

SSW07

Soft Starters

Soft Starters are static starting devices, designed for the acceleration, deceleration and protection of the three phase, electric induction motors through the control of the voltage applied to the motor. The SSW07, with DSP control (Digital Signal Processor), was designed to provide great performance on motor starts and stops with an excellent cost-benefit relation. Easy to set up, it simplifies start-up activities and daily operations. The SSW07 is compact, optimizing space in electric panels. The SSW07 incorporates all electric motor protections and adapts to customer needs through its easy-to-install optional accessories. Optionally, a keypad, a communication interface or a motor PTC input can be added to the product.



SSW07

Applications

- Chemical and Petrochemical
- Plastic and Rubber
- Pulp and Paper
- Sugar and Alcohol
- Beverages
- Cement and Mining
- Food and Beverage
- Textile
- Metallurgy
- Ceramics
- Glass
- Refrigeration
- Wood
- Sanitation
- Load Transportation
- Pumps and Fans

Standard Features

- Universal voltage (220 to 575 Vac)
- Built-in run rated (AC1) by-pass contactor
- Significant reduction of mechanical stresses through the coupling and transmission devices (gearboxes, pulleys, gears, conveyors, etc.) during the start
- Increases motor and machine mechanical equipment lifetime due to the elimination of mechanical shock
- Easy operation, setup, maintenance & installation
- Simple setpoint programming through trim pots
- Operates in environments up to 55°C without current reduction
- Integral, electronic motor protection
- Built-in electronic thermal relay
- Avoids "Water Hammer" in pumps
- Limitation of voltage drop during start
- Switched type power supply with EMC filter for the control electronics (110 to 240 Vac)
- Voltage monitoring of the electronics to back-up Ixt values (thermal image)
- SuperDrive G2 compatible
- Conformal coated circuit boards



SSW07

Soft Starter
5 to 400 HP

Coding

1 SSW07	2 0017	3 T	4 5	5 S	6 -	7 Z
-------------------	------------------	---------------	---------------	---------------	---------------	---------------

