

# Eaton 134939

Catalog Number: 134939

Eaton DS7 Soft starter, 135 A, 200 - 480 V AC, Us= 110 - 230 V AC, Frame size FS4



Photo is representative

## General specifications

<b>Product Name</b>	<b>Catalog Number</b>
Eaton DS7 Soft starter	134939
<b>Model Code</b>	<b>EAN</b>
DS7-342SX135N0-N	4015081317547
<b>Product Length/Depth</b>	<b>Product Height</b>
178 mm	215 mm
<b>Product Width</b>	<b>Product Weight</b>
108 mm	3.7 kg

## Certifications

UL 508  
UL File No.: E251034  
CSA Class No.: 321106  
CE  
C-Tick  
CSA22.2-14  
UkrSEPRO  
IEC/EN 60947-4-2  
GB 14048.6  
CSA File No.: 2511305  
CSA-C22.2 No 0-M91  
CSA-C22.2 No 14-05  
UL  
CSA

## defaultTaxonomyAttributeLabel

### Control voltage

110/230 Vac control

### Phase

Three-phase

### Special features

Internal bypass

### Type

Soft starter for three-phase loads

### Voltage rating

110/230 V

### 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.

### 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.

## Resources

### Catalogs

Drives - Product range catalog

[eaton-softstarter-s811-ds7-brochure-br039001en-en-us.pdf](#)

[Product Range Catalog Drives Engineering-EN](#)

[Product Range Catalog Drives Engineering](#)

### Certification reports

[DA-DC-00003978.pdf](#)

[DA-DC-00004193.pdf](#)

### Drawings

[eaton-semiconductor-contactors-swd-ds7-soft-starter-dimensions.eps](#)

[eaton-semiconductor-contactors-softstarter-ds7-3d-drawing-006.eps](#)

### eCAD model

[DA-CE-ETN.DS7-342SX135N0-N](#)

### Installation instructions

[IL03902005Z2021\\_06.pdf](#)

### Installation videos

[Soft starter DS7 up to 32 A](#)

### Manuals and user guides

[MN03901001Z\\_EN](#)

### mCAD model

[DA-CD-ds7\\_4\\_100316](#)

[DA-CS-ds7\\_4\\_100316](#)

#### 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.

#### Fitted with:

Internal bypass contacts

Internal bypass

#### Pollution degree

2

#### Class

Other

#### Climatic proofing

Damp heat, constant, to IEC 60068-2-3

Damp heat, cyclic, to IEC 60068-2-30

#### Connection to SmartWire-DT

No

#### Frame size

FS4

#### Altitude

Above 1000 m with 1 % derating per 100 m

Max. 2000 m

#### Ambient operating temperature - max

40 °C

#### Ambient operating temperature - min

-5 °C

#### Ambient storage temperature - max

60 °C

#### Ambient storage temperature - min

-25 °C

#### Assigned motor power at 200/208 V, 60 Hz, 3-phase

40 HP

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

50 HP

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

100 HP

#### Equipment heat dissipation, current-dependent P<sub>vid</sub>

24 W

#### Heat dissipation capacity P<sub>diss</sub>

0 W

#### Heat dissipation per pole, current-dependent P<sub>vid</sub>

0 W

#### Mains voltage - max

480 V

#### Mains voltage - min

200 V

#### Series

Generation 7

#### Output voltage

250 V AC (relay outputs)

#### Number of outputs

2 Relay Outputs (TOR, Ready)

#### Screwdriver size

PZ2, 1 x 6 mm, Terminal screw, Standard screwdriver

0.6 x 3.5 mm, Terminal screws, Control circuit cables

#### Voltage type

AC

#### Rated operational voltage (Ue) - min

230 V

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

30 kW

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

75 kW

#### Rated power three-phase motor, inside delta, at 230 V

0 kW

#### Rated power three-phase motor, inside delta, at 400 V

0 kW

#### Static heat dissipation, non-current-dependent Pvs

24 W

#### Voltage rating - max

480 V

#### Application

1-phase motors: No  
3-phase motors: Yes  
Soft starting of three-phase  
asynchronous motors

