DATASHEET - DA1-124D3FB-A20C

Variable frequency drive, 230 V AC, 1-phase, 4.3 A, 0.75 kW, IP20/NEMA 0, Radio interference suppression filter, 7-digital display assembly



Part no.	DA1-124D3FB-A20C
	169078
EL Number	4137153
(Norway)	

(Norway)	
General specifications	
Product name	Eaton DA1 Variable frequency drive
Part no.	DA1-124D3FB-A20C
EAN	4015081655656
Product Length/Depth	186 millimetre
Product height	231 millimetre
Product width	107 millimetre
Product weight	1.8 kilogram
Certifications	IEC/EN61800-3 IEC/EN 61800-3 UL File No.: E172143 UkrSEPRO UL EAC Safety: EN 61800-5-1: 2003 UL Category Control No.: NMMS, NMMS7 IEC/EN61800-5 UL report applies to both US and Canada CUL UL 508C Specification for general requirements: IEC/EN 61800-2 RoHS, ISO 9001 Certified by UL for use in Canada CSA-C22.2 No. 14 RCM CE
Product Tradename	DA1
Product Type	Variable frequency drive
Product Sub Type	None
Catalog Notes General information	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.
Cable length	150 m, unscreened, maximum permissible, Motor feeder C1 ≤ 1 m, Radio interference level, maximum motor cable length C2 ≤ 5 m, Radio interference level, maximum motor cable length C3 ≤ 25 m, Radio interference level, maximum motor cable length 100 m, screened, maximum permissible, Motor feeder 200 m, screened, with motor choke, maximum permissible, Motor feeder 300 m, unscreened, with motor choke, maximum permissible, Motor feeder
Communication interface	CANopen®, built in Ethernet IP, optional DeviceNet, optional PROFIBUS, optional OP-Bus (RS485), built in Modbus-TCP, optional SmartWire-DT, optional EtherCAT, optional Modbus RTU, built in PROFINET, optional
Connection to SmartWire-DT	Yes In conjunction with DX-NET-SWD1 SmartWire DT module
Degree of protection	IP20 NEMA Other
Electromagnetic compatibility	1st and 2nd environments (according to EN 61800-3)
Fitted with:	PC connection Breaking resistance Control unit Brake chopper 7-digital display assembly Radio interference suppression filter Internal DC link Additional PCB protection IGBT inverter
Frame size	FS2

Functions	4-quadrant operation possible
Mounting position	Vertical
Product Category	Variable frequency drives
Protection	Finger and back-of-hand proof, Protection against direct contact (BGV A3, VBG4)
Protocol	PROFIBUS PROFINET IO EtherNet/IP CAN Other bus systems MODBUS DeviceNet TCP/IP
Safety function/level	STO (Safe Torque Off, SIL2, PLc Cat 2)
Suitable for	Branch circuits, (UL/CSA)
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
Climatic environmental conditions	
Ambient operating temperature - min	-10 °C
Altitude	Max. 1000 m Max. 4000 m Above 1000 m with 1 % derating per 100 m
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	00 °C
Climatic proofing	< 95 average relative humidity (RH), no condensation, no corrosion
Main circuit	
Efficiency	93.9 % (ŋ)
Heat dissipation at current/speed	34 W at 25% current and 0% speed 35 W at 25% current and 50% speed 38 W at 50% current and 0% speed 38 W at 50% current and 50% speed 42 W at 100% current and 0% speed 53 W at 100% current and 50% speed 64 W at 100% current and 90% speed
Input current ILN at 150% overload	8.6 A
Leakage current at ground IPE - max	2.49 mA
Mains switch-on frequency	Maximum of one time every 30 seconds
Mains voltage - min	200 V
Mains voltage - max	240 V
Operating mode	U/f control Sensorless vector control (SLV) Speed control with slip compensation Optional: Vector control with feedback (CLV)
Output frequency - min	0 Hz
Output frequency - max	500 Hz
Output voltage (U2)	240 V AC, 3-phase 230 V AC, 3-phase
Overload current IL at 150% overload	6.45 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) at 150% overload	4.3 A
Rated operational power at 220/230 V, 50 Hz, 1-phase Rated operational voltage	0.75 kW 230 V AC, 1-phase 240 V AC, 1-phase

