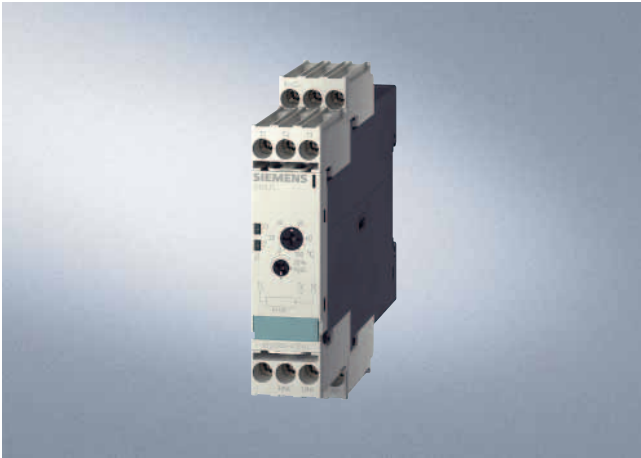


# Monitoring Relays

## 3RS10, 3RS11 Temperature Monitoring Relays

Relays, analogically adjustable, for 1 sensor

### Overview



The 3RS10/3RS11 analog temperature monitoring relays can be used for measuring temperatures in solid, liquid and gas media. The temperature is sensed by the sensors in the medium, evaluated by the device and monitored for overshoot or undershoot. When the threshold values are reached, the output relay switches on or off depending on the parameterization.

### Benefits

- All devices except for 24 V AC/DC feature electrical isolation
- Extremely easy operation using a rotary potentiometer
- Adjustable hysteresis
- Adjustable working principle for devices with 2 threshold values
- All versions with removable terminals
- All versions with screw terminals, many versions alternatively with innovative spring-type connections

### Application

The analogically adjustable SIRIUS 3RS10/3RS11 temperature monitoring relays can be used in almost any application in which temperature overshoot or undershoot is not permitted, e.g. in the monitoring of set temperature limits and the output of alarm messages for:

- Motor and system protection
- Control cabinet temperature monitoring
- Freeze monitoring
- Temperature limits for process variables e.g. in the packaging industry or electroplating
- Controlling equipment and machines such as heating, climate and ventilation systems, solar collectors, heat pumps or warm water supplies
- Motor, bearing and gear oil monitoring
- Monitoring of coolants

# Monitoring Relays

## 3RS10, 3RS11 Temperature Monitoring Relays



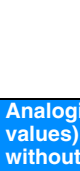










Relays, analogically adjustable, for 1 sensor

### Selection and ordering data

#### Analogically adjustable evaluation units with one and two threshold values

For analogically adjustable units, the threshold values and the hysteresis of 2 ... 20 % are set using a rotary potentiometer. For units with 2 threshold values, the adjustable hysteresis only applies to threshold value 1. For the second threshold value, a

fixed hysteresis of 5 % applies. The product range has been developed for applications where a setting accuracy of  $\pm 5$  % is sufficient.

