

Select your language

- [German](#)
- [English](#)
- [Spanish](#)
- [French](#)
- [Dutch](#)
- [Italian](#)
- [Polish](#)
- [Czech](#)
- [Russian](#)
- [Norwegian Bokmål](#)

Worldwide English



S811+R13P3S - Soft starter, 135 A, 200 - 600 V AC,  $U_s$ = 24 V DC, with control unit and pump algorithm, Frame size R



168983 S811+R13P3S

[Overview](#) [Specifications](#) [Resources](#)



## 168983 S811+R13P3S

Soft starter, 135 A, 200 - 600 V AC,  $U_s$ = 24 V DC, with control unit and pump algorithm, Frame size R

Alternate Catalog No.

S811PLUSR13P3S

EL-Nummer (Norway)

4137467

Soft starter, Description: With internal bypass contacts, Function: Soft starter for three-phase loads, with control unit and pump algorithm, Mains supply voltage (50/60 Hz):  $U_{LN}$ = 200 - 600 V AC, Supply voltage:  $U_s$ = 24 V DC, Control voltage:  $U_c$ = 24 V DC, Assigned motor rating (Standard connection, In-Line) at 400 V, 50 Hz:  $P$ = 75 kW, at 460 V, 60 Hz:  $P$ = 100 HP, Rated operational current AC-53:  $I_e$ = 135 A, Rated operational current AC-53, In-Delta:  $I_e$ = 234 A, Startup class: CLASS 10 (star-delta replacement), CLASS 20 (heavy starting duty 3 x  $I_e$  for 45 s), CLASS 30 (6 x  $I_e$  for 30 s), Rated operational voltage:  $U_e$ = 200 V, 230 V, 400 V, 480 V, 600 V, Connection to SmartWire-DT: no, Frame size: R, Standards: IEC/EN 60947-4-2, UL 508, CSA22.2-14-1995, GB14048

- [Delivery program](#)

- [Technical data](#)

- [Design verification as per IEC/EN 61439](#)

- [Technical data ETIM 7.0](#)

- [Approvals](#)

- [Dimensions](#)

### Delivery program

Description

With internal bypass contacts

Function

Soft starter for three-phase loads, with control unit and pump algorithm

Mains supply voltage (50/60 Hz) [ $U_{LN}$ ]

200 - 600 V AC

Supply voltage [ $U_s$ ]

24 V DC

Control voltage [ $U_c$ ]

24 V DC

Assigned motor rating (Standard connection, In-Line)

at 400 V, 50 Hz [ $P$ ]

75 kW

at 460 V, 60 Hz [ $P$ ]

100 HP

Rated operational current

AC-53 [ $I_e$ ]

135 A

AC-53, In-Delta [ $I_e$ ]

234 A

Startup class

CLASS 10 (star-delta replacement)

CLASS 20 (heavy starting duty 3 x  $I_e$  for 45 s)

CLASS 30 (6 x  $I_e$  for 30 s)

Rated operational voltage [ $U_e$ ]

200 V  
230 V  
400 V  
480 V  
600 V  
Connection to SmartWire-DT  
no  
Frame size  
R

## Technical data

General  
Standards  
IEC/EN 60947-4-2  
UL 508  
CSA 22.2-14-1995  
GB 14048  
Approvals  
CE  
Approvals  
UL  
CSA  
C-Tick  
CCC  
Climatic proofing  
Damp heat, constant, to IEC 60068-2-3  
Damp heat, cyclic, to IEC 60068-2-10  
Ambient temperature Operation [9]  
-30 - +50 °C  
Ambient temperature Storage [9]  
-50 - +70 °C  
Altitude  
0 - 2000 m above that each 100 m 0.5% Derating m  
Mounting position  
As required  
Degree of protection Degree of Protection  
IP20 (terminals IP00)  
Degree of protection Integrated  
Protection type IP40 can be achieved on all sides with covers SS-IP20-NL  
Protection against direct contact  
Finger- and back-of-hand proof  
Overvoltage category/pollution degree  
II/3  
Shock resistance  
15 g  
Radio interference level (IEC/EN 55011)  
A  
Static heat dissipation, non-current-dependent [P<sub>s</sub>]  
55 W  
Weight  
4.8 kg  
Main conducting paths  
Rated operating voltage [U<sub>b</sub>]  
200 - 600 V AC  
Supply frequency [f<sub>LN</sub>]  
50/60 Hz  
Rated operational current [I<sub>e</sub>] AC-53, In-Delta [I<sub>e</sub>]  
234 A  
Rated operational current [I<sub>e</sub>] AC-53 [I<sub>e</sub>]  
135 A  
Assigned motor rating (Standard connection, In-Line) at 230 V, 50 Hz [P]  
37 kW  
Assigned motor rating (Standard connection, In-Line) at 400 V, 50 Hz [P]  
75 kW  
Assigned motor rating (Standard connection, In-Line) at 500 V, 50 Hz [P]  
90 kW  
Assigned motor rating (Standard connection, In-Line) at 200 V, 60 Hz [P]  
40 HP

