

## ATEX CERTIFIED INTRINSICALLY SAFE SYSTEM

### Availability/Compatibility of features:

Feature:	Availability/compatibility:
ATEX certification for installations in hazardous locations up to Zone 0.	All PR-23 Process Refractometers when equipped with the Intrinsically safe system components

### K-PATENTS SYSTEM CERTIFICATION:

Certified in accordance with the ATEX directive 94/9/EC and IEC/EN 60079 standards\*), type examination certificate reference VTT07ATEX065X.



ATEX Certified for

**EX II 1G**  
**Ex ia IIC T4 Ga**  
**T<sub>amb</sub> = -20...+45°C**

### Coverage of the Ex standards:

- EN 60079-0:2006 (that also covers the IEC 60079-0:2004)
- EN60079-11:2007 (that also covers the IEC 60079-11:2006)

### HAZARDOUS LOCATIONS AND INTRINSIC SAFETY

Hazardous locations are places where a possibility of fire or explosion exists because of flammable gases, vapours or fine dusts in the air.

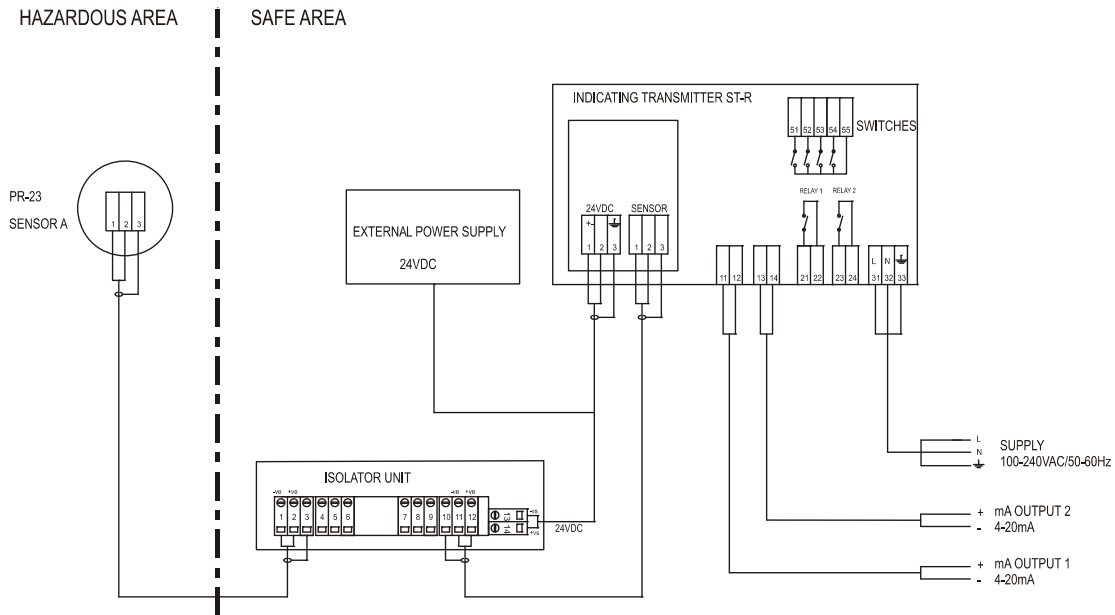
- **Zone 0:** An area in which an explosive gas-air mixture is continuously present or present for long periods.
- **Zone 1:** An area in which an explosive gas-air mixture is likely to occur in normal operation.

Intrinsic safety (IS) prevents instruments and low voltage circuits in hazardous areas from releasing sufficient energy to ignite volatile gases. The excess electrical energy in the form of voltage and current is limited by inserting energy-limiting devices, known as intrinsically safe barriers, in the circuits.

### K-PATENTS INTRINSICALLY SAFE SYSTEM

The K-Patents Intrinsically Safe Process Refractometer PR-23-IA can be used in hazardous locations in Zone 0 and Zone 1. The system consist of a modified refractometer sensor PR-23-IA, an indicating transmitter STR (for single sensor connectivity), an IS Isolator with a power supply cable, and cabling between the sensor, isolator and transmitter. The sensor is installed in the hazardous area and the IS isolator and transmitter are installed in the safe area.

**INTRINSICALLY SAFE FIELD WIRING:**



**SPECIFICATIONS:**

<b>CERTIFICATE:</b>	Certified in accordance with the ATEX directive 94/9/EC and IEC/EN 60079 standards, type examination certificate reference VTT07ATEX065X
Class:	ATEX II 1G Ex ia IIC T4 Ga (T <sub>amb</sub> =-20...+45°C)
<b>SYSTEM SPECIFICATIONS:</b>	
Sensor:	PR-23-IA Intrinsically safe sensor
IS Isolator:	PR-10910 MTL 5053 Isolator/Power Supply for simple wiring for safe and hazardous area connections
Option: Enclosure for the IS Isolator:	PCE Polycarbonate enclosure with DIN mounting rail <i>Dimensions:</i> 180 x 130 x 150 mm (7.1 x 5.1 x 5.9 inch) <i>Electrical insulation:</i> totally insulated <i>Nema class:</i> Nema 1, 4, 4X, 6 <i>IP protection class:</i> IP 66/67
Indicating transmitter:	Indicating transmitter STR for single sensor connection
Interconnecting cables:	PR-8260 Blue IEC 61158-2 compliant two-wire cable between Isolator and Sensor, max. length 200 m (660 ft)
	PR-8230 IEC 61158-2 compliant two-wire cable between Indicating transmitter and Isolator, max. length 100 m (330 ft)
	PR-8250 Power supply cable between Indicating transmitter and Isolator; max. length 100 m (330 ft)