

TEMPERATURCONTROLLERE



**RØR- &
KANALTERMOSTATER**

**Temperature controllers, one-step,
with switching output**

Mechanical temperature controllers/wet room temperature controllers **THERMASREG® TR 040 / TR 060** with switching output (one-step) and stainless steel capillary (spiral coil sensor), working without external voltage. They are used for monitoring and controlling temperatures in heat generation plants, in heating, ventilation and air conditioning systems, for ventilation, cooling and climate control in halls, cold storage rooms, greenhouses, nurseries, stables, breeding rooms, as industrial room thermostat or surface-mounted thermostat in industrial applications as well as in wet room and outdoor areas.

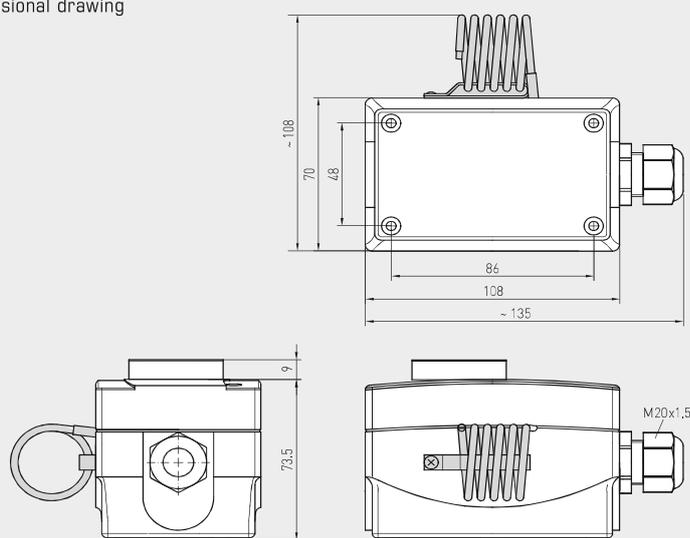
TECHNICAL DATA

Switching capacity: (Contact load)	24...250 V AC +10%, 16 A, cos φ = 1.0 24...250 V AC +10%, 1.5 A, cos φ = 0.6 at 24 V AC min. 150 mA
Contact:	dust-proof switch block unit as potential-free, single-pole or two-pole changeover contact
Housing:	plastic, UV-resistant, material polyamide, 30% glass-globe reinforced, colour traffic white (similar to RAL 9016)
Housing dimensions:	108 x 70 x 73.5 mm (Thor 2)
Cable gland:	M20 x 1.5; including strain relief
Housing temperature:	-35...+65 °C
Capillary:	stainless steel V2A (1.4303)
Tolerance:	T _{min} ± 3 K; T _{max} ± 3 K; at +20°C ± 1 K
Electrical connection:	0.14 - 2.5 mm ² via terminal screws
Routing:	admissible vibration load ≤ ½g
Protection class:	I (according to EN 60 730)
Protection type:	IP 65 (according to EN 60 529)
Standards:	CE conformity, EMC directive 2014 / 30 / EU, low-voltage directive 2014 / 35 / EU

FUNCTION

- Heating:** The preset setpoint (scale value) is equivalent to the switch-off value of the heating. The switch-on value is lower by the amount of operating difference. Contact 2 - 3 breaks when temperature rises to the preset value.
- Cooling:** The preset setpoint (scale value) is equivalent to the switch-on value of the cooling. The switch-off value is lower by the amount of operating difference. Contact 1 - 2 closes when temperature rises to the preset value.

Dimensional drawing



TR 040
TR 060

TR 040
TR 060
(one-step)
TR

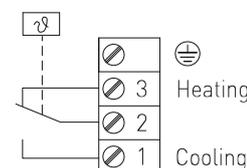


TR 040 U
TR 060 U
(one-step)
TW



Connecting diagram

TR 040
TR 060



THERMASREG® TR 040 / TR 060 Temperature controllers, one-step

Type / WG01	Temperature Range	Thermal Operating Difference (fixed) approx.	Max. Capillary Temperature	Item No.	Price
TR 040 / 060				TR (External setting)	
TR-040	0...+40 °C	2 K	+65 °C	1102-1050-1100-200	75,00 €
TR-060	0...+60 °C	2 K	+75 °C	1102-1050-1100-300	75,00 €
TR 040 U / 060 U				TW (Internal setting)	
TR-040 U	0...+40 °C	2 K	+65 °C	1102-1050-2100-200	73,79 €
TR-060 U	0...+60 °C	2 K	+75 °C	1102-1050-2100-300	73,79 €



Mechanical temperature controller / wet room temperature controller **THERMASREG® TR 22** with switching output (one-step) and copper capillary, working without external voltage. It is used for monitoring and controlling temperatures in heat generation plants, in heating, ventilation and air conditioning systems, for ventilation, cooling and climate control in halls, cold storage rooms, greenhouses, nurseries, stables, breeding rooms, as industrial room thermostat or surface-mounted thermostat in industrial applications as well as in wet room and outdoor areas.

TR 22
(one-step)
TR

TECHNICAL DATA	
Switching capacity: (Contact load)	24...250V AC +10%, 16 A, cos φ = 1.0 24...250V AC +10%, 1.5 A, cos φ = 0,6 at 24V AC min. 150 mA
Contact:	dust-proof switch block unit as potential-free single-pole changeover contact
Housing:	plastic, UV-resistant, material polyamide, 30% glass-globe reinforced, colour traffic white (similar to RAL 9016)
Housing dimensions:	108 x 70 x 73.5 mm (Thor2)
Cable gland:	M20 x 1.5; including strain relief
Housing temperature:	-35...+65 °C
Design principle:	torsion meter with liquid filling
Capillary:	copper
Tolerance:	T _{min} ± 3 K; T _{max} ± 3 K
Routing:	admissible vibration load ≤ ½g
Electrical connection:	0.14 - 2.5 mm² via terminal screws
Protection class:	I (according to EN 60 730)
Protection type:	IP 65 (according to EN 60529)
Standards:	CE conformity, EMC directive 2014 / 30 / EU, low-voltage directive 2014 / 35 / EU

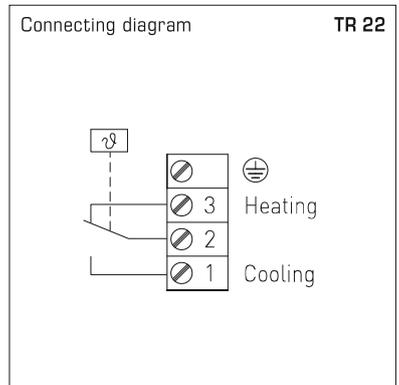
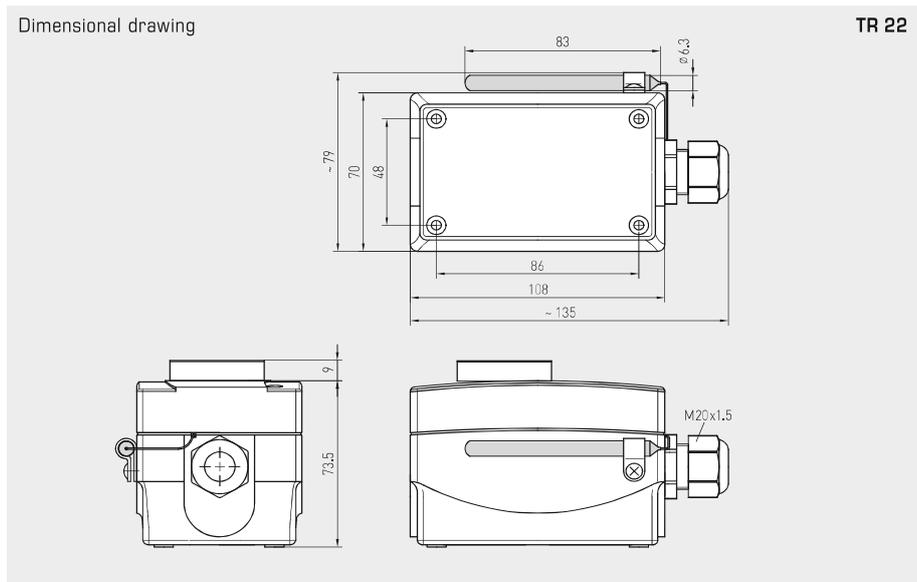


TR 22U
(one-step)
TW



FUNCTION

- Heating:** The preset setpoint (scale value) is equivalent to the switch-off value of the heating. The switch-on value is lower by the amount of operating difference. Contact 2-3 breaks when temperature rises to the preset value.
- Cooling:** The preset setpoint (scale value) is equivalent to the switch-on value of the cooling. The switch-off value is lower by the amount of operating difference. Contact 1-2 closes when temperature rises to the preset value.