1. SSW07 series

2. Rated Current

0017 = 17 Amps
0200 = 200 Amps
0412 = 412 Amps

3. Number of Phase:

T = Three Phase

4. Input Voltage:

5 = 220 - 600VAC

5. Version:

S = Standard

6. Cooling fan

H1 = 120VAC for frame sz 4 only

7. End of Code

Z

SSW07



Soft Starters

SSW07

IP20 Frame Size 1 & 2, IP00 Frame Size 3 & 4

Motor Volts	Motor HP	Soft Starter AMPS	Catalog Number	Frame Size	Dimensions (in.) H x W x D	App. Shpg. Wt. (lbs.)	List Price	Multiplier Symbol
INPUT POWER SUPPLY: THREE PHASE - 220V / 230V								
220V / 230V	5	17	SSW070017T5SZ	1	6.38 x 3.74 x 6.18	2.9	\$1,158	E1
	7.5	24	SSW070024T5SZ	1	6.38 x 3.74 x 6.18	2.9	\$1,241	E1
	10	30	SSW070030T5SZ	1	6.38 x 3.74 x 6.18	2.9	\$1,281	E1
	15	45	SSW070045T5SZ	2	8.2 x 5.57 x 7.94	7.28	\$1,461	E1
	20	61	SSW070061T5SZ	2	8.2 x 5.57 x 7.94	7.28	\$1,646	E1
	30	85	SSW070085T5SZ	2	8.2 x 5.57 x 7.94	7.28	\$1,992	E1
	50	130	SSW070130T5SZ	3	10.9 x 8.6 x 8.66	16.8	\$2,501	E1
	60	171	SSW070171T5SZ	3	10.9 x 8.6 x 8.66	16.8	\$3,177	E1
	75	200	SSW070200T5SZ	3	10.9 x 8.6 x 8.66	16.8	\$3,766	E1
	100	255	SSW070255T5SZ	4	13 x 8.94 x 9.53	28.2	\$4,598	E1
	125	312	SSW070312T5SZ	4	13 x 8.94 x 9.53	28.2	\$4,992	E1
	150	365	SSW070365T5SZ	4	13 x 8.94 x 9.53	28.2	\$5,187	E1
	150	412	SSW070412T5SZ	4	13 x 8.94 x 9.53	28.2	\$6,088	E1
INPUT POWER SUPPLY: THREE PHASE - 460V / 480V								
460V / 480V	10	17	SSW070017T5SZ	1	6.38 x 3.74 x 6.18	2.9	\$1,158	E1
	15	24	SSW070024T5SZ	1	6.38 x 3.74 x 6.18	2.9	\$1,241	E1
	20	30	SSW070030T5SZ	1	6.38 x 3.74 x 6.18	2.9	\$1,281	E1
	30	45	SSW070045T5SZ	2	8.2 x 5.57 x 7.94	7.28	\$1,461	E1
	50	61	SSW070061T5SZ	2	8.2 x 5.57 x 7.94	7.28	\$1,646	E1
	75	85	SSW070085T5SZ	2	8.2 x 5.57 x 7.94	7.28	\$1,992	E1
	100	130	SSW070130T5SZ	3	10.9 x 8.6 x 8.66	16.8	\$2,501	E1
	125	171	SSW070171T5SZ	3	10.9 x 8.6 x 8.66	16.8	\$3,177	E1
	150	200	SSW070200T5SZ	3	10.9 x 8.6 x 8.66	16.8	\$3,766	E1
	200	255	SSW070255T5SZ	4	13 x 8.94 x 9.53	28.2	\$4,598	E1
	250	312	SSW070312T5SZ	4	13 x 8.94 x 9.53	28.2	\$4,992	E1
	300	365	SSW070365T5SZ	4	13 x 8.94 x 9.53	28.2	\$5,187	E1
	350	412	SSW070412T5SZ	4	13 x 8.94 x 9.53	28.2	\$6,088	E1
INPUT POWER SUPPLY: THREE PHASE - 575V								
575V	15	17	SSW070017T5SZ	1	6.38 x 3.74 x 6.18	2.9	\$1,158	E1
	20	24	SSW070024T5SZ	1	6.38 x 3.74 x 6.18	2.9	\$1,241	E1
	30	30	SSW070030T5SZ	1	6.38 x 3.74 x 6.18	2.9	\$1,281	E1
	40	45	SSW070045T5SZ	2	8.2 x 5.57 x 7.94	7.28	\$1,461	E1
	60	61	SSW070061T5SZ	2	8.2 x 5.57 x 7.94	7.28	\$1,646	E1
	75	85	SSW070085T5SZ	2	8.2 x 5.57 x 7.94	7.28	\$1,992	E1
	125	130	SSW070130T5SZ	3	10.9 x 8.6 x 8.66	16.8	\$2,501	E1
	175	171	SSW070171T5SZ	3	10.9 x 8.6 x 8.66	16.8	\$3,177	E1
	200	200	SSW070200T5SZ	3	10.9 x 8.6 x 8.66	16.8	\$3,766	E1
	250	255	SSW070255T5SZ	4	13 x 8.94 x 9.53	28.2	\$4,598	E1
	300	312	SSW070312T5SZ	4	13 x 8.94 x 9.53	28.2	\$4,992	E1
	350	365	SSW070365T5SZ	4	13 x 8.94 x 9.53	28.2	\$5,187	E1
	400	412	SSW070412T5SZ	4	13 x 8.94 x 9.53	28.2	\$6,088	E1

Notes: "HP" rating based on FLA values from WEG W22, 2 and 4 poles, 460VAC, NEMA Premium motors*.

Use as a guide only. Motor FLA may vary with speed and manufacturer.

ALWAYS compare motor FLA to Nominal AMPS of VFD and overload conditions.

