

# AMBISTAT

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



## Applications

- HVAC
- Refrigeration

## Features

- Switching differential adjustable or fixed
- Short response time
- Protection IP54
- Electrical connection on terminal screw

07/2020

Data sheet H721701

## Technical Data

Designation of application	Room thermostat	Switching differential	Adjustable / not adjustable
Measuring range	-45°C ... +15°C to 0°C ... +60°C	Repeatability	± 0.5 % FS typ.
Output signal	Floating change-over contact	Approval / conformity	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	645					
	Internal adjustment	650					
<b>Microswitch</b>	Small switching differential, not adjustable		10				
	Average switching differential, not adjustable		11				
	With gold plated contacts, switching differential not adjustable		21				
	Adjustable large switching differential		24				
	Adjustable standard switching differential		25				
<b>Range</b>	<b>Range</b> [°C]	<b>Operating temperature</b> [°C]					
	-45 ... +15 <sup>1)</sup>	-45 ... +30		05			
	-30 ... +30	-30 ... +40		02			
	-20 ... +40 <sup>1)</sup>	-30 ... +50		06			
	0 ... +30	-30 ... +50		03			
	+10 ... +40	-30 ... +70		04			
	0 ... +60	-30 ... +70		12			
<b>Sensor</b>	Copper				402		
	Copper nickel plated				403		
<b>Fixing <sup>2)</sup></b>	Mounting bracket						19
<b>Accessories</b>	Switchpoint locking <sup>1)</sup>						15
	Switchpoint fixed and sealed upon customer's request <sup>1)</sup>						88
	Switchpoint preset upon customer's request, no guarantee on switching accuracy <sup>1)</sup>						83
	Switchpoint adjustment please indicate when ordering: - Switchpoint [°C] - Increasing or decreasing						
	Railway version IEC 61373, category 2						28
	Outdoor application (vented)						44
	Cover with window						77

<sup>1)</sup> Only with type 650 internal adjustment

<sup>2)</sup> See data sheet [www.trafag.com/H72106](http://www.trafag.com/H72106)

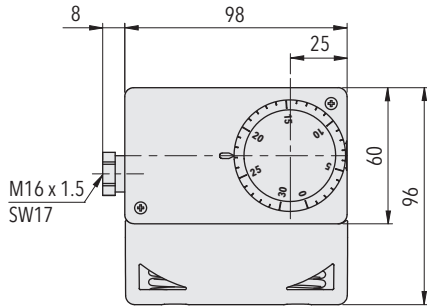
## Standard products (extra short lead time)

Product No.	Type Code	Temperature range [°C]	Switching differential [°C]	Operating temperature [°C]
A30	645 2503 402 19	0 ... +30	0.7 ... 6 (adjustable)	-30 ... +50
A33	645 2502 402 19	-30 ... +30	0.7 ... 6 (adjustable)	-30 ... +40
A40	645 2504 402 19	+10 ... +40	0.7 ... 6 (adjustable)	-30 ... +70
A60	645 2512 402 19	0 ... +60	0.7 ... 6 (adjustable)	-30 ... +70
AS30	650 2503 402 19	0 ... +30	0.7 ... 6 (adjustable)	-30 ... +50
AS33	650 2502 402 19	-30 ... +30	0.7 ... 6 (adjustable)	-30 ... +40
AS40	650 2504 402 19	+10 ... +40	0.7 ... 6 (adjustable)	-30 ... +70
AS60	650 2512 402 19	0 ... +60	0.7 ... 6 (adjustable)	-30 ... +70
ASE40	650 2404 402 19 0000 0000 00 00 00 01	+10 ... +40	5 (fixed)	-30 ... +70

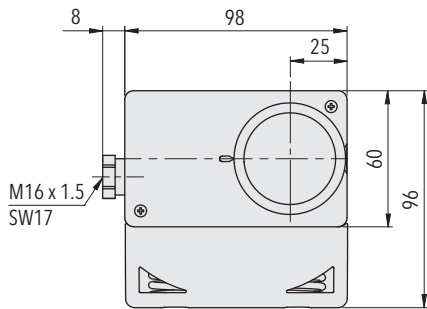
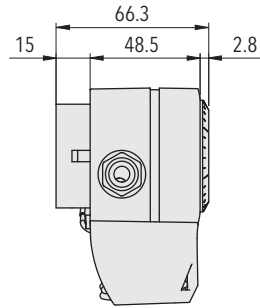
Specifications		
<b>Accuracy</b>	Repeatability	± 0.5 % FS typ.
	Scale accuracy typ.	± 2 % FS typ.
	Switching differential	see table
<b>Environmental conditions</b>	Ambient temperature	see ordering information
	Storage temperature	Range < +40°C: -30...+50°C Range > +40°C: -30...+85°C
	Protection	IP54
	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	~ 300 g
<b>Microswitch</b>	Rating	see table
	Resistance of insulation	> 2 MΩ
	Dielectric strength	U ≤ 250V: 1.45 kV U ≤ 500V: 2 kV terminal ground
	Life time (mechanical)	Microswitch 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-Ø 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/H72170">www.trafag.com/H72170</a>
	Instructions	<a href="http://www.trafag.com/H73624">www.trafag.com/H73624</a>
	Flyer	<a href="http://www.trafag.com/H70961">www.trafag.com/H70961</a>

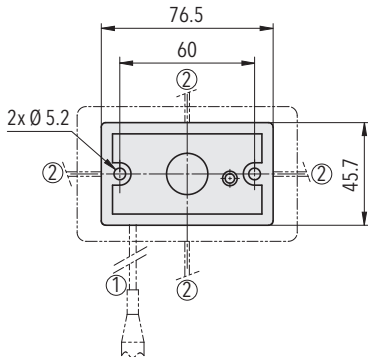
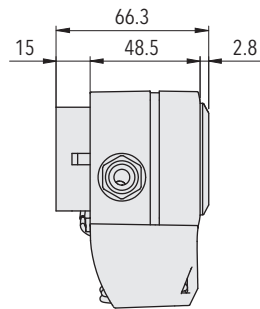
## Dimensions



645.XXXX.XXX.XX.XX



650.XXXX.XXX.XX.XX

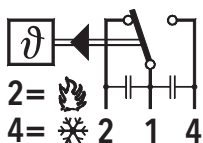


6XX.XXXX.XXX.19.XX

Switching differential typ.		
<b>Range</b>	[°C]	-45 ... +15 -30 ... +30 -20 ... +40 0 ... +30 +10 ... +40 0 ... +60
<b>Microswitch 10</b> Switching differential (fixed value, not adjustable)	[°C]	0.3
<b>Microswitch 11</b> Switching differential (fixed value, not adjustable)	[°C]	0.7
<b>Microswitch 21</b> Switching differential (fixed value, not adjustable)	[°C]	0.7
<b>Microswitch 24</b> Switching differential (adjustable value)	[°C]	3 ... 10
<b>Microswitch 25</b> Switching differential (adjustable value)	[°C]	0.7 ... 6

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



645/650