Specifications



Photo is representative





Eaton 180654

Eaton DE11 Variable speed starters, Rated operational voltage 230 V AC, 1-phase, Ie 7 A, 1.5 kW, 2 HP, Radio interference suppression filter DE11-127D0FN-N20N

General specifications	
PRODUCT NAME	Eaton DE11 Variable speed starter
CATALOG NUMBER	180654
MODEL CODE	DE11-127D0FN-N20N
EAN	4015081758197
PRODUCT LENGTH/DEPTH	169 mm
PRODUCT HEIGHT	230 mm
PRODUCT WIDTH	45 mm
PRODUCT WEIGHT	1.04 kg
CERTIFICATIONS	UL 508C UL report applies to both US and Canada RCM Safety requirements: IEC/EN 61800-5-1 UL IEC/EN61800-5 CSA-C22.2 No. 14 Specification for general requirements: IEC/EN 61800-2 UL File No.: E172143 IEC/EN61800-3 CE Certified by UL for use in Canada RoHS, ISO 9001 IEC/EN 61800-3 CUL UL Category Control No.: NMMS, NMMS7
CATALOG NOTES	Overload cycle for 60 s every 600 s
GLOBAL CATALOG	180654
PRODUCT TYPE	Variable speed starter

Powering Business Worldwide

Product specifications

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.
10.2.7 INSCRIPTIONS	Meets the product

Resources

APPLICATION NOTES	eaton-powerxl-dx-com-stick-3-ap040190-en-us.pdf eaton-powerxl-da1-dc1-db1-de1-rapidlink5-firmware-update-ap040214-en-us.pdf eaton-powerxl-de1-motor-vf-curves-ap040017-en-us.pdf eaton-powerxl-de1-accesslevel2-parameterlock-ap040020-en-us.pdf eaton-powerxl-de1-setpoint-setting-ap040042-en-us.pdf eaton-powerxl-de1-io-configuration-ap040036-en-us.pdf eaton-powerxl-de1-starting-stopping-operation-ap040029-en-us.pdf eaton-powerxl-da1-dc1-de1-conformal-coating-ap040182-en-us.pdf eaton-powerxl-de1-fire-mode-ap040181-en-us.pdf eaton-powerxl-vfd-dual-rating-ap040114-en-us.pdf eaton-powerxl-da1-dc1-de1-system-bus-ap040022-en-us.pdf eaton-powerxl-da1-dc1-de1-internal-motor-protection-ap040016-en-us.pdf
BROCHURES	eaton-powerxl-variable-frequency-drives-hvac-brochure-br040012en-en-us.pdf eaton-powerxl-de1-variable-speed-starter-brochure-br040003en-en-us.pdf

	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:	Radio interference suppression filter PC connection
CLIMATIC PROOFING	< 95 average relative humidity (RH), no condensation, no corrosion
CONNECTION TO SMARTWIRE-DT	In conjunction with DX-NET-SWD3 SmartWire DT module Yes
OPERATING MODE	Speed control with slip compensation U/f control
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	2000 V
FRAME SIZE	FS1
ALTITUDE	Max. 2000 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

CATALOGS	eaton-drives-soft-starter-catalog-ca04020001zen-us.pdf
DECLARATIONS OF CONFORMITY	eaton-variable-speed-starter-declaration-of-conformity-eu250596en.pdf eaton-variable-speed-starter-declaration-of-conformity-uk251079en.pdf
DRAWINGS	eaton-frequency-inverter-dimensions-009.eps eaton-frequency-inverter-3d-drawing-017.eps
ECAD MODEL	DA-CE-ETN.DE11-127D0FN-N20N
INSTALLATION INSTRUCTIONS	IL040005ZU
INSTALLATION VIDEOS	PowerXL DE1 variable speed starter
MANUALS AND USER GUIDES	eaton-de1-variable-speed-starter-manual-mn040011en-us.pdf eaton-canopen-communication-manual-for-variable-frequency-drives-variable-speed-starters-da1-db1-dc1-de11-mn040019-en-us.pdf MN040018_EN
MCAD MODEL	DA-CS-de1_fs1_ip20

AMBIENT OPERATING TEMPERATURE - MAX	60 °C
AMBIENT OPERATING TEMPERATURE - MIN	-10 °C
MAINS VOLTAGE - MAX	240 V
OUTPUT VOLTAGE - MAX	250 V
RATED OPERATIONAL POWER AT 220/230 V, 50 HZ, 3-PHASE	1.5 kW
RELATIVE SYMMETRIC NET FREQUENCY TOLERANCE	10 %
RELATIVE SYMMETRIC NET VOLTAGE TOLERANCE	10 %
AMBIENT OPERATING TEMPERATURE AT 150% OVERLOAD - MAX	60 °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 230 V	2.79 kVA
APPARENT POWER AT 240 V	2.91 kVA
APPLICATION IN INDUSTRIAL AREA PERMITTED	Yes
HEAT DISSIPATION DETAILS	Operation (with 150 % overload)
PRODUCT CATEGORY	Variable speed starter
PROTECTION	Finger and back-of-hand proof, Protection against direct contact (BGV A3, VBG4)
RESOLUTION	0.03 Hz (Frequency resolution, setpoint value)
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	0 W
VOLTAGE RATING - MAX	240 V
MOUNTING POSITION	Vertical
OVERVOLTAGE CATEGORY	III
COMMUNICATION INTERFACE	Modbus RTU, built in OP-Bus (RS485), built in

