

Soft starter, 850 A, 200 - 600 V AC, Us= 24 V DC, with control unit and pump algorithm, Frame size V

Part no. S811+V85P3S

169009

EL Number

4137493

(Norway)

General specifications		
Product name		Eaton S811 Soft starter
Part no.		S811+V85P3S
EAN		4015081655021
Product Length/Depth		187.8 millimetre
Product height		420.8 millimetre
Product width		280.6 millimetre
Product weight		41.4 kilogram
Certifications		UL File No.: E202571 CCC CE C-Tick CSA IEC/EN 60947-4-2 GB14048 UL 508 UL Category Control No.: NMFT CSA Class No.: 3211-06 CSA File No.: LR 353 CSA22.2-14-1995 UL CSA-C22.2 No. 14
Product Tradename		S811
Product Type		Soft starter
Product Sub Type		None
Catalog Notes		Terminal blocks for the terminals are required for frame sizes T, U, and V -> Accessories Regulator supply: External supply voltage External solution required (reversing contactor)
Features & Functions		
Fault memory		10 Faults
Fitted with:		Internal bypass contacts Display Motor overload protection Internal bypass
Functions		Potential isolation between power and control sections Suppression of closing transients Single direction Min. ramp time 1 s - fast switching (semiconductor contactor) Soft start function Underload monitoring Overload monitoring Current limitation Suppression of DC components for motors
Interfaces		Modbus RTU (built-in)
General information		
Class		Adjustable
Connection to SmartWire-DT		No
Degree of protection		NEMA Other IP00
Frame size		V
Mains voltage - min		200 V
Mains voltage - max		600 V
Mounting position		As required
Overvoltage category		II
Pollution degree		3
Radio interference class		Class A (EN 55011)
Rated impulse withstand voltage (Uimp)		4000 V

Rated insulation voltage (Ui)		660 V
Shock resistance		15 g, Mechanical
Startup class		CLASS 30 (6 x I# for 30 s) CLASS 20 (heavy starting duty 3 x I# for 45 s) CLASS 10 (star-delta replacement)
Suitable for		Branch circuits, not as BCPD, (UL/CSA)
Type		Soft starter for three-phase loads, with control unit and pump algorithm
Voltage type		DC
Climatic environmental conditions		
Altitude		Max. 2000 m Above 2000 m with 0.5 % derating per 100 m
Ambient operating temperature - min		-30 °C
Ambient operating temperature - max		50 °C
Ambient storage temperature - min		-50 °C
Ambient storage temperature - max		70 °C
Climatic proofing		Damp heat, constant, to IEC 60068-2-3 Damp heat, cyclic, to IEC 60068-2-30
Main conducting paths		
Overload cycle		AC-53a: 4.0 - 32: 99 - 3
Rated operational current (Ie) at AC-53		850 A
Rated operational current (Ie) at AC-53, in-delta		1471 A
Rated operational voltage (Ue) - min		200 V
Rated operational voltage (Ue) - max		600 V
Short-circuit protection rating		NZMN4-ME875, Type "1" coordination, Main conducting paths
Supply frequency		50/60 Hz, fLN, Main circuit
Voltage rating - max		600 V
Motor rating		
Assigned motor power at 200/208 V, 60 Hz, 3-phase		200 HP
Assigned motor power at 460/480 V, 60 Hz, 3-phase		600 HP
Assigned motor power at 600 V, 60 Hz, 3-phase		850 HP
Assigned motor power in-delta at 220/230 V, 60 Hz		500 HP
Assigned motor power in-delta at 460/480 V, 60 Hz		1100 HP
Assigned motor power in-delta at 575/600 V, 60 Hz		1300 HP
Rated operational power at 400 V, 50 Hz		450 kW
Rated operational power at 500 V, 50 Hz		560 kW
Rated operational power in-delta at 220/230 V, 50 Hz		200 kW
Rated operational power in-delta at 400 V, 50 Hz		750 kW
Rated operational power in-delta at 500 V, 50 Hz		450 kW
Terminal capacities		
Terminal capacity (flexible with ferrule)		6 x (120 - 240) mm ² , Main cables 4 x (70 - 240) mm ² , Main cables 1 x (2.5 - 4) mm ² , Control circuit cables 2 x (120 - 240) mm ² , Main cables 2 x (1 - 2.5) mm ² , Control circuit cables
Terminal capacity (solid)		4 x (70 - 240) mm ² , Main cables 1 x (2.5 - 4) mm ² , Control circuit cables 6 x (120 - 240) mm ² , Main cables 2 x (1 - 2.5) mm ² , Control circuit cables 2 x (120 - 240) mm ² , Main cables
Terminal capacity (solid/stranded AWG)		4 x (4 - 500 kcmil), Main cables 1 x (14 - 12), Control circuit cables 6 x (4 - 500 kcmil), Main cables 2 x (14 - 12), Control circuit cables 2 x (4 - 500 kcmil), Main cables
Terminal capacity (stranded)		6 x (120 - 240) mm ² , Main cables 4 x (70 - 240) mm ² , Main cables 2 x (120 - 240) mm ² , Main cables 2 x (1 - 2.5) mm ² , Control circuit cables 1 x (2.5 - 4) mm ² , Control circuit cables
Screwdriver size		0.6 x 3.5 mm, Terminal screws, Control circuit cables
Tightening torque		0.4 Nm, Screw terminals, Control circuit cables
Control circuit		

