Gateway, SmartWire-DT, 99 SWD cards at EthernetIP/MODBUS

Part no. EU5C-SWD-EIP-MODTCP
Article no. 153163
Catalog No. EU5C-SWD-EIP-MODTCP

Delivery program

Product range			SmartWire-DT coordinators
Function			For connection to the Ethernet-IP/MODBUS-TCP field bus
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. The connection to an Ethernet IP or MODBUS-TCP is carried out via the integrated Ethernet switch (10/100 Mbit) as slave. Setting of the IP address is carried out using a DIP switch or DHCP. The gateway is equipped with a separate serial diagnostics interface (RJ45).
Accessories			Connection of up to 99 SWD slaves

Technical data

General

Standards			IEC/EN 61131-2 EN 50178
Dimensions (W x H x D)		mm	35 x 90 x 124
Weight		kg	0.17
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 - 8.4
Constant acceleration 1 g		Hz	8.4 - 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	0.3

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		%	≤ 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		%	≤ 5
Siemens MPI, (optional)			yes
Rated current	I	A	0.7
Overload proof			yes
Inrush current and duration		A	12.5 A/6 ms
Heat dissipation at 24 V DC		W	3.8
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		LED	SmartWire-DT master LED: ret/green Configurations LED: red/green
Connections			Plug, 8-pole
Plug connectors			Blade terminal SWD4-8MF2

Fieldbus interface

Module type			Ethernet IP/MODBUS-TCP Slave
Protocol			Ethernet IP/MODBUS-TCP
Input data, max.		Byte	Ethernet-IP: 546 MODBUS-TCP: 800
Output data, max.		Byte	Ethernet-IP: 496 MODBUS-TCP: 642
Baud Rate			
Baud Rates			10/100 MBit/s
Baud rate setting			automatic
Station address			IP

Address allocation			via Dip switch/DHCP/BOOTP
Status display interface	Multi colour	LED	MS, Link status
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 6.0

PLC's (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@ss8.1-27-24-26-08 [BAA073010])

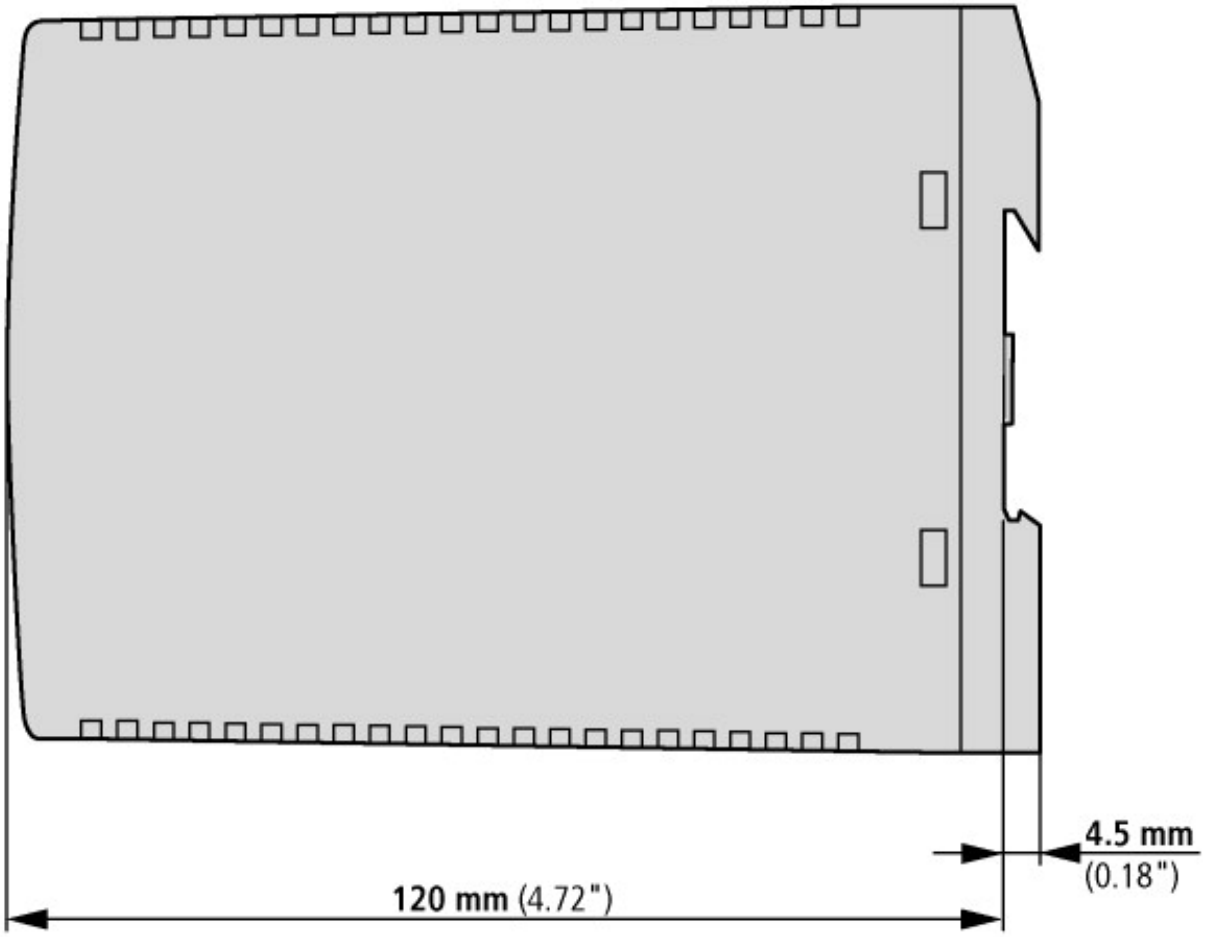
Supply voltage AC 50 Hz		V	0 - 0
Supply voltage AC 60 Hz		V	0 - 0
Supply voltage DC		V	20.4 - 28.8
Voltage type of supply voltage			DC
Supporting protocol for TCP/IP			No

