Specifications

Eaton 197162



Catalog Number: 197162

Eaton Moeller® series EMS2 DOL starter, 24 V DC, 0,18 - 3 A, Screw terminals, Controlled stop, PTB 19 ATEX 3000

General specifications

Product Name
Eaton Moeller® series EMS2 DOL starter

Catalog Number
197162

EAN
4015080896036

Product Length/Depth
114.5 mm

Product Height
99 mm

Product Width
22.5 mm

Product Weight
0.287 kg

Certifications
UL508
EN ISO 13849
IEC 61508
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

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Features & Functions

Functions

Motor protection

Temperature compensated overload protection

DOL starting

Controlled stop

General

Class

CLASS 10

Connection to SmartWire-DT

No

Degree of protection

IP20

NEMA Other

Model

Direct starter

Mounting method

Rail mounting possible

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

Mounting position

Vertical

Motor feeder at bottom

Overload release current setting - min

0.18 A

Overload release current setting - max

3 A

Product category

Electronic motor starter

Residual ripple

≤ 5 % (input voltage)

Terminal capacity

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

0.2 - 2.5 mm², Main cables

0.14 - 2.5 mm², Control circuit cables

Terminal capacity (AWG)

26 - 14, Control circuit cables

24 - 14, Main cables

Type

DOL starter (complete device)

Voltage type

DC

Climatic environmental conditions

Electro magnetic compatibility

Ambient operating temperature - min

-25 °C

Ambient operating temperature - max

70 °C

Ambient storage temperature - min

40 °C

Ambient storage temperature - max

80 °C

Radio interference class

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

EN 55011

Electrical rating

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

40 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)

3 A

Rated operational current (Ie) at AC-15, 220 V, 230 V, 240 V

2 A

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

3 A

Rated operational current (Ie) at AC-51

3 A

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

3 A

Rated operational current (Ie) at DC-13, 24 V

2 A

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

0.55 kW

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

1.1 kW

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

1.1 kW

Rated operational voltage

42 - 550 V

500 V AC

Switching level

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

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)

Contacts

Number of auxiliary contacts (normally closed contacts)

1

Number of auxiliary contacts (normally open contacts)

1

Number of contacts (change-over contacts)

1

Safety

Explosion safety category for dust

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

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

Safety parameter (EN ISO 13849-1)

PL e, Performance level (safe switch off)

3 (safe switch off), Category

60 (safe switch off) / 70 (motor protection) years; MTTFD

Safety parameter (IEC 62061)

99 %, SFF

Λdd [FIT]: 580 (Safe switch off) / 601 (Motor protection)

Λdu [FIT]: 2.3 (Safe switch off) / 11 (Motor protection)

Λsu [FIT]: 1072 (Safe switch off) / 969 (Motor protection)

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

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

Λsd [FIT]: 0

PFHd [FIT]: 2.3 (Safe switch off)

SIL 3 (Safe switch off) / SIL 2 (Motor protection)

Design verification

Equipment heat dissipation, current-dependent Pvid

2.5 W

Heat dissipation capacity Pdiss

0 W

Heat dissipation per pole, current-dependent Pvid

0 W

Rated operational current for specified heat dissipation (In)

3 A

Resources

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.eps

Declarations of conformity

DA-DC-00004126.pdf

DA-DC-00004947.pdf

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.

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.

DA-DC-00004948.pdf

Drawings

eaton-contactors-ems2-reversing-starter-dimensions-002.eps

eaton-contactors-ems2-reversing-starter-3d-drawing-002.eps

eCAD model

DA-CE-ETN.EMS2-DOS-Z-3-24VDC

Installation instructions

IL034089ZU

Installation videos

Eaton's electronic motor starter EMS2

Manuals and user guides

eaton-electronic-motor-starter-ems2-manual-mn034003en-us.pdf

mCAD model

DA-CD-ems2_dos_ros_z_24_230v

DA-CS-ems2_dos_ros_z_24_230v

Sales notes

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

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.

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