



# WI180C-EC

Fieldbus modules

INTEGRATION MODULES AND ADAPTERS

**SICK**  
Sensor Intelligence.



Ordering information

| Type      | part no. |
|-----------|----------|
| WI180C-EC | 6068089  |

Other models and accessories → [www.sick.com/Fieldbus\\_modules](http://www.sick.com/Fieldbus_modules)

Detailed technical data

Features

|                        |                                                                                                                                                                                                                                                                                                                                                 |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Accessory group        | Fieldbus modules                                                                                                                                                                                                                                                                                                                                |
| Description            | EtherCAT coupler for WLL180T, KTL180 and AOD1.<br>Features: EtherCAT; transmission rates of up to 100 Mbaud; M12 EtherCAT connection; M8 voltage supply connection, 4-pin; full read/write functionality for the process and service data of the connected sensors. See operating instructions for additional information and technical details |
| Enclosure rating       | IP54                                                                                                                                                                                                                                                                                                                                            |
| Dimensions (W x H x L) | 39 mm x 36.3 mm x 102.35 mm                                                                                                                                                                                                                                                                                                                     |

Certificates

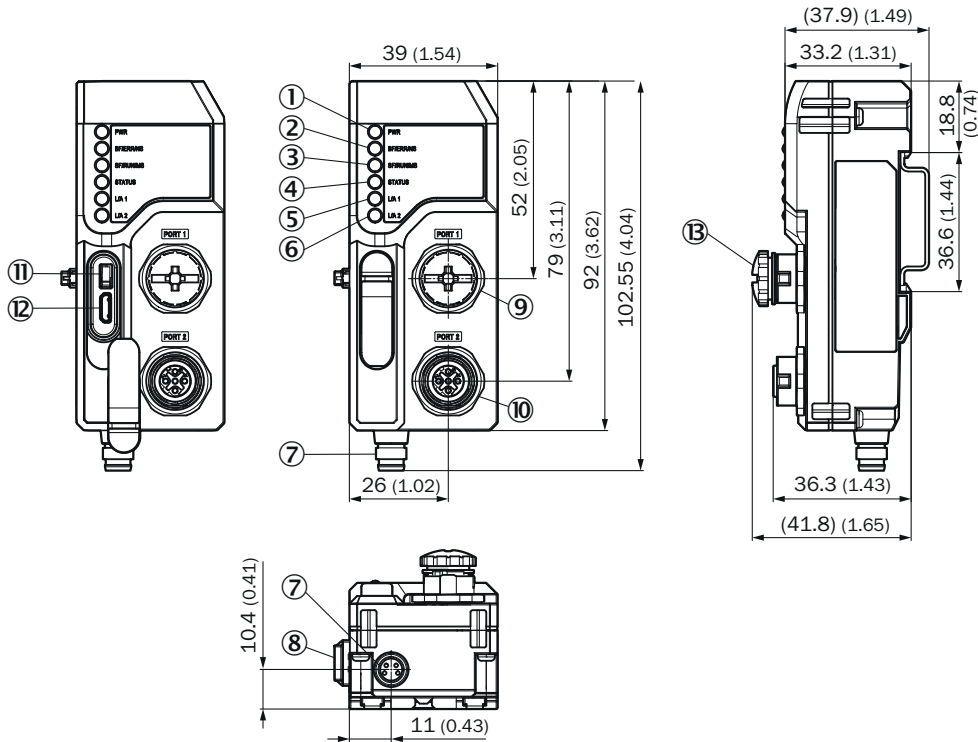
|                                                                       |   |
|-----------------------------------------------------------------------|---|
| EU declaration of conformity                                          | ✓ |
| UK declaration of conformity                                          | ✓ |
| ACMA declaration of conformity                                        | ✓ |
| Moroccan declaration of conformity                                    | ✓ |
| China RoHS                                                            | ✓ |
| cRUus certificate                                                     | ✓ |
| Information according to Art. 3 of Data Act (Regulation EU 2023/2854) | ✓ |

