

Specifications

Eaton DC1-124D3FN-A6SOE1

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, Local controls, Additional PCB protection, UV resistant, FS1

General specifications

PRODUCT NAME	Eaton DC1 Variable frequency drive
CATALOG NUMBER	DC1-124D3FN-A6SOE1
UPC	786689592110
PRODUCT LENGTH/DEPTH	162 mm
PRODUCT HEIGHT	232 mm
PRODUCT WIDTH	161 mm
PRODUCT WEIGHT	2.5 kg
CERTIFICATIONS	CE Certified by UL for use in Canada IEC/EN 61800-2 UL File No.: E172143 UL Listed CUL CE marking UkrSEPRO UL IEC/EN61800-5 IEC/EN 61800-5-1 EAC UL 508C RCM UL report applies to both US and Canada RoHS, ISO 9001 UL Category Control No.: NMMS, NMMS7 IEC/EN 61800-3 CSA-C22.2 No. 14
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 mobile (App) Parameterization: Fieldbus
	Parameterization: drivesConnect
FITTED WITH:	Radio interference suppression filter Internal DC link PC connection UV resistance 7-digital display assembly Control unit Additional PCB protection IGBT inverter Local controls
CLIMATIC PROOFING	< 95 average relative humidity (RH), no condensation, no corrosion
CONNECTION TO SMARTWIRE-DT	No
OPERATING MODE	PM motors Speed control with slip compensation Sensorless vector control (SLV) BLDC motors Synchronous reluctance motors U/f control
FRAME SIZE	FS1
ALTITUDE	Max. 2000 m Above 1000 m with 1 % derating per 100 m Max. 4000 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

Resources

APPLICATION NOTES	Electromagnetic compatibility (EMC)
	How does the internal motor protection work?
	The OP System Bus - Parameterizing - Control
	DX-COM- STICK3 Connection
BROCHURES	eaton-powerxl-variable- frequency-drives-dc1-da1- brochure-br040001en-en- us.pdf
CATALOGS	Drives - Product range catalog
	Product Range Catalog Drives Engineering
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-A6SOE1

RELATIVE SYMMETRIC NET FREQUENCY TOLERANCE	10 %
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	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	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	CAN MODBUS 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 C2 ≤ 5 m, maximum motor cable length 150 m, unscreened, with motor choke, maximum permissible, Motor feeder 50 m, screened, maximum permissible, Motor feeder C3 ≤ 25 m, maximum motor cable length 100 m, screened, with motor choke, maximum permissible, Motor feeder 75 m, unscreened, maximum permissible, Motor feeder
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 % I _H
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 (U _s , max. 10 mA)
EFFICIENCY	97 % (η)
SUPPLY FREQUENCY	50/60 Hz, fLN, Main circuit 50/60 Hz
LEAKAGE CURRENT AT GROUND IPE - MAX	4.8 mA
MAINS VOLTAGE - MIN	200 V
NOMINAL OUTPUT CURRENT I_{2N}	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 (PROFINET)	0
NUMBER OF OUTPUTS	1

(ANALOG)	
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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