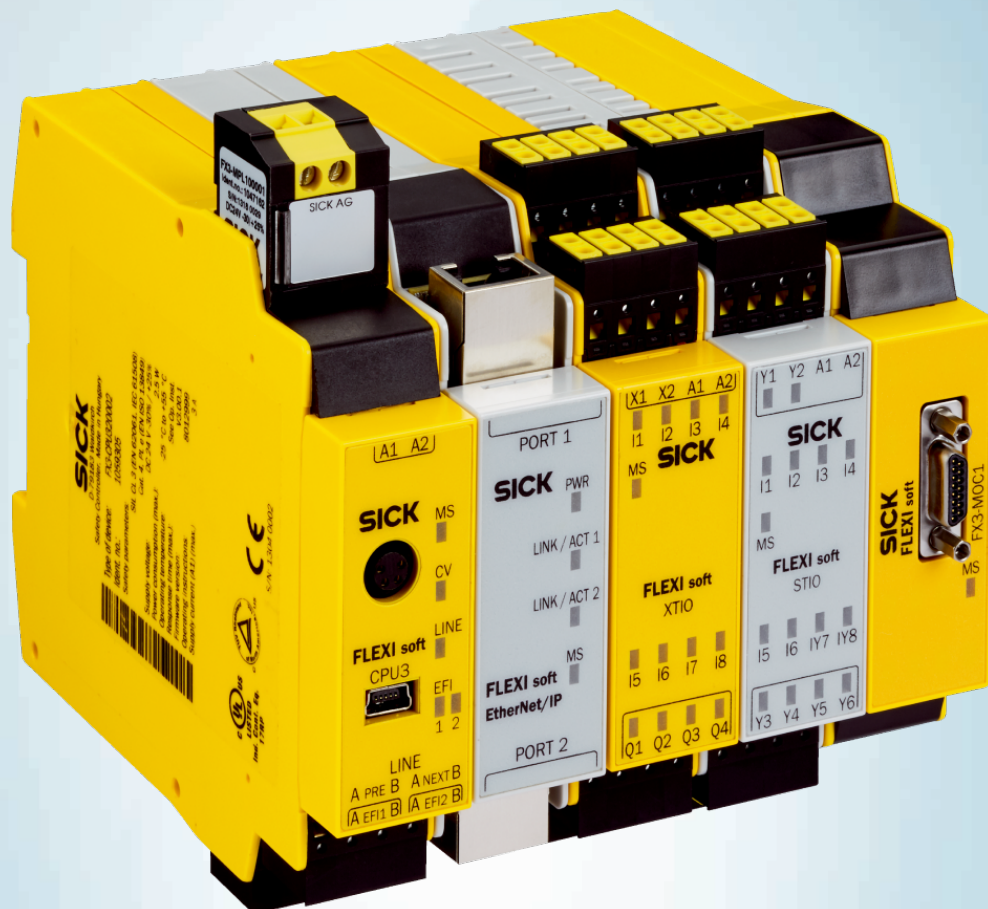




## Flexi Soft

The software-programmable safety controller

**SICK**  
Sensor Intelligence.

## Advantages



## Modular, flexible and powerful

The Flexi Soft safety controller solves both simple and complex tasks, because Flexi Soft offers main modules, expansion modules and gateways that you can flexibly combine to fit your requirements. Combined with other SICK safety components, the range of functions for your individual machine design can be significantly expanded, such as with Safe Motion Monitoring and Control or Safe EFI-pro.



### Flexible series connection with Flexi Loop

Flexi Loop makes it possible to safely connect up to 32 sensors in series. Flexi Loop is easily mounted and configured, and it continuously outputs diagnostic data on the status of your sensors. You can view the resulting status information at the machine or in the configuration software. Product recommendation Flexi Loop



### gateways

Integration into higher-level controllers is done with gateways. Flexi Soft supports all common fieldbuses such as PROFINET or EtherNet/IP™. The Flexi Soft Designer software makes configuration simple. This makes it possible to implement secure and continuous data transmission that meets the requirements of Industry 4.0.



### analog module

With the analog input module, you can integrate sensors with analogue output signals via a standardized interface. Such sensors are suitable, for example, for use on AGVs for fall protection and for monitoring the driving speed or temperatures.



**From simple to complex: Adjust the safety controller precisely to your system**



## Intuitive in every detail

A safety controller must offer more than just safety: With Flexi Soft, you get a safety controller that is easy to configure using software and is also intuitive to use. The Flexi Soft Designer or Safety Designer configuration software also makes it easy to implement and document safety configurations. The status of the Flexi Soft stations can be viewed at all times and is displayed in a transparent manner. This significantly reduces your machine design and commissioning costs.



### Simple mounting in the control cabinet

Flexi Soft not only offers a modular design in which all individual modules can be easily connected, but also simple mounting in the control cabinet. All inputs and outputs can be quickly connected via spring-loaded terminals.



### Intuitive configuration via software

The Flexi Soft Designer configuration software makes it easy to configure, document and evaluate applications in the Flexi Soft safety controller. The result: Efficient engineering without additional costs.

