

Specifications

Eaton DC1-32011FB-A66OE1

Eaton DC1 Variable frequency - drive, 230 V AC, 3-phase, 10.5 A, 3 HP, IP66/NEMA 4X, Radio interference suppression filter, Brake chopper, 7-digital display assembly, Additional PCB protection, UV resistant, FS2

General specifications

PRODUCT NAME	Eaton DC1 Variable frequency drive
CATALOG NUMBER	DC1-32011FB-A66OE1
UPC	786689592585
PRODUCT LENGTH/DEPTH	182 mm
PRODUCT HEIGHT	257 mm
PRODUCT WIDTH	188 mm
PRODUCT WEIGHT	3.5 kg
CERTIFICATIONS	IEC/EN 61800-2 UkrSEPRO UL 508C UL Listed UL Category Control No.: NMMS, NMMS7 CE UL report applies to both US and Canada EAC RCM RoHS, ISO 9001 IEC/EN 61800-5-1 Certified by UL for use in Canada CSA-C22.2 No. 14 IEC/EN61800-5 CE marking UL CUL UL File No.: E172143 IEC/EN 61800-3

CATALOG NOTES

- Assigned motor

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

	Parameterization: Keypad Parameterization: Fieldbus
FEATURES	Parameterization: drivesConnect Parameterization: drivesConnect mobile (App)
FITTED WITH:	Internal DC link IGBT inverter Breaking resistance 7-digital display assembly PC connection UV resistance Brake chopper Radio interference suppression filter Control unit Additional PCB protection
CLIMATIC PROOFING	< 95 average relative humidity (RH), no condensation, no corrosion
CONNECTION TO SMARTWIRE-DT	No
OPERATING MODE	BLDC motors U/f control Sensorless vector control (SLV) Speed control with slip compensation PM motors Synchronous reluctance motors
FRAME SIZE	FS2
ALTITUDE	Max. 2000 m Max. 4000 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

Resources

	Electromagnetic compatibility (EMC)
	How does the internal motor protection work?
APPLICATION NOTES	DX-COM-STICK3 Connection The OP System Bus - Parameterizing - Control
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 - DC1-32011FB-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	4.18 kVA
APPARENT POWER AT 240 V	4.36 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	CANopen®, built in Modbus RTU, built in SmartWire-DT, optional OP-Bus (RS485), built in
CONVERTER TYPE	U converter
DEGREE OF PROTECTION	NEMA 4X IP66
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE	3 HP
BRAKING RESISTANCE	50 Ω
INPUT CURRENT ILN AT 150% OVERLOAD	12.1 A
ASSIGNED MOTOR CURRENT IM AT 220 - 240 V, 60 HZ, 150% OVERLOAD	9.6 A
ASSIGNED MOTOR	8.7 A

CURRENT IM AT 230 V, 50 HZ, 150% OVERLOAD	
PROTOCOL	CAN MODBUS Other bus systems EtherNet/IP
OVERLOAD CURRENT IL AT 150% OVERLOAD	15.75 A
RATED FREQUENCY - MAX	62 Hz
RATED FREQUENCY - MIN	48 Hz
RATED OPERATIONAL POWER AT 220/230 V, 50 HZ, 1-PHASE	2.2 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 Max. 100 % of rated operational current I _e with external braking resistor - Main circuit
CABLE LENGTH	C2 ≤ 5 m, maximum motor 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 C3 ≤ 25 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	C2, C3: depending on the motor cable length, the connected load, and ambient conditions. External radio interference suppression filters (optional) may be necessary. 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 % I _H
NUMBER OF PHASES (INPUT)	3
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	7.2 mA
MAINS VOLTAGE - MIN	200 V
NOMINAL OUTPUT CURRENT I_{2N}	10.5 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 - 32 kHz adjustable (audible), fPWM, Power section, Main circuit
RATED OPERATIONAL CURRENT (IE)	10.5 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, 3-phase 240 V AC, 3-phase
SHORT-CIRCUIT PROTECTION RATING	15 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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