Soft starter, 500 A, 200 - 600 V AC, Us= 24 V DC, with control unit and pump algorithm, Frame size V



Part no. S811+V50P3S

169000

EL Number

4137484

(Norway)

Product frustename Fame SB1 Sch stamps	(Norway)	
Footset langith Copy) Product length Copy) Product beight Product within Product within Product within Certifications Certifi	General specifications	
FAIN	Product name	Eaton S811 Soft starter
Product Legist Performance Product regist Product recipits Product	Part no.	S811+V50P3S
Product wideh Product wideh Product wideh Product wideh Carillications Carillications Carillica	EAN	4015081654949
Product weight Certifications Certif	Product Length/Depth	187.8 millimetre
Product weight Curifications Curification Curificati	Product height	420.8 millimetre
Certifications Casta22-14-1995 CEC CEC 1997-4-2 Cas A File No.: 18-33 Casta	Product width	280.6 millimetre
CSA2221-1996 CECK 808F7-42	Product weight	41.4 kilogram
Product Type Product Sub Type Catalog Notes		CSA22.2-14-1995 CE IEC/EN 60947-4-2 CSA File No.: LR 353 CCC UL 508 CSA Class No.: 3211-06 CSA GB14048 CSA-C22.2 No. 14 UL Category Control No.: NMFT C-Tick UL File No.: E202571 UL CSA
Product Sub Type Catalog Notes Catalog Notes Features & Functions Fault memory Fitted with: Interfaces Catalog Notes Catalog Notes Catalog Notes Catalog Notes Founctions Founctions Fitted with: Interfaces Catalog Notes Catalog Notes Catalog Notes Founctions Founctions Founctions Acceptable Interfaces Catalog Notes Catalog Notes Acceptable Interfaces Catalog Notes Catalog Notes Acceptable Interfaces Catalog Notes Catalog Notes Acceptable Interfaces Catalog Notes Adjustable Adjustable Catalog Overvoltage category Mains voltage - min Mains voltage - min Mounting position Covervoltage category Founction degree None Catalog Notes External solution required (reversing contactor) Retermal supples External sublidion required for frame sizes T, U, and V > Acceptable Intermal supples None voltage Intermal supples Notes overladge protection Interfaces None Notes of Potential Solution between power and control sections Min. ramp time 1 s - fast switching (semiconductor contactor) Suppression of Clob gramications Adjustable None Nema Other Prod NEMA Other Prod Nema voltage - min Mains voltage - min Mains voltage - min Mounting position Overvoltage category Figure 1 intermal supple External supple Category Interfaces Acceptable Testing Supples Acceptable Testing Supples Adjustable Adjustable Adjustable Prod NEMA Other Acceptable Testing Supples Acceptable Testing Supples Acceptable Testing Supples Adjustable A		S811
External solution required (reversing contactor) Regulator supply: External supply voltage Terminal blocks for the terminals are required for frame sizes T, U, and V -> Accessories Features & Functions Fault memory Fitted with: Internal bypass contacts Internal bypass contacts Internal bypass Display Functions Functions Functions Internal bypass Display Current limitation Underload monitoring Suppression of Dic components for motors Potential isolation between power and control sections Min. rang time 1 - 1 - 1 st switching (semiconductor contactor) Suppression of Closing transients Class Connection to SmartWire-DT Degree of protection Degree of protection No Degree of protection Mains voltage - min Mains voltage - max Mounting position Overload ge category Fill Uniternal by asset in the terminals are required for frame sizes T, U, and V -> Accessories External solution required (reversing contactor) Regulator supply Voltage To Fault memory Internal supply voltage in the terminals are required for frame sizes T, U, and V -> Accessories Motor overload protection Internal bypass contacts Internal bypass Display Motor overload protection Underload monitoring Suppression of Dic components for motors Potential isolation between power and control sections Min. rang time 1 - 1 - 1 st switching (semiconductor contactor) Suppression of Closing transients Modulus RTU (built-in) Modus RTU (built-in) No 1PO NEMA Other Arequired Overvoltage category II Pollution degree		Soft starter
Regulator supply: External supply voltage Terminal blacks for the terminals are required for frame sizes T, U, and V -> Accessories Features & Functions	Product Sub Type	None