#### Protection

Finger and back-of-hand proof, Protection against direct contact

#### Mounting position

Vertical

#### Input current

4 mA (at 230 V AC, Digital inputs)

#### Drop-out voltage

AC operated: 0 - 15 V, AC operated

#### Overvoltage category

II

#### Degree of protection

NEMA 1

IP20

#### Current consumption

50 mA, Control circuit, Regulator supply

0,6 A/50 ms, Control circuit, Regulator supply at peak

performance (close bypass) at 24 V DC

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

#### Functions

Suppression of DC components for motors

Potential isolation between power and control sections

Soft start function

Single direction

Suppression of closing transients

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

#### Delay time

0 - 30 s, Soft start function, Ramp times

#### Overload cycle

AC-53a: 3 - 5: 75 - 10

#### Drop-out time

350 ms, Control circuit, Digital Inputs, AC operated

#### Pick-up voltage

108 - 253 V AC

#### Radio interference class

Class A (EN 55011)

#### Pick-up time

250 ms at AC

#### Rated control voltage (Uc)

110 - 230 V AC (-15 %/+10 %)

110 - 230 V AC

#### Supply frequency

50/60 Hz, fLN, Main circuit

#### Terminal capacity (stranded)

1 x (0.5 - 1.5) mm<sup>2</sup>, Control circuit cables

2 x (0.5 - 1.0) mm<sup>2</sup>, Control circuit cables

1 x (4 - 185) mm<sup>2</sup>, Main cables

2 x (4 - 70) mm<sup>2</sup>, Main cables

#### Terminal capacity (copper band)

2 x 9 x 0.8 mm, Main cables

10 x 16 x 0.8 mm, Main cables

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

230 V

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

110 V

#### Rated control supply voltage (Us) at AC, 60 Hz - max

230 V

Rated control supply voltage (Us) at AC, 60 Hz - min

110 V

Rated control supply voltage (Us) at DC - max

0 V

Rated control supply voltage (Us) at DC - min

0 V

Rated operational current (Ie) at AC-11

1 A

Rated operational current (Ie) at AC-53

135 A

Rated operational current for specified heat dissipation (In)

135 A

Rated operational power at 220/230 V, 50 Hz

30 kW

Rated operational power at 400 V, 50 Hz

75 kW

Rated operational voltage (Ue) - max

480 V

Vibration resistance

2M2 to EN 60721-3-2

Ramp/run-up time

1 - 30 s

Shock resistance

8 g, 11 ms, Mechanical

Suitable for

Branch circuits, (UL/CSA)

Tightening torque

14 Nm (> 10 mm<sup>2</sup>)

0.4 Nm, Screw terminals, Control circuit cables

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

Short-circuit protection rating

NZMN2-M160, Type "1" coordination, Main conducting paths

3 x 170M4010, Type „2“ coordination (additional with the fuses for coordination type „1“), Main conducting paths

Start voltage

Min. 30 %, Soft start function, Start voltage = turn-off voltage

Max. 100 %, Soft start function, Start voltage = turn-off voltage

Terminal capacity (flexible with ferrule)

1 x (0.5 - 1.5) mm<sup>2</sup>, Control circuit cables  
2 x (0.5 - 0.75) mm<sup>2</sup>, Control circuit cables

**Terminal capacity (solid)**

1 x (4 - 185) mm<sup>2</sup>, Main cables  
2 x (4 - 70) mm<sup>2</sup>, Main cables  
2 x (0.5 - 1.0) mm<sup>2</sup>, Control circuit cables  
1 x (0.5 - 2.5) mm<sup>2</sup>, Control circuit cables

**Terminal capacity (solid/stranded AWG)**

1 x (21 - 14), Control circuit cables  
1 x (12 - 350 kcmil), Main cables  
2 x (12 - 00), Main cables  
2 x (21 - 18), Control circuit cables



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