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Powering Business Worldwide

S811+V72V3S - Soft starter, 720 A, 200 - 690 V AC, Us= 24 V DC, with control unit and pump algorithm, for 690-V grids, Frame size V

169007 S811+V72V3S

Overview Specifications Resources

169007 S811+V72V3S

Soft starter, 720 A, 200 - 690 V AC, Us= 24 V DC, with control unit and pump algorithm, for 690-V grids, Frame size V

Alternate Catalog No.	S811PLUSV72V3S
EL-Nummer (Norway)	4137491

Soft starter, Description: With internal bypass contacts, Function: Soft starter for three-phase loads, with control unit and pump algorithm, for 690-V grids, Mains supply voltage (50/60 Hz): ULN= 200 - 690 V AC, Supply voltage: Us= 24 V DC, Control voltage: UC= 24 V DC, Assigned motor rating (Standard connection, In-Line) at 400 V, 50 Hz: P= 400 kW, at 690 V, 50 Hz: P= 630 kW, at 460 V, 60 Hz: P= 600 HP, Rated operational current AC-53: Ie= 720 A, Startup class: CLASS 10 (star-delta replacement), CLASS 20 (heavy starting duty 3 x Ie for 45 s), CLASS 30 (6 x Ie for 30 s), Rated operational voltage: Ue= 200 V, 230 V, 400 V, 480 V, 600 V, 690 V, Connection to SmartWire-DT: no, Frame size: V, Ordering information: Terminal blocks for the terminals are required for frame sizes T, U, and V -> Accessories, Standards: IEC/EN 60947-4-2, UL 508, CSA22.2-14-1995, GB14048

- Delivery program
- Technical data
- Design verification as per IEC/EN 61439
- Technical data ETIM 7.0
- Approvals
- Dimensions

Delivery program

Description
With internal bypass contacts
Function
Soft starter for three-phase loads, with control unit and pump algorithm, for 690-V grids
Mains supply voltage (50/60 Hz) [U_{LN}]
200 - 690 V AC
Supply voltage [U_s]
24 V DC
Control voltage [U_C]
24 V DC
Assigned motor rating (Standard connection, In-Line)
at 400 V, 50 Hz [P]
400 kW
at 690 V, 50 Hz [P]
630 kW
at 460 V, 60 Hz [P]
600 HP
Rated operational current
AC-53 [I_e]
720 A
Startup class
CLASS 10 (star-delta replacement)
CLASS 20 (heavy starting duty 3 x I_e for 45 s)

CLASS 30 (6 x I_e for 30 s)
Rated operational voltage [U_e]
200 V
230 V
400 V
480 V
600 V
690 V
Connection to SmartWire-DT
no
Frame size
V
Ordering information
Terminal blocks for the terminals are required for frame sizes T, U, and V -> Accessories

Technical data

General
Standards
IEC/EN 60947-4-2
UL 508
CSA 22.2-14-1995
GB14048
Approvals
CE
Approvals
UL
CSA
C-Tick
CCC
Climatic proofing
Damp heat, constant, to IEC 60068-2-3
Damp heat, cyclic, to IEC 60068-2-10
Ambient temperature Operation [ϑ]
-30 - +50 °C
Ambient temperature Storage [ϑ]
-50 - +70 °C
Altitude
0 - 2000 m, above that each 100 m 0.5% Derating m
Mounting position
As required
Degree of protection Degree of Protection
IP20 (terminals IP00)
Degree of protection Integrated
Protection type IP40 can be achieved on all sides with covers SS-IP20-N.
Protection against direct contact
Finger- and back-of-hand proof
Overvoltage category/pollution degree
II/3
Shock resistance
15 g
Radio interference level (IEC/EN 55011)
A
Static heat dissipation, non-current-dependent [P_{vs}]
127 W
Weight
41.4 kg
Main conducting paths
Rated operating voltage [U_e]
200 - 690 V AC
Supply frequency [f_{LN}]
50/60 Hz
Rated operational current [I_e] AC-53 [I_e]
720 A
Assigned motor rating (Standard connection, In-Line) at 230 V, 50 Hz [P]
250 kW
Assigned motor rating (Standard connection, In-Line) at 400 V, 50 Hz [P]
400 kW
Assigned motor rating (Standard connection, In-Line) at 500 V, 50 Hz [P]

