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

DE1-122D7FN-N20N Part no.

174329

**EL Number** 

4110093

(Norway)

(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 operating temperature - min	Above 1000 m with 1 % derating per 100 m
· · · · · · · · · · · · · · · · · · ·	60 °C
Ambient operating temperature - max	
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 (Ie)	2.7 A at 150% overload (at an operating frequency of 16 kHz and an ambient air temperature of +50 $^{\circ}\text{C})$
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), Pow 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 Control of the Control	
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

	Adjustable to 100 %, DC - Main circuit
Control circuit	
Number of inputs (analog)	1 (parameterizable, 0 - 10 V DC, 0/4 - 20 mA)
Number of inputs (digital)	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))
Design verification	
Equipment heat dissipation, current-dependent Pvid	27 W
Heat dissipation capacity Pdiss	0 W
Heat dissipation per pole, current-dependent Pvid	0 W
Rated operational current for specified heat dissipation (In)	2.7 A
Static heat dissipation, non-current-dependent Pvs	0 W
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 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])

V		200 - 240
		50/60 Hz
		1
		3
Hz	z	300
V		250
А		2.7
kV	W	0.55
kV	W	0.55
W	V	27
%	, D	10
%	0	10
		0
		1
		0
	H V A k k	Hz V A kW

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 Pedrelated Safety at Work         No           Supporting protocol for Pedrelated Safety         No           Supporting protocol for PROFESEI         No           Supporting protocol	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 FDRIFIT ID         No.           Supporting protocol for SERCOS         No.           Supporting protocol for FDRIFIT ID         No.           Supporting pr	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 EUCN         No           Supporting protocel for PBDFNET ID         No           Supporting protocel for PBDFNET EBA         No           Supporting protocel for FBDFNET EBA         No           Supporting protocel for PBDFNET EBA         No           Supporting protocel for SBDFNET EBA	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 Sefety at Work         No           Supporting protocol for PROFISEI         No           Supporting protocol for PROFISEI         No           Supporting protocol for Seterose Sefety         No           Supporting protocol for Seterose Sefety         No           Supporting pro	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 PROFILIST Supporting protocol for BACHORIUS Supporting protocol for BACHORIUS Supporting protocol for BACHORIUS Supporting protocol for Selves III Supportin	Supporting protocol for ASI		No
Supporting protocol for Data-Highway         No           Supporting protocol for DeviceNet         No           Supporting protocol for DEVICONET         No           Supporting protocol for UN         No           Supporting protocol for PROFINET IO         No           Supporting protocol for PROFINET CEAR         No           Supporting protocol for FERCIS         No           Supporting protocol for ERCIS         No           Supporting protocol for ERCIS         No           Supporting protocol for ExtenNexIP         Yes           Supporting protocol for DeviceNets Safety         No           Supporting protocol for DeviceNets Safety         No           Supporting protocol for PROFISES         No           Supporting protocol for Safety8US p         No           Supporting protocol for Safet	Supporting protocol for KNX		No
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 Filen/Not/IP         Yes           Supporting protocol for Foundation Filen/Not/IP         No           Supporting protocol for DeviceNt Safety         No           Supporting protocol for FADR-fare         No           Supporting protocol for SafetyBUS p         No           Supporting protocol for GADR-fare         No           Supporting protocol for GADR-fare         O           Number of HW-interfaces R-5425         O           Number of HW-interfaces R-5426         1           Number of HW-interfaces R-5428         0           Number of HW-interfaces S-648         0           Number of HW-interfaces S-649	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 EtherWell/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
Supporting protocol for PROFINET IO         No           Supporting protocol for PROFINET CBA         No           Supporting protocol for PROFINET CBA         No           Supporting protocol for PROFINET CBA         No           Supporting protocol for FEMEROS         No           Supporting protocol for Foundation Fieldbus         No           Supporting protocol for Foundation Fieldbus         No           Supporting protocol for AS-Interface Safety at Work         No           Supporting protocol for AS-Interface Safety at Work         No           Supporting protocol for INTERBUS-Safety         No           Supporting protocol for INTERBUS-Safety         No           Supporting protocol for PROFIsafe         No           Supporting protocol for SafetyBUS 2         No           Supporting protocol for SafetyBUS 3         No           Number of HW-interfaces SafetyBUS 3         No           Number of HW-interfaces RS-42         0           Number of HW-interfaces RS-42S         0           Number of HW-interfaces Safety 3         N	Supporting protocol for DeviceNet		No
