Variable speed starter, Rated operational voltage 230 V AC, 1-phase, le 2.7 A, 0.55 kW, 0.5 HP, Radio interference suppression filter



Powering Business Worldwide

Part no. DE1-122D7FN-N20N

174329

EL Number

4110093

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(Norway)	
General specifications	
Product name	Eaton DE1 Variable speed starter
Part no.	DE1-122D7FN-N20N
EAN	4015081707911
Product Length/Depth	169 millimetre
Product height	230 millimetre
Product width	45 millimetre
Product weight	1.06 kilogram
Certifications	UL File No.: E172143 IEC/EN 61800-3 UL ROHS, ISO 9001 RCM Specification for general requirements: IEC/EN 61800-2 UL 508C Certified by UL for use in Canada CE CSA-C22.2 No. 14 UL Category Control No.: NMMS, NMMS7 UL report applies to both US and Canada Safety requirements: IEC/EN 61800-5-1 IEC/EN61800-5 CUL IEC/EN61800-3
Product Tradename	DE1
Product Type	Variable speed starter
Product Sub Type	None
Catalog Notes	Overload cycle for 60 s every 600 s
Features & Functions	
Features	Parameterization: drivesConnect Parameterization: drivesConnect mobile (App) Parameterization: Fieldbus Parameterization: Keypad
Fitted with:	PC connection Radio interference suppression filter
General information	
Cable length	C1 \leq 5 m, Radio interference level, maximum motor cable length C3 \leq 25 m, Radio interference level, maximum motor cable length C2 \leq 10 m, Radio interference level, maximum motor cable length
Communication interface	OP-Bus (RS485), built in Modbus RTU, built in
Connection to SmartWire-DT	In conjunction with DX-NET-SWD3 SmartWire DT module Yes
Degree of protection	IP20 NEMA Other
Electromagnetic compatibility	1st and 2nd environments (according to EN 61800-3)
Frame size	FS1
Product category	Variable speed starter
Protection	Finger and back-of-hand proof, Protection against direct contact (BGV A3, VBG4)
Protocol	MODBUS EtherNet/IP Other bus systems
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
Shock resistance	15 g, Mechanical, According to IEC/EN 60068-2-27, 11 ms
Suitable for	Branch circuits, (UL/CSA)

Vibration	Resistance: According to EN 61800-5-1
Climatic environmental conditions	
Altitude	Max. 2000 m
Ambient acception to manage up a min	Above 1000 m with 1 % derating per 100 m
Ambient operating temperature - min	-10 °C
Ambient operating temperature - max	60 °C
Ambient operating temperature at 150% overload - min	-10 °C
Ambient operating temperature at 150% overload - max	60 °C
Ambient storage temperature - min	-40 °C
Ambient storage temperature - max	70 °C
Climatic proofing	< 95 average relative humidity (RH), no condensation, no corrosion
Main circuit	
Heat dissipation at current/speed	10 W at 25% current and 0% speed 10 W at 25% current and 50% speed 10.9 W at 50% current and 0% speed 12.3 W at 50% current and 50% speed 15.1 W at 50% current and 90% speed 19.8 W at 100% current and 50% speed 25 W at 100% current and 90% speed 25.3 W at 100% current and 90% speed
Input current ILN at 150% overload	7.3 A
Leakage current at ground IPE - max	< 10 mA (DC-operated) < 3.5 mA (AC-operated)
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 Speed control with slip compensation
Output frequency - min	0 Hz
Output frequency - max	300 Hz
Output voltage (U2)	230 V AC, 3-phase 240 V AC, 3-phase
Overload current IL at 150% overload	4.05 A
Rated control supply voltage	10 V DC (Us, max. 0.2 mA)
Rated frequency - min	45 Hz
Rated frequency - max	66 Hz
Rated operational current (le)	2.7 A at 150% overload (at an operating frequency of 16 kHz and an ambient air temperature of +50 °C)
Rated operational power at 220/230 V, 50 Hz, 1-phase	0.55 kW
Rated operational voltage	230 V AC, 1-phase 240 V AC, 1-phase
Resolution	0.025 Hz (Frequency resolution, setpoint value)
Short-circuit protection rating	10 A, UL (Class CC or J), Safety device (fuse or miniature circuit-breaker), Powe Wiring
Starting current - max	200 %, IH, max. starting current (High Overload), For 1.875 seconds every 600 seconds, Power section
Supply frequency	50/60 Hz
Switching frequency	16 kHz, 4 - 32 kHz adjustable (audible), fPWM, Power section, Main circuit
Voltage rating - max	240 V
Motor rating	
Assigned motor current IM at 220 - 240 V, 60 Hz, 150% overload	2.2 A
Assigned motor current IM at 230 V, 50 Hz, 150% overload	2.7 A
Assigned motor current IM at 400 V, 50 Hz, 150% overload	2.7 A
Assigned motor current IM at 440 - 480 V, 60 Hz, 150% overload	2.2 A
Assigned motor power at 230/240 V, 60 Hz, 1-phase	0.5 HP
Assigned motor power at 460/480 V, 60 Hz, 3-phase	0.5 HP
Apparent power	
Apparent power at 230 V	1.08 kV·A
Apparent power at 240 V	1.12 kV·A
Braking function	
Braking torque	Max. 30 % MN, Standard - Main circuit