† HD current rating with 140% O/L

SSW07



Soft Starters

SSW07

Accessories

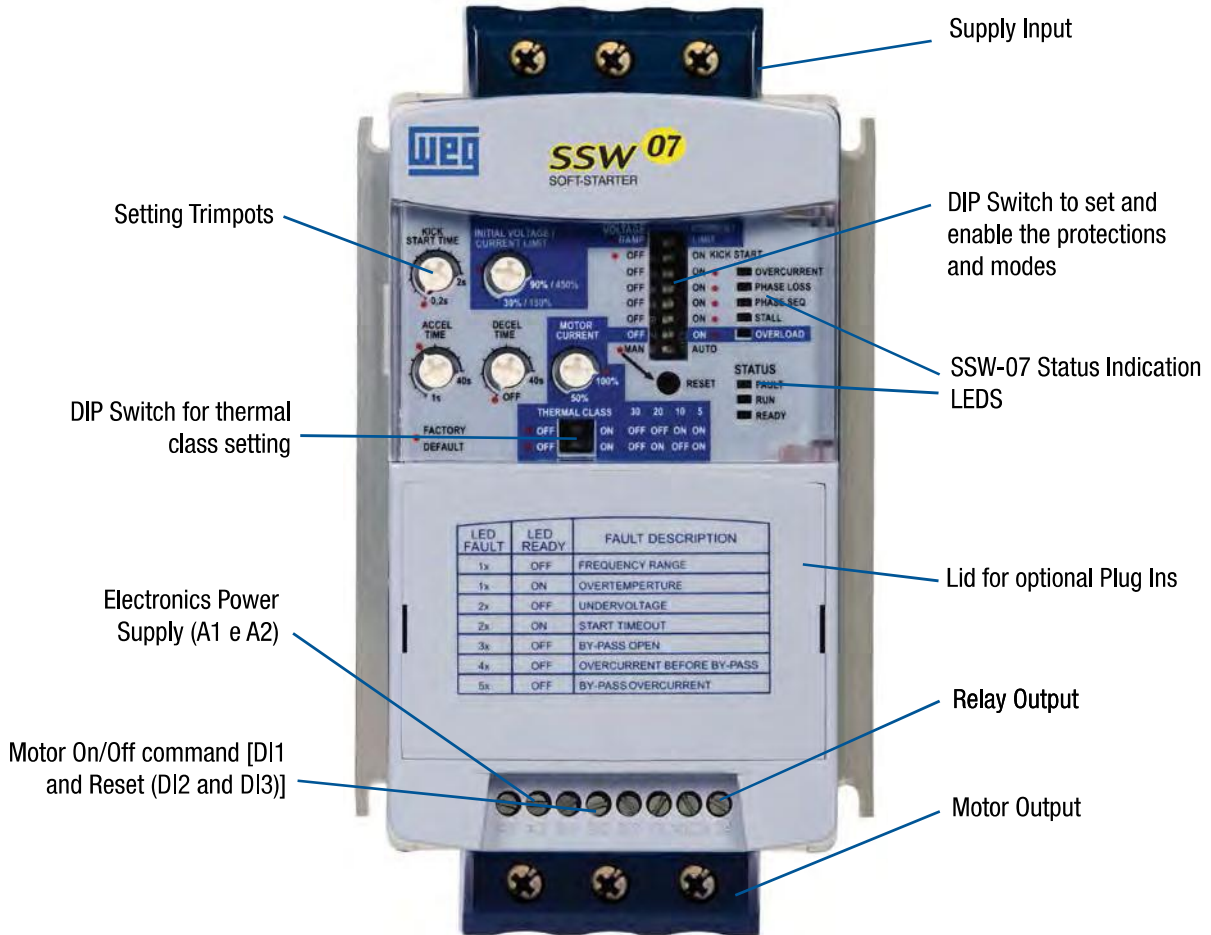
	Description	Catalog Number	List Price	Multiplier Symbol
Keypads	Keypad	HMI-LOCAL-SSW07	\$174	E1
	Remote Keypad Kit	HMI-REMOTE-SSW07	\$340	E1
Keypad Cables	3.3 ft Remote Keypad Cable	CAB-RS-1	\$23	V1
	6.6 ft Remote Keypad Cable	CAB-RS-2	\$31	V1
	10 ft Remote Keypad Cable	CAB-RS-3	\$41	V1
	16 ft Remote Keypad Cable	CAB-RS-5	\$51	V1
	25 ft Remote Keypad Cable	CAB-RS-7.5	\$62	V1
	33 ft Remote Keypad Cable	CAB-RS-10	\$72	V1
Communication	RS-232 Communication Kit	KRS-232-SSW07	\$121	E1
	RS-485 Communication Kit	KRS-485-SSW07	\$201	E1
	Cable for Communication RS232 (DB9-DB9) - 3m	CAB-COMM-3	\$75	E1
	Cable for Communication RS232 (DB9-DB9) - 10m	CAB-COMM-10	\$164	E1
	DeviceNet Communication Kit plus Remote HMI Connection	KFB-DN SSW07/08	\$353	E1
Kits	Ventilation Kit M2 (Frame Size 2, 45 to 85A)	SSW07-VENT KIT-M2	\$65	E1
	Ventilation Kit M3 (Frame Size 3, 130 o 200A)	SSW07-VENT KIT-M3	\$94	E1
	PTC Kit for motor	KIT-PTC-SSW07-MOTOR	\$123	E1
	IP20 Kit for M3 (Frame Size 3, 130 o 200A)	KIT-IP20-SSW07	\$62	E1
	IP20 Kit for M4 (Frame Size 4, 255 o 412A)	KIT-IP20-SSW07 SZ4	\$130	E1
	Superdrive G2 Kit (KRS-232-SSW07+CAB-COMM-3+CD Software)	KSDG2-SSW07	\$225	E1

