

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



Powering Business Worldwide™

Part no. S811+V50P3S

169000

EL Number

4137484

(Norway)

| General specifications | | |
|----------------------------|--|---|
| Product name | | Eaton S811 Soft starter |
| Part no. | | S811+V50P3S |
| EAN | | 4015081654949 |
| Product Length/Depth | | 187.8 millimetre |
| Product height | | 420.8 millimetre |
| Product width | | 280.6 millimetre |
| Product weight | | 41.4 kilogram |
| Certifications | | UL 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 Tradename | | S811 |
| Product Type | | Soft starter |
| Product Sub Type | | None |
| Catalog Notes | | 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 | | 10 Faults |
| Fitted with: | | Motor overload protection Internal bypass contacts Internal bypass Display |
| 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 |
| Interfaces | | Modbus RTU (built-in) |
| General information | | |
| 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 |
| Radio interference class | | Class A (EN 55011) |

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| 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) CLASS 10 (star-delta replacement) CLASS 30 (6 x I# for 30 s) |
| 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 | | 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 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 | | 500 A |
| Rated operational current (Ie) 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 | | |
| 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 x (1 - 2.5) mm ² , Control circuit cables 1 x (2.5 - 4) mm ² , Control circuit cables 4 x (70 - 240) mm ² , Main cables 6 x (120 - 240) mm ² , Main cables 2 x (120 - 240) mm ² , Main cables |
| Terminal capacity (solid) | | 2 x (1 - 2.5) mm ² , Control circuit cables 2 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 6 x (120 - 240) 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 x (1 - 2.5) mm ² , Control circuit cables 2 x (120 - 240) mm ² , Main cables 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 |
| Screwdriver size | | 0.6 x 3.5 mm, Terminal screws, Control circuit cables |

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| 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 bypass) 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 |
| 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 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 Pdis | | 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. |

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| 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

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| 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 | 500 |
| Rated operating voltage U _e | V | 200 - 600 |
| Rated power three-phase motor, inline, at 230 V | kW | 160 |
| Rated power three-phase motor, inline, at 400 V | kW | 250 |
| Rated power three-phase motor, inside delta, at 230 V | kW | 200 |
| Rated power three-phase motor, inside delta, at 400 V | kW | 450 |
| 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 |