

# EX INDUSTRISTAT

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



## Applications

- Ex II 2 G / D

## Features

- Compact design
- Rugged housing
- Any mounting position possible
- Ex db eb IIC T6 Gb
- Ex tb IIIC T80°C Db

Technical Data			
Designation of application	Ex industrial thermostat with remote sensor	Switching differential	Not adjustable
Measuring range	-30°C ... +40°C to +70°C ... +350°C	Repeatability	± 0.5 % FS typ.
Output signal	Floating change-over contact	Approval / conformity	IECEX, ATEX, UKEX

05/2024

Data sheet H72108y

Subject to change

## Ordering information/type code

		XXX	XX	XX	XXX	XX	XXXXXXXXXX	XX	XX	
<b>Custom build code</b>	External adjustment	404								
	Internal adjustment	414								
<b>Microswitch</b>	Standard, switching differential not adjustable		91							
<b>Range</b>	<b>Range</b> [°C]	<b>Sensor max.</b> [°C]		<b>Range</b> [°C]	<b>Sensor max.</b> [°C]					
	-30 ... +40	50	01	+5 ... +95	105	20				
	-10 ... +25 <sup>6)</sup>	60	07	+20 ... +110	115	23				
	0 ... +35	70	09	+20 ... +150	165	31				
	+10 ... +45 <sup>6)</sup>	85	11	+20 ... +230	250	24				
	+10 ... +80 <sup>6)</sup>	100	13	+40 ... +300	330	53				
	-10 ... +35 <sup>4)</sup>	70	94	+35 ... +175 <sup>4) 6)</sup>	200	56				
	+20 ... +115	130	57	+70 ... +350	380	54				
	-10 ... +80 <sup>4)</sup>	85	95							
<b>Sensor <sup>1)</sup></b>	See table "Ordering-no. for sensors"					XXX				
<b>Fixing <sup>2)</sup></b>	Nut M10 (for remote sensing version)							10		
	Bracket (for remote sensing version)							27		
	Grubscrew locked, lateral (direct mounting version) <sup>5)</sup>							12		
	Cap nut (for direct mounting version) <sup>5)</sup>							14		
	Grubscrew locked with spacer (cooling element) (for direct mounting version)							18		
<b>Protection tube</b>	See data sheet <a href="http://www.trafag.com/H72114">www.trafag.com/H72114</a> and <a href="http://www.trafag.com/H72163">www.trafag.com/H72163</a>							XXXX.XXXX		
<b>Accessories</b>	Switchpoint locking <sup>4)</sup>								15	
	Switchpoint fixed and sealed upon customer's request <sup>4)</sup>								88	
	Switchpoint preset upon customer's request, no guarantee on switching accuracy <sup>4)</sup>								83	
	Switchpoint adjustment please indicate when ordering: - Switchpoint [°C] - Increasing or decreasing									
	Capillary tube protection: Flexible metal tube, brass nickel-plated									90
	Capillary tube protection: Flexible metal tube 1.4301 (AISI 304)									91
<b>Capillary tube length</b>	Capillary tube length up to 5000 mm (no specification required for direct mounting on protection tube) L=XXXX <sup>3)</sup>									

<sup>1)</sup> See data sheet [www.trafag.com/H72114](http://www.trafag.com/H72114) and [www.trafag.com/H72163](http://www.trafag.com/H72163)

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

<sup>3)</sup> Overlengths upon request

<sup>4)</sup> Only with type 414, internal adjustment

<sup>5)</sup> Media max. 150°C in continuous operation

<sup>6)</sup> Do not use for new designs. Will be phased out in 2024.

Ordering no. for sensors					
Range	Sensor-Ø	Sensor material			
		Stainless steel	Copper	Copper nickel plated	
01, 07, 09, 11, 13, 17, 58, 59	4.7 mm		412 <sup>1)</sup>	413 <sup>1)</sup>	
	7.0 mm	421	422	423 <sup>1)</sup>	
	9.0 mm		432	433 <sup>1)</sup>	
94, 95, 20, 23, 57	4.7 mm	311 <sup>1)</sup>	312 <sup>1)</sup>	313 <sup>1)</sup>	
	7.0 mm	321	322	323 <sup>1)</sup>	
	9.0 mm	331 <sup>1)</sup>	332	333 <sup>1)</sup>	
31, 56	4.7 mm	111 <sup>1)</sup>	112 <sup>1)</sup>	113 <sup>1)</sup>	
	7.0 mm	121	122	123 <sup>1)</sup>	
	9.0 mm	131 <sup>1)</sup>	132	133 <sup>1)</sup>	
24, 53, 54, 55	4.7 mm	011 <sup>1)</sup>	012 <sup>1)</sup>	013 <sup>1)</sup>	
	7.0 mm	021	022	023 <sup>1)</sup>	
	9.0 mm	031 <sup>1)</sup>	032	033 <sup>1)</sup>	

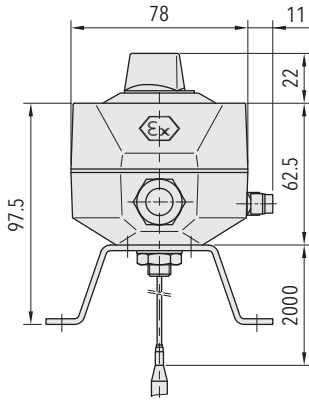
<sup>1)</sup> Do not use for new designs. Will be phased out in 2024.

