I.S. Isolators

I.S. Isolators (Eurocards)

- Standard Eurocard format 19", 4 TE, 3 HE
- High component density through multi-channel devices
- Simple plug-in mounting in racks
- Possibility of pre-assembled mounting in system racks
- Customer-specific system solutions
- EMC tested, CE marking

System ICS 1000 offers an integrated solution for intrinsic safety in a variety of applications in automation.

Due to the high component density – up to four channels on one Eurocard – valuable space can be optimally used. Many functions are integrated in one device, to meet each individual application. Easy to plug-in and with standardized dimensions, they are perfect system components.

The system rack has optimized interfaces to the automation system. Mechanical – the respective system plug is integrated – as well as electrical interfaces – with signal matching, signal multiplication and redundant connections. And this means easy and quick engineering and start-up.

Each system cabinet is designed, assembled and documented in accordance with specific customer and application requirements.

Transmitter Supply Unit Type 9601 for the intrinsically safe operation of 2-wire transmitters

Version	Supply voltage	Nominal current consumption 1 / 2 channel	**Ordering code**
For analog transmitters	16.5 V	70 mA / 140 mA	**9601/☐ 1-22-11**
For HART-compatible transmitters	17 V	75 mA / 150 mA	**9601/☐ 3-22-11**
For intelligent transmitters	16.5 V	75 mA / 150 mA	**9601/☐ 5-22-11**

1 channel = 1
2 channels = 2

Certifications	BVS, FM, CSA, SEV, FTZU, BKI, VNIIEF
Safe maximum values (CENELEC):	[EEx ia] IIC; 28 V / 91 mA / 637 mW
Power supply	24 V DC
Signal I.S. (input/output)	4 … 20 mA / 4 … 20 mA
Open-circuit and short-circuit	1 changeover contact for each channel, red LED

Loop Powered Isolating Repeater Type 9615 for the intrinsically safe operation of control valves, i/p converters, indicators

Version	Internal resistance with/without test jacks	Safe maximum values (CENELEC): [EEx ia] IIC	**Ordering code**
Intrinsically safe analog output	530 Ω /410 Ω	15.8 V / 60 mA / 237 mW	**9615/☐ 1-11-10**
Intrinsically safe analog output	540 Ω /420 Ω	25.2 V / 92 mA / 580 mW	**9615/☐ 2-11-10**
Intrinsically safe analog output	440 Ω /320 Ω	18.9 V / 110 mA / 520 mW	**9615/☐ 4-11-10**
Intrinsically safe analog input	450 Ω /330 Ω	max. 35 V / 200 mA	**9615/☐ 8-11-10**

1 channel = 1
2 channels = 2
4 channels = 4

Certifications	BVS, SEV, FM, CSA, FTZU, VNIIEF
Power supply	without
Signal input → output	0/4 … 20 mA → 0/4 … 20 mA
Open-circuit and short-circuit	1 changeover contact for each channel, red LED

Isolating Repeater Type 9618 for the intrinsically safe operation of control valves, i/p converters, indicators

Version	**Ordering code**
Intrinsically safe analog output	**9618/☐ 4-11-11**

1 channel = 1
2 channels = 2

Certifications	BVS, SEV, FM, CSA, FTZU, VNIIEF
Safe maximum values (CENELEC):	[EEx ia] IIC; 20.9 V / 82 mA / 430 mW
Power supply (1 / 2 channel)	24 V DC , 52 mA / 100 mA
Signal input → I.S. output	0/4…20 mA; 0/1…5 V → 0/4…20 mA
Load resistance	0…570 Ω

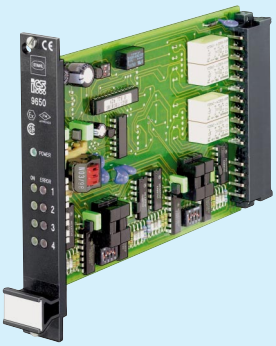
Additional information is found in the list M 3.1 “I.S. Isolators for system integration”

Multi-Purpose Transmitter Type 9623 for the intrinsically safe operation of resistance thermometers, resistance transmitters, thermocouples

Version	Ordering code
Standard version, 1 channel	**9623/10-51-11**
with display, 1 channel	**9623/11-51-11**

