

# PRODUCT CATALOGUE 2016



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## HEATING TECHNOLOGY

### RTBSB-001 RANGE - Mechanical Room Temperature Controllers

### Surface Mounted Installation

| Model           | List £ | Control Range | Equipment                          |
|-----------------|--------|---------------|------------------------------------|
| RTBSB-001.000   | £26.53 | 5...30°C      | Mechanical range limitation        |
| RTBSB-001.002   | £30.59 | 5...30°C      | ECO function                       |
| RTBSB-001.010   | £33.96 | 5...30°C      | Mechanical range limitation        |
| RTBSB-001.026   | £41.38 | 5...30°C      | On/Off switch                      |
| RTBSB-001.045   | £36.23 | -20...30°C    | Mechanical range limitation        |
| RTBSB-001.048   | £36.23 | 10...60°C     | Mechanical range limitation        |
| RTBSB-001.050   | £44.35 | 5...30°C      | Heating display and on/off switch  |
| RTBSB-001.062   | £36.23 | 5...30°C      | ECO, Heating display and on/off    |
| RTBSB-001.065   | £38.41 | 5...30°C      | Heating / cooling switch           |
| RTBSB-001.075   | £42.27 | 5...30°C      | ECO function and reduction display |
| RTBSB-001.086   | £29.90 | 5...30°C      | 3000W switching power              |
| RTBSB-001.096   | £34.65 | 5...30°C      | As above with heating display      |
| RTBSB-001.110   | £38.41 | 5...30°C      | Mechanical range limitation        |
| RTBSB-001.202   | £33.76 | 5...30°C      | ECO function                       |
| RTBSB-001.210   | £40.49 | 5...30°C      | Mechanical range limitation        |
| RTBSB-001.500   | £29.50 | 5...30°C      | 2-wire room temp controller        |
| RTBSB-001.910   | £37.52 | 5...30°C      | ECO function, internal setting     |
| RTBSB-001.910/2 | £40.49 | 5...30°C      | ECO function, internal setting     |
| RTBSB-001.948/1 | £42.87 | 10...60°C     | Internal setting                   |



For the control or monitoring of temperatures in closed spaces. Suitable for all heating systems. Valve actuator: normally closed type. Operating Voltage: 250 v~/50/60 Hz. IP30 Protection Rating.

### RTBSB-201 RANGE - Mechanical Room Temperature Controllers

### Surface Mounted Superflat Installation

| Model            | List £ | Control Range | Equipment                         |
|------------------|--------|---------------|-----------------------------------|
| RTBSB-201.000    | £28.91 | 5...30°C      | Mechanical range limitation       |
| RTBSB-201.000/08 | £29.50 | 5...30°C      | Multi-digit display               |
| RTBSB-201.002    | £32.97 | 5...30°C      | ECO function                      |
| RTBSB-201.002/07 | £33.56 | 5...30°C      | Multi-digit display               |
| RTBSB-201.010    | £36.23 | 5...30°C      | Mechanical range limitation       |
| RTBSB-201.012    | £39.01 | 5...30°C      | ECO function                      |
| RTBSB-201.034    | £31.88 | 5...30°C      | Heating display                   |
| RTBSB-201.062    | £38.02 | 5...30°C      | ECO, Heating display and on/off   |
| RTBSB-201.065    | £40.79 | 5...30°C      | Heating / cooling switch          |
| RTBSB-201.065/02 | £41.38 | 5...30°C      | As above with multi-digit display |
| RTBSB-201.075    | £44.55 | 5...30°C      | Reduction switch, heating display |
| RTBSB-201.202    | £35.94 | 5...30°C      | ECO function                      |
| RTBSB-201.500    | £32.08 | 5...30°C      | 2-wire room temp controller       |



For the control or monitoring of temperatures in closed spaces. Valve actuator: normally closed type. Operating Voltage: 250 v~/50/60 Hz. IP30 Protection Rating.

## HEATING TECHNOLOGY

### RTBSB RANGE - Mechanical Room Temperature Controllers

### Surface Mounted or Plug-In Installation

| Model         | List £        | Control Range | Equipment                         |
|---------------|---------------|---------------|-----------------------------------|
| RTBSB-001.401 | <b>£44.85</b> | 5...30°C      | 3000W, multi-digit display        |
| RTBSB-001.411 | <b>£58.81</b> | 5...30°C      | 3000W, multi-digit display        |
| RTBSB-001.474 | <b>£68.41</b> | 5...30°C      | Heating display and on/off switch |

For the control or monitoring of temperature for radiators, heating chimneys, direct electric heating systems etc. **Attention! For loads >2,300 W, the wall socket must be designed for 16 A** (danger of fire). Operating Voltage: 250 v~/50/60 Hz. IP30 Protection Rating.

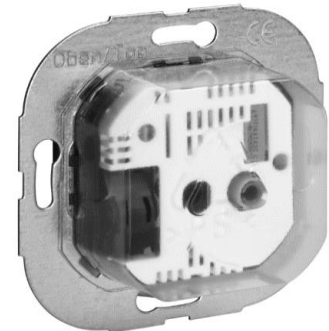


### FTR RANGE - Mechanical Room Temperature Controllers

### Flush-Mounted Installation

| Model           | List £        | Control Range | Equipment                         |
|-----------------|---------------|---------------|-----------------------------------|
| FTR 101.000 #00 | <b>£41.78</b> | 5...30°C      | External setting no frame         |
| FTR 101.000 #21 | <b>£52.97</b> | 5...30°C      | As above with frame               |
| FTR 101.002 #00 | <b>£45.84</b> | 5...30°C      | Eco function no frame             |
| FTR 101.002 #21 | <b>£57.02</b> | 5...30°C      | As above with frame               |
| FTR 101.010 #00 | <b>£53.16</b> | 5...30°C      | Eco function no frame             |
| FTR 101.010 #21 | <b>£64.35</b> | 5...30°C      | As above with frame               |
| FTR 101.034 #07 | <b>£53.36</b> | 5...30°C      | Heating display no frame          |
| FTR 101.052 #21 | <b>£65.34</b> | 5...30°C      | As above with frame               |
| FTR 101.062 #00 | <b>£54.35</b> | 5...30°C      | Heating display, on/off, no frame |
| FTR 101.062 #21 | <b>£66.63</b> | 5...30°C      | As above with frame               |
| FTR 101.065 #00 | <b>£58.41</b> | 5...30°C      | Heating cooling switch, no frame  |
| FTR 101.065 #21 | <b>£70.29</b> | 5...30°C      | As above with frame               |
| FTR 101.075 #00 | <b>£57.02</b> | 5...30°C      | Eco function no frame             |
| FTR 101.075 #21 | <b>£69.30</b> | 5...30°C      | As above with frame               |
| FTR 101.086 #00 | <b>£46.33</b> | 5...30°C      | 3000W switching power             |
| FTR 101.086 #21 | <b>£57.52</b> | 5...30°C      | As above with frame               |
| FTR 101.202 #00 | <b>£51.18</b> | 5...30°C      | Eco function no frame             |
| FTR 101.202 #21 | <b>£62.47</b> | 5...30°C      | As above with frame               |
| FTR 101.210 #00 | <b>£58.71</b> | 5...30°C      | Eco function no frame             |
| FTR 101.262 #00 | <b>£59.70</b> | 5...30°C      | Heating display, on/off, no frame |
| FTR 101.262 #21 | <b>£73.36</b> | 5...30°C      | As above with frame               |
| FTR 101.902 #07 | <b>£55.24</b> | 5...30°C      | Eco function , internal setting   |

For control of monitoring of temperatures in closed, dry spaces. Suitable for all heating systems.. Valve actuator: normally closed type. Cover sets available see page 42. Operating Voltage: 230v~50 Hz.