THERMASREG® TR 22 Temperature controllers, one-step					
Type / WG01	Temperature Range	Thermal Operating Difference (fixed) approx.	Max. Capillary Temperature	Item No.	Price
TR 22				TR (External setting)	
TR-22	-35...+35 °C	3 K (± 1 K)	+60 °C	1102-1050-1100-100	75,00 €
TR 22 U				TW (Internal setting)	
TR-22 U	-35...+35 °C	3 K (± 1 K)	+60 °C	1102-1050-2100-100	73,79 €

**Temperature controllers, two-step,
with switching output**

Mechanical temperature controller/wet room temperature controller **THERMASREG® TR 04040** with two independently switching outputs, which are separately adjustable (e.g. for switching between day and night time) and stainless steel capillary (spiral coil sensor), working without external voltage. It is used for monitoring and controlling temperatures in heat generation plants, in heating, ventilation and air conditioning systems, for ventilation, cooling and climate control in halls, cold storage rooms, greenhouses, nurseries, stables, breeding rooms, as industrial room thermostat or surface-mounted thermostat in industrial applications as well as in wet room and outdoor areas.

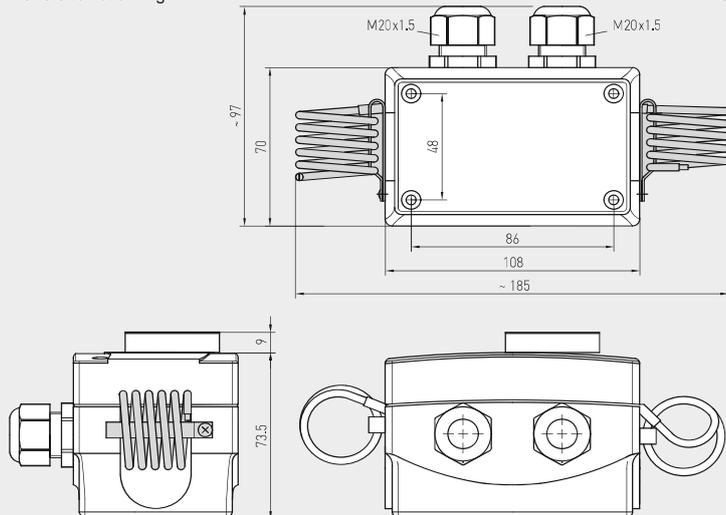
TECHNICAL DATA

Switching capacity:	24...250 V AC +10%, 16 A, cos φ = 1.0 (Contact load) 24...250 V AC +10%, 1.5 A, cos φ = 0.6 at 24 V AC min. 150 mA
Contact:	dust-proof switch block unit as potential-free single-pole changeover contact (two changeover contacts, separately adjustable)
Housing:	plastic, UV-resistant, material polyamide, 30% glass-globe reinforced, colour traffic white (similar to RAL 9016)
Housing dimensions:	108 x 70 x 73.5 mm (Thor 2)
Cable gland:	2x M20 x 1.5; including strain relief
Housing temperature:	-10...+65 °C
Capillary:	stainless steel V2A (1.4303)
Tolerance:	T _{min} ± 3 K; T _{max} ± 3 K; at +20 °C ± 1 K
Electrical connection:	0.14 - 2.5 mm ² via terminal screws
Routing:	admissible vibration load ≤ ½g
Protection class:	I (according to EN 60 730)
Protection type:	IP 65 (according to EN 60 529)
Standards:	CE conformity, EMC directive 2014/30/EU, low-voltage directive 2014/35/EU

FUNCTION

Heating: Contacts 2-3 and 5-6 break when temperature rises to the preset value.
Cooling: Contacts 2-1 and 5-4 break when temperature drops to the preset value.

Dimensional drawing **TR 04040**

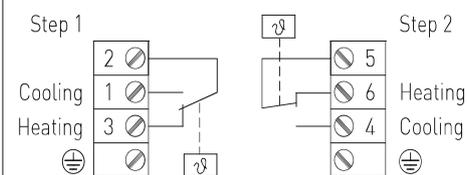


TR 04040



TR 04040 U

Connecting diagram **TR 04040**



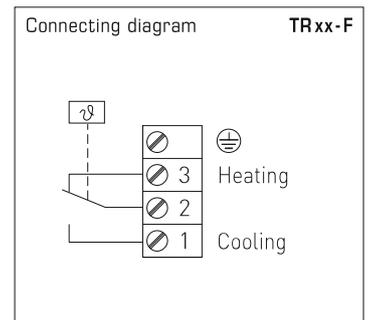
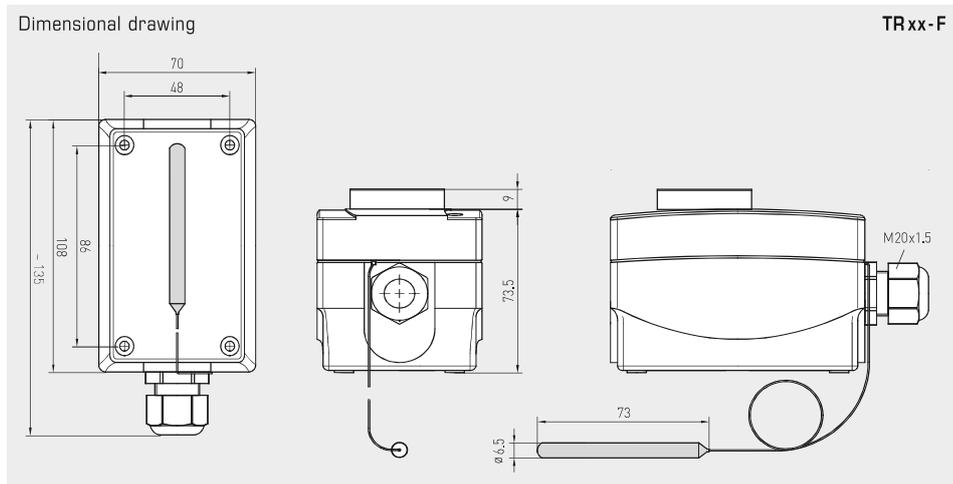
THERMASREG® TR 04040 Temperature controllers, two-step

Type / WG01	Temperature Range (adjustable)		Thermal Operating Difference (fixed) approx.		Max. Capillary Temperature	Item No.	Price
	1.	2.	1.	2.			
TR04040						TR+TW (External/Internal setting)	
TR-04040	0...+40 °C	0...+40 °C	2K	2K	+65 °C	1102-1050-1200-200	110,32 €
TR04040 U						TW+TW (Internal setting)	
TR-04040 U	0...+40 °C	0...+40 °C	2K	2K	+65 °C	1102-1050-2200-200	110,32 €

Mechanical temperature controller THERMASREG® TR xx-F with remote sensor and switching output (one-step), working as capillary thermostat / capillary controller without external voltage. This capillary controller is used for monitoring and to control temperatures of non-aggressive liquid or gaseous media in heating, ventilation and air conditioning technology as well as in mechanical and apparatus engineering, for installation in immersion sleeves or air conditioning ducts.

TECHNICAL DATA	
Switching capacity: (Contact load)	24...250 V AC +10%, 16 A, cos φ = 1,0 24...250 V AC +10%, 1,5 A, cos φ = 0,6 at 24 V AC min. 150 mA
Contact:	dust-proof switch block unit as potential-free single-pole changeover contact
Housing:	plastic, UV-resistant, material polyamide, 30% glass-globe reinforced, colour traffic white (similar to RAL9016)
Housing dimensions:	108 x 70 x 73.5 mm (Thor 2)
Cable gland:	M20 x 1.5; including strain relief
Housing temperature:	-10...+65 °C
Design principle:	torsion meter with liquid filling
Sensor:	copper tube, length of capillary = 1 m with PVC protective hose, Ø 6.8 mm
Tolerance:	T _{min} ± 3 K; T _{max} ± 3 K
Inserted length:	immersion sleeves EL = 150 mm (accessories see table)
Routing:	bending radius > 35mm admissible vibration load ≤ ½g admissible tensile load < 100N
Electrical connection:	0.14 - 2.5 mm ² via terminal screws
Protection class:	I (according to EN 60 730)
Protection type:	IP 65 (according to EN 60 529)
Standards:	CE conformity, EMC directive 2014 / 30 / EU, low-voltage directive 2014 / 35 / EU

FUNCTION
Heating: wire contacts 2 - 3
Cooling: wire contacts 2 - 1



THERMASREG® TR xx - F Temperature controllers, one-step					
Type / WG01	Temperature Range	Thermal Operating Difference (fixed) approx.	Max. Capillary Temperature	Item No.	Price
TRxx-F				TR (External setting)	
TR-1-F	-35... +35 °C	3K (± 1 K)	+60 °C	1102-1056-1110-100	76,01 €
TR-060-F	0... +60 °C	3K (± 1 K)	+75 °C	1102-1050-1110-300	76,01 €
TR-090-F	0... +90 °C	3K (± 1 K)	+120 °C	1102-1050-1110-400	76,01 €
TR-0120-F	0...+120 °C	5K (± 1 K)	+135 °C	1102-1050-1110-500	76,01 €
TR-50140-F	+50...+140 °C	5K (± 1 K)	+150 °C	1102-1050-1110-600	76,01 €
Extra charge:	U = Internal setting (TW), e.g. TR-090-F-U				9,48 €
ACCESSORIES					
THR-MS-08/150	Brass immersion sleeve, EL = 150 mm, Ø 8 x 0.5 mm			7100-0011-3404-000	14,81 €
THR-VA-09/150	Stainless steel immersion sleeve V2A (1.4301), EL = 150 mm, Ø 9 x 1.0 mm			7100-0012-3032-000	39,04 €

For further information, see the last chapter!

