Specifications

Eaton 153163

Catalog Number: 153163

Eaton EU5C Gateway, SmartWire-DT, 99 SWD cards at EthernetIP/MODBUS



General specifications

Product Name
Eaton EU5C Communication module

Catalog Number
153163

EAN
4015081498901

Product Length/Depth
127 mm

Product Height
90 mm

Product Width
35 mm

Product Weight
0.162 kg

Compliances
Eaton supports the product until its end of life

Certifications
CSA File No.: 2324643
UL File No.: E29184
CSA Class No.: 3211-07
IEC/EN 61131-2
UL Category Control No.: NKCR
CSA
EN 50178
UL

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Features & Functions

Features

Overload proof

Potential isolation (Fieldbus Interface)

Functions

For connection to the Ethernet-IP/MODBUS-TCP field bus

Operating mode

Address allocation via DIP switch/DHCP/BOOTP

General

Degree of protection

IP20

Mounting method

Wall mounting/direct mounting

Rail mounting possible

Screw fixing using fixing brackets ZB4-101-GF1 (accessories)

Top-hat rail fixing (according to IEC/EN 60715, 35 mm)

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 mm², solid

24 - 16 AWG, solid or stranded

0.25 - 1.5 mm², flexible with ferrule

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

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

Mounting position

As required

Shock resistance

15 g, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 11 ms, 9 Impacts

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)

Electro magnetic compatibility

Air discharge

8 kV, according to IEC 61131-2, level 3, ESD

Burst impulse

1 kV

1 kV, SmartWire-DT cable, according to IEC/EN 61131-2, Level 3

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

Electrical rating

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

Typically UAUX -0.2 V (for 24 V DC slaves)

14.5 V (± 3 % - SmartWire-DT)

Short-circuit protection

No, external fuse FAZ Z3, Supply voltage UAux

Yes, Short-circuit rating, SmartWire-DT supply voltage

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

Communication

Addressing

Address set automatically

Connection

The connection to an Ethernet IP or MODBUS-TCP is carried out via the integrated Ethernet switch (10/100 Mbit) as slave.
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
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.

Connection type

2 x RJ45 (2-channel switch), Field bus interface
Push in terminals, Supply voltage
SWD: Plug, 8-pole

Data transfer rate

125 kBit/s, SmartWire-DT
546 Byte, Fieldbus interface, Input data, max., Ethernet-IP
800 Byte, Fieldbus interface, Input data, max., MODBUS-TCP
250 kBit/s, SmartWire-DT
10/100 MBit/s, Fieldbus interface
496 Byte, Fieldbus interface, Output data, max., Ethernet-IP
800 Byte, Fieldbus interface, Output data, max., MODBUS-TCP

Interfaces

Module type: Ethernet IP/MODBUS-TCP Slave
Status display fieldbus interface for MS, Link status with Multi color LED

LED indicator

Status indication of Supply voltage: LED
Status indication of SmartWire-DT network: Configurable green or red LED
Status indication of SmartWire-DT master: Green and red LEDs

Number of modules

99 (SmartWire-DT)

Protocol

Ethernet IP/MODBUS-TCP
MODBUS

Station

IP, Station address, Fieldbus interface
SmartWire-DT master, SmartWire-DT network

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

Design verification

Equipment heat dissipation, current-dependent Pvid

3.8 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 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.

Resources

Brochures

eaton-smartwire-dt-intelligent-wiring-brochure-br120001en-en-us.pdf

Catalogs

SmartWire-DT Catalog

Product Range Catalog Drives Engineering

eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf

Declarations of conformity

DA-DC-00003866.pdf

DA-DC-00003542.pdf

Drawings

eaton-modular-plc-eu5c-communication-module-dimensions.eps

eaton-modular-plc-samrtwire-eu5c-communication-module-dimensions.eps

eaton-general-approval-easy-control-relays-standards.jpg

eaton-general-eu5e-i-o-module-symbol.eps

2723DRW-70

eaton-general-easy-control-relays-symbol-002.tif

eaton-modular-plc-eu5c-communication-module-3d-drawing.eps

eCAD model

DA-CE-ETN.EU5C-SWD-EIP-MODTCP

Installation instructions

eaton-smartwire-dt-module-instruction-leaflet-il05006001Z.pdf

Installation videos

SmartWire-DT in Application

Manuals and user guides

MN120003Z_EN

MN05006002Z_EN

mCAD model

eaton-eu5c_swd_eip_modtcp-drawing.dwg

eaton-eu5c_swd_eip_modtcp-3d-model.stp

DA-CD-eu5c_swd_1

DA-CS-eu5c_swd_1

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 7

Sales notes

eaton-rmq-chemical-resistance-flyer-fl047011en-en-us.pdf

eaton-electro-hydraulic-module-eu1h-flyer-fl120003en-en-us.pdf

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