To the Flexi Soft Designer configuration software

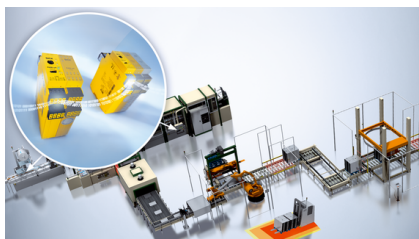


**Simple and efficient: Get your system up and running quickly using configuration software**



## Clever combination of functions

A wide range of functions makes the Flexi Soft safety controller a great choice for use in different applications. The integrated logic of the modular controller helps solve even complex tasks and provide status information. Cleverly combined, Flexi Soft allows for the use of important sensor data for high productivity thanks to the use of SICK interfaces.



### Networking of safety functions with Flexi Line

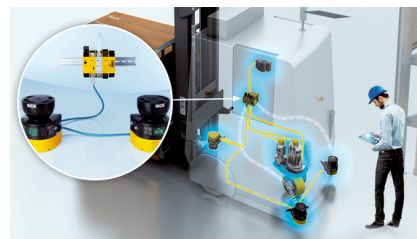
The Flexi Line safety network is flexible, scalable and easy to configure using the Flexi Soft Designer software. Flexi Line enables modular machine concepts with up to 32 safely networked Flexi Soft stations. Easy-to-teach modularity: Remove or integrate machine modules as you wish.



### Safe drive monitoring with Safe Motion Monitoring and Control

Safe Motion Monitoring and Control combines the "Measure", "Monitoring" and "Control" functions. Safe Motion Monitoring and Control continuously monitors the speed and position of motors. This means that there are no dangerous movements, which results in higher availability of your machine and less scrap.

Product recommendation Flexi Soft Drive Monitor



### Reliable monitoring with Safe EFI-pro

The Safe EFI-pro system is suitable for use in demanding robotic applications and automated guided vehicles (AGVs). Easily network safety laser scanners and safety encoders with the Flexi Soft safety controller. The system ensures a safe exchange of sensor data and diagnostic information.

Product recommendation Safe EFI-pro system



**Universal and connected: Benefit from additional efficiency while the machine is running**



## Technical data overview

|                                               |                                                                                                                                                                                            |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Safety level</b>                           | PL e, SIL 3                                                                                                                                                                                |
| <b>Configuration method</b>                   | Via software / hard wired (depending on type)                                                                                                                                              |
| <b>System construction</b>                    | Modular<br>1 system plug<br>1 main module<br>0 ... 2 gateways<br>0 ... 12 expansion modules<br>0 ... 8 relay modules<br>0 ... 11 expansion modules<br>0 ... 1 gateways (depending on type) |
| <b>Fieldbus, industrial network</b>           | CANopen, CC-Link, DeviceNet™, EtherNet/IP™, EtherCAT®, Modbus, PROFINET, PROFIBUS DP, EFI-pro, SSI, Incremental, Serial (depending on type)                                                |
| <b>Safe SICK device communication</b>         | EFI<br>EFI-pro (depending on type)                                                                                                                                                         |
| <b>Safe networking</b>                        | Flexi Link<br>Flexi Line<br>Global emergency stop (depending on type)                                                                                                                      |
| <b>Safe drive monitoring</b>                  | Yes                                                                                                                                                                                        |
| <b>Safe series connection with Flexi Loop</b> | Flexi Loop                                                                                                                                                                                 |

## Product description

The Flexi Soft safety controller can be programmed via software. Thanks to the modular hardware platform, Flexi Soft provides a tailored and efficient solution for a whole host of safety applications. A wide range of modules are available: main modules, gateways, digital and analog input/output modules, Motion Control modules, as well as relay modules. The license-free Flexi Soft Designer configuration software enables intuitive programming, rapid commissioning, and continuous diagnostics down to the automation level. Functions to enable safe controller networking, safe series connection, or safe drive monitoring reduce costs and boost productivity. A whole host of additional functions means that Flexi Soft is able to bridge the gap to system solutions from SICK.

## At a glance

- Safety controller with modular hardware platform
- Configuration saved in the system plug
- Safe controller networking with Flexi Line
- Safe series connection with Flexi Loop
- Safe drive monitoring
- Safe analog value monitoring
- Flexi Soft Designer license-free configuration software

## Your benefits

- Modular adaptation to the particular requirement means optimum scalability and therefore cost savings
- Intuitive configuration software featuring comprehensive functions for straightforward engineering
- Rapid verification of the safety application: The configuration software provides documentation and a wiring diagram
- The main module's diagnostics interfaces and the configuration storage facility in the system plug enable rapid commissioning, component replacement, and troubleshooting, resulting in minimum downtimes

## Fields of application

- Machines requiring average to complex safety logic, e.g., presses and laser cutting systems
- Machines with a large number of doors and flaps that require protective measures, as well as with decentralized safety paths, such as packaging machines
- Modular machine concepts and networked safety functions