Equipment sensor/controller, including immersion sleeve,
EC type-tested, TÜV tested,
with switching output

DIN-tested German quality product. Temperature control and limiting device for heat generation plants in accordance with DIN EN 14597. Safety temperature limiter (STB) with EC type test (module B) according to directive 2014/68/EU.

Mechanical temperature control device/rod thermostat THERMASREG® ETR with switching output, used for monitoring, controlling or limiting the temperatures of liquid or gaseous media as a boiler controller or in heating, air conditioning technology as well as in mechanical and apparatus engineering and in heat generation plants. It is available as one-step or two-step device, as adjustable temperature controller TR, temperature monitor TW, or as safety temperature limiter STB.



TECHNICAL DATA

Switching capacity: (Contact load)	24 ... 250 V AC +10%, 10 A, cos φ = 1,0 24 ... 250 V AC +10%, 1,5 A, cos φ = 0,6 at 24 V AC min. 150 mA
Contact:	dust-proof switch block unit as potential-free single-pole or two-pole changeover contact
Housing:	plastic, UV-resistant, material polyamide, 30% glass-globe reinforced, colour traffic white (similar to RAL 9016)
Housing dimensions:	108 x 70 x 73.5 mm (Thor2)
Cable gland:	M20 x 1.5; including strain relief
Measuring element:	torsion meter with liquid filling, liquid expansion temperature feeler
Mounting position:	arbitrary
Ambient temperature:	-10...+65 °C at the switch block housing
Tolerance:	T _{min} ± 5 K; T _{max} ± 3 K
Immersion sleeves:	THR-ms-08/xx , Single sleeve brass, nickel-plated, Ø = 8 mm, R ½" straight pipe thread, wrench size 22, p _{max} = 10 bar, T _{max} = +150 °C THR-VA-09/xx , Single sleeve stainless steel V4A (1.4571), Ø = 9 mm, G ½" straight pipe thread, wrench size 22, p _{max} = 25 bar, T _{max} = +150 °C THR-VA-17/xx , Double sleeve stainless steel V4A (1.4571), Ø = 17 mm, G ½" straight pipe thread, wrench size 22, p _{max} = 25 bar, T _{max} = +150 °C (Depending on the type, the relevant immersion sleeve is included in the scope of delivery, see table)
Operating medium:	Water, oil, air and exhaust gas
Inserted length:	100 mm / 150 mm / 200 mm (see table)
Process connection:	screwed socket
Electrical connection:	0.14 - 2.5 mm ² via terminal screws
Protection class:	I (according to EN 60 730)
Protection type:	IP 65 (according to EN 60 529)
Standards:	CE conformity, EMC directive 2014/30/EU, low-voltage directive 2014/35/EU
Tests:	EC type test (module B) according to directive 2014/68/EU , certificate No.: IS-TAF-MUC 18 03 2652130 002, DIN EN 14597, register Nos.: STB 1201, TR/STB 1202
FUNCTION	TW, TR: Contact 2-3 breaks when temperature rises to the preset value. STB: Contact 2-1 or 5-4 (two-step) breaks when temperature rises to the preset value. Restart is possible only after cooling off by approx. 15 K - 20 K by pressing the reset button.





Configuration variants:

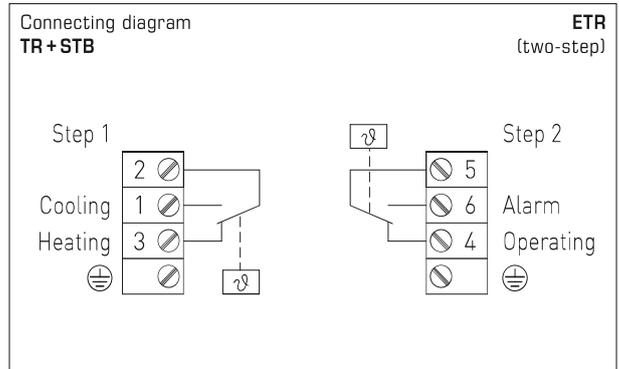
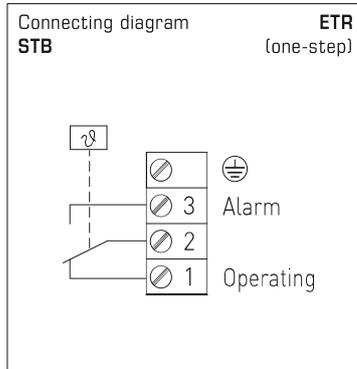
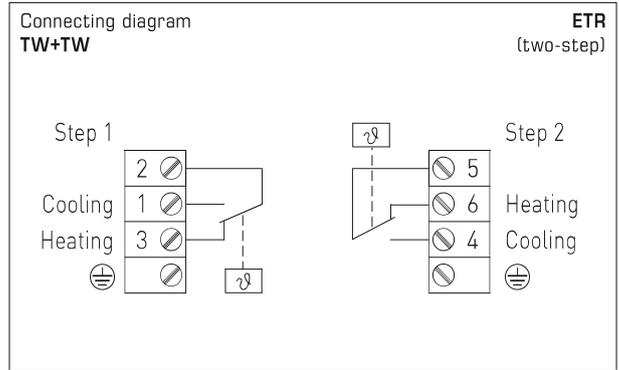
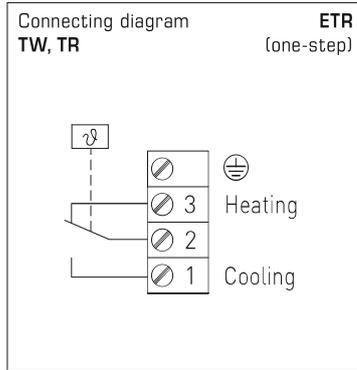
TW
Temperature monitor
(internal setting)

TR
Temperature controller
(external setting)

STB
Safety temperature limiter
(internal setting)

TW+TW
Double temperature monitor
(internal setting)

TR + STB
Temperature controller
(external setting) +
Safety temperature limiter
(internal setting)



CERTIFICATE
valid until: 25.02.2028
ZERTIFIKAT
gültig bis: 25.02.2028

EU Type examination (module B) - production type - according to Directive 2014/68/EU

EU-Baumusterprüfung (Modul B) - Baumuster - nach Richtlinie 2014/68/EU

Certificate No.: **Z-IS-TAF-MUC-18-03-2652130-002**

Name and address of manufacturer: **S+S Regeltechnik GmbH
Pirnauer Str. 20
90411 Nürnberg**

We herewith certify that the type mentioned below meets the requirements of the Directive 2014/68/EU.

Hiermit wird bescheinigt, dass das unten genannte Baumuster die Anforderungen der Richtlinie 2014/68/EU erfüllt.

Evaluation report No.: **C-T 1382-01/18 dated 2018-02-26**

Scope of examination: **Safety temperature limiter as safety accessory
type: ETR and KTR (see page 3)
basis of examination and details see page 3**

Manufacturing plant: **S+S Regeltechnik GmbH
Pirnauer Str. 20
90411 Nürnberg**

TÜV SÜD Industrie Service GmbH
Certification Body for pressure equipment

Johannes Stieglmeier
Johannes Stieglmeier

089 5190-1027
fruenberg@tuev-sued.de

Notified Body, No. 0038
Notifiziertes Stelle, Kennnummer 0038
TÜV SÜD Industrie Service GmbH
Westerstraße 190
80689 München
GERMANY

Page 1 of the certificate No. / Seite 1 zum Zertifikat Nr. Z-IS-TAF-MUC-18-03-2652130-002

page 3 of certificate no. IS-TAF-MUC-18-03-2652130-002

Replaces certificate dated
IS-TAF-MUC 08 02 100248356 001
Basis of examination:
VdTUV-Merkblatt Temperatur 100:2017-03
DIN EN 14587 :2015-01
Essential safety requirements of Directive 2014/68/EU

Type code

Type	Code	Technical data
ETR-R6585	STB	Range: from 65 °C to 85 °C
ETR-R90110	STB	Range: from 90 °C to 110 °C
KTR-R6585	STB	Same function as ETR R6585, with the following difference: The tube is not closed to the medium.
KTR-R90110	STB	Same function as ETR R90110, with the following difference: The tube is not closed to the medium.