## HEATING TECHNOLOGY

### HTRTB RANGE - Electronic Room Temperature Controllers

### Surface Mounted Superflat Installation

| Model          | List £        | Control Range | Equipment   |
|----------------|---------------|---------------|-------------|
| HTRTB--210.100 | <b>£58.01</b> | 5...30°C      | 230 V, 65mA |
| HTRTB--250.100 | <b>£54.55</b> | 5...30°C      | 24 V, 600mA |

This room temperature controller which is specifically designed for temperature control and monitoring in offices, homes and hotels, can be connected directly to the valve actuators for hot water heating systems. 50Hz.



### HTRRBu RANGE - Electronic Room Temperature Controllers with Timers

### Surface Mounted Installation

| Model             | List £         | Control Range | Equipment                         |
|-------------------|----------------|---------------|-----------------------------------|
| HTRRBu-110.117/21 | <b>£136.72</b> | 5...30°C      | With clock and temp. setting knob |
| HTRRBu-110.121/21 | <b>£159.49</b> | 5...30°C      | As above with backlight           |

For time-dependent control of temperatures in closed spaces. Suitable for all heating systems. It can be used as a master (pilot regulator) for temperature reduction of other controller including FETR, FTR and RTBSB. Operating Voltage: 230v~50 Hz.



### HTRRUu RANGE - Electronic Room Temperature Controllers with Timers

### Flush-Mounted Installation

| Model               | List £         | Control Range | Equipment                       |
|---------------------|----------------|---------------|---------------------------------|
| HTRRUu 210.021#21   | <b>£161.27</b> | 5...30°C      | 50x50mm pure white glossy frame |
| HTRRUu 210.021#21/7 | <b>£178.89</b> | 5...30°C      | As above external floor setting |
| HTRRUu 210.021#07   | <b>£158.20</b> | 5...30°C      | As above without frame          |
| HTRRUu 210.021#09   | <b>£158.20</b> | 5...30°C      | 50x50mm without frame           |
| HTRRUu 210.021#27   | <b>£158.20</b> | 5...30°C      | As above                        |
| HTRRUu 210.021#28   | <b>£159.49</b> | 5...30°C      | As above                        |
| HTRRUu 210.021#55   | <b>£159.49</b> | 5...30°C      | 55x55mm without frame           |
| HTRRUu 210.021#56   | <b>£159.49</b> | 5...30°C      | As above                        |
| HTRRUu 210.021#57   | <b>£159.49</b> | 5...30°C      | As above                        |
| HTRRUu 210.021#59   | <b>£159.49</b> | 5...30°C      | As above                        |

Controller for time-dependent single room or floor temperature control for electrical and hot water heating systems (normally closed actuators). The device can be used as a room temperature controller or, in combination with an optional remote sensor, also as a room temperature controller with floor monitoring or floor temperature controller. Controller has self-learning function with automatic adjustment to the start of the heating period, and an off function to disable the control with frost protection is still ensured. Operating Voltage: 230V ~ 50 Hz.

Cover sets available on page 42. See page 30 for sensors to suit including HF-8/4-K2 and pages 38 - 40 for accessories JZ-090.910, and THF.





## HEATING TECHNOLOGY

### HTRRB RANGE - Electronic Temperature Controllers with Remote Sensors

#### Surface-Mounted Installation

| Model         | List £  | Control Range | Equipment                              |
|---------------|---------|---------------|--|
| HTRRB-011.010 | £97.61  | 10...42°C     | Floor control with multi digit display |
| HTRRB-011-410 | £138.60 | 10...60°C     | As above                               |
| HTRRB-010.310 | £97.61  | 20...80°C     | Tiled stove surface controller         |



Temperature control for electrical floor or surface heating systems. E.g. for floor, fringe zone, bathroom, ceiling, tiled stove, marble and wall heating or temperature systems. Operating Voltage: 230v-50 Hz.

See page 30 for sensors to suit including HF-8/4K2, HF-5/4K3 and page 38 for THF.

### HTRRBu RANGE - Electronic Temperature Controllers with Timer and Remote Sensors

#### Surface-Mounted Installation

| Model           | List £  | Control Range | Equipment                              |
|-----------------|---------|---------------|--|
| HTRRBu- 110.017 | £185.43 | 10...42°C     | Floor control with multi digit display |
| HTRRBu- 110.021 | £207.70 | 10...42°C     | Tiled stove surface controller         |



Time dependent temperature control for electrical floor or surface heating systems. E.g. for floor, fringe zone, bathroom, ceiling, tiled stove, marble and wall heating or temperature systems. It can be used as a master for the temperature reduction of other controllers (FETR, FTR and RTBSB). Operating Voltage: 230v-50 Hz.

See page 30 for sensors to suit including HF-8/4K2, HF-8/6K2 and page 38 for THF.

### HTRRBu RANGE - Electronic Temperature Controllers with Timer and Floor Monitoring

#### Surface-Mounted Installation

| Model          | List £  | Control Range | Equipment                  |
|----------------|---------|---------------|----------------------------|
| HTRRBu-110.122 | £192.46 | 5...30°C      | HF-8 sensor included       |
| HTRRBu-110.123 | £214.63 | 5...30°C      | As above with backlighting |



Time dependent temperature control for electrical floor or surface heating systems. E.g. for floor, fringe zone, bathroom, ceiling, tiled stove, marble and wall heating or temperature systems. It can be used as a master for the temperature reduction of other controllers (FETR, FTR and RTBSB). Operating Voltage: 230v-50 Hz.

See page 30 for sensors to suit including HF-8/4K2, HF-8/6K2 and page 38 for THF.

### FETR RANGE - Electronic Temperature Controllers with Remote Sensors

#### Flush-Mounted Installation

| Model            | List £  | Control Range | Equipment                            |
|------------------|---------|---------------|--------------------------------------|
| FETR 101.700 #07 | £144.44 | 10...60°C     | Floor control, int. setting          |
| FETR 101.715 #00 | £127.41 | 10...50°C     | Floor control, ext. setting + on/off |
| FETR 101.715 #21 | £141.67 | 10...50°C     | As above with frame                  |
| FETR 101.716 #00 | £127.41 | 0...42°C      | Floor control, ext. setting + on/off |
| FETR 101.716 #21 | £141.67 | 0...42°C      | As above with frame                  |
| FETR 101.745 #00 | £151.17 | 5...30°C      | Room control, ext. setting + on/off  |
| FETR 101.745 #21 | £165.43 | 5...30°C      | As above with frame                  |



Temperature control for electrical floor or surface heating systems. E.g. for floor, fringe zone, bathroom, ceiling, tiled stove, marble, wall heating or tempering systems and direct floor heating systems.

See pages 30 for sensors to suit including HF-8/4K2, HF-8/6K2 and page 38 for THF.

## HEATING TECHNOLOGY

### FKRFB / FTRFB RANGE - Radio Controlled Heating Transmitter

| Model             | List £         | Control Range | Equipment                          |
|-------------------|----------------|---------------|------------------------------------|
| FKRFB-080.151     | <b>£83.26</b>  | 5...20°C      | Transmitter for switching to ECO   |
| FTRFB-080.101     | <b>£77.42</b>  | 5...20°C      | Transmitter acquiring room temp.   |
| FTRFB-080.119     | <b>£80.49</b>  | 5...30°C      | Mechanical external range setting  |
| FTRFB-080.120     | <b>£88.01</b>  | 5...30°C      | As above.                          |
| FTRFB-280.101     | <b>£82.07</b>  | 5...30°C      | Transmitter acquiring room temp.   |
| FTRFB-280.119     | <b>£85.14</b>  | 5...20°C      | Mechanical external range setting  |
| FTRFB-280.120     | <b>£92.76</b>  | 5...30°C      | Mechanical external range setting  |
| FTRFBu-180.117/V2 | <b>£150.98</b> | 5...30°C      | Digital display mechanical setting |
| FTRFBu-180.121/V2 | <b>£173.84</b> | 5...30°C      | As above with backlighting         |
| FTRFUd-210.123#07 | <b>£209.39</b> | 5...30°C      | flush mounted digital display      |



Radio-controlled room temperature sensor for measuring temperature in home, office and hotel spaces. A single room temperature control can be implemented when using radio receivers. Primarily targets use in renovation applications or for heating system extensions. Operating Voltage: 230v~50 Hz loads up to 3000W.