Certifications	BVS, FM, CSA, SEV, FTZU, BKI, VNIIEF
Marking (CENELEC):	[EEx ia] IIC
Power supply	24 V DC / 125 mA
Signal I.S. input (PC programmable)	Pt 100-500-1000, Ni 100 (2-, 3- or 4-wire connection) Resistance transmitter (2- or 3-wire connection) Thermocouples according to DIN and IEC
Output (adjustable)	0/4…20 mA; 0/1…5 V; 0/2…10 V
Limit values	2; yellow LEDs; 1 changeover contact for each (optional)
Open-circuit and short-circuit	1 changeover contact red LED

Switching Repeater Type 9650 for the intrinsically safe operation of contacts, initiators according to NAMUR, optocouplers



Version	Output/channel	Nominal current consumption 2 / 4 channel	Ordering code
Digital input for initiators	1 changeover contact + 1 NO	41 mA / 67 mA	**9650/☐ 0-11-10**
Digital input for initiators	1 changeover contact	43 mA / 71 mA	**9650/☐ 0-12-10**
Digital input for initiators	1 electronic output	30 mA / 45 mA	**9650/☐ 0-14-10**
Digital input for active voltage pulses	1 electronic output	30 mA / 45 mA	**9650/☐ 0-24-10**

2 channels = 2
4 channels = 4

Certifications	BVS, FM, CSA, SEV, FTZU, BKI, VNIIEF
Marking (CENELEC):	[EEx ia] IIC
Power supply	24 V DC
Open-circuit and short-circuit	Common fault indication 1 changeover contact (optional), red LED for each channel

Digital Output Module Type 9651 for the intrinsically safe operation of solenoid valves, LED indicator lights

Version	I.S. output (nominal values)	Safe maximum values (CENELEC): [EEx ia] IIC	Ordering code
Digital output, 4 channel	10.5 V; 45 mA; 150 Ω	11.2 V; 75 mA; 210 mW	**9651/40-12-10**
Digital output, 4 channel	17.5 V; 60 mA; 130 Ω	19.9 V; 150 mA; 746 mW	**9651/40-14-10**
Digital output, 4 channel	25 V; 45 mA; 250 Ω	27.7 V; 110 mA; 762 mW	**9651/40-16-10**
Digital output, 4 channel (for booster valves)	26/12 V; 10/60 mA 300/150 Ω	27.6 V; 93 mA; 642 mW	**9651/40-19-10**

Certifications	BVS
Marking (CENELEC):	[EEx ia] IIC
Power supply	24 V DC / 400 mA
	Output signal OFF / ON ≤ 5 V / ≥ 13 V

Additional information is found in the list M 3.1 I.S. “Isolators for system integration”

System Racks Type 9864 for the integration of I.S. isolators in the Eurocard format in automation systems

This standard design allows the realisation of the entire process of signal conditioning of intrinsically safe and non intrinsically safe signals by one system rack with 16 slots, a backplate and an additional p.c.b. mounted at the side. System specific plugs are used for direct connections to the individual process control systems. Additional connection points are available for signal distribution (for plotters, limit value units etc.) or external (non I.S.) signal input.

- Flexible adjustment to all process control systems is possible through a variable connection board
- Connection through the system cable of the process control system or plug-in terminals
- All connections accessible from the front
- Eurocards can be built-in from front and back without using swing frames
- Redundant 24 V DC power supply
- Built-in power supply fuse
- Common signalling for open-circuit or short-circuit
- Common signalling or external signal feed through terminals

Power supply	24 V DC, redundant power supply
Signals	for analog inputs/outputs; digital inputs/outputs
Plug-in slots	16
Channels	16 or 32 (analog) 32 or 64 (digital)
Connections	System plug or plug-in terminals Error message Signal duplication/signal feed (optional) Field cable via plugs or plug-in terminals
Dimensions	19", 4 HE 24", 4 HE

Accessories

Selection table	**Ordering code**
PC software for multi-purpose transmitter 9623; MS-Windows	**9699/20-10**
Interface converter for multi-purpose transmitter 9623	**9690/10-11**
2 relays for limit value signalling for multi-purpose transmitter 9623	**96 238 01 82 0**
Additional electronic output (2 channels) for switching repeater 9650	**96 500 04 74 0**
Additional relay output (2 channels) for switching repeater 9650	**96 500 05 74 0**
Racks for swing frame mounting, 19"	**9861/00-00**
Racks for swing frame mounting, 24"	**9862/00-00**
Surface-mounting casing for Eurocard	**9865/10-20**
Coded female multi-point connector for Eurocards (soldered terminals, wire-wrap, standard thermi-point, maxi thermi-point, crimped terminals)	see list M 3.1
Cabinets in various configurations	see chapter 6

STAHL

Additional information is found in the list M 3.1 I.S. “Isolators for system integration”