Type	Code	Technical data
ETR-060R85	TR/STB	Combination of two single types: TR and STB with the range: TR: from 0 °C to +60 °C STB: from +65 °C to + 85°
ETR-090R110	TR/STB	Combination of two single types: TR and STB with the range: TR: from 0 °C to +90 °C STB: from +90 °C to + 110°
KTR-060R85	TR/STB	Same function as ETR-060R85, with the following difference: The tube is not closed to the medium
KTR-090R110	TR/STB	Same function as ETR-090R110, with the following difference: The tube is not closed to the medium

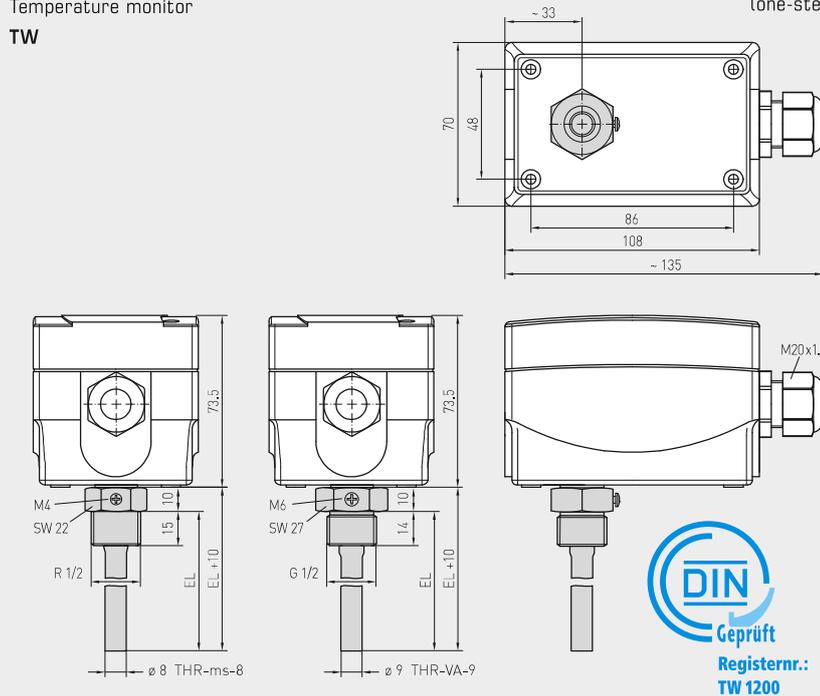
The conditions listed below have to be considered:

- To keep the specified response time the types ETR... shall be used with the provided tube and thermal conducting paste
- Possible risks caused by external fire or by traffic, wind and earthquake loading shall be examined separately depending from the installation situation of the pressure equipment

Appendix of certificate / Anlage zum Zertifikat Z-IS-TAF-MUC-18-03-2652130-002

Dimensional drawing
Temperature monitor
TW

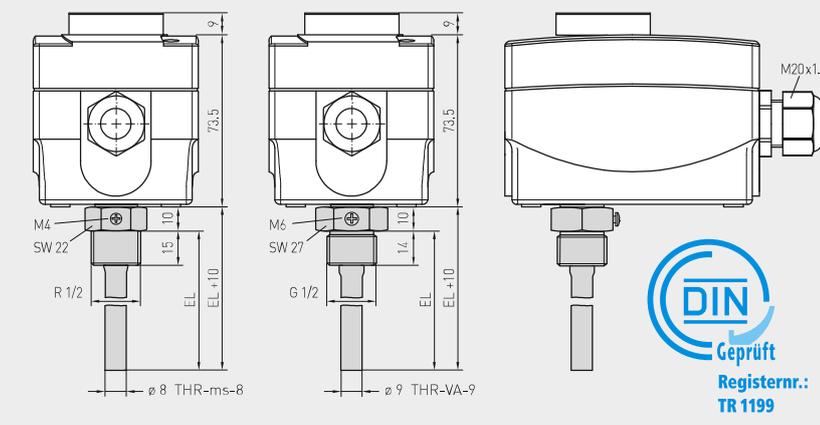
ETR-xxU
(one-step)



ETR-060U
ETR-090U
(one-step)
TW

Dimensional drawing
Temperature controller
TR

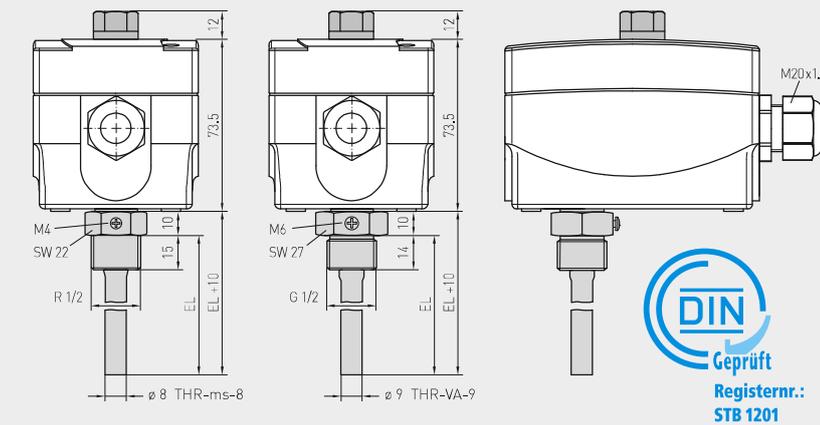
ETR-xx
(one-step)



ETR-1
ETR-060
ETR-090
ETR-0120
ETR-50140
(one-step)
TR

Dimensional drawing
Safety temperature limiter
STB

ETR-Rxx
(one-step)



ETR-R6585
ETR-R90110
(one-step)
STB
selectable

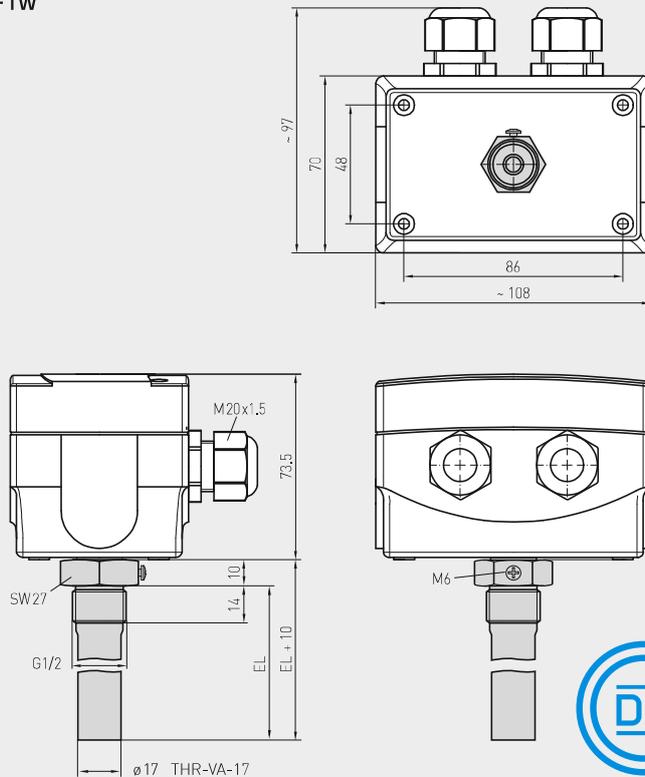
**THERMASREG® ETR** Equipment sensor / controller, one-step, including immersion sleeve

