

- Adjustable switching temperature
- Approvals include VDE, BEAB, IMQ and UL recognised
- Applications include control of boilers, washing equipment, industrial and domestic heating, air conditioning

Control Thermostats

- Changeover (SPDT) contacts enable use for both heating and cooling applications
- Supplied with knob and mounting bezel

Safety Limit Stats

- Available with either SPST or SPDT contacts
- Applications where a maximum safety temperature must not be exceeded

Capillary thermostats operate from a remote liquid-filled sensing bulb through a one metre length of capillary tube. Safety thermostats have a temperature limiter with manual reset and positive cut-off activated if the capillary breaks.

| | | | |
|----------------------|--------------|-------------------------------|--------------------|
| Max head temperature | 150°C | Contact rating | 15 (2.5)A, 250V ac |
| Capillary length | 1000mm | | 10A, 380V ac |
| Temp. rate of charge | 1°K/min | Min. capillary bending radius | 5mm |
| Contacts | SPDT, silver | Spindle rotation | 270° |

| Temp. Range | Temp. Differential Δt | Max. Bulb Temp. | Copper Bulb Dia. L | Order Code |
|-----------------|-----------------------|-----------------|--------------------|------------|
| -30°C to +35 °C | 1.5 ± 0.5°K | 65°C | 6 x 215 | 732-631 |
| 0°C to +40 °C | 2 ± 1°K | 65°C | 9.5 x 95 | 732-643 |
| 0°C to +90 °C | 4 ± 1°K | 150°C | 6.5 x 95 | 560-248 |
| 0°C to +120 °C | 4 ± 1°K | 150°C | 6.5 x 95 | 560-250 |
| 0°C to +210 °C | 9 ± 2°K | 270°C | 5 x 136 | 732-655 |
| 0°C to +300 °C | 10 ± 2°K | 350°C | 3.5 x 195 | 732-667 |

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| Switching Temp. Range | Control Thermostats | Order Code | Price Each | | |
|---------------------------------|---------------------|----------------|------------|----------|----------|
| | | | 1+ | 10+ | 50+ |
| -30°C to +35 °C | | 732-631 | 1,424.00 | 1,363.00 | 1,316.00 |
| 0°C to +40 °C | | 732-643 | 1,601.00 | 1,534.00 | 1,481.00 |
| 0°C to +90 °C | | 560-248 | 1,390.00 | 1,323.00 | 1,261.00 |
| 0°C to +120 °C | | 560-250 | 1,242.00 | 1,153.00 | 1,098.00 |
| 0°C to +210 °C | | 732-655 | 1,336.00 | 1,219.00 | 1,136.00 |
| 0°C to +300 °C | | 732-667 | 1,336.00 | 1,219.00 | 1,136.00 |
| Safety Limit Thermostats | | | | | |
| +90°C to +110 °C, SPST | | 732-679 | 1,328.00 | 1,283.00 | 1,213.00 |
| +90°C to 110 °C, SPDT | | 732-680 | 1,328.00 | 1,283.00 | 1,213.00 |

Humidity and Temperature Sensors

Humidity and Temperature Sensmitter



SHT11/15/71/75



- SHT 71/75**
- Relative humidity & temperature
 - Precise dew point calculation
 - Individually calibrated
 - Fully interchangeable, no recalibration
 - Ultra fast response time
 - Excellent long term stability
 - Pin-Type Package (pluggable)
 - Thermally isolated
 - For High-End applications

SHT 71 & 51
H = 3.1, W = 5.08, D = 19.5mm



- SHT 11/15**
- Relative humidity & temperature
 - Precise dew point calculation
 - Fully calibrated
 - Ultra fast response time
 - Excellent long term stability
 - Fully immersible
 - Digital 2-wire interface
 - Ultra small size
 - Cost-effective

SHT 11 & 15
H = 3.1, W = 5.08, D = 7.62mm



- SF1**
- Low cost filter solution
 - Provides IP67 protection for SHT11 & SHT15
 - Facilitates mounting of SHT11 & SHT15
 - 99.99% filtration efficiency @ 0.05 m/s air velocity
 - Response time of 30s in slow moving air

SF1
H = 8.2, W = 9.38, D = 10.12mm

Relative Humidity (RH)

| | |
|------------------|---|
| Range: | 0 to 100 % RH |
| Accuracy: | ±3.5 % RH (SHT11 / 71) ±2% RH (SHT15 / 75) |
| Response time: | ≤4 sec. |
| Reproducibility: | ±0.1 % RH |
| Resolution: | 0.03 % RH |

Temperature (T)

| | |
|-----------------------|----------------|
| Range: | -40 to 120 °C |
| Accuracy: | ±0.5 °C @ 25°C |
| Reproducibility: | ±0.1 °C |
| Resolution: | 0.01 °C |
| Operating temperature | -40°C to 120°C |

