSW900 uses advanced techniques to detect power supply and connection faults, enabling the user to choose between fault or alarm for full motor protection:

- Programmable protections for overvoltage, undervoltage, voltage imbalance between phases and phase sequence
- Programmable protections for motor overload and underload
- Thermal protections through Pt-100\* reading and motor heating and cooling curves
- Overcurrent and undercurrent, current imbalance, undertorque and overtorque, underpower and overpower
- Protections against short-circuit on the power side
- Bypass protections (overcurrent, undercurrent and failure in the bypass contactor opening)
- Minimum time interval between starts
- Protections against communication faults
- Actuation of the programmable protections between fault or alarm
- Fault auto-reset

\* PT-100 reading is available when the SSW900-PT100-W accessory is included.

## Start and Stop Control Methods

The SSW900 offers, through its algorithm, flexibility and high performance control to meet application requirements on start and stop cycles of three-phase induction motors.

	Actuation	
	Start	Stop
Voltage ramp	✓	✓
Voltage ramp + current limit	✓	✗
Current limit	✓	✗
Current ramp	✓	✗
Pump control <sup>1)</sup>	✓	✓
Torque control <sup>2)</sup>	✓	✓
D.O.L SCR	✓	✗
Coast to stop	✗	✓

Notes: 1) The setting of the function Pump Control is allowed for stopping the motor only when it is used at the starting as well.  
 2) The setting of the function Torque Control is allowed for stopping the motor only when it is used at the starting as well.



## Main Features



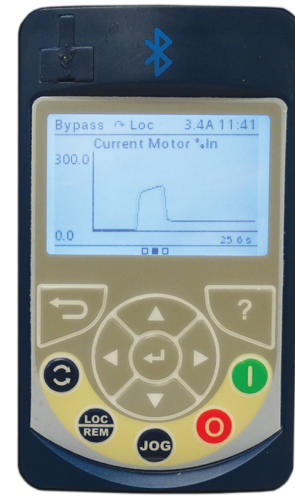
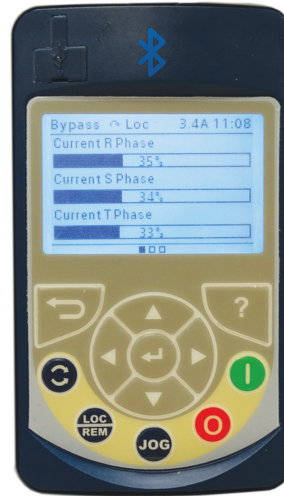
**Forward / Reverse**



**JOG**



**Kick-start**



### Fire mode (emergency start)

Allows starting and stopping the motor in emergency situations, even when any fault occurs, disregarding the SSW or motor protections. Used to drive hydraulic pumps for firefighting systems.



### High performance graphic HMI

Indication of all variables of the motor or SSW in an easy and intuitive way, using many units and formats, through bar graphs or time graphs.



### Diagnosis

Several status of the SSW are saved at certain moments to facilitate the diagnosis of faults and problems in the application or in the motor. For instance:

- Faults, with history of all faults and storage in CSV file
- Alarms, with history of all alarms and storage in CSV file
- Event history with storage in CSV file
- All saved information includes a time and date stamp

ID	Code	Description	Date and time	Current R (A)	Current S (A)	Current T (A)	R-S Line voltage (V)	S-T Line voltage (V)	T-R Line voltage (V)	Control voltage (V)	SCR Temperature (C)	SSW Status
1	FD16	Sobretensão na Alimentação do Motor	2016-09-16 09:02:24	1.2	1.2	2.1	374.7	374.0	372.5	219.5	26	Pompa Aceleração
2	FD01	Tempo Entre Partidas	2016-09-16 09:02:50	0.1	0.1	0.3	327.8	304.9	296.2	219.7	26	Teste Inicial
3	FD01	Desbalanceamento de Tensão no Motor	2016-10-22 17:20:03	1.1	1.1	0.3	218.1	176.1	195.5	219.8	26	Bypass
4	FD03	Falta de Fase na Partida do Motor	2016-10-22 17:20:17	0.2	0.1	0.1	0.0	0.0	0.0	0.0	219.7	Teste Inicial
5	FD03	Falta de Fase na Partida do Motor	2016-11-16 09:22:59	0.1	0.1	0.1	0.0	0.0	0.0	0.0	219.6	Bypass
6	FD05	Subcorrente no Motor	2016-11-16 09:24:23	0.7	0.7	0.7	0.0	0.0	0.0	0.0	219.6	Bypass
7	FD03	Falta de Fase na Partida do Motor	2016-11-16 10:10:05	0.2	0.1	0.1	0.0	0.0	0.0	0.0	219.8	Teste Inicial
8	FD16	Sobretensão na Alimentação do Motor	2016-11-16 10:10:40	1.6	1.6	1.6	374.7	374.0	372.5	219.5	26	Pompa Aceleração
9	FD16	Sobretensão na Alimentação do Motor	2016-11-16 10:11:20	1.6	1.6	1.6	374.7	374.0	372.5	219.5	26	Pompa Aceleração
10	FD01	Desbalanceamento de Tensão no Motor	2016-11-16 10:11:50	0.2	1.0	1.0	218.1	176.1	195.5	219.8	26	Pompa Aceleração
11	FD14	Desbalanceamento de Corrente no Motor	2016-11-16 10:12:18	1.1	1.1	0.1	175.7	195.8	219.1	219.7	26	Bypass



