

TAM813

## Technical data

| Body | Diecast aluminium GD Al |
| :--- | :--- |
|  | Si 12 according to |

Mounting position Any, preferably vertical
Max. ambient
temperature at switching device

| Capillary tube | Cu capillary tube, |
| :--- | :--- |
|  | 1.5 m long |
|  | Other capillary tube |
|  | lengths are not possible |

Sensor cartridge $8 \mathrm{~mm} \emptyset, 100 \mathrm{~mm}$ long, material: Cu
Contact
arrangement
Switching
capacity
Degree of
protection

Mounting Temperature sensor with or without immersion tube in containers, air ducts etc.
Switching device with 2 screws (Ø 4) directly on a flat wall surface

Calibration Scale value corresponds to the lower switching point (with falling temperature), the upper switching point is higher by the amount of the switching differential

Plug connection Via angled plug to DIN EN175301

Switching temperature

Switching differential

Adjustable via the setting spindle with a screwdriver

Not adjustable

## TAM

## Capillary tube thermostats with 1.5 m capillary tube

The sensor cartridge at the end of the capillary tube is the actual active (temperature-sensitive) part of the sensor. Changes in temperature on the capillary tube have no effect on the
switching point. Pressure-tight installation of the sensor in pressure vessels of all kinds is possible with the aid of an immersion well.

SIL 2 according IEC 61508-2

## SH2 SARETM

## Product Summary

| Type | Setting range | Switching <br> differential <br> (mean values) | Max. permissible <br> temperature <br> at sensor |
| :--- | :---: | :---: | :---: |
| TAM022 | -20 to $+20^{\circ} \mathrm{C}$ | 1.5 K | $110^{\circ} \mathrm{C}$ |
| TAM150 | +10 to $+50^{\circ} \mathrm{C}$ | 1.5 K | $110^{\circ} \mathrm{C}$ |
| TAM490 | +40 to $+90^{\circ} \mathrm{C}$ | 2.0 K | $125^{\circ} \mathrm{C}$ |
| TAM813 | +80 to $+130^{\circ} \mathrm{C}$ | 2.0 K | $150^{\circ} \mathrm{C}$ |

-TAM see page 119

## Accessories

Immersion tube type ... R 1, R 2, R 3, RN 1, RN 2, see page 157.

## Dimensioned drawing (mm)




Switching temperature (large screw)


Switching differential (small screw)


## Adjustment of thermostats at lower switching point

Setpoint $x$ s corresponds to the lower switching point (with falling temperature), the upper switching point $x^{\circ}$ (with rising temperature) is higher by the amount of the switching differential $\mathrm{x}^{\mathrm{d}}$.

Setting the switching temperature (setpoint adjustment)
Prior to adjustment, the setscrew above the scale must be loosened by approx. 2 turns and retightened after setting.
The switching temperature is set via the spindle. The set switching temperature is shown by the scale.
In view of tolerances and variations in the characteristics of sensors and springs, and due to friction in the switching kinematics, slight discrepancies between the setting value and the switching point are unavoidable. The thermostats are usually calibrated in such a way that the setpoint adjustment and the actual switching temperature correspond as closely as possible in the middle of the range. Possible deviations spread to both sides equally.

## Clockwise: low switching temperature

## Anticlockwise: high switching temperature

Changing the switching differential (only for switching device TRMV...)
The switching differential is changed by turning the setscrew within the spindle. The lower switching point is not changed by the differential adjustment; only the upper switching point is shifted by the differential. One turn of the differential screw changes the switching differential by about $1 / 2$ of the total differential range.
When adjusting please note:
Switching temperature: Clockwise for lower switching point.
Anticlockwise for higher switching point.
Switching differential: Clockwise for larger differential. Anticlockwise for smaller differential.

## Electrical connection

Plug connection to DIN EN175301. Cable entry Pg 11, max. cable diameter 10 mm . Cable outlet possible in 4 directions spaced $90^{\circ}$ apart.

