

Variable frequency drive, 115 V AC, single-phase, 7 A, 0.37 kW, IP20/
NEMA 0, FS1



Part no. DC1-S17D0NN-A20CE1

186073

**EL Number
(Norway)**

4137036

Product name	Eaton DC1 Variable frequency drive
Part no.	DC1-S17D0NN-A20CE1
EAN	4015081815746
Product Length/Depth	124 millimetre
Product height	184 millimetre
Product width	81 millimetre
Product weight	1.2 kilogram
Certifications	CE UL Category Control No.: NMMS, NMMS7 UL File No.: E172143 Certified by UL for use in Canada Specification for general requirements: IEC/EN 61800-2 IEC/EN61800-5 UL 508C UL IEC/EN 61800-3 EAC UL report applies to both US and Canada RoHS, ISO 9001 RCM Safety requirements: IEC/EN 61800-5-1 UkrSEPRO CSA-C22.2 No. 14 CUL IEC/EN61800-3
Product Tradename	DC1
Product Type	Variable frequency drive
Product Sub Type	None
Catalog Notes	Environmental class: 3C2, 3S2
Features	Parameterization: drivesConnect Parameterization: drivesConnect mobile (App) Parameterization: Fieldbus Parameterization: Keypad
Fitted with:	IGBT inverter 7-digital display assembly PC connection Control unit Internal DC link Additional PCB protection
Cable length	100 m, screened, with motor choke, maximum permissible, Motor feeder 150 m, unscreened, with motor choke, maximum permissible, Motor feeder 50 m, screened, maximum permissible, Motor feeder 75 m, unscreened, maximum permissible, Motor feeder
Communication interface	CANopen®, built in OP-Bus (RS485), built in Modbus RTU, built in SmartWire-DT, optional
Connection to SmartWire-DT	Yes In conjunction with DX-NET-SWD3 SmartWire DT module
Degree of protection	IP20 NEMA 0
Frame size	FS1
Mounting position	Vertical
Product category	Variable frequency drives
Protection	Finger and back-of-hand proof, Protection against direct contact (BGV A3, VBG4)
Protocol	Other bus systems EtherNet/IP CAN MODBUS

Radio interference class		Optional external radio interference suppression filter for longer motor cable lengths and for use in different EMC environments
Suitable for		Branch circuits, (UL/CSA)
Altitude		Above 1000 m with 1 % derating per 100 m Max. 4000 m
Ambient operating temperature - min		-10 °C
Ambient operating temperature - max		50 °C
Ambient operating temperature at 150% overload - min		-10 °C
Ambient operating temperature at 150% overload - max		50 °C
Ambient storage temperature - min		-40 °C
Ambient storage temperature - max		60 °C
Climatic proofing		< 95 average relative humidity (RH), no condensation, no corrosion
Efficiency		95 % (η)
Input current ILN at 150% overload		12.9 A
Leakage current at ground IPE - max		2.49 mA
Mains switch-on frequency		Maximum of one time every 30 seconds
Mains voltage - min		110 V
Mains voltage - max		115 V
Operating mode		U/f control Speed control with slip compensation BLDC motors PM motors Sensorless vector control (SLV) Synchronous reluctance motors
Output frequency - min		0 Hz
Output frequency - max		500 Hz
Output voltage (U2)		115 V AC, single-phase
Overload current IL at 150% overload		10.5 A
Rated control supply voltage		10 V DC (Us, max. 10 mA)
Rated frequency - min		48 Hz
Rated frequency - max		62 Hz
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 power at 115 V, 50 Hz, 1-phase		0.37 kW
Rated operational voltage		115 V AC, 1-phase
Resolution		0.1 Hz (Frequency resolution, setpoint value)
Short-circuit protection rating		15 A, UL (Class CC or J), Safety device (fuse or miniature circuit-breaker), Power Wiring
Starting current - max		175 %, IH, max. starting current (High Overload), For 2.5 seconds every 600 seconds, Power section
Supply frequency		50/60 Hz
Switching frequency		8 kHz, 4 - 32 kHz adjustable (audible), fPWM, Power section, Main circuit
System configuration type		AC supply systems with earthed center point
Voltage rating - max		120 V
Assigned motor current IM at 110/120 V, 60 Hz, 150% overload		5.8 A
Assigned motor current IM at 115 V, 50 Hz, 150% overload		7 A
Assigned motor power at 115/120 V, 60 Hz, 1-phase		0.5 HP
Braking torque		Max. 100 % of rated operational current Ie, variable, DC - Main circuit
Number of inputs (analog)		2
Number of inputs (digital)		4
Number of outputs (analog)		1
Number of outputs (digital)		1
Number of relay outputs		1 (parameterizable, N/O, 6 A (250 V, AC-1) / 5 A (30 V, DC-1))

Equipment heat dissipation, current-dependent Pvid		18.5 W
Heat dissipation capacity Pdis		0 W
Heat dissipation per pole, current-dependent Pvid		0 W
Rated operational current for specified heat dissipation (In)		7 A
Static heat dissipation, non-current-dependent Pvs		0 W
Heat dissipation details		Operation (with 150 % overload)
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 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.
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.

Technical data ETIM 8.0

Low-voltage industrial components (EG000017) / Frequency converter < 1 kV (EC001857)		
Electric engineering, automation, process control engineering / Electrical drive / Static frequency converter / Static frequency converter = < 1 kV (ecl@ss10.0.1-27-02-31-01 [AKE177014])		
Mains voltage	V	110 - 115
Mains frequency		50/60 Hz
Number of phases input		1
Number of phases output		1
Max. output frequency	Hz	500
Max. output voltage	V	125
Nominal output current I2N	A	7
Max. output at quadratic load at rated output voltage	kW	0.37
Max. output at linear load at rated output voltage	kW	0.37
Relative symmetric net frequency tolerance	%	10
Relative symmetric net voltage tolerance	%	10
Number of analogue outputs		1
Number of analogue inputs		2
Number of digital outputs		1
Number of digital inputs		4
With control element		Yes
Application in industrial area permitted		Yes
Application in domestic- and commercial area permitted		Yes
Supporting protocol for TCP/IP		No
Supporting protocol for PROFIBUS		No
Supporting protocol for CAN		Yes
Supporting protocol for INTERBUS		No