

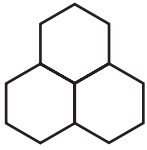
turn on!

hima/safety_controllers/himatrix



The safe decision.





Optimum performance and cost-effectiveness and thus maximum efficiency are indispensable in today's safety technology. With HIMA's innovative and intelligent solutions, you can take the decisive step towards more safety and flexibility at reduced costs.

Turn on efficiency ...

The combination of the world's fastest safety-related controller **HIMatrix** and the world's fastest safety bus safe**ethernet** offers convincing advantages:

- Low total costs for automation
- No need for a separate safety bus
- Processing of safe and non-safe signals in one network
- Maximum flexibility during planning, commissioning and retrofitting
- One system technology for all requirements, in particular for time-critical applications
- Higher availability as a result of faster error localisation and elimination

Safety-related solutions by HIMA have been tried-and-tested in numerous factory and building automation applications. HIMA has successfully implemented safety applications at companies such as BASF, Ciba-Vision, DaimlerChrysler, Fraport, ThyssenKrupp and many more.

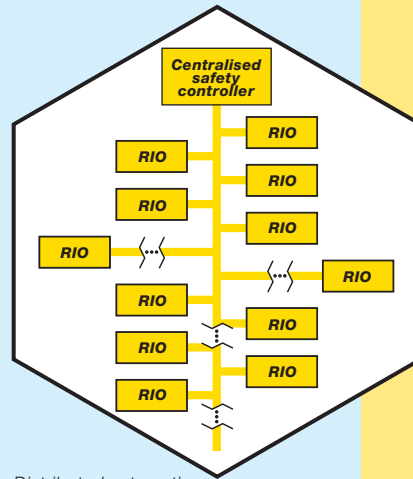
***Stamping presses • Presses • Paint lines • Assembly systems
Robot cells • Conveyor systems • Escalators • Cableways • Lifts
Amusement rides • Locks • Packaging machines
Lifters • Lift tables • Polders • Traffic control***

... the choice is yours!

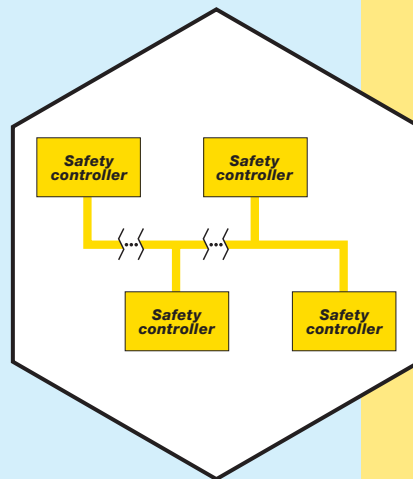
You can implement distributed automation concepts with only one centralised controller. All signals can be connected via remote I/O modules on site. You can also efficiently implement distributed automation concepts with networked safety controllers. Any **HIMatrix** safety controller in the network takes over the higher-level control functions.

The two automation concepts can be flexibly combined and exchanged at any time. **safeethernet** makes it possible to integrate safe and non-safe data in a standard Ethernet network without restricting safety. The number of busses to be installed is reduced; a complex installation of a separate safety bus is not required.

Result: Permanent maximum safety and minimum response times are guaranteed. Turn on efficiency. Make effectiveness and availability your main considerations when planning.



Distributed automation concept with centralised PLC



Distributed automation concept

Features of HIMA's solution

- System consists of extremely fast safety controllers and safe remote I/O modules
- Safety-related networking via Ethernet with 100 Mbit/s
- All signals processed in one network
- Flexible programming ensured by drag&drop software and additional TÜV approved function blocks
- Communication via **safeethernet**, OPC, PROFIBUS DP Master & Slave, MODBUS RTU and TCP Master & Slave, Send & Receive TCP, EtherNet/IP, INTERBUS Master

Certificates

IEC 61508, SIL 3,
EN 954, cat. 4,
IEC 61131, EN 50156,
NFPA, ATEX

Efficient right from the start.

The safety-related controllers and remote I/O modules of the **HIMatrix** range were primarily developed for distributed automation concepts. The integrated switch makes it possible to use them in various network topologies: line, tree structures and star structures. In general, Ethernet can also be used for creating ring structures.

High performance, compactness and straightforward mounting allows for the implementation of application solutions where the use of safety controllers has not been useful from a technical or cost-effective point of view so far.

The extensive hardware range and the safety-related networking of the systems via safe**ethernet** guarantee an optimum adaptation to the respective system structure.



