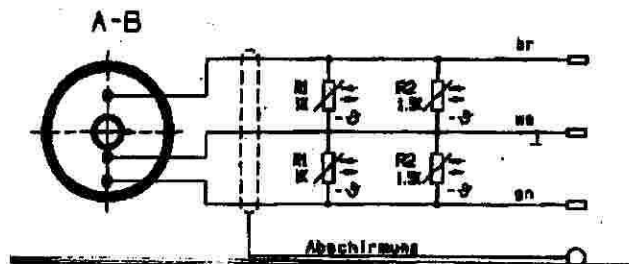


R-15 & R-23 Testing

Drager Information



The Thermistors used are 1.0Kohm & 1.5Kohm in parallel.

They are normally placed in the sensor holder so that they are located in the sensor near to the membrane.

Temperature alters the impedance of the thermistors

25 degrees C 575 ohms

20 degrees C 654 ohms

15 degrees C 733 ohms all approximately

The effective impedance each arm of the R-23 sensor sees is 600ohms.

In the R-15 the single cathode effectively parallels these resistors into an impedance of 300ohm

The output of each cathode should be 14.5mV to 19.5mV (17.0mV nominal in air) into a 600 Ohm load.

Information supplied by Dennis Antieau from Drager information This is at a constant temperature 25°C (Temperature not actually stated)

The R-15 having only one cathode should deliver 29mV to 39mV into a 300-ohm load

The output of the sensors can vary with temperature

25°C 16.4mV

20°C 16.2 mV

15°C 15.4 mV

This is a variation of 1mV across the normal temperature range expected whilst testing.

Conclusion The minimum to be expected in the UK @ 15°C is therefore 15.4 -2mV and the maximum @ 27°C is 20mV + 2mV

A Go NOGO test 17mV +/- 3mV should cover the maximum number of sensors over the temperature range 15°C to 27°C .

Outside of this range it is suggested the sensors are left in the sensor holder overnight and tested again. Temperature may need to be taken into account before the sensor is rejected.

Our original QA procedure reads: 17mV +/- 3 mV

This was arrived at by building an R15 simulator and using it with a Drager monitor to find approximate limits.

John

Tuesday, 25 October 2005