Assigned motor rating (Standard connection, In-Line)at 230 V, 60 Hz [P]  
50 HP

Assigned motor rating (Standard connection, In-Line)at 460 V, 60 Hz [P]  
100 HP

Assigned motor rating (Standard connection, In-Line)at 600 V, 60 Hz [P]  
125 HP

Assigned motor rating (delta connection)at 230 V, 50 Hz [P]  
75 kW

Assigned motor rating (delta connection)at 400 V, 50 Hz [P]  
132 kW

Assigned motor rating (delta connection)at 500 V, 50 Hz [P]  
160 kW

Assigned motor rating (delta connection)at 230 V, 60 Hz  
75 HP

Assigned motor rating (delta connection)at 480 V, 60 Hz  
150 HP

Assigned motor rating (delta connection)at 600 V, 60 Hz [P]  
200 HP

Overload cycle to IEC/EN 60947-4-2AC-53a  
135 A: AC-53a: 4.0 - 32: 99 - 3

Overload cycle to IEC/EN 60947-4-2Internal bypass contacts  
□

Short-circuit ratingType "1" coordination  
NZMN2-S160

Terminal capacities

Cable lengthsSolid  
1 x (2.5 - 95) mm<sup>2</sup>

Cable lengthsFlexible with ferrule  
1 x (2.5 - 95) mm<sup>2</sup>

Cable lengthsStranded  
1 x (2.5 - 95) mm<sup>2</sup>

Cable lengthsSolid or stranded  
1 x (14 - 4/0) AWG

Cable lengthsTightening torque  
11.3 Nm

Cable lengthsScrew driver (PZ: Pozidriv)  
4 mm Innensechskant mm

Control cablesSolid  
1 x (2.5 - 4)  
2 x (1.0 - 2.5) mm<sup>2</sup>

Control cablesFlexible with ferrule  
1 x (2.5 - 4)  
2 x (1.0 - 2.5) mm<sup>2</sup>

Control cablesStranded  
1 x (2.5 - 4)  
2 x (1.0 - 2.5) mm<sup>2</sup>

Control cablesSolid or stranded  
8 x (12 - 14)  
2 x (12 - 14) AWG

Control cablesTightening torque  
0.4 Nm

Control cablesScrew driver  
0,6 x 3,5 mm

Control circuit

Digital inputsControl voltageDC-operated  
24 V DC +10 %/- 10 % V DC

Digital inputsCurrent consumption 24 VExternal 24 V  
150 mA

Digital inputsCurrent consumption 24 VExternal 24 V (no-load)  
100 mA

Digital inputsPick-up voltageDC-operated  
21.6 - 26.4 V DC

Digital inputsDrop-out voltage [x U<sub>s</sub>]DC operatedDrop-out voltage, DC-operated, max.  
3 V DC

Digital inputsPick-up timeDC operated  
100 ms

Digital inputsDrop-out timeDC operated  
100 ms

Regulator supplyVoltage [U<sub>s</sub>]

24 V DC +10 %/- 10 % V  
 Regulator supply Current consumption [ $I_e$ ]  
 1000 mA  
 Regulator supply Current consumption at peak performance (close bypass) at 24 V DC [ $I_{Peak}$ ]  
 10/150 A/ms  
 Regulator supply Notes  
 External supply voltage  
 Analog inputs Number of current inputs  
 1  
 Analog inputs Current input  
 4 - 20 mA  
 Relay outputs Number  
 2  
 Relay outputs of which programmable  
 2  
 Relay outputs Voltage range  
 120 V AC/DC V AC  
 Relay outputs AC-11 current range  
 3 A, AC-11 A  
 Soft start function  
 Ramp times Acceleration Ramp time, max.  
 360 s  
 Ramp times Deceleration  
 0 - 120 s  
 Start voltage (= turn-off voltage) Start voltage, max.  
 85 %  
 Start pedestal Start voltage, max.  
 85 %  
 Kickstart Voltage Kickstart voltage, max.  
 100 %  
 Kickstart Duration 50 Hz Kickstart Duration 50 Hz max.  
 2000 ms  
 Kickstart Duration 60 Hz Kickstart Duration 60 Hz max.  
 2000 ms  
 Fields of application Fields of application  
 Soft starting of three-phase asynchronous motors  
 Fields of application 3-phase motors  
☐  
 Functions  
 Fast switching (semiconductor contactor)  
 - (minimum ramp time 1s)  
 Soft start function  
☐  
 Reversing starter  
 External solution required (reversing contactor)  
 Suppression of closing transients  
☐  
 Current limitation  
☐  
 Overload monitoring  
☐  
 Underload monitoring  
☐  
 Fault memory  
 10 Faults  
 Suppression of DC components for motors  
☐  
 Potential isolation between power and control sections  
☐  
 Communication Interfaces  
 Modbus RTU