## Temperature limiter with reclosing lockout

Additional function ZFT205 and ZFT206: All thermostats can be equipped with a mechanical interlock. On reaching the value set on the scale, the microswitch trips over and remains in this position.
The lock can be released by pressing the unlocking button (identified by a red dot on the scale side of the switching device). The interlock can take effect with rising or falling temperature, depending on the version.

## Mounting position

A vertical mounting position is preferable if at all possible. IP 54 protection is guaranteed with a vertical mounting position. A different mounting position may alter the protection class, but the operation of the thermostat is not affected.

## Outdoor installation of thermostats

FEMA thermostats can be installed out of doors provided they are mounted vertically and suitably protected against the direct effects of weather. At ambient temperatures below $0^{\circ} \mathrm{C}$, ensure that condensation cannot occur in the sensor or in the switching device.

## Mechanical thermostats

## Principal technical data

|  | Standard version |  |
| :--- | :--- | :--- |



Room
sensor TRM


Capillary tube sensor TAM


Rod sensor TX+R10


Air duct sensor TX+R6

## Mechanical thermostats

## Principal technical data



| Plug connection | Description |
| :--- | :--- |
| 200 series |  |


|  | Standard version <br> Microswitch, single pole switching |  |
| :---: | :---: | :---: |
| ZFT213 | Gold-plated contacts <br> with low contact resistance <br> (e. g. for low voltage) <br> Adjustable switching diff. is not available |  |
| ZFT301 | Terminal connection housing (IP 65) |  |
| ZFT351 | Protection class IP 65 and switch housing with surface protection (terminal connection housing) |  |
| ZFT513 | Ex-i-version <br> 500 housing, blue cable entry and terminal connection Gold-plated contacts, protection class IP 65 ATEX-Approval: please see page 10-13 |  |
|  | Power supply circuit: <br> $U_{i} \quad 24$ V DC <br> $\mathrm{I}_{\mathrm{i}} \quad 100 \mathrm{~mA}$ <br> $\mathrm{C}_{\mathrm{i}} \quad 1 \mathrm{nF}$ <br> $\mathrm{L}_{\mathrm{i}} \quad 100 \mu \mathrm{H}$ |  |

[^0]For devices which differ from the standard equipment, the code of the switching device is part of the type designation.
${ }^{* *}$ Switching point adjustment: Please specify switching point and direction of action (rising or falling temperature).
Example for ordering:


## Service functions

Devices with service functions will be produced individually according to the customer's specifications. The system requires that these product combinations be identified in such a way as to prevent any possibility of confusion. These combinations are characterised by a product code with the suffix "-S" on the packaging label as well as separate labels with barcodes for each service function.

## Service functions

| ZFT5970 | Setting of switching point according to customer's instructions |
| :--- | :--- |
| ZFT5971 | Setting of switching points according to customer's instructions with lead sealing |
| ZFT1978 | Labelling of units according to customer's instructions with sticker |
|  | Test certificates according to EN 10 204 |
| WZ2.2 | Factory certificate 2.2 based on non-specific specimen test |
| AZ3.1B1 | Acceptance test certificate 3.1 based on specific test |

** Switching point adjustment: Please specify switching point and direction of action (rising or falling pressure). Service functions are available for the following type series (including Ex-versions):
Thermostats: TAM, TX, TRM,
Ordering devices with service functions: See page 33.

## Mouser Electronics

Authorized Distributor

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Honeywell:
TAM490 TAM150-301 TAM150-305 TAM150-351 TAM490-205 TAM813 TAM813-563 TAM022-513 TAM022351 TAM150-213 TAM813-205 TAM022 TAM490-351 TAM490-305 TAM490-301 TAM490-213 TAM022-206 TAM490-513 TAM150 TAM022-301 TAM813-313 TAM022-306 TAM813-351 TAM813-513 TAM813-305 TAM813301 TAM150-513 TAM150-205 TAM150-206


[^0]:    * Additional prices are to be added to the standard equipment prices in each case.

