

Eaton 199387

Eaton DC1 Variable frequency drive, 230 V AC, 1-phase, 4.3 A, 0.37 kW, IP66/NEMA 4X, Radio interference suppression filter, 7-digit digital display assembly, Additional PCB protection, UV resistant, FS1

PRODUCT NAME	Eaton DC1 Variable frequency drive
CATALOG NUMBER	199387
PRODUCT LENGTH/DEPTH	162 mm
PRODUCT HEIGHT	232 mm
PRODUCT WIDTH	161 mm
PRODUCT WEIGHT	2.5 kg
CERTIFICATIONS	CE UL report applies to both US and Canada UL File No.: E172143 UL Listed RCM RoHS, ISO 9001 IEC/EN 61800-2 UL Category Control No.: NMMS, NMMS7 IEC/EN 61800-5-1 UL UL 508C Certified by UL for use in Canada CUL IEC/EN 61800-3 CE marking EAC CSA-C22.2 No. 14 IEC/EN61800-5 UkrSEPRO



FEATURES	Parameterization: drivesConnect Parameterization: drivesConnect mobile (App) Parameterization: Keypad Parameterization: Fieldbus
FITTED WITH:	Internal DC link IGBT inverter Radio interference suppression filter UV resistance 7-digital display assembly Additional PCB protection PC connection Control unit
CLIMATIC PROOFING	< 95 average relative humidity (RH), no condensation, no corrosion
CONNECTION TO SMARTWIRE-DT	No
OPERATING MODE	Synchronous reluctance motors U/f control PM motors BLDC motors Sensorless vector control (SLV) Speed control with slip compensation
FRAME SIZE	FS1
ALTITUDE	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
RELATIVE SYMMETRIC NET FREQUENCY	10 %

TOLERANCE	
RELATIVE SYMMETRIC NET VOLTAGE TOLERANCE	10 %
AMBIENT STORAGE TEMPERATURE - MAX	60 °C
AMBIENT STORAGE TEMPERATURE - MIN	-40 °C
APPARENT POWER AT 230 V	0.99 kVA
APPARENT POWER AT 240 V	1.03 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	SmartWire-DT, optional CANopen®, built in Modbus RTU, built in 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	0.5 HP
INPUT CURRENT ILN AT 150% OVERLOAD	6 A
ASSIGNED MOTOR CURRENT IM AT 220 - 240 V, 60 HZ, 150% OVERLOAD	4.3 A
ASSIGNED MOTOR CURRENT IM AT 230 V, 50 HZ, 150% OVERLOAD	4.3 A
PROTOCOL	EtherNet/IP Other bus systems CAN MODBUS
OVERLOAD CURRENT IL	6.45 A

AT 150% OVERLOAD	
RATED FREQUENCY - MAX	62 Hz
RATED FREQUENCY - MIN	48 Hz
RATED OPERATIONAL POWER AT 220/230 V, 50 HZ, 1-PHASE	0.37 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
CABLE LENGTH	150 m, unscreened, with motor choke, maximum permissible, Motor feeder 100 m, screened, with motor choke, maximum permissible, Motor feeder $C3 \leq 25$ m, maximum motor cable length $C1 \leq 1$ m, maximum motor cable length $C2 \leq 5$ m, maximum motor cable length 50 m, screened, maximum permissible, Motor feeder 75 m, unscreened, maximum permissible, Motor feeder
OUTPUT VOLTAGE (U2)	230 V AC, single-phase 240 V AC, single-phase
NUMBER OF INPUTS (ANALOG)	2
NUMBER OF INPUTS (DIGITAL)	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 C1: for conducted

	emissions only
NUMBER OF OUTPUTS (DIGITAL)	1
STARTING CURRENT - MAX	175 % IH
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)	1
POWER CONSUMPTION	45.75 W
RATED CONTROL SUPPLY VOLTAGE	10 V DC (Us, max. 10 mA)
EFFICIENCY	97 % (η)
SUPPLY FREQUENCY	50/60 Hz
LEAKAGE CURRENT AT GROUND IPE - MAX	2.49 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 (PROFINET)	0
NUMBER OF OUTPUTS (ANALOG)	1
OUTPUT AT LINEAR LOAD AT RATED OUTPUT VOLTAGE - MAX	0.37 kW
OUTPUT AT QUADRATIC	0.37 kW

**LOAD AT RATED OUTPUT
VOLTAGE - MAX**

OUTPUT FREQUENCY - MAX	500 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	230 V AC, 1-phase 240 V AC, 1-phase
--------------------------------------	--

SHORT-CIRCUIT PROTECTION RATING	10 A, UL (Class CC or J), Safety device (fuse or miniature circuit-breaker), Power Wiring
--	--

**INSTALLATION
VIDEOS**[Video PowerXL DA1](#)**MCAD MODEL**[e3_s1_ip66_ohne_bedienelementen.dwg](#)[e3_s1_ip66_ohne_bedienelementen.stp](#)[eaton-powerxl-variable-frequency-
drives-dc1-da1-brochure-br040001en-
en-us.pdf](#)[eaton-frequency-inverter-dc1-
dimensions-002.eps](#)[DX-COM-STICK3 Connection](#)[The OP System Bus - Parameterizing -
Control](#)[How does the internal motor protection
work?](#)

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
:



Eaton House
30 Pembroke Road
Dublin 4,
Eaton.com

© 2025

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