500 kW
Assigned motor rating (Standard connection, In-Line)at 690 V, 50 Hz [P]
630 kW
Assigned motor rating (Standard connection, In-Line)at 200 V, 60 Hz [P]
200 HP
Assigned motor rating (Standard connection, In-Line)at 460 V, 60 Hz [P]
600 HP
Assigned motor rating (Standard connection, In-Line)at 600 V, 60 Hz [P]
750 HP
Assigned motor rating (Standard connection, In-Line)at 690 V, 60 Hz [P]
750 HP
Assigned motor rating (delta connection)at 690 V, 60 Hz [P]
1300 HP
Overload cycle to IEC/EN 60947-4-2AC-53a
720 A: AC-53a: 4.0 - 32: 99 - 3
Overload cycle to IEC/EN 60947-4-2Internal bypass contacts

Short-circuit ratingType “1” coordination
NZMN4-ME875
Terminal capacities
Cable lengthsSolid
2 x (120 - 240)
4 x (70 - 240)
6 x (120 - 240) mm^2
Cable lengthsFlexible with ferrule
2 x (120 - 240)
4 x (70 - 240)
6 x (120 - 240) mm^2
Cable lengthsStranded
2 x (120 - 240)
4 x (70 - 240)
6 x (120 - 240) mm^2
Cable lengthsSolid or stranded
2 x (4 - 500 kcmil)
4 x (4 - 500 kcmil)
6 x (4 - 500 kcmil) AWG
Control cablesSolid
1 x (2.5 - 4)
2 x (1.0 - 2.5) mm^2
Control cablesFlexible with ferrule
1 x (2.5 - 4)
2 x (1.0 - 2.5) mm^2
Control cablesStranded
1 x (2.5 - 4)
2 x (1.0 - 2.5) mm^2
Control cablesSolid or stranded
41 x (12 - 14)
2 x (12 - 14) AWG
Control cablesTightening torque
0.4 Nm
Control cablesScrewdriver
0,6 x 3,5 mm
Control circuit
Digital inputsControl voltageDC-operated
24 V DC +10 %/- 10 % V DC
Digital inputsCurrent consumption 24 VExternal 24 V
150 mA
Digital inputsCurrent consumption 24 VExternal 24 V (no-load)
100 mA
Digital inputsPick-up voltageDC-operated
21.6 - 26.4 V DC
Digital inputsDrop-out voltage [x U_s]DC operatedDrop-out voltage, DC-operated, max.
3 V DC
Digital inputsPick-up timeDC operated
100 ms
Digital inputsDrop-out timeDC operated
100 ms
Regulator supplyVoltage [U_s]
24 V DC +10 %/- 10 % V

Regulator supplyCurrent consumption [I_e]
1400 mA
Regulator supplyCurrent consumption at peak performance (close bypass) at 24 V DC [I_{Peak}]
10/150 A/ms
Regulator supplyNotes
External supply voltage
Analog inputsNumber of current inputs
1
Analog inputsCurrent input
4 - 20 mA
Relay outputsNumber
2
Relay outputsof which programmable
2
Relay outputsVoltage range
120 V AC/DC V AC
Relay outputsAC-11 current range
3 A, AC-11 A
Soft start function
Ramp timesAccelerationRamp time, max.
360 s
Ramp timesDeceleration
0 - 120 s
Start voltage (= turn-off voltage) Start voltage, max.
85 %
Start pedestalStart voltage, max.
85 %
KickstartVoltageKickstart voltage, max.
100 %
KickstartDuration50 HzKickstart Duration 50 Hz max.
2000 ms
KickstartDuration60 HzKickstart Duration 60 Hz max.
2000 ms
Fields of applicationFields of application
Soft starting of three-phase asynchronous motors
Fields of application3-phase motors
□
Functions
Fast switching (semiconductor contactor)
- (minimum ramp time 1s)
Soft start function
□
Reversing starter
External solution required (reversing contactor)
Suppression of closing transients
□
Current limitation
□
Overload monitoring
□
Underload monitoring
□
Fault memory
10 Faults
Suppression of DC components for motors
□
Potential isolation between power and control sections
□
Communication Interfaces
Modbus RTU

