

# Speed starters, single-phase power supply connection, three-phase motor connection at 230 V, 9, 6 A and 2, 2 kW / 0, 3 HP $\,$



Part no. DE1-129D6FN-N20N Article no. 174332 Catalog No. DE1-129D6FN-N20N

#### **Delivery programme**

Delivery programme			
Product range			PowerXL™ DE1 Speed Starters
Rated operational voltage	U <sub>e</sub>		230 V AC, 1-phase
Output voltage with V <sub>e</sub>	$U_2$		230 V AC, 3-phase
Mains voltage (50/60Hz)	$U_{LN}$	V	200 (-10%) - 240 (+10%)
Rated operational current			
At 150% overload	I <sub>e</sub>	Α	9.6
Note			Rated operational current at an operating frequency of 16 kHz and an ambient air temperature of +50 $^{\circ}\text{C}$
Note			Overload cycle for 60 s every 600 s
Assigned motor rating			
Note			for normal internally and externally ventilated 4 pole, three-phase asynchronous motors with 1500 rpm $^{\text{-}1}$ at 50 Hz or 1800 min $^{\text{-}1}$ at 60 Hz
Note			Overload cycle for 60 s every 600 s
Note			at 230 V, 50 Hz
150 % Overload	P	kW	2.2
150 % Overload	l <sub>e</sub>	Α	8.7
Note			at 220 - 240 V, 60 Hz
150 % Overload	P	HP	3
150 % Overload	l <sub>e</sub>	Α	9.6
Degree of Protection			IP20/NEMA 0
Interface/field bus (built-in)			OP-Bus (RS485)/Modbus RTU
Fitted with			Radio interference suppression filter
Frame size			FS2
Connection to SmartWire-DT			with SmartWire-DT module DX-NET-SWD3

# **Technical data**

#### General

Standards			Specification for general requirements: IEC/EN 61800-2 EMC requirements: IEC/EN 61800-3 Safety requirements: IEC/EN 61800-5-1
Certifications			CE, UL, cUL, c-Tick
Production quality			RoHS, ISO 9001
Climatic proofing	$\rho_{\text{W}}$	%	< 95%, average relative humidity (RH), non-condensing, non-corrosive (EN 50178)
Ambient temperature		°C	
operation (150 % overload)	θ	°C	-10 - +50, max. +60
Storage	8	°C	-40 - +70
Radio interference level			
Radio interference class (EMC)			C1, C2, C3, depending on the motor cable length, the connected load, and ambient conditions. External radio interference suppression filters (optional) may be necessary.
Environment (EMC)			1st and 2nd environments
maximum motor cable length	ı	m	C1 ≤ 5 m C2 ≤ 10 m C3 ≤ 25 m
Mechanical shock resistance		g	15 (11 m/s, EN 60068-2-27)
Vibration			EN 61800-5-1
Altitude		m	0 - 1000 m above sea level above 1000 m with 1 % performance reduction per 100 m

			max. 2000 m
Degree of Protection			IP20/NEMA 0
Protection against direct contact			BGV A3 (VBG4, finger- and back-of-hand proof)
Main circuit			
Supply			
Rated operational voltage	U <sub>e</sub>		230 V AC, 1-phase
Mains voltage (50/60Hz)	U <sub>LN</sub>	V	200 (-10%) - 240 (+10%)
Input current (150% overload)	I <sub>LN</sub>	Α	23.2
Supply frequency	$f_{LN}$	Hz	50/60
Frequency range	$f_{LN}$	Hz	45 - 66
Mains switch-on frequency			Maximum of one time every 30 seconds
Power section			
Overload current (150% overload)	IL	Α	14.4
max. starting current (High Overload)	I <sub>H</sub>	%	200
Note about max. starting current			for 1.875 seconds every 600 seconds
Output voltage with V <sub>e</sub>	U <sub>2</sub>		230 V AC, 3-phase
Output Frequency	f <sub>2</sub>	Hz	0 - 50/60 (max. 300)
Switching frequency		kHz	16
Switching frequency	f <sub>PWM</sub>	KIIZ	adjustable 4 - 32 (audible)
Operation Mode			U/f control Speed control with slip compensation
Frequency resolution (setpoint value)	Δf	Hz	0.025
	ΔΙ	П	0.023
Rated operational current			0.0
At 150% overload	I <sub>e</sub>	Α	9.6
Note			Rated operational current at an operating frequency of 16 kHz and an ambient a temperature of +50 °C
Maximum leakage current to ground (PE) without motor	I <sub>PE</sub>	mA	< 3,5 AC, < 10 DC
Fitted with			Radio interference suppression filter
Frame size			FS2
Notor feeder			
Note			for normal internally and externally ventilated 4 pole, three-phase asynchronou motors with 1500 rpm <sup>-1</sup> at 50 Hz or 1800 min <sup>-1</sup> at 60 Hz
Note			Overload cycle for 60 s every 600 s
Note			at 230 V, 50 Hz
150 % Overload	Р	kW	2.2
Note			at 220 - 240 V, 60 Hz
150 % Overload	Р	НР	3
Apparent power			
Apparent power at rated operation 230 V	S	kVA	3.82
Apparent power at rated operation 240 V	s	kVA	3.99
Braking function			
Standard braking torque			max. 30 % M <sub>N</sub>
DC braking torque			100 %, adjustable
control section			
Reference voltage	$U_s$	V	10 V DC (max. 0.2 mA)
Analog inputs			1, parameterizable, 0 - 10 V DC, 0/4 - 20 mA
Digital inputs			4, parameterizable, 10 - 30 V DC
Relay outputs			1, parameterizable, N/O, 6 A (250 V, AC-1) / 5 A (30 V, DC-1)
nterface/field bus (built-in)			OP-Bus (RS485)/Modbus RTU
assigned switching and protective elements			
Power Wiring			
Safety device (fuse or miniature circuit-breaker)			
IEC (Typ B, gG)			FAZ-B32/1N
UL (Class CC or J)		Α	35
Mains contactor			
150 % overload (CT/I <sub>H</sub> , at 50 °C)			DILM7 + DILM12-XP1

