



# FX3-CPU320002

Flexi Soft

**SAFETY CONTROLLERS**

**SICK**  
Sensor Intelligence.



### Ordering information

Number of EFI interfaces	Flexi Link	Automatic Configuration Recovery (ACR)	Flexi Line	Type	Part no.
2	✓	✓	✓	FX3-CPU320002	1059305

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

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>Items supplied</b>	Main module without system plug Terminal plug spring for EFI interface Terminal plug spring for Flexi-Line interface Safety instruction 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 x 10 <sup>-9</sup> (EN ISO 13849) 0.4 x 10 <sup>-9</sup> (EN ISO 13849) <sup>1)</sup>
<b>T<sub>M</sub> (mission time)</b>	20 years (EN ISO 13849)

<sup>1)</sup> Applies for a main module FX3-CPU3 that is used exclusively for routing information via Flexi Line.

#### Functions

<b>Safe SICK device communication</b>	✓
<b>Safe networking</b>	
Flexi Link	✓
Flexi Line	✓
<b>Automatic Configuration Recovery (ACR)</b>	✓

#### Interfaces

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

<b>Number of EFI interfaces</b>	2
<b>Flexi Line connection</b>	✓
<b>Connection type</b>	Plug-in spring terminals
<b>Configuration and diagnostics interface</b>	RS-232 (M8 female connector, 4-pin) Mini-USB

<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 <math>V_s</math></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>	133 g (± 5 %)

### Ambient data

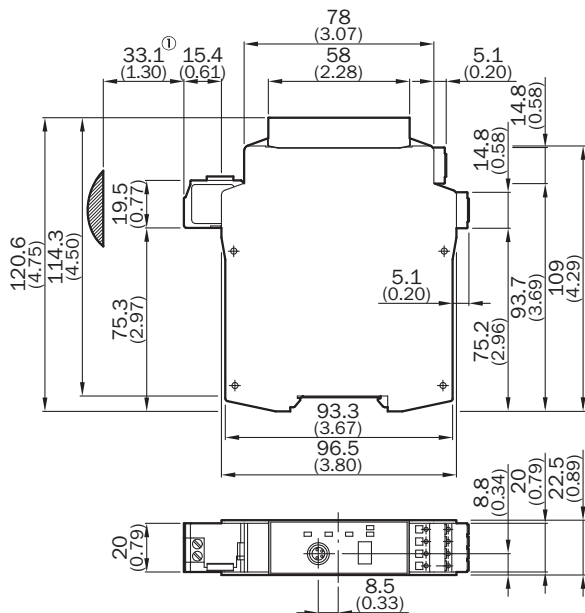
<b>Enclosure rating</b>	IP20 (EN 60529)
<b>Ambient operating temperature</b>	-25 °C ... +55 °C
<b>Storage temperature</b>	-25 °C ... +70 °C
<b>Air humidity</b>	≤ 95 %, Non-condensing

### 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

### Dimensional drawing (Dimensions in mm (inch))



CPU3







① Approximate connector range

### Recommended accessories

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

Brief description	Type	Part no.
Plug connectors and cables		
 <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, USB-A, straight</li> <li><b>Connection type head B:</b> Male connector, Mini-USB, straight</li> <li><b>Signal type:</b> USB</li> <li><b>Cable:</b> 3 m, 4-wire</li> <li><b>Description:</b> USB, shielded</li> <li><b>Note:</b> For connecting the configuration connection to the USB interface on the PC</li> </ul>	Connection cable (male connector-male connector)	6042517
	6053566	
 <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
	DSL-8U04G10M025KM1	6034575

	Brief description	Type	Part no.
	<ul style="list-style-type: none"> <li>• <b>Description:</b> System plug: Voltage supply of the Flexi Soft system, storage of system configuration (including EFI-compatible devices), and automatic configuration of connected EFI-compatible safety sensors (automatic configuration recovery)</li> <li>• <b>Connection systems:</b> Screw-type terminals</li> </ul>	FX3-MPL100001	1047162
Others			
	<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, pico- und midiCam series, 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>	SIM1000-0POB110	1097817
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)