



Safe EFI-pro System

Safe integration for a productive interaction

SICK
Sensor Intelligence.

Advantages



Efficient interplay

The Safe EFI-pro system combines the tried-and-proven modular Flexi Soft safety controller with the microScan3 – EFI-pro and nanoScan3 – EFI-pro safety laser scanners. Safe device communication via the EFI-pro gateway enables quick and easy networking of the system components. Actuators of other manufacturers, such as robot controls, can be safely connected via EtherNet/IP™ CIP Safety™.



The Flexi Soft safety controller with EFI-pro gateway ensures intelligent networking of the system components.



The microScan3 and nanoScan3 safety laser scanners are reliable and resilient thanks to the innovative safeHDDM® scanning technology.



For example, robot controls can be safely integrated into the safety system via EtherNet/IP™ CIP Safety™.



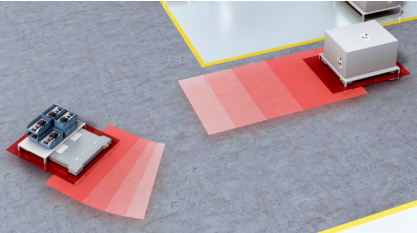
Safe networking via EFI-pro makes it easy to use innovative sensor functions.



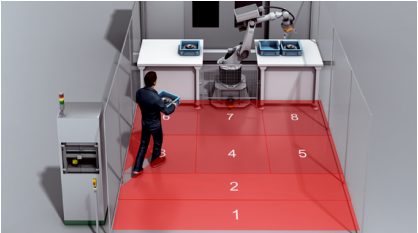
Safe productivity

Up to six microScan3 and/or nanoScan3 safety laser scanners can be networked to ensure safe and adaptive perception of the environment. Every device offers up to eight simultaneously monitorable protective fields and up to 128 monitoring cases. Together with the safe motion control function of the Flexi Soft safety controller, monitoring cases can be adapted dynamically to the respective monitored area. This increases the productivity of collaborative machines.

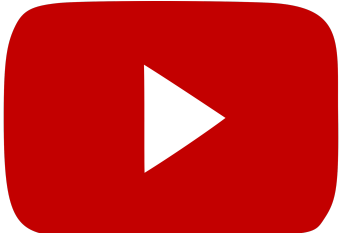
More functions for challenging safety applications



Dynamic monitoring case switching, for example depending on the speed and steering angle of an AGV.



Simultaneously monitorable protective fields for efficient, adaptive robot behavior.



Mobile robots in use with the Safe EFI-pro System.



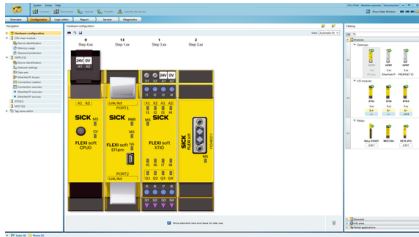
Use the extended functions for higher productivity with extensive safety monitoring.



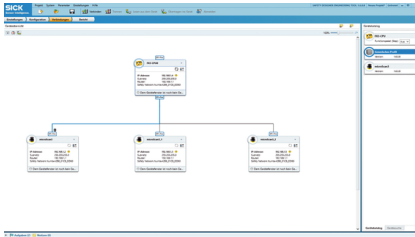
Time- and cost-saving configuration and commissioning

The commissioning of the system components is quick and easy with the Safety Designer engineering tool. Thanks to the drag-and-drop function, networking between the safety controller and the safety sensor is done in seconds. The smart connectivity with a standardized plug connector and the use of Industrial Ethernet (IEEE 802.3) also reduce cabling work.

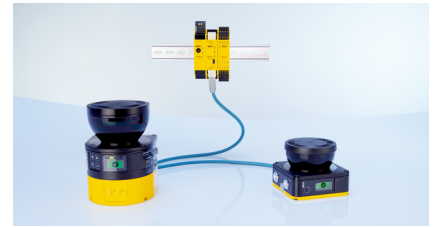
Intuitive engineering tool and reduced cabling work



License-free and intuitive Safety Designer engineering tool for system component configuration and diagnostics.



Safety Designer automatically detects all devices. Networking is then done simply with drag-and-drop.



Fast cabling of system components thanks to standardized Ethernet technology.

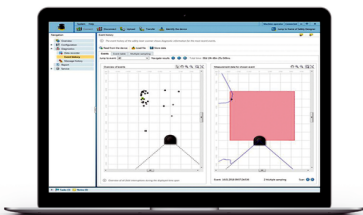


The configuration of system component with the intuitive Safety Designer engineering tool and cabling via Industrial Ethernet (IEEE 802.3) ensure time- and cost-efficient commissioning.



