

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



Part no. DS7-342SX200N0-N
134941
EL Number 4134216
(Norway)

| General specifications | |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product name | Eaton DS7 Soft starter |
| Part no. | DS7-342SX200N0-N |
| EAN | 4015081317561 |
| Product Length/Depth | 178 millimetre |
| Product height | 215 millimetre |
| Product width | 108 millimetre |
| Product weight | 3.7 kilogram |
| Compliances | Contact Manufacturer |
| Certifications | CSA-C22.2 No 14-05 IEC/EN 60947-4-2 CSA-C22.2 No 0-M91 UL File No.: E251034 CE C-Tick CSA UkrSEPRO CSA22.2-14 UL CSA File No.: 2511305 UL 508 GB 14048.6 CSA Class No.: 321106 |
| Product Tradename | DS7 |
| Product Type | Soft starter |
| Product Sub Type | None |
| Catalog Notes | Regulator supply: External supply voltage External Reversing starter solution required Ambient Operating Temperature up to 60 at 2% derating per Kelvin temperature rise |
| Features & Functions | |
| Fitted with: | Internal bypass contacts Internal bypass |
| Functions | Suppression of DC components for motors Soft start function Potential isolation between power and control sections Suppression of closing transients Single direction Min. ramp time 1 s - fast switching (semiconductor contactor) |
| General information | |
| Class | Other |
| Connection to SmartWire-DT | No |
| Degree of protection | NEMA 1 IP20 |
| Frame size | FS4 |
| Mains voltage - min | 200 V |
| Mains voltage - max | 480 V |
| Overvoltage category | II |
| Pollution degree | 2 |
| Radio interference class | Class A (EN 55011) |
| Suitable for | Branch circuits, (UL/CSA) |
| Type | Soft starter for three-phase loads |
| Voltage type | AC |
| Ambient conditions, mechanical | |
| Mounting position | Vertical |
| Shock resistance | 8 g, 11 ms, Mechanical |
| Vibration resistance | 2M2 to EN 60721-3-2 |

| Climatic environmental conditions | |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Altitude | Max. 2000 m Above 1000 m with 1 % derating per 100 m |
| Ambient operating temperature - min | -5 °C |
| Ambient operating temperature - max | 40 °C |
| Ambient storage temperature - min | -25 °C |
| Ambient storage temperature - max | 60 °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: 3 - 5: 75 - 10 |
| Rated operational current (Ie) at AC-53 | 200 A |
| Rated operational voltage (Ue) - min | 230 V |
| Rated operational voltage (Ue) - max | 480 V |
| Short-circuit protection rating | NZMN2-M200, Type "1" coordination, Main conducting paths 3 x 170M5008, Type „2“ coordination (additional with the fuses for coordination type „1“), Main conducting paths |
| Supply frequency | 50/60 Hz, fLN, Main circuit |
| Voltage rating - max | 480 V |
| Motor rating | |
| Assigned motor power at 200/208 V, 60 Hz, 3-phase | 60 HP |
| Assigned motor power at 220/230 V, 60 Hz, 3-phase | 75 HP |
| Assigned motor power at 460/480 V, 60 Hz, 3-phase | 150 HP |
| Rated operational power at 220/230 V, 50 Hz | 55 kW |
| Rated operational power at 400 V, 50 Hz | 110 kW |
| Terminal capacities | |
| Terminal capacity (copper band) | 2 x 9 x 0.8 mm, Main cables 10 x 16 x 0.8 mm, Main cables |
| Terminal capacity (flexible with ferrule) | 2 x (0.5 - 0.75) mm ² , Control circuit cables 1 x (0.5 - 1.5) mm ² , Control circuit cables |
| Terminal capacity (solid) | 1 x (0.5 - 2.5) mm ² , Control circuit cables 2 x (4 - 70) mm ² , Main cables 1 x (4 - 185) mm ² , Main cables 2 x (0.5 - 1.0) mm ² , Control circuit cables |
| Terminal capacity (solid/stranded AWG) | 1 x (12 - 350 kcmil), Main cables 2 x (21 - 18), Control circuit cables 2 x (12 - 00), Main cables 1 x (21 - 14), Control circuit cables |
| Terminal capacity (stranded) | 1 x (4 - 185) mm ² , Main cables 2 x (4 - 70) mm ² , Main cables 1 x (0.5 - 1.5) mm ² , Control circuit cables 2 x (0.5 - 1.0) mm ² , Control circuit cables |
| Screwdriver size | PZ2, 1 x 6 mm, Terminal screw, Standard screwdriver 0.6 x 3.5 mm, Terminal screws, Control circuit cables |
| Tightening torque | 0.4 Nm, Screw terminals, Control circuit cables 14 Nm (> 10 mm ²) 5 Nm (≤ 10 mm ²) |
| Control circuit | |
| 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 |
| Drop-out time | 350 ms, Control circuit, Digital Inputs, AC operated |
| Drop-out voltage | AC operated: 0 - 15 V, AC operated |
| Pick-up time | 250 ms at AC |
| Pick-up voltage | 108 - 253 V AC |
| Rated control supply voltage (Us) at AC, 50 Hz - min | 110 V |
| Rated control supply voltage (Us) at AC, 50 Hz - max | 230 V |
| Rated control supply voltage (Us) at AC, 60 Hz - min | 110 V |
| Rated control supply voltage (Us) at AC, 60 Hz - max | 230 V |
| Rated control supply voltage (Us) at DC - min | 0 V |
| Rated control supply voltage (Us) at DC - max | 0 V |
| Input/Output | |

