

# 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	SEV 15 ATEX 0156 X IECEx SEV 17.0010X

06/2021

Data sheet H72108t

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	60	07	+20 ... +110	115	23				
	0 ... +35	70	09	+20 ... +150	165	31				
	+10 ... +45	85	11	+20 ... +230	250	24				
	+10 ... +80	100	13	+40 ... +300	330	53				
	-10 ... +35 <sup>4)</sup>	70	94	+35 ... +175 <sup>4)</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

## Ordering no. for sensors

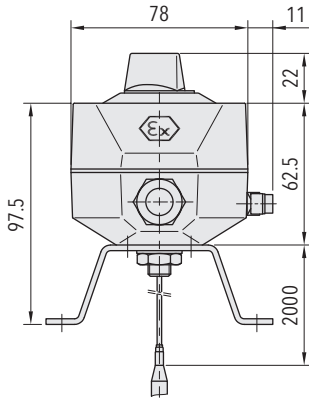
Range	Sensor-Ø	Sensor material		
		Stainless steel	Copper	Copper nickel plated
01, 07, 09, 11, 13, 17, 58, 59	4.7 mm		412	413
	7.0 mm	421	422	423
	9.0 mm		432	433
94, 95, 20, 23, 57	4.7 mm	311	312	313
	7.0 mm	321	322	323
	9.0 mm	331	332	333
31, 56	4.7 mm	111	112	113
	7.0 mm	121	122	123
	9.0 mm	131	132	133
24, 53, 54, 55	4.7 mm	011	012	013
	7.0 mm	021	022	023
	9.0 mm	031	032	033

## Standard products (extra short lead time)

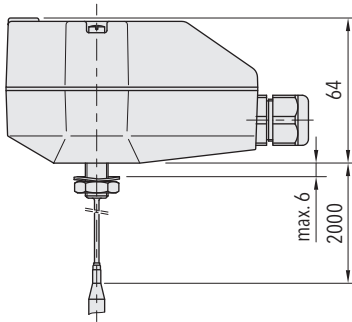
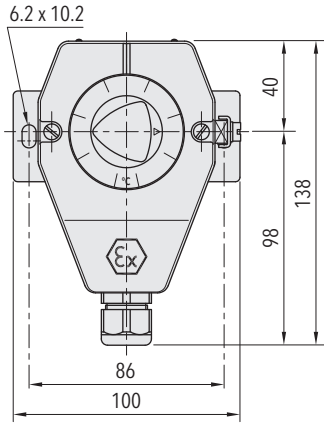
Product No.	Type Code	Sensor material	Temperature range [°C]	Switching differential [°C]	Sensor max. [°C]
EXS35	414 9109 423 27 0000 0000 02	Copper nickel plated	0 ... +35	2.5 (fixed)	50
EXS40	414 9101 423 27 0000 0000 02	Copper nickel plated	-30 ... +40	2.5 (fixed)	45
EXS95	414 9120 323 27 0000 0000 02	Copper nickel plated	+5 ... +95	3.5 (fixed)	105
EXS150	414 9131 123 27 0000 0000 02	Copper nickel plated	+20 ... +150	5.5 (fixed)	165
EXS230S	414 9124 021 27 0000 0000 02	1.4435 (AISI316L)	+20 ... +230	8 (fixed)	250
EXS350S	414 9154 021 27 0000 0000 02	1.4435 (AISI316L)	+70 ... +350	10 (fixed)	380

Specifications		
<b>Accuracy</b>	Repeatability	$\pm 0.5$ % FS typ.
	Scale accuracy typ.	$\pm 2$ % FS typ.
	Switching differential	See table
	Switching point	Temperature compensated with bimetal switch lever
<b>Environmental conditions</b>	Ambient temperature	Range $\leq +45^{\circ}\text{C}$ : $-30^{\circ}\text{C} \dots +50^{\circ}\text{C}$ Range $+45^{\circ}\text{C} \dots +250^{\circ}\text{C}$ : $-30^{\circ}\text{C} \dots +60^{\circ}\text{C}$ Range $> +250^{\circ}\text{C}$ : $-10^{\circ}\text{C} \dots +60^{\circ}\text{C}$
	Storage temperature	Range $\leq +45^{\circ}\text{C}$ : $-30^{\circ}\text{C} \dots +50^{\circ}\text{C}$ Range $> +45^{\circ}\text{C}$ : $-30^{\circ}\text{C} \dots +60^{\circ}\text{C}$
	Protection	IP65
	Humidity	Max. 95 % relative
	Vibration	5...25 Hz: $\pm 1.6$ 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	$\sim 950$ g
<b>Microswitch</b>	Rating	See table
	Resistance of insulation	$> 2$ M $\Omega$
	Dielectric strength	1.5 kV
	Life time (mechanical)	1 Mio. cycles
<b>Electrical connection</b>	Cable gland	M20x1.5/SW24 Cable- $\varnothing$ 5.5...13 mm
	Terminal screw	3 x 1 ... 2.5 mm <sup>2</sup>

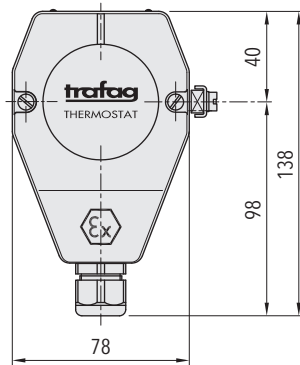
## Dimensions



404.XXXX.XXX.27...



414.XXXX.XXX.10...



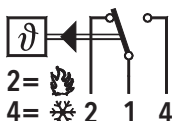
## Switching differential typ.

<b>Measuring range</b>	<b>[°C]</b>	-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				
<b>Microswitch 91:</b>	<b>[°C]</b>	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>
	Flyer	<a href="http://www.trafag.com/H70970">www.trafag.com/H70970</a>