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		Yes
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		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 GSM		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 build in possible		No
Rack-assembly possible		No
Suitable for safety functions		Yes
Category according to EN 954-1		
SIL according to IEC 61508		None
Performance level acc. 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	122

Approvals

UL File No.		E29184
UL Category Control No.		NKCR
CSA File No.		2324643
CSA Class No.		3211-07
North America Certification		UL listed, CSA certified
Specially designed for North America		No

Dimensions



SmartWire-DT Gateways

Additional product information (links)

Instruction leaflet "SWD gateways and power feeder module: PROFIBUS-DP, CANopen, Powerfeed, Modbus" IL05006001Z	
Instruction leaflet "SWD gateways and power feeder module: PROFIBUS-DP, CANopen, Powerfeed, Modbus" IL05006001Z	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL05006001Z2011_07.pdf
MN120003Z (MN05013002Z, AWB2723-1612), SmartWire-DT Gateway EU5C-SWD-EIP-MODTCP	
MN120003Z (MN05013002Z, AWB2723-1612), SmartWire-DT-Gateway EU5C-SWD-EIP-MODTCP - Deutsch	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN120003Z_DE.pdf
MN120003Z (MN05013002Z, AWB2723-1612), SmartWire-DT Gateway EU5C-SWD-EIP-MODTCP - English	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN120003Z_EN.pdf
MN05006002Z (AWB2723-1617) SmartWire-DT, The system	
MN05006002Z (AWB2723-1617) SmartWire-DT, Das System - Deutsch	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05006002Z_DE.pdf
MN05006002Z (AWB2723-1617) SmartWire-DT, The system - English	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05006002Z_EN.pdf
MN05006002Z (AWB2723-1617) SmartWire-DT, il sistema - italiano	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05006002Z_IT.pdf
amp;startpage=Title;Product Range Catalog SmartWire-DT	http://ecat.moeller.net/flip-cat/?edition=SWCAT&amp
Technical data	http://ecat.moeller.net/flip-cat/?edition=SWCAT&startpage=32
SWD-ASSIST	http://downloadcenter.moeller.net/en/software.a487d8b7-da91-486f-b3ba-a7ca2035db99

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