DATASHEET - DM1-34023EB-N20B-EM



Variable frequency drive, 400 V AC, 3-phase, 23 A, 11 kW, IP20/NEMA0, Radio interference suppression filter, Brake chopper



Part no. Catalog No. DM1-34023EB-N20B-EM 3-5029-002A

Delivery program			
Product range			Variable frequency drives
Part group reference (e.g. DIL)			DM1
			IE2
Rated operational voltage	U _e		400 V AC, 3-phase 480 V AC, 3-phase 500 V AC, 3-phase
Output voltage with V _e	U ₂		400 V AC, 3-phase 480 V AC, 3-phase 500 V AC, 3-phase
Mains voltage (50/60Hz)	U _{LN}	V	380 (-10%) - 500 (+10%)
Rated operational current			
At 150% overload	le	А	23
At 110% overload	le	А	31
Note			Rated operational current for a switching frequency of 1 - 16 kHz and an ambient temperature of +50 °C for a 150% overload and +40 °C for a 110% overload
Assigned motor rating			
Note			for normal internally and externally ventilated 4 pole, three-phase asynchronous motors with 1500 rpm ⁻¹ at 50 Hz or 1800 min ⁻¹ at 60 Hz for PM motors
Note			Overload cycle for 60 s every 600 s
Note			at 400 V, 50 Hz
150 % Overload	Р	kW	11
110 % Overload	Ρ	kW	15
150 % Overload	IM	А	21.7
110 % Overload Note	IM	A	29.3 at 500 V, 50 Hz
150 % Overload	Р	kW	11
110 % Overload	Р	kW	18.5
150 % Overload	I _M	А	17.4
110 % Overload	I _M	А	28.9
Note			at 480 V, 60 Hz
150 % Overload	Р	HP	15
110 % Overload	Р	HP	20
150 % Overload	IM	А	21
110 % Overload	I _M	А	27
Degree of Protection			IP20/NEMA0
Interface/field bus (built-in)			Modbus RTU
Fieldbus connection (optional)			Profibus, CAN, DeviceNet, SmartwireDT
Fitted with			Radio interference suppression filter Brake chopper
Parameterization			Keypad Fieldbus Power Xpert inControl
Frame size			FS3
Connection to SmartWire-DT			yes in conjunction with DXG-NET-SWD SmartWire DT module

