

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:<br>(Contact load) | 24...250 V AC +10%, 10 A, $\cos \varphi = 1.0$<br>24...250 V AC +10%, 1.5 A, $\cos \varphi = 0.6$<br>at 24 V AC min. 150 mA                                           |
| Contact:                              | dust-proof switch block unit as potential-free,<br>single-pole or two-pole changeover contact                                                                         |
| Housing:                              | plastic, UV-resistant,<br>material polyamide, 30 % glass-globe reinforced,<br>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                                                                                                                                    |
| Measuring element:                    | torsion meter with liquid filling,<br>liquid expansion temperature feeler                                                                                             |
| Mounting position:                    | arbitrary                                                                                                                                                             |
| Ambient temperature:                  | -10...+65 °C at the switch block housing                                                                                                                              |
| Tolerance:                            | $T_{\min} \pm 5 \text{ K}$ ; $T_{\max} \pm 3 \text{ K}$                                                                                                               |
| Operating medium:                     | Air                                                                                                                                                                   |
| Protective tube:                      | metal, material CuZn37 (2.0321),<br>$\varnothing 14 \text{ mm}$ , NL = 205 mm                                                                                         |
| Inserted length:                      | approx. 205 mm (with flange);<br>approx. 184 mm (without flange)                                                                                                      |
| Process connection:                   | by mounting flange<br>(included in the scope of delivery)                                                                                                             |
| Electrical connection:                | 0.14 - 2.5 mm <sup>2</sup> 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,<br>low-voltage directive 2014/35/EU                                                                                          |
| Tests:                                | EC type test (module B) according to directive 2014/68/EU,<br>certificate No.: IS-TAF-MUC 18 03 2652130 002,<br>DIN EN 14597,<br>register Nos.: STB 1201, TR/STB 1202 |

#### FUNCTION

##### TW, TR:

Contact 2 - 3 breaks when temperature rises to the preset value.

##### STB:

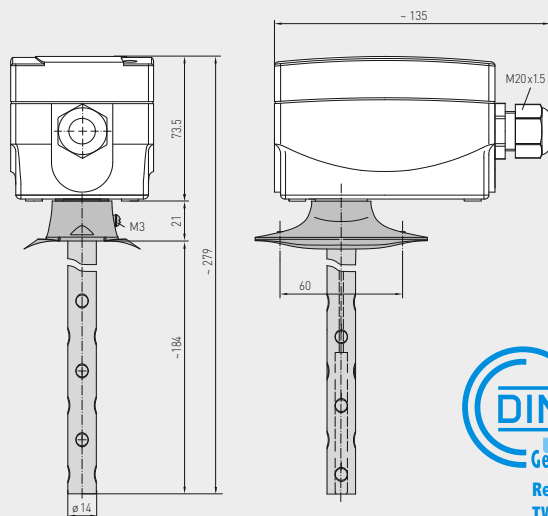
Contact 2 - 1 or 5 - 4 (two-step) breaks when temperature rises to the preset value.  
Restart is possible only after cooling off by approx. 15 K - 20 K by pressing the reset button.





Dimensional drawing  
Temperature monitor  
TW

KTR-xxU  
(one-step)

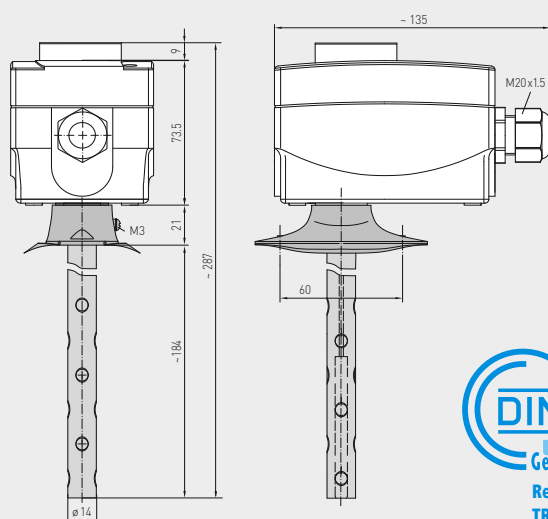


KTR-060U  
KTR-090U  
(one-step)  
TW



Dimensional drawing  
Temperature controller  
TR

KTR-xx  
(one-step)

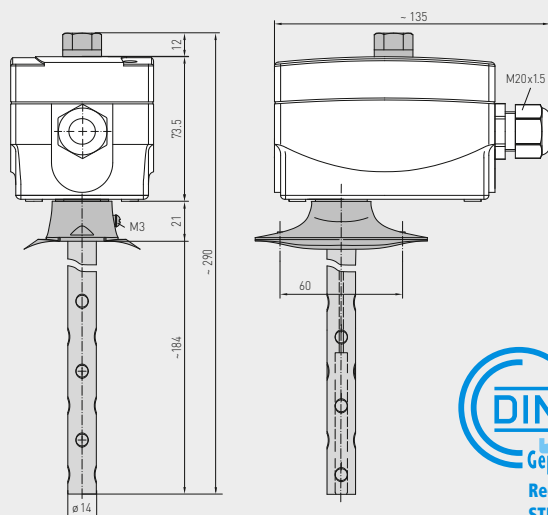


KTR-1  
KTR-060  
KTR-090  
KTR-0120  
KTR-50140  
(one-step)  
TR



Dimensional drawing  
Safety temperature limiter  
STB

KTR-Rxx  
(one-step)