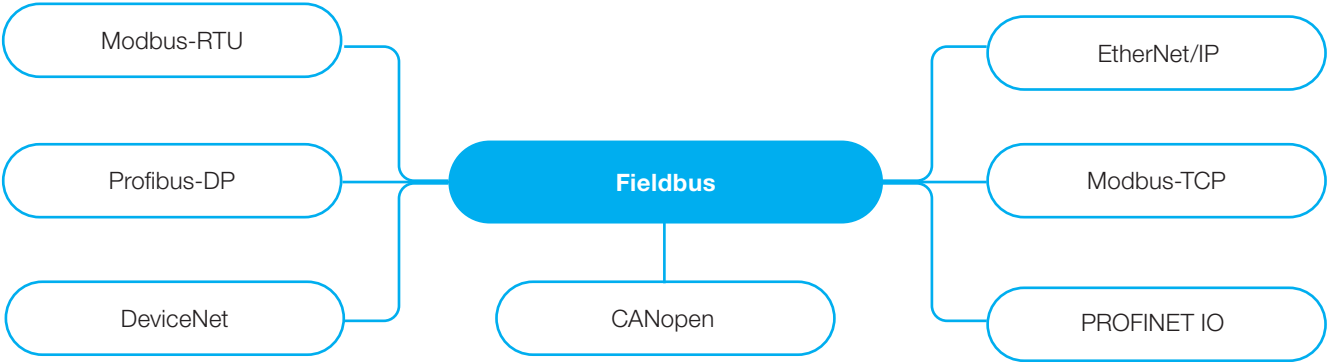
### Oriented Startup

Guides the user on how to program the SSW900 easily.



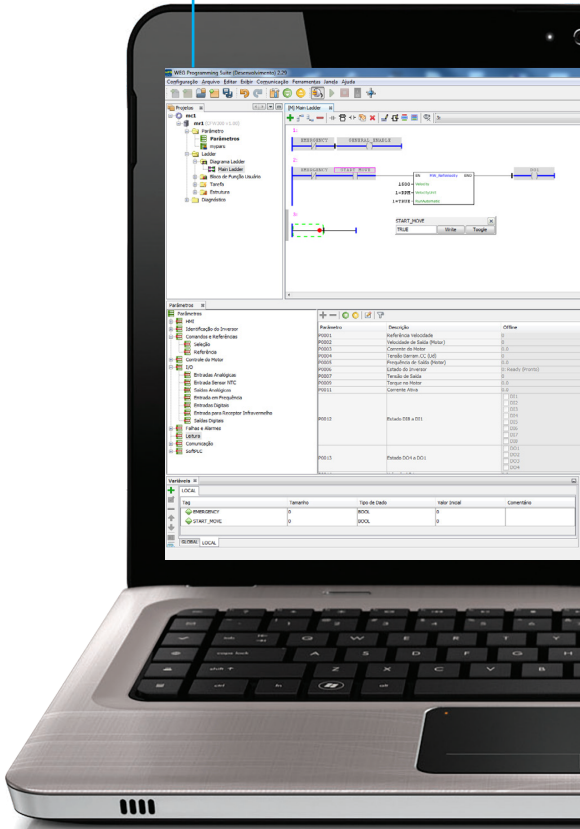
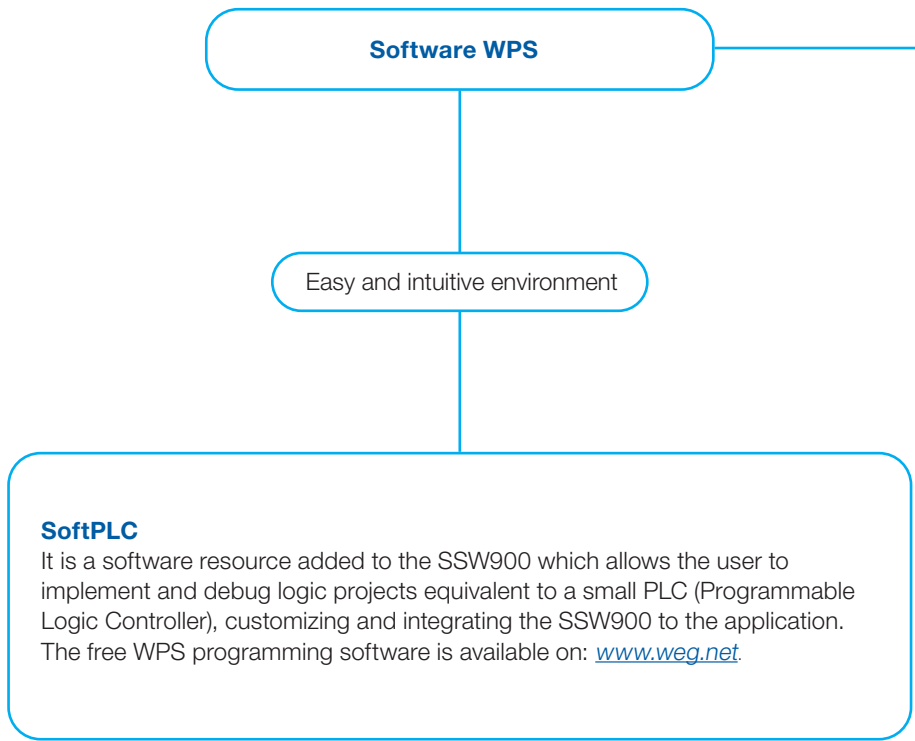
## Connectivity