Current consumption	10 A/150 ms, Control circuit, Regulator supply at peak performance (close bypass) at 24 V DC 100 mA, Control circuit, Digital inputs, External 24 V (no-load) 1400 mA, Control circuit, Regulator supply 150 mA, Control circuit, Digital inputs, External 24 V
Drop-out time	100 ms, DC operated
Drop-out voltage	0 - 3 V, DC operated
Pick-up time	100 ms at DC
Pick-up voltage	21.6 - 26.4 V DC
Rated control supply voltage (Us) at AC, 50 Hz - min	0 V
Rated control supply voltage (Us) at AC, 50 Hz - max	0 V
Rated control supply voltage (Us) at AC, 60 Hz - min	0 V
Rated control supply voltage (Us) at AC, 60 Hz - max	0 V
Rated control supply voltage (Us) at DC - min	24 V
Rated control supply voltage (Us) at DC - max	24 V
Input/Output	
Input current	4 - 20 mA (Analog inputs)
Number of inputs	1 (current input)
Number of outputs	2 Relay Outputs (programmable)
Output voltage	120 V AC/DC (relay outputs)
Protection	Finger and back-of-hand proof, Protection against direct contact
Rated control voltage (Uc)	24 V DC (-10 %/+10 %) 24 V DC
Rated operational current (Ie) at AC-11	3 A
Soft start function	
Application	Soft starting of three-phase asynchronous motors 3-phase motors: Yes
Delay time	0 - 120 s, Soft start function, Ramp times
Kickstart	Max. 2000 ms (Kickstart Duration) 100% (Kickstart voltage)
Ramp/run-up time	360 s
Start voltage	Max. 85 %, Soft start function, Start voltage = turn-off voltage
Design verification	
Equipment heat dissipation, current-dependent Pvid	25 W
Heat dissipation capacity Pdis	0 W
Heat dissipation per pole, current-dependent Pvid	0 W
Rated operational current for specified heat dissipation (In)	850 A
Static heat dissipation, non-current-dependent Pvs	25 W
10.2.2 Corrosion resistance	Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures	Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat	Meets the product standard's requirements.
10.2.3.3 Resist. of insul. mat. to abnormal heat/fire by internal elect. effects	Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation	Meets the product standard's requirements.
10.2.5 Lifting	Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact	Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions	Meets the product standard's requirements.
10.3 Degree of protection of assemblies	Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances	Meets the product standard's requirements.
10.5 Protection against electric shock	Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components	Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections	Is the panel builder's responsibility.
10.8 Connections for external conductors	Is the panel builder's responsibility.
10.9.2 Power-frequency electric strength	Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage	Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material	Is the panel builder's responsibility.
10.10 Temperature rise	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.

10.11 Short-circuit rating		Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.12 Electromagnetic compatibility		Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.13 Mechanical function		The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

Technical data ETIM 9.0

Low-voltage industrial components (EG000017) / Soft starter (EC000640)		
Electric engineering, automation, process control engineering / Low-voltage switch technology / Load breakout, motor breakout / Semiconductor motor controller or soft starter (ecl@ss13-27-37-09-07 [AC0300016])		
Rated operation current I _e at 40 °C T _u	A	850
Rated operating voltage U _e	V	200 - 600
Rated power three-phase motor, inline, at 230 V	kW	200
Rated power three-phase motor, inline, at 400 V	kW	450
Rated power three-phase motor, inside delta, at 230 V	kW	200
Rated power three-phase motor, inside delta, at 400 V	kW	750
Function		Single direction
Internal bypass		Yes
With display		Yes
Torque control		No
Rated surrounding temperature without derating	°C	50
Rated control supply voltage AC 50 Hz	V	0 - 0
Rated control supply voltage AC 60 Hz	V	0 - 0
Rated control supply voltage DC	V	24 - 24
Voltage type for actuating		DC
Integrated motor overload protection		Yes
Release class		Adjustable
Degree of protection (IP)		IP00
Degree of protection (NEMA)		Other