Sensor	Function	Measuring range	Rated control supply voltage $U_s$ AC 50/60 Hz	DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.			
		°C	V		Order No.	Price per PU			kg			
<b>Analogically adjustable, 1 threshold value, width 22.5 mm; closed-circuit principle; without memory; 1 NO + 1 NC</b>												
	PT100 (resistance sensor)	Overshoot	- 50 ... + 50	24 AC/DC 110/230 AC	B	<b>3RS10 00-1CD00</b>	1	1 unit	101	0.150		
			0 ... + 100	24 AC/DC 110/230 AC	B	<b>3RS10 00-1CK00</b>	1	1 unit	101	0.190		
			0 ... + 200	24 AC/DC 110/230 AC	B	<b>3RS10 00-1CD10</b>	1	1 unit	101	0.145		
			Type J (thermo- element)	Overshoot	0 ... + 100	24 AC/DC 110/230 AC	A	<b>3RS10 00-1CK10</b>	1	1 unit	101	0.189
					0 ... + 200	24 AC/DC 110/230 AC	B	<b>3RS10 00-1CD20</b>	1	1 unit	101	0.145
					0 ... + 200	24 AC/DC 110/230 AC	A	<b>3RS10 00-1CK20</b>	1	1 unit	101	0.186
	Type K (thermo- element)			Undershoot	- 50 ... + 50	24 AC/DC 110/230 AC	B	<b>3RS10 10-1CD00</b>	1	1 unit	101	0.150
					0 ... + 100	24 AC/DC 110/230 AC	B	<b>3RS10 10-1CK00</b>	1	1 unit	101	0.186
					0 ... + 200	24 AC/DC 110/230 AC	B	<b>3RS10 10-1CD10</b>	1	1 unit	101	0.150
			Type J (thermo- element)	Overshoot	0 ... + 100	24 AC/DC 110/230 AC	B	<b>3RS10 10-1CK10</b>	1	1 unit	101	0.190
					0 ... + 200	24 AC/DC 110/230 AC	B	<b>3RS10 10-1CD20</b>	1	1 unit	101	0.150
					0 ... + 200	24 AC/DC 110/230 AC	B	<b>3RS10 10-1CK20</b>	1	1 unit	101	0.191
	Type K (thermo- element)			Overshoot	0 ... + 200	24 AC/DC 110/230 AC	B	<b>3RS11 00-1CD20</b>	1	1 unit	101	0.150
					0 ... + 600	24 AC/DC 110/230 AC	B	<b>3RS11 00-1CK20</b>	1	1 unit	101	0.190
					0 ... + 600	24 AC/DC 110/230 AC	B	<b>3RS11 00-1CD30</b>	1	1 unit	101	0.149
			Type K (thermo- element)	Overshoot	0 ... + 600	24 AC/DC 110/230 AC	B	<b>3RS11 00-1CK30</b>	1	1 unit	101	0.190
					+ 500 ... + 1000	24 AC/DC 110/230 AC	B	<b>3RS11 01-1CD20</b>	1	1 unit	101	0.150
					+ 500 ... + 1000	24 AC/DC 110/230 AC	B	<b>3RS11 01-1CK20</b>	1	1 unit	101	0.190
	Type K (thermo- element)			Overshoot	0 ... + 600	24 AC/DC 110/230 AC	B	<b>3RS11 01-1CD30</b>	1	1 unit	101	0.150
					+ 500 ... + 1000	24 AC/DC 110/230 AC	B	<b>3RS11 01-1CK30</b>	1	1 unit	101	0.190
					+ 500 ... + 1000	24 AC/DC 110/230 AC	B	<b>3RS11 01-1CD40</b>	1	1 unit	101	0.150
			Type K (thermo- element)	Overshoot	0 ... + 600	24 AC/DC 110/230 AC	B	<b>3RS11 01-1CK40</b>	1	1 unit	101	0.190
					+ 500 ... + 1000	24 AC/DC 110/230 AC	B	<b>3RS11 01-1CD40</b>	1	1 unit	101	0.150
					+ 500 ... + 1000	24 AC/DC 110/230 AC	B	<b>3RS11 01-1CK40</b>	1	1 unit	101	0.190
<b>Analogically adjustable for warning and disconnection (2 threshold values), 22.5 mm width, open/closed-circuit principle switchable; without memory; 1 NO + 1 CO</b>												
	PT100 (resistance sensor)			Overshoot	- 50 ... + 50	24 AC/DC 24 ... 240 AC/DC	B	<b>3RS10 20-1DD00</b>	1	1 unit	101	0.166
					0 ... + 100	24 AC/DC 24 ... 240 AC/DC	B	<b>3RS10 20-1DW00</b>	1	1 unit	101	0.175
		0 ... + 200	24 AC/DC 24 ... 240 AC/DC		B	<b>3RS10 20-1DD10</b>	1	1 unit	101	0.164		
			Type J (thermo- element)	Overshoot	0 ... + 200	24 AC/DC 24 ... 240 AC/DC	B	<b>3RS10 20-1DW10</b>	1	1 unit	101	0.175
					0 ... + 200	24 AC/DC 24 ... 240 AC/DC	B	<b>3RS10 20-1DD20</b>	1	1 unit	101	0.166
					0 ... + 200	24 AC/DC 24 ... 240 AC/DC	B	<b>3RS10 20-1DW20</b>	1	1 unit	101	0.175
	Type J (thermo- element)			Undershoot	-50 ... + 50	24 AC/DC 24 ... 240 AC//DC	B	<b>3RS10 30-1DD00</b>	1	1 unit	101	0.165
					0 ... + 100	24 AC/DC 24 ... 240 AC/DC	B	<b>3RS10 30-1DW00</b>	1	1 unit	101	0.174
					0 ... + 200	24 AC/DC 24 ... 240 AC/DC	B	<b>3RS10 30-1DD10</b>	1	1 unit	101	0.166
			Type J (thermo- element)	Overshoot	0 ... + 100	24 AC/DC 24 ... 240 AC/DC	B	<b>3RS10 30-1DW10</b>	1	1 unit	101	0.175
					0 ... + 200	24 AC/DC 24 ... 240 AC/DC	B	<b>3RS10 30-1DD20</b>	1	1 unit	101	0.163
					0 ... + 200	24 AC/DC 24 ... 240 AC/DC	B	<b>3RS10 30-1DW20</b>	1	1 unit	101	0.173
	Type K (thermo- element)			Overshoot	0 ... + 200	24 AC/DC 24 ... 240 AC/DC	B	<b>3RS11 20-1DD20</b>	1	1 unit	101	0.165
					0 ... + 600	24 AC/DC 24 ... 240 AC/DC	B	<b>3RS11 20-1DW20</b>	1	1 unit	101	0.175
					0 ... + 600	24 AC/DC 24 ... 240 AC/DC	B	<b>3RS11 20-1DD30</b>	1	1 unit	101	0.167
			Type K (thermo- element)	Overshoot	0 ... + 600	24 AC/DC 24 ... 240 AC/DC	B	<b>3RS11 20-1DW30</b>	1	1 unit	101	0.175
					+ 500 ... + 1000	24 AC/DC 24 ... 240 AC/DC	B	<b>3RS11 21-1DD20</b>	1	1 unit	101	0.179
					+ 500 ... + 1000	24 AC/DC 24 ... 240 AC/DC	B	<b>3RS11 21-1DW20</b>	1	1 unit	101	0.179
	Type K (thermo- element)			Overshoot	0 ... + 600	24 AC/DC 24 ... 240 AC/DC	B	<b>3RS11 21-1DW30</b>	1	1 unit	101	0.176
					+ 500 ... + 1000	24 AC/DC 24 ... 240 AC/DC	B	<b>3RS11 21-1DD40</b>	1	1 unit	101	0.167
					+ 500 ... + 1000	24 AC/DC 24 ... 240 AC/DC	B	<b>3RS11 21-1DW40</b>	1	1 unit	101	0.167
			Type K (thermo- element)	Overshoot	0 ... + 600	24 AC/DC 24 ... 240 AC/DC	B	<b>3RS11 21-1DD40</b>	1	1 unit	101	0.167
					+ 500 ... + 1000	24 AC/DC 24 ... 240 AC/DC	B	<b>3RS11 21-1DW40</b>	1	1 unit	101	0.167
					+ 500 ... + 1000	24 AC/DC 24 ... 240 AC/DC	B	<b>3RS11 21-1DD40</b>	1	1 unit	101	0.167

