



□□□□□

Eaton EP-400067

Eaton DA1 Variable frequency drive, 500 V AC, 3-phase, 17 A, 11 kW, IP66/NEMA 4X, OLED display, UV resistant

□□□□

PRODUCT NAME	Eaton DA1 Variable frequency drive
CATALOG NUMBER	EP-400067
PRODUCT LENGTH/DEPTH	235 mm
PRODUCT HEIGHT	310 mm
PRODUCT WIDTH	210.5 mm
PRODUCT WEIGHT	6.6 kg

CERTIFICATIONS	CE Certified by UL for use in Canada CSA-C22.2 No. 14 CUL EAC IEC/EN 61800-3 IEC/EN61800-3 IEC/EN61800-5 RCM RoHS, ISO 9001 Safety: EN 61800-5-1: 2003
-----------------------	--

	Specification for general requirements: IEC/EN 61800-2 UkrSEPRO UL UL 508C UL Category Control No.: NMMS, NMMS7 UL File No.: E172143 UL report applies to both US and Canada
--	--

CATALOG NOTES	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 CATEGORY	Variable frequency drives
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 IMPACT	Does not apply, since the entire switchgear needs to be evaluated.

DECLARATIONS OF CONFORMITY	eaton-variable-frequency-drive-declaration-of-conformity-uk251134en.pdf
INSTALLATION VIDEOS	Video PowerXL DA1
□□□□	eaton-powerxl-variable-frequency-drives-dc1-da1-brochure-br040001en-en-us.pdf
□□□□	eaton-profinet-de1-dc1-da1-dg1-dm1-dx1-mn040062-en-en.pdf

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:	PC connection Control unit Breaking resistance Additional PCB protection Brake chopper IGBT inverter Internal DC link OLED display
CLIMATIC PROOFING	< 95 average relative humidity (RH), no condensation, no corrosion
CONNECTION TO SMARTWIRE-DT	No
OPERATING MODE	Optional: Vector control with feedback (CLV) Sensorless vector control (SLV) Speed control with slip compensation U/f control
FRAME SIZE	FS3
ALTITUDE	Max. 1000 m Above 1000 m with 1 % derating per 100 m Max. 4000 m
ENVIRONMENTAL CLASS	3C2, 3S2 (Air quality)

APPLICATION IN DOMESTIC AND COMMERCIAL AREA PERMITTED	Yes
MAINS SWITCH-ON FREQUENCY	Maximum of one time every 30 seconds
APPLICATION IN INDUSTRIAL AREA PERMITTED	Yes
AMBIENT OPERATING TEMPERATURE - MAX	40 °C
AMBIENT OPERATING TEMPERATURE - MIN	-10 °C
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 600 V	17.65 kVA
MOUNTING POSITION	Vertical
RELATIVE SYMMETRIC NET FREQUENCY TOLERANCE	10 %
RELATIVE SYMMETRIC NET VOLTAGE TOLERANCE	10 %
PROTECTION	Finger and back-of-hand proof, Protection against direct contact (BGV A3, VBG4)
HEAT DISSIPATION DETAILS	Operation (with 150 % overload)
RATED OPERATIONAL POWER AT 525 V, 50 HZ, 3-PHASE	11 kW
RESOLUTION	0.1 Hz (Frequency resolution, setpoint value)
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	0 W
SWITCH-ON THRESHOLD FOR THE BRAKING TRANSISTOR	975 VDC
VOLTAGE RATING - MAX	600 VAC