Fault memory Fitted with: Motor overload protection Internal bypass contacts Internal bypass contacts Internal bypass Display Functions Functions Functions Functions Current limitation Soft start function Underload monitoring Single direction Overload monitoring Single direction Overload monitoring Single direction Overload monitoring Suppression of Components for motors Potential isolation between power and control sections Min. ramp time 1 s - fast switching (semiconductor contactor) Suppression of closing transients Class Connection to SmartWire-DT Degree of protection Pognee of protection Modus RTU (built-in) No Perme size V Mains voltage - min Mounting position As required Overvoltage category Pollution degree 10 Faults Motor overload protection Internal bypass contacts Internal bypass contacts Internal bypass contacts Motor overload protection Internal bypass contacts Internal by	Catalog Notes	Regulator supply: External supply voltage Terminal blocks for the terminals are required for frame sizes T, U, and V ->
Fitted with: Motor overload protection Internal bypass contacts Internal bypass Display Functions Current limitation Soft start function Underload monitoring Single direction Underload monitoring Suppression of DC components for motors Potential isolation between power and control sections Min. ramp time 1 s - fast switching (semiconductor contactor) Suppression of closing transients Interfaces Modbus RTU (built-in) Class Connection to SmartWire-DT No Degree of protection PD0 NEMA Other Frame size V Mains voltage - min Mounting position As required Overvoltage category Pollution degree 3 Motor overload protection Internal bypass Sontatis Internal bypass Display Moduston Soft start function Underload monitoring Soft start function Under	Features & Functions	
Functions Functions Current limitation Soft start function Underload monitoring Single direction Overload monitoring Suppression of DC components for motors Potential isolation between power and control sections Min. ramp time 1 s - fast switching (semiconductor contactor) Suppression of closing transients Modbus RTU (built-in) General information Class Adjustable Connection to SmartWire-DT Degree of protection Degree of protection Prame size V Mains voltage - min Mains voltage - max Mounting position As required Overvoltage category Pollution degree Internal bypass Current limitation Clars Adjustable Adjustable V Adjustable V As required Overvoltage category II	Fault memory	10 Faults
Soft start function Underload monitoring Single direction Overload monitoring Suppression of DC components for motors Potential isolation between power and control sections Min. ramp time 1 s - fast switching (semiconductor contactor) Suppression of Closing transients Interfaces Modbus RTU (built-in) Class Adjustable Connection to SmartWire-DT No Degree of protection IP00 NEMA Other Frame size V Mains voltage - min Mounting position As required Overvoltage category II Pollution degree 3	Fitted with:	Internal bypass contacts Internal bypass
Class Adjustable Connection to SmartWire-DT No Degree of protection IP00 NEMA Other Frame size V Mains voltage - min 200 V Mains voltage - max 600 V Mounting position As required Overvoltage category II Pollution degree 3	Functions	Soft start function Underload monitoring Single direction Overload monitoring Suppression of DC components for motors Potential isolation between power and control sections Min. ramp time 1 s - fast switching (semiconductor contactor)
Class Connection to SmartWire-DT Degree of protection Prame size Mains voltage - min Mains voltage - max Mounting position Overvoltage category Pollution degree Adjustable No No 1P00 NEMA Other V 600 V As required II Pollution degree 3	Interfaces	Modbus RTU (built-in)
Connection to SmartWire-DT Degree of protection IP00 NEMA Other Frame size V Mains voltage - min Mounting position Overvoltage category Pollution degree No IP00 NEMA Other V As required II Pollution degree 3	General information	
Degree of protection IP00 NEMA Other Frame size V Mains voltage - min 200 V Mains voltage - max 600 V Mounting position Overvoltage category II Pollution degree 3	Class	Adjustable
NEMA Other Frame size V Mains voltage - min Mounting position Overvoltage category Pollution degree NEMA Other V As required II 3	Connection to SmartWire-DT	No