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| Input current | | 4 mA (at 230 V AC, Digital inputs) |
| Number of outputs | | 2 Relay Outputs (TOR, Ready) |
| Output voltage | | 250 V AC (relay outputs) |
| Protection | | Finger and back-of-hand proof, Protection against direct contact |
| Rated control voltage (Uc) | | 110 - 230 V AC (-15 %/+10 %) 110 - 230 V AC |
| Rated operational current (Ie) at AC-11 | | 1 A |
| Soft start function | | |
| Application | | Soft starting of three-phase asynchronous motors 3-phase motors: Yes 1-phase motors: No |
| Delay time | | 0 - 30 s, Soft start function, Ramp times |
| Ramp/run-up time | | 1 - 30 s |
| Start voltage | | Min. 30 %, Soft start function, Start voltage = turn-off voltage Max. 100 %, Soft start function, Start voltage = turn-off voltage |
| Design verification | | |
| Equipment heat dissipation, current-dependent Pvid | | 42 W |
| Heat dissipation capacity Pdis | | 0 W |
| Heat dissipation per pole, current-dependent Pvid | | 0 W |
| Rated operational current for specified heat dissipation (In) | | 200 A |
| Static heat dissipation, non-current-dependent Pvs | | 42 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. |
| 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. |

Technical data ETIM 9.0

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| 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@ss13-27-37-09-07 [AC0300016]) | | |
| Rated operation current Ie at 40 °C Tu | A | 200 |
| Rated operating voltage Ue | V | 230 - 480 |
| Rated power three-phase motor, inline, at 230 V | kW | 55 |
| Rated power three-phase motor, inline, at 400 V | kW | 110 |
| Rated power three-phase motor, inside delta, at 230 V | kW | 0 |
| Rated power three-phase motor, inside delta, at 400 V | kW | 0 |
| Function | | Single direction |
| Internal bypass | | Yes |

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| With display | | No |
| Torque control | | No |
| Rated surrounding temperature without derating | °C | 40 |
| Rated control supply voltage AC 50 Hz | V | 110 - 230 |
| Rated control supply voltage AC 60 Hz | V | 110 - 230 |
| Rated control supply voltage DC | V | 0 - 0 |
| Voltage type for actuating | | AC |
| Integrated motor overload protection | | No |
| Release class | | Other |
| Degree of protection (IP) | | IP20 |
| Degree of protection (NEMA) | | 1 |