DC motor driver module; 12–30 V; brush,3.5 A

Part no. XN-322-1DCD-B35
Article no. 178794
Catalog No. XN-322-1DCD-B35

Powering Business Worldwide

Delivery program

Photo			
Function			XN300 technology modules
Connection technique			Push-in spring-cage terminal
Function			XN-322 DC motor driver for XN300
Short Description			DC motor driver module, 12-30 V, 3.5 A, brushed
Description			Current regulator module for operating a DC motor (brushed motor) with a supply voltage of 12–30 V and a max. motor current of 3.5 A. In addition, this module features two 20 mA / 350 mA (maximum current) LED drivers.
For use with			XN-312-…

Technical data

General

Standards			IEC/EN 61131-2 IEC/EN 61000-6-2 IEC/EN 61000-6-4
Electromagnetic compatibility (EMC)			
ESD	Air/contact discharge	kV	8 / 4
Electromagnetic fields	(0.08…1) / (1,4…2) / (2…2,7) GHz	V/m	10 / 3 / 1
Burst			
Supply cable		kV	2
Signal cable		kV	1
Surge			
Supply cable (balanced/unbalanced)		kV	0,5 / 0,5
Signal cable (unbalanced)		kV	1
Radiated RFI		V	10
Emitted interference (radiated, high frequency)	(30...230 MHz) / (230...1000 MHz)	dB	40 / 47 class A
Voltage fluctuations/voltage dips			Yes / 10 ms
Umgebungsbedingungen			
Klima			
Climatic proofing			Dry heat to IEC 60068-2-2 Damp heat as per EN 60068-2-3
Air pressure (operation)		hPa	795 - 1080
Relative humidity			0 - 95%, non condensing

Condensation			prevent with suitable measures
Temperature			
Betrieb		°C	0 - +55
Storage, transport	ϑ	°C	-20 - +85
Degree of Protection			IP20
Mounting position			Horizontal
Free fall, packaged (IEC/EN 60068-2-32)		m	1
Vibrations	3,5 mm / 1 g	Hz	5 - 8.4 / 8.4 -150
Mechanical shock resistance	Semisinusoida 15 g/11 ms	Impacts	18

Terminations

Rated operational data			
Insulating material group			I
Overvoltage category / pollution degree			III / 3
Rated operating voltage		V	160
Maximum load current/cross-sectional area		A / mm^2	X (not specified by plug manufacturer)
Connection design in TOP direction			Push-in spring-cage terminal (plug-in connection)
Stripping length		mm	10
Gauge pin IEC/EN 60947-1			A1
Anschlussvermögen			
"e" solid H07V-U		mm^2	0.2 - 1.5
"f" flexible H 07V-K		mm^2	0.2 - 1.5
"f" with ferrules without plastic collar according to DIN 46228-1 (ferrules crimped gas-tight)		mm^2	0.25 - 1.5
"f" with ferrules with plastic collar according to DIN 46228-1 (ferrules crimped gas-tight)		mm^2	0.25-1,5
Cable size		AWG	24 - 16

Supply

Power supply - Input			
Power supply			
Current consumption for +5 V power supply (internal)	I	mA	(typ.) 55
Current consumption for +24 V power supply	I	mA	(typ.) 15
Potential isolation	PE (polyethylene)		no
Rated operating voltage	Ue	V	24 V (X3)
Rated operational current	Ie	A	0.21
Potential isolation			no
Power supply - Output			
Sensor/transmitter supply			
Rated operating voltage	Ua	V	24 (X1)
Rated operational current	I_{max}	A	3.5
Potential isolation			no
Heat dissipation			
Heat dissipation (without active channels)		W	1.39
Max. heat dissipation		W	3.91
Notes on heat dissipation			The max. heat dissipation is specified as the maximum power produced inside the device's housing.