Type / WG02	Inserted Length (EL)	Temperature Ranges (adjustable)	Thermal Operating Difference (fixed) approx.	Maximum Capillary Temp.	Item No.	Price
ETR-060 U						TW
ETR-060 U MS/100	100 mm	0...+60 °C	3K	+75 °C	1102-2010-2100-380	67,46 €
ETR-060 U MS/150	150 mm	0...+60 °C	3K	+75 °C	1102-2010-2100-310	69,72 €
ETR-060 U MS/200	200 mm	0...+60 °C	3K	+75 °C	1102-2010-2100-320	73,71 €
ETR-060 U VA/100	100 mm	0...+60 °C	3K	+75 °C	1102-2010-2100-390	93,77 €
ETR-060 U VA/150	150 mm	0...+60 °C	3K	+75 °C	1102-2010-2100-330	96,02 €
ETR-060 U VA/200	200 mm	0...+60 °C	3K	+75 °C	1102-2010-2100-340	100,03 €
ETR-090 U						TW
ETR-090 U MS/100	100 mm	0...+90 °C	3K	+120 °C	1102-2010-2100-480	67,46 €
ETR-090 U MS/150	150 mm	0...+90 °C	3K	+120 °C	1102-2010-2100-410	69,72 €
ETR-090 U MS/200	200 mm	0...+90 °C	3K	+120 °C	1102-2010-2100-420	73,71 €
ETR-090 U VA/100	100 mm	0...+90 °C	3K	+120 °C	1102-2010-2100-490	93,77 €
ETR-090 U VA/150	150 mm	0...+90 °C	3K	+120 °C	1102-2010-2100-430	96,02 €
ETR-090 U VA/200	200 mm	0...+90 °C	3K	+120 °C	1102-2010-2100-440	100,03 €
ETR-1						TR
ETR-1 MS/100	100 mm	-35...+35 °C	3K	+75 °C	1102-2010-1100-180	67,46 €
ETR-1 MS/150	150 mm	-35...+35 °C	3K	+75 °C	1102-2010-1100-110	69,72 €
ETR-1 MS/200	200 mm	-35...+35 °C	3K	+75 °C	1102-2010-1100-120	73,71 €
ETR-1 VA/100	100 mm	-35...+35 °C	3K	+75 °C	1102-2010-1100-190	93,77 €
ETR-1 VA/150	150 mm	-35...+35 °C	3K	+75 °C	1102-2010-1100-130	96,02 €
ETR-1 VA/200	200 mm	-35...+35 °C	3K	+75 °C	1102-2010-1100-140	100,03 €
ETR-060						TR
ETR-060 MS/100	100 mm	0...+60 °C	3K	+75 °C	1102-2010-1100-380	67,46 €
ETR-060 MS/150	150 mm	0...+60 °C	3K	+75 °C	1102-2010-1100-310	69,72 €
ETR-060 MS/200	200 mm	0...+60 °C	3K	+75 °C	1102-2010-1100-320	73,71 €
ETR-060 VA/100	100 mm	0...+60 °C	3K	+75 °C	1102-2010-1100-390	93,77 €
ETR-060 VA/150	150 mm	0...+60 °C	3K	+75 °C	1102-2010-1100-330	96,02 €
ETR-060 VA/200	200 mm	0...+60 °C	3K	+75 °C	1102-2010-1100-340	100,03 €
ETR-090						TR
ETR-090 MS/100	100 mm	0...+90 °C	3K	+120 °C	1102-2010-1100-480	67,46 €
ETR-090 MS/150	150 mm	0...+90 °C	3K	+120 °C	1102-2010-1100-410	69,72 €
ETR-090 MS/200	200 mm	0...+90 °C	3K	+120 °C	1102-2010-1100-420	73,71 €
ETR-090 VA/100	100 mm	0...+90 °C	3K	+120 °C	1102-2010-1100-490	93,77 €
ETR-090 VA/150	150 mm	0...+90 °C	3K	+120 °C	1102-2010-1100-430	96,02 €
ETR-090 VA/200	200 mm	0...+90 °C	3K	+120 °C	1102-2010-1100-440	100,03 €
ETR-0120						TR
ETR-0120 MS/100	100 mm	0...+120 °C	5K	+135 °C	1102-2010-1100-580	67,46 €
ETR-0120 MS/150	150 mm	0...+120 °C	5K	+135 °C	1102-2010-1100-510	69,72 €
ETR-0120 MS/200	200 mm	0...+120 °C	5K	+135 °C	1102-2010-1100-520	73,71 €
ETR-0120 VA/100	100 mm	0...+120 °C	5K	+135 °C	1102-2010-1100-590	93,77 €
ETR-0120 VA/150	150 mm	0...+120 °C	5K	+135 °C	1102-2010-1100-530	96,02 €
ETR-0120 VA/200	200 mm	0...+120 °C	5K	+135 °C	1102-2010-1100-540	100,03 €
ETR-50140						TR
ETR-50140 MS/100	100 mm	+50...+140 °C	5K	+150 °C	1102-2010-1100-680	67,46 €
ETR-50140 MS/150	150 mm	+50...+140 °C	5K	+150 °C	1102-2010-1100-610	69,72 €
ETR-50140 MS/200	200 mm	+50...+140 °C	5K	+150 °C	1102-2010-1100-620	73,71 €
ETR-50140 VA/100	100 mm	+50...+140 °C	5K	+150 °C	1102-2010-1100-690	93,77 €
ETR-50140 VA/150	150 mm	+50...+140 °C	5K	+150 °C	1102-2010-1100-630	96,02 €
ETR-50140 VA/200	200 mm	+50...+140 °C	5K	+150 °C	1102-2010-1100-640	100,03 €
ETR-R6585						STB
ETR-R6585 MS/100	100 mm	+65...+85 °C	+0 / -15...20K	+120 °C	1102-2010-6100-780	81,29 €
ETR-R6585 MS/150	150 mm	+65...+85 °C	+0 / -15...20K	+120 °C	1102-2010-6100-710	83,55 €
ETR-R6585 MS/200	200 mm	+65...+85 °C	+0 / -15...20K	+120 °C	1102-2010-6100-720	91,18 €
ETR-R6585 VA/100	100 mm	+65...+85 °C	+0 / -15...20K	+120 °C	1102-2010-6100-790	98,49 €
ETR-R6585 VA/150	150 mm	+65...+85 °C	+0 / -15...20K	+120 °C	1102-2010-6100-730	100,74 €
ETR-R6585 VA/200	200 mm	+65...+85 °C	+0 / -15...20K	+120 °C	1102-2010-6100-740	104,88 €
ETR-R90110						STB
ETR-R90110 MS/100	100 mm	+90...+110 °C	+0 / -15...20K	+120 °C	1102-2010-6100-880	81,29 €
ETR-R90110 MS/150	150 mm	+90...+110 °C	+0 / -15...20K	+120 °C	1102-2010-6100-810	83,55 €
ETR-R90110 MS/200	200 mm	+90...+110 °C	+0 / -15...20K	+120 °C	1102-2010-6100-820	91,18 €
ETR-R90110 VA/100	100 mm	+90...+110 °C	+0 / -15...20K	+120 °C	1102-2010-6100-890	98,49 €
ETR-R90110 VA/150	150 mm	+90...+110 °C	+0 / -15...20K	+120 °C	1102-2010-6100-830	100,74 €
ETR-R90110 VA/200	200 mm	+90...+110 °C	+0 / -15...20K	+120 °C	1102-2010-6100-840	104,88 €

Type designation: **ETR-xx_immersion sleeve material / inserted length (mm)**
MS = Brass nickel-plated, **VA** = Stainless steel V4A (1.4571)
For further information and accessories see next page...

Dimensional drawing
Double temperature monitor
TW + TW

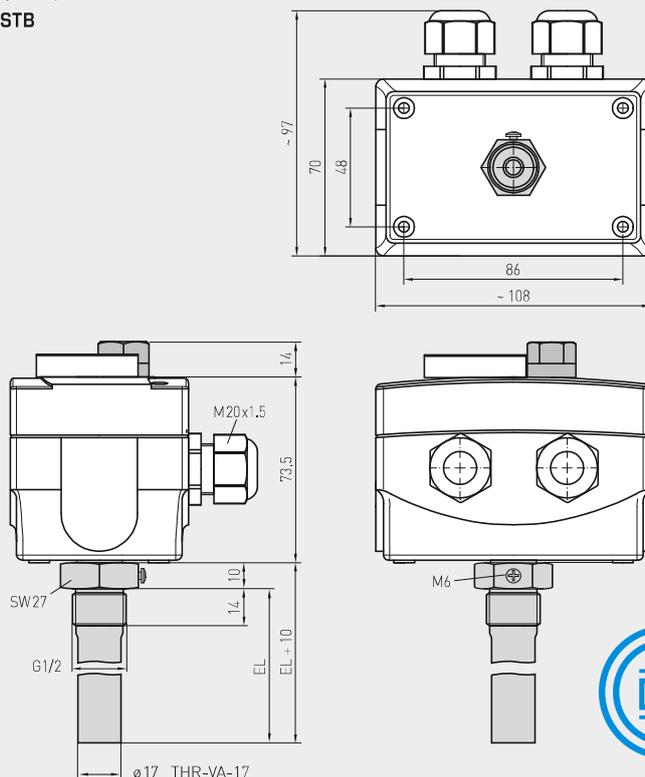
ETR-xxU
(two-step)



