



# FX3-CPU130012

Flexi Soft

**SAFETY CONTROLLERS**

**SICK**  
Sensor Intelligence.



### Ordering information

| Number of EFI interfaces | Flexi Link | Protective coating | Type          | Part no. |
|--------------------------|------------|--------------------|---------------|----------|
| 2                        | ✓          | ✓                  | FX3-CPU130012 | 1050616  |

The system plug has to be ordered separately. For details, see "Accessories".

Protective coating for more challenging ambient conditions (e.g., resistance to sulfur).

Other models and accessories → [www.sick.com/Flexi\\_Soft](http://www.sick.com/Flexi_Soft)



### Detailed technical data

#### Features

|                             |  |
|-----------------------------|--|
| <b>Module</b>               | Main module  |
| <b>Configuration method</b> | Via software (Flexi Soft Designer)   |
| <b>Note</b>                 | The system plug has to be ordered separately. For details, see "Accessories".  |
| <b>Specialty</b>            | Protective coating for more challenging ambient conditions (e.g., resistance to sulfur).   |
| <b>Items supplied</b>       | Main module without system plug<br>Terminal plug spring for EFI interface<br>Safety instruction<br>Operating instructions for download |

#### Safety-related parameters

|   |                                      |
|---|--------------------------------------|
| <b>Safety integrity level</b>   | SIL 3 (IEC 61508)                    |
| <b>Category</b>   | Category 4 (EN ISO 13849)            |
| <b>Performance level</b>  | PL e (EN ISO 13849)                  |
| <b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b> | $1.69 \times 10^{-9}$ (EN ISO 13849) |
| <b>T<sub>M</sub> (mission time)</b>                                       | 20 years (EN ISO 13849)              |

#### Functions

|                                       |   |
|---------------------------------------|---|
| <b>Safe SICK device communication</b> | ✓ |
| <b>Safe networking</b>                |   |
| Flexi Link                            | ✓ |

#### Interfaces

|                                 |                           |
|---------------------------------|---------------------------|
| <b>System connection</b>        | System plug <sup>1)</sup> |
| <b>Number of EFI interfaces</b> | 2                         |
| <b>Connection type</b>          | Plug-in spring terminals  |

<sup>1)</sup> The system plug has to be ordered separately. For details, see "Accessories".

|  |                                     |
|--|-------------------------------------|
| <b>Configuration and diagnostics interface</b> | RS-232 (M8 female connector, 4-pin) |
|--|-------------------------------------|

<sup>1)</sup> The system plug has to be ordered separately. For details, see "Accessories".

## Electrical data

|                                     |                                 |
|-------------------------------------|---------------------------------|
| <b>Protection class</b>             | III (EN 61140)                  |
| <b>Type of voltage supply</b>       | PELV or SELV <sup>1)</sup>      |
| <b>Supply voltage V<sub>s</sub></b> | 24 V DC (16.8 V DC ... 30 V DC) |
| <b>Internal power consumption</b>   | ≤ 2.5 W                         |
| <b>Overvoltage category</b>         | II (EN 61131-2)                 |
| <b>Switch-on time</b>               | ≤ 18 s                          |

<sup>1)</sup> The current of the power supply that powers the main unit must be limited to a maximum of 4 A, either through the power supply itself or a fuse.

## Mechanical data

|                               |                              |
|-------------------------------|------------------------------|
| <b>Dimensions (W x H x D)</b> | 22.5 mm x 96.5 mm x 120.6 mm |
| <b>Weight</b>                 | 119 g (± 5 %)                |

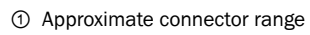
## Ambient data

|   |   |
|---|---|
| <b>Enclosure rating</b>                       | IP20 (EN 60529)   |
| <b>Ambient operating temperature</b>          | -25 °C ... +55 °C   |
| <b>Storage temperature</b>                    | -25 °C ... +70 °C   |
| <b>Air humidity</b>                           | ≤ 95 %, Non-condensing  |
| <b>Single gas resistance (sulfur dioxide)</b> | 25 ppm, 21 days, 25 °C (IEC 60068-2-42 - Kc)  |
| <b>Mixed gas resistance</b>                   | 100 ppb - H <sub>2</sub> S<br>2000 ppb - NO <sub>2</sub><br>100 ppb - Cl <sub>2</sub><br>2,000 ppb - SO <sub>2</sub> , 21 days, 30 °C (IEC 60068-2-60 Ke) |

## Classifications

|                       |          |
|-----------------------|----------|
| <b>ECLASS 5.0</b>     | 27243001 |
| <b>ECLASS 5.1.4</b>   | 27243101 |
| <b>ECLASS 6.0</b>     | 27243101 |
| <b>ECLASS 6.2</b>     | 27243101 |
| <b>ECLASS 7.0</b>     | 27243101 |
| <b>ECLASS 8.0</b>     | 27243101 |
| <b>ECLASS 8.1</b>     | 27243101 |
| <b>ECLASS 9.0</b>     | 27243101 |
| <b>ECLASS 10.0</b>    | 27243101 |
| <b>ECLASS 11.0</b>    | 27243101 |
| <b>ECLASS 12.0</b>    | 27243101 |
| <b>ETIM 5.0</b>       | EC001449 |
| <b>ETIM 6.0</b>       | EC001449 |
| <b>ETIM 7.0</b>       | EC001449 |
| <b>ETIM 8.0</b>       | EC001449 |
| <b>UNSPSC 16.0901</b> | 32151705 |