Analog output modules

Analog outputs			
Channels		Quantity	2
Output current			
Output current, nominal value		mA	0-20 / 0-350
Resolution		Bit	8
For connection of:			2 conductors
Notes on analog outputs			One LED driver output / One power LED driver output (both current-controlled)

Functions

Motor driver			
Channels		Quantity	1

Output current			
Output current, nominal value		mA	0-3500
Resolution		Bit	10
Connection option			2 conductors
Notes on motor driver			The motor current must not exceed a max. value of 3.5 A. This also applies to the motor's braking and starting.

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	0
Heat dissipation per pole, current-dependent	P_{vid}	W	0
Equipment heat dissipation, current-dependent	P_{vid}	W	0
Static heat dissipation, non-current-dependent	P_{vs}	W	0
Heat dissipation capacity	P_{diss}	W	0
Operating ambient temperature min.		°C	0
Operating ambient temperature max.		°C	55
Degree of Protection			IP20
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			Meets the product standard's requirements.
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.
10.12 Electromagnetic compatibility			Is the panel builder's responsibility.
10.13 Mechanical function			The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

Technical data ETIM 6.0

PLC's (EG000024) / Fieldbus, decentr. periphery - power module, motor switch (EC001605)			
Electric engineering, automation, process control engineering / Control / Field bus, decentralized peripheral / Field bus, decentralized peripheral - power module, motor switch (ecl@ss8.1-27-24-26-09 [BAA072010])			
Supply voltage AC 50 Hz		V	0 - 0
Supply voltage AC 60 Hz		V	0 - 0
Supply voltage DC		V	18 - 30
Voltage type of supply voltage			DC
Number of inputs			0
Permitted voltage at input		V	0 - 0
Type of voltage (input voltage)			DC
Type of digital output			-

