DATASHEET - EASY221-CO

Bus module, integrated, 24 V DC, addressable 1-127, easyLink

Part no.	**EASY221-CO**
Catalog No.	**233539**
EL-Nummer (Norway)	**4520975**

Delivery program

Product range		Control relay easyRelay Multi-function-display MFD-Titan
Subrange		Bus modules
Accessories		Bus modules
Basic function		Expansions
Description		Can be used through easyLink Addresses available: 1 - 127
Bus protocol		CANopen®
Supply voltage		24 V DC
For use with		easy700 easy800 EC4P MFD-CP8.. ES4P

Technical data

General

Standards		EN 55011, EN 55022, IEC/EN 61000-4, EN 50325
Dimensions (W x H x D)	mm	35.5 x 90 x 58 (2 PE)
Weight	kg	0.15
Mounting		Top-hat rail IEC/EN 60715, 35 mm or screw fixing using fixing brackets ZB4-101-GF1 (accessories)

Terminal capacities

Solid	mm^2	0.2/4 (AWG 22 - 12)
Flexible with ferrule	mm^2	0.2/2.5 (AWG 22 - 12)
Standard screwdriver	mm	0.8 x 3.5
Max. tightening torque	Nm	0.6

Climatic environmental conditions

Operating ambient temperature	°C	-25 to 55, cold as per IEC 60068-2-1, heat as per IEC 60068-2-2
Condensation		Take appropriate measures to prevent condensation
Storage	°C	- 40 - 70
Relative humidity, non-condensing (IEC/EN 60068-2-30)	%	5 - 95
Air pressure (operation)	hPa	795 - 1080

Ambient conditions, mechanical

Protection type (IEC/EN 60529, EN50178, VBG 4)			IP20
Vibrations (IEC/EN 60068-2-6)		Hz	
Constant amplitude 0.15 mm		Hz	10 - 57
Constant acceleration 2 g		Hz	57 - 150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms		Impacts	18
Drop to IEC/EN 60068-2-31	Drop height	mm	50
Free fall, packaged (IEC/EN 60068-2-32)		m	1
Mounting position			Vertical or horizontal

Electromagnetic compatibility (EMC)

Overvoltage category/pollution degree		II/2
Electrostatic discharge (IEC/EN 61000-4-2, Level 3, ESD)	kV	
Air discharge	kV	8
Contact discharge	kV	6

Electromagnetic fields (IEC/EN 61000-4-3, RFI)	V/m		10
Radio interference suppression			EN 55011 Class B, EN 55022 Class B
Burst Impulse (IEC/EN 61000-4-4, Level 3)			
Supply cable		kV	2
Signal lines		kV	2
power pulses (surge) (IEC/EN 61000-4-5, level 2)		kV	0.5 (supply cables, symmetrical)
Immunity to line-conducted interference to (IEC/EN 61000-4-6)		V	10

Insulation resistance

Clearance in air and creepage distances			EN 50178, UL 508, CSA C22.2, No. 142
Insulation resistance			EN 50178

Power supply

Rated operational voltage	U_e	V	24 (-15/+20 %)
Admissible range		V DC	20.4 - 28.8
Residual ripple		%	5
max. current consumption (at 24 V DC)		mA	Normally 200
Voltage dips		ms	≤ 10
Heat dissipation at 24 V DC		W	4.8

Power supply

Residual ripple		%	< 5
Voltage dips		ms	≤ 10

Protection against polarity reversal

AS-I power supply		Yes

LEDs

Supply		RUN LED (RUN): green
LED display		LED ERROR (ERR): red

Network

Connection technique		RJ45
Potential isolation		Between bus and power supply (simple), between bus and power supply and easy base unit (safe isolation)
Function		CANopen® slave
Interface		CAN
Bus protocol		CANopen®
Baud rates		Automatic search up to 1 MBit/s
Bus terminating resistors		Separate, external bus termination required (120 Ω)
Bus addresses		1 - 127, can be addressed via EASY basic unit with display or via EASY-SOFT
Services		
Cyclical		All data R1 - R16, S1 - S8
Acyclical		Read/write, real-time, day, summer/winter time, all the parameters of the EASY function relay

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	4.8
Heat dissipation capacity	P_{diss}	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	55
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.

