# DATASHEET - EU1E-SWD-1DX



**SWD T-Connector input module IP69K, 24 V DC, one input with power supply, M12 I/O socket**

**Part no.** EU1E-SWD-1DX
174710

**EL Number (Norway)** 4560897

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| **General specifications** | |
| Product name | Eaton EU1E Digital module |
| Part no. | EU1E-SWD-1DX |
| EAN | 4015081711963 |
| Product Length/Depth | 85.6 millimetre |
| Product height | 20.1 millimetre |
| Product width | 56.9 millimetre |
| Product weight | 0.07 kilogram |
| Certifications | UL File No.: E170645<br>IEC/EN 61131-2<br>UL<br>CSA |
| Product Tradename | EU1E |
| Product Type | Digital module |
| Product Sub Type | None |
| **Features & Functions** | |
| Electric connection type | Screw connection |
| Features | Fieldbus connection over separate bus coupler possible<br>Short-circuit protection (sensor supply)<br>Overload protection (sensor supply) |
| Functions | For connection of digital I/O signals |
| **General information** | |
| Current consumption | 44 mA, SmartWire-DT network, 24 V, without sensor and without I/O supply<br>70 mA, Max. current consumption per M12 I/O plug, Sensor supply, SmartWire-DT network |
| Degree of protection | IP69K |
| Overvoltage category | II |
| Pollution degree | 3 |
| Product category | SmartWire-DT slave |
| Type | Digital 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 |
| Height of fall (IEC/EN 60068-2-32) - max | 0.3 m |
| Mounting position | As required |
| Shock resistance | 30 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 | 70 °C |
| Ambient storage temperature - min | -40 °C |
| Ambient storage temperature - max | 70 °C |
| Climatic proofing | Damp heat, constant, to IEC 60068-2-3<br>Dry heat to IEC 60068-2-2 |
| Environmental conditions | Condensation: permissible |
| Operating temperature - min | -25 °C |
| Operating temperature - max | 70 °C |

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| 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, Signal cable, according to IEC/EN 61131-2, Level 3<br>1 kV, SmartWire-DT cable, according to IEC/EN 61131-2, Level 3<br>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 | 3 V/m at 1.4 - 2 GHz (according to IEC/EN 61131-2:2008)<br>10 V/m at 80 - 1000 MHz (according to IEC/EN 61131-2:2008)<br>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 | 1 kV, Surge I/O cables, Surge (IEC/EN 61131-2:2008, Level 1), EMC<br>0.5 kV, Surge power cables, Surge (IEC/EN 61131-2:2008, Level 1), EMC |
| **Electrical rating** | |
| Input current at signal 1 | 4 mA |
| Output current | 0 A |
| Power loss | 1.1 W |
| 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 | 28.8 V DC |
| **Communication** | |
| Connection to SmartWire-DT | Yes |
| Connection type | 5-pin M12 socket (A-keyed), Supply and I/O sensor<br>SWD-OUT: M12 socket (A-keyed), 5 pole<br>SWD-IN : M12 plug (A-keyed), 5 pole |
| Data transfer rate | 2 MBit/s, SmartWire-DT<br>Setting automatically |
| LED indicator | Status indication of SmartWire-DT network: Green LED |
| Protocol | Other bus systems |
| Station | SmartWire-DT slave, SmartWire-DT network |
| **Input/Output** | |
| Number of inputs (digital) | 1 |
| Number of outputs (digital) | 0 |
| **Safety** | |
| Explosion safety category for dust | None |
| Explosion safety category for gas | None |
| **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 | 1.1 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. |

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| 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

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| Programmable logic controllers PLC (EG000024) / Fieldbus, decentr. periphery - digital I/O module (EC001599) | | | |
| Electric engineering, automation, process control engineering / Control, Process Control System (PCS) / Field bus, decentralized peripheral / Field bus, decentralized peripheral - digital I/O module (ecl@ss13-27-24-26-04 [BAA055019]) | | | |
| Supply voltage AC 50 Hz | | V | 0 - 0 |
| Supply voltage AC 60 Hz | | V | 0 - 0 |
| Supply voltage DC | | V | 0 - 28.8 |
| Voltage type (supply voltage) | | | DC |
| Number of digital inputs | | | 1 |
| Number of digital outputs | | | 0 |
| Digital inputs configurable | | | No |
| Digital outputs configurable | | | No |
| Input current at signal 1 | | mA | 4 |
| Permitted voltage at input | | V | 20.4 - 28.8 |
| Type of voltage (input voltage) | | | DC |
| Type of digital output | | | None |
| Output current | | A | 0 |
| Permitted voltage at output | | V | 20.4 - 28.8 |
| Type of output voltage | | | DC |
| Short-circuit protection, outputs available | | | No |
| 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 |
| With optical interface | | | No |
| 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 |

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| 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) | | IP69K |
| Type of electric connection | | Screw connection |
| Time delay at signal change | ms | 0 - 0.2 |
| 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 | 56.9 |
| Height | mm | 20.1 |
| Depth | mm | 85.6 |


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