



Series TSU

TSU400 FAULT MONITOR series galvanically isolated safety barriers are designed for connection to ON-OFF sensors (two wire) having a current or frequency output. Inputs are constantly monitored to reveal any possibly wiring anomaly (such as short circuit, open circuit or dispersion to ground). The ON-OFF signals from the sensors are retransmitted to the output with the control signals separated for each channel. The presence of bicolour LED's in input and output circuits permits to locally monitor the status of barrier and sensors.

The small size of the housing and the presence of two channels per unit offer the possibility of a high density wiring on DIN rail 35mm.

APPLICATION FIELDS

TSU400 series barriers can be used in all applications where is requested an isolation between sensors for ON-OFF service (current or frequency output) and the power supply. TSU400 barriers are especially suitable for ships applications, being RINA and Germanischer Lloyd approved and for hazardous areas installations being ATEX certified.

Great advantages are offered by the use of TSU400 series barriers interfaced with Valcom® ultrasonic level switches ASL400 series

GALVANIC ISOLATION BARRIERS FOR ON-OFF ATEX SYSTEMS

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TECHNICAL FEATURES

- **Two channels** galvanically isolated supply unit
- Intrinsic Safety approval [Ex ia] IIC according to ATEX directive 94/9/CE
- RINA and Germanischer Lloyd approvals
- Operative temperature $-20^{\circ}\pm+55^{\circ}\text{C}$

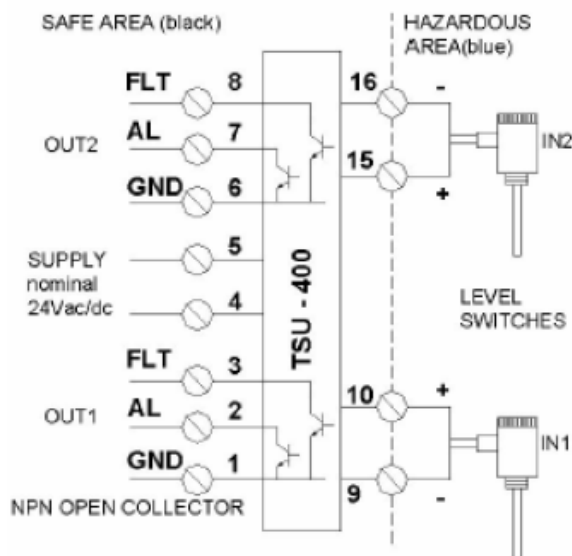
SAFE AREA

- Nominal Voltage Supply 24 Vac/dc
- 4 separated Open Collector NPN or TTL outputs for ON-OFF and FAULT MONITOR signals

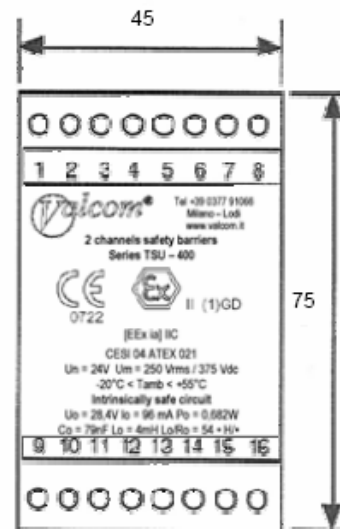
HAZARDOUS AREA

- 2 separated inputs from two wires ON-OFF transmitters (current or frequency signal)
- Max voltage per channel $U_0 = 28,4 \text{ V}$
- Max current per channel $I_0 = 96 \text{ mA}$
- Max power per channel $P_0 = 682 \text{ mW}$
- Max capacitance per channel $C_0 = 79 \text{ nF}$
- Max inductance per channel $L_0 = 4 \text{ mH}$

ELECTRICAL WIRING



DIMENSIONS



Build-in depth 110

Other than NPN Open Collector outputs, **TSU400** performs the following visual indications separated for the two channels :

Condition (Independent for each channel)	Alarm Indicators		Fault Indicators	
	Output AL	Alarm LED	Output FLT	Fault LED
- Normal condition	Close	Green	Closed	Green
- Pre-alarm or alarm	Open	Red	Closed	Green
- Open or short circuit on sensor supply line	Open	Dark / Red	Open	Yellow
- Sensor output signal failure (#)	Open	Red	Open	Yellow
- Sensor supply line isolation < 10 Kohm (#)	Open	Red	Open	Yellow
- Power supply failure	Open	Dark	Open	Dark

(#) Function available only when TSU400 is connected to ASL400 sensors with frequency output