DATASHEET - EU5E-SWD-2A2A

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

Powering Business Worldwide

Part no.	**EU5E-SWD-2A2A**
	144063
EL Number (Norway)	**4519613**

General specifications

Product name	Eaton EU5E I/O module
Part no.	EU5E-SWD-2A2A
EAN	4015081405930
Product Length/Depth	102 millimetre
Product height	90 millimetre
Product width	35 millimetre
Product weight	0.09 kilogram
Certifications	CSA CSA Class No.: 3211-07 CSA File No.: 2324643 IEC/EN 61131-2 UL Category Control No.: NKCR UL UL File No.: E29184
Product Tradename	EU5E
Product Type	I/O module
Product Sub Type	None
Catalog Notes	alog outputs 0?10V or 0?20 mA

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
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
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 mm^2 (24 - 16 AWG), flexible with ferrule, Terminal for I/O sensor 0.2 - 1.5 mm^2 (AWG 24 - 16), solid, Terminal for I/O sensor
Type	Analog modules Analog outputs
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
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 - min	-25 °C
Ambient operating temperature - max	55 °C
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	-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	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

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
Supply voltage at AC, 50 Hz - min	0 V AC
Supply voltage at AC, 50 Hz - max	0 V AC
Supply voltage at DC - min	0 V DC
Supply voltage at DC - max	0 V DC

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	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			± 1 %, Outputs ± 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)

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			1.5 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.

Technical data ETIM 9.0

Programmable logic controllers PLC (EG000024) / Fieldbus, decentr. periphery - analogue I/O module (EC001596)

Electric engineering, automation, process control engineering / Control, Process Control System (PCS) / Field bus, decentralized peripheral / Field bus, decentralized peripheral - analogue I/O module (ecl@ss13-27-24-26-01 [BAA061019])

Supply voltage AC 50 Hz		V	0 - 0
Supply voltage AC 60 Hz		V	0 - 0
Supply voltage DC		V	0 - 0
Voltage type (supply voltage)			DC
Power consumption		W	1.5
Input, current			Yes
Input, voltage			Yes
Input, resistor			No
Input, resistance thermometer			No
Input, thermocouple			No
Input signal, configurable			No
Resolution of the analogue inputs		Bit	12
Output, current			Yes

Output, voltage			Yes
Output signal configurable			Yes
Resolution of the analogue outputs		Bit	12
Number of analogue inputs			2
Number of analogue outputs			2
Analogue inputs configurable			Yes
Analogue outputs configurable			Yes
Number of HW-interfaces industrial Ethernet			0
Number of interfaces PROFINET			0
Number of HW-interfaces RS-232			0
Number of HW-interfaces RS-422			0
Number of HW-interfaces RS-485			0
Number of HW-interfaces serial TTY			0
Number of HW-interfaces parallel			0
Number of HW-interfaces wireless			0
Number of HW-interfaces USB			0
Number of HW-interfaces other			0
Supporting protocol for EtherCAT			No
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			No
Supporting protocol for Data-Highway			No
Supporting protocol for DeviceNet			No
Supporting protocol for SUCONET			No
Supporting protocol for LON			No
Supporting protocol for PROFINET IO			No
Supporting protocol for PROFINET CBA			No
Supporting protocol for SERCOS			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			Yes
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
Degree of protection (NEMA)			1
Type of electric connection			Flat plug-in connection
Fieldbus connection over separate bus coupler possible			Yes
Rail mounting possible			Yes
Wall mounting/direct mounting			Yes
Front built-in possible			No
Rack-assembly possible			No

Suitable for safety functions			No
SIL according to IEC 61508			None
Performance level according 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
Certified for UL hazardous location class I			No
Certified for UL hazardous location class II			No
Certified for UL hazardous location class III			No
Certified for UL hazardous location division 1			No
Certified for UL hazardous location division 2			No
Certified for UL hazardous location group A (acetylene)			No
Certified for UL hazardous location group B (hydrogen)			No
Certified for UL hazardous location group C (ethylene)			No
Certified for UL hazardous location group D (propane)			No
Certified for UL hazardous location group E (metal dusts)			No
Certified for UL hazardous location group F (carbonaceous dusts)			No
Certified for UL hazardous location group G (non-conductive dusts)			No
Width		mm	35
Height		mm	90
Depth		mm	102