DATASHEET - EU5C-SWD-PROFINET

Gateway, SWD, 99 SWD cards on PROFINET

Part no.	**EU5C-SWD-PROFINET**
Catalog No.	**170124**
Alternate Catalog No.	**EU5C-SWD-PROFINET**
EL-Nummer (Norway)	**4560870**

Delivery program

Product range		SmartWire-DT coordinators
Function		for connection to field bus PROFINET as PROFINET IO-Device
Short Description		Used to connect the SmartWire-DT communication system to industrial field bus systems. Powers SmartWire-DT modules and switchgear
Description		SmartWire-DT gateway for connecting up to 99 SmartWire-DT modules to an Industrial Ethernet network and for powering the SmartWire-DT modules and switchgear. A connection to PROFINET as a PROFINET I/O device can be established using the integrated 100 Mbit/s Ethernet switch and a slave configuration. The gateway features a separate USB diagnostic interface (mini USB).
Accessories		Connection of up to 99 SWD slaves

Technical data

General

Standards			IEC/EN 61131-2
Approvals			
Approvals			UL CSA
Dimensions (W x H x D)		mm	35 x 90 x 124
Weight		kg	0.16
Mounting			Top-hat rail IEC/EN 60715, 35 mm or screw fixing using fixing brackets ZB4-101-GF1 (accessories)
Mounting position			As required

Ambient conditions, mechanical

Protection type (IEC/EN 60529, EN50178, VBG 4)			IP20
Vibrations (IEC/EN 61131-2:2008)			
Constant amplitude 3,5 mm		Hz	5 - 9
Constant acceleration 1 g		Hz	9 - 150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms		Impacts	9
Drop to IEC/EN 60068-2-31	Drop height	mm	50
Free fall, packaged (IEC/EN 60068-2-32)		m	1

Electromagnetic compatibility (EMC)

Overvoltage category			II
Pollution degree			2
Electrostatic discharge (IEC/EN 61131-2:2008)			
Air discharge (Level 3)		kV	8
Contact discharge (Level 2)		kV	4
Electromagnetic fields (IEC/EN 61131-2:2008)			
80 - 1000 MHz		V/m	10
1.4 - 2 GHz		V/m	3
2 - 2.7 GHz		V/m	1
Radio interference suppression			EN 55011 Class A
Burst (IEC/EN 61131-2:2008, Level 3)			
Supply cable		kV	2
Fieldbus cable		kV	1
SmartWire-DT cable		kV	1
Surge (IEC/EN 61131-2:2008, Level 1)			
Supply cable			0.5 kV
Radiated RFI (IEC/EN 61131-2:2008, Level 3)		V	10

Operating conditions

Climatic environmental conditions			
Climatic proofing			In accordance with IEC 60068-2
Ambient temperature			
Operation	ϑ	°C	-25 - +55
Storage	ϑ	°C	-40 - +70
Atmospheric conditions			
Relative humidity, non-condensing (IEC/EN 60068-2-30)		%	5 - 95
Air pressure (operation)		hPa	795 - 1080

Supply voltage U_{Aux}

Rated operational voltage	U_{Aux}	V	24 V DC (-15/+20%)
Residual ripple on the input voltage		%	$\leqq 5$
Protection against polarity reversal			Yes
Max. current	I_{max}	A	3
Short-circuit rating			no, external fuse FAZ Z3
Power loss	P	W	Normally 1
Potential isolation			No
Rated operating voltage of 24-V-DC slaves		V	typ. U_{Aux} - 0.2

Supply voltage U_{Pow}

Supply voltage	U_{Pow}	V	24 V DC (-15/+20%)
Input voltage ripple		%	$\leqq 5$
Protection against polarity reversal			yes
Rated current	I	A	0.7
Overload proof			yes
Inrush current and duration		A	44 A/2 ms
Heat dissipation at 24 V DC		W	4.4
Potential isolation between U_{Pow} and 15 V SmartWire-DT supply voltage			No
Bridging voltage dips		ms	10
Repetition rate		s	1
Status indication		LED	yes