The SSW900 can be integrated to the main Fieldbus industrial communication networks, such as Profibus-DP, CANopen, DeviceNet and EtherNet/IP, using the appropriate plug-in module.



### WEG Programming Suite (WPS)

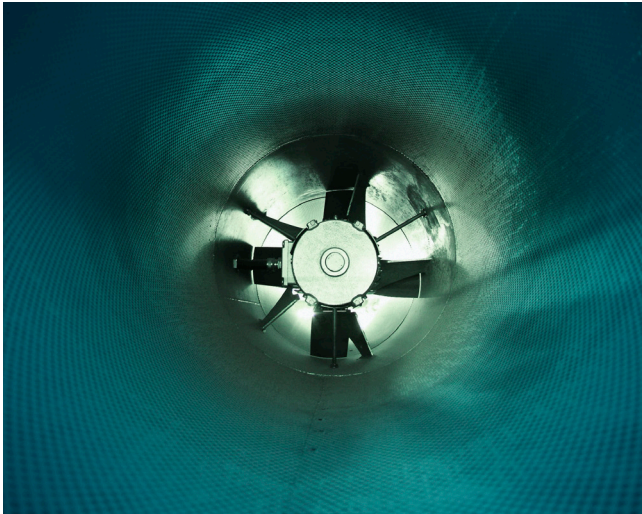
WPS is an integrated PC software that assists in the creation of automation applications allowing graphical monitoring, parameterization and programming in Ladder language (IEC 61131-3) of several WEG product families.







# Applications



## Cement and Mining



- Dosing pumps
- Sifters / vibrating tables
- Dynamic graders
- Conveyor belts

## Chemical and Petrochemical



- Fans / exhaust fans
- Centrifugal pumps
- Dosing pumps
- Centrifuges
- Stirrers / mixers
- Compressors
- Soap extruders

## Wood



- Veneer machines
- Polishing machines
- Cutting machines
- Wood chippers
- Saw and planes

## Plastic and Rubber



- Extruders
- Blowers
- Mixers
- Calenders
- Granulators

## Water & Wastewater



- Centrifugal-pumps
- Suppression systems

## Food & Beverage



- Continuous centrifuges
- Roller tables
- Conveyor belts
- Bottling lines

## Ceramic



- Fans / exhaust fans
- Continuous dryers / ovens
- Ball mills
- Roller tables
- Conveyor belts

## Steel and Metallurgy



- Fans / exhaust fans
- Conveyors
- Drilling machines / grinders
- Pumps

## Glass



- Fans / exhaust fans
- Continuous dryers / ovens
- Roller tables

## Textile



- Stirrers / mixers
- Dryers / washing machines

**Light Duty:** Agitator, Bow Thruster - Zero Pitch, Compressor - Rotary Vane, Compressor - Scroll, Feeder - screw, Lathe machines, Molding Machine, Roller table.

**Normal Duty:** Ball mill, Bow Thruster - Loaded, Compressor - Reciprocating, Compressor - Rotary Screw, Conveyor - unloaded, Grinder, Hammer mill, Mixer, Pelletizers, Pump, Pump Jack, Rolling mill, Saw, Screen vibrating, Tumblers, Fan - Low Inertia, Sifters/vibrating tables, Dynamic Graders, Extruder, Calender, Blower, Granulators, Continuous Dryer and Oven, Suppression systems, Bottling lines.

**Heavy Duty:** Centrifuge, Crusher, Conveyor - loaded, Fan - High Inertia, Shredder, Wood chipper, Press, flywheel, Compressor - Centrifugal.

# Coding

- 1
- SSW900
- 2
- A
- 3
- 0010
- 4
- T5
- 5
- E2
- 6
- B

1 - Soft-Starter SSW900

2 - Frame size of the SSW900, according to the table below

3 - Rated output current, according to the table below

Rated current	Frame size
0010 = 10 A	A
0017 = 17 A	
0024 = 24 A	
0030 = 30 A	
0045 = 45 A	B
0061 = 61 A	
0085 = 85 A	
0105 = 105 A	
0130 = 130 A	C
0171 = 171 A	
0200 = 200 A	
0255 = 255 A	
0312 = 312 A	D
0365 = 365 A	
0412 = 412 A	
0480 = 480 A	
0604 = 604 A	E
0670 = 670 A	
0820 = 820 A	
0950 = 950 A	F
1100 = 1,100 A	
1400 = 1,400 A	
	G

4 - Rated power supply voltage

T5	220 to 575 V
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5 - Rated electronic supply voltage

E1	Reserved
E2	110 - 240 V
E3	110 - 130 V <sup>1)</sup>
E4	220 - 240 V <sup>1)</sup>

Note: 1) Only for frame D, E, F and G.