ETR-090090 U
(two-step)
TW + TW

Dimensional drawing
Temperature controller +
safety temperature limiter
TR + STB

ETR-xxRxx
(two-step)



ETR-060 R 85
ETR-090 R 110
(two-step)
TR + STB
selectable



THERMASREG® ETR Equipment sensor / controller, two-step, including immersion sleeve

Type / WG02	Inserted Length (EL)	Temperature Ranges (adjustable)		Thermal Operating Difference (fixed) approx.		Maximum Capillary Temp.	Item No.	Price
		1.	2.	1.	2.			
ETR-090090 U								TW + TW
ETR-090090 U VA/150	150 mm	0...+90 °C	0...+90 °C	3K	3K	+120 °C	1102-2010-2205-130	139,44 €
ETR-090090 U VA/200	200 mm	0...+90 °C	0...+90 °C	3K	3K	+120 °C	1102-2010-2205-140	151,56 €
ETR-060R85								TR + STB
ETR-060R85 VA/150	150 mm	0...+60 °C	+65...+85 °C	3K	+0/-15...20K	+120 °C	1102-2010-7205-230	139,44 €
ETR-060R85 VA/200	200 mm	0...+60 °C	+65...+85 °C	3K	+0/-15...20K	+120 °C	1102-2010-7205-240	151,56 €
ETR-090R110								TR + STB
ETR-090R110 VA/150	150 mm	0...+90 °C	+90...+110 °C	3K	+0/-15...20K	+135 °C	1102-2010-7205-330	139,44 €
ETR-090R110 VA/200	200 mm	0...+90 °C	+90...+110 °C	3K	+0/-15...20K	+135 °C	1102-2010-7205-340	151,56 €

Type designation:	ETR-xx_immersion sleeve material / inserted length (mm) MS = Brass nickel-plated, VA = Stainless steel V4A (1.4571)	
Extra charge:	U = Internal setting, unless included in a certain type /2 = 2 steps, unless included in a certain type	9,48 € on request
Features:	TR = Temperature controller (external setting) TW = Temperature monitor (internal setting) STB = Safety temperature limiter (internal setting), selectable, with external switchpoint confirmation and restart interlock, restart by reset button at approx. 15...20K below switching temperature (+0K / - 15...20K); with EC type test (module B) according to directive 2014 / 68 / EU	
Note:	To ensure accurate responsiveness series ETR devices must only be used in connection with the immersion sleeves included in the scope of delivery while applying heat-conductive paste	

ACCESSORIES

WLP-1	Heat-conductive paste, silicone-free	7100-0060-1000-000	3,22 €
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For further information see last chapter!

THERMASGARD® THR Immersion sleeve Ø 8 / 9 / 17 mm

Type / WG01	p _{max} (static)	T _{max}	Time Constant for Medium:			Inserted Length (EL)	Item No. Ø	Price
			Air	Water	Oil			
THR-ms-08 / xx Brass nickel-plated Ø 8 x 0.5 mm								
THR-MS-08/100	10 bar	+150 °C	106 s	18 s	53 s	100 mm	7100-0011-3022-000	14,69 €
THR-MS-08/150	10 bar	+150 °C	106 s	18 s	53 s	150 mm	7100-0011-3404-000	14,81 €
THR-MS-08/200	10 bar	+150 °C	106 s	18 s	53 s	200 mm	7100-0011-3403-000	17,59 €
THR-VA-09 / xx Stainless steel V4A (1.4571) Ø 9 x 1.0 mm								
THR-VA-09/100	25 bar	+150 °C	92 s	17 s	41 s	100 mm	7100-0012-3022-000	37,83 €
THR-VA-09/150	25 bar	+150 °C	92 s	17 s	41 s	150 mm	7100-0012-3032-000	39,04 €
THR-VA-09/200	25 bar	+150 °C	92 s	17 s	41 s	200 mm	7100-0012-3042-000	41,83 €
THR-VA-17 / xx Stainless steel V4A (1.4571) Ø 17 x 1.0 mm								
THR-VA-17/150	25 bar	+150 °C	-	45 s	55 s	150 mm	7100-0012-3033-000	39,04 €
THR-VA-17/200	25 bar	+150 °C	-	45 s	55 s	200 mm	7100-0012-3404-000	41,83 €

Ordering example:	THR - ms - 08 / 100 (Brass immersion sleeve, Ø = 8 mm, EL = 100 mm)
	THR - VA - 09 / 150 (Stainless steel immersion sleeve, Ø = 9 mm, EL = 150 mm)
	THR - VA - 17 / 200 (Stainless steel immersion sleeve, Ø = 17 mm, EL = 200 mm)

Note: inner diameter of socket 15.0 mm

Duct temperature controllers, including mounting flange,
EC type-tested, TÜV tested,
with switching output

DIN-tested German quality product. Temperature control and limiting device for heat generation plants in accordance with DIN EN 14597. Safety temperature limiter (STB) with EC type test (module B) according to directive 2014 / 68 / EU.

Mechanical temperature control device / rod thermostat THERMASREG® KTR with switching output, used for monitoring, controlling or limiting the temperatures of gaseous media as a boiler controller or in heating, air conditioning technology as well as in mechanical and apparatus engineering and in heat generation plants. It is available as one-step or two-step device, as adjustable temperature controller TR, temperature monitor TW, or as safety temperature limiter STB.



TECHNICAL DATA

Switching capacity: (Contact load)	24...250 V AC +10%, 10 A, cos φ = 1.0 24...250 V AC +10%, 1.5 A, cos φ = 0.6 at 24 V AC min. 150 mA
Contact:	dust-proof switch block unit as potential-free, single-pole or two-pole changeover contact
Housing:	plastic, UV-resistant, material polyamide, 30 % glass-globe reinforced, colour traffic white (similar to RAL 9016)
Housing dimensions:	108 x 70 x 73.5 mm (Thor2)
Cable gland:	M20 x 1.5; including strain relief
Measuring element:	torsion meter with liquid filling, liquid expansion temperature feeler
Mounting position:	arbitrary
Ambient temperature:	-10...+65 °C at the switch block housing
Tolerance:	T _{min} ± 5 K; T _{max} ± 3 K
Operating medium:	Air
Protective tube:	metal, material CuZn37 (2.0321), Ø 14 mm, NL = 205 mm
Inserted length:	approx. 205 mm (with flange); approx. 184 mm (without flange)
Process connection:	by mounting flange (included in the scope of delivery)
Electrical connection:	0.14 - 2.5 mm ² via terminal screws
Protection class:	I (according to EN 60 730)
Protection type:	IP 65 (according to EN 60 529)
Standards:	CE conformity, EMC directive 2014 / 30 / EU, low-voltage directive 2014 / 35 / EU
Tests:	EC type test (module B) according to directive 2014 / 68 / EU, certificate No.: IS-TAF-MUC 18 03 2652130 002, DIN EN 14597, register Nos.: STB 1201, TR / STB 1202

FUNCTION	TW, TR: Contact 2 - 3 breaks when temperature rises to the preset value.
	STB: Contact 2 - 1 or 5 - 4 (two-step) breaks when temperature rises to the preset value. Restart is possible only after cooling off by approx. 15 K - 20 K by pressing the reset button.





Configuration variants:

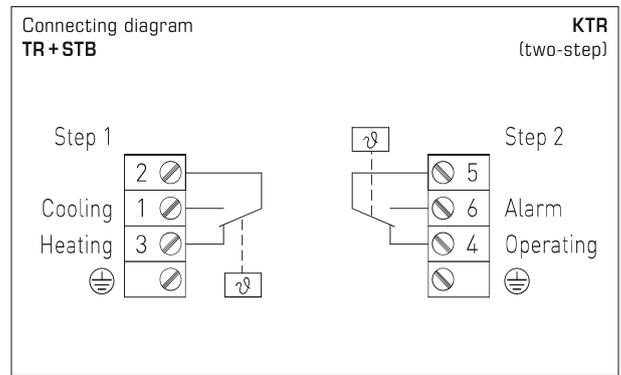
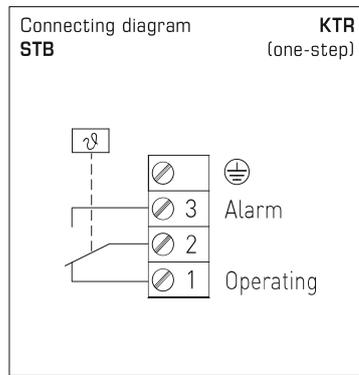
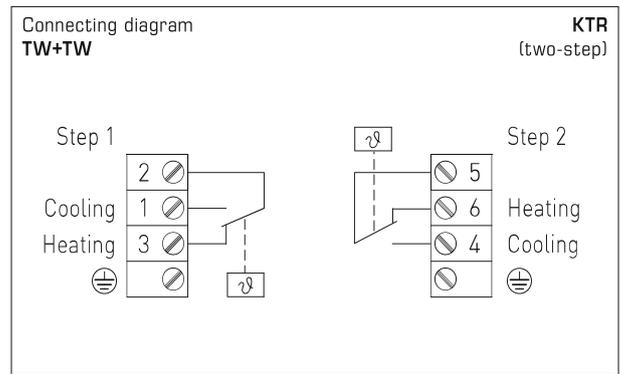
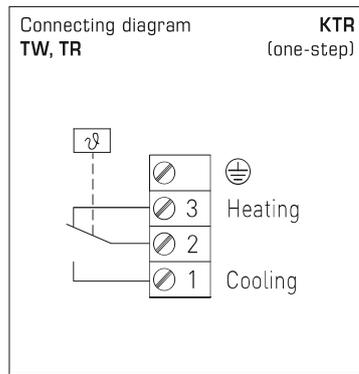
- TW**
Temperature monitor
(internal setting)