JZ-18 - Snap on daptor plate for universal installation (controller can be removed) - see page 40

### HTF RANGE - Radio Controlled Heating Receiver

| Model         | List £         | Control Range | Equipment                           |
|---------------|----------------|---------------|-------------------------------------|
| HTFMA-180.161 | <b>£102.17</b> | 8...28°C      | Controller for radiator valves      |
| HTFRA-010.101 | <b>£128.80</b> | 5...30°C      | 1 channel, 3000W switching power    |
| HTFRB-010.101 | <b>£101.08</b> | 5...30°C      | 1 channel, 3000W switching power    |
| HTFRU-010.101 | <b>£141.67</b> | 5...30°C      | 1 channel, central control          |
| HTFRU-110.124 | <b>£137.81</b> | 5...30°C      | 1 channel control for floor heating |
| HTFRL-214.140 | <b>£222.16</b> | 5...30°C      | 4 channel up to 8 measurements      |
| HTFRD-214.140 | <b>£247.10</b> | 5...30°C      | As above but IP 65                  |
| HTFRL-316.125 | <b>£257.80</b> | 5...30°C      | 8 channel up to 8 measurements      |
| HTFRD-316.125 | <b>£286.70</b> | 5...30°C      | As above but IP 65                  |



Wireless heating controllers (receivers) that realise a single room climate control in conjunction with alrea radio-controlled room transmitters. Primarily targets use in renovation applications or for heating systems extensions. Operating Voltage: 230v~50 Hz.

See page 30 for sensors to suit including HF-8/4K2, HF-8/6K2 and page 38 for THF.

## HEATING TECHNOLOGY

### ZBOOA RANGE - Electrothermal Valve Actuators

| Model         | List £        | Equipment                                       |
|---------------|---------------|---|
| ZBOOA-010.100 | <b>£22.77</b> | Operating Voltage 230v~50 Hz., Max. power 70W   |
| ZBOOA-040.100 | <b>£22.77</b> | Operating Voltage 24 VDC / VAC., Max. power 12W |

Valve actuators with extremely compact design. Can be fitted quickly and comfortably in any position thanks to slim design. Lateral drainage holes carry off any leakage water that from the valve plunger into the open, thus avoiding damage to the drive. Two additional viewing windows allow users to monitor the valve easily.



### VOOP Range - Terminal Strip for Heating Manifold

| Model         | List £         | Equipment                              |
|---------------|----------------|--|
| VOOPL-215.000 | <b>£58.91</b>  | Wiring up to 5 room thermostats, IP 20 |
| VOOPD-215.000 | <b>£93.36</b>  | As above but IP 65                     |
| VOOPL-318.000 | <b>£79.70</b>  | Wiring up to 8 room thermostats, IP 20 |
| VOOPD-318.000 | <b>£133.25</b> | As above but IP 65                     |

Wiring strip for heating controllers with or without ECO function, also for heating/ cooling controllers with integrated heating / cooling switch, and for use with "normally closed" valve actuators. If timer regulators are used, up to 3 master-slave time zones can be defined. As soon as a channel registers a heating request, the optional pump module is switched on. 230v~50 Hz.



### WUSRE Range - Plug in Pump Module for Terminal Strip

| Model         | List £        | Equipment                                    |
|---------------|---------------|--|
| WUSRE-212.100 | <b>£32.87</b> | Pump Module for Terminal Strip for 5-Channel |
| WUSRE-213.100 | <b>£36.83</b> | Pump Module for Terminal Strip for 8-Channel |

Plug-in pump module for use with terminal strip. The pump output of the terminal strip is activated by the pump module every time there is a heating or cooling request without a switch-on or switch-off delay. Energy saving device which only switches on when needed. 230v~50 Hz.





## AIR CONDITIONING TECHNOLOGY

### KTBSB & ETBSB RANGE - Mechanical Climate Controllers

#### Surface-Mounted Installation

| Model         | List £        | Control Range | Equipment                      |
|---------------|---------------|---------------|--------------------------------|
| ETBSB-113.500 | <b>£87.42</b> | 5...30°C      | Control heating pump directly  |
| KTBSB-111.070 | <b>£84.94</b> | 5...30°C      | Single room climate controller |
| KTBSB-112.000 | <b>£65.74</b> | 5...30°C      | 3-stage fan switch             |
| KTBSB-122.070 | <b>£89.79</b> | 5...30°C      | Single room climate controller |
| KTBSB-113.500 | <b>£86.63</b> | 5...30°C      | Heating and cooling display    |



For controls and monitoring of temperatures in closed, dry spaces. Remote control of air conditioners, climate chests, fan coil systems in living and office spaces and doctors' practices. Individual room optimisation in central air conditioning systems (hotels, hospitals etc.) Suitable for all heating systems. Operating Voltage: 230v~50/60 Hz.

JZ-17 - Adaptor plate for installation on a UP box (including fixing screws) - see page 40

### PTR RANGE - Mechanical Climate Controllers

#### Surface-Mounted Installation

| Model      | List £        | Control Range | Equipment                           |
|------------|---------------|---------------|-------------------------------------|
| PTR 01.082 | <b>£41.58</b> | 5...30°C      | 3 stage fan switch, heating/cooling |
| PTR 02.802 | <b>£43.19</b> | 15...30°C     | 4 stage fan switch, cooling display |



Control or monitoring of temperature in closed, dry spaces. Suitable for air conditioning systems (fan coils). Operating Voltage: 230 VAC~50 Hz

JZ-17 - Adaptor plate for installation on a UP box (including fixing screws) - see page 40

### KTRRB RANGE - Electronic Climate Controllers for Cooling Ceilings

#### Surface-Mounted Installation

| Model         | List £         | Control Range | Equipment                   |
|---------------|----------------|---------------|-----------------------------|
| KTRRB-040.112 | <b>£137.31</b> | 5...30°C      | Heating and cooling display |
| KTRRB-040.213 | <b>£140.68</b> | 13...29°C     | ECO cooling display         |
| KTRRB-042.211 | <b>£137.41</b> | 13...29°C     | Heating and cooling display |
| KTRRB-052.244 | <b>£145.43</b> | 13...29°C     | ECO cooling display         |
| KTRRB-052.245 | <b>£153.85</b> | 13...29°C     | ECO function                |



Temperature controller for cooling ceilings / walls and all kinds of hot water heaters on 2- and 4-pipe systems for hotels, offices and private homes. As the KTRRB features dew point monitoring, it is highly suited for controlling ceiling cooling systems. Operating Voltage: 24v~≈approx. 1VA

See page 11 for sensors, incl. TPS 1 and TPS 3.

## AIR CONDITIONING TECHNOLOGY

### KTRRU RANGE - Electronic Climate Controllers for Cooling Ceilings

#### Flush-Mounted Installation

| Model            | List £  | Control Range | Equipment                        |
|------------------|---------|---------------|----------------------------------|
| KTRRU-052.244#00 | £140.68 | 13...29°C     | 50x50mm adaptable with cover set |
| KTRRU-052.244#21 | £152.56 | 13...29°C     | As above with frame              |
| KTRRU-052.245#00 | £149.09 | 13...29°C     | Off / comfort / ECO switch       |
| KTRRU-052.245#21 | £161.37 | 13...29°C     | As above with frame              |

For heating / cooling control of 2- and 4-pipe systems used in hotels, homes and offices. The unit can control up to 5 valve actuators (24V normally closed) per output. Both the dew point sensor and the changeover sensor need to be ordered separately. Operating Voltage: 24v-50/60 Hz

See page 30 for sensors, incl. H/K sensor. JZ Cover sets available Page 42



### KTRRB RANGE - Electronic Climate Controllers

#### Surface-Mounted Installation

| Model         | List £  | Control Range | Equipment                           |
|---------------|---------|---------------|-------------------------------------|
| KTRRB-117.128 | £151.77 | 5...30°C      | Single room climate controller      |
| KTRRB-117.163 | £145.33 | 5...30°C      | As above without 3-stage fan switch |
| KTRRB-117.169 | £158.99 | 5...30°C      | Heating and cooling display         |