ShalksiSingle statements (CAN 1001)2 (Windows 1000 (CAN 1000	Technical data General			
Preduction quality Proof Point Point Poi	Standards			EMV requirements: IEC/EN 61800-3 Safety requirements: IEC/EN 61800-5-1:2007/A1:2017; UL 61800-5-1:2012 (Rev. 2018),
Bindia profingNoNoSoSOSSOSSOSSOSAre gaineyAre gaineySOS <td>Certifications</td> <td></td> <td></td> <td>CE, UL, cUL, c-Tick, UkrSEPRO, EAC</td>	Certifications			CE, UL, cUL, c-Tick, UkrSEPRO, EAC
Aright Aright CD, S2 Angent: the prestance max. C 10 operating makers the prestance max. C 10 operating the S workshow C 10 Storage C 40 Device the pression C C Reduct the pression C C 50 Reduct the pression C C Depression the	Production quality			RoHS, ISO 9001
Anbient temperature 9 9 Operating within temperature main. 70 10 State get within 10 Severable of the MD limes. 70 10 Operating within temperature main. 70 10 Polation temperature main. <td< td=""><td>Climatic proofing</td><td>ρ_w</td><td>%</td><td>< 95%, average relative humidity (RH), non-condensing, non-corrosive</td></td<>	Climatic proofing	ρ _w	%	< 95%, average relative humidity (RH), non-condensing, non-corrosive
Operating ambient temperature min. PC -10 Operating ambient temperature max. PC -20 -10 - 40 (max. 43 wth 15). Genating per kelvin temperature risk 1°C. Operating ambient temperature max. PC -20 -10 - 40 (max. 43 wth 15). Genating per kelvin temperature risk 1°C. Storage PC -40 - 70 Persisten color and Company. Fulles degree ambient temperature risk 1000 control and the storage frame. PPC -40 - 70 Personage company. III III Fulles degree ambient temperature risk 1000 control and temperature risk 1000 cont	Air quality			3C2, 3S2
Operating undeat unspace on one of the section of the sect	Ambient temperature			
operation 110 % overlady 0 -40 (max +35 with 1% derating per Kehn advantage=autors 1% 1% operation with 10% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% derating per Kehn advantage autors 1% 0% overlady (1 ma /10 max -35 with 1% deratingererady (1 ma	Operating ambient temperature min.		°C	-10
Notice of the section of the seccion of the section of the section of the section of the	Operating ambient temperature max.		°C	+ 50
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During estaspoy III Polution dargee III Radio instructions explored integrations only, L2, C3, depending on the motor cable integrit, the connected log and motions configurations only, L2, C3, depending on the motor cable integrit, the connected log and motions configurations only, L2, C3, depending on the motor cable integrit, the connected log and motions configurations only, L2, C3, depending on the motor cable integrit, the connected log and motions configurations only, L2, C3, depending on the motor cable integrit, the connected log and motions configurations on the probability. If and the integration of the probability of the motor cable integrit, the connected log and motions configurations on the integration of the probability. If and the probability of the probability. If and the integration of the probability. If and the probability of the probability. If and the probability of the probability. If and the				derating per Kelvin above limit) Operation with 150% overload (1 min./10 min.): -10 to +50 (max. +60 with 1% derating per Kelvin above limit)
Patheba degre Path	Storage	9	°C	-40 - +70
Participation interference less (EMC) Image: Project (EMC) Project (EMC) Project (EMC) Evido interference less (EMC) Image: Project (Overvoltage category			111
Radio interformenc class (EMC) Ivent and an adapting interformenc approximation approximation interformenc approximate approximation interformenc approximate approximation interformenc approximate appr	Pollution degree			2
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maximum motor cable lengthInC2 5 m C3 53 m C3 500 m C3 500 m C3 500 m 	Radio interference class (EMC)			motor cable length, the connected load, and ambient conditions. External radio
Initial and resistance Initial and resistance <thinitial and="" resistance<="" th=""> Initial and resistance<!--</td--><td>Environment (EMC)</td><td></td><td></td><td>1st and 2nd environments as per EN 61800-3</td></thinitial>	Environment (EMC)			1st and 2nd environments as per EN 61800-3
Amplitude D5 multicate D5 multicat	maximum motor cable length	I	m	
Altude n 1000 n above sea level Above 1000 m 1% derains for every 100 m Above 1000 m 1% derains for every 100 m Above 1000 m 1% derains for every 100 m Above 1000 m 10 come for ouded TN Systems) Degree of Protection against direct contact Protection against direct contact Protection Above 1000 m 1% derains for every 100 m Above 1000 m 100 come for ouded TN Systems) Maine voltage Bed V AG VAGA, finger- and back-of-hand proof) Bated operational voltage Van Van Anine voltage (50/60Hz) Van Van Input current (150% overload) Van Above 100 m 1% years Input current (150% overload) Van A Supply Frequency Van A Input current (150% overload) Van A Supply Frequency Van A Supply Frequency Van A Mains voltage (50/60Hz) Van A Supply Frequency Van A Mains voltage (50/60Hz) Van A Supply Frequency Van A Mains such-on frequency Van A Nota conditional short-circuit current Van A	Mechanical shock resistance		g	Amplitude: 0,75 mm (peak) bei 10 - 57 Hz
Above Indox is deriving for very 100 m for Systems) Degree of Protection Yes P20NEMA0 Protection against direct contact Work 300 M (2000 m for Conver Grounded TN Systems) Bain circuit Bain Circuit Bain Circuit System configurational voltage No Move Systems) Move Systems) Mains voltage (50(60Hz) Nu Vu Sol (10%)-500(10%) Input current (15% overload) Nu Sol (10%)-500(10%) Sol (10%)-500(10%) Input current (15% overload) Nu Sol (10%)-500(10%) Sol (10%)-500(10%) System configuration Nu Sol (10%)-500(10%) Sol (10%)-500(10%) System configuration Nu Sol (10%)-500(10%) Sol (10%)-500(10%) Mains switch-on frequency Nu Sol (10%)-500(10%) Sol (10%)-500(10%) Mains switch-on frequency Nu Sol (10%)-500(10%) Sol (10%)-500(10%) Mains switch-on frequency Nu Sol (10%)-500(10%) Sol (10%) Mains current distortion Nu Nu Sol (10%) Mains current distortion Nu Sol (10%) Sol (10%)	Mounting position			Vertical
Protection against direct contact BeV Al (VB64, finger- and back-of-hand proof) Main circuit Seven and back-of-hand proof) Supply Image: Seven and Sev	Altitude		m	Above 1000 m: 1% derating for every 100 m
Main circuit Main solution Main solution solution solution Main solution solution Main solution solution Main solution solution solution solution Main solution solut	Degree of Protection			IP20/NEMA0
Supply Image: Supp	Protection against direct contact			BGV A3 (VBG4, finger- and back-of-hand proof)
Bated operational voltage Ug Wait Work Q.S. sphase 400 VAC. S. Sphase 40	Main circuit			
Mains voltage (50/60Hz) ULN V 380 (-10%) - 500 (+10%) Input current (150% overload) ILN A 26.5 System configuration ILN A 35.7 System configuration ILN HZ 506 0.400, 5.00 (+10%) System configuration ILN A 35.7 System configuration ILN HZ 506 0.400, TN-C, TN-C, S, TT, IT Supply frequency fun HZ 45.66 (± 0%) Mains switch-on frequency fun HZ 45.66 (± 0%) Mains current distortion THD % 40.40000000000000000000000000000000000				
Input current (150% overload) ILN A 26.5 Input current (110% overload) ILN A 35.7 System configuration ILN A 35.7 Supply frequency ILN HZ TN-S, TN-C, S, TT, IT Supply frequency ILN HZ 3060 Frequency range ILN HZ 3060 Mains switch-on frequency ILN HZ Maximum of one time every 60 seconds Mains current distortion THD % 40 Rated conditional short-circuit current Iq KA 100 Power section ILN Maine Grequency dive with internal DC link, DC link choke and IGBT inverter Overload current (150% overload) ILN A 45.5 Overload current (High Overload) ILN A 45.5 Inax. starting current (High Overload) ILN A 40.5 <td>Rated operational voltage</td> <td>U_e</td> <td></td> <td>480 V AC, 3-phase</td>	Rated operational voltage	U _e		480 V AC, 3-phase
Input current (10% overload) Input current (10% overload) Input current (10% overload) Input current (10% overload) Input current (Input current) Ins, TN-C, TN-C-S, TT, IT Supply frequency Inn Frequency Tange Inn State	Mains voltage (50/60Hz)	U _{LN}	V	380 (-10%) - 500 (+10%)
System configuration Image: System configuration Social System configuration <thsocial configuration<="" system="" th=""> Social</thsocial>	Input current (150% overload)	I _{LN}	А	26.5
Supply frequency Fund Fund Fund Frequency range fund Kan 45-66 (± 0%) Mains switch-on frequency fund Kan Mainum of one time every 60 seconds Mains current distortion THD % 40 Rated conditional short-circuit current Iq KAN 100 Power section Function Internet function Vertical frequency drive with internal DC link, DC link choke and IGBT inverter Overload current (150% overload) Iq AC 34.5 Overload current (High Overload) Iq % 40 Note about max. starting current Iq % 30 Output voltage with Ve La Yea Source Sourds every 20 seconds	Input current (110% overload)	I _{LN}	А	35.7
Frequency range f _L N Hz 4=66 (± 0%) Mains switch-on frequency Image: Status (Status	System configuration			TN-S, TN-C, TN-C-S, TT, IT
Mains switch-on frequency Main Mains current distortion	Supply frequency	f _{LN}	Hz	50/60
Mains switch-on frequency Mains current disortion	Frequency range	f _{LN}	Hz	45–66 (± 0%)
Mains current distortion THD % Rated conditional short-circuit current Iq KA Iq KA <100				Maximum of one time every 60 seconds
Rated conditional short-circuit current Pq AA 400 Power section Function Function Variable frequency drive with internal DC link, DC link choke and IGBT inverter Overload current (150% overload) I A 34.5 Overload current (High Overload) I A 34.1 Note about max. starting current I Ma 900 Output voltage with Ve Variable seconds Invertex Invertex		THD	%	
Power section Power				
Function Mode Variable frequency drive with internal DC link, DC link choke and IGBT inverter Overload current (150% overload) L A 34.5 Overload current (110% overload) L A 34.1 I max. starting current (High Overload) H P 200 Note about max. starting current H P 67.2 seconds every 20 seconds Output voltage with Ve Ve Ve Ver Voltage vick (3.5) sphase so Ver Voltage Vice (3.5) sph		ч		
Overload current (150% overload) IL A 34.5 Overload current (110% overload) IL A 34.1 max. starting current (High Overload) IH M 20 Note about max. starting current IL M F F Output voltage with Ve V2 V2 MOV VAC, 3-phase 400 VAC, 3-phase 500 VAC, 3-phase A00 VAC, 3-phase 500 VAC, 3-phase				Variable frequency drive with internal DC link, DC link choke and IGBT inverter
Overload current (110% overload) IL A 34.1 max. starting current (High Overload) IH % 200 Note about max. starting current IM % for 2 seconds every 20 seconds Output voltage with Ve V2 V2 400 V AC, 3-phase 800 V AC, 3-phase 500 V AC, 3-phase		IL.	А	
max. starting current (High Overload) IH % 200 Note about max. starting current IV2 Int for 2 seconds every 20 seconds Output voltage with Ve V2 V2 South Ve				
Note about max. starting current Image: Note about max.				
Output voltage with Ve U2 400 V AC, 3-phase 480 V AC, 3-phase 500 V AC, 3-phase		'n	/0	
		U ₂		400 V AC, 3-phase 480 V AC, 3-phase