Electrical Data

| | |
|----------------------|--|
| Power consumption | Typ. 30 μW (@ 5V, 12-bit, measure every 2 sec.) Typ. 1 μW (@ 2.4V, 8-bit, measure every 2 min.) |
| Supply voltage range | 2.4 to 5.5 V |
| Input current | |
| During measurement | 0.5 mA |
| In standby | ≤0.3 μA |

| Type | Mfrs.List No. | Order Code |
|-------------------------------------|---------------|------------|
| SMT. Standard | SHT11 | 391-3065 |
| SMT. High accuracy | SHT15 | 413-0674 |
| 4-pin single-in-line. Standard | SHT71 | 413-0686 |
| 4-pin single-in-line. High accuracy | SHT75 | 413-0698 |

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| Mfrs. List No. | Order Code | 1+ | 10+ | 25+ |
|----------------|-----------------|----------|----------|----------|
| SHT11 | 391-3065 | 1,051.00 | 998.00 | -- |
| SHT15 | 413-0674 | 1,337.00 | 1,255.00 | 1,198.00 |
| SHT71 | 413-0686 | 1,337.00 | 1,255.00 | 1,198.00 |
| SHT75 | 413-0698 | 1,541.00 | 1,447.00 | 1,399.00 |
| Filter Cap SF1 | 750-0725 | 205.00 | 196.00 | 197.00 |

Humidity Sensors

Resistive Sensor and Module, 20-100% RH Range



- Sensor measures up to 100% relative humidity
- Can be used in conditions liable to dew condensation
- Module is temperature compensated
- Module is easy to install and connect.

Sensor: H = 15, W = 12, D = 4.5, Leads = 24, Lead pitch = 5

Module: L = 35, W = 20, H = 75 (above PCB), Mounting hole dia = 3.2

The module incorporates the 732-837 sensor to give a ready-to-use unit. Resistance of the sensor decreases with increasing RH. Output voltage of the module (1.5V to 3.1Vdc) corresponds linearly to RH (25 to 100%)

| Sensor/Module | Operating humidity range | Operating temperature range | Measurement accuracy | Module Working voltage | Storage temperature | Storage humidity | Measurement range | Current | Output voltage |
|----------------------------|--------------------------|-----------------------------|----------------------|------------------------|---------------------|------------------|-------------------|----------|----------------|
| | 10% to 100% RH | 0°C to +50°C | ±5% RH | 5.0 ± 0.2Vdc | -40°C to +85°C | 0 to 100% RH | 25 to 100% RH | 2mA max. | 1.5 to 3.1 V |
| Sensor | | | | | | | | | |
| Drive voltage, rated power | 1Vac, 0.3mW | | | | | | | | |
| Measuring frequency | 50Hz to 1kHz | | | | | | | | |
| Impedance (25°C, 50% RH) | 60KΩ±30KΩ | | | | | | | | |

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| | Order Code | 1+ | 10+ | 25+ | 100+ | + |
|--------|-----------------|----------|----------|--------|--------|----|
| Sensor | 732-837 | 336.00 | 282.00 | 247.00 | 240.00 | -- |
| Sensor | 122-6685 | 336.00 | 282.00 | 247.00 | 226.00 | -- |
| Module | 732-849 | 1,272.00 | 1,065.00 | 935.00 | 831.00 | -- |
| Module | 122-6686 | 1,272.00 | 1,065.00 | 935.00 | 782.00 | -- |

Capacitive with Signal Conditioning



(c) TO-39: H=4.6, Dia.=8.3, 6-pin
(d) TO-5: H=6.6, Dia.=8.3, 6-pin

- Linear voltage output response to %RH change
- Stable, low drift performance
- Laser trimmed interchangeability
- Chemically resistant
- High accuracy
- Metal can packages available with options of thermally connected temperature sensor
- Fast response

Capacitive relative humidity sensor with integrated signal conditioning. Sensor consists of a planar capacitor with a second polymer layer for protection against dust, dirt, oils and other hazards. Applications include refrigeration, drying, meteorology and battery powered systems.

| | |
|-----------------------|---|
| Accuracy | ±2%RH RH @ 0 to 100% RH non-condensing |
| Voltage supply | 4 to 9V dc, Reference 5V dc |
| Voltage output (typ.) | 0.8 to 3.9V dc @ 25°C |
| Operating humidity | RH non-condensing |
| Operating temperature | -40°C to 85°C |
| Linearity (typ.) | ±0.5% RH |
| Repeatability | ±0.5 of span |
| Hysteresis (max.) | ±0.8% RH |
| Integral sensor | HIH-3602-A: NTC thermistor 100kΩ @ 25°C HIH-3602-C: Platinum RTD 1kΩ @ 0°C |

Mfrs. List Nos: HIH-3602-A=723-4650 HIH-3602-C=723-4661 HIH-3602-L=723-4648

Sensors & Transducers

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Compliant Non-compliant
+ Limited stock - RoHS replacement available

RoHS