

SystemFacts

HIQuad systems

- SIL 3, Cat. 4
- For highest fault-tolerance requirements
- Scalable redundancy
- Central & distributed installations
- Broad range of I/O modules

Engineering tools

HIQuad systems can be engineered using ELOP II, which include:

- Function Block Diagrams
- Sequential Function Charts

List of certificates

- IEC 61508, Part1-7:2000 (up to SIL 3)
- IEC 61511:2004
- ANSI/ISA-84.00.01-2004
- EN 50156-1:2004
- EN 12067-2:2004
- EN 298:2003
- EN 230:2005
- EN 61131-2:2003
- EN 61000-6-2:2001
- EN 61000-6-4:2001
- EN 54-2:1997/A1:2007
- EN 954-1:1996 (up to Cat. 4)
- NFPA 85:2007
- NFPA 86:2007
- NFPA 72:2002
- EN 60079-15:2003 ATEX (Zone 2, T4)
- ANSI/ISA-S 71.04 Class G3
- FM CLASS 1 DIV2 (FM 3600, 3611, 3810)
- Marine: Bureau Veritas



HIQuad® systems

Proven performance

Designed to provide maximum guaranteed safety, HIQuad solutions are an ideal choice for small and mid-size safety-critical applications requiring high levels of process availability. HIQuad solutions are available with different combinations of scalable availability at the I/O and CPU level. HIQuad systems are extremely flexible and can be easily adapted to all application requirements.

List of modules

The H41q and H51q system families use the same extensive range of I/O modules. This allows them to be individually matched to application-specific requirements, and makes upgrades, obtaining spare parts, training and documentation much easier.

HIQuad modules	SIL	COM-interfaces	Programming interfaces	Protocols	Note
CPU					
F 8650X	3	2	yes	Modbus Master & Slave, HIPRO-S/N	CPUs for H51q each with 1 MB user, operating system and data memory
F 8652X	3	2	yes	Modbus Master & Slave, HIPRO-S/N	CPUs for H41q each with 1 MB user, operating system and data memory
Communication modules					
F 8621A	3	2	yes	Modbus Slave, HIPRO-S/N	RS485 interfaces
F 8627	3*	1	-	OPC DA, OPC A&E, safe ethernet	100 Base-T, RJ-45 interface
F 8627X	3*	1	-	OPC DA, OPC A&E, safe ethernet , ELOP II via TCP	100 Base-T, RJ-45 interface
F 8628	0	1	-	PROFIBUS DP Slave	
F 8628X	0	1	-	PROFIBUS DP Slave, ELOP II via TCP	
I/O modules					
	SIL	Channels	LB/LS	Ex	Note
Input modules digital					
F 3236	3	16	-	-	Contacts, 1 signal 24 VDC
F 3240	3	16	-	-	Contacts, 1 signal 110 VDC/127 VAC
F 3248	3	16	-	-	Contacts, 1 signal 48 VDC
Input modules initiators					
F 3237	3	8	yes	-	SN-, proximity switches (NAMUR), wired contacts
F 3238	3	8	yes	yes	SN-, proximity switches (NAMUR), wired contacts, 8 DU wide, ATEX
Input modules analog					
F 6214	3	4	yes	-	Current, voltage, integrated transmitter supply sources
F 6217	3	8	yes	-	Current, voltage
F 6221	3	8	yes	yes	Current, voltage, ATEX
Output modules digital					
F 3325	3	6	-	yes	Ex transmitter supply module for F 6221, ATEX
F 3330	3	8	-	-	24 VDC to 0.5 A
F 3331	3	8	yes	-	24 VDC to 0.5 A
F 3333	3	4	-	-	24 VDC to 2 A
F 3334	3	4	yes	-	24 VDC to 2 A
F 3335	3	4	-	yes	24 VDC, ATEX
F 3348	3	8	-	-	48 VDC to 0.5 A
F 3349	3	8	yes	-	24 VDC/48 VDC to 0.5 A
Output modules analog					
F 6705	3	2	-	-	Current
Special modules					
F 3430	3	4	-	-	Relay module, 110 VDC/250 VAC to 4 A
F 5220	3	2	yes	-	Counter module initiator, 5 DC, 24 VDC to 1 MHz, 2 integral digital outputs 24 VDC to 0.5 A
F 6220	3	8	yes	yes	Ex thermocouple module, ATEX

Specifications are subject to change.

* in conjunction with safety-related protocol

Typical applications

- Emergency Shutdown Systems (ESD)
- Burner Management Systems (BMS)
- Fire & Gas Systems (F&G)
- High Integrity Pressure Protection Systems (HIPPS)
- Pipeline Automation and Protection

Operating conditions and CE-Mark

- IEC/EN 61131-2:2006 Programmable Controllers Part 2, Equipment requirement and tests
- IEC/EN 61000-6-2:2001 EMC, Generic Standards, Immunity for Industrial Environments
- IEC/EN 61000-6-4:2001 EMC, Generic emission standard, residential, commercial, and light industry
- EMC Directive
- Low Voltage Directive
- Machinery Directive
- ATEX Directive

Additional local certificates available

Operating principles

- De-energize to trip
- Energize to trip

Communication options

- SIL 3 via safe**ethernet** or RS485 (HIPRO-S)
- OPC DA and A&E
- Modbus TCP
- Modbus RTU Master & Slave
- PROFIBUS DP Slave

Selecting HIQuad

	H41q	H51q
Single processor rack	No	Yes
Separate I/O racks	No	Yes
Combined 19" rack	Yes	No
Communication module slots	2	10
Redundant system supplies	Yes	Yes
Total 19" I/O racks	1	16
Total I/O modules	13	256