Switching frequency	f _{PWM}	kHz	4
			adjustable 1 - 16
Operation Mode			U/f control
Frequency resolution (setpoint value)	Δf	Hz	0.01
Rated operational current			
At 150% overload	l _e	A	23
At 110% overload	l _e	A	31
Note			Rated operational current for a switching frequency of 1 - 16 kHz and an ambient temperature of +50 °C for a 150% overload and +40 °C for a 110% overload
Motor current limit	I	A	0.1 - 2 x I _H (CT)
Power loss			
Heat dissipation at rated operational current I_{e} =150 $\%$	PV	W	282.3
Heat dissipation at rated operational current I_{e} =110%	P _V	W	407.4
Heat dissipation at current/speed [%]			
Current = 100%			
Speed = 0 %	P _V	W	326.5
Speed = 50 %	P _V	W	205.8
Speed = 90 %	P _V	W	392.9
Current = 50 %			
Speed = 0 %	P _V	W	520.8
Speed = 50 %	P _V	W	276.5
Speed = 90 %	Pv	W	223.4
Current = 50 %	• v		
Speed = 0 %	Pv	W	170
•	-		
Speed = 50 %	P _V	W	166.7
Fan			temperature controlled
Internal fan delivery rate		m ³ /h	100
Fitted with			Radio interference suppression filter Brake chopper
Frame size			FS3
Motor feeder			
Note			for normal internally and externally ventilated 4 pole, three-phase asynchronous motors with 1500 rpm ⁻¹ at 50 Hz or 1800 min ⁻¹ at 60 Hz for PM motors
Note			Overload cycle for 60 s every 600 s
Note			at 400 V, 50 Hz
150 % Overload	Р	kW	11
110 % Overload	Ρ	kW	15
Note			at 500 V, 50 Hz
150 % Overload	Ρ	kW	11
110 % Overload	Ρ	kW	18.5
Note			at 480 V, 60 Hz
150 % Overload	Ρ	HP	15
110 % Overload	Ρ	HP	20
Braking function			
Standard braking torque			max. 30 % M _N
DC braking torque			adjustable to 150 %
Braking torque with external braking resistance			Max. 100% of rated operational current ${\rm I}_{\rm e}$ with external braking resistor
minimum external braking resistance	R _{min}	Ω	26
······································			
Switch-on threshold for the braking transistor	U _{DC}	V	800 V DC
-	U _{DC} %	V I/I _e	800 V DC ≦ 150, adjustable
Switch-on threshold for the braking transistor			
Switch-on threshold for the braking transistor			
Switch-on threshold for the braking transistor DC braking Control section	%	l/l _e	≦ 150, adjustable
Switch-on threshold for the braking transistor DC braking Control section External control voltage	% U _c	I/I _e V	≤ 150, adjustable 24 V DC (max. 100 mA options incl.)

