



Gateway, SWD, 99 SmartWire-DT cards on Powerlink

**Part no.** EU5C-SWD-POWERLINK  
**Catalog No.** 171797  
**Alternate Catalog No.** EU5C-SWD-POWERLINK  
**EL-Nummer (Norway)** 4560875

Delivery program

|                   |  |  |
|-------------------|--|--|
| Product range     |  | SmartWire-DT coordinators  |
| Function          |  | For connection to a POWERLINK field bus as a slave   |
| Short Description |  | Used to connect the SmartWire-DT communication system to industrial field bus systems. Powers SmartWire-DT modules and switchgear  |
| Description       |  | 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.<br>A connection to Powerlink can be established using the integrated 100 Mbit/s Ethernet hub as slave.<br>The gateway features a separate USB diagnostic interface (mini USB). |
| Accessories       |  | Connection of up to 99 SWD slaves  |

Technical data

General

|                        |    |  |
|------------------------|----|--|
| Standards              |    | IEC/EN 61131-2   |
| Approvals              |    |  |
| Approvals              |    | UL<br>CSA  |
| Dimensions (W x H x D) | mm | 35 x 90 x 124  |
| Weight                 | kg | 0.16   |
| Mounting               |    | Top-hat rail IEC/EN 60715, 35 mm or screw fixing using fixing brackets ZB4-101-GF1 (accessories) |
| Mounting position      |    | As required  |

Ambient conditions, mechanical

|  |                |         |
|--|----------------|---------|
| Protection type (IEC/EN 60529, EN50178, VBG 4)                             |                | IP20    |
| Vibrations (IEC/EN 61131-2:2008)   |                |         |
| Constant amplitude 3,5 mm  | Hz             | 5 - 9   |
| Constant acceleration 1 g  | Hz             | 9 - 150 |
| Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms | Impacts        | 9       |
| Drop to IEC/EN 60068-2-31  | Drop height mm | 50      |
| Free fall, packaged (IEC/EN 60068-2-32)                                    | m              | 1       |

Electromagnetic compatibility (EMC)

|   |     |                  |
|---|-----|------------------|
| Overvoltage category                          |     | II               |
| Pollution degree                              |     | 2                |
| Electrostatic discharge (IEC/EN 61131-2:2008) |     |                  |
| Air discharge (Level 3)                       | kV  | 8                |
| Contact discharge (Level 2)                   | kV  | 4                |
| Electromagnetic fields (IEC/EN 61131-2:2008)  |     |                  |
| 80 - 1000 MHz                                 | V/m | 10               |
| 1.4 - 2 GHz                                   | V/m | 3                |
| 2 - 2.7 GHz                                   | V/m | 1                |
| Radio interference suppression                |     | EN 55011 Class A |
| Burst (IEC/EN 61131-2:2008, Level 3)          |     |                  |
| Supply cable                                  | kV  | 2                |
| Fieldbus cable                                | kV  | 1                |
| SmartWire-DT cable                            | kV  | 1                |
| Surge (IEC/EN 61131-2:2008, Level 1)          |     |                  |
| Supply cable                                  |     | 0.5 kV           |
| Radiated RFI (IEC/EN 61131-2:2008, Level 3)   | V   | 10               |

## Operating conditions

|   |   |     |                                |
|---|---|-----|--------------------------------|
| Climatic environmental conditions                     |   |     |                                |
| Climatic proofing                                     |   |     | In accordance with IEC 60068-2 |
| Ambient temperature                                   |   |     |                                |
| Operation   | θ | °C  | -25 - +55                      |
| Storage   | θ | °C  | -40 - +70                      |
| Atmospheric conditions                                |   |     |                                |
| Relative humidity, non-condensing (IEC/EN 60068-2-30) |   | %   | 5 - 95                         |
| Air pressure (operation)                              |   | hPa | 795 - 1080                     |