Number of inputs (analog) 1 (parameterizable, 0 - 10 V DC, 0/4 - 20 mA) 4 (parameterizable, 10 - 30 V DC) Number of outputs (analog) 0 Number of outputs (digital) 0 Number of relay outputs 1 (parameterizable, N/O, 6 A (250 V, AC-1) / 5 A (30 V, DC-1))		Adjustable to 100 %, DC - Main circuit
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10.6 Incorporation of switching devices and components 10.7 Internal electrical circuits and connections 10.8 Connections for external conductors 10.9.2 Power-frequency electric strength 10.9.3 Impulse withstand voltage 10.9.4 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function Does not apply, since the entire switchgear needs to be evaluated. Is the panel builder's responsibility. Is the panel builder's responsibility. Is the panel builder's responsibility. The panel builder is responsibility. Is the panel builder is responsibility. Is the panel builder is responsibility. Is the panel builder is responsibility. The specifications for the switchgear must be observed. In the panel builder's responsibility. The specifications for the switchgear must be observed. In the panel builder's responsibility. The specifications for the switchgear must be observed. In the device meets the requirements, provided the information in the instruction	10.4 Clearances and creepage distances	Meets the product standard's requirements.
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 responsibile 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	10.5 Protection against electric shock	Does not apply, since the entire switchgear needs to be evaluated.
10.8 Connections for external conductors 10.9.2 Power-frequency electric strength 10.9.3 Impulse withstand voltage 10.9.4 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function Is the panel builder's responsibility. Is the panel builder's responsibility. The panel builder is responsibility is responsibility. Is the panel builder is responsibility. The panel builder is responsibility. The specifications for the switchgear must be observed. Is the panel builder's responsibility. The specifications for the switchgear must be observed. The device meets the requirements, provided the information in the instruction	10.6 Incorporation of switching devices and components	Does not apply, since the entire switchgear needs to be evaluated.
10.9.2 Power-frequency electric strength 10.9.3 Impulse withstand voltage 10.9.4 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function Is the panel builder's responsibility. Is the panel builder is responsibility. The panel builder is responsibility. The specifications for the switchgear must be observed. 10.11 Short-circuit rating Is the panel builder's responsibility. The specifications for the switchgear must be observed. 10.12 Electromagnetic compatibility The device meets the requirements, provided the information in the instruction	10.7 Internal electrical circuits and connections	Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage 10.9.4 Testing of enclosures made of insulating material 10.10 Temperature rise 10.11 Short-circuit rating 10.12 Electromagnetic compatibility 10.13 Mechanical function Is the panel builder's responsibility. The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices. Is the panel builder's responsibility. The specifications for the switchgear must be observed. Is the panel builder's responsibility. The specifications for the switchgear must be observed. The device meets the requirements, provided the information in the instruction	10.8 Connections for external conductors	Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material 10.10 Temperature rise The panel builder is responsibility. The panel builder is responsibility in 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	10.9.2 Power-frequency electric strength	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	10.9.3 Impulse withstand voltage	Is the panel builder's responsibility.
provide heat dissipation data for the devices. 10.11 Short-circuit rating 1s the panel builder's responsibility. The specifications for the switchgear must be observed. 10.12 Electromagnetic compatibility 1s 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	·	
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observed. 10.13 Mechanical function The device meets the requirements, provided the information in the instruction	10.11 Short-circuit rating	, , , ,
	10.12 Electromagnetic compatibility	
	10.13 Mechanical function	· · · · · · · · · · · · · · · · · · ·

