

SIEMENS



Applications

Motor monitoring with PTC in the winding:

- For long starting and braking operations
- For high switching frequencies
- For increased ambient temperatures
- When the cooling medium flow is restricted
- For AC drive operation

Highlights

- All products are PTB-ATEX certified
- Wire breakage and short circuit in the sensor circuit are displayed
- Versions with hard-gold-plated relays which are electronics compatible
- Favorably priced compact device (A1 + 11 jumpered)
- Either screw or cage clamp terminal connection system

SIMIREL – 3RN1 thermistor motor protection relay: Today, motor protection is so simple

The power and lifetime of motors is essentially limited by the winding temperature. Motor manufacturers integrate PTC sensors in the motor winding if more stringent requirements prevail – e. g. for high ambient temperatures or where cooling is restricted. The thermistor motor protection devices operate according to the closed-circuit principle, detect these limit temperatures and switch the output relay contacts.

SIMIREL relays

SIMIREL 3RN1 thermistor motor protection for PTC thermistor temperature sensors

Screw connection
Thermistor motor protection relays for PTC thermistors (type A PTCs)

- Monostable version (closed-circuit principle), trips when the control voltage fails

- All relays (with AC/DC 24 V) have electrical isolation

- 22.5 mm wide

	RESET	Contacts	Power supply voltage V_s 50/60 Hz V AC	Order No.
Compact evaluation devices, 1 LED				
Terminal A1 is connected to the common of the changeover contact	Auto	1 CO	24 AC/DC	3RN10 00-1AB00
			230 AC	3RN10 00-1AM00
Standard evaluation devices, 2 LEDs				
	Auto	1 NO + 1 NC	24 AC/DC 230 AC	3RN10 10-1CB00 3RN10 10-1CM00
		2 CO	24 AC/DC 230 AC	3RN10 10-1BB00 3RN10 10-1BM00
	Manual/Remote ¹⁾	1 NO + 1 NC	24 AC/DC 110/230 AC	3RN10 11-1CB00 3RN10 11-1CK00
		2 CO	24 AC/DC 230 AC	3RN10 11-1BB00 3RN10 11-1BM00
Short-circuit detection in the sensor circuit	Manual/Remote ¹⁾	2 CO	24 AC/DC 230 AC	3RN10 11-1BB00 3RN10 11-1BM00
Holding on supply failure fct.	Manual/Auto/Remote	1 NO + 1 NC	24 AC/DC 110/230 AC	3RN10 12-1CB00 3RN10 12-1CK00
Holding on supply failure fct., short-circuits in the sensor circuit are displayed	Manual/Auto/Remote	2 CO	24 AC/DC	3RN10 12-1BB00
		2 CO	230 AC	3RN10 12-1BM00
Holding on supply failure fct., short-circuits and wire breakage in the sensor circuit are detected	Manual/Auto/Remote	2 CO, hard-gold-plated	24 AC/DC	3RN10 12-1GB00
		2 CO	24 AC/DC	3RN10 13-1BB00
	Manual/Auto/Remote	2 CO	24–240 AC/DC	3RN10 13-1BW10
		2 CO, hard-gold-plated	24–240 AC/DC	3RN10 13-1GW10

1) Reset by either pressing the RESET button or interrupting the power supply voltage

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