

**SWD T-Connector counter module IP69K, one counter input with power supply, M12 I/O socket**



**Part no. EU1E-SWD-1CX**

**174721**

**EL Number**

**4560906**

**(Norway)**

<b>General specifications</b>		
Product name		Eaton EU1E Counter module
Part no.		EU1E-SWD-1CX
EAN		4015081712076
Product Length/Depth		85.6 millimetre
Product height		20.1 millimetre
Product width		56.9 millimetre
Product weight		0.07 kilogram
Certifications		CSA UL File No.: E170645 UL IEC/EN 61131-2
Product Tradename		EU1E
Product Type		Counter module
Product Sub Type		None
Catalog Notes		4 Counter/incremental encoder 24 V DC, max. 30 kHz EN 55011 Class A
<b>Features &amp; Functions</b>		
Features		Overload protection (sensor supply) Short-circuit protection (sensor supply) Flux controller possible
Functions		Electronic positioning available Single-axis controller possible Single-axis positioning possible For connecting a counter
<b>General information</b>		
Current consumption		70 mA, Max. current consumption per M12 I/O plug, Sensor supply, SmartWire-DT network 57 mA, SmartWire-DT network, 24 V, without sensor and without I/O supply
Degree of protection		IP69 (according to IEC/EN 60529, EN 50178, VBG 4) IP69
Overvoltage category		II
Pollution degree		3
Product category		SmartWire-DT slave
Suitable for		Counting Incremental data detection Path controller
<b>Ambient conditions, mechanical</b>		
Constant acceleration		1 g, 8.4 - 150 Hz, according to IEC/EN 61131-2, Vibrations
Constant amplitude		3,5 mm, 5 - 8.4 Hz, according to IEC/EN 61131-2, Vibrations
Drop and topple		50 mm Drop height, Drop to IEC/EN 60068-2-31
Height of fall (IEC/EN 60068-2-32) - max		0.3 m
Mounting position		As required
Shock resistance		30 g, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 11 ms, 9 Impacts
<b>Climatic environmental conditions</b>		
Air pressure		795 - 1080 hPa (operation)
Ambient operating temperature - min		-25 °C
Ambient operating temperature - max		70 °C
Ambient storage temperature - min		-40 °C
Ambient storage temperature - max		70 °C
Climatic proofing		Dry heat to IEC 60068-2-2

		Damp heat, constant, to IEC 60068-2-3
Environmental conditions		Condensation: permissible
Operating temperature - min		-25 °C
Operating temperature - max		70 °C
Relative humidity		5 - 95 % (non-condensing, IEC/EN 60068-2-30)
<b>Electro magnetic compatibility</b>		
Air discharge		8 kV, according to IEC 61131-2, level 3, ESD
Burst impulse		2 kV, Supply cable, according to IEC/EN 61131-2, Level 3 1 kV, Signal cable, according to IEC/EN 61131-2, Level 3 1 kV, SmartWire-DT cable, according to IEC/EN 61131-2, Level 3
Electromagnetic fields		10 V/m at 80 - 1000 MHz (according to IEC/EN 61131-2:2008) 3 V/m at 1.4 - 2 GHz (according to IEC/EN 61131-2:2008) 1 V/m at 2.0 - 2.7 GHz (according to IEC/EN 61131-2:2008)
Radiated RFI		10 V (IEC/EN 61131-2:2008, Level 3)
Surge rating		0.5 kV, Surge power cables, Surge (IEC/EN 61131-2:2008, Level 1), EMC 1 kV, Surge I/O cables, Surge (IEC/EN 61131-2:2008, Level 1), EMC
<b>Electrical rating</b>		
Power loss		Normally 1.4 W
Rated operational voltage		24 V DC (counter inputs)
<b>Communication</b>		
Connection		5-pin M12 socket (A-keyed), Terminal for I/O sensor, Connection supply and I/O M12 plug (A-keyed), 5 pole, SWD-IN M12 socket (A-keyed), 5 pole, SWD-OUT
Connection to SmartWire-DT		Yes
Data transfer rate		Setting automatically 2 MBit/s, SmartWire-DT
LED indicator		Status indication of Counter status: Yellow LED Status indication of SmartWire-DT network: Green LED
Station		SmartWire-DT slave, SmartWire-DT network
<b>Input/Output</b>		
Counter frequency		30 kHz
Incremental encoder		Encoding: 1.2-way (Simple counter function) Counter inputs: Counter pulse, direction, reference mark (Simple counter function) Frequency measurement: 0 - 65535 Hz Encoder inputs: A, B, reference Encoding: X1 Frequency measurement: 0 - 65535 Hz (Simple counter function)
Input		1 Counter input 32 Bit (Counter value)
<b>Safety</b>		
Explosion safety category for dust		None
Explosion safety category for gas		None
Potential isolation		Inputs for SmartWire-DT: no
<b>Design verification</b>		
Equipment heat dissipation, current-dependent Pvid		0 W
Heat dissipation capacity Pdis		0 W
Heat dissipation per pole, current-dependent Pvid		0 W
Rated operational current for specified heat dissipation (In)		0 A
Static heat dissipation, non-current-dependent Pvs		1.4 W
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 Resist. of insul. mat. to abnormal heat/fire by internal elect. 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.
10.9.2 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 9.0

Programmable logic controllers PLC (EG000024) / PLC function/technology module (EC001422)

Electric engineering, automation, process control engineering / Control, Process Control System (PCS) / Programmable logic control (SPS) / SPS functional/technological module (ecl@ss13-27-24-22-05 [AKE528019])

Number of functions			3
Redundancy			No
Suitable for counting			Yes
Suitable for weighing			No
Suitable for temperature control			No
Suitable for welding control			No
Suitable for pressure control			No
Suitable for NC			No
Suitable for electronic positioning			Yes
Suitable for CNC			No
Suitable for SSI			No
Suitable for incremental data detection			Yes
Suitable for detection absolute value			No
Suitable for flux controller			Yes
Suitable for flux measurement			No
Suitable for path controller			Yes
Suitable for cam controller			No
Suitable for flying saw			No
Suitable for multi-axis control			No
Suitable for single-axis controller			Yes
Suitable for multi-axis positioning			No
Suitable for single-axis positioning			Yes
Suitable for safety functions			No
SIL according to IEC 61508			None
Performance level according 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	56.9
Height		mm	20.1
Depth		mm	85.6