Technical data ETIM 9.0

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

Electric engineering, automation, process control engineering / Electrical drive / Static frequency converter / Static frequency / Servo converter = < 1 kV (ecl@ss13-27-02-31-01 [AKE177019])

Mains voltage

V 200 - 240

Mains voltage	V	200 - 240
Mains frequency		50/60 Hz
Number of phases input		1
Number of phases output		3
Max. output frequency	Hz	300
Max. output voltage	V	250
Nominal output current I2N	Α	2.7
Max. output at quadratic load at rated output voltage	kW	0.55
Max. output at linear load at rated output voltage	kW	0.55
Power consumption	W	27
Relative symmetric net frequency tolerance	%	10
Relative symmetric net voltage tolerance	%	10
Number of analogue outputs		0
Number of analogue inputs		1
Number of digital outputs		0

With control olement No Application in industrial area permitted Yea Application in industrial area permitted Yea Supporting protocol for TCPIP No Supporting protocol for TCPIPS No Supporting protocol for TCNIP No Supporting protocol for TCNIP No Supporting protocol for TCNIP No Supporting protocol for INTERBUS No Supporting protocol for INTERBUS No Supporting protocol for Modulus Yea Supporting protocol for SUCONET No Supporting protocol for SUCONET No Supporting protocol for FRIPMET ID No <			
Application in infustrial area permitted Yes Application in infustrial area permitted Yes Supporting probes for TOPP No Supporting probes for TOPP No Supporting probes for EAN No Supporting probes for INTERIUS No Supporting pr	Number of digital inputs		4
Application in damastic- and commercial area permitted Supporting praces for TCP/IP	With control element		No
Supporting protocol for PRDFIBUS No Supporting protocol for CAN No Supporting protocol for INTERBUS No Supporting protocol for ASI No Supporting protocol for KNCX No Supporting protocol for CNE No Supporting protocol for Data-Highway No Supporting protocol for CDN No Supporting protocol for SUDNET No Supporting protocol for SUDNET No Supporting protocol for SERIOS No Supporting protocol for SERIOS <td>Application in industrial area permitted</td> <td></td> <td>Yes</td>	Application in industrial area permitted		Yes
Supporting protocol for PROFIBUS No Supporting protocol for CAN No Supporting protocol for KMX No Supporting protocol for Data-Highway No Supporting protocol for PEDRHETE DA No Supporting protocol for PEDRHETE DA No Supporting protocol for FERDES No Supporting protocol for FerDRHETE DA No Supporting protocol for Foundation Fieldous No Supporting protocol for Foundation Fieldous No Supporting protocol for Foundation Fieldous No Supporting protocol for Pelvelated Salety No Supporting protocol for Pelvelated Salety No Supporting protocol for PROFESEI No Supporting protocol for other bus systems No Su	Application in domestic- and commercial area permitted		Yes
Supporting protect for CAN No Supporting protect for INTERBUS No Supporting protect for KNX No Supporting protect for KNXX No Supporting protect for Modbus No Supporting protect for SUCONET No Supporting protect for SUCONET No Supporting protect for FDROFINET CDA No Supporting protect for PDROFINET CDA No Supporting protect for FDROFINET CDA No Supporting protect for PDROFINET CDA No Supporting protect for PDROFIN	Supporting protocol for TCP/IP		No
Supporting protocol for INTERBUS No. Supporting protocol for ASI No. Supporting protocol for Medius Yes Supporting protocol for Dratt-Highway No. Supporting protocol for Dratt-Highway No. Supporting protocol for Dratt-Highway No. Supporting protocol for SUCINET No. Supporting protocol for SUCINET No. Supporting protocol for FURTH TUD No. Supporting protocol for SERCOS No. Supporting protocol for FURTH TUD No. Supporting protocol for Furth High TUD No. Supporting protocol for FURTH TUD No. Supporting protocol for Power Safety No. Supporting protocol for Power Safety No. Supporting protocol for POWER TUD No. Supporting protocol for POWER TUD No. Number of HW-In	Supporting protocol for PROFIBUS		No
Supporting protocel for KIXX No Supporting protocel for KIXX No Supporting protocel for Modeus Yes Supporting protocel for Device Net No Supporting protocel for Device Net No Supporting protocel for Device Net No Supporting protocel for EUCN No Supporting protocel for FURTHS ID No Supporting protocel for FROFINET EBA No Supporting protocel for FROFINET EBA No Supporting protocel for Foundation Fieldbus No Supporting protocel for Policia Net Suffey No Supporting protocel for Policia Net Suffey No Supporting protocel for SuffeyBUS p No Supporting protocel for SuffeyBUS p No Supporting protocel for SuffeyBUS p	Supporting protocol for CAN		No