Digital inputs		4, parameterizable, max. 30 V DC
Relay outputs		1, parametrierbar, 1 Wechsler, 3 A (240 V AC) / 3 A (24 V DC)
Interface/field bus (built-in)		Modbus RTU
Expansion slots		1
Assigned switching and protective elements		
Power Wiring		
Safety device (fuse or miniature circuit-breaker)		
IEC (Type B, gG), 150 %		PKZM0-25
IEC (Type B, gG), 110 %		PKZM0-32
UL (Class CC or J)	А	40
Mains contactor		
150 % overload (CT/I _H , at 50 °C)		DILM17-10 (230V50HZ,240V60HZ)
110 % overload (VT/I _L , at 40 °C)		DILM17-10 (230V50HZ,240V60HZ)
Main choke		
150 % overload (CT/I _H , at 50 °C)		DX-LN3-025
110 % overload (VT/I _L , at 40 °C)		DX-LN3-040
Radio interference suppression filter (external, 150 %)		DX-EMC34-030
Radio interference suppression filter (external, 110 %)		DX-EMC34-042
Radio interference suppression filter, low leakage currents (external, 150 %)		DX-EMC34-030-L
Radio interference suppression filter, low leakage currents (external, 110 %)		DX-EMC34-042-L
Note regarding radio interference suppression filter		Optional external radio interference suppression filter for longer motor cable lengths and for use in different EMC environments
DC link connection		
Braking resistance		
10 % duty factor (DF)		DX-BR040-3K1
20 % duty factor (DF)		DX-BR040-5K1
40 % duty factor (DF)		P2R2: DX-BR047-9K2
Motor feeder		
motor choke		
150 % overload (CT/I _H , at 50 °C)		DX-LM3-035
110 % overload (VT/I _L , at 40 °C)		DX-LM3-035
Sine filter		
150 % overload (CT/I _H , at 50 °C)		DX-SIN3-023
110 % overload (VT/I _L , at 40 °C)		DX-SIN3-032
All-pole sine filter		
150 % overload (CT/I _H , at 50 °C)		DX-SIN3-024-A
110 % overload (VT/I _L , at 40 °C)		DX-SIN3-046-A

