

Monitoring Relays

3RS10, 3RS11 Temperature Monitoring Relays

Relays, analogically adjustable, for 1 sensor

Technical specifications

Type		3RS10 00	3RS10 10	3RS11 00	3RS11 01	3RS10 20	3RS10 30	3RS11 20	3RS11 21
General data									
Sensor type		PT100		TC type J	TC type K	PT100		TC type J	TC type K
Width	mm	22.5							
Operating range		0.85 ... 1.1 x U_s							
Rated power	W/VA	< 2/4							
Auxiliary circuit									
Contacts		1 NO + 1 NC				1 CO + 1 NO			
Rated operational currents I_e		3							
• AC-15 at 230 V, 50 Hz	A	3							
• DC-13 at:									
- 24 V	A	1							
- 240 V	A	0.1							
DIAZED fuse		4							
• gL/gG operational class	A	4							
Short-circuit current (at 250 V)	kA	1							
Electrical endurance		100000							
AC-15 at 3A									
Mechanical endurance		3 x 10 ⁶							
Mechanical operating cycles									
Tripping units									
• Measuring accuracy at 20°C ambient temperature (T20)		Typically < ± 5 % from upper limit of scale							
• Reference point accuracy		--	< ±5 K		--	< ±5 K			
• Deviations due to ambient temperature in % of measuring range		< 2	< 3		< 2	< 3			
• Hysteresis settings		2 ... 20 % from upper limit of scale							
- for temperature 1		5 % of upper limit of scale							
- for temperature 2									
Sensor circuit									
• Typical sensor circuits									
- PT100	mA	Typically 1		--	Typically 1		--		
- PT1000	mA	Typically 0.2		--	Typically 0.2		--		
• Open-circuit detection		No							
• Short-circuit detection		No							
• 3-wire conductor connection ¹⁾		Yes	-		Yes	-			
Enclosures									
Environmental influences									
Permissible ambient temperature	°C	-25 ... +60							
Permissible storage temperature	°C	-40 ... +80							
Permissible mounting positions		Any							
Degree of protection acc. to EN 60529		Terminals: IP20; Cover: IP40							
Rated insulation voltage U_i (degree of pollution 3)	V	300							
Connection type		Screw terminals							
• Terminal screw		M3 (for standard screw driver size 2 and Pozidriv 2)							
• Solid	mm ²	1 x (0.5 ... 4)/2 x (0.5 ... 2.5)							
• Finely stranded with end sleeve	mm ²	1 x (0.5 ... 2.5)/2 x (0.5 ... 1.5)							
• AWG cables, solid or stranded	AWG	2 x (20 ... 14)							
• Tightening torque	Nm	0.8 ... 1.2							
Connection type		Spring-loaded terminals							
• Solid	mm ²	2 x (0.25 ... 1.5)							
• Finely stranded, with end sleeves acc. to DIN 46228	mm ²	2 x (0.25 ... 1.5)							
• Finely stranded	mm ²	2 x (0.25 ... 1.5)							
• AWG cables, solid or stranded	AWG	2 x (24 ... 16)							
Vibration resistance acc. to IEC 60068-2-6		5 ... 26 Hz: 0.75 mm							
Shock resistance acc. to IEC 60068-2-27		12 shocks (half-sine 15 g/11 ms)							

¹⁾ 2-wire connection of resistance sensors with wire bridge between T2 and T3.