Supporting protocol for KNXX Yas Supporting protocol for Modubus No Supporting protocol for DeviceNet No Supporting protocol for SUCONET No Supporting protocol for SUCONET No Supporting protocol for SUCONET No Supporting protocol for PROFINET CBA No Supporting protocol for PROFINET CBA No Supporting protocol for PROFINET CBA No Supporting protocol for SEROS No Supporting protocol for SEROS No Supporting protocol for Poundstain Fledbus No Supporting protocol for SEROS No Supporting protocol for Poundstain Fledbus No Supporting protocol for SEROS No Supporting protocol for Poundstain Fledbus No Supporting protocol for SEROS No Supporting protocol for DeviceNet SEROS No Supporting protocol for PROFISEI No Supporting protocol for Seros SEROS No Supporting protocol for Seros SEROS No Supporting protocol for Seros SEROS No Supporting protocol for Sero	Supporting protocol for INTERBUS		No
Supporting protocol for Data-Highway Supporting protocol for Data-Highway Supporting protocol for Data-Highway Supporting protocol for Data-Highway Supporting protocol for LON Supporting protocol for LON Supporting protocol for PROFINET IO Supporting protocol for FRORINET IO Supporting protocol for Selves III Supporting protocol for Develore Safety at Work Supporting protocol for Develore Safety III Supporting protocol for Develore Safety III Supporting protocol for Develore Safety III Supporting protocol for Selves III Supporting protocol for Selves III Supporting protocol for Develore Safety III Supporting protocol for INTERBUS Safety Supporting protocol for Safety III Supporting protocol for Safety III Supporting protocol for Selves III Supporting protocol for Selves III Supporting protocol for Safety III Supporting Safety III Suppo	Supporting protocol for ASI		No
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Supporting protocol for DeviceNet No Supporting protocol for SUDNET No Supporting protocol for PROFINET IO No Supporting protocol for PROFINET CBA No Supporting protocol for PROFINET CBA No Supporting protocol for ENDRIGHUS No Supporting protocol for Endrafeor Foundation Fieldhus No Supporting protocol for Endrafeor Stafety No Supporting protocol for Poundation Fieldhus No Supporting protocol for DeviceNt Safety No Supporting protocol for Poundation Fieldhus No Supporting protocol for SAFORDEATE No Supporting protocol for SAFORDEATE No Supporting protocol for SAFORDEATE No Number of HW-Interfaces SAFORDEATE O Number of HW-Interfaces RS-422 O Number of HW-Interfaces SAFORDEATE O Number of HW-Interfaces SAFORDEATE O Number of HW-In	Supporting protocol for Modbus		Yes
Supporting protocol for SUCONET No Supporting protocol for PROFINET IO No Supporting protocol for PROFINET GBA No Supporting protocol for PROFINET GBA No Supporting protocol for FRECOS No Supporting protocol for FROWARD No Supporting protocol for EtherWelt/P Yes Supporting protocol for DeviceNet Safety at Work No Supporting protocol for DeviceNet Safety No Supporting protocol for INTERBUS-Safety No Supporting protocol for INTERBUS-Safety No Supporting protocol for PROFISE No Supporting protocol for PROFISE No Supporting protocol for PROFISE No Supporting protocol for DeviceNet Safety No Supporting protocol for PROFISE No Supporting protocol for PROFISE No Supporting protocol for DeviceNet Safety No Number of HW-interfaces industrial Ethernet No Number of HW-interfaces RS-428 1 Number of HW-interfaces RS-428 1 Number of HW-interfaces serial No Nu	Supporting protocol for Data-Highway		No
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Supporting protocol for PROFINET ID No Supporting protocol for PROFINET CBA No Supporting protocol for SERCOS No Supporting protocol for Ebundheid Fieldbus No Supporting protocol for Fundation Fieldbus No Supporting protocol for Ebundheit Fieldbus No Supporting protocol for AS-Interface Safety at Work No Supporting protocol for Device, Next Safety No Supporting protocol for INTERBUS-Safety No Supporting protocol for SafetyBUS Safety No Number of HW-interfaces Reveals SafetyBUS Safety Number of HW-interfaces BROFINET 0 Number of HW-interfaces Safety Safety 0 Number	Supporting protocol for SUCONET		No