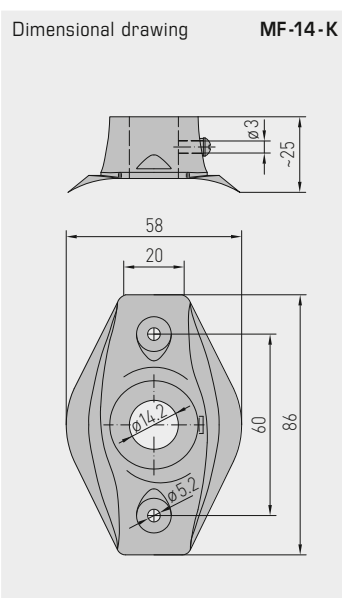


KTR-R6585  
KTR-R90110  
(one-step)  
STB  
adjustable



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

| ACCESSORIES                               |                          |                    |
|-------------------------------------------|--------------------------|--------------------|
| <b>MF-14-K</b>                            | Mounting flange, plastic | 7100-0030-2000-000 |
| For further information see last chapter! |                          |                    |

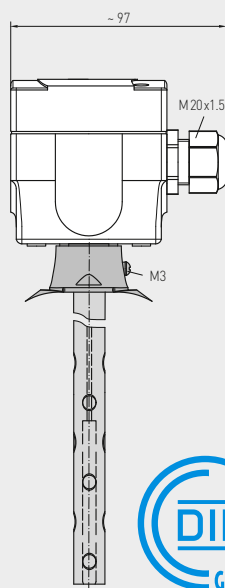
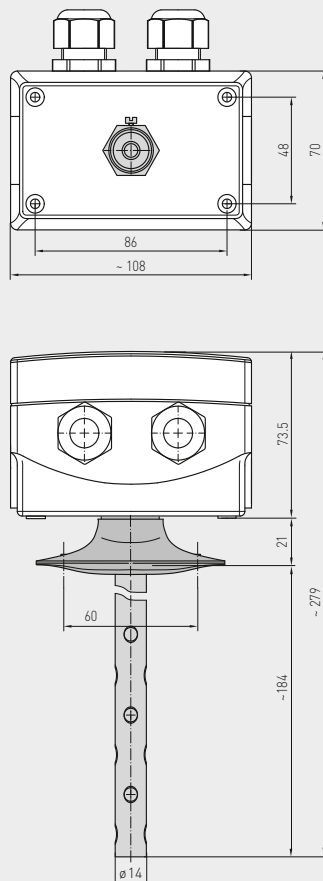


**MF-14-K**  
Mounting flange,  
plastic



Dimensional drawing  
Double temperature monitor  
**TW + TW**

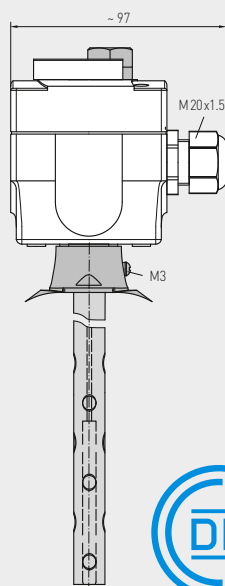
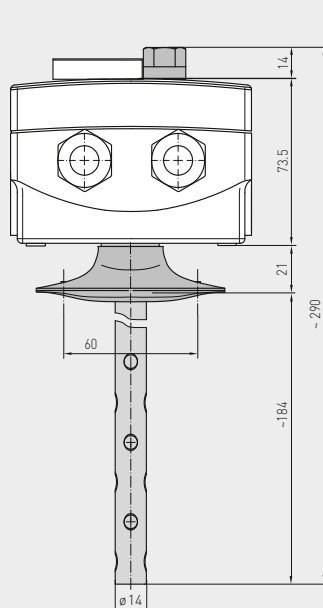
**KTR-xx U**  
(two-step)



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

Dimensional drawing  
Temperature controller +  
safety temperature limiter  
**TR + STB**

**KTR-xx R xx**  
(two-step)



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



## THERMASREG® KTR Duct temperature controllers, two-step

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

Extra charge: U = Internal setting, unless included in a certain type  
/2 = 2 steps, unless included in a certain type 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

|                                           |                                 |                           |
|-------------------------------------------|---------------------------------|---------------------------|
| <b>MF-14-K</b>                            | <b>Mounting flange, plastic</b> | <b>7100-0030-2000-000</b> |
| For further information see last chapter! |                                 |                           |

Dimensional drawing

MF-14-K

MF-14-K

Mounting flange,  
plastic