110 % overload (VT/I <sub>L</sub> , at 40 °C)	DILM7 + DILM12-XP1
Main choke	
150 % overload (CT/I <sub>H</sub> , at 50 °C)	DX-LN1-024
Radio interference suppression filter (external)	DX-EMC12-025-FS2
Note regarding radio interference suppression filter	Optional external radio interference suppression filter for longer motor cable lengths and for use in different EMC environments
Motor feeder	
motor choke	
150 % overload (CT/I <sub>H</sub> , at 50 °C)	DX-LM3-011
Sine filter	
150 % overload (CT/I <sub>H</sub> , at 50 °C)	DX-SIN3-010

## Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	9.6
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	105
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 5.0**

Low-voltage industrial components (EG000017) / Frequency controller =< 1 kV (EC00	01857)		
Electric engineering, automation, process control engineering / Electrical drive / St	atic frequency c	onverter	/ Static frequency converter = < 1 kv (ecl@ss8-27-02-31-01 [AKE177010])
Mains voltage	\	/	200 - 240
Mains frequency			50/60 Hz
Number of phases input			1
Number of phases output			3
Max. output frequency	H	Hz	300
Rated output voltage	١	<b>V</b>	230

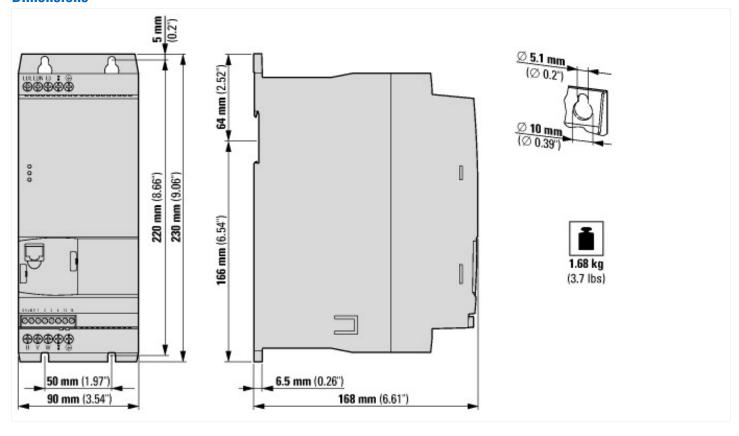
Designation of sire and obspect voltage   10	Measuring output current	А	9.6
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With castrant units         10         Nec           Application in industrial are primitated         10         Ne           Supporting protects for TCP/IP         10         Ne           Supporting protects for CAN         10         Ne           Supporting protects for CAN         10         Ne           Supporting protects for AS         10         Ne           Supporting protects for KNK         10         Ne           Supporting protects for MAN         10         Ne           Supporting protects for Data Highway         10         Ne           Supporting protects for PDFMETE         10         Ne           Supporting protects for Enhanced Highway			
Application in industrial area permitted         1         Yes           Application in industrial area permitted         1         No           Supporting practice for PROPIBUS         1         No           Supporting pratece for CAN         1         No           Supporting pratece for KTHEBUS         1         No           Supporting pratece for KTHEBUS         1         No           Supporting pratece for KTHEBUS         1         No           Supporting pratece for KTMC         1         No           Supporting pratece for MORUUS         1         No           Supporting pratece for PROPINET CBA         1         No           Supporting pratece for PROPINET CBA         1         No			
Application in domestic and commercial area permitted         1 No           Sipporting protocol for TCP/IP         No           Supporting protocol for CANI         No           Supporting protocol for CANI         No           Supporting protocol for INTERBUS         No           Supporting protocol for MOBUS         No           Supporting protocol for DeviceNet         No           Supporting protocol for DeviceNet         No           Supporting protocol for PDFNET IO         No           Supporting protocol for PDFNET EGA         No           Supporting protocol for PDFNET EGA         No           Supporting protocol for FDRNET EGA <td< td=""><td></td><td></td><td></td></td<>			
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Supporting protocol for MIYERBUS         No           Supporting protocol for MIYERBUS         No           Supporting protocol for MIXERBUS         No           Supporting protocol for DeviceMet         No           Supporting protocol for SUCONET         No           Supporting protocol for EnviroNET         No           Number of HW-interfaces industrial Element	•		
Suppering printed for INTERBUS         No           Suppering printed for ASI         No           Suppering printed for ASI         No           Suppering printed for MAN         No           Suppering printed for Data-Highway         No           Suppering printed for Data-Highway         No           Suppering printed for SUCINIT         No           Suppering printed for SUCINIT         No           Suppering printed for FORDER IG         No           Suppering protect for PROFINE IG         No           Suppering protect for FORDER IG         No           Suppering protect for Device Vest Safety         No           Suppering protect for Device Vest Safety         No           Suppering protect for Device Vest Safety         No           Suppering protect for PorDER IG         No           Suppering protect for Safety Sup Suppering protect for Safety Sup Suppering			
Supporting protocol for RNX         1         Na           Supporting protocol for RNX         1         Yes           Supporting protocol for Buts Highway         1         Na           Supporting protocol for Devicable         1         Na           Supporting protocol for Devicable         1         Na           Supporting protocol for Extreme         1         Na           Supporting protocol for Extreme         1         Na           Supporting protocol for PROFINET LIO         Na         Na           Supporting protocol for PROFINET CBA         Na         Na           Supporting protocol for FROFINET CBA         Na         Na           Supporting protocol for FROFINET CBA         Na         Na           Supporting protocol for Extreme CPBP         Na         Na           Supporting protocol for PROFINET CBA         Na         Na           Supporting protocol for Selvagitu's Safety         Na         Na           Supporting protocol for Selvagitu's Safety         Na         Na           Supporting protoc			
Supporting pretocol for KNOX         In Section of MoDBUS         Yes Can			
