

Eaton 134916

Catalog Number: 134916

Eaton DS7 Soft starter, 41 A, 200 - 480 V AC, Us= 24 V AC/DC, Frame size FS3

General specifications

Product Name	Catalog Number
Eaton DS7 Soft starter	134916
Model Code	EAN
DS7-340SX041N0-N	4015081317318
Product Length/Depth	Product Height
139 mm	175 mm
Product Width	Product Weight
93 mm	1.8 kg

Certifications

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

Product specifications

Mains voltage - max

480 V

Rated operational current for specified heat dissipation (In)

41 A

Terminal capacity (flexible with ferrule)

1 x (0.5 - 1.5) mm², Control circuit cables

2 x (0.5 - 0.75) mm², Control circuit cables

10.11 Short-circuit rating

Is the panel builder's responsibility. The specifications for the switchgear must be observed.

Terminal capacity (copper band)

9 x 9 x 0.8 mm, Main cables

2 x 9 x 0.8 mm, Main cables

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

24 V

10.4 Clearances and creepage distances

Meets the product standard's requirements.

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

0 kW

10.2.3.1 Verification of thermal stability of enclosures

Meets the product standard's requirements.

Ambient storage temperature - min

-25 °C

Mains voltage - min

200 V

Fitted with:

Internal bypass contacts

Internal bypass

Vibration resistance

2M2 to EN 60721-3-2

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

11 kW

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

24 V

Ambient operating temperature - max

40 °C

Resources

Brochures

[Soft starters S811+, DS7 - brochure](#)

Catalogs

[Product Range Catalog Drives Engineering](#)

[Drives - Product range catalog](#)

Certification reports

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

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

Drawings

[eaton-semiconductor-contactors-softstarter-ds7-dimensions-002.eps](#)

[8250DIM-12](#)

[eaton-semiconductor-contactors-softstarter-ds7-3d-drawing-005.eps](#)

[8250DRW-70](#)

Installation instructions

[IL03902005Z2018_05_Backup](#)

[IL03902005Z](#)

Specifications and datasheets

[Eaton Specification Sheet - 134916](#)

User guides

[MN03901001Z_EN](#)

Drop-out time

350 ms, Control circuit, Digital Inputs, DC operated

Ambient operating temperature - min

-5 °C

10.6 Incorporation of switching devices and components

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.

10.3 Degree of protection of assemblies

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

Application

1-phase motors: No

3-phase motors: Yes

Soft starting of three-phase asynchronous motors

Voltage type

AC/DC

Radio interference class

Class B (EN 55011)

Heat dissipation capacity P_{diss}

0 W

Rated control voltage (U_c)

24 V DC

24 V AC (-15 %/+10 %)

24 V DC (-15 %/+10 %)

24 V AC

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

30 HP

Pick-up time

250 ms at DC

250 ms at AC

Control voltage

24 Vac/Vdc control

Terminal capacity (solid/stranded AWG)

2 x (21 - 18), Control circuit cables

1 x (12 - 2/0), Main cables

1 x (21 - 14), Control circuit cables

10.9.2 Power-frequency electric strength

Is the panel builder's responsibility.

Overvoltage category

II

Degree of protection

IP20

NEMA 1

Ambient storage temperature - max

60 °C

Pollution degree

2

Functions

Soft start function

Suppression of closing transients

Suppression of DC components for motors

Potential isolation between power and control sections

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

Single direction

Tightening torque

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

9 Nm ($> 10 \text{ mm}^2$)

0.4 Nm, Screw terminals, Control circuit cables

Frame size

FS3

Type

Soft starter for three-phase loads

10.2.2 Corrosion resistance

Meets the product standard's requirements.

Supply frequency

50/60 Hz, fLN, Main circuit

10.2.4 Resistance to ultra-violet (UV) radiation

Meets the product standard's requirements.

10.2.7 Inscriptions

Meets the product standard's requirements.

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

0 kW

Current consumption

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

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

performance (close bypass) at 24 V DC
50 mA, Control circuit, Regulator supply

Rated operational power at 400 V, 50 Hz

22 kW

Rated operational current (I_e) at AC-53

41 A

Shock resistance

8 g, 11 ms, Mechanical

Drop-out voltage

AC operated: 0 - 3 V, AC operated

0 - 3 V, DC operated

Ramp/run-up time

1 - 30 s

10.12 Electromagnetic compatibility

Is the panel builder's responsibility. The specifications for the switchgear must be observed.

10.2.5 Lifting

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

Rated control supply voltage (U_s) at DC - min

24 V

Overload cycle

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

Start voltage

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

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

10.8 Connections for external conductors

Is the panel builder's responsibility.

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

22 kW

Protection

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

Special features

Internal bypass

Terminal capacity (stranded)

1 x (0.5 - 1.5) mm², Control circuit cables

2 x (6 - 25) mm², Main cables

2 x (0.5 - 1.0) mm², Control circuit cables

1 x (25 - 70) mm², Main cables

Climatic proofing

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

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

Connection to SmartWire-DT

No

Static heat dissipation, non-current-dependent Pvs

7 W

Rated control supply voltage (Us) at DC - max

24 V

10.9.3 Impulse withstand voltage

Is the panel builder's responsibility.

Voltage rating - max

480 V

10.5 Protection against electric shock

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

Mounting position

Vertical

Class

Other

10.13 Mechanical function

The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

10.9.4 Testing of enclosures made of insulating material

Is the panel builder's responsibility.

Heat dissipation per pole, current-dependent Pvid

0 W

Phase

Three-phase

Equipment heat dissipation, current-dependent Pvid

7 W

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

10 HP

Pick-up voltage

17.3 - 27 V DC

17.3 - 27 V AC

Suitable for

Branch circuits, (UL/CSA)

Output voltage

250 V AC (relay outputs)

Terminal capacity (solid)

2 x (6 - 25) mm², Main cables

1 x (0.5 - 2.5) mm², Control circuit cables

2 x (0.5 - 1.0) mm², Control circuit cables

1 x (25 - 70) mm², Main cables

Delay time

0 - 30 s, Soft start function, Ramp times

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.

Voltage rating

24 Vac/Vdc

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

15 HP

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

24 V

10.7 Internal electrical circuits and connections

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.

Rated operational voltage (Ue) - min

230 V

Screwdriver size

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

0.6 x 3.5 mm, Terminal screws, Control circuit cables

Series

Generation 7

Number of outputs

2 Relay Outputs (TOR, Ready)

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

24 V

Short-circuit protection rating

3 x 170M3013, Type „2“ coordination (additional with the fuses
for coordination type „1“), Main conducting paths
NZMN1-M50/PKZM4-49, Type “1” coordination, Main conducting
paths

Rated operational power at 220/230 V, 50 Hz

11 kW

Rated operational voltage (Ue) - max

480 V

Rated operational current (Ie) at AC-11

1 A

Altitude

Max. 2000 m

Above 1000 m with 1 % derating per 100 m



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