Specifications

Eaton 199392

Catalog Number: 199392

Eaton DC1 Variable frequency drive, 230 V AC, 1-phase, 10.5 A, 1.1 kW, IP66/NEMA 4X, Radio interference suppression filter, Brake chopper, 7-digital display assembly, Local controls, Additional PCB protection, UV resistant, FS2



General specifications

Product Name
Eaton DC1 Variable frequency drive

Catalog Number
199392

EAN
4015081977819

Product Length/Depth
182 mm

Product Height
257 mm

Product Width
188 mm

Product Weight
3.5 kg

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

Powering Business Worldwide

IEC/EN 61800-3

IEC/EN61800-5

U

Canada

Features & Functions

Features

Parameterization: Fieldbus

Parameterization: Keypad

Parameterization: drivesConnect mobile (App)

Parameterization: drivesConnect

Fitted with:

Breaking resistance

Radio interference suppression filter

7-digital display assembly

Internal DC link

PC connection

IGBT inverter

UV resistance

Additional PCB protection

Control unit

Local controls

Brake chopper

Functions

4-quadrant operation possible

General

Cable length

200 m, screened, with motor choke, maximum permissible cable length

C3 ≤ 25 m, maximum motor cable length

100 m, screened, maximum permissible cable length

C2 ≤ 5 m, maximum motor cable length

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

C1 ≤ 1 m, maximum motor cable length

150 m, unscreened, maximum permissible cable length

Communication interface

CANopen®, built in

SmartWire-DT, optional

Modbus RTU, built in

OP-Bus (RS485), built in

Connection to SmartWire-DT

No

Degree of protection

NEMA 4X

Climatic environmental conditions

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

Main circuit

IP66

Electromagnetic compatibility

1st and 2nd environments (according to EN 61800-3)

Frame size

FS2

Mounting position

Vertical

Product category

Variable frequency drives

Protection

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

Protocol

CAN
MODBUS
Other bus systems
EtherNet/IP

Radio interference class

C2, C3: depending on the motor cable length, the connected load, and ambient conditions. External radio interference suppression filters (optional) may be necessary.
Optional external radio interference suppression filter for longer motor cable lengths and for use in different EMC environments
C1: for conducted emissions only

Suitable for

Branch circuits, (UL/CSA)

Efficiency

97 % (η)

Input current ILN at 150% overload

14 A

Leakage current at ground IPE - max

2.49 mA

Mains switch-on frequency

Maximum of one time every 30 seconds

Mains voltage - min

200 V

Mains voltage - max

240 V

Operating mode

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

Output frequency - min

0 Hz

Output frequency - max

500 Hz

Output voltage (U2)

240 V AC, single-phase
230 V AC, single-phase

Overload current IL at 150% overload

15.75 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)

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

Rated operational voltage

230 V AC, 1-phase

240 V AC, 1-phase

Resolution

0.1 Hz (Frequency resolution, setpoint value)

Short-circuit protection rating

25 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

240 V

Motor rating

Assigned motor current IM at 220 - 240 V, 60 Hz, 150% overload

9.6 A

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

1.5 HP

Apparent power

Apparent power at 230 V

2.42 kVA

Apparent power at 240 V

2.52 kVA

Braking function

Braking resistance

100 Ω

Braking torque

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

Max. 100 % of rated operational current Ie with external braking resistor - Main circuit

Switch-on threshold for the braking transistor

390 VDC

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

Electromagnetic compatibility (EMC)

How does the internal motor protection work?

Operating Single Phase Motors

Low Temperature Applications

Set Point Setting

Operating Permanent Magnet and Brushless DC Motors

Fire Mode

DX-COM-STICK3_Connection

PI controller

I/O Configuration

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

Dependency of the output current on switching frequency and ambient temperature

Conformal Coating

The OP System Bus - Parameterizing - Control

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

Update DX-COM-STICK3

Connecting drives to generator supplies

Starting, Stopping and Operation

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-00004184.pdf

DA-DC-00004555.pdf

DA-DC-00003964.pdf

DA-DC-00004552.pdf

Drawings

eaton-frequency-inverter-dc1-dimensions-003.eps

Installation instructions

eaton-powerxl-dc1-ip66-single-phase-motors-instruction-leaflet-il040058zu.pdf

Installation videos

Video PowerXL DA1

PowerXL Variable Frequency Drives DC1 and DA1 - EN

Manuals and user guides

MN040003_EN

MN040058_EN

MN040018_EN

MN040022_EN

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

mCAD model

e3_s2_ip66_mit_bedienelementen.stp

e3_s2_ip66_mit_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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