



HIMax®

Powerful Standard Systems for Maximum Safety Requirements

HIMax is a range of flexible commercial off-the-shelf (COTS) control systems for safety-critical applications in the rail industry with high performance requirements. System integrators can add the CENELEC SIL 4 certified controller to their own safety solution. HIMax facilitates uninterrupted operation of rail-specific systems throughout their entire lifecycle. Hardware and software changes can be made at any time without shutting the system down. With redundant CPU modules, HIMax is suitable for high performance requirements and large safety applications, such as large railway stations, as well as for smaller and medium-sized applications.

Characteristics

- CENELEC SIL 4
- Non-stop operation
- Maximum performance
- Life-long configuration flexibility
- For smaller, medium-sized, and large applications

Engineering Tools

HIMax systems can be programmed using SILworX.

- Function block diagram (FBD)
- Sequential function chart (SFC)
- Structured text (ST)
- C code (optional)

List of Certificates

- EN 50126:1999 (SIL 4)
- EN 50128:2011 (SIL 4)
- EN 50129:2003 (SIL 4)
- EN 50159:2010
- EN 50155:2007
- EN 50125-3:2003

See the full list at www.hima.com

List of Modules

HIMax Modules	Type	Description
Compact PES		
Processor module	X-CPU 01	For high performance requirements and large safety applications
Processor module	X-CPU 31	For smaller and medium-sized safety applications
System bus module	X-SB 01	
Communication module	X-COM 01	4 x RJ-45, 2 x 9-pin D-sub, up to 6 different protocols
I/O Modules		
Input Modules		
Digital input module	X-DI 64 01	64 channel, 24 V DC
Digital input module	X-DI 32 01	32 channel, 24 V DC
Digital input module	X-DI 32 02	32 channel, 8.2 V DC, proximity switch, line monitoring
Digital input module	X-DI 32 03	32 channel, 48 V DC
Analog input module	X-AI 32 01	32 channel, 4 ... 20 mA, line monitoring
Output Modules		
Digital output module	X-DO 32 01	32 channel, 24 V DC, 0.5 A, short-circuit monitoring LS, individual channel shut-off
Digital output module	X-DO 24 02	24 channel, 48 V DC, 0.5 A, line monitoring LS/LB, individual channel shut-off
Relay module	X-DO 12 01	12 channel, 230 V AC/DC, current measurement, cycle counter
Dimensions		
Module size	All	310 x 29 x 230 mm

Specifications are subject to change without notice.

Special Features

- Flexible architecture and integrated redundancy management for life-long availability
- Unique protection against common cause errors via distributed redundancy
- All changes, extensions, and maintenance procedures possible without stopping operation
- Self-teaching in the event of module changes
- Proof test possible without stopping operation
- Automatic storage of up to 2,500 diagnostic data per CPU, 500 per I/O module
- Multitasking, up to 32 user programs can run simultaneously
- SOE (sequence of events), storage for 5,000 events, 1 ms resolution
- Fully integrated redundant power distribution and short-circuit-resistant modules
- Modules with 2/3 wire connection to avoid additional wiring
- Remote rack functionality with star topology
- Redundant networking of HIMax and HIMatrix via SafeEthernet
- X-OTS HIMax Safety Simulator supports system simulation and optimizes user training

For further information, please contact:

HIMA Rail Segment Team

Phone: +49 6202 709-411

E-mail: rail@hima.com

Find out more online:


www.hima.com/en/industries-solutions/rail

Typical Applications

- Signaling technology
- Interlocking
- Railway crossings
- Rolling stock
- Power supply

Operating Principles

- De-energize to trip
- Energize to trip

Communication Options

Per communication module, up to 6 protocols can be run simultaneously:

- SIL 4 via SafeEthernet
- SIL 4 via system bus
- OPC DA and OPC A&E
- Modbus TCP master/slave
- PROFINET and PROFIsafe
- Modbus RS485 master/slave
- PROFIBUS DP master/slave
- Send & receive TCP
- ComUserTask (CUT), user-programmable port RS422, RS485, UDP, TCP, SNTP
- HART over IP (V7)