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DS7-340SX200N0-N - Soft starter, 200 A, 200 - 480 V AC, Us= 24 V AC/DC, Frame size FS4



134923 DS7-340SX200N0-N

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134923 DS7-340SX200N0-N

Soft starter, 200 A, 200 - 480 V AC, Us= 24 V AC/DC, Frame size FS4

Alternate Catalog No.

DS7-340SX200N0-N

EL-Nummer (Norway)

4134208

Soft starter, Description: With internal bypass contacts, Function: Soft starters for three-phase loads, Mains supply voltage (50/60 Hz): ULN= 200 - 480 V AC, Supply voltage: Us= 24 V AC/DC, Control voltage: UC= 24 V AC, 24 V DC, Assigned motor rating (Standard connection, In-Line) at 400 V, 50 Hz: P= 110 kW, at 460 V, 60 Hz: P= 150 HP, Rated operational current AC-53: Ie= 200 A, Rated operational voltage: Ue= 200 V, 230 V, 400 V, 480 V, Connection to SmartWire-DT: no, Frame size: FS4, Standards: IEC/EN 60947-4-2, UL 508, CSA22.2-14

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Delivery program

Description

With internal bypass contacts

Function

Soft starters for three-phase loads

Mains supply voltage (50/60 Hz) [ULN]

200 - 480 V AC

Supply voltage [Us]

24 V AC/DC

Control voltage [UC]

24 V AC

24 V DC

Assigned motor rating (Standard connection, In-Line)

at 400 V, 50 Hz [P]

110 kW

at 460 V, 60 Hz [P]

150 HP

Rated operational current

AC-53 [Ie]

200 A

Rated operational voltage [Ue]

200 V

230 V

400 V

480 V

Connection to SmartWire-DT

no
Frame size
FS4

Technical data

General

Standards

IEC/EN 60947-4-2

UL 508

CSA 22.2-14

Approvals

CE

Approvals

UL

CSA

C-Tick

UkrSEPRO

Climatic proofing

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

Damp heat, cyclic, to IEC 60068-2-10

Ambient temperature Operation [9]

-5 - +40

up to 60 at 2% derating per Kelvin temperature rise °C

Ambient temperature Storage [9]

-25 - +60 °C

Altitude

0 - 1000 m, above that 1 % derating per 100 m, up to 2000 mm

Mounting position

Vertical

Degree of protection Degree of Protection

IP20 (terminals IP00)

Degree of protection Integrated

Protection type IP40 can be achieved on all sides with covers from the NZM range.

Protection against direct contact

Finger- and back-of-hand proof

Overvoltage category/pollution degree

II/2

Shock resistance

8 g/11 ms

Vibration resistance to EN 60721-3-2

2M2

Radio interference level (IEC/EN 55011)

B

Static heat dissipation, non-current-dependent [P_{vs}]

42 W

Weight

3.7 kg

Main conducting paths

Rated operating voltage [U_b]

200 - 480 V AC

Supply frequency [f_{LN}]

50/60 Hz

Rated operational current [I_b] AC-53 [I_b]

200 A

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

55 kW

Assigned motor rating (Standard connection, In-Line) at 400 V, 50 Hz [P]

110 kW

Assigned motor rating (Standard connection, In-Line) at 200 V, 60 Hz [P]

60 HP

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

75 HP

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

150 HP

Overload cycle to IEC/EN 60947-4-2 AC-53a

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

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

□

Short-circuit rating Type "1" coordination
 NZM2-M200
 Short-circuit rating Type „2“ coordination (additional with the fuses for coordination type „1“)
 3 x 170M5008
 Fuse base (number x part no.)
 3 x 170H3004
 Terminal capacities
 Cable lengths Solid
 1 x (4 - 185)
 2 x (4 - 70) mm²
 Cable lengths Stranded
 1 x (4 - 185)
 2 x (4 - 70) mm²
 Cable lengths Solid or stranded
 1 x (12 - 350 kcmil)
 2 x (12 - 00) AWG
 Cable lengths Copper band
 2 x 9 x 0.810 x 16 x 0.8 MM
 Cable lengths Tightening torque
 5 ($\leq 10 \text{ mm}^2$); 14 ($> 10 \text{ mm}^2$) Nm
 Cable lengths Screw driver (PZ: Pozidriv)
 PZ2; 1 x 6 mm mm
 Control cables Solid
 1 x (0.5 - 2.5)
 2 x (0.5 - 1.0) mm²
 Control cables Flexible with ferrule
 1 x (0.5 - 1.5)
 2 x (0.5 - 0.75) mm²
 Control cables Stranded
 1 x (0.5 - 1.5)
 2 x (0.5 - 1.0) mm²
 Control cables Solid or stranded
 1 x (21 - 14)
 2 x (21 - 18) AWG
 Control cables Tightening torque
 0.4 Nm
 Control cables Screw driver
 0,6 x 3,5 mm
 Control circuit
 Digital inputs Control voltage DC-operated
 24 V DC +10 %/- 15 % V DC
 Digital inputs Control voltage AC-operated
 24 V AC +10 %/- 15 % V AC
 Digital inputs Current consumption 24 V External 24 V
 1.6 mA
 Digital inputs Pick-up voltage DC-operated
 17.3 - 27 V DC
 Digital inputs Pick-up voltage AC-operated
 17.3 - 27 V AC
 Digital inputs Drop-out voltage [$\times U_s$] DC-operated
 0 - 3 V DC
 Digital inputs Drop-out voltage [$\times U_s$] AC-operated
 0 - 3 V AC
 Digital inputs Pick-up time DC-operated
 250 ms
 Digital inputs Pick-up time AC-operated
 250 ms
 Digital inputs Drop-out time DC-operated
 350 ms
 Regulator supply Voltage [U_s]
 24 V AC/DC +10 %/- 15 % V
 Regulator supply Current consumption [I_s]
 50 mA
 Regulator supply Current consumption at peak performance (close bypass) at 24 V DC [I_{Peak}]
 0,6/50 A/ms
 Regulator supply Notes
 External supply voltage
 Relay outputs Number
 2 (TOR, Ready)

