

Gateway, SmartWire-DT, 58 SWD modules at PROFIBUS-DP



**Part no.** EU5C-SWD-DP  
**116308**  
**EL Number** 4519723  
**(Norway)**

General specifications	
Product name	Eaton EU5C Communication module
Part no.	EU5C-SWD-DP
EAN	4015081160488
Product Length/Depth	127 millimetre
Product height	90 millimetre
Product width	35 millimetre
Product weight	0.157 kilogram
Certifications	CSA Class No.: 3211-07 EN 50178 IEC/EN 61131-2 CSA CSA File No.: 2324643 UL File No.: E29184 UL UL Category Control No.: NKCR
Product Tradename	EU5C
Product Type	Communication module
Product Sub Type	None
Catalog 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. The gateway is equipped with a separate serial diagnostics interface (RJ45).
Features & Functions	
Features	Overload proof Potential isolation (Fieldbus Interface)
Functions	For connection to PROFIBUS-DP field bus
Operating mode	Address allocation via DIP switch
General information	
Degree of protection	IP20
Overvoltage category	II
Pollution degree	2
Product category	SmartWire-DT coordinators
Repetition rate	1 s
Residual ripple	≤ 5 % (input voltage)
Suitable for	Safety functions
Terminal capacity	0.2 - 1.5 mm <sup>2</sup> , solid 0.25 - 1.5 mm <sup>2</sup> , flexible with ferrule 24 - 16 AWG, solid or stranded
Voltage type	DC
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	15 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	55 °C

Ambient storage temperature - min		-40 °C
Ambient storage temperature - max		70 °C
Climatic proofing		In accordance with IEC 60068-2
Operating temperature - min		-25 °C
Operating temperature - max		55 °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 1 kV, SmartWire-DT cable, according to IEC/EN 61131-2, Level 3
Contact discharge		4 kV, according to IEC/EN 61131-2, Level 2, ESD
Electromagnetic fields		1 V/m at 2.0 - 2.7 GHz (according to IEC/EN 61131-2:2008) 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)
Radiated RFI		10 V (IEC/EN 61131-2:2008, Level 3)
Radio interference class		Class A (EN 55011)
Surge rating		0.5 kV, Supply cable, Surge (IEC/EN 61131-2:2008, Level 1), EMC
Voltage dips		≤ 10 ms, Bridging voltage dips
<b>Electrical rating</b>		
Inrush current		12.5 A (for 6 ms)
Power loss		Normally 1 W
Rated control supply voltage		24 V DC (UPOW, -15 %/+20 %) 24 V DC (UAUX, -15 %/+20 %)
Rated operational current (Ie)		0.7 A
Rated operational voltage		14.5 V (± 3 % - SmartWire-DT) Typically UAUX -0.2 V (for 24 V DC slaves)
Short-circuit protection		Yes, Short-circuit rating, SmartWire-DT supply voltage No, external fuse FAZ Z3, Supply voltage UAux
Supply current - max		0.7 mA
Supply voltage at AC, 50 Hz - min		0 V
Supply voltage at AC, 50 Hz - max		0 V
Supply voltage at DC - min		20.4 V
Supply voltage at DC - max		28.8 V
<b>Communication</b>		
Addressing		Address range: 1 - 126 Address set automatically
Connection		SmartWire-DT gateway for connecting up to 58 SmartWire-DT modules to the field bus and for powering the SmartWire-DT modules and switchgear. SmartWire-DT blade terminal SWD4-8MF2 Used to connect the SmartWire-DT communication system to industrial field bus systems. Powers SmartWire-DT modules and switchgear The connection to a PROFIBUS-DP is carried out via the 9 pole SUB-D socket as slave.
Connection type		SWD: Plug, 8-pole 1 x D-SUB socket, 9-pin, Field bus Push in terminals, Supply voltage
Data transfer rate		240 Byte, Fieldbus interface, Output data, max. 250 kBit/s, SmartWire-DT Automatic baud rate detection for rates ranging from 9.6 kBit/s to 12 Mbit/s. 125 kBit/s, SmartWire-DT 240 Byte, Fieldbus interface, Input data, max. Up to 12 MBit/s, Fieldbus interface
Interfaces		Module type: PROFIBUS DP slave Status display fieldbus interface for DP with Multi color LED Terminating resistor switchable via field bus connectors
LED indicator		Status indication of SmartWire-DT network: Configurable green or red LED Status indication of SmartWire-DT master: Green and red LEDs Status indication of Supply voltage: LED
Number of modules		58 (SmartWire-DT)
Protocol		DeviceNet PROFIBUS-DP
Station		2 - 125, Station address, Fieldbus interface SmartWire-DT master, SmartWire-DT network
<b>Safety</b>		
Explosion safety category for dust		None

Explosion safety category for gas		None
Potential isolation		Supply voltage UAUX: no Between UPow and 15 V SmartWire-DT supply voltage: no
Protection against polarity reversal		Yes, for supply voltage (Siemens MPI optional) Yes
<b>Design verification</b>		
Equipment heat dissipation, current-dependent Pvid		3.8 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 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) / Fieldbus, decentr. periphery - communication module (EC001604)		
Electric engineering, automation, process control engineering / Control, Process Control System (PCS) / Field bus, decentralized peripheral / Field bus, decentralized peripheral - communications module (ecl@ss13-27-24-26-08 [BAA073018])		
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 (supply voltage)		DC
Number of HW-interfaces CAN		0
Number of HW-interfaces industrial Ethernet		0
Number of interfaces PROFINET		0
Number of HW-interfaces RS-232		1
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		1
Supporting protocol for EtherCAT		No
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		Yes
Supporting protocol for SUCONET		No
Supporting protocol for LON		No
Supporting protocol for SERCOS		No
Supporting protocol for PROFINET IO		No
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 WLAN 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
Certified for UL hazardous location class I		No
Certified for UL hazardous location class II		No
Certified for UL hazardous location class III		No
Certified for UL hazardous location division 1		No
Certified for UL hazardous location division 2		No
Certified for UL hazardous location group A (acetylene)		No
Certified for UL hazardous location group B (hydrogen)		No
Certified for UL hazardous location group C (ethylene)		No
Certified for UL hazardous location group D (propane)		No
Certified for UL hazardous location group E (metal dusts)		No
Certified for UL hazardous location group F (carbonaceous dusts)		No
Certified for UL hazardous location group G (non-conductive dusts)		No

Width	mm	35
Height	mm	90
Depth	mm	127