







RIZUR-TB-S*

Thermoregulators RIZUR-TB-S* are manufactured in the explosion-proof design and are based on an intelligent digital control module consisting of a microcontroller, a temperature sensor (based on semiconducting materials) and an indicator that is located in an aluminum housing. At the software level, the heater is controlled by Jack E. Bresenham's modified adaptive algorithm. This algorithm ensures stepless control of the heater's power in the continuous operation and helps to maintain the temperature range from -40 to +50 °C with an increment of 1°C. When the temperature is set, the microcontroller in a soft-control mode turns the helice on to such power that is necessary for loss compensation providing that the temperature inside the heated space is maintained.

The control module for the heating element has an indicator on the basis of light-emitting diode designed for the visual control - it helps to determine the system's operating mode without opening the box (if there's an observation window):

		
Red light means that the temperature is below the set minimum.	Green light means that the temperature is in the set range.	Yellow light means that the temperature is above the set maximum.
		
Blinking red light during the operating time means that there's an emergency, possibly a problem with the helice. Important! Blinking red light at the beginning of the operation does not mean that there's a problem - it signals that the heater is up and running at full power.	Blinking green light means that the temperature is in the set range but the warranty period has ended (the warranty is for 15000 hours of the heater's operation). The heater with an S-design is shipped with a power cable. Cable length is specified in the ordering code (the standard cable length is 1 m).	Red and yellow blinking light means that the temperature on the surface of the heater is at set maximum while the temperature inside is below the set minimum. In such a situation the heater is turned off and the heating progress is not completed. It's possible that the power of the heater is chosen incorrectly.

Design variants of the thermoregulator RIZUR-TB-S*

RIZUR-TB-S

Built-in compact design of the thermoregulator with an intelligent control module. The effectiveness of the power load and maintenance of the temperature are ensured at the software level.

RIZUR-TB-S helps to maintain the temperature from -40°C to +50°C (with an increment of 1°C). All of the settings are programmed on the basis of the ordering information at the manufacturing facility. There's no possibility to change the settings on site.

The thermoregulator is shipped with a power cable. Cable length is specified in the ordering code (the standard cable length is 1 m). Such design is possible only with the ex-marking 1ExmbIICT6GbX.

Thermoregulator RIZUR-TB-S is supplied only as a part of the heaters manufactured by OOO «NPO RIZUR».



Ordering information:

$$\frac{\text{RIZUR-TB-S-Exm-(+5)-1-M}}{\underset{1}{\quad} \quad \underset{2}{\quad} \quad \underset{3}{\quad} \quad \underset{4}{\quad} \quad \underset{5}{\quad}}$$

1. Design variant	
RIZUR-TB-FB	Design variant of the thermoregulator
2. Explosion protection marking	
Exm	1ExmbIICT6GbX
3. Maintained temperature	
X	Specify the required temperature within the limits of -40°C...+50°C, with an increment of 1°C
4. Cable length	
1	1 m
2	2 m
X	Specify the required cable length in meters
5. Cable protection with a metal hose	
0	Without a metal hose
M	With a metal hose

RIZUR-TB-ST

Built-in design of the thermoregulator with an intelligent control module.

Functionally, this thermoregulator is identical to the RIZUR-TB-S. Structurally, it's placed on the metal housing that performs the function of a junction box, meaning that there's a terminal block inside and ex-protected cable glands for power cables outside. Such design is possible only with the ex-marking 1ExmbIICT6GbX.

Thermoregulator RIZUR-TB-ST is supplied only as a part of the heaters manufactured by OOO «NPO RIZUR».



Ordering information:

$$\frac{\text{RIZUR-TB-ST-Exm-(+5)-M20}}{\underset{1}{\quad} \quad \underset{2}{\quad} \quad \underset{3}{\quad} \quad \underset{4}{\quad}}$$

1. Design variant	
RIZUR-TB-FB	Design variant of the thermoregulator
2. Explosion protection marking	
Exm	1ExmbIICT6GbX
3. Maintained temperature	
X	Specify the required temperature within the
4. Cable gland for power cable	
M20	Cable gland M20x1,5 for cable diameter 6-12 mm
MR20	Cable gland M20x1,5 for cable diameter 6-12 mm with fastening for a metal hose DN15
MB20	Cable gland M20x1,5 for armored cable with external diameter 9-17 mm
X	Specify type and grade of cable and metal hose