

Specifications

Eaton DC1-12015FB-A66OE1

Eaton DC1 Variable frequency - drive, 230 V AC, 1-phase, 15.3 A, 5 HP, IP66/NEMA 4X, Radio interference suppression filter, Brake chopper, 7-digital display assembly, Additional PCB protection, UV resistant, FS3

General specifications

PRODUCT NAME	Eaton DC1 Variable frequency drive
CATALOG NUMBER	DC1-12015FB-A66OE1
UPC	786689592530
PRODUCT LENGTH/DEPTH	238 mm
PRODUCT HEIGHT	310 mm
PRODUCT WIDTH	210.5 mm
PRODUCT WEIGHT	7 kg
CERTIFICATIONS	IEC/EN61800-5 UL File No.: E172143 UL Listed RCM CE marking UL Category Control No.: NMMS, NMMS7 UL UL 508C CUL IEC/EN 61800-2 UkrSEPRO IEC/EN 61800-5-1 CE UL report applies to both US and Canada CSA-C22.2 No. 14 RoHS, ISO 9001 IEC/EN 61800-3 EAC Certified by UL for use in Canada

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)
- 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: Fieldbus
	Parameterization: drivesConnect mobile (App)
	Parameterization: drivesConnect
	Parameterization: Keypad
FITTED WITH:	IGBT inverter 7-digital display assembly Radio interference suppression filter Brake chopper Additional PCB protection Control unit PC connection Breaking resistance Internal DC link UV resistance
CLIMATIC PROOFING	< 95 average relative humidity (RH), no condensation, no corrosion
CONNECTION TO SMARTWIRE-DT	No
OPERATING MODE	Synchronous reluctance motors Speed control with slip compensation Sensorless vector control (SLV) BLDC motors U/f control PM motors
FRAME SIZE	FS3
ALTITUDE	Above 1000 m with 1 % derating per 100 m Max. 2000 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

Resources

APPLICATION NOTES	DX-COM-STICK3 Connection
	The OP System Bus - Parameterizing - Control
	Electromagnetic compatibility (EMC)
	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	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 - DC1-12015FB-A66OE1

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
APPARENT POWER AT 230 V	5.98 kVA
APPARENT POWER AT 240 V	6.24 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)
SWITCH-ON THRESHOLD FOR THE BRAKING TRANSISTOR	390 VDC
VOLTAGE RATING - MAX	240 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	IP66 NEMA 4X
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE	5 HP
BRAKING RESISTANCE	25 Ω
INPUT CURRENT ILN AT 150% OVERLOAD	29.2 A
ASSIGNED MOTOR CURRENT IM AT 220 - 240 V, 60 HZ, 150% OVERLOAD	15.2 A
ASSIGNED MOTOR	14.8 A

CURRENT IM AT 230 V, 50 HZ, 150% OVERLOAD	
PROTOCOL	MODBUS Other bus systems CAN EtherNet/IP
OVERLOAD CURRENT IL AT 150% OVERLOAD	22.9 A
RATED FREQUENCY - MAX	62 Hz
RATED FREQUENCY - MIN	48 Hz
RATED OPERATIONAL POWER AT 220/230 V, 50 HZ, 1-PHASE	4 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. 100 % of rated operational current I_e , variable, DC - Main circuit Max. 100 % of rated operational current I_e with external braking resistor - Main circuit Max. 30 % MN, Standard - Main circuit
CABLE LENGTH	100 m, screened, maximum permissible cable length 300 m, unscreened, with motor choke, maximum permissible, Motor feeder 150 m, unscreened, maximum permissible cable length 200 m, screened, with motor choke, maximum permissible 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	Optional external radio interference suppression filter for longer motor cable lengths and for use

	in different EMC environments C1: for conducted emissions only 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 1 (parameterizable, 24 V DC)
STARTING CURRENT - MAX	175 %, I_H, 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 (U_s, max. 10 mA)
EFFICIENCY	97 % (η)
SUPPLY FREQUENCY	50/60 Hz, f_{LN}, Main circuit 50/60 Hz
LEAKAGE CURRENT AT GROUND IPE - MAX	4.7 mA
MAINS VOLTAGE - MIN	200 V
NOMINAL OUTPUT CURRENT I_{2N}	11 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	2.2 kW
OUTPUT AT QUADRATIC LOAD AT RATED OUTPUT VOLTAGE - MAX	2.2 kW
OUTPUT FREQUENCY - MAX	60 Hz
OUTPUT FREQUENCY - MIN	0 Hz
SUITABLE FOR	Branch circuits, (UL/CSA)
SWITCHING FREQUENCY	8 kHz, 4 - 24 kHz adjustable (audible), fPWM, Power section, Main circuit
RATED OPERATIONAL CURRENT (IE)	15.3 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
SHORT-CIRCUIT PROTECTION RATING	50 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

Follow us on social media to get the latest product and support information.