Single room temperature controller with neutral zone for 2-pipe or 4-pipe air conditioners. 24v--approx. 1VA

JZ-17 - Adaptor plate for installation on a UP box (including fixing screws) - see page 40



### KTRRUu RANGE - Electronic Climate Controllers with Timer

#### Flush-Mounted Installation

| Model            | List £  | Control Range | Equipment                      |
|------------------|---------|---------------|--------------------------------|
| KTRRUu217.456#21 | £199.68 | 5...40°C      | 50x50mm, glossy white, 230 VAC |
| KTRRUu217.456#07 | £196.71 | 5...40°C      | As above without frame         |
| KTRRUu217.456#09 | £196.71 | 5...40°C      | As above                       |
| KTRRUu217.456#27 | £196.71 | 5...40°C      | As above                       |
| KTRRUu217.456#28 | £198.00 | 5...40°C      | As above                       |
| KTRRUu217.456#55 | £198.00 | 5...40°C      | As above                       |
| KTRRUu217.456#56 | £198.00 | 5...40°C      | As above                       |
| KTRRUu217.456#57 | £198.00 | 5...40°C      | As above                       |
| KTRRUu217.456#59 | £198.00 | 5...40°C      | As above                       |
| KTRRUu257.456#21 | £199.68 | 5...40°C      | 50x50mm, glossy white, 24 VAC  |
| KTRRUu257.456#07 | £196.71 | 5...40°C      | As above without frame         |
| KTRRUu257.456#09 | £196.71 | 5...40°C      | As above                       |
| KTRRUu257.456#27 | £196.71 | 5...40°C      | As above                       |
| KTRRUu257.456#28 | £198.00 | 5...40°C      | As above                       |
| KTRRUu257.456#55 | £198.00 | 5...40°C      | As above                       |
| KTRRUu257.456#56 | £198.00 | 5...40°C      | As above                       |
| KTRRUu257.456#57 | £198.00 | 5...40°C      | As above                       |
| KTRRUu257.456#59 | £198.00 | 5...40°C      | As above                       |

Flush Mounted Controller with timer function for heating / cooling regulation of 2 - and 4 - pipe systems used in hotels, homes and offices. The adaptation take place in a menu. The unit can control up to 5 valve actuators (normally open or closed) per output. The timer can serve as a master for other controllers for switching to ECO mode. Operating Voltage: 230 / 24VAC-50/60 Hz

See page 11 for sensors TPS 1 and TPS 3. JZ Cover sets available Page 42



## AIR CONDITIONING TECHNOLOGY

### KTRVB RANGE - Continuous Electronic Climate Controllers

### Surface-Mounted Installation

| Model         | List £  | Control Range | Equipment                           |
|---------------|---------|---------------|-------------------------------------|
| KTRVB-040.209 | £97.71  | 13...29°C     | Heating / cooling switch, 2-pipe    |
| KTRVB-042.100 | £84.74  | 5...30°C      | Scale degrees Celsius, 4-pipe       |
| KTRVB-042.205 | £102.17 | 13...29°C     | ECO function, 4-pipe                |
| KTRVB-042.206 | £105.14 | 13...29°C     | ECO on/off display, 4-pipe          |
| KTRVB-042.207 | £90.09  | 13...29°C     | Without sensor, 4-pipe              |
| KTRVB-048.100 | £75.24  | 5...30°C      | Scale degrees Celsius, 2-pipe       |
| KTRVB-048.200 | £80.78  | 13...29°C     | Relative scale, 2-pipe              |
| KTRVB-052.244 | £145.43 | 13...29°C     | ECO function, 2 and 4-pipe          |
| KTRVB-052.245 | £153.85 | 13...29°C     | Heating/cooling display, 2-& 4-pipe |



Room temperature controller for continuous control of valve actuators. Controller for 2-pipe systems \_1-duct) 4-pipe systems (2-duct) and mixing chambers. Operating Voltage: 24 VAC~50Hz

For model 040.209 sensor LF-22 must be ordered separately (see page 31).

### WFRN & NEHR - Electronic Dew Point Monitor

### Standard Rail Mounting

| Model        | List £  | EQUIPMENT   |
|--------------|---------|---|
| WFRN-210.018 | £128.60 | As below with up to 5 sensors connected           |
| NEHR 24.401  | £125.73 | TPS sensors connected to sensor input in parallel |

For interrupting the cooling, when the relative atmospheric humidity exceeds approximately 98%. Sensors must be ordered separately (details below). Operating Voltage: 24v~ and 230 v~ 50/60 Hz



### TPS RANGE - Dew Point Sensors

| Model | List £ | EQUIPMENT   |
|-------|--------|---|
| TPS-1 | £47.52 | Cable length 10m. 2 clips for fixing of cooling mat |
| TPS-2 | £47.52 | Cable length 10m. 2 clips and 2 cable straps        |
| TPS-3 | £42.47 | Cable length 10m. 2 cable straps                    |

This dew point sensor has been developed in conjunction with the alre dew point monitor and cooling ceiling controller for the specific purpose of capturing and signalling the dew point. It thus prevents dripping condensation water from the cooling parts of the cooling circuit.



## AIR CONDITIONING TECHNOLOGY

### POOKB RANGE - Climate Controller Remote Controls

| Model         | List £        | EQUIPMENT                     |
|---------------|---------------|-------------------------------|
| POOKB-001.002 | <b>£30.10</b> | On / off switch               |
| POOKB-001.003 | <b>£34.95</b> | Heating / off/ cooling switch |

Remote control for air conditioning systems (e.g fan coils).

### Surface-Mounted Installation



### RFHSB, FHY & RKDSB - Mechanical Room Hydrostats / Hydro-thermostats

| Model           | List £         | Control Range    | Equipment           |
|-----------------|----------------|------------------|---------------------|
| FHY 101.060 #00 | <b>£102.66</b> | 35-85% humidity  | External setting    |
| FHY 101.060 #21 | <b>£113.95</b> | 35-85% humidity  | As above with frame |
| RFHSB-060.010   | <b>£94.55</b>  | 35-100% humidity | External setting    |
| RFHSB-060.011   | <b>£97.12</b>  | 35-100% humidity | As above with frame |
| RKDSB-171.000   | <b>£126.23</b> | 30-00% humidity  | External setting    |

This dew point sensor has been developed in conjunction with the alre dew point monitor and cooling ceiling controller for the specific purpose of capturing and signalling the dew point. It thus prevents dripping condensation water from the cooling parts of the cooling circuit. Switching Voltage: 24v~ 250v~

JZ-17 - Adaptor plate for installation on a UP box (including fixing screws) - see page 40

### Surface-Mounted Installation



### KTFRD & KTFRL - Radio Controlled Heating / Cooling Receiver

| Model         | List £         | Control Range | Equipment                     |
|---------------|----------------|---------------|-------------------------------|
| KTFRD-213.140 | <b>£285.81</b> | 5...30°C      | IP65, 4 channels, pump output |
| KTFRD-315.125 | <b>£336.70</b> | 5...30°C      | IP65, 8 channels, pump output |
| KTFRL-213.140 | <b>£260.87</b> | 5...30°C      | IP20, 4 channels, pump output |
| KTFRL-315.125 | <b>£308.68</b> | 5...30°C      | IP20, 8 channels, pump output |

Radio receivers used to implement a single-room climate control in conjunction with alrea radio-controlled room temperature transmitters (see page 7). Functions: Heating, cooling with adjustable neutral zone; H/C changeover on site or via an external contact; on/off switching by contact frost protection function. Operating Voltage: 230VAC~50Hz