Classifications

|              |          |
|--------------|----------|
| ECLASS 5.0   | 27242202 |
| ECLASS 5.1.4 | 27242602 |
| ECLASS 6.0   | 27242602 |
| ECLASS 6.2   | 27242602 |
| ECLASS 7.0   | 27242602 |
| ECLASS 8.0   | 27242602 |

|                       |          |
|-----------------------|----------|
| <b>ECLASS 8.1</b>     | 27242602 |
| <b>ECLASS 9.0</b>     | 27242602 |
| <b>ECLASS 10.0</b>    | 27242602 |
| <b>ECLASS 11.0</b>    | 27242602 |
| <b>ECLASS 12.0</b>    | 27242602 |
| <b>ETIM 5.0</b>       | EC001597 |
| <b>ETIM 6.0</b>       | EC001597 |
| <b>ETIM 7.0</b>       | EC001597 |
| <b>ETIM 8.0</b>       | EC001597 |
| <b>UNSPSC 16.0901</b> | 32151705 |

## Dimensional drawing



Dimensions in mm (inch)

- ① PWR-LED
- ② BF/ERR/NS-LED
- ③ SF/RUN/MS-LED
- ④ status LED
- ⑤ L/A1-LED
- ⑥ L/A2-LED
- ⑦ Power connection: male connector M8, 4-pin
- ⑧ Bus male connector, 5-pin
- ⑨ D-coded M12 plug connector, 4-pin, PROFINET/Ethernet
- ⑩ D-coded M12 plug connector, 4-pin, PROFINET/Ethernet
- ⑪ factory reset button
- ⑫ Service port (USB, Micro-B)
- ⑬ M12 connector cap (accessory)

### Technical data

|                       |                                               |                                                                                                                                                      |
|-----------------------|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Electrical</b>     | Supply voltage                                | 12 – 24 VDC ±10 %                                                                                                                                    |
|                       | Power consumption (without connected devices) | 3 W                                                                                                                                                  |
|                       | Switch-on delay                               | 1000 ms                                                                                                                                              |
|                       | Switch-on delay (overall system)              | 2000 ms                                                                                                                                              |
|                       | LEDs                                          | PWR, BF/ERR/NS, SF/RUN/MS, STATUS, L/A1, L/A2                                                                                                        |
|                       | Power supply                                  | Male M8 plug connector, 4-pin                                                                                                                        |
|                       | Other interfaces                              | Male bus connector, 5-pin, internal system bus<br>2 x M12 4-pin D-coded, EtherCAT                                                                    |
|                       |                                               |                                                                                                                                                      |
| <b>EtherCAT</b>       | Maximum number of modules to be connected     | 16                                                                                                                                                   |
|                       | Transmission speed                            | 100 MBit/s                                                                                                                                           |
|                       | Maximum distance between nodes                | 100 m                                                                                                                                                |
|                       | Process data                                  | Depending on selected modules<br>12 bytes input and 6 bytes output Gateway<br>8 bytes input and 3 bytes output per module<br>Minimum cycle time: TBD |
|                       | Asynchronous data                             | Service data objects (SDOs) over CANopen-over-EtherCAT (CoE)                                                                                         |
|                       | Compliant standard                            | IEEE802.3u (100Base-Tx)                                                                                                                              |
|                       | Ethernet ports                                | 2                                                                                                                                                    |
|                       | ESI file                                      | Available on <a href="http://www.sick.com">www.sick.com</a>                                                                                          |
| <b>EMC</b>            | Noise immunity (Length of cable ≤30 m)        | in accordance with EN 61000-6-2/ EN 61131-2                                                                                                          |
|                       | Emission                                      | in accordance with EN 55011, class A                                                                                                                 |
| <b>Product safety</b> | Protection class                              | 3                                                                                                                                                    |
|                       | Short-circuit protection                      | in accordance with VDE 0160                                                                                                                          |
| <b>Mechanical</b>     | Protection category                           | IP54 <sup>1</sup>                                                                                                                                    |
|                       | Sensitivity to vibrations                     | IEC 60068, 10 – 55 Hz                                                                                                                                |
|                       | Shock resistance                              | IEC 60068, 500 m/s <sup>2</sup> (~50 g)                                                                                                              |
|                       | Housing material                              | Polycarbonate                                                                                                                                        |
|                       | Dimensions (HxWxD) in mm                      | 39 x 102.55 x 36.3                                                                                                                                   |

<sup>1</sup> Valid, if WI180C-PN is connected via internal system bus with modules which fulfill IP54

