



Temperature monitoring relay with display for resistance temperature sensors and thermocouples, 24 V AC/DC, Width 22.5 mm, 2 change-over contacts, screw terminal

product brand name	SIRIUS
product designation	Temperature monitoring relay
design of the product	Digital device, 1 sensor, 2 threshold values
product type designation	3RS2
<b>General technical data</b>	
product function	temperature monitoring
display version LED	No
insulation voltage for overvoltage category III according to IEC 60664 with degree of pollution 3 rated value	300 V
test voltage for isolation test	4 kV
degree of pollution	3
shock resistance according to IEC 60068-2-27	11g / 15 ms
vibration resistance according to IEC 60068-2-6	10 ... 55 Hz: 0.35 mm
switching behavior	monostable
mechanical service life (operating cycles) typical	10 000 000
electrical endurance (operating cycles) at AC-15 at 230 V typical	100 000
thermal current of the switching element with contacts maximum	5 A
reference code according to IEC 81346-2	K
influence of the surrounding temperature	0.05% per K deviation from T20
measurable temperature	
• initial value	-99 °C
• full-scale value	1 800 °C
measurable Fahrenheit temperature	
• initial value	-146 °F
• full-scale value	3 276 °F
Substance Prohibitance (Date)	05/01/2012
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol - 119-47-1 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5
Weight	0.187 kg
product function	
• error memory	Yes
• external reset	Yes
design of the sensor connectable	Resistance sensors: Pt100, Pt1000, KTY83-110, KTY84, NTC Thermocouples: Type J, K, T, E, N, S, R, B
measurable temperature with KTY-sensor maximum	300 °C
sensor current with KTY-sensor	0.33 mA
<b>Control circuit/ Control</b>	
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC	

<ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> <li>• at 60 Hz rated value</li> </ul>	24 V 24 V
<b>control supply voltage 1 at AC</b>	
<ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> <li>• at 50 Hz</li> </ul>	24 V 24 V
<b>control supply voltage 2 at AC</b>	
<ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> <li>• at 60 Hz rated value</li> </ul>	24 V 24 V
<b>control supply voltage at DC rated value</b>	24 V
<b>control supply voltage 1 at DC rated value</b>	24 V
<b>operating range factor control supply voltage rated value at DC</b>	
<ul style="list-style-type: none"> <li>• initial value</li> <li>• full-scale value</li> </ul>	0.85 1.1
<b>operating range factor control supply voltage rated value at AC at 50 Hz</b>	
<ul style="list-style-type: none"> <li>• initial value</li> <li>• full-scale value</li> </ul>	0.85 1.1
<b>operating range factor control supply voltage rated value at AC at 60 Hz</b>	
<ul style="list-style-type: none"> <li>• initial value</li> <li>• full-scale value</li> </ul>	0.85 1.1
supply voltage frequency for auxiliary and control circuit	50 ... 60 Hz
<b>number of measuring circuits</b>	1
<b>buffering time in the event of power failure minimum</b>	20 ms
<b>Precision</b>	
<b>relative metering precision</b>	1 %
<b>Short-circuit protection</b>	
<b>design of the fuse link</b>	
<ul style="list-style-type: none"> <li>• for short-circuit protection of the NO contacts of the relay outputs required</li> <li>• for short circuit protection of the NC contacts of the relay outputs required</li> </ul>	gL/gG: 6 A or MCB type C: 1 A gL/gG: 6 A or MCB type C: 1 A
<b>design of the fuse link</b>	
<ul style="list-style-type: none"> <li>• for short-circuit protection of the NO contacts of the relay outputs safety-related required</li> <li>• for short circuit protection of the NC contacts of the relay outputs safety-related required</li> </ul>	gL/gG: 2 A or MCB type C: 1 A gL/gG: 2 A or MCB type C: 1 A
<b>Communication/ Protocol</b>	
protocol is supported IO-Link protocol	No
<b>Auxiliary circuit</b>	
<b>material of switching contacts</b>	AgSnO <sub>2</sub>
<b>number of NC contacts for auxiliary contacts</b>	0
<b>number of NO contacts for auxiliary contacts</b>	0
number of CO contacts for auxiliary contacts	2
<b>operational current of auxiliary contacts at DC-13</b>	
<ul style="list-style-type: none"> <li>• at 24 V</li> <li>• at 125 V</li> <li>• at 250 V</li> </ul>	1 A 0.2 A 0.1 A
<b>contact reliability of auxiliary contacts</b>	one incorrect switching operation of 100 million switching operations (17 V, 5 mA)
<b>contact rating of auxiliary contacts according to UL</b>	R300 / B300
<b>operating frequency rated value</b>	50 ... 60 Hz
ampacity of the output relay at AC-15 at 250 V at 50/60 Hz	3 A
<b>ampacity of the output relay at DC-13</b>	
<ul style="list-style-type: none"> <li>• at 24 V</li> <li>• at 125 V</li> </ul>	1 A 0.2 A
<b>continuous current of the DIAZED fuse link of the output relay</b>	6 A
<b>continuous current of DIAZED fuse link of the output relay safety-related</b>	2 A
<b>Electromagnetic compatibility</b>	
EMC emitted interference according to IEC 60947-1	Class B