\* You can order this quantity or a multiple thereof.

# Monitoring Relays



## 3RS10, 3RS11 Temperature Monitoring Relays

Relays, analogically adjustable, for 1 sensor



### Analogically adjustable evaluation units with one and two threshold values

For analogically adjustable units, the threshold values and the hysteresis of 2 ... 20 % are set using a rotary potentiometer. For units with 2 threshold values, the adjustable hysteresis only applies to threshold value 1.

For the second threshold value, a fixed hysteresis of 5 % applies. The product range has been developed for applications where a setting accuracy of  $\pm 5\%$  is sufficient.

Sensor	Function	Measuring range	Rated control supply voltage $U_s$ AC 50/60 Hz	DT	Spring-loaded terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.					
		°C	V		Order No.	Price per PU			kg					
<b>Analogically adjustable, 1 threshold value, width 22.5 mm; closed-circuit principle; without memory; 1 NO + 1 NC</b>														
	PT100 (resistance sensor)	Over-shoot	- 50 ... + 50	24 AC/DC 110/230 AC	B	<b>3RS10 00-2CD00</b>	1	1 unit	101	0.125				
			0 ... + 100	24 AC/DC 110/230 AC	B	<b>3RS10 00-2CK00</b>	1	1 unit	101	0.163				
			0 ... + 200	24 AC/DC 110/230 AC	B	<b>3RS10 00-2CD10</b>	1	1 unit	101	0.125				
					B	<b>3RS10 00-2CK10</b>	1	1 unit	101	0.165				
	Type J (thermo-element)	Overshoot	0 ... + 200	24 AC/DC	B	<b>3RS10 00-2CD20</b>	1	1 unit	101	0.121				
										<b>3RS10 00-2CK20</b>	1	1 unit	101	0.165
<b>Analogically adjustable for warning and disconnection (2 threshold values), 22.5 mm width, open/closed-circuit principle switchable; without memory; 1 NO + 1 CO</b>														
	PT100 (resistance sensor)	Overshoot	0 ... + 200	24 ... 240 AC/DC	B	<b>3RS10 20-2DW20</b>	1	1 unit	101	0.153				
		Undershoot	0 ... + 200	24 AC/DC	B	<b>3RS10 30-2DD20</b>	1	1 unit	101	0.145				
	Type J (thermo-element)	Overshoot	0 ... + 200	24 AC/DC	B	<b>3RS11 20-2DD20</b>	1	1 unit	101	0.140				