* Cooling fans are 120VAC - single phase



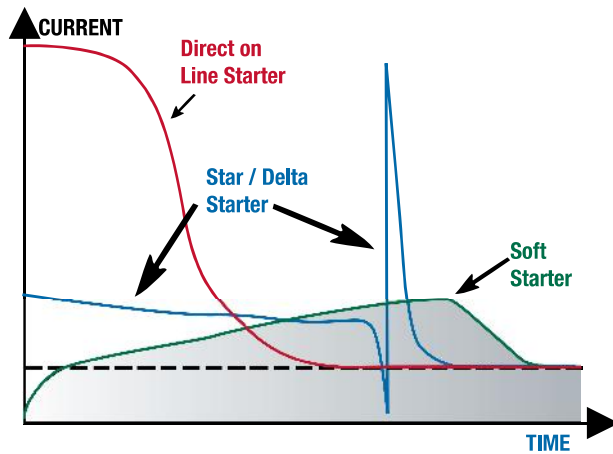
Soft Starters SSW07

Applications and Indications

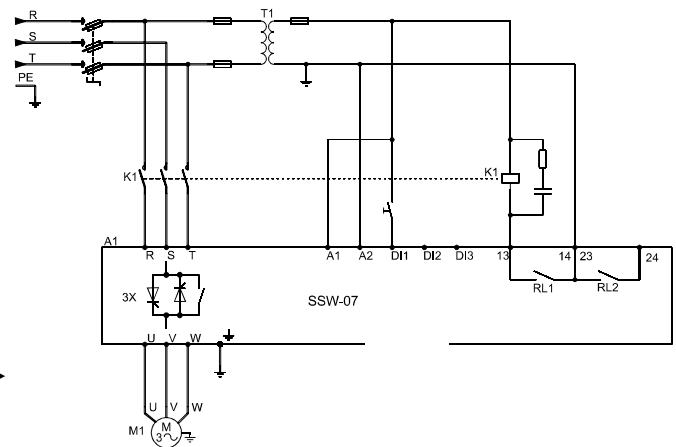


SSW07

Starting Method Comparison



Typical Starters





Soft Starters SSW07



SSW07 – Programming Features

All programming necessary for starting any type of load is available through trimpots and dip-switch.

Voltage Ramp

Permits smooth acceleration and/or deceleration, through voltage ramps.

Current Limit

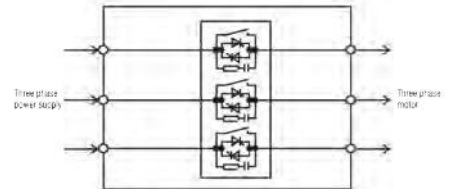
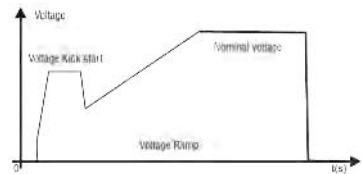
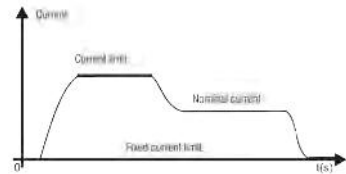
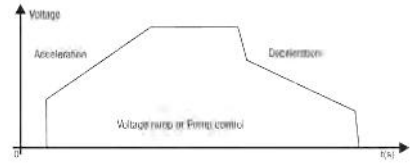
Permits to set the current limit during the start, according to the application requirements.

Voltage Kick Start

Enables an initial voltage pulse which, applied to the motor, provides initial starting torque reinforcement. This is necessary for starting high breakway torque loads.