Standard products (extra short lead time)					
Product No.	Type Code	Sensor material	Temperature range [°C]	Switching differential [°C]	Sensor max. [°C]
EXS35 <sup>1)</sup>	414 9109 423 27	Copper nickel plated	0 ... +35	2.5 (fixed)	50
EXS40 <sup>1)</sup>	414 9101 423 27	Copper nickel plated	-30 ... +40	2.5 (fixed)	45
EXS95 <sup>1)</sup>	414 9120 323 27	Copper nickel plated	+5 ... +95	3.5 (fixed)	105
EXS150 <sup>1)</sup>	414 9131 123 27	Copper nickel plated	+20 ... +150	5.5 (fixed)	165
EXS230S	414 9124 021 27	1.4435 (AISI316L)	+20 ... +230	8 (fixed)	250
EXS350S	414 9154 021 27	1.4435 (AISI316L)	+70 ... +350	10 (fixed)	380

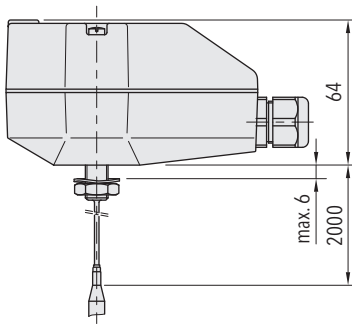
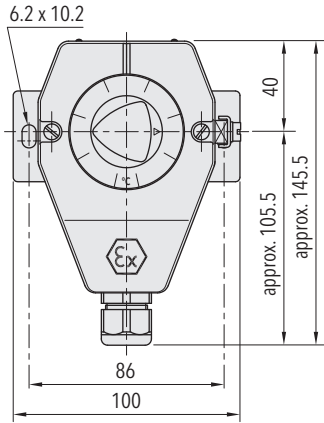
<sup>1)</sup> Do not use for new designs. Will be phased out in 2024.

Specifications		
<b>Accuracy</b>	Repeatability	± 0.5 % FS typ.
	Scale accuracy typ.	± 2 % FS typ.
	Switching differential	See table
	Switching point	Temperature compensated with bimetal switch lever
<b>Environmental conditions</b>	Ambient temperature	Range ≤ +45°C: -30°C ... +50°C Range +45°C ... +250°C: -30°C ... +60°C Range > + 250°C: -10°C ... +60°C
	Storage temperature	Range ≤ +45°C: -30°C ... +50°C Range > +45°C: -30°C ... +60°C
	Protection	IP65
	Humidity	Max. 95 % relative
	Vibration	5...25 Hz: ±1.6 mm 25...100 Hz: 4 g
	Shock	50 g / 11 ms
<b>Mechanical data</b>	Sensor housing	See ordering information
	Filling	Liquid
	Housing	AlSi9Cu3, coated
	Screwed cable gland	Polyamide (PA)
	Installation	any position
	Weight	~ 950 g
<b>Microswitch</b>	Rating	See table
	Resistance of insulation	> 2 MΩ
	Dielectric strength	1.5 kV
	Life time (mechanical)	1 Mio. cycles
<b>Electrical connection</b>	Cable gland	M20x1.5/HEX24 Cable-Ø 4.0 - 13.0 mmmm
	Terminal screw	3 x 1 ... 2.5 mm <sup>2</sup> Permitted cable-Ø ranges 4.0 - 13.0 mm

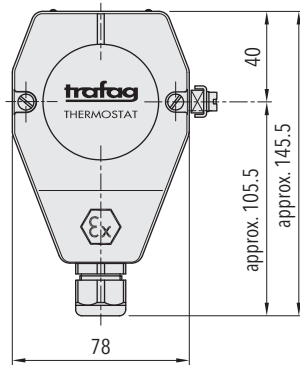
## Dimensions



404.XXXX.XXX.27...



414.XXXX.XXX.10...



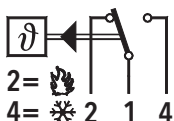
## Switching differential typ.

<b>Measuring range</b>	[°C]	-30 ... +40	-10 ... +35	+20 ... +150	+35 ... +175	+40 ... +300
		-10 ... +25	-10 ... +80		+20 ... +230	+70 ... +350
		0 ... +35	+5 ... +95			
		+15 ... +30	+20 ... +110			
		+10 ... +45	+20 ... +115			
		+10 ... +70				
		+10 ... +80				
		+20 ... +85				
<b>Microswitch 91:</b>	[°C]	2.5	3.5	5.5	8	10
Switching differential not adjustable						

## Electrical data switch

Type	Features	Rating	
		Resistive Load (Inductive Load)	
		AC	DC
91	Standard Ex	250V 5(5) A 125V 5(5) A	250 V 0.25 (0.03) A 125 V 0.5 (0.06) A 75 V 0.75 (0.25) A 50 V 1 (1) A 30 V 5 (3) A 15 V 5 (3) A

## Electrical connection



404 / 414

## Additional information

<b>Documents</b>	Data sheet	<a href="http://www.trafag.com/H72108">www.trafag.com/H72108</a>
	Instructions	<a href="http://www.trafag.com/H73172">www.trafag.com/H73172</a>