6 - Special hardware versions

B	Bluetooth keypad
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# SSW900 Ratings

## SSW900 LD, ND, HD Output Current Ratings @ 40°C<sup>1</sup> and < 1000m Altitude

Catalog Number	Light Duty (300% for 10s, 6 starts/hr)	Normal Duty (350% for 30s, 4 starts/hr)	Heavy Duty (450% for 30 s, 4 starts/hr)	Dimensions (In.) HxWxD	Approx. Weight (lbs.)
SSW900A0010T5E2B	10	10	10	7.9" x 5.0" x 8.0"	4.3
SSW900A0017T5E2B	17	17	15	7.9" x 5.0" x 8.0"	4.3
SSW900A0024T5E2B	24	24	22	7.9" x 5.0" x 8.0"	4.3
SSW900A0030T5E2B	30	30	27	7.9" x 5.0" x 8.0"	4.3
SSW900B0045T5E2B	45	45 <sup>2</sup>	35 <sup>2</sup>	8.2" x 5.7" x 10.2"	8.9
SSW900B0061T5E2B	61	60 <sup>2</sup>	46 <sup>2</sup>	8.2" x 5.7" x 10.2"	8.9
SSW900B0085T5E2B	85	83 <sup>2</sup>	65 <sup>2</sup>	8.2" x 5.7" x 10.2"	8.9
SSW900B0105T5E2B	105	105 <sup>2</sup>	83 <sup>2</sup>	8.2" x 5.7" x 10.2"	8.9
SSW900C0130T5E2B	130	130 <sup>2</sup>	106 <sup>2</sup>	10.9" x 8.8" x 10.3"	14.4
SSW900C0171T5E2B	171	171 <sup>2</sup>	143 <sup>2</sup>	10.9" x 8.8" x 10.3"	14.4
SSW900C0200T5E2B	200	200 <sup>2</sup>	168 <sup>2</sup>	10.9" x 8.8" x 10.3"	14.4
SSW900D0255T5E3B	255	255	206	13.0" x 8.9" x 11.1"	28.3
SSW900D0312T5E3B	312	311	242	13.0" x 8.9" x 11.1"	28.3
SSW900D0365T5E3B	365	365	284	13.0" x 8.9" x 11.1"	28.3
SSW900D0412T5E3B	412	412	322	13.0" x 8.9" x 11.1"	28.3
SSW900E0480T5E3B	480	455	354	22.6" x 15.4" x 10.2"	83.7
SSW900E0604T5E3B	604	526	409	22.6" x 15.4" x 10.2"	83.7
SSW900E0670T5E3B	670	584	454	22.6" x 15.4" x 10.2"	83.7
SSW900F0820T5E3B <sup>3</sup>	820	711	553	29.9" x 29.9" x 12.4"	166.2
SSW900F0950T5E3B <sup>3</sup>	950	826	643	29.9" x 29.9" x 12.4"	166.2
SSW900G1100T5E3B <sup>3</sup>	1100	958	745	36.0" x 36.0" x 12.4"	236.3
SSW900G1400T5E3B <sup>3</sup>	1400	1225	952	36.0" x 36.0" x 12.4"	236.3

**Notes:**

1. Output current d-rating may apply to certain frame sizes above 40°C. Please consult WEG for sizing.
2. Ratings with Ventilation kit.
3. These ratings will be available in 4th Q of 2021.