Supporting protocol for DDB-Highway         4         No           Supporting protocol for DB-Highway         4         No           Supporting protocol for DB-Highway         4         No           Supporting protocol for DB-Highway         4         No           Supporting protocol for DB-HIGHBA         4         No           Supporting protocol for DB-HIGHBA         4         No           Supporting protocol for FROFINET DBA         9         No           Supporting protocol for DBA         9			
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Supporting protocol for SERCOS         No           Supporting protocol for Foundation Fieldbus         No           Supporting protocol for Femolation Fieldbus         No           Supporting protocol for Femolation Fieldbus         No           Supporting protocol for Pewical Kern Metil P         No           Supporting protocol for DeviceNet Safety         No           Supporting protocol for PROFIsafe         No           Supporting protocol for SafetyBUS p         No           Supporting protocol for Other bus systems         No           Number of HW-interfaces industrial Ethoriat         No           Number of HW-interfaces PROFINET         0           Number of HW-interfaces RS-222         0           Number of HW-interfaces RS-422         0           Number of HW-interfaces RS-425         0           Number of HW-interfaces RS-428         0           Number of HW-interfaces RS-485         0           Number of HW-interfaces seriall         0           Number of HW-interfaces other         0           With pc comment         0           Number of HW-interfaces other			
Supporting protocol for Foundation Fieldbus         No           Supporting protocol for Ether/Net/IP         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 SafetyBUS p         No           Supporting protocol for Other bus systems         Yes           Number of HW-interfaces RRGFINET         0           Number of HW-interfaces serial TTY         0           Number of HW-interfaces parallel         0           Number of HW-interfaces there         0           With pc connection         0           Integrated bra			
Supporting protocol for EtherNarIIP         No           Supporting protocol for AS-Interface Safety at Work         No           Supporting protocol for DeviceNat Safety         No           Supporting protocol for INTERBUS-Safety         No           Supporting protocol for PROFasfle         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 RS-485         1           Number of HW-interfaces RS-485         0           Number of HW-interfaces serial TTY         0           Number of HW-interfaces serial TY         0           Number of HW-interfaces parallel         0           Number of HW-interfaces parallel </td <td></td> <td></td> <td></td>			
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Supporting protocol for DeviceNet Safety         No           Supporting protocol for NTERBUS-Safety         No           Supporting protocol for PROFIsafe         No           Supporting protocol for SafetyBUS p         No           Supporting protocol for other bus systems         No           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-428         0           Number of HW-interfaces RS-488         1           Number of HW-interfaces RS-489         0           Number of HW-interfaces RS-480         0           Number of HW-interfaces Start         0           Number of HW-interfaces Start         0           Number of HW-interfaces Start         0           With Optical interface         0           With Optical interface         No           With Optical interface         No           With Optical interface         No           Viagrant Operation possible         No           Type of converter         U converter           Begree of protection (IP)         No           Begree of protection (IP)         No           Begree of protection (IP)			
Supporting protocol for INTERBUS-Safety         No           Supporting protocol for SafetyBUS p         No           Supporting protocol for SafetyBUS p         Yes           Number of HW-interfaces industrial Ethernet         0           Number of HW-interfaces PROFINET         0           Number of HW-interfaces PROFINET         0           Number of HW-interfaces RS-222         0           Number of HW-interfaces RS-425         0           Number of HW-interfaces RS-485         1           Number of HW-interfaces RS-485         0           Number of HW-interfaces RS-495         0           Number of HW-interfaces USB			
Supporting protocol for PROFIsafe         No           Supporting protocol for SafetyBUS p         No           Supporting protocol for other bus systems         Yes           Number of HW-interfaces industrial Ethernet         0           Number of HW-interfaces RPOFINET         0           Number of HW-interfaces RS-222         0           Number of HW-interfaces RS-422         0           Number of HW-interfaces RS-485         1           Number of HW-interfaces Suffer         0           Number of HW-interfaces USB         0           Number of HW-interfaces useful TTY         0           Number of HW-interfaces useful TY         0			
Supporting protocol for SafetyBUS p         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-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 barallel         0           Number of HW-interfaces other         0           With optical interface         0           With optical interface         Yes           Integrated braking resistance         Yes           4-quadrant operation possible         No           Type of converter         Voorwerter           Degree of protection (IP)         IP20           Height         mm         30           Width         mm         30           Urden         1920           Height         mm         30           Height         mm         30           Height         mm         30           Height         mm         30			