### Accessories

Use	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.	
								kg	
<b>Blank labels</b>									
	Blank labels, 20 mm x 7 mm, pastel turquoise <sup>1)</sup>	C	<b>3RT19 00-1SB20</b>		100	340 units	101	22.000	
<b>Push-in lugs and covers</b>									
	For devices with 1 or 2 CO contacts	<b>Push-in lugs</b> For screw mounting, 2 units are required for each device	▶	<b>3RP19 03</b>		1	10 units	101	0.002
		For devices with 1 or 2 CO contacts	<b>Sealable covers</b> For securing against unauthorized adjustment of setting knobs	▶	<b>3RP19 02</b>		1	5 units	101

<sup>1)</sup> Computer labeling system for individual inscription of unit labeling plates available from:  
murrplastik Systemtechnik GmbH.

# Monitoring Relays

## 3RS10, 3RS11 Temperature Monitoring Relays

Relays, digitally adjustable, for 1 sensor

### Overview



The 3RS10/3RS11 temperature monitoring relays can be used for measuring temperatures in solid, liquid and gas media. The temperature is sensed by the sensor in the medium, evaluated by the device and monitored for overshoot or undershoot or for staying within an operating range (window function).

The relays are also an excellent alternative to temperature controllers in the low-end performance range (2 or 3-point closed-loop control).

### Benefits

- Very simple operation without complicated menu selections
- 2 or 3-point closed-loop control can be configured quickly
- All versions with removable terminals
- All versions with screw terminals or alternatively with innovative spring-loaded terminals

### Application

The 3RS10 40, 3RS10 42, 3RS11 40, 3RS11 42, 3RS20 40 and 3RS21 40 temperature monitoring relays can be used in almost any application in which temperature overshoot or undershoot is not permitted, e.g. in the monitoring of set temperature limits and the output of alarm messages for:

- Plant and environment protection
- Temperature limits for process variables e.g. in the packaging industry or electroplating
- Temperature limits for district heating plants
- Exhaust temperature monitoring
- Controlling equipment and machines such as heating, climate and ventilation systems, solar collectors, heat pumps or warm water supplies
- Motor, bearing and gear oil monitoring
- Monitoring of coolants

The short-circuit and open-circuit detection as well as the measuring range is limited, depending on the sensor type.

#### Measuring range in °C for thermoelements

Sensor type	Short-circuit	Open circuit	3RS11 40 Measuring range in °C	3RS11 42 Measuring range in °C
J	--	✓	-99 ... +999	-99 ... +1200
K	--	✓	-99 ... +999	-99 ... +1350
T	--	✓	-99 ... +400	-99 ... +400
E	--	✓	-99 ... +999	-99 ... +999
N	--	✓	-99 ... +999	-99 ... +999
S	--	✓	--	0 ... 1750
R	--	✓	--	0 ... 1750
B	--	✓	--	400 ... 1800

- ✓ Detection possible
- Detection not possible

#### Measuring range in °C for resistance sensors

Sensor type	Short-circuit	Open circuit	3RS10 40/41 Measuring range in °C	3RS10 42 Measuring range in °C
PT100	✓	✓	-50 ... +500	-50 ... +750
PT1000	✓	✓	-50 ... +500	-50 ... +500
KTY 83-110	✓	✓	-50 ... +175	-50 ... +175
KTY 84	✓	✓	-40 ... +300	-40 ... +300
NTC <sup>1)</sup>	✓	--	80 ... 160	80 ... 160

- ✓ Detection possible
- Detection not possible

<sup>1)</sup> Not for NTC B57227-K333-A1 (100 °C: 1.8 kΩ; 25 °C: 32.762 kΩ).