- TR**
Temperature controller
(external setting)

- STB**
Safety temperature limiter
(internal setting)

- TW+TW**
Double temperature monitor
(internal setting)

- TR + STB**
Temperature controller
(external setting) +
Safety temperature limiter
(internal setting)



ZERTIFIKAT

CERTIFICATE
valid until: 25.02.2028
ZERTIFIKAT
gültig bis: 25.02.2028

EU Type examination (module B) - production type - according to Directive 2014/68/EU

EU-Baumusterprüfung (Modul B) - Baumuster - nach Richtlinie 2014/68/EU

Certificate No.: **Z-IS-TAF-MUC-18-03-2652130-002**

Name and address of manufacturer: **S+S Regeltechnik GmbH
Pirnauer Str. 20
90411 Nürnberg**

Name und Anschrift des Herstellers:

We herewith certify that the type mentioned below meets the requirements of the Directive 2014/68/EU.

Hiermit wird bescheinigt, dass das unten genannte Baumuster die Anforderungen der Richtlinie 2014/68/EU erfüllt.

Evaluation report No.: **C-T 1382-01/18 dated 2018-02-26**

Begleitbericht Nr.:

Scope of examination: **Safety temperature limiter as safety accessory
type: ETR and KTR (see page 3)
basis of examination and details see page 3**

Geltungsbereich:

Manufacturing plant: **S+S Regeltechnik GmbH
Pirnauer Str. 20
90411 Nürnberg**

Fertigungsstätte:

München, 26.02.2018
(Place, date)

Ort, Datum:

Verification of Certificate by TÜV SUD App Verify
Zertifizierungsprüfung durch App TÜV SUD Verify

Notified Body, No. 0038
Notifiziertes Stelle, Kennnummer 0038
TÜV SUD Industrie Service GmbH
Westerstraße 190
80859 München
GERMANY

089 5190-1027
fruenberg@tuev-sud.de

Page 1 of the certificate No. / Seite 1 zum Zertifikat Nr. Z-IS-TAF-MUC-18-03-2652130-002

Industrie Service

ZERTIFIKAT

CERTIFICATE
valid until: 25.02.2028
ZERTIFIKAT
gültig bis: 25.02.2028

EU Type examination (module B) - production type - according to Directive 2014/68/EU

EU-Baumusterprüfung (Modul B) - Baumuster - nach Richtlinie 2014/68/EU

Certificate No.: **Z-IS-TAF-MUC-18-03-2652130-002**

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Pirnauer Str. 20
90411 Nürnberg**

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Fertigungsstätte:

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Page 1 of the certificate No. / Seite 1 zum Zertifikat Nr. Z-IS-TAF-MUC-18-03-2652130-002

Industrie Service

page 3 of certificate no. IS-TAF-MUC-18-03-2652130-002

Replaces certificate dated
IS-TAF-MUC 08 02 100248356 001

Basis of examination:
VdTUV-Merkblatt Temperatur 100:2017-03
DIN EN 14587 :2015-01
Essential safety requirements of Directive 2014/68/EU

Type code

Type	Code	Technical data
ETR-R6585	STB	Range: from 65 °C to 85 °C
ETR-R90110	STB	Range: from 90 °C to 110 °C
KTR-R6585	STB	Same function as ETR R6585, with the following difference: The tube is not closed to the medium.
KTR-R90110	STB	Same function as ETR R90110, with the following difference: The tube is not closed to the medium.

Type	Code	Technical data
ETR-060R85	TR/STB	Combination of two single types: TR and STB with the range: TR: from 0 °C to +60 °C STB: from +65 °C to + 85°
ETR-090R110	TR/STB	Combination of two single types: TR and STB with the range: TR: from 0 °C to +90 °C STB: from +90 °C to + 110°
KTR-060R85	TR/STB	Same function as ETR-060R85, with the following difference: The tube is not closed to the medium
KTR-090R110	TR/STB	Same function as ETR-090R110, with the following difference: The tube is not closed to the medium

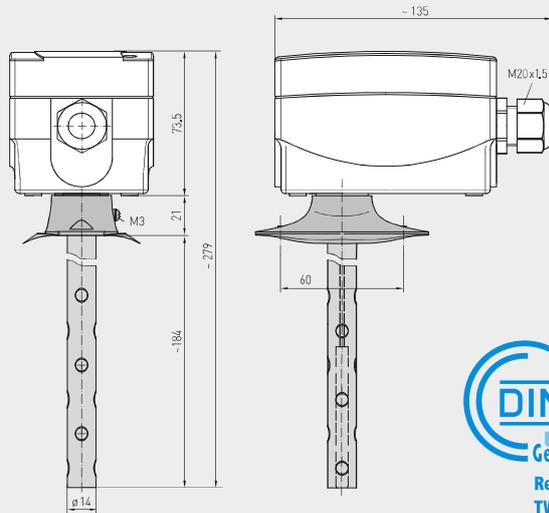
The conditions listed below have to be considered:

- To keep the specified response time the types ETR... shall be used with the provided tube and thermal conducting paste
- Possible risks caused by external fire or by traffic, wind and earthquake loading shall be examined separately depending from the installation situation of the pressure equipment

Appendix of certificate / Anlage zum Zertifikat Z-IS-TAF-MUC-18-03-2652130-002

Dimensional drawing
Temperature monitor
TW

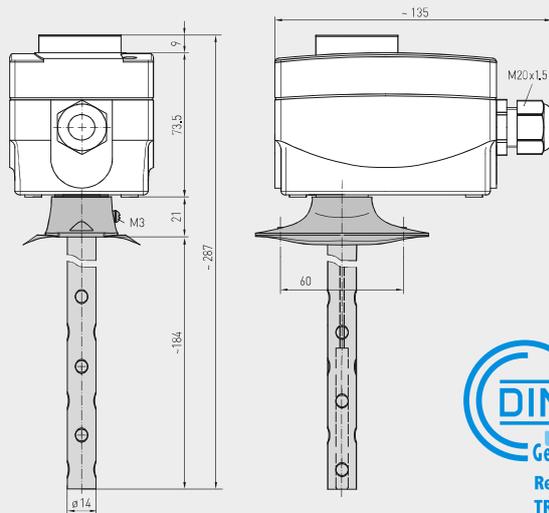
KTR-xxU
(one-step)



KTR-060U
KTR-090U
(one-step)
TW

Dimensional drawing
Temperature controller
TR

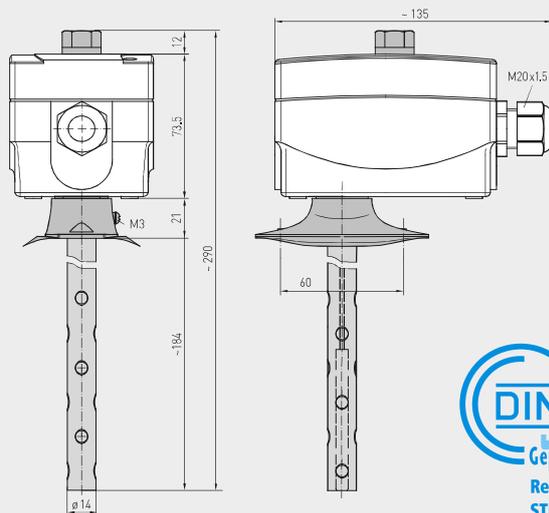
KTR-xx
(one-step)



KTR-1
KTR-060
KTR-090
KTR-0120
KTR-50140
(one-step)
TR

Dimensional drawing
Safety temperature limiter
STB

KTR-Rxx
(one-step)