Supporting protocol for other bus systems         Yes           Number of HW-interfaces industrial Ethernet         0           Number of HW-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 PC connection         Yes           Integrated braking resistance         No           4-quadrant operation possible         No           Type of converter         U converter           Degree of protection (IP)         IP20           Height         mm         30           Writh         mm         90           Depth         mm         168           Relative symmetric net frequency tolerance         % 5         5			
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 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 braking resistance         No           4-quadrant operation possible         No           Type of converter         U converter           Degree of protection (IP)         IP20           Height         mm         30           With         mm         90           Depth         mm         168           Relative symmetric net frequency tolerance         %         5			
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Number of HW-interfaces RS-232         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 USB         0           Number of HW-interfaces parallel         0           Number of HW-interfaces other         0           With optical interface         No           With PC connection         Yes           Integrated braking resistance         No           4-quadrant operation possible         No           Type of converter         U converter           Degree of protection (IP)         IP20           Height         mm         230           Withth         mm         30           Withth         mm         168           Relative symmetric net frequency tolerance         %         5	Number of HW-interfaces industrial Ethernet		0
Number of HW-interfaces RS-425         1           Number of HW-interfaces RS-485         0           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 braking resistance         No           4-quadrant operation possible         No           Type of converter         U converter           Degree of protection (IP)         IP20           Height         mm         230           Width         mm         90           Depth         mm         168           Relative symmetric net frequency tolerance         %         5	Number of HW-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  No  With optical interface  With PC connection  No  With PC connection  No  Integrated braking resistance  4-quadrant operation possible  Type of converter  Degree of protection (IP)  Height  Mm  230  Width  No  Depth  Relative symmetric net frequency tolerance  1 1  0 0  0 0  0 0  0 0  0 0  0 0  0	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  With optical interface  With Optical interface  With PC connection  Integrated braking resistance  4-quadrant operation possible  Type of converter  Degree of protection (IP)  Height  mm  230  Width  Depth  Relative symmetric net frequency tolerance  0  0  0  0  0  0  0  0  0  0  0  0  0	Number of HW-interfaces RS-422		0
Number of HW-interfaces USB  Number of HW-interfaces parallel  Number of HW-interfaces other  O  Number of HW-interfaces other  With optical interface  With PC connection  Integrated braking resistance  Integrated braking resistance  4-quadrant operation possible  Type of converter  Degree of protection (IP)  Height  Mmm  230  Width  Depth  Relative symmetric net frequency tolerance  0  O  O  O  O  O  O  O  O  O  O  O  O	Number of HW-interfaces RS-485		1
Number of HW-interfaces parallel  Number of HW-interfaces other  O  With optical interface  With PC connection  Integrated braking resistance  4-quadrant operation possible  Type of converter  Degree of protection (IP)  Height  Mmm  Depth  Relative symmetric net frequency tolerance  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 braking resistance  4-quadrant operation possible  No  Type of converter  Degree of protection (IP)  Height  mm  230  Width  mm  90  Depth  Relative symmetric net frequency tolerance  0  0  No  Ves  No  Voorverter  U converter  IP20  mm  90  5  68  88	Number of HW-interfaces USB		0
With optical interface With PC connection With PC connection Ves Integrated braking resistance No 4-quadrant operation possible No Type of converter Degree of protection (IP) Height mm 230 Width mm 90 Depth Relative symmetric net frequency tolerance No No Type of Converter U converter U converter Degree of protection (IP) Mm 230 Midth Mm 90 Depth Relative symmetric net frequency tolerance No	Number of HW-interfaces parallel		0
With PC connection Integrated braking resistance A-quadrant operation possible Type of converter Degree of protection (IP) Height Midth Mi	Number of HW-interfaces other		0
Integrated braking resistance 4-quadrant operation possible No Type of converter U converter Degree of protection (IP) Height mm 230 Width mm 90 Depth Relative symmetric net frequency tolerance No	With optical interface		No
4-quadrant operation possible  Type of converter  Degree of protection (IP)  Height  mm  230  Width  mm  90  Depth  Relative symmetric net frequency tolerance  No  Voorwerter  U converter  IP20  IP20  Amm  90  5	With PC connection		Yes
Type of converter  Degree of protection (IP)  Height  Mm  230  Width  Mm  90  Depth  Relative symmetric net frequency tolerance  U converter  U pu  U converter  U pu  U converter  IP20  IP20  Mm  230  Mm  90  5	Integrated braking resistance		No
Degree of protection (IP)  Height  mm 230  Width  mm 90  Depth  Relative symmetric net frequency tolerance  methods  protection (IP)  mm 168  5	4-quadrant operation possible		No
Height mm 230 Width mm 90 Depth mm 168 Relative symmetric net frequency tolerance % 5	Type of converter		U converter
Widthmm90Depthmm168Relative symmetric net frequency tolerance%5	Degree of protection (IP)		IP20
Depth mm 168 Relative symmetric net frequency tolerance % 5	Height	mm	230
Relative symmetric net frequency tolerance	Width	mm	90
	Depth	mm	168
Relative symmetric net current tolerance	Relative symmetric net frequency tolerance	%	5
	Relative symmetric net current tolerance	%	10