## Supply voltage $U_{Aux}$

|   |           |   |                          |
|---|-----------|---|--------------------------|
| Rated operational voltage                 | $U_{Aux}$ | V | 24 V DC (-15/+20%)       |
| Residual ripple on the input voltage      |           | % | ≤ 5                      |
| Protection against polarity reversal      |           |   | Yes                      |
| Max. current                              | $I_{max}$ | A | 3                        |
| Short-circuit rating                      |           |   | no, external fuse FAZ Z3 |
| Power loss                                | P         | W | Normally 1               |
| Potential isolation                       |           |   | No                       |
| Rated operating voltage of 24-V-DC slaves |           | V | typ. $U_{Aux} - 0.2$     |

## Supply voltage $U_{Pow}$

|  |           |     |                    |
|--|-----------|-----|--------------------|
| Supply voltage   | $U_{Pow}$ | V   | 24 V DC (-15/+20%) |
| Input voltage ripple   |           | %   | ≤ 5                |
| Protection against polarity reversal                                       |           |     | yes                |
| Rated current  | I         | A   | 0.7                |
| Overload proof   |           |     | yes                |
| Inrush current and duration  |           | A   | 44 A/2 ms          |
| Heat dissipation at 24 V DC  |           | W   | 4.4                |
| Potential isolation between $U_{Pow}$ and 15 V SmartWire-DT supply voltage |           |     | No                 |
| Bridging voltage dips  |           | ms  | 10                 |
| Repetition rate  |           | s   | 1                  |
| Status indication  |           | LED | yes                |

## SmartWire-DT supply voltage

|                         |           |   |                 |
|-------------------------|-----------|---|-----------------|
| Rated operating voltage | $U_e$     | V | $14,5 \pm 3 \%$ |
| max. current            | $I_{max}$ | A | 0.7             |
| Short-circuit rating    |           |   | Yes             |

## Connection supply voltages

|                          |  |                 |                   |
|--------------------------|--|-----------------|-------------------|
| Connection type          |  |                 | Push in terminals |
| Solid                    |  | mm <sup>2</sup> | 0.2 - 1.5         |
| Flexible with ferrule    |  | mm <sup>2</sup> | 0.25 - 1.5        |
| UL/CSA solid or stranded |  | AWG             | 24 - 16           |

## SmartWire-DT network

|                               |  |     |   |
|-------------------------------|--|-----|---|
| Station type                  |  |     | SmartWire-DT master   |
| Number of SmartWire-DT slaves |  |     | 99  |
| Baud Rates                    |  | kBd | 125<br>250  |
| Status indication             |  |     | SmartWire-DT master LED: red/green<br>Configurations LED: red/green |
| Connections                   |  |     | Plug, 8-pole  |
| Plug connector                |  |     | Blade terminal SWD4-8MF2  |

## Fieldbus interface

|                    |  |      |                 |
|--------------------|--|------|-----------------|
| Module type        |  |      | Powerlink slave |
| Protocol           |  |      | Powerlink V2    |
| Input data, max.   |  | Byte | 800             |
| Output data, max.  |  | Byte | 642             |
| Baud Rate          |  |      |                 |
| Baud Rates         |  |      | 100 MBit/s      |
| Station address    |  |      | IP              |
| Address allocation |  |      | via Powerlink   |

|                                 |                  |                            |
|---------------------------------|------------------|----------------------------|
| Status display interface        | Multi colour LED | APL, BS, BE, L/A           |
| Connection design for field bus |                  | Two RJ45 (two-channel hub) |
| Potential isolation             |                  | Yes                        |

### Technical data in sheet catalogue

|  |  |   |
|--|--|---|
| Other technical data (sheet catalogue) |  | Technical data  |
| Notes                                  |  | If contactors with a total current consumption > 3 A are connected, a power feeder module EU5C-SWD-PF1/2 has to be used.<br>If SWD modules with a total current consumption > 0.7 A are connected, a power feeder module EU5C-SWD-PF2 has to be used. |

