



**Counter module (incremental encoder) for XC100/200, 24 V DC, 2x400kHz, 2AO(+/-10V)**

**Part no. XIOC-2CNT-2AO-INC**  
**Catalog No. 262417**

**EL-Nummer (Norway) 4519682**

## Delivery program

Function		Counter modules
Description		Compact I/O system for connection to XC100/200 Modular PLCs XC100/200 expandable with up to 15 XI/OC modules Optionally, screw terminals or spring-loaded terminals for digital/analog modules
		2 incremental encoders up to 400 kHz, 5 V DC, 2 analog outputs, ±10 V

## Technical data

### General

Standards			IEC/EN 61131-2 EN 50178
Ambient temperature		°C	0 - +55
Storage	θ	°C	-25 - +70
Vibration resistance			10 - 57 Hz ±0.075 mm 57 - 150 Hz ±1.0 mm
Mechanical shock resistance		g	15 Shock duration 11 ms
Impact resistance			500 g/∅ 50 mm ±25 g
Current consumption		mA	Max. 450
Overvoltage category/pollution degree			II/2
Protection class			1
Degree of Protection			IP20
Emitted interference			DIN/EN 55011/22, Class A
Weight		kg	0.18

### Power supply

Rated voltage	U <sub>e</sub>	V DC	24 (12)
Admissible range			20.4 – 28.8 (11.8 – 14.4)
Residual ripple		%	≤ 5
Neutral poles			
Duration of dip		ms	10
Repetition rate		s	1
Maximum power loss	P <sub>v</sub>	W	2.25

### Inputs

Counter limits			0 - 4294967295 (32 bit)
Internal current consumption	I <sub>e</sub>	mA	450
Frequency		kHz	400 (100 with four-fold resolution)
Quantity of channels			2
Input voltage differential	U <sub>e</sub>	V DC	± 5
Voltage for On		V DC	0.2 - 5
Voltage for Off		V DC	-5 - -0.2
Input current differential		mA	5
Connection for external cabling			Plug-in terminal block

External cabling			Screened, twisted pair cable
<b>Outputs</b>			
Output type			Analog
Output channels		Qty.	2
Output voltage		V DC	-10 - 10
Resolution		Bit	12
Conversion time			≤ 1 ms
Total error		%	Normally 0.4
External load resistance (voltage output)			≥ 1 kΩ
Connection for external cabling			Plug-in terminal block
External cabling			2-core, screened cable
Current consumption of encoders			
At 5 V DC		mA	300
Transducer power supply			5V DC

## 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	2.25
Heat dissipation capacity	$P_{diss}$	W	0
Operating ambient temperature min.		°C	0
Operating ambient temperature max.		°C	55
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			
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.

