Specifications

Eaton 192389



Catalog Number: 192389

Eaton Moeller® series EMS2 DOL starter, 24 V DC, 1,5 - 7 (AC-53a), 9 (AC-51) A, Push in terminals, SmartWire-DT slave, Controlled stop, PTB 19 ATEX 3000

General specifications

Product Name
Eaton Moeller® series EMS2 DOL starter

Catalog Number
192389

EAN
4015081930869

Product Length/Depth
114.5 mm

Product Height
99 mm

Product Width
22.5 mm

Product Weight
0.297 kg

Certifications
UL508
IEC 61508
EN ISO 13849
IEC/EN 60947-4-2
UL File No.: E338590
UL Category Control No.: NLDX, NLDX7
PTB 19 ATEX 3000
UL 60947-4-1
CSA-C22.2 No. 60947-4-1-14
CE marking
UL listed
Certified by UL for use in Canada
UL report applies to both US and Canada

Powering Business Worldwide

Features & Functions

Functions

Controlled stop
Temperature compensated overload protection
For connecting to SmartWire-DT for expanded diagnostics
DOL starting
Motor protection
Automatic reset
Display of Device Type
Display of Enable signal
Manual reset
Display of Motor current in %
Display of Operating direction feedback
Operating the motor starter
Display of Operational readiness
Display of Overload prewarning
Display of Set short-circuit release value
Display of Thermal motor image in %
Display of Trip indications (overload, phase failure, etc.)

General

Class

CLASS 10

Connection to SmartWire-DT

Yes

Degree of protection

IP20
NEMA Other

Model

Direct starter

Mounting method

Top-hat rail fixing (according to IEC/EN 60715, 35 mm)
Rail mounting possible

Mounting position

Motor feeder at bottom
Vertical

Overload release current setting - min

1.5 A

Overload release current setting - max

9 A

Product category

Electronic motor starter

Protocol

Other bus systems

Residual ripple

≤ 5 % (input voltage)

Terminal capacity

0.2 - 2.5 mm², Main cables, Push-in terminals

Terminal capacity (AWG)

24 - 14, Push-in terminals

Type

DOL starter (complete device)

Voltage type

DC

Climatic environmental conditions

Electro magnetic compatibility

Ambient operating temperature - min

-5 °C

Ambient operating temperature - max

55 °C

Ambient storage temperature - min

40 °C

Ambient storage temperature - max

80 °C

Radio interference class

EN 55011

Class A (EN 61000-6-3, emitted interference, radiated)

Electrical rating

Inrush current

120 mA (draw)

Rated actuating current (Ic)

5 mA

Rated conditional short-circuit current (Iq), type 2, 380 V, 400 V, 415 V

0 A

Rated control supply current Is

60 mA

Rated control supply voltage

19.2 - 30 V DC

Rated control voltage (Uc)

24 V (Actuating circuit ON, L, R)

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

0 V

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

0 V

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

0 V

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

0 V

Rated control supply voltage (Us) at DC - min

24 V

Rated control supply voltage (Us) at DC - max

24 V

Rated operational current (Ie)

9 A

Rated operational current (Ie) at AC-3, 380 V, 400 V, 415 V

7 A

Rated operational current (Ie) at AC-51

9 A

Rated operational current (Ie) at AC-53A - max

7 A

Rated operational power at AC-3, 220/230 V, 50 Hz

1.5 kW

Rated operational power at AC-3, 380/400 V, 50 Hz

3 kW

Rated operational power at AC-53A, 380/400 V, 50 Hz

3 kW

Rated operational voltage

42 - 550 V

500 V AC

Switching level

19.2 - 30 V DC, Switching level "High", Actuating circuit (ON, L, R)

< 5 V DC, Switching level "confirm Off", Actuating circuit (ON, L, R)

-3 - 9.6 V DC, Switching level "Low", Actuating circuit (ON, L, R)

Contacts

Number of auxiliary contacts (normally closed contacts)

0

Number of auxiliary contacts (normally open contacts)

0

Safety

Explosion safety category for dust

ATEX dust-ex-protection, II (2) G [Ex e] [Ex d] [Ex px]

ATEX dust-ex-protection, II (2) D [Ex t] [Ex p]

Safety parameter (EN ISO 13849-1)

3, Category

PL e, Performance level

60 (safe switch off) / 82 (motor protection) years; MTTFD

Safety parameter (IEC 62061)

Opening delay [ms]: 200 (safe switch off) / Class 10A (motor protection)

99 % (safe switch off) / 98 % (motor protection), DC

Design verification

Equipment heat dissipation, current-dependent Pvid

12 W

Heat dissipation capacity Pdiss

0 W

Heat dissipation per pole, current-dependent Pvid

0 W

Rated operational current for specified heat dissipation (In)

9 A

Static heat dissipation, non-current-dependent Pvs

2 W

Heat dissipation details

If necessary, Allow for derating

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.

Resources

Application notes

eaton-motor-starter-ems2-setting-motor-protection-twincat3-ap034001-en-us.pdf

Brochures

eaton-ems2-electronic-motorstarter-brochure-br034001en-en-us.pdf

Catalogs

Switching and protecting motors - catalog

Characteristic curve

eaton-contactors-ems2-reversing-starter-characteristic-curve-002.eps

eaton-contactors-ems2-reversing-starter-characteristic-curve.eps

eaton-contactors-ems2-reversing-starter-characteristic-curve-003.eps

Declarations of conformity

DA-DC-00004949.pdf

DA-DC-00004126.pdf

DA-DC-00004946.pdf

Drawings

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

eaton-contactors-ems2-reversing-starter-dimensions.eps

eaton-contactors-ems2-reversing-starter-3d-drawing.eps

eCAD model

DA-CE-ETN.EMS2-DOS-T-9-SWD

Installation instructions

eaton-ems2-electronic-motor-starter-ems2-with-swd-instruction-leaflet-il120010ZU.pdf

Installation videos

Eaton's electronic motor starter EMS2

Manuals and user guides

eaton-electronic-motor-starter-ems2-swd-manual-mn120008en-us.pdf

mCAD model

DA-CD-ems2_dos_ros_t_swd

DA-CS-ems2_dos_ros_t_swd

Sales notes

eaton-ems2-electronic-motorstarter-flyer-fl034007en-en-us.pdf

eaton-rmq-chemical-resistance-flyer-fl047011en-en-us.pdf

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.

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