## Design verification as per IEC/EN 61439

|  |            |    |  |
|--|------------|----|--|
| Technical data for design verification   |            |    |  |
| Rated operational current for specified heat dissipation   | $I_n$      | A  | 0  |
| Heat dissipation per pole, current-dependent   | $P_{vid}$  | W  | 0  |
| Equipment heat dissipation, current-dependent  | $P_{vid}$  | W  | 0  |
| Static heat dissipation, non-current-dependent   | $P_{vs}$   | W  | 1  |
| Heat dissipation capacity  | $P_{diss}$ | W  | 0  |
| Operating ambient temperature min.   |            | °C | -25  |
| Operating ambient temperature max.   |            | °C | 55   |
| Degree of Protection   |            |    | IP20   |
| IEC/EN 61439 design verification   |            |    |  |
| 10.2 Strength of materials and parts   |            |    |  |
| 10.2.2 Corrosion resistance  |            |    |  |
| 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 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric 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 Insulation properties   |            |    |  |
| 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 7.0

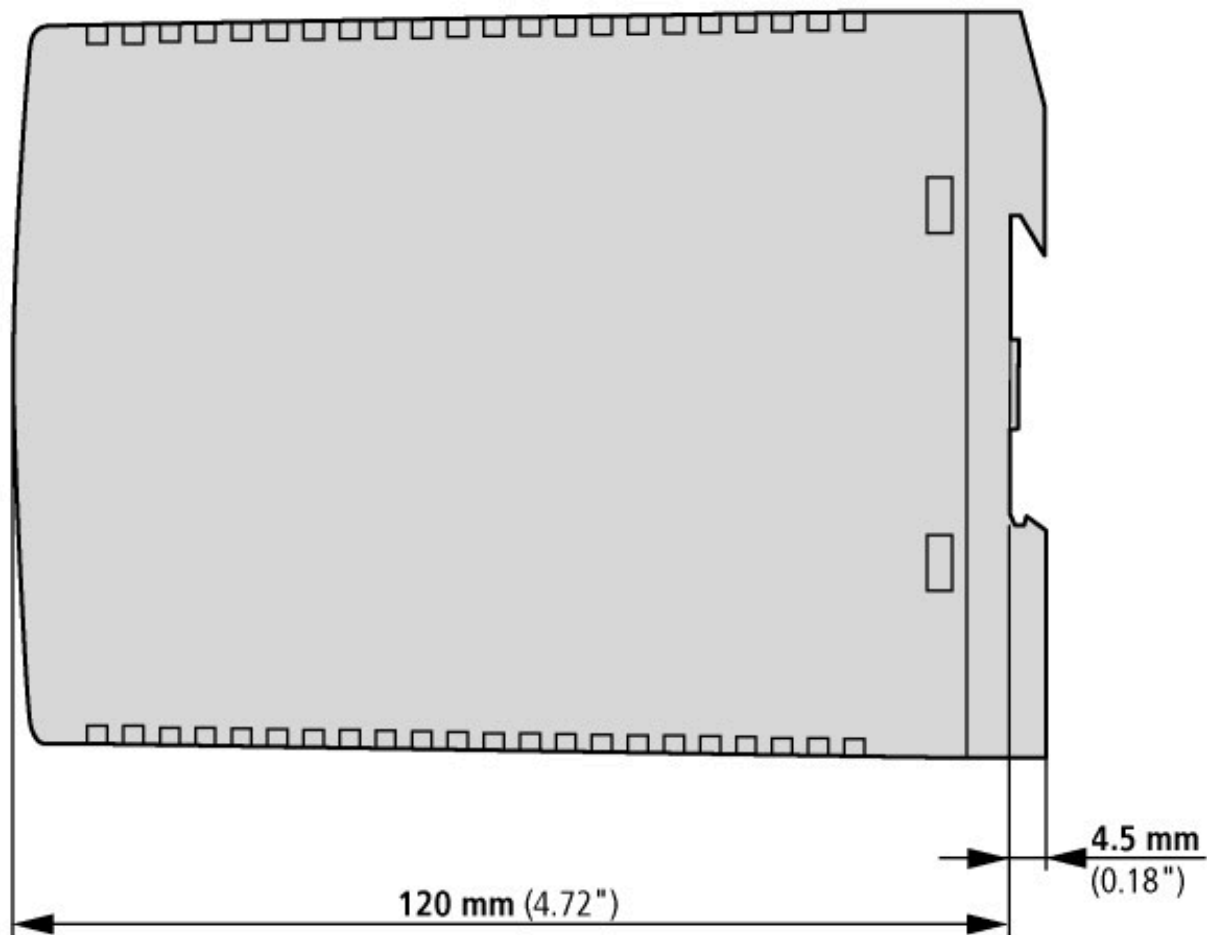
|  |  |   |             |
|--|--|---|-------------|
| PLC's (EG000024) / Fieldbus, decentr. periphery - communication module (EC001604)  |  |   |             |
| Electric engineering, automation, process control engineering / Control / Field bus, decentralized peripheral / Field bus, decentralized peripheral - communications module (ecl@ss10.0.1-27-24-26-08 [BAA073013]) |  |   |             |
| Supply voltage AC 50 Hz  |  | V | 0 - 0       |
| Supply voltage AC 60 Hz  |  | V | 0 - 0       |
| Supply voltage DC  |  | V | 20.4 - 28.8 |
| Voltage type of supply voltage   |  |   | DC          |
| 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 SERCOS                         |  |    | No   |
| Supporting protocol for PROFINET IO                    |  |    | No   |
| Supporting protocol for PROFINET CBA                   |  |    | 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 |
| With potential separation                              |  |    | No   |
| Fieldbus connection over separate bus coupler possible |  |    | No   |
| Rail mounting possible                                 |  |    | Yes  |
| Wall mounting/direct mounting                          |  |    | Yes  |
| Front build in possible                                |  |    | No   |
| Rack-assembly possible                                 |  |    | No   |
| Suitable for safety functions                          |  |    | Yes  |
| Category according to EN 954-1                         |  |    |      |
| SIL according to IEC 61508                             |  |    | None |
| Performance level acc. 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 |
| Width  |  | mm | 35   |
| Height   |  | mm | 90   |
| Depth  |  | mm | 127  |