## Design verification as per IEC/EN 61439

Technical data for design verification  
 Rated operational current for specified heat dissipation [ $I_r$ ]  
 135 A  
 Heat dissipation per pole, current-dependent [ $P_{rd}$ ]  
 0 W

Equipment heat dissipation, current-dependent [ $P_{id}$ ]

55 W

Static heat dissipation, non-current-dependent [ $P_s$ ]

55 W

Heat dissipation capacity [ $P_{diss}$ ]

0 W

Operating ambient temperature min.

-30 °C

Operating ambient temperature max.

+50 °C

IEC/EN 61439 design verification

10.2 Strength of materials and parts 10.2.2 Corrosion resistance

Meets the product standard's requirements.

10.2 Strength of materials and parts 10.2.3.1 Verification of thermal stability of enclosures

Meets the product standard's requirements.

10.2 Strength of materials and parts 10.2.3.2 Verification of resistance of insulating materials to normal heat

Meets the product standard's requirements.

10.2 Strength of materials and parts 10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects

Meets the product standard's requirements.

10.2 Strength of materials and parts 10.2.4 Resistance to ultra-violet (UV) radiation

Meets the product standard's requirements.

10.2 Strength of materials and parts 10.2.5 Lifting

Does not apply, since the entire switchgear needs to be evaluated.

10.2 Strength of materials and parts 10.2.6 Mechanical impact

Does not apply, since the entire switchgear needs to be evaluated.

10.2 Strength of materials and parts 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 Insulation properties 10.9.2 Power-frequency electric strength

Is the panel builder's responsibility.

10.9 Insulation properties 10.9.3 Impulse withstand voltage

Is the panel builder's responsibility.

10.9 Insulation properties 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 7.0

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@ss10.0.1-27-37-09-07 [ACC000011])

Rated operation current  $I_e$  at 40 °C  $T_u$

135 A

Rated operating voltage  $U_e$

200 - 600 V

Rated power three-phase motor, inline, at 230 V

37 kW

Rated power three-phase motor, inline, at 400 V

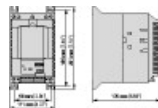
75 kW

Rated power three-phase motor, inside delta, at 230 V  
75 kW  
Rated power three-phase motor, inside delta, at 400 V  
132 kW  
Function  
Single direction  
Internal bypass  
Yes  
With display  
Yes  
Torque control  
No  
Rated surrounding temperature without derating  
50 °C  
Rated control supply voltage Us at AC 50HZ  
0 - 0 V  
Rated control supply voltage Us at AC 60HZ  
0 - 0 V  
Rated control supply voltage Us at DC  
24 - 24 V  
Voltage type for actuating  
DC  
Integrated motor overload protection  
Yes  
Release class  
Adjustable  
Degree of protection (IP)  
IP00  
Degree of protection (NEMA)  
Other

## Approvals

Product Standards  
IEC/EN 60947-4-2; UL 508; CSA C22.2 No. 14; CE marking  
UL File No.  
E202571  
UL Category Control No.  
NMFT  
CSA File No.  
LR 353  
CSA Class No.  
3211-06, 2411-01  
North America Certification  
UL listed, CSA certified  
Suitable for  
Branch Circuits, not as BCPD  
Max. Voltage Rating  
600 Vac  
Degree of Protection  
IP20 with kit

## Dimensions



## CAD data

- [Product-specific CAD data](#)  
(Web)
- [3D Preview](#)  
(Web)

## DWG files

- [DA-CD-s811\\_r](#)  
File

(Web)

edz files

- [DA-CE-ETN.S811\\_R13P3S](#)  
File  
(Web)

Step files

- [DA-CS-s811\\_r](#)  
File  
(Web)

Additional product information

- [Documentation](#)  
(Web)

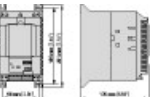
Product photo

-   
[8250PIC-92](#)  
Photo

3D drawing

-   
[8250DRW-111](#)  
Line drawing

Dimensions single product

-   
[8250DIM-29](#)  
Line drawing

Declaration of Conformity

EU

- [SoftStarter S801+, S811+ \(DA-DC-00003356\)](#)  
Asset  
(PDF)

Download-Center

- [Download-Center \(this item\)](#)  
Eaton EMEA Download-Center - download data for this item
- [Download-Center](#)  
Eaton EMEA Download-Center



[Generate data sheet in PDF format](#)



[Generate data sheet in Excel format](#)



[Write a comment](#)

[Imprint](#) [Privacy Policy](#) [Legal Disclaimer](#) [Terms and Conditions](#)

© 2021 by Eaton Industries GmbH