Relay outputsVoltage range

24 V AC/DC

250 V AC V AC

Relay outputsAC-11 current range

1 A, AC-11 A

Soft start function

Ramp timesAcceleration

1 - 30 s

Ramp timesDeceleration

0 - 30 s

Start voltage (= turn-off voltage)

30100 %

Start pedestal

30 - 100 %

Fields of applicationFields of application

Soft starting of three-phase asynchronous motors

Fields of application1-phase motors

•

Fields of application3-phase motors

☐

Functions

Fast switching (semiconductor contactor)

- (minimum ramp time 1s)

Soft start function

☐

Reversing starter

External solution required

Suppression of closing transients

☐

Suppression of DC components for motors

☐

Potential isolation between power and control sections

☐

Notes

Rated impulse withstand voltage:

- 1.2 μ s/50 μ s (rise time/fall time of the pulse to IEC/EN 60947-2 or -3)
- Applies for control circuit/power section/enclosure

Design verification as per IEC/EN 61439

Technical data for design verification

Rated operational current for specified heat dissipation [I_n]

200 A

Heat dissipation per pole, current-dependent [P_{id}]

0 W

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

42 W

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

42 W

Heat dissipation capacity [P_{diss}]

0 W

Operating ambient temperature min.

-5 °C

Operating ambient temperature max.

+40 °C

IEC/EN 61439 design verification

10.2 Strength of materials and parts10.2.2 Corrosion resistance

Meets the product standard's requirements.

10.2 Strength of materials and parts10.2.3.1 Verification of thermal stability of enclosures

Meets the product standard's requirements.

10.2 Strength of materials and parts10.2.3.2 Verification of resistance of insulating materials to normal heat

Meets the product standard's requirements.

10.2 Strength of materials and parts10.2.3.3 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 parts10.2.4 Resistance to ultra-violet (UV) radiation

Meets the product standard's requirements.

10.2 Strength of materials and parts10.2.5 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 [ACC00011])

Rated operation current I_e at 40 °C T_u

200 A

Rated operating voltage U_e

230 - 460 V

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

55 kW

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

110 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

Function

Single direction

Internal bypass

Yes

With display

No

Torque control

No

Rated surrounding temperature without derating

40 °C

Rated control supply voltage U_s at AC 50Hz

24 - 24 V

Rated control supply voltage U_s at AC 60Hz

24 - 24 V

Rated control supply voltage U_s at DC

24 - 24 V

Voltage type for actuating

AC/DC

Integrated motor overload protection

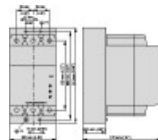
No

Release class
Other
Degree of protection (IP)
IP20
Degree of protection (NEMA)
1

Approvals

Product Standards
IEC/EN 60947-4-2; GB 14048.6; UL 508; CSA-C22.2 No 0-M91; CSA-C22.2 No 14-05 CE marking
UL File No.
E251034
CSA File No.
2511305
CSA Class No.
321106
Specially designed for North America
No
Suitable for
Branch circuits
Current Limiting Circuit-Breaker
No
Max. Voltage Rating
480 V
Degree of Protection
IP20; UL/CSA Type 1

Dimensions



CAD data

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

DWG files

- [DA-CD-ds7_4_100316](#)
File
(Web)

edz files

- [DA-CE-ETN.DS7-340SX200ND-N](#)
File
(Web)

Step files

- [DA-CS-ds7_4_100316](#)
File
(Web)

Additional product information

- [CA04020001Z_EN-INT Product range catalog: Efficient Engineering for starting and controlling motors.](#)
(PDF)

Product photo

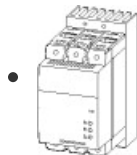


[8250PIC-74](#)

Photo

Soft starters

3D drawing

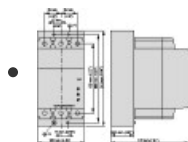


[8250DRV-73](#)

Line drawing

Soft starter DS7

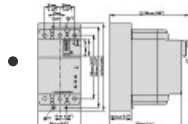
Dimensions single product



[8250DIM-13](#)

Line drawing

Dimension drawing DS7 without SWD – Size 4 (135 – 200 A)



[8250DIM-27](#)

Line drawing

Soft starters DS7-SWD

Instruction Leaflet

- [Soft starter DS7: size 3 and size 4 \(IL03902005Z\)](#)
 Asset
 former AWA8250-2543
 (PDF, 06/2021, multilingual)

Manual

- [DS7 Soft Starters \(MN03901001Z_DE\)](#)
 Asset
 (PDF, 09/2016, de)
- [DS7 Soft Starters \(MN03901001Z_EN\)](#)
 Asset
 (PDF, 09/2016, en)
- [DS7 Soft Starter \(MN03901001Z_IT\)](#)
 Asset
 (PDF, 09/2016, it)

Declaration of Conformity

EU

- [Soft starter \(DA-DC-00003978\)](#)
 Asset
 (PDF)

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