## SSW900 Maximum Output Current Ratings @ Designed Start Cycle and Designed Maxi. Ambient Temperature

Catalog Number	Starter Rated Max. Current (A)	HP @ 460VAC <sup>1</sup>	Dimensions (In.) HxWxD	Max. Ambient Temperature	Start Cycle
SSW900A0010T5E2B	10	5	7.9" x 5.0" x 8.0"	55°C	3 x Soft starter rated current for 30 seconds, 10 starts/hr
SSW900A0017T5E2B	17	10	7.9" x 5.0" x 8.0"	55°C	
SSW900A0024T5E2B	24	15	7.9" x 5.0" x 8.0"	55°C	
SSW900A0030T5E2B	30	20	7.9" x 5.0" x 8.0"	55°C	
SSW900B0045T5E2B	45	30	8.2" x 5.7" x 10.2"	55°C	3 x Soft starter rated current for 30 seconds, 3 starts/hr (w/o ventilation kit)
SSW900B0061T5E2B	61	40	8.2" x 5.7" x 10.2"	55°C	
SSW900B0085T5E2B	85	50 / 60 / 75	8.2" x 5.7" x 10.2"	55°C	
SSW900B0105T5E2B	105	75	8.2" x 5.7" x 10.2"	55°C	3 x Soft starter rated current for 30 seconds, 10 starts/hr (with ventilation kit)
SSW900C0130T5E2B	130	100	10.9" x 8.8" x 10.3"	55°C	
SSW900C0171T5E2B	171	125	10.9" x 8.8" x 10.3"	55°C	
SSW900C0200T5E2B	200	150	10.9" x 8.8" x 10.3"	55°C	
SSW900D0255T5E3B	255	200	13.0" x 8.9" x 11.1"	55°C	3 x Soft starter rated current for 30 seconds, 10 starts/hr
SSW900D0312T5E3B	312	250	13.0" x 8.9" x 11.1"	55°C	
SSW900D0365T5E3B	365	300	13.0" x 8.9" x 11.1"	55°C	
SSW900D0412T5E3B	412	350	13.0" x 8.9" x 11.1"	55°C	
SSW900E0480T5E3B	480	400	22.6" x 15.4" x 10.2"	40°C	3 x Soft starter rated current for 30 seconds, 5 starts/hr
SSW900E0604T5E3B	604	500	22.6" x 15.4" x 10.2"	40°C	
SSW900E0670T5E3B	670	600	22.6" x 15.4" x 10.2"	40°C	
SSW900F0820T5E3B <sup>2</sup>	820	700	29.9" x 29.9" x 12.4"	40°C	
SSW900F0950T5E3B <sup>2</sup>	950	800	29.9" x 29.9" x 12.4"	40°C	
SSW900G1100T5E3B <sup>2</sup>	1100	900	36.0" x 36.0" x 12.4"	40°C	
SSW900G1400T5E3B <sup>2</sup>	1400	1200	36.0" x 36.0" x 12.4"	40°C	

**Notes:**

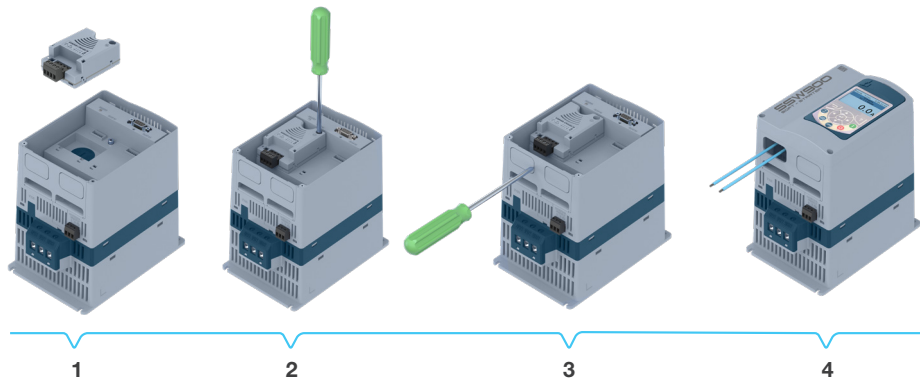
1. "HP" rating based on FLA values from WEG W22, 2 and 4 pole, NEMA Premium motors.
2. These models will be available in 4th Q of 2021.

