

# «Simple Apparatus» conformity to ATEX 414

# INDUSTAT

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



## Applications

- Potentially hazardous areas

## Features

- Compact design
- Rugged housing
- Protection IP65
- Any mounting position possible
- May be used as „simple apparatus“ in zones at risk of explosions

Technical Data			
Designation of application	Industrial room 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	EN60730-1/ EN60730-2-9: Typ 2.B.H EN60079-0, EN60079-11 Zone 1 and 2, 21 and 22

05/2020

Data sheet H72183i

Subject to change

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## Ordering information/type code

		XXX	XX	XX	XXX	XX	XXXXXXXXXX	XX	XX
<b>Custom build code</b>	Internal adjustment	414							
<b>Microswitch</b>	With gold plated contacts, switching differential not adjustable		71						
<b>Range</b>	<b>Range [°C]</b>								
	-30 ... +40								01
	-10 ... +25								07
	0 ... +35								09
	+10 ... +45								11
	+10 ... +80								13
	+15 ... +30								17
	-10 ... +35								94
	-10 ... +80								95
	+5 ... +95								20
	+20 ... +110								23
	+20 ... +150								31
	+20 ... +230								24
	+40 ... +300								53
	+70 ... +350								54
<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
	Flange connection (for remote sensing version)								16
	Angle bracket (for remote sensing version)								17
	Bracket (for remote sensing version)								27
	Grubscrew locked, lateral (direct mounting version) <sup>4)</sup>								12
	Cap nut (for direct mounting version) <sup>4)</sup>								13
	Cap nut (for direct mounting version) <sup>4)</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								15
	Switchpoint fixed and sealed upon customer's request								88
	Switchpoint preset upon customer's request, no guarantee on switching accuracy								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 1.4541/N2A								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> Media max. 150°C in continuous operation

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## Optional accessories of third party supplier

Ex-i barriers are suitable for intrinsically safe applications. The device transmits binary signals from the hazardous area into the safe area.

Ex-i-barriers: 24 VDC $U_0 = 10.5\text{ V}$ / $I_0 = 13\text{ mA}$ / $P_0 = 34\text{ mW}$	ZEN24VDC
Ex-i-barriers: 230 VAC $U_0 = 10.6\text{ V}$ / $I_0 = 19.1\text{ mA}$ / $P_0 = 51\text{ mW}$	ZEN230VAC



**i** Thermostats, when combined with a certified Ex-barrier (see “optional accessories of third party supplier”), can be used as “simple electrical apparatus” in Zone 1 and 2, as well as in Zone 21 and 22, according to IEC/EN 60079-14. These thermostats are not suitable for Zone 0 and Zone 20. Use in safety relevant applications (approved electrical apparatus) is not permitted.

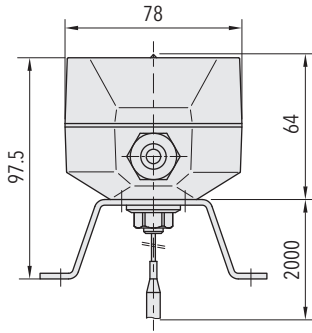
Ordering no. for sensors				
Range	Sensor-Ø	Sensor material		
		Stainless steel	Copper	Copper nickel plated
01, 07, 09, 11, 13, 17	4.7 mm		412	413
	7.0 mm	421	422	423
	9.0 mm		432	433
94, 95, 20, 23	4.7 mm	311	312	313
	7.0 mm	321	322	323
	9.0 mm	331	332	333
31	4.7 mm	111	112	113
	7.0 mm	121	122	123
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

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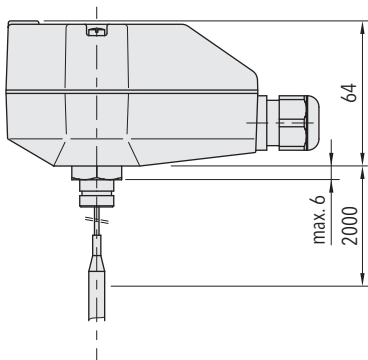
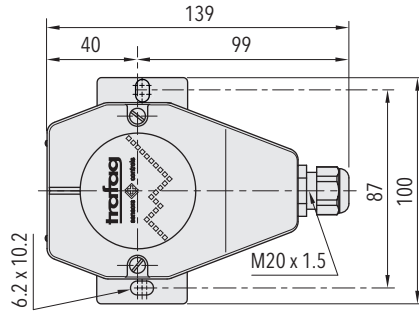
Specifications		
<b>Accuracy</b>	Repeatability	± 0.5 % FS typ.
	Scale accuracy typ.	± 2 % FS typ.
	Switching differential	See table
<b>Environmental conditions</b>	Ambient temperature	Range ≤ +45°C: -30°C ... +50°C Range > +45°C: -30°C ... +65°C (important: Temperature at sensor may not exceed maximum sensortemperature)
	Storage temperature	Range ≤ +45°C: -30°C ... +50°C Range > +45°C: -30°C ... +70°C
	Protection	IP65
	Humidity	Max. 95 % relative
	Vibration	5...25 Hz: ±1.6 mm 25...100 Hz: 4g
	Shock	50 g / 11 ms
<b>Mechanical Data</b>	Sensor housing	See ordering information
	Filling	Liquid
	Housing	AlSi9Cu3, coated
	Screwed cable gland	Polyamide (PA), light blue
	Installation	Any position Recommendation: screwage pointing downwards
	Weight	~ 950 g
<b>Microswitch</b>	Rating	See table
	Resistance of insulation	> 2 MΩ
	Dielectric strength	1.25 kV terminal ground
	Life time (mechanical)	1 Mio. cycles
<b>Electrical connection</b>	Cable gland	M20x1.5 Cable-Ø 4...10 mm, max. cable length according to EN60079-11
	Terminal screw	3 x 1 ... 2.5 mm <sup>2</sup>

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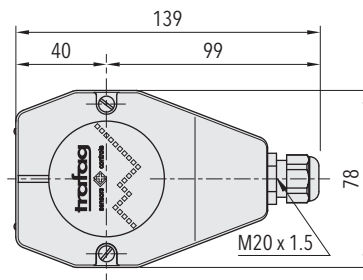
## Dimensions



414.71.XX.XXX.XX.XX...



414.71.XX.XXX.XX.XX...

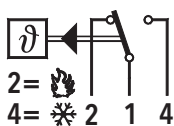


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Switching differential typ.						
Measuring range	[°C]	-30 ... +40	-10 ... +35	+20 ... +150	+20 ... +230	+40 ... +300
		-10 ... +25	-10 ... +80			+70 ... +350
		0 ... +35	+5 ... +95			
		+15 ... +30	+20 ... +110			
		+10 ... +45				
		+10 ... +80				
<b>Microswitch 71:</b>	[°C]	0.7	2	2.5	3	4
Switching differential not adjustable						

Electrical data switch		
Type	Features	Rating
71	With gold plated contacts, switching differential not adjustable	$U_0 = 24 \text{ V}$ $I_0 = 100 \text{ mA}$ $P_0 = 600 \text{ mW}$

## Electrical connection



Additional information		
Documents	Data sheet	<a href="http://www.trafag.com/H72183">www.trafag.com/H72183</a>
	Instructions	<a href="http://www.trafag.com/H73173">www.trafag.com/H73173</a>
	Flyer	<a href="http://www.trafag.com/H70971">www.trafag.com/H70971</a>