	CANopen®, built in
CONVERTER TYPE	U converter
DEGREE OF PROTECTION	IP20 NEMA Other
ASSIGNED MOTOR POWER AT 220/230 V, 60 HZ, 3-PHASE	2 HP
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	59 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	0 W
INPUT CURRENT ILN AT 150% OVERLOAD	17.4 A
MAINS CURRENT DISTORTION	120 %
ASSIGNED MOTOR CURRENT IM AT 220 - 240 V, 60 HZ, 150% OVERLOAD	6.8 A
ASSIGNED MOTOR CURRENT IM AT 230 V, 50 HZ, 150% OVERLOAD	6.3 A
PROTOCOL	MODBUS EtherNet/IP Other bus systems CAN
OVERLOAD CURRENT IL AT 150% OVERLOAD	10.5 A
RATED FREQUENCY - MAX	66 Hz
RATED FREQUENCY - MIN	45 Hz
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	7 A
BRAKING CURRENT	≤ 0.6 A (max. 6 A for 120 ms), Actuator for external motor brake
ELECTROMAGNETIC COMPATIBILITY	1st and 2nd environments (according to EN 61800-3)
BRAKING TORQUE	Max. 30 % MN, Standard - Main circuit Adjustable to 100 %, DC - Main circuit
CABLE LENGTH	C3 ≤ 25 m, Radio interference level, maximum motor cable length C2 ≤ 10 m, Radio

	interference level, maximum motor cable length C1 ≤ 5 m, Radio interference level, maximum motor cable length
OUTPUT VOLTAGE (U2)	230 V AC, 3-phase 240 V AC, 3-phase
DELAY TIME	< 10 ms, On-delay < 10 ms, Off-delay
NUMBER OF INPUTS (ANALOG)	1 (parameterizable, 0 - 10 V DC, 0/4 - 20 mA)
NUMBER OF INPUTS (DIGITAL)	4 (parameterizable, 10 - 30 V DC)
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. C1: for conducted emissions only Optional external radio interference suppression filter for longer motor cable lengths and for use in different EMC environments
NUMBER OF OUTPUTS (DIGITAL)	0
STARTING CURRENT - MAX	200 %, IH, max. starting current (High Overload), For 1.875 seconds every 600 seconds, Power section
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)	3
POWER CONSUMPTION	59 W
RATED CONTROL SUPPLY VOLTAGE	10 V DC (Us, max. 0.2 mA)
SUPPLY FREQUENCY	50/60 Hz
LEAKAGE CURRENT AT GROUND IPE - MAX	< 3.5 mA (AC-operated) < 10 mA (DC-operated)
MAINS VOLTAGE - MIN	200 V
NOMINAL OUTPUT	7 A

CURRENT I2N	
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)	0
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	300 Hz
OUTPUT FREQUENCY - MIN	0 Hz
SHORT-CIRCUIT PROTECTION (EXTERNAL OUTPUT CIRCUITS)	Type 1 coordination via the power bus' feeder unit, Main circuit
SHOCK RESISTANCE	15 g, Mechanical, According to IEC/EN 60068-2-27, 11 ms
SUITABLE FOR	Branch circuits, (UL/CSA)
SWITCHING FREQUENCY	16 kHz, 4 - 32 kHz adjustable (audible), fPWM, Power section, Main circuit
RATED OPERATIONAL CURRENT (IE)	7 A at 150% overload (at an operating frequency of 16 kHz and an ambient air temperature of +50 °C)
RATED OPERATIONAL VOLTAGE	230 V AC, 1-phase 240 V AC, 1-phase
SHORT-CIRCUIT PROTECTION RATING	20 A, UL (Class CC or J), Safety device (fuse or

	miniature circuit-breaker), Power Wiring
VIBRATION	Resistance: According to EN 61800-5-1
HEAT DISSIPATION AT CURRENT/SPEED	37 W at 25% current and 0% speed 37 W at 25% current and 50% speed 44.6 W at 50% current and 0% speed 44.9 W at 50% current and 50% speed 51.6 W at 50% current and 90% speed 62.4 W at 100% current and 0% speed 68.9 W at 100% current and 50% speed 78.4 W at 100% current and 90% speed

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
DATE:	

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