



## Manufacturer-Declaration for Sensors in hazardous locations

<b>Sensor-Type</b>	TBR-2G3D	<b>Manufacturer</b>	Schischek GmbH
<b>Function</b>	Room thermostat	<b>Property</b>	passive potential free
<b>Installation in</b>	Zone 1, 2 and 22	<b>Associated IS apparatus</b>	Type EXL-IRU-1

### Test target

The sensor was tested concerning qualification for installation in hazardous locations.

Application in gas and dust explosion proof zones 1, 2 and 22.

Test base is the directive 94/9/EC (ATEX), applied standards are the EN 50014, EN 50020 and EN 50281-1-1

The device must be connected with an intrinsically safe circuit. Suitable is the switching module Type EXL-IRU-1, approved acc. to ATEX with II(1)GD [EEx ia] IIC. PTB02ATEX2195

### Proof of intrinsic safety simple circuits in use with EXL-IRU-1

$U_o \leq U_i$	13,5 V < 15V	OK	$C_o \geq C_i + C_{cable}$	$C_i = 0$
$I_o \leq I_i$	23 mA <= 50 mA	OK	$L_o \geq L_i + L_{cable}$	$L_i = 0$
$P_o \leq P_i$	76 mW <= 100 mW	OK	C <sub>cable</sub> , L <sub>cable</sub> see wire manufacturer	
Co, Lo see EXL-IRU-1 Data sheet regarding gas group				

Test	Result	Conform
IP-protection class	The device fulfils min. IP65	✓
Metallic enclosure	The magnesium part is less than 6%	✓
Plastic enclosure	Suitable in ambient temperature range -2 0°C ... +50°C	✓
Electrostatics	In groups IIA and IIB without restrictions applicable, in group IIC observe the note "only wet cleaning"	✓
Fasteners and locking	No particular conditions, not applicable	✓
Earthing (potential equalisation)	Double isolation, no PE, PA necessary	✓
Cable- and wire entry	No particular conditions, the enclosure must meet IP65 after installation	✓
Temperature test	Together with module EXL-IRU-1. In case of fault conditions is a temperature increasing of 5K measurable.	✓

### Evaluation / additional marks

The room thermostat TBR-2G3D in combination with module EXL-IRU-1 is approved for use in the zone 1, 2 and 22.

Application in gas group IIC, consider the note regarding electrostatic charge. After installation protection class IP65 must be fulfilled.

The tests were applied in the room of manufacturer Schischek GmbH.

Langenzenn, Nov. 05, 2003

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