COMMUNICATION INTERFACE	CANopen®, built in EtherCAT, optional Ethernet IP, optional Modbus RTU, built in Modbus-TCP, optional OP-Bus (RS485), built in PROFIBUS, optional PROFINET, optional BACnet/IP, optional
CONVERTER TYPE	U converter
DEGREE OF PROTECTION	IP66 NEMA 4X
PROTOCOL	CAN EtherNet/IP MODBUS Other bus systems PROFIBUS PROFINET IO TCP/IP BACnet/IP
ASSIGNED MOTOR CURRENT IM AT 500 V, 50 HZ, 150% OVERLOAD	17 A
ASSIGNED MOTOR CURRENT IM AT 525 V, 50 HZ, 150% OVERLOAD	16.6 A
ASSIGNED MOTOR CURRENT IM AT 550 - 600 V, 60 HZ, 150% OVERLOAD	17 A
SYSTEM CONFIGURATION TYPE	AC supply systems with earthed center point
ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE	15 HP
BRAKING RESISTANCE	50 Ω
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	330 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	0 W
INPUT CURRENT ILN AT 150% OVERLOAD	20.9 A
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	100 m, screened, maximum permissible, Motor feeder 150 m, unscreened, maximum permissible, Motor feeder 200 m, screened, with motor choke, maximum permissible, Motor feeder 300 m, unscreened, with motor choke, maximum permissible, Motor feeder
FUNCTIONS	4-quadrant operation possible
OUTPUT VOLTAGE (U2)	500 V AC, 3-phase 600 V AC, 3-phase
NUMBER OF INPUTS (ANALOG)	2
NUMBER OF INPUTS (DIGITAL)	5
NUMBER OF OUTPUTS (DIGITAL)	2
STARTING CURRENT - MAX	200 %, IH, max. starting current (High Overload), for 4 seconds every 40 seconds, Power section
NUMBER OF PHASES (INPUT)	3
NUMBER OF RELAY OUTPUTS	2 (parameterizable, 1 N/O and 1 changeover contact, 6 A (250 V, AC-1) / 5 A (30 V, DC-1))
NUMBER OF PHASES (OUTPUT)	3
POWER CONSUMPTION	330 W
RATED CONTROL SUPPLY VOLTAGE	10 V DC (Us, max. 10 mA)
EFFICIENCY	97 % (η)
RATED CONTROL VOLTAGE (UC)	24 V DC (external, max. 100 mA)
SUPPLY FREQUENCY	50/60 Hz
LEAKAGE CURRENT AT GROUND IPE - MAX	17 mA
MAINS VOLTAGE - MAX	660 V
MAINS VOLTAGE - MIN	450 V
NOMINAL OUTPUT CURRENT I2N	17 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)	2
NUMBER OF HW-INTERFACES (SERIAL TTY)	0
NUMBER OF HW-INTERFACES (USB)	0
NUMBER OF INTERFACES (PROFINET)	0
NUMBER OF OUTPUTS (ANALOG)	2
OUTPUT AT LINEAR LOAD AT RATED OUTPUT VOLTAGE - MAX	11 kW
OUTPUT AT QUADRATIC LOAD AT RATED OUTPUT VOLTAGE - MAX	11 kW
OUTPUT FREQUENCY - MAX	500 Hz
OUTPUT FREQUENCY - MIN	0 Hz
OUTPUT VOLTAGE - MAX	600 V
OVERLOAD CURRENT IL AT 150% OVERLOAD	18 A
SUITABLE FOR	Branch circuits, (UL/CSA)
SWITCHING FREQUENCY	8 kHz, 4 - 24 kHz adjustable (audible), fPWM, Power section, Main circuit
RATED OPERATIONAL VOLTAGE	500 V AC, 3-phase 600 V AC, 3-phase
SHORT-CIRCUIT PROTECTION RATING	25 A, UL (Class CC or J), Safety device (fuse or miniature circuit-breaker), Power Wiring
RATED FREQUENCY - MAX	62 Hz
RATED FREQUENCY - MIN	48 Hz
RATED OPERATIONAL POWER AT 500 V, 50 HZ, 3-PHASE	7.5 kW
SAFETY FUNCTION/LEVEL	STO (Safe Torque Off, SIL3, PLe Cat 3)

**HEAT DISSIPATION AT
CURRENT/SPEED**

129 W at 100% current
and 0% speed
136 W at 100% current
and 50% speed
163 W at 100% current
and 90% speed
86 W at 50% current and
0% speed
88 W at 50% current and
50% speed
96 W at 50% current and
90% speed
88 W at 25% current and
50% speed
86 W at 25% current and
0% speed

□□□□:

□□□□:

□□□:

□□:



□□□□ Eaton House
30 Pembroke Road
Dublin 4, □□□
Eaton.com

□□□□□□□□□□□□□□□□□□□□□□□□