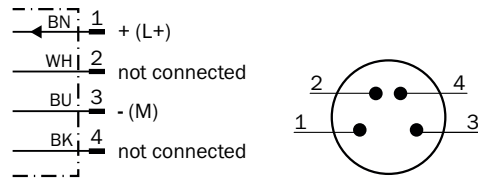
|                                 |                                                      |                             |
|---------------------------------|------------------------------------------------------|-----------------------------|
| <b>Environmental parameters</b> | Air humidity (operation/storage)                     | 35 – 85 % relative humidity |
|                                 | Temperature range (storage)                          | -40 – +70 °C                |
|                                 | Temperature range (Operation, ≤3 connected devices)  | -25 – +55 °C <sup>1</sup>   |
|                                 | Temperature range (Operation, ≤8 connected devices)  | -25 – +50 °C <sup>1</sup>   |
|                                 | Temperature range (Operation, ≤16 connected devices) | -25 – +45 °C <sup>1</sup>   |

<sup>1</sup> Temperature ranges valid if no output current on connected devices

Dimensions in mm (inch)

## Anschlusschema Cd-416

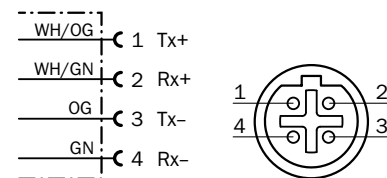
Supply voltage port



| Pin | Pin assignment | Wire color | Description    |
|-----|----------------|------------|----------------|
| 1   | L+             | Brown      | +12 ... 24 VDC |
| 2   | n.c.           | n/a        | Not assigned   |
| 3   | M              | Blue       | GND            |
| 4   | n.c.           | n/a        | Not assigned   |

## Anschlusschema Cd-433

EtherCAT port 1 and 2 (M12 male connector, 4-pin, D-coded)



M12 (D-coded)

| Pin | Pin assignment | Wire color   | Description                       |
|-----|----------------|--------------|-----------------------------------|
| 1   | Tx+            | White/orange | Send data signal, not inverted    |
| 2   | Rx+            | White/green  | Receive data signal, not inverted |
| 3   | Tx-            | Orange       | Send data signal, inverted        |
| 4   | Rx-            | Green        | Receive data signal, inverted     |

Recommended accessories

Other models and accessories → [www.sick.com/Fieldbus\\_modules](http://www.sick.com/Fieldbus_modules)

|                                                                                   | Brief description                                                                                                                                                                                                                                                                                                                                                                                                         | Type               | part no. |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|
| connectors and cables                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                           |                    |          |
|  | <ul style="list-style-type: none"><li>• <b>Connection type head A:</b> Male connector, M12, 4-pin, straight, D-coded</li><li>• <b>Connection type head B:</b> Male connector, M12, 4-pin, straight, D-coded</li><li>• <b>Signal type:</b> PROFINET</li><li>• <b>Cable:</b> 2 m, 4-wire, CAT5, CAT5e, PVC</li><li>• <b>Description:</b> PROFINET, shielded</li></ul>                                                       | SSL-1204-G02MZ90   | 6048241  |
|  | <ul style="list-style-type: none"><li>• <b>Connection type head A:</b> Male connector, M12, 4-pin, straight, D-coded</li><li>• <b>Connection type head B:</b> Male connector, RJ45, 4-pin, straight</li><li>• <b>Signal type:</b> PROFINET</li><li>• <b>Cable:</b> 2 m, 4-wire, CAT5, CAT5e, PVC</li><li>• <b>Description:</b> PROFINET, shielded</li></ul>                                                               | SSL-2J04-G02MZ60   | 6048244  |
|  | <ul style="list-style-type: none"><li>• <b>Connection type head A:</b> Female connector, M8, 4-pin, angled, A-coded</li><li>• <b>Connection type head B:</b> Flying leads</li><li>• <b>Signal type:</b> Sensor/actuator cable</li><li>• <b>Cable:</b> 5 m, 4-wire, PVC</li><li>• <b>Description:</b> Sensor/actuator cable, unshielded</li><li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li></ul> | YG8U14-050VA3XLEAX | 2095963  |

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

**For us, that is “Sensor Intelligence.”**

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)