Supporting protocol for PROFINET CBA No Supporting protocol for SERCOS No Supporting protocol for EdenNet/IP Yes Supporting protocol for EthenNet/IP No Supporting protocol for DeviceNet Safety at Work No Supporting protocol for DeviceNet Safety No Supporting protocol for INTERBUS-Safety No Supporting protocol for INTERBUS-Safety No Supporting protocol for SafetyBUS p No Supporting protocol for SafetyBUS p No Supporting protocol for GBACnet No Supporting protocol for other bus systems Yes Number of HW-interfaces industrial Ethernet 0 Number of HW-interfaces RS-422 0 Number of HW-interfaces RS-422 0 Number of HW-interfaces RS-425 0 Number of HW-interfaces serial TY 0 Number of HW-interfaces aparallel 0 Number of HW-interfaces since No With PC connection Yes Number of HW-interfaces other No With PC connection Yes No No <td>Supporting protocol for LON</td> <td></td> <td>No</td>	Supporting protocol for LON		No
Supporting protocol for SERCOS No Supporting protocol for Foundation Fieldbus Yes Supporting protocol for AS-Interface Safety at Work No Supporting protocol for DeviceNet Safety No Supporting protocol for PoeviceNet Safety No Supporting protocol for PoeviceNet Safety No Supporting protocol for INTERBUS-Safety No Supporting protocol for PROFIsafe No Supporting protocol for SafetyBUS p No Supporting protocol for SafetyBUS p No Supporting protocol for SafetyBUS p No Supporting protocol for Other bus systems Yes Number of HW-interfaces PROFINET 0 Number of HW-interfaces PROFINET 0 Number of HW-interfaces RS-222 0 Number of HW-interfaces RS-228 0 Number of HW-interfaces Serial TTY 0 Number of HW-interfaces Serial TTY 0 Number of HW-interfaces parallel 0 Number of HW-interfaces other 0 With potical interface No With potical interface No Operation poss	Supporting protocol for PROFINET IO		No
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Supporting protocol for EtherNeVIP Yes Supporting protocol for AS-Interface Safety at Work No Supporting protocol for DeviceNet Safety No Supporting protocol for PROFIsafe 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 HW-interfaces PROFINET 0 Number of HW-interfaces RS-422 0 Number of HW-interfaces RS-422 0 Number of HW-interfaces RS-428 0 Number of HW-interfaces Sarial TTY 0 Number of HW-interfaces sarial TTY 0 Number of HW-interfaces stafe 0 Vith potal interface No	Supporting protocol for SERCOS		No
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Supporting protocol for PROFIsafe Supporting protocol for SafetyBUS p Supporting protocol for BACnet Supporting protocol for other bus systems Supporting protocol for other bus systems Number of HW-interfaces industrial Ethernet O Number of HW-interfaces RS-232 Number of HW-interfaces RS-422 Number of HW-interfaces RS-428 Number of HW-interfaces RS-488 Number of HW-interfaces Systems N	Supporting protocol for DeviceNet Safety		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 HW-interfaces RS-232 0 Number of HW-interfaces RS-232 0 Number of HW-interfaces RS-485 1 Number of HW-interfaces RS-485 0 Number of HW-interfaces serial TTY 0 Number of HW-interfaces aprallel 0 Number of HW-interfaces aprallel 0 Number of HW-interfaces other 0 With optical interface No With pC connection Yes With PC connection Yes Integrated breaking resistance No 4-quadrant operation possible No Type of converter U converter Degree of protection (IP) IP20 Degree of protection (NEMA) mm 230 Width mm 45	Supporting protocol for INTERBUS-Safety		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 other 0 With optical interface No With optical interface other No With Optical interface No U converter No Degree of protection (IP) U converter Degree of protection (NEMA) With Optical interface	Supporting protocol for PROFIsafe		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 other 0 With optical interface No Uconverter No Uconverter Uconverter Degree of protection (IP) IP20 Degree of protection (NEMA) Mm With Human Interface IP30 <td>Supporting protocol for SafetyBUS p</td> <td></td> <td>No</td>	Supporting protocol for SafetyBUS p		No
