DATASHEET - EU1E-SWD-1CX



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

Part no.	**EU1E-SWD-1CX**
	174721
EL Number (Norway)	**4560906**

General specifications

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	IEC/EN 61131-2 UL UL File No.: E170645 CSA
Product Tradename	EU1E
Product Type	Counter module
Product Sub Type	None

Features & Functions

Features	Flux controller possible Short-circuit protection (sensor supply) Overload protection (sensor supply)
Functions	For connecting a counter Single-axis positioning possible Single-axis controller possible Electronic positioning available

General information

Current consumption	57 mA, SmartWire-DT network, 24 V, without sensor and without I/O supply 70 mA, Max. current consumption per M12 I/O plug, Sensor supply, SmartWire-DT network
Degree of protection	IP69 IP69 (according to IEC/EN 60529, EN 50178, VBG 4)
Overvoltage category	II
Pollution degree	3
Product category	SmartWire-DT slave
Suitable for	Path controller Incremental data detection Counting

Ambient conditions, mechanical

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

Climatic environmental conditions

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	Damp heat, constant, to IEC 60068-2-3 Dry heat to IEC 60068-2-2
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)
Electro magnetic compatibility	
Air discharge	8 kV, according to IEC 61131-2, level 3, ESD
Burst impulse	1 kV, SmartWire-DT cable, according to IEC/EN 61131-2, Level 3 1 kV, Signal cable, according to IEC/EN 61131-2, Level 3 2 kV, Supply cable, according to IEC/EN 61131-2, Level 3
Electromagnetic fields	1 V/m at 2.0 - 2.7 GHz (according to IEC/EN 61131-2:2008) 3 V/m at 1.4 - 2 GHz (according to IEC/EN 61131-2:2008) 10 V/m at 80 - 1000 MHz (according to IEC/EN 61131-2:2008)
Radiated RFI	10 V (IEC/EN 61131-2:2008, Level 3)
Surge rating	1 kV, Surge I/O cables, Surge (IEC/EN 61131-2:2008, Level 1), EMC 0.5 kV, Surge power cables, Surge (IEC/EN 61131-2:2008, Level 1), EMC
Electrical rating	
Power loss	Normally 1.4 W
Rated operational voltage	24 V DC (counter inputs)
Communication	
Connection	M12 socket (A-keyed), 5 pole, SWD-OUT M12 plug (A-keyed), 5 pole, SWD-IN 5-pin M12 socket (A-keyed), Terminal for I/O sensor, Connection supply and I/O
Connection to SmartWire-DT	Yes
Data transfer rate	2 MBit/s, SmartWire-DT Setting automatically
LED indicator	Status indication of SmartWire-DT network: Green LED Status indication of Counter status: Yellow LED
Station	SmartWire-DT slave, SmartWire-DT network
Input/Output	
Counter frequency	30 kHz
Incremental encoder	Frequency measurement: 0 - 65535 Hz (Simple counter function) Encoding: X1 Encoder inputs: A, B, reference Frequency measurement: 0 - 65535 Hz Counter inputs: Counter pulse, direction, reference mark (Simple counter function) Encoding: 1.2-way (Simple counter function)
Input	32 Bit (Counter value) 1 Counter input
Safety	
Explosion safety category for dust	None
Explosion safety category for gas	None
Potential isolation	Inputs for SmartWire-DT: no
Design verification	
Equipment heat dissipation, current-dependent Pvid	0 W
Heat dissipation capacity Pdiss	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

© 04/2023 by Eaton Industries GmbH