

Eaton 168976

Catalog Number: 168976

Eaton S811 Soft starter, 37 A, 200 - 600 V AC, Us= 24 V DC, with control unit, Frame size N



Kuva on edustava

General specifications

Product Name

Eaton S811 Soft starter

Catalog Number

168976

EAN

4015081654727

Product Length/Depth

163.9 mm

Product Height

174.5 mm

Product Width

67.5 mm

Product Weight

2.6 kg

Certifications

CSA

CSA22.2-14-1995

UL 508

CSA Class No.: 3211-06, 2411-01

UL Category Control No.: NMFT

C-Tick

CE

CSA-C22.2 No. 14

CSA File No.: LR 353

IEC/EN 60947-4-2

UL

CCC

GB14048

UL File No.: E202571

Features & Functions

Fault memory

10 Faults

Fitted with:

Display

Internal bypass contacts

Motor overload protection

Internal bypass

Functions

Potential isolation between power and control sections

Soft start function

Suppression of closing transients

Suppression of DC components for motors

Overload monitoring

Min. ramp time 1 s - fast switching (semiconductor contactor)

Current limitation

Underload monitoring

Single direction

Interfaces

Modbus RTU (built-in)

General

Class

Adjustable

Connection to SmartWire-DT

No

Degree of protection

IP20

NEMA Other

Frame size

N

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 20 (heavy starting duty $3 \times I_e$ for 45 s)

CLASS 30 ($6 \times I_e$ for 30 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

Voltage type

DC

Climatic environmental conditions

Altitude

Max. 2000 m

Above 2000 m with 0.5 % derating per 100 m

Ambient operating temperature - max

50 °C

Ambient operating temperature - min

-30 °C

Ambient storage temperature - max

70 °C

Ambient storage temperature - min

-50 °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 (I_e) at AC-53

37 A

Rated operational current (I_e) at AC-53, in-delta

65 A

Rated operational voltage (U_e) - min

200 V

Rated operational voltage (U_e) - max

600 V

Short-circuit protection rating

NZMN1-S40, 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

10 HP

Assigned motor power at 220/230 V, 60 Hz, 3-phase

10 HP

Assigned motor power at 460/480 V, 60 Hz, 3-phase

25 HP

Assigned motor power at 600 V, 60 Hz, 3-phase

30 HP

Assigned motor power in-delta at 220/230 V, 60 Hz

20 HP

Assigned motor power in-delta at 460/480 V, 60 Hz

50 HP

Assigned motor power in-delta at 575/600 V, 60 Hz

60 HP

Rated operational power at 220/230 V, 50 Hz

7.5 kW

Rated operational power at 400 V, 50 Hz

18.5 kW

Rated operational power at 500 V, 50 Hz

22 kW

Rated operational power in-delta at 220/230 V, 50 Hz

18.5 kW

Rated operational power in-delta at 400 V, 50 Hz

30 kW

Rated operational power in-delta at 500 V, 50 Hz

45 kW

Terminal capacities

Terminal capacity (flexible with ferrule)

1 x (2.5 - 4) mm², Control circuit cables

2 x (1 - 2.5) mm², Control circuit cables

1 x (2.5 - 35) mm², Main cables

Terminal capacity (solid)

1 x (2.5 - 4) mm², Control circuit cables

1 x (2.5 - 35) mm², Main cables

2 x (1 - 2.5) mm², Control circuit cables

Terminal capacity (solid/stranded AWG)

1 x (14 - 2), Main cables

1 x (14 - 12), Control circuit cables

2 x (14 - 12), Control circuit cables

Terminal capacity (stranded)

1 x (2.5 - 35) mm², Main cables

2 x (1 - 2.5) mm², Control circuit cables

1 x (2.5 - 4) mm², Control circuit cables

Screwdriver size

0.6 x 3.5 mm, Terminal screws, Control circuit cables

1.5 x 6 mm, Terminal screw, Main cables

Tightening torque

4 Nm ($\leq 6 \text{ mm}^2$)

0.4 Nm, Screw terminals, Control circuit cables

4.5 Nm ($\leq 10 \text{ mm}^2$)

5.6 Nm ($> 25 \text{ mm}^2$)

5 Nm ($\leq 25 \text{ mm}^2$)

Control circuit

Current consumption

1000 mA, Control circuit, Regulator supply

150 mA, Control circuit, Digital inputs, External 24 V

100 mA, Control circuit, Digital inputs, External 24 V (no-load)

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

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

Pick-up voltage

21.6 - 26.4 V DC

Rated control supply voltage (Us) at AC, 50 Hz - max

0 V

Rated control supply voltage (Us) at AC, 50 Hz - min

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

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

3-phase motors: Yes

Soft starting of three-phase asynchronous motors

Delay time

0 - 60 s, Soft start function, Ramp times

Kickstart

Max. 2000 ms (Kickstart Duration)

100% (Kickstart voltage)

Ramp/run-up time

180 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)

37 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.

Lisämateriaalit

eCAD model

ETN.S811_N37N3S

Katalogit

eaton-softstarter-s811-ds7-brochure-br039001en-en-us.pdf

Drives - Product range catalog

mCAD model

DA-CS-s811_n

DA-CD-s811_n

Piirrookset

eaton-semiconductor-contactors-s811-soft-starter-dimensions.eps

eaton-semiconductor-contactors-s811-soft-starter-3d-drawing.eps

Sertifikaattiraportit

DA-DC-00004321.pdf

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.



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