

«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 |

09/2018

Data sheet H72183h

Subject to change

«Simple Apparatus» conformity to ATEX 414

Ordering information/type code

| | | XXX | XX | XX | XXX | XX | XXXXXXXXXX | XX | XX |
|------------------------------|---|-----|----|----|-----|-----|------------|-----------|----|
| Custom build code | Internal adjustment | 414 | | | | | | | |
| Microswitch | With gold plated contacts, switching differential not adjustable | | 71 | | | | | | |
| Range | Range [°C] | | | | | | | | |
| | -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 |
| Sensor ¹⁾ | See table "Ordering-no. for sensors" | | | | | XXX | | | |
| Fixing ²⁾ | 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) ⁴⁾ | | | | | | | | 12 |
| | Cap nut (for direct mounting version) ⁴⁾ | | | | | | | | 13 |
| | Cap nut (for direct mounting version) ⁴⁾ | | | | | | | | 14 |
| | Grubscrew locked with spacer (cooling element) (for direct mounting version) | | | | | | | | 18 |
| Protection tube | See data sheet H72114/H72163 | | | | | | | XXXX.XXXX | |
| Accessories | 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 |
| Capillary tube length | Capillary tube length up to 5000 mm (no specification required for direct mounting on protection tube) L=XXXX ³⁾ | | | | | | | | |

¹⁾ See data sheet H72114/H72163

²⁾ See data sheet H72106

³⁾ Overlengths upon request

⁴⁾ Media max. 150°C in continuous operation

«Simple Apparatus» conformity to ATEX 414

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.

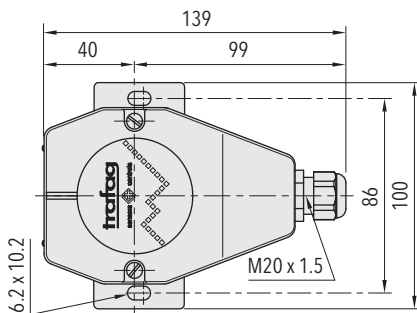
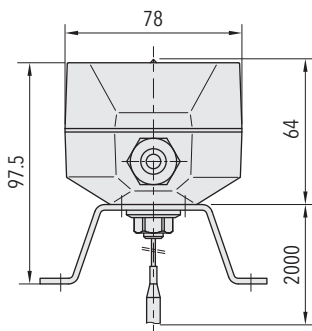
| Ordering no. for sensors | | | | |
|--------------------------|----------|-----------------|--------|----------------------|
| Range | Sensor-Ø | Sensor material | | |
| | | Stainless steel | Copper | Copper nickel plated |
| 01, 07, 09, 11, 13, 17 | 4.7 mm | | 412 | 413 |
| | 7.0 mm | 421 | 422 | 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 |

«Simple Apparatus» conformity to ATEX 414

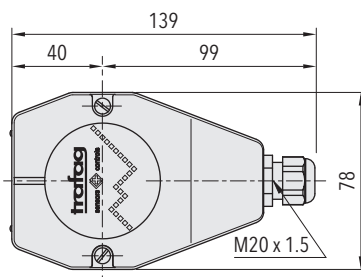
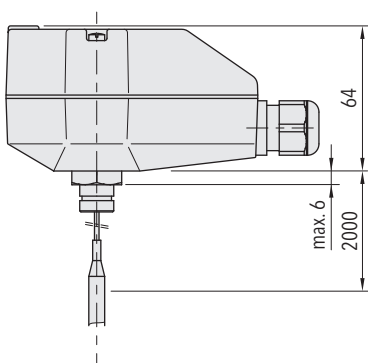
| Specifications | | |
|---------------------------------|--------------------------|---|
| Accuracy | Repeatability | ± 0.5 % FS typ. |
| | Scale accuracy typ. | ± 2 % FS typ. |
| | Switching differential | See table |
| Environmental conditions | Ambient temperature | Range ≤ +45°C: -30°C ... +50°C 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 |
| Mechanical Data | 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 |
| Microswitch | Rating | See table |
| | Resistance of insulation | > 2 MΩ |
| | Dielectric strength | 1.25 kV terminal ground |
| | Life time (mechanical) | 1 Mio. cycles |
| Electrical connection | Cable gland | M20x1.5 Cable-Ø 4...10 mm, max. cable length according to EN60079-11 |
| | Terminal screw | 3 x 1 ... 2.5 mm ² |

«Simple Apparatus» conformity to ATEX 414

Dimensions



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



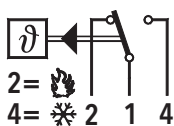
414.71.XX.XXX.XX.XX...

«Simple Apparatus» conformity to ATEX 414

| 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 | | | | |
| Microswitch 71: | [°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 | www.trafag.com/H72183 |
| | Instructions | www.trafag.com/H73173 |
| | Flyer | www.trafag.com/H70971 |