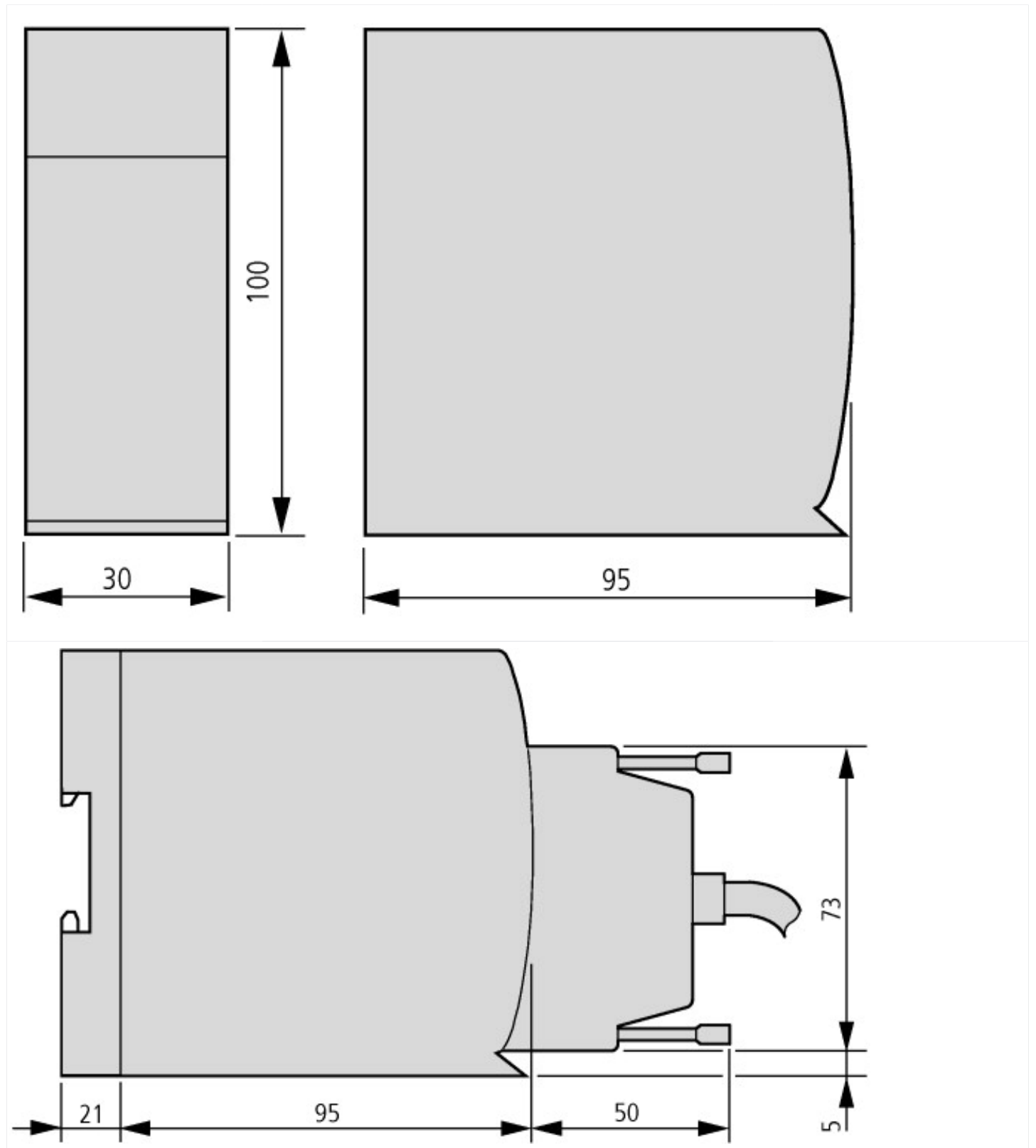
## Technical data ETIM 7.0

PLC's (EG000024) / PLC function/technology module (EC001422)		
Electric engineering, automation, process control engineering / Control / Programmable logic control (SPS) / SPS functional/technological module (ecl@ss10.0.1-27-24-22-05 [AKE528014])		
Number of functions		2
Redundancy		No
Suitable for counting		No
Suitable for weighting		No
Suitable for temperature control		No
Suitable for welding control		No
Suitable for pressure control		No
Suitable for NC		No
Function electronic positioning available		Yes
Suitable for CNC		No
Suitable for SSI		No
Suitable for incremental data detection		Yes
Suitable for detection absolute value		No
Flux controller possible		No
Suitable for flux measurement		No
Suitable for path controller		No
Suitable for cam controller		No
Suitable for flying saw		No
Suitable for multi-axis control		Yes
Single-axis controller possible		No
Suitable for multi-axis positioning		Yes
Single-axis positioning possible		No
Suitable for safety functions		No
Category according to EN 954-1		
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	30
Height	mm	100
Depth	mm	95

## Approvals

Product Standards		IEC: see Technical Data; UL508; CSA-C22.2 No. 0-M; CSA-C22.2 No. 142-M; CE marking
UL File No.		E135462
UL Category Control No.		NRAQ
CSA File No.		012528
CSA Class No.		2252-01
North America Certification		UL listed, CSA certified
Specially designed for North America		No
Current Limiting Circuit-Breaker		No
Degree of Protection		IEC: IP20, UL/CSA Type: -

## Dimensions



## Additional product information (links)

### Manual XIOC signal module MN05002002Z (AWB2725-1452)

Handbuch Signalmodul XIOC MN05002002Z  
(AWB2725-1452) - Deutsch

[https://es-assets.eaton.com/DOCUMENTATION/AWB\\_MANUALS/MN05002002Z\\_DE.pdf](https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN05002002Z_DE.pdf)

Manual XIOC signal module MN05002002Z  
(AWB2725-1452) - English

[https://es-assets.eaton.com/DOCUMENTATION/AWB\\_MANUALS/MN05002002Z\\_EN.pdf](https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN05002002Z_EN.pdf)