Optimized processes

Comprehensive diagnostic options - data up into the cloud



Quick analysis, for example of machine downtimes, thanks to comprehensive diagnostic options in the Safety Designer.



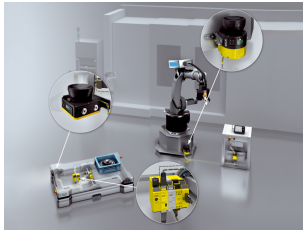
Integration into all common fieldbus systems is done via additional non-safety-related gateways.



Transport of process and diagnostic data up into the cloud enables centralized analysis and optimization of processes.



Optimize your processes thanks to extensive diagnostic options in Safety Designer and constant data availability up into the cloud.



Technical data overview

Application	Indoor
Description	Safe speed monitoring and safe position monitoring
Safety level	PL d, SIL 2, Type 3 PL e, SIL3

Product description

Safe EFI-pro system is the result of the consistent development of the successful EFI interface and enables intelligent safeguarding of AGVs, robots and other challenging applications. The industrial Ethernet-based EFI-pro network technology enables the quick exchange and transmission of safe and non-safe data throughout all levels of communication. The central component is the EFI-pro gateway. It ensures safe and fast integration of innovative sensor solutions from SICK as well as direct integration of robot controls into the Flexi Soft safety controller via EtherNet/IP™ CIP Safety™. The Safe EFI-pro system is therefore a crucial enabler for implementing Industry 4.0.

At a glance

- Industrial Ethernet-based, safe network technology
- Configuration via Safety Designer
- Safe integration of up to 6 safety laser scanners
- Safe integration of robot controls via Ethernet/IP™ CIP Safety™
- Safe, integrated movement monitoring
- Simultaneous monitoring of up to 48 protective fields

Your benefits

- Efficient interplay in the safety system: Networking of safety sensors, safety controllers and actuators connected via Ethernet/IP™ CIP Safety™
- Fast, intuitive commissioning: Safety Designer for the configuration of SICK system components and clever connection technology
- Safe productivity: Combination of safe motion monitoring, simultaneous protective field monitoring and extended network integration
- Optimized processes: Extensive diagnostic options via Safety Designer and data via Ethernet from the field level into the cloud
- Safe investment thanks to industrial Ethernet technology

Fields of application

- Reliable environment perception for automated guided vehicles (AGVs) – from small and flexible to large and versatile vehicles
- Innovative protection of robots which cooperate and collaborate with humans
- Safety applications in the field of Industry 4.0 and the industrial Internet of Things

Ordering information

Other models and accessories → www.sick.com/Safe_EFI-pro_System

Protective field range	Number of fields	Module	Protective coating for more challenging ambient conditions	Type	Part no.
-	-	Analog input module	✓	FX3-ANA020012	1112299
			-	FX3-ANA020002	1051134
		Gateway	✓	FX0-GCAN00010	1118379
				FX0-GENT00010	1121596
				FX0-GETC00010	1127487
				FX0-GMOD00010	1127717

Protective field range	Number of fields	Module	Protective coating for more challenging ambient conditions	Type	Part no.		
			-	FX0-GPNT00010	1121597		
				FX3-GEPR00010	1112296		
				FX0-GCAN00000	1044076		
				FX0-GENT00000	1044072		
				FX0-GETC00000	1051432		
				FX0-GMOD00000	1044073		
				FX0-GPNT00000	1044074		
				FX3-GEPR00000	1069070		
				I/O module	✓	FX0-STIO68012	1112297
						FX3-XTDI80012	1050617
						FX3-XTDS84012	1112301
						FX3-XTIO84012	1050618
					-	FX0-STIO68002	1061778
						FX3-XTDI80002	1044124
		FX3-XTDS84002	1061777				
		FX3-XTIO84002	1044125				
		Motion Control module	✓	FX3-MOC100010	1112300		
				FX3-MOC100000	1057833		
		Main module	✓	FX3-CPU000010	1050615		
				FX3-CPU000000	1043783		
3 m	128	-	-	NANS3-CAAZ30AA1	1126792		
				NANS3-CAAZ30ZA1	1126793		
4 m	8	-	-	MICS3-ABAZ40ZA1P01	1092539		
	128	-	-	MICS3-CBAZ40ZA1P01	1091037		
				MICS3-CCAZ40AA1P01	1110035		
5.5 m	8	-	-	MICS3-ABAZ55ZA1P01	1092538		
	128	-	-	MICS3-CBAZ55ZA1P01	1091038		
				MICS3-CCAZ55AA1P01	1110033		
9 m	8	-	-	MICS3-ABAZ90ZA1P01	1094455		
	128	-	-	MICS3-CBAZ90ZA1P01	1094465		
				MICS3-CCAZ90AA1P01	1110037		

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