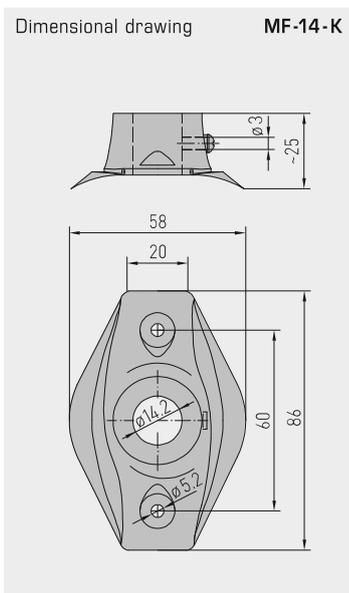


KTR-R6585
KTR-R90110
(one-step)
STB
adjustable



THERMASREG® KTR Duct temperature controllers, one-step						
Type / WG02	Ø mm	Temperature Ranges (adjustable)	Thermal Operating Difference (fixed) approx.	Maximum Capillary Temp.	Item No.	Price
KTR-060U / 090U					TW	
KTR-060 U	14	0...+60 °C	3K	+75 °C	1102-3010-2100-350	72,86 €
KTR-090 U	14	0...+90 °C	3K	+120 °C	1102-3010-2100-450	72,86 €
KTR-xx					TR	
KTR-1	14	-35...+35 °C	3K	+75 °C	1102-3010-1100-150	72,86 €
KTR-060	14	0...+60 °C	3K	+75 °C	1102-3010-1100-350	72,86 €
KTR-090	14	0...+90 °C	3K	+120 °C	1102-3010-1100-450	72,86 €
KTR-0120	14	0...+120 °C	5K	+135 °C	1102-3010-1100-550	72,86 €
KTR-50140	14	+50...+140 °C	5K	+150 °C	1102-3010-1100-650	72,86 €
KTR-R6585 / R90110					STB	
KTR-R6585	14	+65...+85 °C	+0 / -15...20K	+120 °C	1102-3010-6100-750	86,38 €
KTR-R90110	14	+90...+110 °C	+0 / -15...20K	+120 °C	1102-3010-6100-850	86,38 €
Extra charge:	U	= Internal setting, unless included in a certain type				9,48 €
	/2	= 2 steps, unless included in a certain type				on request
Equipment:	FT	= Manual reset when temperature drops				
	ST	= Manual reset when temperature rises				
	TR	= Temperature controller (external setting)				
	TB	= Temperature limiter (internal setting)				
	TW	= Temperature monitor (internal setting)				
	STB	= Safety temperature limiter (internal setting), selectable , with external switchpoint confirmation and restart interlock, restart by reset button at approx. 15...20 K below switching temperature (+ 0 K / - 15...20 K) with EC type test (module B) according to directive 2014 / 68 / EU				

ACCESSORIES			
MF-14-K	Mounting flange, plastic	7100-0030-2000-000	9,10 €
For further information see last chapter!			

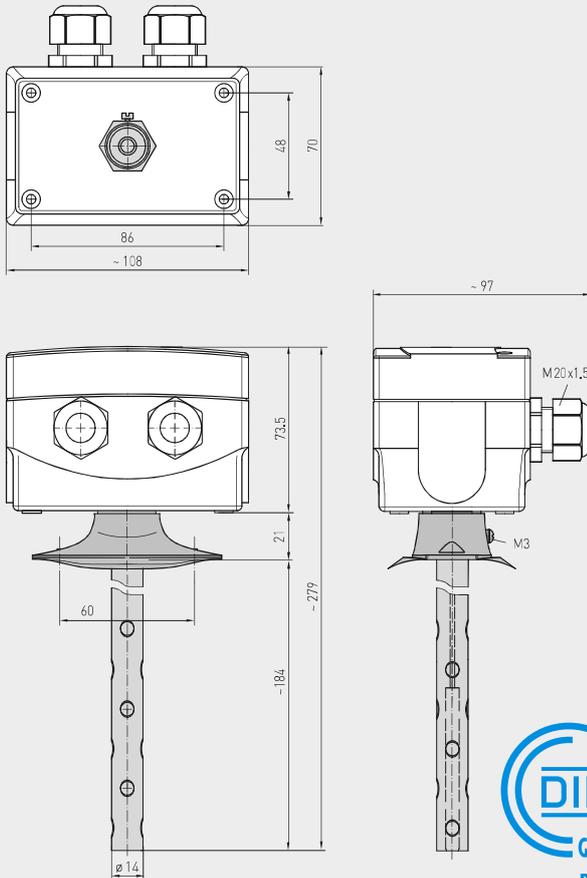


MF-14-K
Mounting flange,
plastic



Dimensional drawing
Double temperature monitor
TW + TW

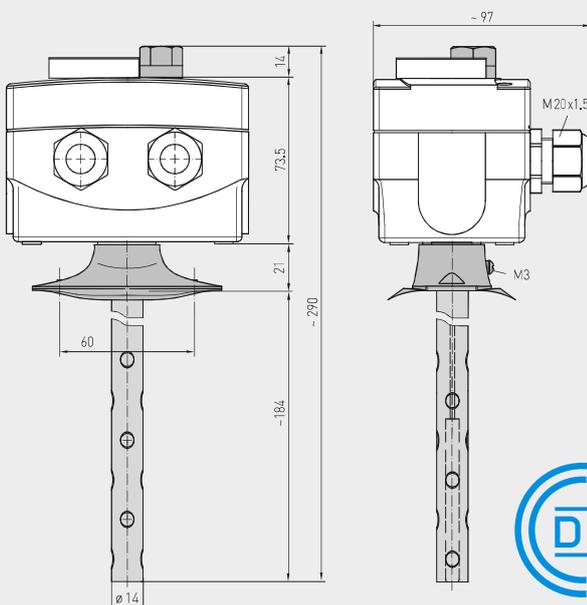
KTR-xxU
(two-step)



KTR-090090U
(two-step)
TW + TW

Dimensional drawing
Temperature controller +
safety temperature limiter
TR + STB

KTR-xxRxx
(two-step)



KTR-060R85
KTR-090R110
(two-step)
TR + STB
adjustable



THERMASREG® KTR Duct temperature controllers, two-step

Type / WG02	Ø mm	Temperature Ranges (adjustable)		Thermal Operating Difference (fixed) approx.		Maximum Capillary Temp.	Item No.	Price
		1.	2.	1.	2.			
KTR-090090 U							TW + TW	
KTR-090090 U	14	0...+90 °C	0...+90 °C	3K	3K	+120 °C	1102-3010-2205-150	108,33 €
KTR-060R85							TR + STB	
KTR-060R85	14	0...+60 °C	+65...+85 °C	3K	+0 / -15...20 K	+120 °C	1102-3010-7205-250	108,33 €
KTR-090R110							TR + STB	
KTR-090R110	14	0...+90 °C	+90...+110 °C	3K	+0 / -15...20 K	+135 °C	1102-3010-7205-350	108,33 €

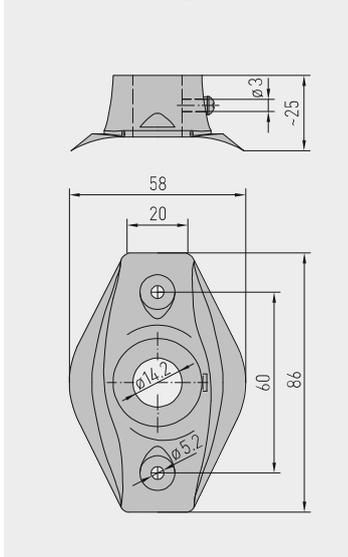
Extra charge:	U = Internal setting, unless included in a certain type /2 = 2 steps, unless included in a certain type	9,48 € on request
Features:	TR = Temperature controller (external setting) TW = Temperature monitor (internal setting) STB = Safety temperature limiter (internal setting), selectable, with external switchpoint confirmation and restart interlock, restart by reset button at approx. 15...20 K below switching temperature (+ 0 K / - 15...20 K) with EC type test (module B) according to directive 2014 / 68 / EU	

ACCESSORIES

MF-14-K	Mounting flange, plastic	7100-0030-2000-000	9,10 €
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For further information see last chapter!

Dimensional drawing **MF-14-K**



MF-14-K
Mounting flange,
plastic





**HVAC & BYGNINGS-
AUTOMATIK**

VORES PRODUKTSORTIMENT INKLUDERER:



LUFT & FLOW - KANALFØLERE



RØR- & KANALTERMOSTATER



POWER IO



TILBEHØR



TEMPERATURCONTROLLERE



MODBUS/BACNET

VI FØRER PRODUKTER INDENFOR KATEGORIERNE:



AUTOMATIK



ELVARME



KØLEPROFILER



NEWTRONIC

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