## Approvals

Product Standards	UL 508C; CSA-C22.2 No. 14; IEC/EN61800-3; IEC/EN61800-5; CE marking
UL File No.	E172143
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
Specially designed for North America	No
Suitable for	Branch circuits
Max. Voltage Rating	1~ 240 V AC IEC: TN-S UL/CSA: "Y" (Solidly Grounded Wey)
Degree of Protection	IEC: IP20

#### **Dimensions**



#### **Additional product information (links)**

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IL040005ZU Variable frequency drives DE1	
IL040005ZU Variable frequency drives DE1	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL040005ZU2014_07.pdf
MN040011 DE1 Variable speed starter, Manual	
MN040011 Drehzahlstarter DE1, Handbuch - Deutsch	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN040011_DE.pdf
MN040011 DE1 Variable speed starter, Manual - English	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN040011_EN.pdf
MN040011 Démarreur à vitesse variable DE1, manuel d'utilisation - français	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN040011_FR.pdf
MN040011 Avviatore a velocità variabile DE1, Manuale - italiano	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN040011_IT.pdf
MN040011 DE1 Variable speed starter, Manual	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN040011_N0.pdf
MN040011 Rozrusznik silnikowy z regulacją prędkości DE1, podręcznik - polski	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN040011_PL.pdf
MN040011 DE1 Variable speed starter Manual	ftn://ftn.moeller.net/DOCUMENTATION/AWB_MANUALS/MN040011_R0.ndf