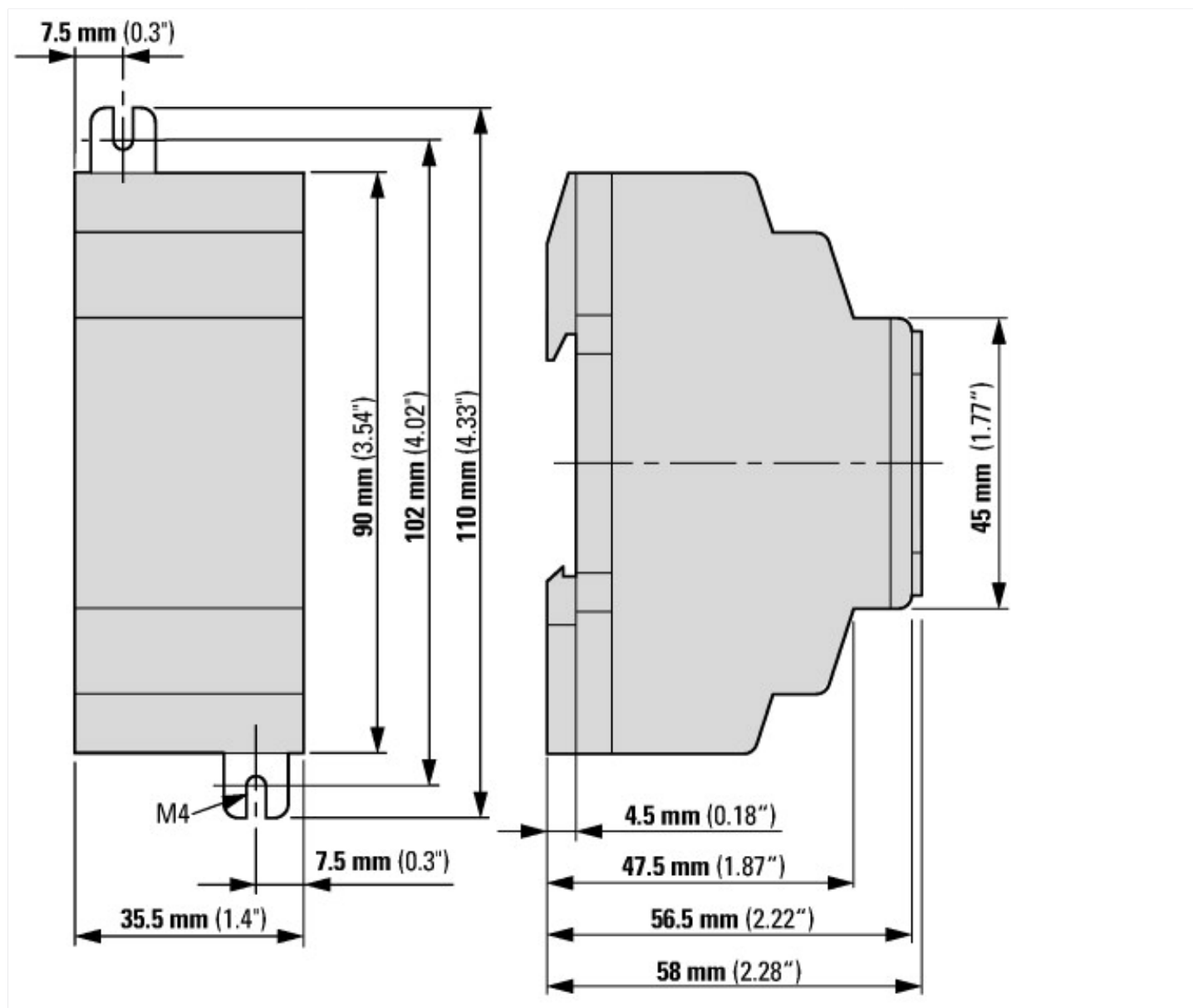|		
10.2.5 Lifting		Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact		Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions		Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES		Meets the product 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 7.0

PLC's (EG000024) / Logic module (EC001417)		
Electric engineering, automation, process control engineering / Control / Programmable logic control (SPS) / Logic module (ecl@ss10.0.1-27-24-22-16 [AKE539014])		
Supply voltage AC 50 Hz	V	0 - 0
Supply voltage AC 60 Hz	V	0 - 0
Supply voltage DC	V	20.4 - 28.8
Voltage type of supply voltage		DC
Switching current	A	0
Number of analogue inputs		0
Number of analogue outputs		0
Number of digital inputs		0
Number of digital outputs		0
With relay output		No
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		0
Number of HW-interfaces serial TTY		0
Number of HW-interfaces USB		0
Number of HW-interfaces parallel		0
Number of HW-interfaces Wireless		0
Number of HW-interfaces other		2
With optical interface		No
Supporting protocol for TCP/IP		No
Supporting protocol for PROFIBUS		No
Supporting protocol for CAN		Yes
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		No
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
Redundancy		No
With display		No
Degree of protection (IP)		IP20
Basic device		No
Expandable		Yes
Expansion device		Yes
With timer		No
Rail mounting possible		Yes
Wall mounting/direct mounting		Yes
Front build in possible		No
Rack-assembly possible		No
Suitable for safety functions		No
Category according to EN 954-1		None
SIL according to IEC 61508		None
Performance level acc. 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	36
Height	mm	90
Depth	mm	60

Approvals

Product Standards		IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking
UL File No.		E135462
UL Category Control No.		NRAQ, NRAQ7
CSA File No.		012528
CSA Class No.		2252-01 + 2258-02
North America Certification		UL listed, CSA certified
Degree of Protection		IEC: IP20, UL/CSA Type: -

Dimensions

7.5 mm (0.3")

90 mm (3.54")
102 mm (4.02")
110 mm (4.33")

M4

7.5 mm (0.3")

35.5 mm (1.4")

45 mm (1.77")

4.5 mm (0.18")
47.5 mm (1.87")
56.5 mm (2.22")
58 mm (2.28")

Assets (links)

Declaration of CE Conformity
00003063

Instruction Leaflets
IL05013013Z2018_02

Manuals
MN05013008Z_EN (English)

Additional product information (links)

Instruction leaflet "DeviceNet connection, CANopen connection for easy" IL05013013Z (AWA2528-1980)	
Instruction leaflet "DeviceNet connection, CANopen connection for easy" IL05013013Z (AWA2528-1980)	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL05013013Z2018_02.pdf
Manual "CANopen® slave connection" MN05013008Z (AWB2528-1479)	
Handbuch „Slave-Anschluss CANopen®" MN05013008Z (AWB2528-1479) - Deutsch	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05013008Z_DE.pdf
Manual "CANopen® slave connection" MN05013008Z (AWB2528-1479) - English	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05013008Z_EN.pdf