HIMatrix products		Inputs analog/digital	Outputs analog/digital	Ethernet switchports	Line monitoring*	Special features
Compact PES	F35	8 / 24	- / 8	4	-	plus 2 counters 100 kHz, approved for use in Ex Zone 2
	F31 02	- / 20	- / 8	4	yes	without fieldbus interfaces
	F30	- / 20	- / 8	4	yes	-
	F20	- / 8*	- / 8*	2	yes	8 channels which can be parameterised individually as I/Os
Remote I/Os	F1 DI 16	- / 16	- / -	2	yes	-
	F2 DO 16 01	- / -	- / 16	2	-	8 outputs 2 A, 8 outputs 0.5 A
	F2 DO 16 02	- / -	- / 16	2	-	relay outputs up to a contact potential of 60 V
	F2 DO 8	- / -	- / 8	2	-	relay outputs up to a contact potential of 230 V
	F2 DO 4	- / -	- / 4	2	-	load of up to 5 A
	F3 DIO 8/8	- / 8	- / 8	2	yes	additional 2 L-switching outputs
	F3 DIO 16/8 01	- / 16	- / 8	2	yes	2-pin outputs
	F3 DIO 20/8 02	- / 20	- / 8	2	yes	-
	F3 AIO 8/4	8 / -	4** / -	2	-	supply for NAMUR initiators and 24 V
Modular PES	F60	- / -	- / -	4	-	6 slots für any I/O module
	A1 8	8 / -	- / -	-	-	-
I/O modules	DI 32	- / 32	- / -	-	yes ¹	¹ cross-circuiting in connection with DIO 24/16
	DI 24	- / 24	- / -	-	-	110 V input voltage
	MI 24	24 / 24	- / -	-	-	current inputs 4-20 mA, alternatively NAMUR inputs
	DIO 24/16	- / 24	- / 16	-	yes	-
	CIO 2/4	- / -	- / 4	-	-	2 counters up to 1 MHz
	AO 8	- / -	8 / -	-	yes	-
	DO 8	- / -	- / 8	-	-	relay outputs up to a contact potential of 230 V
				** non-safe	* configurable	

Overview of features

- For use in Ex-Zone 2
- Response time ≤ 20 ms
- Cycle time for 1 K
Program approx. 0.02 ms

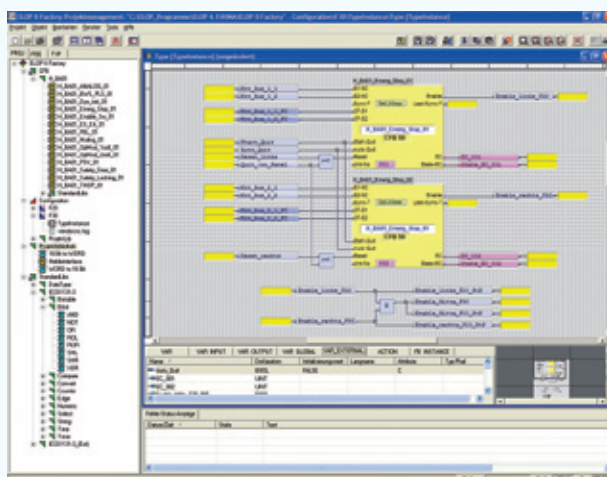
HIMatrix

safeethernet

safeethernet accelerates the transmission of safety-related data to 100 Mbit/s. The TÜV/BG certified, safety-related data transmission makes it possible to set up distributed, safety-related automation concepts using standard Ethernet components and functions. The safety-related communication can be integrated into existing Ethernet networks.



ServicePDA for all parameterised modules.



The tried-and-tested engineering tool **ELOP II Factory** simplifies planning, programming and diagnostics as well as the documentation of **HIMatrix** systems.

- Complies with IEC 61131-3
- Function block diagrams (FBD) and sequential function charts (SFC)
- Use of all IEC 61131-3 functions and variable types for safety-related programs
- Additional TÜV certified function blocks
- Windows 2000/XP compatible
- Configuration of the network (Plug&Play)
- Centralised programming via safeethernet
- Offline simulation and online test

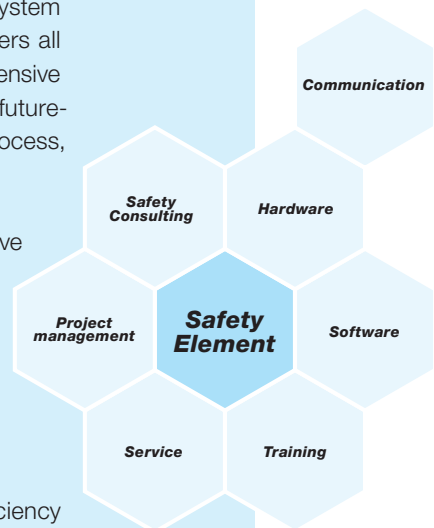
HIMA – the safe decision!

With the world's highest number of installed systems in the process industry and more than 35 years of experience, HIMA is the leading international manufacturer in the field of safety-related automation.

A global network of companies, sales and service centres and more than 30 qualified representatives and system integrators ensure maximum proximity to our customers all around the world. Thanks to HIMA's permanent and intensive development work, we can offer our customers future-oriented, highly powerful controllers and solutions for process, factory and building automation at any time.

Implementing comprehensive, intelligent and cost-effective safety solutions in automation technology is HIMA's philosophy. Our integral approach, represented by the safety element, is based on a combination of intelligent hardware and software solutions, communication interfaces and services, a concept which is unique on the market.

Benefit from the new possibilities. Increase your efficiency and reduce your costs.



**Further information is given
under www.hima.com**



HIMA Paul Hildebrandt GmbH + Co KG
P.O. Box 1261 · 68777 Brühl · Germany
Phone: ++49 6202 709-0 · Fax: ++49 6202 709-107
info@hima.com · www.hima.com