Specifications

Eaton 199393

Catalog Number: 199393

Eaton DC1 Variable frequency drive, 115 V AC, single-phase, 2.3 A, 0.37 kW, IP66/NEMA 4X, 7-digital display assembly, Additional PCB protection, UV resistant, FS1



General specifications

Product Name
Eaton DC1 Variable frequency drive

Catalog Number
199393

EAN
4015081977826

Product Length/Depth
162 mm

Product Height
232 mm

Product Width
161 mm

Product Weight
2.5 kg

Certifications
IEC/EN 61800-5-1
Certified by UL for use in Canada
UL report applies to both US and Canada
IEC/EN 61800-3
IEC/EN61800-5
CE
CSA-C22.2 No. 14
IEC/EN 61800-2
UL 508C
UL Category Control No.: NMMS, NMMS7
UL
CUL
RCM
RoHS, ISO 9001
UL File No.: E172143
UL Listed
CE marking
UkrSEPRO
EAC

Powering Business Worldwide

Features & Functions

Features

Parameterization: Keypad

Parameterization: drivesConnect mobile (App)

Parameterization: Fieldbus

Parameterization: drivesConnect

Fitted with:

Control unit

Internal DC link

PC connection

IGBT inverter

UV resistance

7-digital display assembly

Additional PCB protection

General

Cable length

50 m, screened, maximum permissible, Motor feeder

75 m, unscreened, maximum permissible, Motor feeder

100 m, screened, with motor choke, maximum permissible, Motor feeder

150 m, unscreened, with motor choke, maximum permissible, Motor feeder

Communication interface

Modbus RTU, built in

CANopen®, built in

SmartWire-DT, optional

OP-Bus (RS485), built in

Connection to SmartWire-DT

No

Degree of protection

NEMA 4X

IP66

Frame size

FS1

Mounting position

Vertical

Product category

Variable frequency drives

Protection

Finger and back-of-hand proof, Protection against direct contact (BGV A3, VBG4)

Protocol

CAN

EtherNet/IP

Other bus systems

MODBUS

Radio interference class

Optional external radio interference suppression filter for longer motor cable lengths and for use in different EMC environments

Suitable for

Branch circuits, (UL/CSA)

Climatic environmental conditions

Main circuit

Altitude

Above 1000 m with 1 % derating per 100 m
Max. 4000 m

Ambient operating temperature - min

-20 °C

Ambient operating temperature - max

40 °C

Ambient storage temperature - min

-40 °C

Ambient storage temperature - max

60 °C

Climatic proofing

< 95 average relative humidity (RH), no condensation, no corrosion

Efficiency

97 % (η)

Input current ILN at 150% overload

7.8 A

Leakage current at ground IPE - max

4.8 mA

Mains switch-on frequency

Maximum of one time every 30 seconds

Mains voltage - min

110 V

Mains voltage - max

115 V

Operating mode

U/f control
Synchronous reluctance motors
Sensorless vector control (SLV)
Speed control with slip compensation
PM motors
BLDC motors

Output frequency - min

0 Hz

Output frequency - max

500 Hz

Output voltage (U2)

230 V AC, 3-phase

Overload current IL at 150% overload

3.45 A

Rated control supply voltage

10 V DC (Us, max. 10 mA)

Rated frequency - min

48 Hz

Rated frequency - max

62 Hz

Rated operational current (Ie)

2.3 A at 150% overload (at an operating frequency of 6 kHz and an ambient air temperature of +40 °C)

Rated operational voltage

115 V AC, 1-phase

Resolution

0.1 Hz (Frequency resolution, setpoint value)

Short-circuit protection rating

15 A, UL (Class CC or J), Safety device (fuse or miniature circuit-breaker), Power Wiring

Starting current - max

175 % IH

Supply frequency

50/60 Hz

Switching frequency

8 kHz, 4 - 32 kHz adjustable (audible), fPWM, Power section, Main circuit

System configuration type

AC supply systems with earthed center point

Voltage rating - max

120 V

Motor rating

Assigned motor current IM at 230 V, 50 Hz, 150% overload

2 A

Assigned motor power at 230/240 V, 60 Hz, 1-phase

0.5 HP

Braking function

Braking torque

Max. 100 % of rated operational current Ie, variable, DC - Main circuit

Max. 30 % MN, Standard - Main circuit

Control circuit

Number of inputs (analog)

2

Number of inputs (digital)

4

Number of outputs (analog)

1

Number of outputs (digital)

1

Number of relay outputs

1 (parameterizable, N/O, 6 A (250 V, AC-1) / 5 A (30 V, DC-1))

Resources

Application notes

Access to Parameter Levels 2 + 3 Parameter Lock - Load Default

Electromagnetic compatibility (EMC)

How does the internal motor protection work?

Fire Mode

Starting, Stopping and Operation

Set Point Setting

Connecting drives to generator supplies

Update DX-COM-STICK3

The OP System Bus - Parameterizing - Control

Low Temperature Applications

I/O Configuration

Operating Permanent Magnet and Brushless DC Motors

PI controller

DX-COM-STICK3_Connection

Operating Single Phase Motors

Motor data - Motor Protection - V/f curves Slip Compensation

Dependency of the output current on switching frequency and ambient temperature

Conformal Coating

Brochures

eaton-powerxl-variable-frequency-drives-dc1-da1-brochure-br040001en-en-us.pdf

DA-SW-drivesConnect

Catalogs

Product Range Catalog Drives Engineering

Declarations of conformity

DA-DC-00004555.pdf

DA-DC-00004552.pdf

DA-DC-00004184.pdf

DA-DC-00003964.pdf

Drawings

eaton-frequency-inverter-dc1-dimensions-002.eps

Installation instructions

eaton-powerxl-dc1-ip66-instruction-leaflet-il040059zu.pdf

Installation videos

PowerXL Variable Frequency Drives DC1 and DA1 - EN

Video PowerXL DA1

Manuals and user guides

eaton-canopen-communication-manual-for-variable-frequency-drives-variable-speed-starters-da1-db1-dc1-de11-mn040019-en-us.pdf

MN040059_EN

MN040022_EN

MN040018_EN

MN040003_EN

mCAD model

e3_s1_ip66_ohne_bedienelementen.stp

e3_s1_ip66_ohne_bedienelementen.dwg

Multimedia

Looking for variable frequency drives DC1 and DA1 which can be used in harsh environments?

Product notifications

eaton-drives-ecodesign-directive-mz040046en-en.pdf

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