Accessories including JZ-24 and external antenna JZ-25 available - see page 41

### Surface-Mounted Installation



**MGCBB & FTRCUd RANGE - Radio Controlled Heating / Cooling Bidirectional**



| Model             | List £         | Control Range | Equipment                       |
|-------------------|----------------|---------------|---------------------------------|
| MGCBB-064.360     | <b>£292.25</b> | n/a           | Radio room temp. management     |
| FTRCUd-210.021#21 | <b>£229.68</b> | 5...30°C      | 50x50mm temp. sensor with timer |
| FTRCUd-210.021#07 | <b>£226.71</b> | 5...30°C      | As above without frame          |
| FTRCUd-210.021#09 | <b>£226.71</b> | 5...30°C      | As above without frame          |
| FTRCUd-210.021#27 | <b>£226.71</b> | 5...30°C      | As above without frame          |
| FTRCUd-210.021#28 | <b>£228.10</b> | 5...30°C      | As above without frame          |
| FTRCUd-210.021#55 | <b>£228.10</b> | 5...30°C      | 55x55mm without frame           |
| FTRCUd-210.021#56 | <b>£228.10</b> | 5...30°C      | As above                        |
| FTRCUd-210.021#57 | <b>£228.10</b> | 5...30°C      | As above                        |
| FTRCUd-210.021#59 | <b>£228.10</b> | 5...30°C      | As above                        |



Using the new b@home gate MGCBB-064.360, alre radio-controlled systems can be monitored and controlled over the internet or a WLAN/LAN. After completing the free registration process at the b@home gate system portal, users can operate the b@home gate system simply and intuitively via a smartphone app or a notebook/PC. This allows users to control, monitor and reprogram the temperature controls at any time and from any location, either for each individual room or centrally for all rooms. It is also possible to access the system without an Internet connection using the local WLAN/LAN network.

**VOORL RANGE - Terminal Strip for Heating Manifold**

| Model         | List £         | Equipment  |
|---------------|----------------|--|
| VOORL-215.008 | <b>£137.41</b> | Wiring up to 5 room thermostats and 10 actuators |
| VOORL-215.052 | <b>£148.70</b> | As above with additional pump module             |
| VOORL-318.008 | <b>£168.99</b> | Wiring up to 8 room thermostats and 16 actuators |
| VOORL-318.052 | <b>£181.27</b> | As above with additional pump module             |



This device is specifically designed for fixed wiring of 230 VAC single-room temperature controllers and the associated for fixed-location attachment. Switching between heating / cooling is per-formed via a central contract.

Suitable valve actuators ZBOOA-010.100 page 8 and JZ-24 fastening set page 41



## INDUSTRY TECHNOLOGY

### JET-30/31/32 RANGE - Industrial Room Thermostats

| Model  | List £         | Control Range | Equipment                            |
|--------|----------------|---------------|--------------------------------------|
| JET-30 | <b>£142.56</b> | 10...45°C     | External and internal setting        |
| JET-31 | <b>£139.26</b> | 10...45°C     | Internal setting, temp. monitor      |
| JET-32 | <b>£147.84</b> | -10...+40°C   | Internal setting, no contact pre-set |

For external or internal fitting (non-aggressive environment), as a thermostat for temperature control in industrial buildings, trade fair halls and air-inflated domes or as cooling protection in greenhouses. 2 separate setting ranges, heating and/or cooling. The JET-32 type is specifically pre-set and pre-wired for a **rain pipe heating system**. Switching Capacity: 24v-250v~ 150mA

### Capillary System - External Sensors



### JET-40/41/110/120 RANGE - Single-Stage Industrial Application Thermostats

| Model     | List £         | Control Range | Equipment                          |
|-----------|----------------|---------------|------------------------------------|
| JET-40    | <b>£100.72</b> | 0...35°C      | External setting, temp. controller |
| JET-40F   | <b>£94.38</b>  | 0...35°C      | Internal setting, temp. monitor    |
| JET-41    | <b>£100.72</b> | 0...70°C      | External setting, temp. controller |
| JET-41F   | <b>£94.38</b>  | 0...70°C      | Internal setting, temp. monitor    |
| JET-110R  | <b>£121.97</b> | -35...+35°C   | External setting, temp. controller |
| JET-110RF | <b>£130.55</b> | -35...+35°C   | Internal setting, temp. monitor    |
| JET-120R  | <b>£121.97</b> | 0...60°C      | External setting, temp. controller |
| JET-120RF | <b>£130.55</b> | 0...60°C      | Internal setting, temp. monitor    |

Control or monitoring of the temperature in the industrial domain in a non-aggressive environment, for example, for controlling heating or cooling systems in green houses, industrial and sports halls, air-inflated domes, cold storage and refrigeration rooms. JET-100 RF is particularly suitable as an external thermostat. Switching Capacity: 24v- 250v~ 150mA

### Capillary System - External Sensors



### JMT-211/212/411 RANGE - Multi-Stage Industrial Room Thermostats

| Model    | List £         | Control Range | Equipment                          |
|----------|----------------|---------------|------------------------------------|
| JMT-212  | <b>£161.04</b> | -15...+30°C   | External setting, temp. controller |
| JMT-212F | <b>£166.72</b> | -15...+30°C   | Internal setting, temp. monitor    |
| JMT-211  | <b>£161.04</b> | 10...15°C     | External setting, temp. controller |
| JMT-211F | <b>£166.72</b> | 10...15°C     | Internal setting, temp. monitor    |
| JMT-411  | <b>£265.85</b> | 10...55°C     | Internal setting, temp. monitor    |

Control of temperatures in industrial areas in a non-aggressive environment. 2- or 4-stage "heating or cooling" or "heating and cooling" with neutral zone. Switching Capacity: 24v-250v~ 150mA

### Capillary System - External Sensors



## INDUSTRY TECHNOLOGY

### PTR RANGE - Wet Room Thermostats / Double Thermostats

Bimetal

| Model         | List £         | Control Range | Equipment                        |
|---------------|----------------|---------------|----------------------------------|
| PTR 40.000    | <b>£87.52</b>  | -20...+30°C   | Heating or cooling function      |
| PTR 40.000/01 | <b>£86.06</b>  | -20...+30°C   | As above without viewing window  |
| PTR 45.000    | <b>£100.85</b> | -20...+30°C   | Heat or cool / heating & cooling |



Control and monitoring of temperatures of certain open spaces, for example, driveways or damp rooms (greenhouses, sheds, warehouses, basements and garages etc.) as well as roof gutter heating. Switching Capacity: 250v~ 50/60 Hz

### JET-1 RANGE - Single-Stage Capillary Thermostats

| Model      | List £         | Control Range | Switching Difference / Sensor |
|------------|----------------|---------------|-------------------------------|
| JET-110X   | <b>£134.11</b> | -35...+35°C   | 2...20K (TR) 9.6 x 122mm      |
| JET-110XF  | <b>£141.77</b> | -35...+35°C   | 2...20K (TW) 9.6 x 122mm      |
| JET-110XFG | <b>£153.25</b> | -35...+35°C   | 2...20K (TW) 9.6 x 122mm      |
| JET-112X   | <b>£133.06</b> | -35...+35°C   | TB* 9.6 x 122mm               |
| JET-112XF  | <b>£141.77</b> | -35...+35°C   | TB* 9.6 x 122mm               |
| JET-120X   | <b>£133.06</b> | 0...60°C      | 2...20K (TR) 9.6 x 122mm      |
| JET-120XG  | <b>£151.01</b> | 0...60°C      | 2...20K (TR) 9.6 x 122mm      |
| JET-120XF  | <b>£141.77</b> | 0...60°C      | 2...20K (TW) 9.6 x 122mm      |
| JET-130X   | <b>£133.06</b> | 40...100°C    | 2...20K (TR) 9.6 x 122mm      |
| JET-130XG  | <b>£151.01</b> | 40...100°C    | 2...20K (TR) 9.6 x 122mm      |
| JET-130XF  | <b>£141.77</b> | 40...100°C    | 2...20K (TW) 9.6 x 122mm      |
| JET-133X   | <b>£135.43</b> | 40...100°C    | (TB) 9.6 x 122 mm             |
| JET-133XF  | <b>£144.54</b> | 40...100°C    | TB** 9.6 x 122mm              |
| JET-140X   | <b>£133.06</b> | 70...130°C    | 2...20K (TR) 9.6 x 122mm      |
| JET-140XF  | <b>£141.77</b> | 70...130°C    | 2...20K (TW) 9.6 x 122mm      |
| JET-143X   | <b>£135.43</b> | 70...130°C    | (TBV) 9.6 x 122 mm            |
| JET-143XF  | <b>£144.54</b> | 70...130°C    | TB** 9.6 x 122mm              |
| JET-150    | <b>£142.16</b> | 100...280°C   | 8...50K (TR) 6 x 80mm         |
| JET-150F   | <b>£151.27</b> | 100...280°C   | 8...50K (TW) 6 x 80mm         |
| JET-153    | <b>£147.58</b> | 100...280°C   | TB** 6 x 80mm                 |
| JET-153F   | <b>£156.82</b> | 100...280°C   | TB** 6 x 80mm                 |