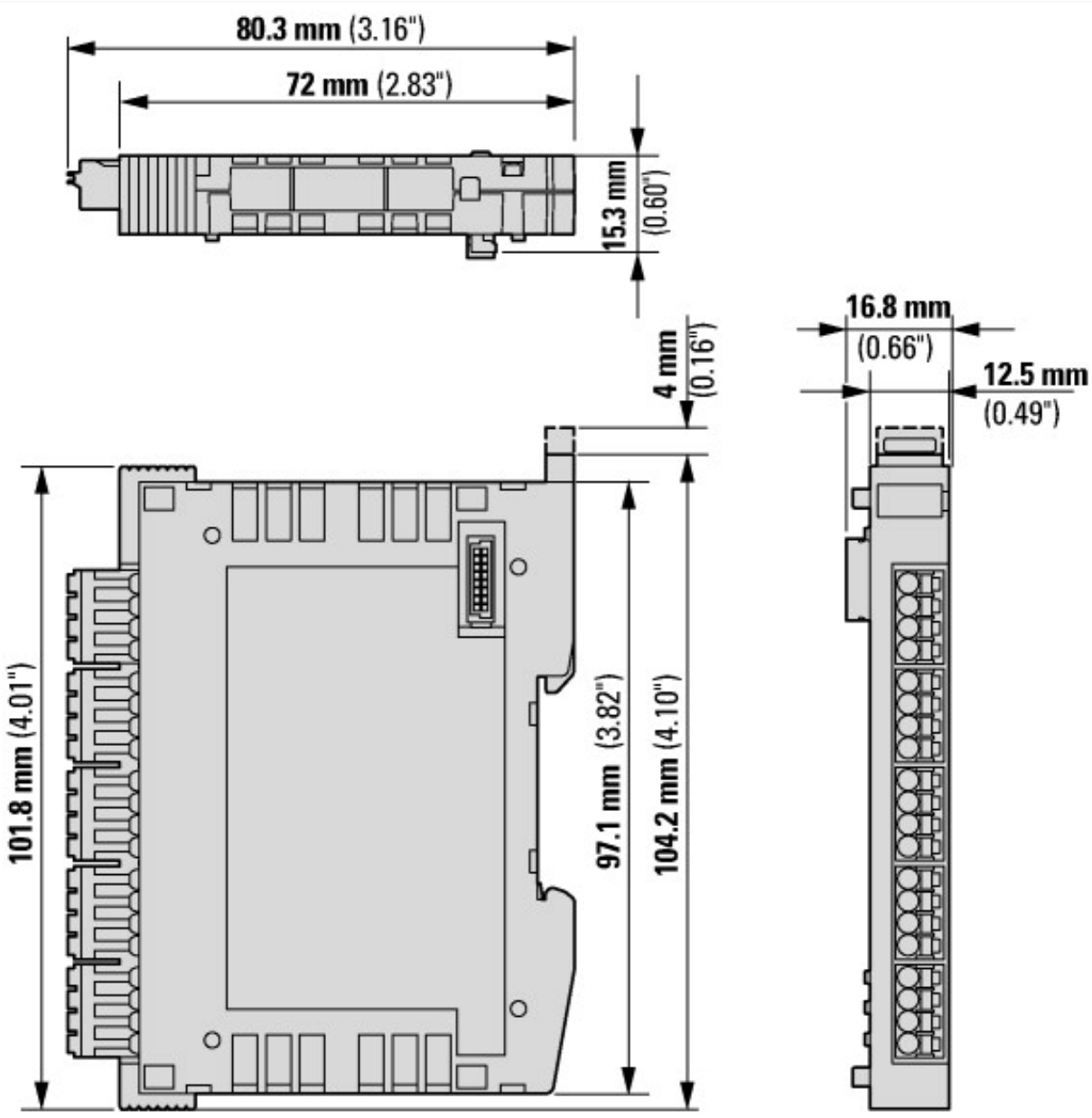
Permitted voltage at output	V	12 - 30
Type of output voltage		DC
Short-circuit protection, outputs available		Yes
Number of motor outlets		1
Rated operation current of the motor	A	3.5 - 3.5
With motor current parameter setting		Yes
Type of electrical connection at the motor output		Screw-/spring clamp connection
With brake output		No
With thermal motor protection		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		0
Number of HW-interfaces serial TTY		0
Number of HW-interfaces parallel		0
Number of HW-interfaces Wireless		0
Number of HW-interfaces other		0
With optical interface		No
Supporting protocol for TCP/IP		No
Supporting protocol for PROFIBUS		No
Supporting protocol for CAN		No
Supporting protocol for INTERBUS		No
Supporting protocol for ASI		No
Supporting protocol for KNX		No
Supporting protocol for MODBUS		No
Supporting protocol for Data-Highway		No
Supporting protocol for DeviceNet		No
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		No
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 other bus systems		Yes
Radio standard Bluetooth		No
Radio standard WLAN 802.11		No
Radio standard GPRS		No
Radio standard GSM		No
Radio standard UMTS		No
IO link master		No
System accessory		Yes
Degree of protection (IP)		IP20
Type of electric connection		Screw-/spring clamp connection
Fieldbus connection over separate bus coupler possible		Yes
Rail mounting possible		Yes
Wall mounting/direct mounting		No
Front build in possible		No
Rack-assembly possible		No

Suitable for safety functions		No
Category according to EN 954-1		
SIL according to IEC 61508		None
Performance level acc. to EN ISO 13849-1		None
Appendant operation agent (Ex ia)		No
Appendant operation agent (Ex ib)		No
Explosion safety category for gas		None
Explosion safety category for dust		None
Width	mm	16.8
Height	mm	104.2
Depth	mm	80.3

Approvals

Product Standards		CE, cULus
UL File No.		E172143

Dimensions



Notes: The plugs/connectors used depend on the version.

Dimensions

Additional product information (links)

MN050002 Manual XN300 digital I/O modules, analog I/O modules, power supply modules, technology modules

MN050002 Handbuch XN300 Digitale I/O-Module, Analoge I/O-Module, Versorgungsmodule, Technologiemodule - Deutsch	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN050002_DE.pdf
MN050002 Manual XN300 digital I/O modules, analog I/O modules, power supply modules, technology modules - English	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN050002_EN.pdf
Technical Data	http://ecat.moeller.net/flip-cat/?edition=HPLEN&startpage=14.111