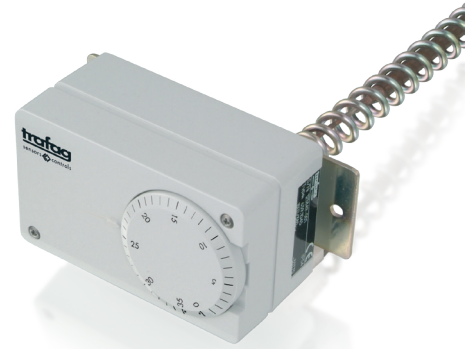


# DUCT THERMOSTAT

Swiss based Trafag is a leading international supplier of high quality sensors and monitoring instruments for the measurement of pressure and temperature.



## Applications

- HVAC

## Features

- Short response time
- Protection IP54
- Electrical connection on terminal screw

05/2015

Data sheet H72177f

## Technical Data

Designation of application	Duct thermostat	Switching differential	Adjustable / not adjustable
Measuring range	-30 ... +40 to +20 ... +110°C	Repeatability	± 0.5 % FS typ.
Output signal	Floating change-over contact	Approval	EN60730-1/ EN60730-2-9: Typ 2.B.H

Subject to change

## Ordering information/type code

		XXX	XX	XX	XXX	XX	XX	
<b>Custom build code</b>	External adjustment	624						
	Internal adjustment	634						
<b>Microswitch</b>	Small switching differential, not adjustable		10					
	Average switching differential, not adjustable		11					
	With gold plated contacts, not adjustable		21					
	Adjustable large switching differential		24					
	Adjustable standard switching differential		25					
<b>Range</b>	<b>Range</b> [°C]	<b>Sensor max.</b> [°C]						
	-30 ... 40	45		01				
	-10 ... 25 <sup>3)</sup>	50		07				
	0 ... 35	50		09				
	15 ... 30	60		17				
	10 ... 45	85		11				
	10 ... 80 <sup>3)</sup>	100		13				
	5 ... 95	105		20				
20 ... 110 <sup>3)</sup>	115		23					
<b>Sensor<sup>1)</sup></b>	<b>Range</b>	<b>Sensor diameter</b> [mm]	<b>Sensor material</b>		<b>Range</b>	<b>Sensor diameter</b> [mm]	<b>Sensor material</b>	
	20,23	Ø7	Copper	322	01, 07, 09, 11, 13, 17	Ø7	Copper	422
	20,23	Ø9	Copper	332	01, 07, 09, 11, 13, 17	Ø9	Copper	432
<b>Fixing<sup>2)</sup></b>	With spring tube and flange, for direct mounting, Ø 16.5 x 200mm						30	
<b>Accessories</b>	Set blocking (only type 634)						15	
	Condensator over Pin 1-2						12	
	Condensator over Pin 1-3						13	
	Condensators over Pin 1-2 / 1-3						23	
	Railway version (UIC 616)						28	
	Outdoor usage (aerated)						44	
	Cover with window						77	

<sup>1)</sup> See data sheet H72114/H72163

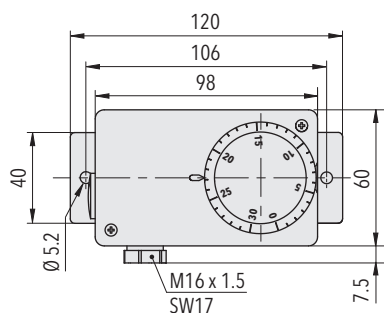
<sup>2)</sup> See data sheet H72106

<sup>3)</sup> Only with type 634 internal adjustment

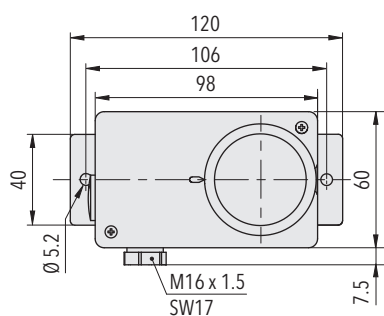
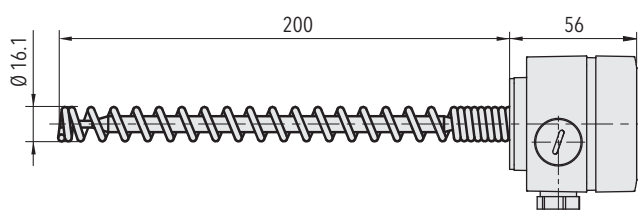
## Standard products (extra short lead time)

Product No.	Type Code	Sensor material	Temperature range [°C]	Switching differential [°C]	Sensor max. [°C]
MSK35	634 2509 432 30	Copper	0...+35	0.7...10	50
MSK40	634 2501 432 30	Copper	-30...+40	0.7...10	45
MSK80	634 2513 432 30	Copper	+10...+80	0.7...10	100