## Accessories

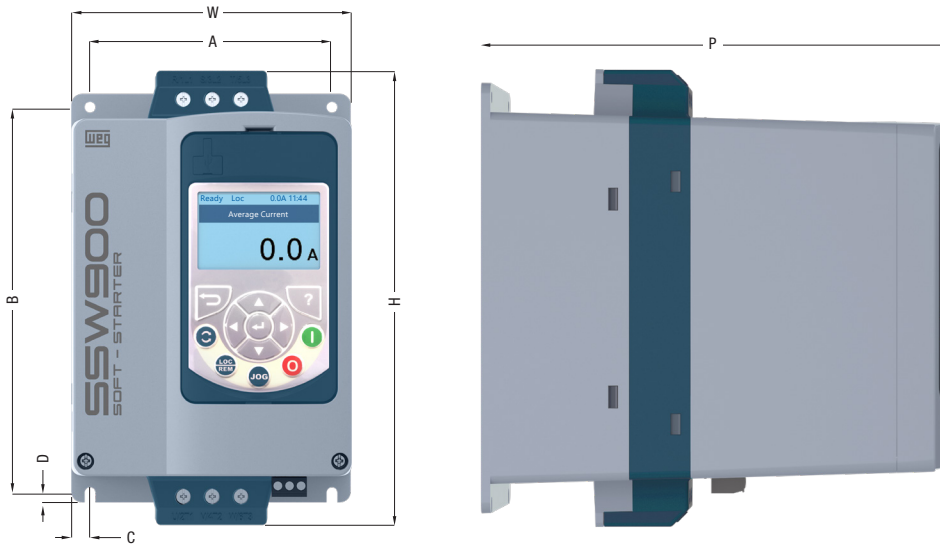
Accessory	Description	Image
<b>Accessories for communication and control - Slots 1 and 2</b>		
SSW900-CAN-W	CANopen and DeviceNet communication plug-in module	
SSW900-CRS485-W	Modbus-RTU communication plug-in module	
SSW900-CDN-N	DeviceNet - Anybus communication plug-in module	
SSW900-CPDP-N	Profibus-DP - Anybus communication plug-in module	
SSW900-CETH-IP-N	EtherNet/IP - Anybus communication plug-in module	
SSW900-CMB-TCP-N	Modbus-TCP - Anybus communication plug-in module	
SSW900-CPN-IO-N	PROFINET IO - Anybus communication plug-in module	
SSW900-CETH-W	Ethernet/IP communication plug-in module (Available by end of 2021)	
SSW900-PT100-W	Temperature plug-in module for PT100 sensors - 6 channels	
<b>Accessories for mechanical installation</b>		
SSW0708900-KVT-2B	Ventilation kit for frame B (currents from 45 to 105 A)	
SSW0708900-KVT-3C	Ventilation kit for frame C (currents from 130 to 200 A)	
SSW0708900-IP20-3C	IP20 kit for frame C (currents from 130 to 200 A)	
SSW0708900-IP20-4D	IP20 kit for frame D (currents from 255 to 412 A)	
SSW0708900-PROT-3C	Front cover kit for power terminals of frame C (currents from 130 to 200 A)	
SSW0708900-PROT-4D	Front cover kit for power terminals of frame D (currents from 255 to 412 A)	
SSW900-PROT-E	Front cover kit for power terminals of frame E (currents from 480 to 670 A)	
<b>Other accessories</b>		
SSW900-KMD-CB01	Frame kit for HMI + 1 m cable	-
SSW900-KMD-CB02	Frame kit for HMI + 2 m cable	-
SSW900-KMD-CB03	Frame kit for HMI + 3 m cable	-
SSW900-KMD-CB05	Frame kit for HMI + 5 m cable	-
SSW900-KMD-CB07	Frame kit for HMI + 7,5 m cable	-
SSW900-KMD-CB10	Frame kit for HMI + 10 m cable	-
SSW900-KMD-CB20	Frame kit for HMI + 20 m cable	-
SSW900-KECA-10	Current acquisition kit for 10 A	-
SSW900-KECA-17	Current acquisition kit for 17 A	-
SSW900-KECA-24	Current acquisition kit for 24 A	-
SSW900-KECA-30	Current acquisition kit for 30 A	-
SSW900-KECA-45	Current acquisition kit for 45 A	-
SSW900-KECA-61	Current acquisition kit for 61 A	-
SSW900-KECA-85	Current acquisition kit for 85 A	-
SSW900-KECA-105	Current acquisition kit for 105 A	-
SSW900-KECA-130	Current acquisition kit for 130 A	-
SSW900-KECA-171	Current acquisition kit for 171 A	-
SSW900-KECA-200	Current acquisition kit for 200 A	-
SSW900-KECA-255	Current acquisition kit for 255 A	-
SSW900-KECA-312	Current acquisition kit for 312 A	-
SSW900-KECA-365	Current acquisition kit for 365 A	-
SSW900-KECA-412	Current acquisition kit for 412 A	-



## Accessory Installation



## Dimensions



Frame size	Height (H) mm (in)	Width (W) mm (in)	Depth (P) mm (in)	(A) mm (in)	(B) mm (in)	(C) mm (in)	(D) mm (in)	Fastening screw	Weight (kg) (lb)	Degree of protection
A	200 (7.87)	127 (5)	203 (7.99)	110 (7.33)	175 (6.88)	8.5 (0.33)	4.3 (0.16)	M4	1.93 (4.25)	IP20
B	208 (8.18)	144 (5.66)	260 (10.23)	132 (5.19)	148 (5.82)	6 (0.23)	3.4 (0.13)	M4	4.02 (8.86)	IP20
C	276 (10.86)	223 (8.77)	261 (10.27)	208 (8.18)	210 (8.26)	7.5 (0.29)	5 (0.19)	M5	6.55 (14.44)	IP20 <sup>1)</sup>
D	331 (13.03)	227 (8.93)	282 (11.10)	200 (7.87)	280 (11.02)	15 (0.59)	9 (0.35)	M8	12.83 (28.28)	IP20 <sup>1)</sup>
E	575 (22.63)	390 (15.35)	260 (10.23)	270 (10.62)	480 (18.89)	56 (2.20)	10 (0.40)	M8	38 (83.75)	IP00
F	760 (29.92)	464 (18.27)	316 (12.44)	320 (12.60)	625 (24.61)	72 (2.83)	10 (0.39)	M8	75.40 (166.23)	IP00
G	914 (35.98)	539 (21.22)	316 (12.44)	369 (14.53)	732 (28.82)	85 (3.35)	12 (0.47)	M10	107.20 (236.34)	IP00

Note: IP20 with optional kit.

