Eaton 185725

Eaton DC1 Variable frequency drive, 400 V AC, 3-phase, 4.1 A, 1.5 kW, IP66/NEMA 4X, FS1 DC1-344D1NN-A66CE1

PRODUCT NAME	Eaton DC1 Variable frequency drive
CATALOG NUMBER	185725
PRODUCT LENGTH/DEPTH	184 mm
PRODUCT HEIGHT	232 mm
PRODUCT WIDTH	161 mm
PRODUCT WEIGHT	2.8 kg
CERTIFICATIONS	IEC/EN61800-3 UkrSEPRO UL report applies to both US and Canada RoHS, ISO 9001 UL Category Control No.: NMMS, NMMS7 EAC RCM UL 508C UL File No.: E172143 Certified by UL for use in Canada Specification for general requirements: IEC/EN 61800-2 UL IEC/EN 61800-3 CE Safety requirements: IEC/EN 61800-5-1 CSA-C22.2 No. 14 CUL IEC/EN61800-5
CATALOG NOTES	Environmental class: 3C3, 3S3

Powering Business Worldwide

FEATURES	Parameterization: drivesConnect Parameterization: drivesConnect mobile (App) Parameterization: Fieldbus Parameterization: Keypad
10.10 TEMPERATURE RISE	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 SHORT-CIRCUIT RATING	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.12 ELECTROMAGNETIC COMPATIBILITY	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.13 MECHANICAL FUNCTION	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.
10.2.2 CORROSION RESISTANCE	Meets the product standard's requirements.
10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES	Meets the product standard's requirements.
10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT	Meets the product standard's requirements.
10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS	Meets the product standard's requirements.
10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION	Meets the product standard's requirements.
10.2.5 LIFTING	Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 MECHANICAL	Does not apply, since the

DECLARATIONS OF CONFORMITY	eaton-variable-frequency-drive-declaration-of-conformity-uk251078en.pdf
INSTALLATION VIDEOS	Video PowerXL DA1
	IL04020013Z
	eaton-powerxl-variable-frequency-drives-dc1-da1-brochure-br040001en-en-us.pdf
	eaton-frequency-inverter-dimensions-018.eps eaton-frequency-inverter-3d-drawing-004.eps
	How does the internal motor protection work? The OP System Bus - Parameterizing - Control DX-COM-STICK3_Connection

IMPACT	entire switchgear needs to be evaluated.
10.2.7 INSCRIPTIONS	Meets the product standard's requirements.
10.3 DEGREE OF PROTECTION OF ASSEMBLIES	Does not apply, since the entire switchgear needs to be evaluated.
10.4 CLEARANCES AND CREEPAGE DISTANCES	Meets the product standard's requirements.
10.5 PROTECTION AGAINST ELECTRIC SHOCK	Does not apply, since the entire switchgear needs to be evaluated.
10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS	Does not apply, since the entire switchgear needs to be evaluated.
10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS	Is the panel builder's responsibility.
10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS	Is the panel builder's responsibility.
10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH	Is the panel builder's responsibility.
10.9.3 IMPULSE WITHSTAND VOLTAGE	Is the panel builder's responsibility.
10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL	Is the panel builder's responsibility.
FITTED WITH:	Internal DC link PC connection Control unit 7-digital display assembly IGBT inverter Additional PCB protection
CLIMATIC PROOFING	< 95 average relative humidity (RH), no condensation, no corrosion
CONNECTION TO SMARTWIRE-DT	No
OPERATING MODE	Speed control with slip compensation U/f control Sensorless vector control (SLV) BLDC motors PM motors Synchronous reluctance motors
FRAME SIZE	FS1

ALTITUDE	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	-10 °C
MAINS VOLTAGE - MAX	480 V
OUTPUT VOLTAGE - MAX	500 V
RELATIVE SYMMETRIC NET FREQUENCY TOLERANCE	10 %
RELATIVE SYMMETRIC NET VOLTAGE TOLERANCE	10 %
AMBIENT OPERATING TEMPERATURE AT 150% OVERLOAD - MAX	40 °C
AMBIENT OPERATING TEMPERATURE AT 150% OVERLOAD - MIN	-10 °C
AMBIENT STORAGE TEMPERATURE - MAX	60 °C
AMBIENT STORAGE TEMPERATURE - MIN	-40 °C
APPARENT POWER AT 400 V	2.84 kVA
APPARENT POWER AT 480 V	3.41 kVA
APPLICATION IN INDUSTRIAL AREA PERMITTED	Yes
HEAT DISSIPATION DETAILS	Operation (with 150 % overload)
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)
STATIC HEAT	0 W

DISSIPATION, NON-CURRENT-DEPENDENT PVS	
VOLTAGE RATING - MAX	480 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 460/480 V, 60 HZ, 3-PHASE	2 HP
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	76.5 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	0 W
INPUT CURRENT ILN AT 150% OVERLOAD	5.6 A
PROTOCOL	EtherNet/IP CAN MODBUS Other bus systems
OVERLOAD CURRENT IL AT 150% OVERLOAD	6.15 A
RATED FREQUENCY - MAX	62 Hz
RATED FREQUENCY - MIN	48 Hz
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	4.1 A
RATED OPERATIONAL POWER AT 380/400 V, 50 HZ, 3-PHASE	1.5 kW
ASSIGNED MOTOR CURRENT IM AT 400 V, 50 HZ, 150% OVERLOAD	3.6 A
ASSIGNED MOTOR CURRENT IM AT 440 - 480 V, 60 HZ, 150% OVERLOAD	3.4 A
SYSTEM CONFIGURATION TYPE	AC supply systems with earthed center point

BRAKING TORQUE	Max. 30 % MN, Standard - Main circuit Max. 100 % of rated operational current Ie, variable, DC - Main circuit
CABLE LENGTH	75 m, unscreened, maximum permissible, Motor feeder 100 m, screened, with motor choke, maximum permissible, Motor feeder 50 m, screened, maximum permissible, Motor feeder 150 m, unscreened, with motor choke, maximum permissible, Motor feeder
OUTPUT VOLTAGE (U2)	400 V AC, 3-phase 480 V AC, 3-phase
NUMBER OF INPUTS (ANALOG)	2 2 (parameterizable, 0 - 10 V DC, 0/4 - 20 mA)
NUMBER OF INPUTS (DIGITAL)	4 4 (parameterizable, max. 30 V DC)
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 (parameterizable, 24 V DC) 1
STARTING CURRENT - MAX	175 %, IH, max. starting current (High Overload), For 2.5 seconds every 600 seconds, Power section
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 (Us, max. 10 mA)
EFFICIENCY	94.9 % (η)
SUPPLY FREQUENCY	50/60 Hz, fLN, Main circuit 50/60 Hz
LEAKAGE CURRENT AT GROUND IPE - MAX	13 mA

MAINS VOLTAGE - MIN	380 V
NOMINAL OUTPUT CURRENT I2N	4.1 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	1.5 kW
OUTPUT AT QUADRATIC LOAD AT RATED OUTPUT VOLTAGE - MAX	1.5 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)	4.1 A at 150% overload At a switching frequency of 16 kHz and an ambient air temperature of +40 °C
RATED OPERATIONAL VOLTAGE	480 V AC, 3-phase 400 V AC, 3-phase
SHORT-CIRCUIT PROTECTION RATING	6 A, UL (Class CC or J), Safety device (fuse or miniature circuit-breaker), Power Wiring

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
:	

Eaton House
30 Pembroke Road
Dublin 4,
Eaton.com

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