Design verification as per IEC/EN 61439

Technical data for design verification
Rated operational current for specified heat dissipation [I_n]
720 A
Heat dissipation per pole, current-dependent [P_{vid}]
0 W
Equipment heat dissipation, current-dependent [P_{vid}]

127 W
Static heat dissipation, non-current-dependent [P_{vs}]
127 W
Heat dissipation capacity [P_{diss}]
0 W
Operating ambient temperature min.
-30 °C
Operating ambient temperature max.
+50 °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 parts10.2.6 Mechanical impact
Does not apply, since the entire switchgear needs to be evaluated.
10.2 Strength of materials and parts10.2.7 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 properties10.9.2 Power-frequency electric strength
Is the panel builder's responsibility.
10.9 Insulation properties10.9.3 Impulse withstand voltage
Is the panel builder's responsibility.
10.9 Insulation properties10.9.4 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

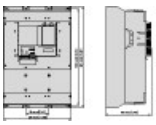
Low-voltage industrial components (EG000017) / Soft starter (EC000640)
Electric engineering, automation, process control engineering / Low-voltage switch technology / Load breakout, motor breakout / Semiconductor motor controller or soft starter (ecl@ss10.0.1-27-37-09-07 [ACC300011])
Rated operation current Ie at 40 °C Tu
720 A
Rated operating voltage Ue
200 - 690 V
Rated power three-phase motor, inline, at 230 V
200 kW
Rated power three-phase motor, inline, at 400 V
400 kW
Rated power three-phase motor, inside delta, at 230 V

200 kW
Rated power three-phase motor, inside delta, at 400 V
630 kW
Function
Single direction
Internal bypass
Yes
With display
Yes
Torque control
No
Rated surrounding temperature without derating
50 °C
Rated control supply voltage Us at AC 50HZ
0 - 0 V
Rated control supply voltage Us at AC 60HZ
0 - 0 V
Rated control supply voltage Us at DC
24 - 24 V
Voltage type for actuating
DC
Integrated motor overload protection
Yes
Release class
Adjustable
Degree of protection (IP)
IP00
Degree of protection (NEMA)
Other

Approvals

Product Standards
IEC/EN 60947-4-2; UL 508; CE marking
UL File No.
E202571
UL Category Control No.
NMFT
North America Certification
UL listed
Suitable for
Branch Circuits, not as BCPD
Max. Voltage Rating
690 Vac
Degree of Protection
IP20 with kit

Dimensions



CAD data

- Product-specific CAD data
  (Web)
- 3D Preview
  (Web)
- DA-CD-s811_v
  CAD data
  DWG files
  (Web)
- DA-CE-ETN.S811_V72V3S
  CAD data
  edz files
  (Web)
- DA-CS-s811_v

CAD data
Step files
(Web)

Additional product information

- Documentation
  (Web)

Product photo

- 
  Photo
  Product photo
  Photo

3D drawing

- 
  8250DRW-114
  3D drawing
  Line drawing

Dimensions single product

- 
  8250DIM-32
  Dimensions single product
  Line drawing

Declaration of Conformity

- DA-DC-00003356
  Declaration of Conformity
  (PDF)

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