observed.	Starting current - max	200 %, IH, max. starting current (High Overload), for 4 seconds every 40 seconds, Power section
System canfiguration type AC stoply systems with anthe denter point Water rating AC stoply systems with anthe denter point Assigned matrix current Mar 220 - 240 X (6) H, HSF severiced 42.4 Assigned matrix current Mar 220 - 240 X (6) H, HSF severiced 149 Assigned matrix current Mar 220 - 240 X (6) H, HSF severiced 149 Assigned matrix current Mar 220 - 240 X (6) H, HSF severiced 149 Assigned matrix current Mar 220 - 240 X (6) H, HSF severiced 149 Assigned matrix current Mar 220 - 240 X (6) H, HSF severiced 149 Assigned matrix current Mar 220 - 240 X (6) H, HSF severiced 149 Assigned matrix current Mar 220 - 240 X (6) H, HSF severiced 120 X (6) Assigned matrix current Mar 220 - 240 X (6) H, HSF severiced 120 X (6) Assigned matrix current Mar 220 - 240 X (6) H, HSF severiced 100 0 Barbit of current 200 X (6) H, HSF severiced 20 X (6) Barbit of current Severice Mark (6) H, HSF severiced 20 X (6) Barbit of current Severice Mark (6) H, HSF severiced Mark (6) H,	Supply frequency	50/60 Hz
Webser stingNote of the second se	Switching frequency	16 kHz, 4 - 32 kHz adjustable (audible), fPWM, Power section, Main circuit
Motor rating Model	System configuration type	AC supply systems with earthed center point
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Apparent power at 280 V Apparent power	Assigned motor current IM at 230 V, 50 Hz, 150% overload	3.2 A
Apparent power at 230 V L71 kVA Apparent power at 240 V L78 kVA Braking intration L78 kVA Switch-on threshold for the braking rankiter BW VD C Switch-on threshold for the braking rankiter BW VD C Number of inputs (inatop) 2 Number of inputs (inatop)	Assigned motor power at 230/240 V, 60 Hz, 1-phase	1 HP
Payment power at 260 V Pailing resistance Pai	Apparent power	
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	10.12 Electromagnetic compatibility	

The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

Technical data ETIM 9.0

Low-voltage industrial components (EG000017) / Frequency converter =< 1 kV (EC001857)

Electric engineering, automation, process control engineering / Electrical drive / Stati		
Mains voltage	V	200 - 240
Mains frequency		50/60 Hz
Number of phases input		1
Number of phases output		3
Max. output frequency	Hz	500
Max. output voltage	V	250
Nominal output current I2N	А	4.3
Max. output at quadratic load at rated output voltage	kW	0.75
Max. output at linear load at rated output voltage	kW	0.75
Power consumption	W	45.75
Relative symmetric net frequency tolerance	%	10
Relative symmetric net voltage tolerance	%	10
Number of analogue outputs		2
Number of analogue inputs		2
Number of digital outputs		2
Number of digital inputs		5
With control element		Yes
Application in industrial area permitted		Yes
Application in domestic- and commercial area permitted		Yes
Supporting protocol for TCP/IP		Yes
Supporting protocol for PROFIBUS		Yes
Supporting protocol for CAN		Yes
Supporting protocol for INTERBUS		No
Supporting protocol for ASI		No
Supporting protocol for KNX		No
Supporting protocol for Modbus		Yes
Supporting protocol for Data-Highway		No
Supporting protocol for DeviceNet		Yes
Supporting protocol for SUCONET		No
Supporting protocol for LON		No
Supporting protocol for PROFINET IO		Yes
Supporting protocol for PROFINET CBA		No
Supporting protocol for SERCOS		No
Supporting protocol for Foundation Fieldbus		No
Supporting protocol for EtherNet/IP		Yes
Supporting protocol for AS-Interface Safety at Work		No
Supporting protocol for DeviceNet Safety		No
Supporting protocol for INTERBUS-Safety		No
Supporting protocol for PROFIsafe		No
Supporting protocol for SafetyBUS p		No
Supporting protocol for BACnet		No
Supporting protocol for other bus systems		Yes
Number of HW-interfaces industrial Ethernet		0
Number of interfaces PROFINET		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 HW-interfaces parallel		0
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Number of HW-interfaces other		0
With optical interface		No
With PC connection		Yes
Integrated breaking resistance		Yes
4-quadrant operation possible		Yes
Type of converter		U converter
Degree of protection (IP)		IP20
Degree of protection (NEMA)		Other
Height	mm	231
Width	mm	107
Depth	mm	186