FX3-CPU1, FX3-CPU2



The diagram illustrates the FLEX BUS+ architecture. It features a central horizontal bus labeled 'FLEX BUS+'. Above the bus, there are two input blocks labeled 'A1' and 'A2'. Below the bus, there is a small square labeled 'Logic'. The main body of the diagram is a large rectangle divided into several sections: 'Memory' and 'Supply' on the top left, 'EF11' and 'EF12' on the bottom left, and a large 'FLEX BUS+' label on the right. At the bottom, there are two input blocks labeled 'A' and 'B'.

## Recommended accessories

Other models and accessories → [www.sick.com/Flexi\\_Soft](http://www.sick.com/Flexi_Soft)

|   | Brief description   | Type               | Part no. |
|---|---|--------------------|----------|
| Others  |   |                    |          |
|    | <ul style="list-style-type: none"> <li>• <b>Description:</b> System plug: Voltage supply of the Flexi Soft system and storage of system configuration (without EFI-compatible devices). With protective coating for more challenging ambient conditions (e.g., resistance to sulfur).</li> <li>• <b>Connection systems:</b> Screw-type terminals</li> <li>• <b>Note:</b> Protective coating for more challenging ambient conditions (e.g., resistance to sulfur).</li> </ul>  | FX3-MPL000011      | 1050619  |
|    | <ul style="list-style-type: none"> <li>• <b>Sub product family:</b> SIM1000 FX</li> <li>• <b>Product category:</b> Programmable devices</li> <li>• <b>Supported products:</b> 2D and 3D LiDAR sensors, incremental and absolute encoders, Image-based code readers, Fixed mount barcode scanners, RFID read/write device, displacement measurement sensors, Photoelectric sensors, Flexi Soft main module</li> <li>• <b>Processor:</b> Dual-core ARM Cortex-A9 CPU with NEON accelerator</li> <li>• <b>Toolkit:</b> SICK algorithm API</li> <li>• <b>Further functions:</b> FPGA for I/O handling</li> <li>• <b>Connections:</b> Terminal block 1-4, Ethernet, FLEXBUS+</li> <li>• <b>Enclosure rating:</b> IP20</li> </ul> | SIM1000-0P0B110    | 1097817  |
|    | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Male connector, M8, 4-pin, straight</li> <li>• <b>Connection type head B:</b> Male connector, USB-A, straight</li> <li>• <b>Cable:</b> 2 m, 4-wire, PVC</li> <li>• <b>Description:</b> Unshielded, Configuration cable with integrated RS-232 transducer on USB for connecting a sensor configuration connection (M8, 4-pin) to the USB interface of a PC</li> </ul>  | DSL-8U04G02M025KM1 | 6034574  |
|   | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Male connector, M8, 4-pin, straight</li> <li>• <b>Connection type head B:</b> Male connector, USB-A, straight</li> <li>• <b>Cable:</b> 10 m, 4-wire, PVC</li> <li>• <b>Description:</b> Unshielded, Configuration cable with integrated RS-232 transducer on USB for connecting a sensor configuration connection (M8, 4-pin) to the USB interface of a PC</li> </ul>   | DSL-8U04G10M025KM1 | 6034575  |
| Safety switching amplifier  |   |                    |          |
|  | <ul style="list-style-type: none"> <li>• <b>Applications:</b> Output expansion module for OSSDs</li> <li>• <b>Compatible sensor types:</b> Safety sensors with OSSDs</li> <li>• <b>Connection type:</b> Front connector with spring terminals</li> <li>• <b>Restart interlock:</b> no</li> <li>• <b>External device monitoring (EDM):</b> Via path</li> <li>• <b>Outputs:</b> 2 enabling current paths (safe), 1 feedback current path (for use as external device monitoring, not safe)</li> <li>• <b>Housing width:</b> 18 mm</li> </ul>  | RLY3-OSSD100       | 1085343  |
|  | <ul style="list-style-type: none"> <li>• <b>Applications:</b> Output expansion module for OSSDs</li> <li>• <b>Compatible sensor types:</b> Safety sensors with OSSDs</li> <li>• <b>Connection type:</b> Front connector with spring terminals</li> <li>• <b>Restart interlock:</b> no</li> <li>• <b>External device monitoring (EDM):</b> Via path</li> <li>• <b>Outputs:</b> 4 enabling current paths (safe), 1 feedback current path (for use as external device monitoring, not safe), 1 signaling current path (not safe)</li> <li>• <b>Housing width:</b> 28 mm</li> </ul>   | RLY3-OSSD400       | 1099971  |

## 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)