Monitoring or control of temperatures of non-aggressive liquid or gaseous media. Particularly suitable for wall mounting. **Dip sleeves and spirals not included**, see page 38 for these including SW-200-12 protecting coil for temperature control of non-aggressive gases in ducts, TH immersion sleeve for temperature control in non-aggressive fluids and NTH immersion sleeve for aggressive fluids. Switching Capacity: 24v- 250v~ 150mA

Key: F=internal setting, G=device with 4.5m long capillary, X=types of TH/NTH-140. TR=temperature controller, TW= temperature monitor and TB=temperature limiter. \*Locks at falling temperatures \*\*Locks at rising temperatures.

## INDUSTRY TECHNOLOGY

### WR-81 RANGE - Single-Stage Capillary Thermostats

| Model       | List £         | Control Range | Equipment                           |
|-------------|----------------|---------------|-------------------------------------|
| WR 81.029-1 | <b>£96.10</b>  | 0...35°C      | Ext. setting, capillary length 0.5m |
| WR 81.129-1 | <b>£91.48</b>  | 0...35°C      | Int. setting, capillary length 0.5m |
| WR 81.101-1 | <b>£109.69</b> | 0...35°C      | Int. setting, capillary length 2m   |
| WR 81.009-2 | <b>£114.44</b> | 0...70°C      | Ext. setting, capillary length 1.5m |
| WR 81.109-2 | <b>£109.69</b> | 0...70°C      | Int. setting, capillary length 1.5m |

Monitoring or control of temperatures of non-aggressive liquid or gaseous media. Particularly suitable for wall mounting. **Dip sleeves and spirals not included**, see page 38 for these including SW-200-12 protecting coil for temperature control of non-aggressive gases in ducts, TH immersion sleeve for temperature control in non-aggressive fluids and NTH immersion sleeve for aggressive fluids. When using screw joints instead of grommets protection rating IP 54. Switching Capacity: 24v- 250v~ 150mA



### JMT-2 RANGE - Multi-Stage Capillary Thermostats

| Model     | List £         | Control Range | Equipment                        |
|-----------|----------------|---------------|----------------------------------|
| JMT-202X  | <b>£196.15</b> | -15...+30°C   | Ext. setting, 9.6 x 122mm sensor |
| JMT-202XF | <b>£204.20</b> | -15...+30°C   | Int. setting, 9.6 x 122mm sensor |
| JMT-203X  | <b>£196.15</b> | 10...55°C     | Ext. setting, 9.6 x 122mm sensor |
| JMT-203XF | <b>£204.20</b> | 10...55°C     | Int. setting, 9.6 x 122mm sensor |
| JMT-203XG | <b>£213.05</b> | 10...55°C     | Ext. setting, 9.6 x 122mm sensor |
| JMT-221X  | <b>£223.87</b> | 10...55°C     | Ext. setting, 9.6 x 122mm sensor |
| JMT-206X  | <b>£196.15</b> | 20...80°C     | Ext. setting, 9.6 x 122mm sensor |
| JMT-204   | <b>£196.15</b> | 50...120°C    | Ext. setting, 8 x 78mm sensor    |

Multi-stage control of the temperature of liquid or gaseous media, e.g., for activating two-stage burners or heating registers. **Dip sleeves and spirals not included**, see page 38 for these including SW-200-12 protecting coil for temperature control of non-aggressive gases in ducts, TH immersion sleeve for temperature control in non-aggressive fluids and NTH immersion sleeve for aggressive fluids. Switching Capacity: 24v- 250v~ 150mA



### LR 80 RANGE - Capillary Thermostats as Ventilation Controllers

| Model       | List £         | Control Range | Equipment                               |
|-------------|----------------|---------------|---|
| LR 80.003-1 | <b>£89.89</b>  | 0...35°C      | Ext. setting, temp controller           |
| LR 80.108-1 | <b>£89.89</b>  | 0...35°C      | Int. setting, temp. monitor             |
| LR 80.109-1 | <b>£93.19</b>  | 0...35°C      | Int. setting, temp. monitor             |
| LR 80.027-5 | <b>£93.19</b>  | 0...70°C      | Ext. setting, temp controller           |
| LR 80.035-2 | <b>£89.89</b>  | 0...70°C      | Ext. setting, temp controller           |
| LR 80.028-2 | <b>£93.19</b>  | 0...70°C      | Ext. setting, temp controller           |
| LR 80.116-2 | <b>£89.89</b>  | 0...70°C      | Int. setting, temp. monitor             |
| LR 80.029-2 | <b>£94.64</b>  | 0...70°C      | Ext. setting, temp controller           |
| LR 80.120-1 | <b>£93.19</b>  | 10...45°C     | Int. setting, temp. monitor             |
| LR 80.101-5 | <b>£93.19</b>  | 35...95°C     | Int. setting, temp. monitor             |
| LR 80.207   | <b>£99.40</b>  | 60...95°C     | Int. setting, temp. limiter, ext. reset |
| LR 80.203   | <b>£104.94</b> | 95...130°C    | Int. setting, temp. limiter, ext. reset |

In ventilation technology, as inflow air monitoring or as a limiter of electric heating registers. **Protecting coil included**. Switching Capacity: 24v- 250v~ 150mA