SmartWire-DT supply voltage

Rated operating voltage	U_e	V	14,5 ± 3 %
max. current	I_{max}	A	0.7
Short-circuit rating			Yes

Connection supply voltages

Connection type			Push in terminals
Solid		mm^2	0.2 - 1.5
Flexible with ferrule		mm^2	0.25 - 1.5
UL/CSA solid or stranded		AWG	24 - 16

SmartWire-DT network

Station type			SmartWire-DT master
Number of SmartWire-DT slaves			99
Baud Rates		kBd	125 250
Status indication			SmartWire-DT master LED: red/green Configurations LED: red/green
Connections			Plug, 8-pole
Plug connector			Blade terminal SWD4-8MF2

Fieldbus interface

Module type			PROFINET IO Device
Protocol			PROFINET
Input data, max.		Byte	800
Output data, max.		Byte	642
Baud Rate			
Baud Rates			100 MBit/s
Station address			IP
Address allocation			via PROFINET

Status display interface	Multi colour	LED	APL, SF, BF, LINK, RX/TX
Connection design for field bus			2 x RJ45 (2-channel switch)
Potential isolation			Yes
Technical data in sheet catalogue			
Other technical data (sheet catalogue)			Technical data
Notes			If contactors with a total current consumption > 3 A are connected, a power feeder module EU5C-SWD-PF1/2 has to be used. If SWD modules with a total current consumption > 0.7 A are connected, a power feeder module EU5C-SWD-PF2 has to be used.

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	1
Heat dissipation capacity	P_{diss}	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	55
Degree of Protection			IP20

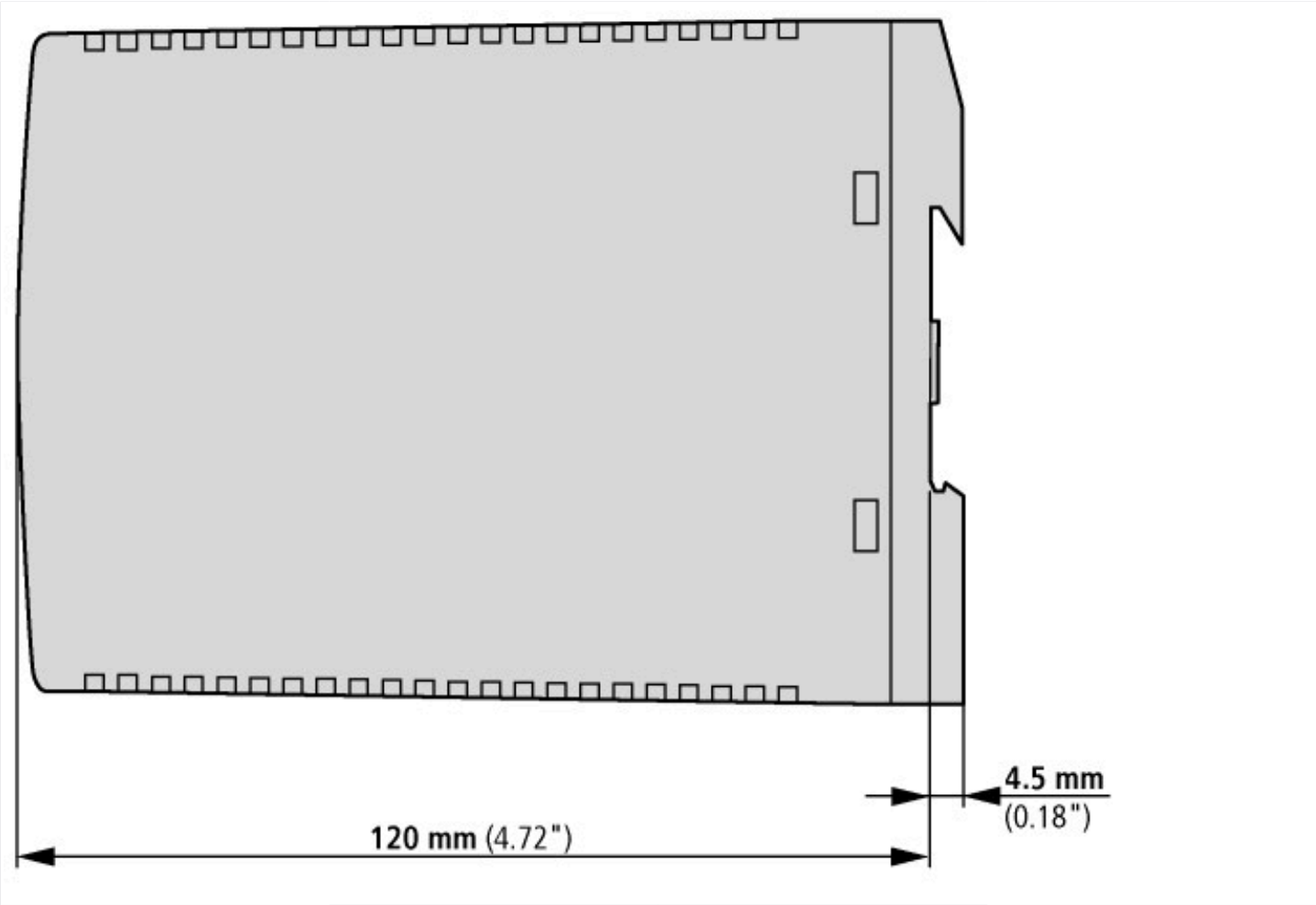| IEC/EN 61439 design verification	
10.2 Strength of materials and parts	
10.2.2 Corrosion resistance	Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures	Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials 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 8.0