## Approvals

|                                      |  |  |   |
|--------------------------------------|--|--|---|
| UL File No.                          |  |  | E221530                                 |
| UL Category Control No.              |  |  | NRQA                                    |
| CSA File No.                         |  |  | UL report applies to both US and Canada |
| North America Certification          |  |  | UL listed, CSA certified                |
| Specially designed for North America |  |  | No                                      |
| Current Limiting Circuit-Breaker     |  |  | No                                      |

## Dimensions



SmartWire-DT Gateways

## Additional product information (links)

### SmartWire-DT manual, The System MN05006002Z

|   |   |
|---|---|
| Handbuch SmartWire-DT, Das System MN05006002Z - Deutsch | <a href="https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN05006002Z_DE.pdf">https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN05006002Z_DE.pdf</a> |
| SmartWire-DT manual, The System MN05006002Z - English   | <a href="https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN05006002Z_EN.pdf">https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN05006002Z_EN.pdf</a> |
| Manuale SmartWire-DT, il sistema MN05006002Z - italiano | <a href="https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN05006002Z_IT.pdf">https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN05006002Z_IT.pdf</a> |
| SmartWire-DT product range catalog                      | <a href="http://ecat.moeller.net/flip-cat/?edition=SWKAT&amp;startpage=13">http://ecat.moeller.net/flip-cat/?edition=SWKAT&amp;startpage=13</a>                 |
| Technical data  | <a href="http://ecat.moeller.net/flip-cat/?edition=SWKAT&amp;startpage=40">http://ecat.moeller.net/flip-cat/?edition=SWKAT&amp;startpage=40</a>                 |
| f1=1457&f2=1181&f3=1530;Download Wizard SWD-ASSIST      | <a href="http://applications.eaton.eu/sdlc?LX=11&amp;amp">http://applications.eaton.eu/sdlc?LX=11&amp;amp</a>   |
| Product overview (WEB)                                  | <a href="http://www.eaton.eu/swd">http://www.eaton.eu/swd</a>   |