To order replacement protecting coil SWK see page 38

### Capillary System - TÜV Tested



**KR 80 RANGE - Capillary Thermostats as Boiler Controllers**

Capillary System - TÜV Tested

| Model            | List £  | Control Range | Equipment                               |
|------------------|---------|---------------|---|
| KR 80.003-1      | £87.38  | 0...35°C      | Ext. setting, temp controller           |
| KR 80.108-1      | £87.38  | 0...35°C      | Int. setting, temp. monitor             |
| KR 80.109-1      | £90.55  | 0...35°C      | Int. setting, temp. monitor             |
| KR 80.027-5      | £90.55  | 0...70°C      | Ext. setting, temp controller           |
| KR 80.035-2      | £87.38  | 0...70°C      | Ext. setting, temp controller           |
| KR 80.028-2      | £90.55  | 0...70°C      | Ext. setting, temp controller           |
| KR 80.116-2      | £87.38  | 0...70°C      | Int. setting, temp. monitor             |
| KR 80.029-2      | £91.87  | 0...70°C      | Ext. setting, temp controller           |
| KR 80.029-2 V4A  | £122.50 | 0...70°C      | Ext. setting, temp controller           |
| KR 80.111-3      | £87.38  | 0...80°C      | Int. setting, temp. monitor             |
| KR 80.009-1 V4A  | £120.52 | 10...45°C     | Ext. setting, temp controller           |
| KR 80.011-1 V4A  | £118.67 | 10...45°C     | Ext. setting, temp controller           |
| KR 80.120-1      | £90.55  | 10...45°C     | Int. setting, temp. monitor             |
| KR 80.206        | £97.68  | 30...65°C     | Int. setting, temp. limiter, ext. reset |
| KR 80.206 IP54   | £105.20 | 30...65°C     | As above but IP 54                      |
| KR 80.000-5      | £87.38  | 35...95°C     | Ext. setting, temp controller           |
| KR 80.001-5      | £90.55  | 35...95°C     | Ext. setting, temp controller           |
| KR 80.001-5 V4A  | £121.04 | 35...95°C     | Ext. setting, temp controller           |
| KR 80.100-5      | £87.38  | 35...95°C     | Int. setting, temp. monitor             |
| KR 80.100-5 IP54 | £96.23  | 35...95°C     | As above but IP 54                      |
| KR 80.101-5      | £90.55  | 35...95°C     | Int. setting, temp. monitor             |
| KR 80.124-5      | £91.87  | 35...95°C     | Int. setting, temp. monitor             |
| KR 80.112-5      | £107.98 | 35...95°C     | Int. setting, temp. monitor             |
| KR 80.102-8      | £87.38  | 40...110°C    | Int. setting, temp. monitor             |
| KR 80.103-8      | £90.55  | 40...110°C    | Int. setting, temp. monitor             |
| KR 80.008-8      | £87.38  | 40...110°C    | Ext. setting, temp controller           |
| KR 80.006-8      | £87.38  | 50...130°C    | Ext. setting, temp controller           |
| KR 80.106-8      | £87.38  | 50...130°C    | Int. setting, temp. monitor             |
| KR 80.207        | £98.08  | 60...95°C     | Int. setting, temp. limiter, ext. reset |
| KR 80.208        | £98.08  | 85...120°C    | Int. setting, temp. limiter, ext. reset |
| KR 80.202        | £98.08  | 95...130°C    | Int. setting, temp. limiter, ext. reset |
| KR 80.203        | £102.17 | 95...130°C    | Int. setting, temp. limiter, ext. reset |
| KR 80.203 IP54   | £111.01 | 95...130°C    | As above but IP 54                      |



In heating technology, they are used in boiler systems or tanks, district heat transfer stations and heat transfer plants. **Immersion sleeve included.** Switching Capacity: 24v- 250v~ 150mA

To order replacement immersions sleeves THK / NTHK see page 38

## INDUSTRY TECHNOLOGY

### KR & LR 80.3 RANGE - Capillary Thermostats as Safety Temperature Limiters

Capillary System - TÜV Tested

| Model     | List £         | Equipment                                      |
|-----------|----------------|--|
| KR 80.309 | <b>£107.98</b> | Max sensor temp. 115°C, 100mm dip sleeve/ coil |
| KR 80.310 | <b>£111.14</b> | Max sensor temp. 115°C, 200mm dip sleeve/ coil |
| KR 80.312 | <b>£113.26</b> | Max sensor temp. 135°C, 100mm dip sleeve/ coil |
| KR 80.318 | <b>£116.69</b> | Max sensor temp. 135°C, 200mm dip sleeve/ coil |
| LR 80.309 | <b>£107.98</b> | Max sensor temp. 115°C, 100mm dip sleeve/ coil |
| LR 80.310 | <b>£111.14</b> | Max sensor temp. 115°C, 200mm dip sleeve/ coil |
| LR 80.312 | <b>£113.26</b> | Max sensor temp. 135°C, 100mm dip sleeve/ coil |
| LR 80.318 | <b>£116.69</b> | Max sensor temp. 135°C, 200mm dip sleeve/ coil |



For limiting the temperature in boiler, tank and ventilation systems. STB = safety temperature limiter, switch-off temperature set to a fixed value at the factory. **Immersion sleeve / protecting coil included.** Switching Capacity: 24v- 250v~ 150mA

To order replacement immersions sleeves THK / NTHK and protecting coil SWK see page 38

### KR 85 RANGE - Capillary Thermostats as Boiler Dual Controllers

Capillary System - TÜV Tested

| Model       | List £         | Control Range | Equipment & Dip Sleeve Length      |
|-------------|----------------|---------------|------------------------------------|
| KR 85.406-2 | <b>£134.38</b> | 0...70°C      | Internal setting, 100mm            |
| KR 85.109-2 | <b>£140.32</b> | 0...70°C      | External & internal setting, 100mm |
| KR 85.100-5 | <b>£140.32</b> | 35...95°C     | External & internal setting, 100mm |
| KR 85.101-5 | <b>£145.86</b> | 35...95°C     | External & internal setting, 200mm |
| KR 85.400-5 | <b>£134.38</b> | 35...95°C     | Internal setting, 100mm            |
| KR 85.401-5 | <b>£145.86</b> | 35...95°C     | Internal setting, 200mm            |
| KR 85.102-5 | <b>£134.38</b> | 35...95°C     | External & internal setting, 100mm |
| KR 85.207-5 | <b>£154.70</b> | 35...95°C     | External setting & reset, 200mm    |
| KR 85.230-5 | <b>£145.86</b> | 35...95°C     | Ext. setting & int. reset, 100mm   |
| KR 85.204-8 | <b>£150.88</b> | 50...130°C    | External setting & reset, 100mm    |



In heating technology, they are used in boiler systems or tanks, district heat transfer stations and heat transfer plants. **Immersion sleeve included.** Switching Capacity: 24v- 250v~ 150mA

To order replacement immersions sleeves THK / NTHK see page 38

### KR & LR 85.3 RANGE - Capillary Thermostats as Boiler Dual Controllers / Safety Temperature Limiters

| Model       | List £         | Control Range | Equipment & Dip Sleeve Length    |
|-------------|----------------|---------------|----------------------------------|
| KR 85.311-2 | <b>£163.02</b> | 0...70°C      | Ext. setting & int. reset, 100mm |
| KR 85.312-2 | <b>£166.45</b> | 0...70°C      | Ext. setting & int. reset, 200mm |
| KR 85.314-5 | <b>£161.30</b> | 35...95°C     | Ext. setting & int. reset, 100mm |
| KR 85.315-5 | <b>£164.47</b> | 35...95°C     | Ext. setting & int. reset, 200mm |
| LR 85.312-2 | <b>£166.45</b> | 0...70°C      | Ext. setting & int. reset, 200mm |
| LR 85.315-5 | <b>£164.47</b> | 35...95°C     | Ext. setting & int. reset, 200mm |



For limiting the temperature in boiler, tank and ventilation systems. STB = safety temperature limiter, switch-off temperature set to a fixed value at the factory. **Immersion sleeve / protecting coil included.** Switching Capacity: 24v- 250v~ 150mA

To order replacement immersions sleeves THK / NTHK and protecting coil SWK see page 38



## INDUSTRY TECHNOLOGY

### ATR-83, JAT-1 & WR-81 RANGE - Contact Thermostats

### Capillary System

| Model      | List £        | Control Range | Equipment               |
|------------|---------------|---------------|-------------------------|
| ATR 83.000 | <b>£37.75</b> | 30...90°C     | External setting, IP 20 |
| ATR 83.100 | <b>£37.75</b> | 30...90°C     | Internal setting, IP 20 |
| ATR 83.001 | <b>£37.35</b> | 0...60°C      | External setting, IP 20 |
| ATR 83.101 | <b>£37.75</b> | 0...60°C      | Internal setting, IP 20 |

| Model       | List £         | Control Range | Equipment               |
|-------------|----------------|---------------|-------------------------|
| WR 81.115-5 | <b>£118.93</b> | 0...70°C      | Internal setting, IP 43 |
| WR 81.117-5 | <b>£118.93</b> | 50...130°C    | Internal setting, IP 43 |

| Model    | List £         | Control Range | Equipment               |
|----------|----------------|---------------|-------------------------|
| JAT-110  | <b>£150.48</b> | -35...+30°C   | External setting, IP 65 |
| JAT-110F | <b>£159.98</b> | -35...+30°C   | Internal setting, IP 65 |
| JAT-120  | <b>£150.48</b> | 0...60°C      | External setting, IP 65 |
| JAT-120F | <b>£159.98</b> | 0...60°C      | Internal setting, IP 65 |
| JAT-130  | <b>£150.48</b> | 40...100°C    | External setting, IP 65 |
| JAT-130F | <b>£159.98</b> | 40...100°C    | Internal setting, IP 65 |
| JAT-140  | <b>£151.80</b> | 70...130°C    | External setting, IP 65 |
| JAT-140F | <b>£161.44</b> | 70...130°C    | Internal setting, IP 65 |



Control or monitoring of temperatures at heat registers, pipelines or tanks, for example, temperature-dependent pump control or control of motor valves. Switching Capacity: 24v-250v~ 150mA .