Programmable logic controllers PLC (EG000024) / Fieldbus, decentr. periphery - communication module (EC001604)			
Electric engineering, automation, process control engineering / Control / Field bus, decentralized peripheral / Field bus, decentralized peripheral - communications module (ecl@ss10.0.1-27-24-26-08 [BAA073013])			
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
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 SERCOS		No
Supporting protocol for PROFINET IO		Yes
Supporting protocol for PROFINET CBA		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 Wi-Fi 802.11		No
Radio standard GPRS		No
Radio standard eGPRS		No
Radio standard GSM		No
Radio standard LTE		No
Radio standard UMTS		No
IO link master		No
System accessory		Yes
Degree of protection (IP)		IP20
With potential separation		No
Fieldbus connection over separate bus coupler possible		No
Rail mounting possible		Yes
Wall mounting/direct mounting		Yes
Front built-in possible		No
Rack-assembly possible		No
Suitable for safety functions		Yes
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	35
Height	mm	90
Depth	mm	127

Approvals

UL File No.		E221530
UL Category Control No.		NRQA
CSA File No.		UL report applies to both US and Canada
North America Certification		UL listed, CSA certified
Specially designed for North America		No
Current Limiting Circuit-Breaker		No

Dimensions

SmartWire-DT Gateways

Additional product information (links)

SmartWire-DT manual, The System MN05006002Z

Handbuch SmartWire-DT, Das System MN05006002Z - Deutsch	https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN05006002Z_DE.pdf
SmartWire-DT manual, The System MN05006002Z - English	https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN05006002Z_EN.pdf
Manuale SmartWire-DT, il sistema MN05006002Z - italiano	https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN05006002Z_IT.pdf
SmartWire-DT product range catalog	http://ecat.moeller.net/flip-cat/?edition=SWKAT&startpage=13
Technical data	http://ecat.moeller.net/flip-cat/?edition=SWKAT&startpage=40
f1=1457&f2=1181&f3=1530;Download Wizard SWD-ASSIST	http://applications.eaton.eu/sdlc?LX=11&amp
Product overview WEB)	http://www.eaton.eu/swd