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	In	А	31
Equipment heat dissipation, current-dependent	P _{vid}	W	407.4
Operating ambient temperature min.		°C	-10
Operating ambient temperature max.		°C	50
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
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 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric 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 Insulation properties	
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 7.0

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

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	323 - 528		
Mains frequency		50/60 Hz		
Number of phases input		3		
Number of phases output		3		
Max. output frequency	Hz	400		
Max. output voltage	v	500		
Nominal output current I2N	А	31		
Max. output at quadratic load at rated output voltage	kW	15		
Max. output at linear load at rated output voltage	kW	11		
Relative symmetric net frequency tolerance	%	10		
Relative symmetric net voltage tolerance	%	10		
Number of analogue outputs		1		
Number of analogue inputs		1		
Number of digital outputs		0		
Number of digital inputs		4		
With control unit		No		
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		No		
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		Yes
Supporting protocol for other bus systems		Yes
Number of HW-interfaces industrial Ethernet		1
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
Number of HW-interfaces other		1
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	260
Width	mm	130
Depth	mm	180

Approvals

Approvais	
Product Standards	UL508C, CSA-C22.2 No. 274-13; IEC/EN61800-3; IEC/EN61800-5; CE marking
UL File No.	E134360
UL Category Control No.	NMMS, NMMS7
CSA File No.	UL report applies to both US and Canada
North America Certification	UL listed, certified by UL for use in Canada
Suitable for	Branch circuits
Max. Voltage Rating	3~500 V AC IEC: TN-S UL/CSA: 'Y' (Solidly Grounded Wey)
Degree of Protection	IP20/NEMA0