# Monitoring Relays

## 3RS10, 3RS11 Temperature Monitoring Relays

Relays, digitally adjustable, for 1 sensor

### Selection and ordering data


#### Digitally adjustable evaluation units

The digitally adjustable temperature monitoring relays are very simple to operate. The three-digit LED display always shows the current temperature. A separate relay with an NO contact is included for sensor monitoring. The relay is switched off in parameterization mode.

The following parameters can be adjusted:

- Sensor type
- 2 threshold values,  $\vartheta_1$ ,  $\vartheta_2$
- 1 hysteresis; applies to both thresholds (0 ... 99 K)
- 1 delay time; applies to both thresholds (0 ... 999 s)
- Open/closed-circuit principle switchable
- Manual/remote RESET
- Function: overshoot or undershoot or window monitoring

Wide-range voltage versions are electrically isolated.  
The temperature ranges depend on the sensor type.

Sensor	Measuring range (measuring range limit depends on the sensor)	Rated control supply voltage $U_s$ AC 50/60 Hz	DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.	
				Order No.	Price per PU			kg	
<b>Temperature monitoring relays, digitally adjustable, 2 threshold values, width 45 mm; 1 CO + 1 CO + 1 NO, memory function possible with external jumper, device parameters are non-volatile</b>									
 3RS10 40-1GD50	PT100/1000; KTY83/84; NTC (resistance sensors) <sup>1)</sup>	-50 ... +500 °C	24 AC/DC	A	<b>3RS10 40-1GD50</b>	1	1 unit	101	0.317
			24 ... 240 AC/DC	A	<b>3RS10 40-1GW50</b>	1	1 unit	101	0.329
		-50 ... +932 °F	24 AC/DC	B	<b>3RS20 40-1GD50</b>	1	1 unit	101	0.189
			24 ... 240 AC/DC	B	<b>3RS20 40-1GW50</b>	1	1 unit	101	0.186
	TYPE J, K, T, E, N (thermoelement)	-99 ... +999 °C	24 AC/DC	A	<b>3RS11 40-1GD60</b>	1	1 unit	101	0.318
			24 ... 240 AC/DC	B	<b>3RS11 40-1GW60</b>	1	1 unit	101	0.329
	-99 ... +1830 °F	24 AC/DC	B	<b>3RS21 40-1GD60</b>	1	1 unit	101	0.317	
		24 ... 240 AC/DC	B	<b>3RS21 40-1GW60</b>	1	1 unit	101	0.317	
<b>Temperature monitoring relays, digitally adjustable, 2 threshold values, width 45 mm; 1 CO + 1 CO + 1 NO, tripping state and device parameters are non-volatile</b>									
PT100/1000; KTY83/84; NTC (resistance sensors) <sup>1)</sup>	- 50 ... + 750 °C	24 AC/DC	B	<b>3RS10 42-1GD70</b>	1	1 unit	101	0.317	
			B	<b>3RS10 42-1GW70</b>	1	1 unit	101	0.331	
TYPE J, K, T, E, N, R, S, B (thermoelement)	- 99 ... +1800 °C	24 AC/DC	B	<b>3RS11 42-1GD80</b>	1	1 unit	101	0.318	
			B	<b>3RS11 42-1GW80</b>	1	1 unit	101	0.329	

<sup>1)</sup> NTC type: B57227-K333-A1 (100 °C: 1.8 k $\Omega$ ; 25 °C: 32.762 k $\Omega$ ).

# Monitoring Relays

## 3RS10, 3RS11 Temperature Monitoring Relays

Relays, digitally adjustable, for 1 sensor

### Digitally adjustable evaluation units

The digitally adjustable temperature monitoring relays are very simple to operate. The three-digit LED display always shows the current temperature. A separate relay with an NO contact is included for sensor monitoring. The relay is switched off in parameterization mode.

The following parameters can be adjusted:


- Sensor type
- 2 threshold values,  $\vartheta_1$ ,  $\vartheta_2$
- 1 hysteresis; applies to both thresholds (0 ... 99 K)
- 1 delay time; applies to both thresholds (0 ... 999 s)
- Open/closed-circuit principle switchable
- Manual/remote RESET
- Function: overshoot or undershoot or window monitoring

Wide-range voltage versions are electrically isolated. The temperature ranges depend on the sensor type.

