

Monitoring Relays

3RS10, 3RS11 Temperature Monitoring Relays

Relays, digitally adjustable, for 1 sensor

Technical specifications

Type		3RS10 40/3RS10 42/3RS20 40	3RS11 40/3RS21 40	3RS11 42
General data				
Width	mm	45		
Operating range	V	0.85 ... 1.1 x U_s		
Rated power	W/VA	< 4 / 7		
Auxiliary circuit				
Contacts		1 CO + 1 CO + 1 NO		
Rated operational currents I_e				
• AC-15 at 230 V, 50 Hz	A	3		
• DC-13 at:				
- 24 V	A	1		
- 240 V	A	0.1		
DIAZED protection	A	4		
gL/gG operational class				
Electrical endurance	A	100000		
AC-15 at 3A				
Mechanical endurance		30 x 10 ⁶		
Mechanical operating cycles				
Tripping units				
Measuring accuracy at 20°C ambient temperature (T20)		< ±2 K, ± 1 digit	< ±5 K, ± 1 digit	< ±7 K, ± 1 digit
Reference point accuracy		--	< ±5 K	
Deviations due to ambient temperature	%	0.05 °C per K deviation from T20		
in % of measuring range				
Measuring cycle	ms	500		
Hysteresis settings for temperature 1		1 ... 99 Kelvin, for both values		
Adjustable delay time	s	0 ... 999		
Sensor circuit				
Typical sensor circuits				
• PT100	mA	Typically 1	--	--
• PT1000/KTY83/KTY84/NTC	mA	Typically 0.2	--	--
Open-circuit detection		Yes ¹⁾	Yes	Yes
Short-circuit detection		Yes	No	No
3-wire conductor connection		Yes ²⁾	--	--
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 AC	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⁾ Not for NTC B57227-K333-A1 (100 °C: 1.8 k; 25 °C: 32.762 k).

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