Specifications

Eaton 144064

Catalog Number: 144064

Eaton EU5E I/O module, SmartWire-DT, 24 V DC, 4AI configurable Pt100 / Pt1000: -50 - +200°C, Ni1000: -50 - +150 °C



General specifications

Product Name
Eaton EU5E Accessory Input module

Catalog Number
144064

EAN
4015081405947

Product Length/Depth
102 mm

Product Height
90 mm

Product Width
35 mm

Product Weight
0.092 kg

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

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Features & Functions

Electric connection type

Flat plug-in connection

Features

Input, resistance thermometer

Analog outputs configurable

Fieldbus connection over separate bus coupler possible

Analog inputs configurable

Fitted with:

Display mode for temperatures (°C, °F, raw value)

Temperature sensors PT100, PT1000 and Ni1000

Functions

For connection of analog I/O signals

Adjustable parameter settings

General

Current consumption

22 mA, SmartWire-DT network

Degree of protection

IP20

NEMA 1

Mounting method

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

Rail mounting possible

Wall mounting/direct mounting

Overvoltage category

II

Pollution degree

2

Product category

SmartWire-DT slave

Repetition accuracy

0.5 % (Temperature inputs)

Residual ripple

≤ 5 % (input voltage)

Terminal capacity

0.25 - 1.5 mm² (24 - 16 AWG), flexible with ferrule, Terminal for I/O sensor

0.2 - 1.5 mm² (AWG 24 - 16), solid, Terminal for I/O sensor

Type

Analog modules

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

Climatic environmental conditions

Air pressure

795 - 1080 hPa (operation)

Ambient operating temperature - min

-25 °C

Ambient operating temperature - max

55 °C

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

Ambient storage temperature - min

-40 °C

Ambient storage temperature - max

70 °C

Climatic proofing

Damp heat, constant, to IEC 60068-2-3

Dry heat to IEC 60068-2-2

Environmental conditions

Condensation: prevent with appropriate measures

Operating temperature - min

-50 °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

2 kV, Signal cable, according to IEC/EN 61131-2, Level 3

2 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

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 B (EN 55011)

Surge rating

1 kV, Surge power cables, Surge (IEC/EN 61131-2:2008, Level 1), EMC

1 kV, Surge I/O cables, Surge (IEC/EN 61131-2:2008, Level 1), EMC

Electrical rating

Power loss

0.6 W

Rated operational voltage

24 V DC (-15 %/+ 20 % - power supply)

Supply voltage at AC, 50 Hz - min

0 VAC

Supply voltage at AC, 50 Hz - max

0 VAC

Supply voltage at DC - min

0 VDC

Supply voltage at DC - max

0 VDC

Communication

Connection to SmartWire-DT

Yes

Connection type

Plug, 8-pole, SmartWire-DT

Push in terminals, Supply and I/O sensor

Connection plug: external device plug SWD4-8SF2-5,

SmartWire-DT

Data transfer rate

Setting automatically

250 kBit/s, SmartWire-DT

LED indicator

Status indication of SmartWire-DT network: Green LED

Protocol

Other bus systems

Station

SmartWire-DT slave, SmartWire-DT network

Input/Output

Conversions

250 ms, Temperature inputs

Input

Inputs, configurable (PT100, PT1000, Ni1000)

Number of inputs (analog)

4

Number of outputs (analog)

0

Resolution

0.1 °C, Temperature inputs

Total error

± 1 %, Temperature Inputs

Safety

Explosion safety category for dust

None

Explosion safety category for gas

None

Potential isolation

Inputs for SmartWire-DT: yes

Protection against polarity reversal

Yes, for supply voltage (Siemens MPI optional)

Yes

Design verification

Equipment heat dissipation, current-dependent Pvid

0 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

0.6 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

Product Range Catalog Drives Engineering

SmartWire-DT Catalog

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

Declarations of conformity

DA-DC-00003548.pdf

DA-DC-00003860.pdf

Drawings

eaton-modular-plc-eu5e-i-o-module-dimensions-002.eps

eaton-modular-plc-eu5e-i-o-module-dimensions.eps

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

eaton-modular-plc-swd-eu5e-i-o-module-3d-drawing.eps

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

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

eCAD model

DA-CE-ETN.EU5E-SWD-4PT

Installation instructions

IL05006002Z

Installation videos

SmartWire-DT in Application

Manuals and user guides

MN05006001Z_EN

MN05006002Z_EN

mCAD model

DA-CS-eu5e_swd_4

eaton-eu5e-swd-4pt-3d-model.stp

eaton-eu5e-swd-4pt-drawing.dwg

DA-CD-eu5e_swd_4

Multimedia

SmartWire-DT Overview and how to use in easySoft 7

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?

Sales notes

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

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

Wiring diagrams

eaton-modular-plc-module-eu5e-input-module-wiring-diagram.eps

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