Sensor	Measuring range (measuring range limit depends on the sensor)	Rated control supply voltage $U_s$ AC 50/60 Hz	DT	Spring-loaded terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
				Order No.	Price per PU			kg
V								
<b>Temperature monitoring relays, digitally adjustable, 2 threshold values, width 45 mm; 1 CO + 1 CO + 1 NO, memory function possible with external jumper, device parameters are non-volatile</b>								
PT100/1000; KTY83/84; NTC (resistance sensors) <sup>1)</sup>	-50 ... +500 °C	24 AC/DC	B	<b>3RS10 40-2GD50</b>	1	1 unit	101	0.267
		24 ... 240 AC/DC	B	<b>3RS10 40-2GW50</b>	1	1 unit	101	0.281
	-50 ... +932 °F	24 AC/DC	C	<b>3RS20 40-2GD50</b>	1	1 unit	101	0.100
		24 ... 240 AC/DC	C	<b>3RS20 40-2GW50</b>	1	1 unit	101	0.100
TYPE J, K, T, E, N (thermoelement)	-99 ... +999 °C	24 AC/DC	B	<b>3RS11 40-2GD60</b>	1	1 unit	101	0.269
		24 ... 240 AC/DC	B	<b>3RS11 40-2GW60</b>	1	1 unit	101	0.300
	-99 ... +1830 °F	24 AC/DC	C	<b>3RS21 40-2GD60</b>	1	1 unit	101	0.100
		24 ... 240 AC/DC	C	<b>3RS21 40-2GW60</b>	1	1 unit	101	0.100
<b>Temperature monitoring relays, digitally adjustable, 3 threshold values, width 45 mm; 1 CO + 1 CO + 1 NO, tripping state and device parameters are non-volatile</b>								
PT100/1000; KTY83/84; NTC (resistance sensors) <sup>1)</sup>	-50 ... +750 °C	24 AC/DC	C	<b>3RS10 42-2GD70</b>	1	1 unit	101	0.267
		24 ... 240 AC/DC	C	<b>3RS10 42-2GW70</b>	1	1 unit	101	0.281
TYPE J, K, T, E, N, R, S, B (thermoelement)	-99 ... +1800 °C	24 AC/DC	C	<b>3RS11 42-2GD80</b>	1	1 unit	101	0.269
		24 ... 240 AC/DC	C	<b>3RS11 42-2GW80</b>	1	1 unit	101	0.300

<sup>1)</sup> NTC type: B57227-K333-A1 (100 °C: 1.8 k $\Omega$ ; 25 °C: 32.762 k $\Omega$ ).

### Accessories

Design	Language used for labels	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
								kg
<b>Blank labels</b>								
Blank labels, 20 x 7 mm, pastel turquoise <sup>1)</sup>		C	<b>3RT19 00-1SB20</b>		100 340 units		101	22.000
<b>Replaceable cover labels for digital devices</b>								
Replaceable cover labels for digital devices according to DIN 3440	German English	B B	<b>3RS19 01-1A</b> <b>3RS19 01-1C</b>		1 5 units 1 5 units		101	0.005 0.005
<b>Push-in lugs</b>								
 3RP19 03	Push-in lugs for screw mounting, 2 units are required for each device	▶	<b>3RP19 03</b>		1 10 units		101	0.002

Matching sensors can be found on the Internet at [www.siemens.com/temperature](http://www.siemens.com/temperature)

<sup>1)</sup> Computer labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH.

\* You can order this quantity or a multiple thereof.

# Monitoring Relays

## 3RS10, 3RS11 Temperature Monitoring Relays

Relays, digitally adjustable for up to 3 sensors

### Overview



The 3RS10 41 temperature monitoring relays can be used for measuring temperatures in solid, liquid and gas media. The temperature is sensed by the sensor in the medium, evaluated by the device and monitored for overshoot or undershoot or for staying within an operating range (window function). The evaluation unit can evaluate up to 3 resistance sensors at the same time and is specially designed for monitoring motor windings and bearings.

### Benefits

- Very simple operation without complicated menu selections
- Space-saving with 45 mm width
- All devices are available alternatively with spring-loaded terminals
- 2- or 3-point closed-loop control can be configured quickly
- All versions with removable terminals
- All versions with screw terminals or alternatively with innovative spring-loaded terminals

### Application

The 3RS10 41 temperature monitoring relays can be used in almost any application in which several temperatures have to be monitored simultaneously for overshoot or undershoot or within a range.

