

Eaton DC1-1D2D3NN-A6SOE1

Catalog Number: DC1-1D2D3NN-A6SOE1

Eaton DC1 Variable frequency - drive, 115 V AC, single-phase, 2.3 A, 0.5 HP, IP66/NEMA 4X, 7-digital display assembly, Local controls, Additional PCB protection, UV resistant, FS1

General specifications

Product Name	Catalog Number
Eaton DC1 Variable frequency drive	DC1-1D2D3NN-A6SOE1
UPC	Product Length/Depth
786689592288	162 mm
Product Height	Product Width
232 mm	161 mm
Product Weight	Certifications
2.5 kg	IEC/EN61800-5
	UL Listed
	UL report applies to both US and Canada
	RoHS, ISO 9001
	CE marking
	UL Category Control No.: NMMS, NMMS7
	IEC/EN 61800-3
	EAC
	CE
	CUL
	UL
	UL 508C
	UL File No.: E172143
	IEC/EN 61800-5-1
	RCM
	Certified by UL for use in Canada
	CSA-C22.2 No. 14
	IEC/EN 61800-2
	UkrSEPRO

Features

Parameterization: Fieldbus

Parameterization: drivesConnect

Parameterization: Keypad

Parameterization: drivesConnect mobile (App)

Fitted with:

Control unit

IGBT inverter

Additional PCB protection

PC connection

Internal DC link

UV resistance

Local controls

7-digital display assembly

Climatic proofing

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

Connection to SmartWire-DT

No

Operating mode

Synchronous reluctance motors

BLDC motors

PM motors

Speed control with slip compensation

U/f control

Sensorless vector control (SLV)

Frame size

FS1

Altitude

Max. 4000 m

Max. 2000 m

Above 1000 m with 1 % derating per 100 m

Application in domestic and commercial area permitted

Yes

Mains switch-on frequency

Maximum of one time every 30 seconds

Ambient operating temperature - max

40 °C

Ambient operating temperature - min

-20 °C

Application notes

Electromagnetic compatibility (EMC)

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

How does the internal motor protection work?

Fire Mode

Update DX-COM-STICK3

Connecting drives to generator supplies

Set Point Setting

Low Temperature Applications

PI controller

Operating Permanent Magnet and Brushless DC Motors

DX-COM-STICK3_Connection

I/O Configuration

Starting, Stopping and Operation

Conformal Coating

Dependency of the output current on switching frequency and ambient temperature

The OP System Bus - Parameterizing - Control

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

Operating Single Phase Motors

Brochures

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

Catalogs

Product Range Catalog Drives Engineering

Drives - Product range catalog

Installation videos

Video PowerXL DA1

PowerXL Variable Frequency Drives DC1 and DA1 - EN

Multimedia

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

Specifications and datasheets

Eaton Specification Sheet - DC1-1D2D3NN-A6SOE1

Mains voltage - max

115 V

Output voltage - max

250 V

Relative symmetric net frequency tolerance

10 %

Relative symmetric net voltage tolerance

10 %

Ambient storage temperature - max

60 °C

Ambient storage temperature - min

-40 °C

Application in industrial area permitted

Yes

Product category

Variable frequency drives

Protection

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

Resolution

0.1 Hz (Frequency resolution, setpoint value)

Voltage rating - max

120 V

Mounting position

Vertical

Communication interface

Modbus RTU, built in

CANopen®, built in

SmartWire-DT, optional

OP-Bus (RS485), built in

Converter type

U converter

Degree of protection

IP66

NEMA 4X

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

0.5 HP

Input current ILN at 150% overload

7.8 A

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

2 A

Protocol

EtherNet/IP

CAN

Other bus systems

MODBUS

Overload current I_L at 150% overload

3.45 A

Rated frequency - max

62 Hz

Rated frequency - min

48 Hz

Rated operational power at 220/230 V, 50 Hz, 1-phase

0.37 kW

System configuration type

AC supply systems with earthed center point

Braking torque

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

Max. 30 % MN, Standard - Main circuit

Cable length

75 m, unscreened, maximum permissible, Motor feeder

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

50 m, screened, maximum permissible, Motor feeder

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

Output voltage (U_2)

230 V AC, 3-phase

Number of inputs (analog)

2 (parameterizable, 0 - 10 V DC, 0/4 - 20 mA)

2

Number of inputs (digital)

4 (parameterizable, max. 30 V DC)

4

Radio interference class

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

Number of outputs (digital)

1 (parameterizable, 24 V DC)

1

Starting current - max

175 % IH

Number of phases (input)

1

Number of relay outputs

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

Number of phases (output)

3

Rated control supply voltage

10 V DC (Us, max. 10 mA)

Efficiency

97 % (η)

Supply frequency

50/60 Hz

50/60 Hz, fLN, Main circuit

Leakage current at ground IPE - max

4.8 mA

Mains voltage - min

110 V

Nominal output current I2N

2.3 A

Number of HW-interfaces (industrial ethernet)

0

Number of HW-interfaces (other)

0

Number of HW-interfaces (parallel)

0

Number of HW-interfaces (RS-232)

0

Number of HW-interfaces (RS-422)

0

Number of HW-interfaces (RS-485)

1

Number of HW-interfaces (serial TTY)

0

Number of HW-interfaces (USB)

0

Number of interfaces (PROFINET)

0

Number of outputs (analog)

1

Output at linear load at rated output voltage - max

0.37 kW

Output at quadratic load at rated output voltage - max

0.37 kW

Output frequency - max

60 Hz

Output frequency - min

0 Hz

Suitable for

Branch circuits, (UL/CSA)

Switching frequency

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

Rated operational current (I_e)

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

Short-circuit protection rating

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



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