Number of HW-interfaces industrial Ethernet 0 Number of interfaces PR0FINET 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 Number of HW-interfaces other 0 With optical interface No With Optical interface No With PC connection Yes Integrated breaking resistance No 4-quadrant operation possible No Type of converter U converter Degree of protection (IP) IP20 Degree of protection (NEMA) mm 230 With M mm 45	Supporting protocol for BACnet		No
Number of interfaces RROFINET 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 Number of HW-interfaces other 0 With optical interface No With PC connection Yes Integrated breaking resistance No 4-quadrant operation possible No Type of converter U converter Degree of protection (IP) IP20 Degree of protection (NEMA) Other Height mm 230 With M mm 45	Supporting protocol for other bus systems		Yes
Number of HW-interfaces RS-232 0 Number of HW-interfaces RS-422 1 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 Number of HW-interfaces other 0 With optical interface No With PC connection Yes Integrated breaking resistance No 4-quadrant operation possible No Type of converter U converter Degree of protection (IP) IP20 Degree of protection (NEMA) mm 230 Width mm 45	Number of HW-interfaces industrial Ethernet		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 Number of HW-interfaces other 0 With optical interface No With PC connection Yes Integrated breaking resistance No 4-quadrant operation possible No Type of converter U converter Degree of protection (IP) IP20 Degree of protection (NEMA) other Height mm 230 Width mm 45	Number of interfaces PROFINET		0
Number of HW-interfaces RS-485 Number of HW-interfaces serial TTY Number of HW-interfaces USB Number of HW-interfaces USB Number of HW-interfaces parallel Number of HW-interfaces other Number of HW-interfaces other Number of HW-interfaces other No With optical interface With PC connection Integrated breaking resistance 4-quadrant operation possible Type of converter Degree of protection (IP) Degree of protection (NEMA) Height mm 230 Witht optical interfaces RS-485 No Integrated breaking resistance No Other Height mm 230 Withth	Number of HW-interfaces RS-232		0
Number of HW-interfaces serial TTY Number of HW-interfaces USB Number of HW-interfaces parallel Number of HW-interfaces other Number of HW-interfaces other No With optical interface With PC connection With PC connection Integrated breaking resistance A-quadrant operation possible Type of converter Degree of protection (IP) Degree of protection (NEMA) Height Mm 230 Width Width Mind Degree of M-interfaces vibar No Other Mm 45	Number of HW-interfaces RS-422		0
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Number of HW-interfaces other With optical interface With PC connection With PC connection Integrated breaking resistance Integrated breaking possible Aquadrant operation possible Type of converter Degree of protection (IP) Degree of protection (NEMA) Height Width Integrated breaking resistance No Voconverter U converter IP20 Other mm 230 mm 45	Number of HW-interfaces USB		0
With optical interface With PC connection With PC connection Ves Integrated breaking resistance Integrated operation possible Vequadrant operation possible Vegree of protection (IP) Degree of protection (NEMA) Width Width No Type of converter U converter IP20 Uther Width Mm 230 Width Mm 45	Number of HW-interfaces parallel		0
With PC connection Integrated breaking resistance Integrated	Number of HW-interfaces other		0
Integrated breaking resistance 4-quadrant operation possible No Type of converter U converter Degree of protection (IP) Degree of protection (NEMA) Height Midth No No Vonverter U converter Other Have a substitute of the substitu	With optical interface		No
A-quadrant operation possible Type of converter Degree of protection (IP) Degree of protection (NEMA) Height Width No U converter IP20 Other Associated in mm 230 mm 45	With PC connection		Yes
Type of converter Degree of protection (IP) Degree of protection (NEMA) Height Mm Width U converter U converter U converter U converter IP20 Other Mm 230 Mm 45	Integrated breaking resistance		No
Degree of protection (IP) Degree of protection (NEMA) Height mm 230 Width mm 45	4-quadrant operation possible		No
Degree of protection (NEMA) Height mm 230 Width mm 45	Type of converter		U converter
Height mm 230 Width mm 45	Degree of protection (IP)		IP20
Width mm 45	Degree of protection (NEMA)		Other
	Height	mm	230
Depth mm 169	Width	mm	45
	Depth	mm	169