

Specifications



Eaton 171797

Eaton EU5C Gateway, SWD, 99 SmartWire-DT cards on Powerlink

General specifications

PRODUCT NAME	Eaton EU5C Communication module
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CATALOG NUMBER	171797
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MODEL CODE	EU5C-SWD-POWERLINK
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EAN	4015081683314
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PRODUCT LENGTH/DEPTH	127 mm
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PRODUCT HEIGHT	90 mm
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PRODUCT WIDTH	35 mm
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PRODUCT WEIGHT	0.16 kg
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CERTIFICATIONS	UL Category Control No.: NRQA IEC/EN 61131-2 UL report applies to both US and Canada UL CSA UL File No.: E221530
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Powering Business Worldwide

Ambient conditions, mechanical

CONSTANT ACCELERATION	1 g, 9 - 150 Hz, according to IEC/EN 61131-2, Vibrations
CONSTANT AMPLITUDE	3,5 mm, 5 - 9 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	1 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 - MAX	55 °C
AMBIENT STORAGE TEMPERATURE - MAX	70 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
AMBIENT STORAGE TEMPERATURE - MIN	-40 °C
CLIMATIC PROOFING	In accordance with IEC 60068-2
OPERATING TEMPERATURE - MAX	55 °C
OPERATING TEMPERATURE - MIN	-25 °C
RELATIVE HUMIDITY	5 - 95 % (non-condensing, IEC/EN 60068-2-30)

Communication

CONNECTION	Used to connect the SmartWire-DT communication system to industrial field bus systems. Powers SmartWire-DT modules and switchgear 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. SmartWire-DT blade terminal SWD4-8MF2 A connection to Powerlink can be established using the integrated 100 Mbit/s Ethernet hub as slave.
CONNECTION TYPE	2 x RJ45 (two-channel hub), Field bus interface SWD: Plug, 8-pole Push in terminals, Supply voltage
DATA TRANSFER RATE	250 kBit/s, SmartWire-DT 100 MBit/s, Fieldbus interface 800 Byte, Fieldbus interface, Input data, max. 125 kBit/s, SmartWire-DT 542 Byte, Fieldbus interface, Output data, max.
INTERFACES	Module type: Powerlink slave Status display fieldbus interface for APL, SF, BF, LINK, RX/TX with Multi colour LED
LED INDICATOR	Status indication of Supply voltage: LED Status indication of SmartWire-DT master: Green and red LEDs Status indication of SmartWire-DT network: Configurable green or red LED
NUMBER OF MODULES	99 (SmartWire-DT)
PROTOCOL	Other bus systems Powerlink V2
STATION	IP, Station address, Fieldbus interface SmartWire-DT master,

Design verification

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.
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.
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10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS	Is the panel builder's responsibility.
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10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH	Is the panel builder's responsibility.
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10.9.3 IMPULSE WITHSTAND VOLTAGE	Is the panel builder's responsibility.
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10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL	Is the panel builder's responsibility.
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EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	4.4 W
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HEAT DISSIPATION CAPACITY PDISS	0 W
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HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	0 W
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RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	0 A
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STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	1 W
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Electrical rating

INRUSH CURRENT	44 A (for 2 ms)
POWER LOSS	Normally 1 W
RATED CONTROL SUPPLY VOLTAGE	24 V DC (UAUX, -15 %/+20 %) 24 V DC (UPOW, -15 %/+20 %)
RATED OPERATIONAL CURRENT (IE)	0.7 A
RATED OPERATIONAL VOLTAGE	14.5 V ($\pm 3\%$ - 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 DC - MAX	28.8 V
SUPPLY VOLTAGE AT DC - MIN	20.4 V

Features & functions

FEATURES	Potential isolation (Fieldbus Interface) Overload proof
FUNCTIONS	For connection to a POWERLINK field bus as a slave
OPERATING MODE	Address allocation via Powerlink

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 2 kV, Supply cable, according to IEC/EN 61131-2, Level 3
CONTACT DISCHARGE	4 kV, according to IEC/EN 61131-2, Level 2, ESD
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)
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

General information

DEGREE OF PROTECTION	IP20
MOUNTING METHOD	Wall mounting/direct mounting Top-hat rail fixing (according to IEC/EN 60715, 35 mm) Screw fixing using fixing brackets ZB4-101-GF1 (accessories) Rail mounting possible
OVERVOLTAGE CATEGORY	II
POLLUTION DEGREE	2
PRODUCT CATEGORY	SmartWire-DT coordinators
REPETITION RATE	1 s
RESIDUAL RIPPLE	$\leq 5\%$ (input voltage)
SUITABLE FOR	Safety functions

Safety

EXPLOSION SAFETY CATEGORY FOR DUST None

EXPLOSION SAFETY CATEGORY FOR GAS None

POTENTIAL ISOLATION Between UPow and 15 V
SmartWire-DT supply voltage: no
Supply voltage UAUX: no

PROTECTION AGAINST POLARITY REVERSAL Yes, for supply voltage (Siemens MPI optional)
Yes

TERMINAL CAPACITY

0.25 - 1.5 mm², flexible with ferrule
24 - 16 AWG, solid or stranded
0.2 - 1.5 mm², solid

VOLTAGE TYPE

DC

Resources

BROCHURES

[eaton-smartwire-dt-intelligent-wiring-brochure-br120001en-en-us.pdf](#)

CATALOGUES

[eaton-drives-soft-starter-catalog-ca04020001zen-us.pdf](#)

[eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf](#)

DECLARATIONS OF CONFORMITY

[eaton-communication-module-declaration-of-conformity-eu251578en.pdf](#)

DRAWINGS

[eaton-modular-plc-samrtwire-eu5c-communication-module-dimensions.eps](#)

[eaton-modular-plc-eu5c-communication-module-dimensions.eps](#)

[eaton-modular-plc-eu5c-communication-module-3d-drawing-002.eps](#)

ECAD MODEL

[DA-CE-ETN.EU5C-SWD-POWERLINK](#)

INSTALLATION VIDEOS

[SmartWire-DT in Application](#)

MANUALS AND USER GUIDES

[MN05006002Z_EN](#)

MCAD MODEL

[eaton-eu5c_swd_sercos-PL-ETH-3d-model.stp](#)

[eaton-com-modules-mcad-drawings-eu5c-swd-sercos-pl-eth.dwg](#)

MULTIMEDIA

[easyE4 SmartWire-DT module with Remote Touch Display and RMQ multi color indicator](#)

[How to process SmartWire-DT modules using the EASY-COM-SWD-C1 module connected to an easyE4?](#)

[SmartWire-DT Overview and how to use in easySoft Z](#)

SALES NOTES	eaton-electro-hydraulic-module-eu1h-flyer-fl120003en-en-us.pdf
	eaton-rmq-chemical-resistance-flyer-fl047011en-en-us.pdf

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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