Built in By Pass

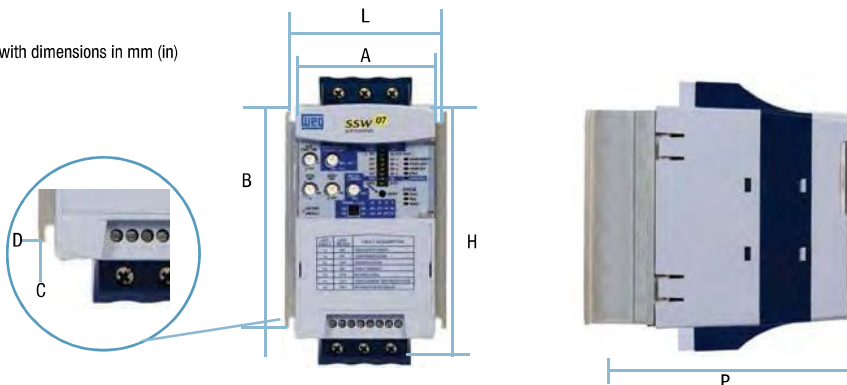
Built-in by-pass minimizes power losses and heat dissipation in the thyristors, providing size reduction and contributing to energy saving. This is available in all models.



Dimensions and Weights

SSW-07 Model	Height H mm (In)	Width L mm (In)	Depth P mm (In)	A mm (In)	B mm (In)	C mm (In)	D mm (In)	Fixing screw	Weight kg (lb)	Enclosure
SSW070017 SSW070024 SSW070030	162 (6.38)	95 (3.74)	157 (6.18)	85 (3.35)	120 (4.72)	5 (0.20)	4 (0.16)	M4	1.3 (2.9)	IP20
SSW070045 SSW070061 SSW070085	208 (8.19)	144 (5.67)	203 (7.99)	132 (5.2)	148 (5.83)	6 (0.24)	3.4 (0.13)	M4	3.3 (7.28)	IP20
SSW070130 SSW070171 SSW070200	276 (10.9)	223 (8.78)	220 (8.66)	208 (8.19)	210 (8.27)	7.5 (0.3)	5 (0.2)	M5	7.6 (16.8)	IP00*

Table 3.1 Data for installation with dimensions in mm (in)
*Option for IP20 Kit



SSW07

Soft Starters

SSW07

Accessories and Options

The SSW07 Soft Starters can be interconnected to quick "FieldBus" communication networks, through Modbus RTU protocol. Mainly designed to integrate large industrial automation plants, the high speed communication networks provide advantages in supervision, monitoring and control. The SSW07 provides high performance and great operating flexibility, characteristics which are demanded for complex or integrated system applications. For interconnection in "FieldBus" type communication networks, the SSW07 Soft Starters allow the installation of plug-in type options on the front of the product. There are optional modules for the Modbus RTU protocol for communication over RS-232 or RS-485.

HMI-LOCAL-SSW07

The MMI with 7-segment LED display allows excellent parameter display from a distance. The interface incorporates the "Copy" function, which permits the user to copy the parameters from one SSW07 to another, providing fast programming, reliability and repeatability for an OEM.

Plug-in type MMI in front of product.



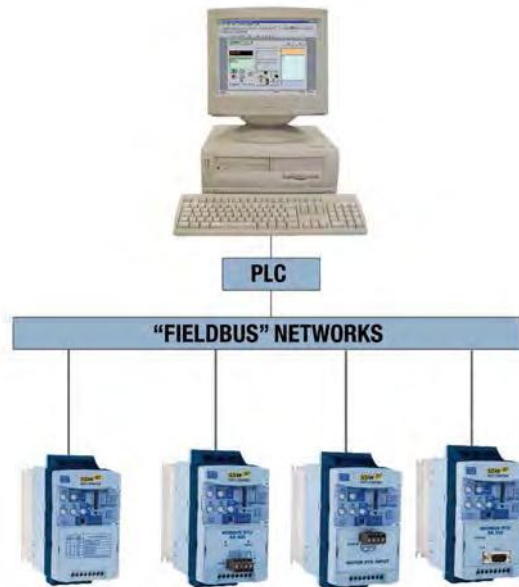
HMI-REMOTE SW07

Remote HMI for placement in panel door or machinery console.



Cable for connecting MMI to SSW07.

Cable length: 1, 2, 3, 5, 7.5 and 10m.



SuperDrive G2

KSDG2-SSW07

Software in Windows platform, for SSW07 programming, command and monitoring.

- SSW07 automatic identification
- Reads SSW07 parameters
- Writes parameters in SSW07
- Edits online parameters in SSW07
- Edits offline parameters in PC
- Enables creation of all application documentation
- Easily accessible
- Enables programming, command and monitoring of the SSW07
- Supplied with a 3m RS-232 serial cable when the Superdrive G2 software is acquired
- Free version available at WEG's website www.weg.net





Soft Starters

SSW07

SSW07 – Accessories and Options



CAB-COMM-3 OR CAB-COMM-10

Cable for connecting RS-232.
Cable length in 3 and 10m.



