Eaton 3-4917-305A

Eaton DG1 Variable frequency drive, 600 V AC, 3-phase, 325 A, 200 kW, IP00, DC link choke

PRODUCT NAME	Eaton DG1 variable frequency drive
CATALOG NUMBER	3-4917-305A
PRODUCT LENGTH/DEPTH	561 mm
PRODUCT HEIGHT	980 mm
PRODUCT WIDTH	506 mm
PRODUCT WEIGHT	205 kg
CERTIFICATIONS	UL CUL IEC/EN 61800-3 RoHS, ISO 9001 CE Safety requirements: IEC/EN 61800-5 UkrSEPRO C-Tick EAC Specification for general requirements: IEC/EN 61800-2 UL File No.: E134360

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PRODUCT CATEGORY	Variable frequency drives
FEATURES	Externally accessible fan Temperature-controlled fan Parameterization: Fieldbus Parameterization: Keypad Parameterization: Power Xpert inControl
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.

DECLARATIONS OF CONFORMITY	DA-DC-00004677
MCAD MODEL	dg1_17_2.dwg dg1_17_2.stp
	eaton-profinet-de1-dc1-da1-dg1-dm1-dx1-mn040062-en-en.pdf

10.2.6 MECHANICAL IMPACT	Does not apply, since the 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 Additional PCB protection Multi-line graphic display Radio interference suppression filter IGBT inverter DC link choke Control unit PC connection
POLLUTION DEGREE	2
CLIMATIC PROOFING	< 95 average relative humidity (RH), no condensation, no corrosion
CONNECTION TO SMARTWIRE-DT	In conjunction with DXG-NET-SWD SmartWire DT module Yes
OPERATING MODE	Torque regulation Speed control with slip compensation

	Sensorless vector control (SLV) U/f control
FRAME SIZE	FS7
AIR VOLUME CAPACITY	1400 m^3/h
ALTITUDE	Above 1000 m with 1 % derating per 100 m Max. 1000 m Max. 2000 m
ENVIRONMENTAL CLASS	3C2, 3S2 (Air quality)
APPLICATION IN DOMESTIC AND COMMERCIAL AREA PERMITTED	Yes
MAINS SWITCH-ON FREQUENCY	Maximum of one time every 60 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	70 °C
AMBIENT STORAGE TEMPERATURE - MIN	-40 °C
APPARENT POWER AT 600 V	400.1 kVA
APPARENT POWER AT 690 V	460.1 kVA
MOUNTING POSITION	Vertical
RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ)	65 kA
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)
RATED OPERATIONAL POWER AT 525 V, 50 HZ	200 kW
RATED OPERATIONAL POWER AT 525 V, 50 HZ, 110% OVERLOAD	250 kW
RATED OPERATIONAL POWER AT 600 V, 50 HZ	250 kW
RATED OPERATIONAL POWER AT 600 V, 50 HZ, 110% OVERLOAD	315 kW
RESOLUTION	0.01 Hz (Frequency resolution, setpoint value)
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	146 W
SWITCH-ON THRESHOLD FOR THE BRAKING TRANSISTOR	1050 VDC
VOLTAGE RATING - MAX	690 VAC
OVERVOLTAGE CATEGORY	III
COMMUNICATION INTERFACE	BACnet MS/TP, built in PROFIBUS, optional Modbus TCP, built in SmartWire-DT, optional Modbus RTU, built in Ethernet IP, built in DeviceNet, optional CANopen®, optional
CONVERTER TYPE	U converter
DEGREE OF PROTECTION	IP00 NEMA Other
PROTOCOL	BACnet CAN DeviceNet EtherNet/IP MODBUS Other bus systems PROFIBUS PROFINET IO TCP/IP
ASSIGNED MOTOR CURRENT IM AT 525 V, 50 HZ, 110% OVERLOAD	349 A
ASSIGNED MOTOR CURRENT IM AT 525 V, 50	279 A