# Installation

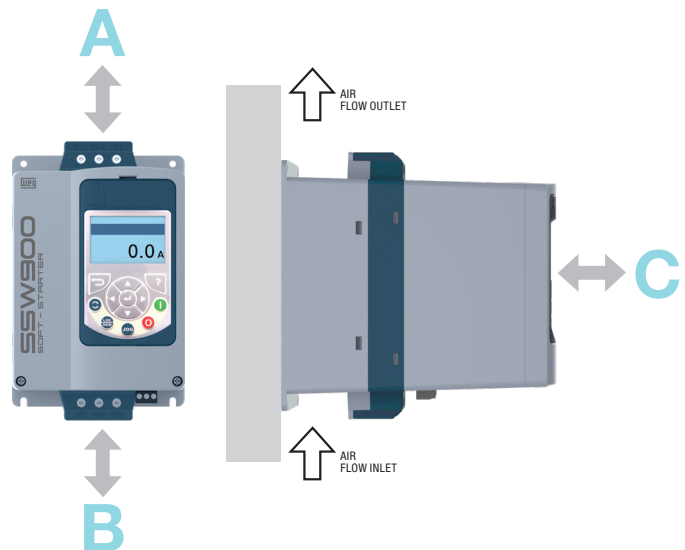
## Standard (3 Cables)



$$I_{\text{Soft-Starter}} = I_{\text{Rated}}$$

### Minimum Free Spaces Recommended

Frame size	A mm (in)	B mm (in)	C mm (in)
A	50 (2)	50 (2)	30 (1.2)
B	80 (3.2)	80 (3.2)	30 (1.2)
C	100 (4)	100 (4)	30 (1.2)
D	150 (6)	150 (6)	30 (1.2)
E	150 (6)	150 (6)	30 (1.2)
F	180 (7.09)	180 (7.09)	30 (1.18)
G	180 (7.09)	180 (7.09)	30 (1.18)



## Technical Specifications

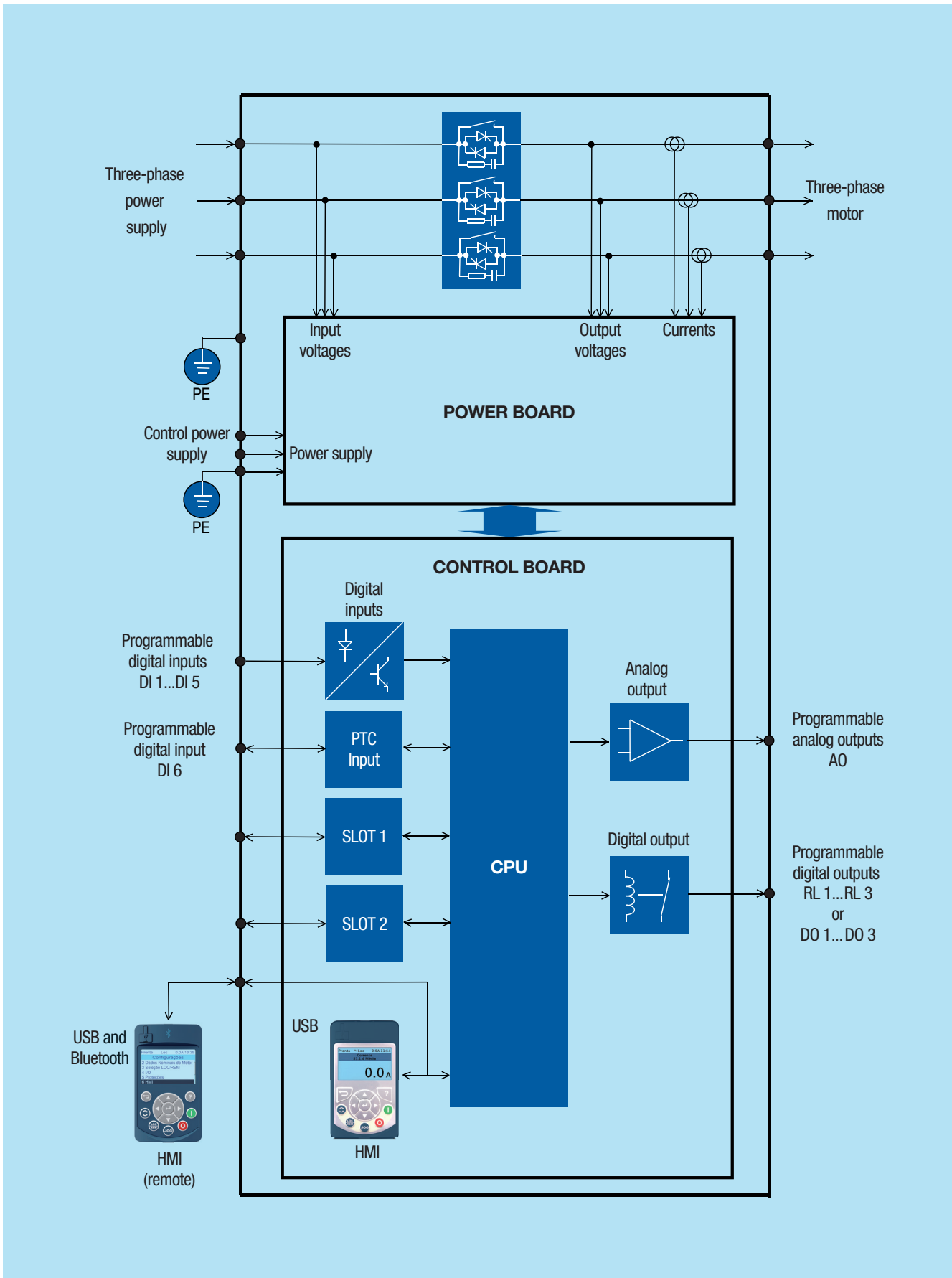
Power supply	Power voltage (R/1L1, S/3L2, T/5L3)	220 to 575 V ac (-15% to +10%), or 187 to 632 V ac (standard and delta connection)
	Control voltage	10 A to 200 A models: 110 to 240 V (-15% to +10%), or 93.5 to 264 V ac 255 to 1,400 A models: 110 to 130 V (-15% to +10%), or 93.5 to 143 V ac, or 220 to 240 V (-15% to +10%), or 176.8 to 264 V ac
	Frequency	50 to 60 Hz ( $\pm 10\%$ )
	Power consumption	10 A to 200 A models: 32 VA 255 to 412 A models: 70 VA continuous, 700 VA additional during the closing of the internal bypass 480 A to 670 A models: 90 VA continuous, 700 VA additional during the closing of the internal bypass Models from 820 A to 950 A: 140 VA continuous, 800 VA additional during the closing of the internal bypass Models from 1,100 A to 1,400 A: 180 VA continuous, 850 VA additional during the closing of the internal bypass
Inputs	Digital	5 isolated digital inputs Minimum high level: 18 V dc Minimum low level: 3 V dc Maximum voltage: 30 V dc Input current: 11 mA @ 24 V dc Programmable functions
	Inputs for motor thermistor	1 input for thermistor Actuation: 3.9 k $\Omega$ , release: 1.6 k $\Omega$ Minimum resistance 100 $\Omega$
Outputs	Digital	2 relays with NO contacts, 240 V ac, 1 A, programmable functions 1 relay with NO/NC contact, 240 V ac, 1 A, programmable functions
	Analog	1 analog output 0 to 10 V or 0/4 to 20 mA configurable by software
HMI (Human Machine Interface)	Standard Bluetooth HMI	12 keys: run/stop, forward/reverse, Jog, local/remote, navigation buttons: left, right, up, down, enter, back and help Graphic LCD display Allows monitoring/changing all SSW parameters Option for external mounting, panel door USB for firmware updates or communication with the product Bluetooth connection to monitor and change SSW parameters using smart phone App
PC connection for programming	USB connector in the HMI	USB standard rev. 2.0 (basic speed) Mini B-type USB plug Interconnecting cable: shielded USB cable, standard host/device shielded USB cable