COMMUNICATION MODULES

DeviceNet module KFB-DN SSW07/08



KIT-PTC-SSW07 MOTOR

Optional module for motor PTC connection.



SSW07-VENT KIT-M2 OR M3

For models from 45 A to 200 A. A ventilation kit is necessary for heavy duty starting cycle.



Soft Starters

SSW07

Technical Specifications

Power Supply	Power	220 to 575 Vac
	Control	110 to 240 Vca (-15% to +10%), or 94 to 264 Vac
	Frequency	50 to 60 Hz (+/- 10%), or 45 to 66 Hz
Enclosure	Injected plastic	IP20 in models from 17 to 85 A
		IP00 in models from 130 to 200 A (IP20 as option)
Control	Control Method	Voltage variation over the load (three-phase induction motor)
	CPU	DSP type microcontroller (Digital Signal Processor)
	Types of Control	Voltage ramp
Current limit adjustable 150 – 450%		
Starting Cycle (1)	Normal	300% (3 x Inom.) during 30 s, 10 starts per hour (every 6 minutes)
Inputs	Digital	3 isolated programmable inputs (120Vac)
Outputs	Relay	2 relays with NO contacts, 240Vac, 1A, programmable functions
Safety	Standard Protection	Overcurrent; Locked Rotor
		Overcurrent before By-pass Excess starting time
		Phase loss; Frequency outside tolerance
		Inverted phase sequence; By-pass contact open
		Overtemperature in power heatsink; Undervoltage in control supply
		Motor Overload (class 5 to 30)
		Undercurrent Programming error
		Current imbalance Serial communication error
		Subcurrent before By-pass MMI communication error
		External defects Overtemperature in motor PTC
Functions / Resources	Standard	Voltage ramp (Initial voltage: 30% to 90%)
		Current limitation (150% to 450% of SSW-07 rated current)
		Starting time (1 to 40s)
		Kick Start (Off - 0,2 to 2s)
		Deceleration ramp (0 to 40s)
		Motor and SSW-07 current relation (50% to 100%)
		Faults auto-reset
		Thermal memory auto-reset
		Factory standard reset
		Soft-starter built-in By-pass

(1) For the 45 to 200 A units using the ventilation kit.

Soft Starters

SSW07

Technical Specifications

SSW07	Programming Accessory (MMI or Serial communication)	Command	On, Off / Reset and Parameterization (function Programming)
		Additional Functions / Resources	Starting time up to 240s
			Deceleration time up to 240s
			Program enabling password
			Selection for Local / Remote operation
			COPY function (SSW-07 >>> MMI and MMI >>> SSW-07)
	Programmable rated voltage		
	Supervision (Reading)	Motor current (%Soft-Starter In)	
		Motor current (%motor In)	
		Motor current (A)	
		Current indication in each phase R-S-T	
		Supply network frequency	
		Apparent power supplied to load (kVA)	
		Soft-Starter status	
Digital input and output status			
Back up of 4 last errors			
Soft-Starter Software Version			
Heatsink temperature			
Motor thermal protection status			
Accessories and Options	Options	Plug-in type local MMI	
		MMI remote Kit	
		1,2,3,5,7,5 and 10m for remote MMI interconnection	
		RS-232 communication kit	
		SSW-07 interconnection cables>>> PC Serial (RS-232) 3 and 10m	
		RS-485 communication kit	
		Motor PTC kit	
		Ventilation kit for size 2 (45 to 85 A)	
		Ventilation kit for size 3 (130 to 200 A)	
IP20 kit for size 3 (130 to 200 A)			
Finishing	Color	Lid: Gray Ultra Mat	
		Cabinet: Blue Ultra Mat	
Certifications	Safety	UL 508 Standard- Industrial Control Equipment	
	Low voltage	EN60947-4-2;LVD 2006/95/EC Standard – Low voltage Directive	
	EMC	EMC 89/336/EEC Directive – Industrial Environment	
	UL (USA) / cUL (Canada)	Underwriters Laboratories Inc. – USA	
	CE (Europe)	Conformity test conducted by EPCOS	
	C-Tick (Australia)	Australian Communication Authority	
	GOST (Russia)		

