

Specifications



Eaton 144063

Eaton EU5E SWD I/O module, 2 analog inputs, 2 analog outputs, parameterizable 0-10V/0-20mA

General specifications

PRODUCT NAME	Eaton EU5E I/O module
CATALOG NUMBER	144063
MODEL CODE	EU5E-SWD-2A2A
EAN	4015081405930
PRODUCT LENGTH/DEPTH	102 mm
PRODUCT HEIGHT	90 mm
PRODUCT WIDTH	35 mm
PRODUCT WEIGHT	0.09 kg
CERTIFICATIONS	UL Category Control No.: NKCR IEC/EN 61131-2 UL CSA UL File No.: E29184 CSA Class No.: 3211-07 CSA File No.: 2324643
CATALOG NOTES	alog outputs 0?10V or 0?20 mA

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

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

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	Damp heat, constant, to IEC 60068-2-3 Dry heat to IEC 60068-2-2
ENVIRONMENTAL CONDITIONS	Condensation: prevent with appropriate measures
OPERATING TEMPERATURE - MAX	55 °C
OPERATING TEMPERATURE - MIN	-25 °C
RELATIVE HUMIDITY	5 - 95 % (non-condensing, IEC/EN 60068-2-30)

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	Meets the product standard's requirements.

ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS	
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.
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	1.5 W

Electrical rating

INPUT CURRENT	0 - 20 mA (Analog inputs)
INPUT VOLTAGE	0 - 10 V (Analog inputs)
OUTPUT CURRENT	0 - 20 mA, Analog outputs Max. 10 mA
OUTPUT VOLTAGE	0 - 10 V (analog outputs)
POWER LOSS	1.5 W
RATED OPERATIONAL VOLTAGE	24 V DC (-15 %/+ 20 % - power supply)
SHORT-CIRCUIT PROTECTION	Yes, Short-circuit proof, Analog outputs

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

Features & functions

ELECTRIC CONNECTION TYPE

Flat plug-in connection

FEATURES

Output, current
Fieldbus connection over separate bus coupler possible
Input, current
Analog outputs configurable
Output signal configurable

Input, voltage
Output, voltage
Analog inputs configurable

Fieldbus connection over separate bus coupler possible

FUNCTIONS

Adjustable parameter settings
For connection of analog I/O signals

General information

CURRENT CONSUMPTION

22 mA, SmartWire-DT network

DEGREE OF PROTECTION

IP20
NEMA 1

MOUNTING METHOD

Wall mounting/direct mounting
Top-hat rail fixing (according to IEC/EN 60715, 35 mm)
Rail mounting possible

OVERVOLTAGE CATEGORY

II

POLLUTION DEGREE

2

PRODUCT CATEGORY

SmartWire-DT slave

REPETITION ACCURACY

0.5 % (Analog inputs)
0.5 % (Analog outputs)

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
- Analog outputs

VOLTAGE TYPE

DC

Input/Output

CONVERSIONS	20 ms, Analog inputs 20 ms, Analog outputs
DIELECTRIC STRENGTH	30 kV/mm, according to IEC 60243-1
INPUT	Current Inputs configurable (0 - 10 V, 0 - 20 mA) Voltage
INPUT IMPEDANCE	< 250 Ω
LOAD RESISTANCE	< 500 Ω
NUMBER OF INPUTS (ANALOG)	2
NUMBER OF OUTPUTS (ANALOG)	2
OUTPUT	Outputs configurable (0 - 10 V, 0 - 20 mA)
RESOLUTION	• 12 Bit (Analog inputs) • 12 Bit (Analog outputs)
TOTAL ERROR	$\pm 1\%$, Outputs $\pm 1\%$, Inputs

Safety

EXPLOSION SAFETY CATEGORY FOR DUST	None
EXPLOSION SAFETY CATEGORY FOR GAS	None
POTENTIAL ISOLATION	Inputs for SmartWire-DT: yes Outputs to SmartWire-DT: yes
PROTECTION AGAINST POLARITY REVERSAL	Yes Yes, for supply voltage (Siemens MPI optional)

Resources

BROCHURES	eaton-smartwire-dt-intelligent-wiring-brochure-br120001en-en-us.pdf
CATALOGUES	eaton-drives-soft-starter-catalog-ca04020001zen-us.pdf SmartWire-DT Catalog eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf
DECLARATIONS OF CONFORMITY	eaton-i-o-module-declaration-of-conformity-eu250509en.pdf eaton-i-o-module-declaration-of-conformity-uk250992en.pdf
DRAWINGS	eaton-modular-plc-eu5e-i-o-module-dimensions-002.eps eaton-modular-plc-eu5e-i-o-module-dimensions.eps 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 eaton-general-easy-control-relays-symbol-002.tif
ECAD MODEL	ETN.EU5E-SWD-2A2A
INSTALLATION INSTRUCTIONS	IL05006002Z
INSTALLATION VIDEOS	SmartWire-DT in Application
MANUALS AND USER GUIDES	MN05006001Z_EN MN05006002Z_EN
MCAD MODEL	eaton-eu5e-swd-2a2a-3d-model.stp eaton-accessories-mcad-drawings-eu5e-swd-2a2a.dwg

MULTIMEDIA	How to process SmartWire-DT modules using the EASY-COM-SWD-C1 module connected to an easyE4? easyE4 SmartWire-DT module with Remote Touch Display and RMQ multi color indicator 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
WIRING DIAGRAMS	eaton-modular-plc-power-supply-eu5e-i-o-module-wiring-diagram-002.eps

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
DATE:



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