Monitoring of set temperature limits and output of alarm messages for:

- Plant and environment protection
- Temperature limits for process variables e.g. in the packaging industry or electroplating
- Controlling equipment and machines such as heating, climate and ventilation systems, solar collectors, heat pumps or warm water supplies
- Motor, bearing and gear oil monitoring
- Monitoring of coolants

The short-circuit and open-circuit detection as well as the measuring range is limited, depending on the sensor type.

Measuring range in °C for resistance sensors

Sensor type	Open-circuit	Short-circuit	Measuring range in °C
PT100	✓	✓	-50 ... +500
PT1000	✓	✓	-50 ... +500
KTY 83-110	✓	✓	-50 ... +175
KTY 84	✓	✓	-40 ... +300
NTC	--	✓	+80 ... +160

- ✓ Detection possible
- Detection not possible

# Monitoring Relays

## 3RS10, 3RS11 Temperature Monitoring Relays

Relays, digitally adjustable for up to 3 sensors

### Selection and ordering data

#### Digitally adjustable evaluation units

The digitally adjustable temperature monitoring relays are very simple to operate. The three-digit LED display always shows the current temperature. A separate relay with an NO contact is included for sensor monitoring. The relay is switched off in parameterization mode.

The following parameters can be adjusted:

- Sensor type
- 2 threshold values,  $\vartheta_1$ ,  $\vartheta_2$
- 1 hysteresis; applies to both thresholds (0 ... 99 K)
- 1 delay time; applies to both thresholds (0 ... 999 s)
- Open/closed-circuit principle
- Function: Overshoot or undershoot or window monitoring

Wide-range voltage versions are electrically isolated.  
The temperature ranges depend on the sensor type.

Sensor	Number of sensors	Measuring range	Rated control supply voltage $U_s$	DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		°C	V		Order No.	Price per PU			kg

#### Motor monitoring relays, digitally adjustable for up to 3 sensors, width 45 mm; 1 CO + 1 CO + 1 NO



PT100/1000; 1 ... 3 KTY83/84; sensors NTC (resistance sensors) <sup>1)</sup>		-50 ... +500	24 ...240 AC/DC	A	<b>3RS10 41-1GW50</b>		1	1 unit	101	0.333
---	--	--------------	-----------------	---	-----------------------	--	---	--------	-----	-------

3RS10 41-1GW50

<sup>1)</sup> NTC type: B57227-K333-A1 (100 °C: 1.8 k $\Omega$ ; 25 °C: 32.762 k $\Omega$ ).

Sensor	Number of sensors	Measuring range	Rated control supply voltage $U_s$	DT	Spring-loaded terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		°C	V		Order No.	Price per PU			kg

#### Motor monitoring relays, digitally adjustable for up to 3 sensors, width 45 mm; 1 CO + 1 CO + 1 NO

PT100/1000; 1 ... 3 KTY83/84; sensors NTC (resistance sensors) <sup>1)</sup>		-50 ... +500	24 ...240 AC/DC	B	<b>3RS10 41-2GW50</b>		1	1 unit	101	0.283
---	--	--------------	-----------------	---	-----------------------	--	---	--------	-----	-------

<sup>1)</sup> NTC type: B57227-K333-A1 (100 °C: 1.8 k $\Omega$ ; 25 °C: 32.762 k $\Omega$ ).

### Accessories

Design	Language used for labels	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
								kg

#### Blank labels

Blank labels, 20 x 7 mm, pastel turquoise <sup>1)</sup>		C	<b>3RT19 00-1SB20</b>		100	340 units	101	22.000
---	--	---	-----------------------	--	-----	-----------	-----	--------

#### Replaceable cover labels for digital devices

Replaceable cover labels for digital devices according to DIN 3440	German	B	<b>3RS19 01-1B</b>		1	5 units	101	0.005
	English	B	<b>3RS19 01-1D</b>		1	5 units	101	0.005

#### Push-in lugs



Push-in lugs for screw mounting, 2 units are required for each device		▶	<b>3RP19 03</b>		1	10 units	101	0.002
---	--	---	-----------------	--	---	----------	-----	-------

3RP19 03

Matching sensors can be found on the Internet at [www.siemens.com/temperature](http://www.siemens.com/temperature)

<sup>1)</sup> Computer labeling system for individual inscription of unit labeling plates available from:  
murrplastik Systemtechnik GmbH