Mains voltage - min Mains voltage - max Mounting position Overvoltage category Pollution degree 200 V As required II 3	Degree of protection	
Mains voltage - max 600 V Mounting position As required Overvoltage category II Pollution degree 3	Frame size	V
Mounting position As required Overvoltage category II Pollution degree 3	Mains voltage - min	200 V
Overvoltage category II Pollution degree 3	Mains voltage - max	600 V
Pollution degree 3	Mounting position	As required
·	Overvoltage category	II II
Radio interference class Class A (EN 55011)	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 20 (heavy starting duty 3 x I# for 45 s)
Startup crass	CLASS 20 (leavy starting duty 3 x i# 101 43 s) CLASS 10 (star-delta replacement) CLASS 30 (6 x I# for 30 s)
Suitable for	Branch circuits, not as BCPD, (UL/CSA)
Туре	Soft starter for three-phase loads, with control unit and pump algorithm
Voltage type	DC
Climatic environmental conditions	
Altitude	Above 2000 m with 0.5 % derating per 100 m Max. 2000 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
, s	Damp heat, cyclic, to IEC 60068-2-30
Main conducting paths	
Overload cycle	AC-53a: 4.0 - 32: 99 - 3
Rated operational current (le) at AC-53	500 A
Rated operational current (le) at AC-53, in-delta	865 A
Rated operational voltage (Ue) - min	200 V
Rated operational voltage (Ue) - max	600 V
Short-circuit protection rating	NZMN3-S500, Type "1" coordination, Main conducting paths
Supply frequency	50/60 Hz, fLN, Main circuit
Voltage rating - max	600 V
Motor rating	
	470.110
Assigned motor power at 200/208 V, 60 Hz, 3-phase	150 HP
Assigned motor power at 220/230 V, 60 Hz, 3-phase	200 HP
Assigned motor power at 460/480 V, 60 Hz, 3-phase	400 HP
Assigned motor power at 600 V, 60 Hz, 3-phase	500 HP
Assigned motor power in-delta at 220/230 V, 60 Hz	350 HP
Assigned motor power in-delta at 460/480 V, 60 Hz	750 HP
Assigned motor power in-delta at 575/600 V, 60 Hz	850 HP
Rated operational power at 220/230 V, 50 Hz	160 kW
Rated operational power at 400 V, 50 Hz	250 kW
Rated operational power at 500 V, 50 Hz	315 kW
Rated operational power in-delta at 220/230 V, 50 Hz	200 kW
Rated operational power in-delta at 400 V, 50 Hz	450 kW
Rated operational power in-delta at 500 V, 50 Hz	450 kW
Terminal capacities	
Terminal capacity (flexible with ferrule)	$2 \times (1 - 2.5) \text{ mm}^2$, Control circuit cables $1 \times (2.5 - 4) \text{ mm}^2$, Control circuit cables $4 \times (70 - 240) \text{ mm}^2$, Main cables $6 \times (120 - 240) \text{ mm}^2$, Main cables $2 \times (120 - 240) \text{ mm}^2$, Main cables
Terminal capacity (solid)	$2 \times (1 - 2.5) \text{ mm}^2$, Control circuit cables $2 \times (120 - 240) \text{ mm}^2$, Main cables $4 \times (70 - 240) \text{ mm}^2$, Main cables $1 \times (2.5 - 4) \text{ mm}^2$, Control circuit cables $6 \times (120 - 240) \text{ mm}^2$, Main cables
Terminal capacity (solid/stranded AWG)	2 x (14 - 12), Control circuit cables 6 x (4 - 500 kcmil), Main cables 2 x (4 - 500 kcmil), Main cables 1 x (14 - 12), Control circuit cables 4 x (4 - 500 kcmil), Main cables
Terminal capacity (stranded)	$2 \times (1 - 2.5)$ mm², Control circuit cables $2 \times (120 - 240)$ mm², Main cables $6 \times (120 - 240)$ mm², Main cables $4 \times (70 - 240)$ mm², Main cables $1 \times (2.5 - 4)$ mm², 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	100 mA, Control circuit, Digital inputs, External 24 V (no-load) 150 mA, Control circuit, Digital inputs, External 24 V 1400 mA, Control circuit, Regulator supply 10 A/150 ms, Control circuit, Regulator supply at peak performance (close bypas at 24 V DC
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
nput/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 24 V DC (-10 %/+10 %)
Rated operational current (Ie) at AC-11	3 A
Soft start function	
Application	3-phase motors: Yes Soft starting of three-phase asynchronous motors
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 Pdiss	0 W
Heat dissipation per pole, current-dependent Pvid	0 W
Rated operational current for specified heat dissipation (In)	500 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])

Α	500
V	200 - 600
kW	160
kW	250
kW	200
kW	450
	Single direction
	Yes
	Yes
	No
°C	50
V	0 - 0
V	0 - 0
V	24 - 24
	DC
	Yes
	Adjustable
	IP00
	Other
	V kW kW kW V