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 Ebundheid Fieldbus         No           Supporting protocol for Ebundheid 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 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-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 (PD         No           Degree of protoction (IP)	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
Supporting protocol for Foundation Fieldbus Supporting protocol for EtherNavIP Supporting protocol for EtherNavIP Supporting protocol for DeviceNet Safety at Work Supporting protocol for DeviceNet Safety Supporting protocol for INTERBUS-Safety Supporting protocol for PROFIsafe Supporting protocol for SafetyBUS p Supporting protocol for BACnet Supporting protocol for BACnet Supporting protocol for SafetyBUS p Supporting protocol for HW-interfaces industrial Ethernet Supporting protocol for HW-interfaces industrial Ethernet Supporting protocol for HW-interfaces RS-322 Supporting protocol for HW-interfaces RS-422 Supporting protocol for HW-interfaces RS-422 Supporting protocol for HW-interfaces RS-425 Supporting prot	Supporting protocol for PROFINET CBA		No
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
Supporting protocol for AS-Interface Safety at Work Supporting protocol for DeviceNet Safety Supporting protocol for INTERBUS-Safety Supporting protocol for INTERBUS-Safety Supporting protocol for INTERBUS-Safety Supporting protocol for SafetyBUS p Supporting protocol for SafetyBUS p Supporting protocol for BACnet Supporting protocol for BACnet Supporting protocol for other bus systems Supporting protocol for other bus systems Supporting protocol for other bus systems Supporting frotocol for BACnet Supporting frotocol for Other bus systems Supporting frotocol for BACnet Supporting frotocol for BACnet Supporting frotocol for BACnet Supporting protocol for SafetyBUS p Sup	Supporting protocol for Foundation Fieldbus		No
Supporting protocol for DeviceNet Safety         No           Supporting protocol for INTERBUS-Safety         No           Supporting protocol for SafetyBUS p         No           Supporting protocol for SafetyBUS p         No           Supporting protocol for BACnet         No           Supporting protocol for the bus systems         Yes           Number of HW-interfaces industrial Ethernet         0           Number of HW-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 used ITTY         0           Number of HW-interfaces brail TTY         0           Number of HW-interfaces brail TY         0           Number of HW-interfaces brail TY         0           Number of HW-interfaces brail         0           With optical interfaces ther         0           With optical interfaces where         No           With optical interfaces there were the protocolon         No           Vittle of converter         No           Degree of protocolon (NEMA)         No           Degree of protocolon (NEMA)         Unconverter           Degree of protocolon (NEMA)         Unit	Supporting protocol for EtherNet/IP		Yes
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 DACnet         No           Supporting protocol for other bus systems         Yes           Number of HW-interfaces industrial Ethernet         0           Number of HW-interfaces RS-323         0           Number of HW-interfaces RS-422         0           Number of HW-interfaces RS-425         1           Number of HW-interfaces RS-485         1           Number of HW-interfaces serial TTY         0           Number of HW-interfaces Serial TTY         0           Number of HW-interfaces other         0           With optical interface         No           Very Connection         No           4-quadrant operating operating possible         No           Upper of converter         U conve	Supporting protocol for AS-Interface Safety at Work		No
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           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)         Other           Height         mm         230           Witth         mm         45	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
Number of HW-interfaces USB  Number of HW-interfaces parallel  Number of HW-interfaces other  With optical interface With PC connection Unterface breaking resistance  Integrated breaking resistance  Integrated protection possible  Type of converter  Degree of protection (IP)  Degree of protection (NEMA)  Height  Mmm  With  Integrated breaking resistance  Integrated breaking resis	Number of HW-interfaces RS-485		1
Number of HW-interfaces parallel  Number of HW-interfaces other  O  With optical interface  With PC connection  With PC connection  Integrated breaking resistance  4-quadrant operation possible  Type of converter  Degree of protection (IP)  Degree of protection (NEMA)  Height  Width  O  O  O  O  O  O  O  O  O  O  O  O  O	Number of HW-interfaces serial TTY		0
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  Degree of protection (NEMA)  Nther  Where  Mm  Width  Mm  Width	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