

Specifications

Eaton DC1-1D5D8NB-A66OE1

Eaton DC1 Variable frequency - drive, 115 V AC, single-phase, 5.8 A, 2 HP, IP66/NEMA 4X, Brake chopper, 7-digital display assembly, Additional PCB protection, UV resistant, FS2

General specifications

PRODUCT NAME	Eaton DC1 Variable frequency drive
CATALOG NUMBER	DC1-1D5D8NB-A66OE1
UPC	786689592004
PRODUCT LENGTH/DEPTH	182 mm
PRODUCT HEIGHT	257 mm
PRODUCT WIDTH	188 mm
PRODUCT WEIGHT	3.5 kg
CERTIFICATIONS	UL Listed IEC/EN 61800-3 IEC/EN 61800-5-1 IEC/EN61800-5 IEC/EN 61800-2 UkrSEPRO UL Category Control No.: NMMS, NMMS7 UL File No.: E172143 UL 508C UL report applies to both US and Canada CUL CE CSA-C22.2 No. 14 UL RoHS, ISO 9001 CE marking RCM Certified by UL for use in Canada EAC

CATALOG NOTES

- Assigned motor rating: Overload



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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)
- The brake resistors are assigned based on the maximum rated power of the variable frequency drive. Additional brake resistors and designs (e.g. different duty cycles) are available upon request.

Product specifications

FEATURES	Parameterization: drivesConnect Parameterization: Keypad Parameterization: drivesConnect mobile (App) Parameterization: Fieldbus
FITTED WITH:	UV resistance Brake chopper PC connection 7-digital display assembly Internal DC link Additional PCB protection IGBT inverter Control unit Breaking resistance
CLIMATIC PROOFING	< 95 average relative humidity (RH), no condensation, no corrosion
CONNECTION TO SMARTWIRE-DT	No
OPERATING MODE	Sensorless vector control (SLV) U/f control BLDC motors PM motors Synchronous reluctance motors Speed control with slip compensation
FRAME SIZE	FS2
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	115 V
OUTPUT VOLTAGE - MAX	250 V
RELATIVE SYMMETRIC	10 %

Resources

APPLICATION NOTES	The OP System Bus - Parameterizing - Control DX-COM-STICK3 Connection How does the internal motor protection work? Electromagnetic compatibility (EMC)
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 - DC1-1D5D8NB-A66OE1

NET FREQUENCY TOLERANCE	
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)
SWITCH-ON THRESHOLD FOR THE BRAKING TRANSISTOR	390 VDC
VOLTAGE RATING - MAX	120 V
MOUNTING POSITION	Vertical
COMMUNICATION INTERFACE	SmartWire-DT, optional OP-Bus (RS485), built in CANopen®, built in Modbus RTU, built in
CONVERTER TYPE	U converter
DEGREE OF PROTECTION	NEMA 4X IP66
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE	1.5 HP
BRAKING RESISTANCE	100 Ω
INPUT CURRENT ILN AT 150% OVERLOAD	21.9 A
ASSIGNED MOTOR CURRENT IM AT 230 V, 50 HZ, 150% OVERLOAD	4.6 A
PROTOCOL	Other bus systems CAN MODBUS EtherNet/IP
OVERLOAD CURRENT IL AT 150% OVERLOAD	8.7 A
RATED FREQUENCY - MAX	62 Hz

RATED FREQUENCY - MIN	48 Hz
RATED OPERATIONAL POWER AT 220/230 V, 50 HZ, 1-PHASE	1.1 kW
SYSTEM CONFIGURATION TYPE	AC supply systems with earthed center point
BRAKING TORQUE	Max. 100 % of rated operational current I_e with external braking resistor - Main circuit Max. 30 % MN, Standard - Main circuit Max. 100 % of rated operational current I_e, variable, DC - Main circuit
CABLE LENGTH	100 m, screened, maximum permissible cable length 200 m, screened, with motor choke, maximum permissible cable length 300 m, unscreened, with motor choke, maximum permissible, Motor feeder 150 m, unscreened, maximum permissible cable length
OUTPUT VOLTAGE (U2)	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 1 (parameterizable, 24 V DC)
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	3

(OUTPUT)	
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	5.8 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	1.1 kW
OUTPUT AT QUADRATIC LOAD AT RATED OUTPUT VOLTAGE - MAX	1.1 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)	5.8 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	35 A, UL (Class CC or J), Safety device (fuse or miniature circuit-breaker), Power Wiring

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
DATE:



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