<b>conducted interference</b>	
<ul style="list-style-type: none"> <li>• due to burst according to IEC 61000-4-4</li> <li>• due to conductor-earth surge according to IEC 61000-4-5</li> <li>• due to conductor-conductor surge according to IEC 61000-4-5</li> </ul>	2 kV (power ports), 1 kV (signal ports) 2 kV (line to ground) 1 kV (line to line)
<b>field-based interference according to IEC 61000-4-3</b>	10 V/m
<b>electrostatic discharge according to IEC 61000-4-2</b>	6 kV contact discharge / 8 kV air discharge
<b>Galvanic isolation</b>	
<b>design of the electrical isolation</b>	galvanic isolation
<b>galvanic isolation</b>	
<ul style="list-style-type: none"> <li>• between input and output</li> <li>• between the outputs</li> <li>• between the voltage supply and other circuits</li> </ul>	Yes Yes No
<b>IEC 62061</b>	
SIL Claim Limit (subsystem) according to EN 62061	1
<b>Safety Integrity Level (SIL) according to IEC 62061</b>	SIL 1
PFHD with high demand rate according to IEC 62061	3.9E-7 1/h
<b>ISO 13849</b>	
performance level (PL) according to EN ISO 13849-1	c
category according to EN ISO 13849-1	1
<b>performance level (PL)</b>	
<ul style="list-style-type: none"> <li>• according to ISO 13849-1</li> <li>• for delayed release circuit according to ISO 13849-1</li> </ul>	PL c c
<b>IEC 61508</b>	
<b>Safety Integrity Level (SIL)</b>	
<ul style="list-style-type: none"> <li>• according to IEC 61508</li> <li>• for delayed release circuit according to IEC 61508</li> </ul>	1 1
<b>safety device type according to IEC 61508-2</b>	Type B
<b>Safe failure fraction (SFF)</b>	66 %
hardware fault tolerance according to IEC 61508	0
T1 value for proof test interval or service life according to IEC 61508	20 a
<b>ATEX</b>	
certificate of suitability relating to ATEX	Yes, with 3RS29 sensor expansion module
<b>Connections/ Terminals</b>	
<b>product component removable terminal for auxiliary and control circuit</b>	Yes
<b>type of electrical connection</b>	screw terminal
<ul style="list-style-type: none"> <li>• for auxiliary and control circuit</li> </ul>	screw-type terminals
<b>type of connectable conductor cross-sections</b>	
<ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded with core end processing</li> <li>• for AWG cables solid</li> </ul>	1x (0.5 ... 4 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> ) 1x (0.5 ... 4 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> ) 1x (20 ... 12), 2x (20 ... 14)
<b>connectable conductor cross-section</b>	
<ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded with core end processing</li> </ul>	0.5 ... 4 mm <sup>2</sup> 0.5 ... 4 mm <sup>2</sup>
<b>AWG number as coded connectable conductor cross section</b>	
<ul style="list-style-type: none"> <li>• solid</li> <li>• stranded</li> </ul>	20 ... 12 20 ... 12
tightening torque with screw-type terminals	0.6 ... 0.8 N·m
<b>Installation/ mounting/ dimensions</b>	
<b>mounting position</b>	any
<b>fastening method</b>	screw and snap-on mounting onto 35 mm DIN rail
<b>height</b>	100 mm
<b>width</b>	22.5 mm
<b>depth</b>	90 mm
<b>required spacing</b>	
<ul style="list-style-type: none"> <li>• with side-by-side mounting               <ul style="list-style-type: none"> <li>— forwards</li> <li>— backwards</li> <li>— upwards</li> </ul> </li> </ul>	0 mm 0 mm 0 mm

- downwards
- at the side
- for grounded parts
  - forwards
  - backwards
  - upwards
  - at the side
  - downwards
- for live parts
  - forwards
  - backwards
  - upwards
  - downwards
  - at the side

0 mm  
0 mm  
0 mm  
0 mm  
0 mm  
0 mm  
0 mm  
0 mm  
0 mm  
0 mm  
0 mm  
0 mm

#### Ambient conditions

installation altitude at height above sea level maximum	2 000 m
<b>ambient temperature</b>	
• during operation	-25 ... +60 °C
• during storage	-40 ... +85 °C
• during transport	-40 ... +85 °C
relative humidity during operation maximum	70 %
<b>explosion protection category for dust</b>	Ex II (2) D [b1] [Ex h] [pyb] [tb] [mb] [kb] [sb] III C Db
<b>explosion protection category for gas</b>	Ex II (2) G [b1] [Ex h] [db] [eb] [pyb] [mb] [ob] [q] [kb] [sb] II C Gb

#### Approvals Certificates

##### General Product Approval



[TUEV](#)



##### EMV

##### For use in hazardous locations

##### Test Certificates

##### Maritime application



[KC](#)



[Miscellaneous](#)

[Special Test Certificate](#)



##### other

##### Environment



[Confirmation](#)

[Environmental Confirmations](#)

#### Further information

##### Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

##### Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

##### Information- and Downloadcenter (Catalogs, Brochures,...)

<https://www.siemens.com/ic10>

##### Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RS2600-1BA30>

##### Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RS2600-1BA30>

##### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RS2600-1BA30>

##### Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RS2600-1BA30&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RS2600-1BA30&lang=en)