## Ordering information

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

- Flexi Soft CPU
- Main modules

| Number of<br>EFI interfaces | Flexi Link | Automatic Con-<br>figuration Re-<br>covery (ACR) | Flexi Line | Protective<br>coating | Type          | Part no. |
|-----------------------------|------------|--------------------------------------------------|------------|-----------------------|---------------|----------|
| 0                           | –          | –                                                | –          | ✓                     | FX3-CPU000010 | 1050615  |
|                             |            |                                                  |            | –                     | FX3-CPU000000 | 1043783  |
| 2                           | ✓          | ✓                                                | ✓          | ✓                     | FX3-CPU320012 | 1112302  |
|                             |            |                                                  |            | –                     | FX3-CPU320002 | 1059305  |
|                             |            |                                                  | –          | –                     | FX3-CPU230002 | 1058999  |
|                             |            | –                                                | –          | ✓                     | FX3-CPU130012 | 1050616  |
|                             |            |                                                  |            | –                     | FX3-CPU130002 | 1043784  |

- Flexi Soft Gateway
- Gateways

| Fieldbus, industrial network | Protective coating | Type          | Part no. |
|------------------------------|--------------------|---------------|----------|
| CANopen                      | ✓                  | FX0-GCAN00010 | 1118379  |
|                              | –                  | FX0-GCAN00000 | 1044076  |
| CC-Link                      | –                  | FX0-GCC100200 | 1085195  |
| DeviceNet™                   | –                  | FX0-GDEV00000 | 1044077  |
| EFI-pro, EtherNet/IP™        | ✓                  | FX3-GEPR00010 | 1112296  |
|                              | –                  | FX3-GEPR00000 | 1069070  |
| EtherCAT®                    | ✓                  | FX0-GETC00010 | 1127487  |
|                              | –                  | FX0-GETC00000 | 1051432  |
| EtherNet/IP™                 | ✓                  | FX0-GENT00010 | 1121596  |
|                              | –                  | FX0-GENT00000 | 1044072  |
| Modbus                       | ✓                  | FX0-GMOD00010 | 1127717  |
|                              | –                  | FX0-GMOD00000 | 1044073  |
| Modbus                       | –                  | FX0-GMOD00030 | 1130282  |
| PROFIBUS DP                  | ✓                  | FX0-GPRO00010 | 1121598  |
|                              | –                  | FX0-GPRO00000 | 1044075  |
| PROFINET                     | ✓                  | FX0-GPNT00010 | 1121597  |
|                              | –                  | FX0-GPNT00000 | 1044074  |

- Flexi Soft I/O

| Number of safety inputs | Number of safe analog inputs | Number of non-safe inputs | Number of test outputs | Number of safe outputs | Number of non-safe outputs | Protective coating | Type          | Part no. |
|-------------------------|------------------------------|---------------------------|------------------------|------------------------|----------------------------|--------------------|---------------|----------|
| –                       | –                            | 6-8                       | –                      | –                      | 6-8                        | ✓                  | FX0-STIO68012 | 1112297  |
|                         |                              |                           |                        |                        |                            | –                  | FX0-STIO68002 | 1061778  |
|                         | 2                            | –                         | –                      | –                      | –                          | ✓                  | FX3-ANA020012 | 1112299  |
|                         |                              |                           |                        |                        |                            | –                  | FX3-ANA020002 | 1051134  |
| 8                       | –                            | –                         | 0-2                    | –                      | 4-6                        | ✓                  | FX3-XTDS84012 | 1112301  |
|                         |                              |                           |                        |                        |                            | –                  | FX3-XTDS84002 | 1061777  |
|                         |                              |                           | 2                      | 4                      | –                          | ✓                  | FX3-XTIO84012 | 1050618  |
|                         |                              |                           |                        |                        |                            | –                  | FX3-XTIO84002 | 1044125  |
|                         |                              |                           | 8                      | –                      | –                          | ✓                  | FX3-XTDI80012 | 1050617  |
|                         |                              |                           |                        |                        |                            | –                  | FX3-XTDI80002 | 1044124  |

- Flexi Soft MOC
- Motion Control modules

| Description                                        | Protective coating | Type          | Part no. |
|----------------------------------------------------|--------------------|---------------|----------|
| Safe speed monitoring                              | –                  | FX3-MOC000000 | 1062344  |
| Safe speed monitoring and safe position monitoring | ✓                  | FX3-MOC100010 | 1112300  |
|                                                    | –                  | FX3-MOC100000 | 1057833  |

- Relay modules

| Number of enable current contacts | Number of signaling current paths | Number of signaling current contacts | Connection type          | Protective coating | Type         | Part no. |
|-----------------------------------|-----------------------------------|--------------------------------------|--------------------------|--------------------|--------------|----------|
| 2                                 | 1                                 | 1                                    | Plug-in spring terminals | –                  | UE410-2R04   | 6032677  |
|                                   |                                   |                                      |                          | ✓                  | UE410-2R0401 | 1118380  |
| 4                                 | 2                                 | 2                                    | Plug-in spring terminals | –                  | UE410-4R04   | 6032676  |
|                                   |                                   |                                      |                          | ✓                  | UE410-4R0401 | 6053182  |

## 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)