HZ, 150% OVERLOAD	
ASSIGNED MOTOR CURRENT IM AT 600 V, 50 HZ, 110% OVERLOAD	383 A
ASSIGNED MOTOR CURRENT IM AT 600 V, 50 HZ, 150% OVERLOAD	304 A
ASSIGNED MOTOR CURRENT IM AT 690 V, 60 HZ, 110% OVERLOAD	358 A
ASSIGNED MOTOR CURRENT IM AT 690 V, 60 HZ, 150% OVERLOAD	292 A
SYSTEM CONFIGURATION TYPE	TN-S, TN-C, TN-C-S, TT, IT
ELECTROMAGNETIC COMPATIBILITY	1st and 2nd environments (according to EN 61800-3)
ASSIGNED MOTOR POWER AT 690 V, 60 HZ	350 HP
ASSIGNED MOTOR POWER AT 690 V, 60 HZ, 110% OVERLOAD	450 HP
BRAKING RESISTANCE	2.5 Ω
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	6781 W
INPUT CURRENT ILN AT 110% OVERLOAD	286 A
INPUT CURRENT ILN AT 150% OVERLOAD	327 A
MAINS CURRENT DISTORTION	28 %
CURRENT LIMITATION	0.1 - 2 x IH (CT), motor, main circuit
NUMBER OF SLOTS	2 (expansion)
BRAKING TORQUE	Max. 100 % of rated operational current Ie with external braking resistor - Main circuit Adjustable to 150 % (I/Ie), DC - Main circuit Max. 30 % MN, Standard - Main circuit Adjustable to 150 %, DC - Main circuit
CABLE LENGTH	C3 ≤ 10 m, Radio interference level, maximum motor cable length 50 m, screened, maximum

	permissible, Motor feeder
OUTPUT VOLTAGE (U2)	600 V AC, 3-phase 690 V AC, 3-phase
NUMBER OF INPUTS (ANALOG)	2
NUMBER OF INPUTS (DIGITAL)	8
RADIO INTERFERENCE CLASS	Optional external radio interference suppression filter for longer motor cable lengths and for use in different EMC environments C2, C3: depending on the motor cable length, the connected load, and ambient conditions. External radio interference suppression filters (optional) may be necessary. C1: with external filter, for conducted emissions only
NUMBER OF OUTPUTS (DIGITAL)	1
STARTING CURRENT - MAX	200 %, IH, max. starting current (High Overload), For 2 seconds every 20 seconds, Power section
NUMBER OF PHASES (INPUT)	3
NUMBER OF RELAY OUTPUTS	3 (parameterizable, 2 changeover contacts and 1 N/O, 6 A (240 V AC) / 6 A (24 V DC))
NUMBER OF PHASES (OUTPUT)	3
RATED CONTROL SUPPLY VOLTAGE	10 V DC (Us, max. 10 mA)
EFFICIENCY	98.3 % (η)
RATED CONTROL VOLTAGE (UC)	24 V DC (external, max. 250 mA options incl.)
SUPPLY FREQUENCY	50/60 Hz
MAINS VOLTAGE - MAX	600 V
MAINS VOLTAGE - MIN	525 V
NOMINAL OUTPUT CURRENT I2N	325 A
NUMBER OF HW-INTERFACES (INDUSTRIAL ETHERNET)	1

NUMBER OF HW-INTERFACES (OTHER)	1
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)	2
OUTPUT AT LINEAR LOAD AT RATED OUTPUT VOLTAGE - MAX	224 kW
OUTPUT AT QUADRATIC LOAD AT RATED OUTPUT VOLTAGE - MAX	298 kW
OUTPUT FREQUENCY - MAX	400 Hz
OUTPUT FREQUENCY - MIN	0 Hz
OUTPUT VOLTAGE - MAX	600 V
OVERLOAD CURRENT IL AT 110% OVERLOAD	423.5 A
OVERLOAD CURRENT IL AT 150% OVERLOAD	487.5 A
SHOCK RESISTANCE	UPS drop test (for weights inside the UPS frame) Mechanical, According to EN 61800-5-1, IEC/EN 60068-2-27 Storage and transportation: maximum 15 g, 11 ms (inside the packaging)
SUITABLE FOR	Branch circuits, (UL/CSA)
SWITCHING FREQUENCY	2 kHz, 1.5 - 6 kHz adjustable, fPWM, Power section, Main circuit
RATED OPERATIONAL VOLTAGE	690 V AC, 3-phase 600 V AC, 3-phase

SHORT-CIRCUIT PROTECTION RATING	600 A, UL (Class CC or J), Safety device (fuse or miniature circuit-breaker), Power Wiring
VIBRATION	Resistance: 15.8 – 150 Hz, 1 g, Maximum acceleration amplitude Resistance: 5 - 15.8 Hz, Amplitude 1 mm (peak) Resistance: 5 - 150 Hz, According to EN 61800-5-1, IEC/EN 60068-2-6
RATED FREQUENCY - MAX	66 Hz
RATED FREQUENCY - MIN	45 Hz
RATED OPERATIONAL CURRENT (IE) AT 110% OVERLOAD	385 A
RATED OPERATIONAL CURRENT (IE) AT 150% OVERLOAD	325 A
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	325 A
SAFETY FUNCTION/LEVEL	STO (Safe Torque Off, SIL1, PLc Cat 1)

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
:	

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