

Specifications

Eaton DC1-124D3FN-A66OE1

Eaton DC1 Variable frequency - drive, 230 V AC, 1-phase, 4.3 A, 1 HP, IP66/NEMA 4X, Radio interference suppression filter, 7-digital display assembly, Additional PCB protection, UV resistant, FS1

General specifications

PRODUCT NAME	Eaton DC1 Variable frequency drive
CATALOG NUMBER	DC1-124D3FN-A66OE1
UPC	786689592301
PRODUCT LENGTH/DEPTH	162 mm
PRODUCT HEIGHT	232 mm
PRODUCT WIDTH	161 mm
PRODUCT WEIGHT	2.5 kg
CERTIFICATIONS	UL File No.: E172143 IEC/EN 61800-5-1 EAC UkrSEPRO UL 508C IEC/EN61800-5 CE marking UL Category Control No.: NMMS, NMMS7 UL Certified by UL for use in Canada CE UL report applies to both US and Canada CSA-C22.2 No. 14 RoHS, ISO 9001 UL Listed IEC/EN 61800-2 IEC/EN 61800-3 RCM CUL

CATALOG NOTES

- Assigned motor



Powering Business Worldwide

rating: Overload
cycle for 60 s every
600 s

- For normal
internally and
externally
ventilated four-pole
three-phase
asynchronous
motors with 1500
rpm at 50 Hz and
1800 rpm at 60 Hz
- operation (with 150
% overload)

Product specifications

FEATURES	Parameterization: Keypad Parameterization: drivesConnect Parameterization: drivesConnect mobile (App) Parameterization: Fieldbus
FITTED WITH:	Control unit UV resistance 7-digital display assembly PC connection IGBT inverter Additional PCB protection Radio interference suppression filter Internal DC link
CLIMATIC PROOFING	< 95 average relative humidity (RH), no condensation, no corrosion
CONNECTION TO SMARTWIRE-DT	No
OPERATING MODE	Sensorless vector control (SLV) Speed control with slip compensation U/f control BLDC motors Synchronous reluctance motors PM motors
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
MAINS VOLTAGE - MAX	240 V
OUTPUT VOLTAGE - MAX	250 V
RELATIVE SYMMETRIC	10 %

Resources

APPLICATION NOTES	Electromagnetic compatibility (EMC) DX-COM-STICK3 Connection The OP System Bus - Parameterizing - Control How does the internal motor protection work?
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	PowerXL Variable Frequency Drives DC1 and DA1 - EN Video PowerXL DA1
MULTIMEDIA	Looking for variable frequency drives DC1 and DA1 which can be used in harsh environments?
SPECIFICATIONS AND DATASHEETS	Eaton Specification Sheet - DC1-124D3FN-A66OE1

NET FREQUENCY TOLERANCE	
RELATIVE SYMMETRIC NET VOLTAGE TOLERANCE	10 %
AMBIENT STORAGE TEMPERATURE - MAX	60 °C
AMBIENT STORAGE TEMPERATURE - MIN	-40 °C
APPARENT POWER AT 230 V	1.71 kVA
APPARENT POWER AT 240 V	1.79 kVA
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	240 V
MOUNTING POSITION	Vertical
COMMUNICATION INTERFACE	CANopen®, built in OP-Bus (RS485), built in SmartWire-DT, optional Modbus RTU, built in
CONVERTER TYPE	U converter
DEGREE OF PROTECTION	IP66 NEMA 4X
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE	1 HP
INPUT CURRENT ILN AT 150% OVERLOAD	7.5 A
ASSIGNED MOTOR CURRENT IM AT 220 - 240 V, 60 HZ, 150% OVERLOAD	4.2 A
ASSIGNED MOTOR CURRENT IM AT 230 V, 50 HZ, 150% OVERLOAD	3.2 A
PROTOCOL	MODBUS CAN Other bus systems EtherNet/IP

OVERLOAD CURRENT IL AT 150% OVERLOAD	6.45 A
RATED FREQUENCY - MAX	62 Hz
RATED FREQUENCY - MIN	48 Hz
RATED OPERATIONAL POWER AT 220/230 V, 50 HZ, 1-PHASE	0.75 kW
SYSTEM CONFIGURATION TYPE	AC supply systems with earthed center point
ELECTROMAGNETIC COMPATIBILITY	1st and 2nd environments (according to EN 61800-3)
BRAKING TORQUE	Max. 30 % MN, Standard - Main circuit Max. 100 % of rated operational current I _e , variable, DC - Main circuit
CABLE LENGTH	C1 ≤ 1 m, maximum motor cable length C3 ≤ 25 m, maximum motor cable length 100 m, screened, with motor choke, maximum permissible, Motor feeder 75 m, unscreened, maximum permissible, Motor feeder 50 m, screened, maximum permissible, Motor feeder 150 m, unscreened, with motor choke, maximum permissible, Motor feeder C2 ≤ 5 m, maximum motor cable length
OUTPUT VOLTAGE (U2)	230 V AC, 3-phase 240 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	C1: for conducted emissions only Optional external radio interference suppression filter for longer motor cable lengths and for use in different EMC environments C2, C3: depending on the motor cable length, the

	connected load, and ambient conditions. External radio interference suppression filters (optional) may be necessary.
NUMBER OF OUTPUTS (DIGITAL)	1 (parameterizable, 24 V DC) 1
STARTING CURRENT - MAX	175 %, IH, max. starting current (High Overload), For 2.5 seconds every 600 seconds, Power section
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	200 V
NOMINAL OUTPUT CURRENT I2N	4.3 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	0

(PROFINET)	
NUMBER OF OUTPUTS (ANALOG)	1
OUTPUT AT LINEAR LOAD AT RATED OUTPUT VOLTAGE - MAX	0.75 kW
OUTPUT AT QUADRATIC LOAD AT RATED OUTPUT VOLTAGE - MAX	0.75 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 (IE)	4.3 A at 150% overload (at an operating frequency of 6 kHz and an ambient air temperature of +40 °C)
RATED OPERATIONAL VOLTAGE	240 V AC, 1-phase 230 V AC, 1-phase
SHORT-CIRCUIT PROTECTION RATING	10 A, UL (Class CC or J), Safety device (fuse or miniature circuit-breaker), Power Wiring

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
DATE:



Eaton Corporation plc
 Eaton House
 30 Pembroke Road
 Dublin 4, Ireland
 Eaton.com

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