## Standards

Safety standards	UL508 - <i>industrial control equipment</i> EN60947-4-2, LVD 2006/95/EC - <i>low-voltage switchgear and controlgear</i>
Electromagnetic compatibility standards	CISPR 11 - <i>industrial, scientific and medical (ISM) radio-frequency equipment - electromagnetic disturbance characteristics - limits and methods of measurement</i> EN 61000-4-2 - <i>electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 2: electrostatic discharge immunity test</i> EN 61000-4-3 - <i>electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 3: radiated, radio-frequency, electromagnetic field immunity test</i> EN 61000-4-4 - <i>electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 4: electrical fast transient/burst immunity test</i> EN 61000-4-5 - <i>electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 5: surge immunity test</i> EN 61000-4-6 - <i>electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 6: immunity to conducted disturbances, induced by radio-frequency fields</i> EN 61000-4-11 - <i>electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 11: voltage dips, short interruptions and voltage variations immunity tests</i>
Mechanical construction standards	EN 60529 - <i>degrees of protection provided by enclosures (IP code)</i> UL50 - <i>enclosures for electrical equipment</i> IEC 60721-3-3 - <i>classification of environmental conditions</i>



# Block Diagram





# Global presence is essential, as much as understanding your needs.

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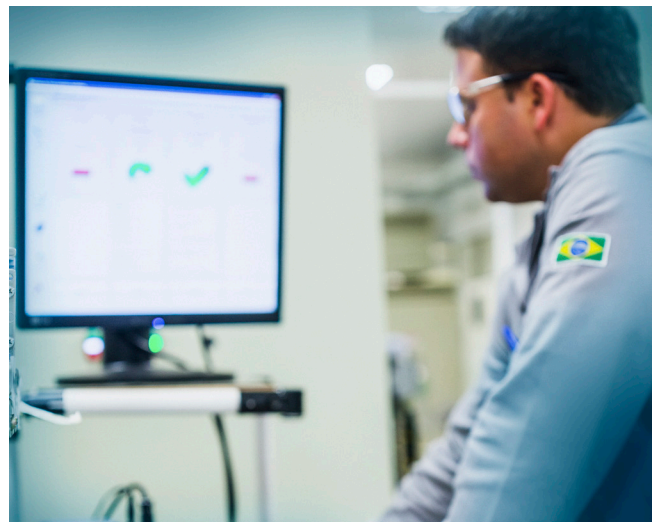
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Cod: | US.SSW900| Date 03/2021

The values shown are subject to change without prior notice.  
The information contained is reference values.