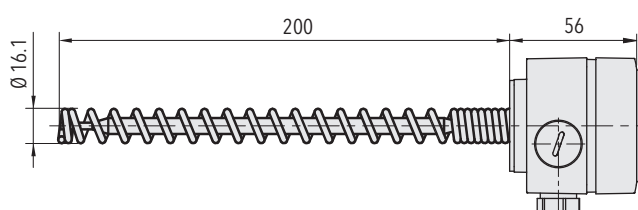
## Dimensions



624.XXXX.XXX.XX.XX



634.XXXX.XXX.XX.XX



Specifications		
<b>Accuracy</b>	Repeatability	$\pm 0.5 \% \text{ FS typ.}$
	Scale accuracy typ.	$\pm 2 \% \text{ FS typ.}$
	Switching differential	see table
	Switching point	Temperature compensated with bimetal switch lever
<b>Environmental conditions</b>	Ambient temperature	-30 ... +70°C (important: Temperature at sensor may not exceed maximum sensor temperature)
	Storage temperature	Range $\leq +45^\circ\text{C}$ : -30...+50°C Range $> +45^\circ\text{C}$ : -30...+85°C
	Protection	IP54
	Humidity	Max. 95 % relative
<b>Mechanical Data</b>	Sensor housing	See ordering information
	Filling	Liquid
	Housing	PC/ABS-Blend V0
	Screwed cable gland	PA, Polyamid
	Installation	Any position
	Weight	~ 220 g
<b>Microswitch</b>	Rating	See table
	Resistance of insulation	$> 2 \text{ M}\Omega$
	Dielectric strength	$U \leq 250\text{V}$ : 1.45 kV $U \leq 500\text{V}$ : 2 kV terminal ground
	Life time (mechanical)	Microrupteur 10/11/25: 20 Mio. cycles Microswitch 21: 0.5 Mio. cycles Microswitch 24: 0.3 Mio. cycles
<b>Electrical connection</b>	Cable gland	M16x1.5 Cable- $\emptyset$ 4...9 mm
	Terminal screw	3 x 1...2.5 mm <sup>2</sup>

### Additional information

<b>Documents</b>	Data sheet	<a href="http://www.trafag.com/H72177">www.trafag.com/H72177</a>
	Instructions	<a href="http://www.trafag.com/H73624">www.trafag.com/H73624</a>
	Flyer	<a href="http://www.trafag.com/H70957">www.trafag.com/H70957</a>

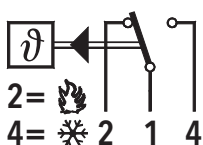
## Switching differential typ.

<b>Range</b>	[°C]	-30 ... +40 -10 ... +25 0 ... +35 +15 ... +30 +10 ... +45 +10 ... +80	+5 ... +95 +20 ... +110
<b>Microswitch 10</b> Switching differential (fixed value, not adjustable)	[°C]	0.3	0.8
<b>Microswitch 11/21</b> Switching differential (fixed value, not adjustable)	[°C]	0.7	2
<b>Microswitch 24</b> Switching differential (adjustable value)	[°C]	4 ... 21	5.5 ... 26
<b>Microswitch 25</b> Switching differential (adjustable value)	[°C]	0.7 ... 10	2 ... 12

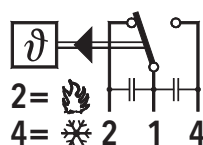
## Electrical data switch

Type	Features	Rating	
		Resistive Load (Inductive Load)	
		AC	DC
<b>10</b>	Small switching differential, not adjustable	125 V, 10 (1.5) A 250 V, 10 (1.25) A	250 V, 0.2 (0.02) A 125 V, 0.4 (0.03) A 30 V, 2 (1) A 14 V, 15 (2.5) A
<b>11</b>	Average switching differential, not adjustable	125 V, 15 (1.5) A 250 V, 15 (1.25) A 500 V, 10 (0.75) A	250 V, 0.25(0.03) A 125 V, 0.5(0.05) A 30 V, 6 (1.5) A 14 V, 15 (1.5) A
<b>21</b>	Gold plated contacts, not adjustable	24 V, 0.1(0.1) A 12 V, 1 (1) A 5 V, 2 (2) A	24 V, 0.1(0.1) A 12 V, 1 (1) A 5 V, 2 (2) A
<b>25</b>	Adjustable standard switching differential	125 V, 15 (1.5) A 250 V, 15 (1.25) A 500 V, 10 (0.75) A	250 V, 0.25(0.03) A 125 V, 0.5(0.05) A 30 V, 6 (1.5) A 14 V, 15 (2.5) A
<b>24</b>	Adjustable large switching differential	125 V, 15 (1.5) A 250 V, 15 (1.25) A 500 V, 10 (0.75) A	250 V, 0.3 (0.2) A 125 V, 0.75 (0.4) A 30 V, 15 (1.5) A 14 V, 15 (1.5) A

## Electrical Connection



624/634



with accessory 23

## Modifications

Index	Date	Description
a	11/2005	redesigned data sheet
b	12/2009	Page 2,3,4: Big switching differential 06 removed
c	06/2010	Page 4: contact rating of microswitch 21 increased from 0.01A to 0.1A (24 AC & 24 DC) Page 4: Switch 21: advise „suitable for intrinsically safe control circuit“ removed, because „simple apparatus“ devices are available
d	10/2011	Page 3: Dielectric strength changed to $U \leq 250 \text{ V}: 1.45 \text{ kV} / U \leq 500 \text{ V}: 2 \text{ kV}$
e	01/2015	New layout Switching differential for measuring ranges 20 and 23 in table corrected according M/MS Page 5: Switch 11 DC rating corrected: old 14V 15(2.5)A, new 14V 15(1.5)A
f	05/2015	Page 2: Ranges 07, 13 & 23 new declared, footnote 3: "only with type 634 internal adjustment"