ATRS-1 - Temperature fixing set for ATR see page 39

**JTF-1 ...25 RANGE - Frost Protection Thermostats**

**Capillary System - TÜV Tested**

| Model            | List £  | Control Range | Capillary Length & Equipment       |
|------------------|---------|---------------|------------------------------------|
| <b>ONE STAGE</b> |         |               |                                    |
| JTF-1            | £106.26 | -10...+12°C   | 6m, ext. setting, IP40             |
| JTF-1/12         | £191.14 | -10...+12°C   | 12m, ext. setting, IP40            |
| JTF-1W           | £169.62 | -10...+12°C   | 6m, int. setting, IP65             |
| JTF-2            | £122.76 | -10...+12°C   | 6m, ext. setting and reset, IP40   |
| JTF-2/12         | £206.45 | -10...+12°C   | 12m, ext. setting and reset, IP40  |
| JTF-2W           | £186.12 | -10...+12°C   | 6m, int. setting, ext. reset, IP65 |
| JTF-3            | £101.64 | -10...+12°C   | 1.8m, ext. setting, IP40           |
| JTF-3 W          | £164.60 | -10...+12°C   | 1.8m, int. setting, IP65           |
| JTF-4            | £114.84 | -10...+12°C   | 1.8m, ext. setting and reset, IP40 |
| JTF-5            | £103.09 | -10...+12°C   | 3m, ext. setting, IP40             |
| JTF-6            | £120.78 | -10...+12°C   | 3m, ext. setting and reset, IP40   |
| JTF-6W           | £183.74 | -10...+12°C   | 3m, int. setting and reset, IP65   |
| <b>TWO STAGE</b> |         |               |                                    |
| JTF-21           | £151.01 | -10...+12°C   | 6m, ext. setting, IP40             |
| JTF-21/12        | £271.26 | -10...+12°C   | 12m, ext. setting, IP40            |
| JTF-21W          | £213.44 | -10...+12°C   | 6m, int. setting, IP65             |
| JTF-22           | £161.04 | -10...+12°C   | 6m, ext. setting and reset, IP40   |
| JTF-22/12        | £281.16 | -10...+12°C   | 12m, ext. setting and reset, IP40  |
| JTF-25           | £147.44 | -10...+12°C   | 3m, ext. setting, IP40             |



Securing hot water registers against freezing. The frost protection thermostats JTF-21 to JTF-25 have two switch outputs that allow for intervention in the system before the critical point is reached. All the devices are intrinsically safe and offer a sealable setpoint configuration. The capillaries, with the exception of JTF-3/-4, are active over the entire length. The device gets actuated when about 30cm of the capillary (or approx. 60cm capillary in the case of 12m variants) reach the defined value. Switching Capacity: 24v- 250v~ 150mA. **Installation clips, dip sleeves and protective spirals not included.**

**JTF-1 to -25:** For temperature measurement of non-aggressive gases. The mounting brackets JZ-05/6 (pages 39-40) should be used for bracing the capillaries against heat register.

**JTF-3/-4:** Also for use in applications exposed to water. See page 38 for the SW-200-12 protecting coil for temperature control of non-aggressive gases in ducts, TH immersion sleeve for temperature control in non-aggressive fluids and NTH immersion sleeve for aggressive fluids

**JTF-101 ...112 RANGE - Frost Protection Thermostats**

**Capillary System**

| Model            | List £  | Control Range | Capillary Length & Equipment |
|------------------|---------|---------------|------------------------------|
| <b>ONE STAGE</b> |         |               |                              |
| JTF-101          | £83.03  | -8...+12°C    | 6m, internal setting, IP54   |
| JTF-103          | £81.44  | -8...+12°C    | 1.8m, sensor 9.5 x 93mm      |
| JTF-105          | £82.10  | -8...+12°C    | 3m, internal setting, IP54   |
| JTF-112          | £121.04 | -8...+12°C    | 12m, internal setting, IP54  |



The JTF is an intrinsically safe frost protection thermostat, designed especially for ensuring air or water exposed frost protection of hot water heating registers and heat exchangers in ventilation, heating or air conditioning systems. **JTF-103:** Also for use in applications exposed to water. Switching Capacity: 24v- 250v~ 150mA. **Installation clips, dip sleeves and protective spirals not included.**

See page 38 for the SW-200-12 protecting coil for temperature control of non-aggressive gases in ducts, TH immersion sleeve for temperature control in non-aggressive fluids and NTH immersion sleeve for aggressive fluids

## INDUSTRY TECHNOLOGY

### JTL RANGE - Air Heater Thermostats

| Model    | List £  | Control Range | Capillary Length & Equipment |
|----------|---------|---------------|------------------------------|
| JTL-2    | £191.53 | 70...100°C    | 350mm, TW                    |
| JTL-8    | £189.95 | 70...100°C    | 350mm, ext. reset, STB       |
| JTL-11   | £202.75 | 70...100°C    | 1250mm, TW                   |
| JTL-8NR  | £289.08 | 70...95°C     | 350mm, ext. reset, TW / STB  |
| JTL-13A  | £188.10 | 70...100°C    | 1250mm, ext. reset, TW / STB |
| JTL-17NR | £307.03 | 70...95°C     | 1250mm, ext. reset, TW / STB |

Minimum or maximum thermostat for inflow air monitoring an fan regulation in ventilation and air conditioning systems. Overheating protection thermostat for electrical heat registers and directly fired air heaters with oil and gas operation. The "MAN-AUTO" switch allows the fan to be used for ventiation in summer. Switching Capacity: 24v- 250v~ 150mA.

**Type NR:** temperature controlled fan regulation, burner monitoring and safety temperature limiter, 3 functions.

**Key:** TW=thermostat and STB=safety temperature limiter.

### Capillary System - TÜV Tested



### JTU RANGE - Duct Thermostats

| Model  | List £  | Control Range | Capillary Length & Equipment |
|--------|---------|---------------|------------------------------|
| JTU-50 | £137.54 | -25...+65°C   | 350mm, TW                    |
| JTU-1  | £159.72 | 20...100°C    | 350mm, TW                    |
| JTU-3  | £139.66 | 20...100°C    | 350mm, STB                   |
| JTU-20 | £152.59 | 20...100°C    | 1250mm, STB                  |
| JTU-5  | £159.19 | 60...140°C    | 350mm, TW                    |
| JTU-6  | £137.28 | 60...140°C    | 350mm, TB                    |

Minimum or maximum thermostat for inflow air monitoring an fan regulation in ventilation and air conditioning systems. Overheating protection thermostat for electrical heat registers and directly fired air heaters with oil and gas operation. Switching Capacity: 24v- 250v~ 150mA.

**Key:** TW=thermostat, STB=safety temperature limiter and TB=temperature limiter.

### Capillary System - TÜV Tested



### RTBSS & PHY RANGE - Control Cabinet Thermostats and Hygrostats

| Model            | List £ | Control Range | Equipment                           |
|------------------|--------|---------------|-------------------------------------|
| RTBSS-110.250/04 | £18.08 | 0...60°C      | Control function: heating           |
| RTBSS-111.250/05 | £18.08 | 0...60°C      | Control function: cooling           |
| RTBSS-112.250/07 | £23.76 | 0...60°C      | Control function: heating / cooling |
| PHY 60.082       | £93.06 | 10...60°C     | Hygrostat 30...100% humidity        |

For monitoring and controlling humidty and temperature. Application scenarios include temperature monitoring in control cabinets, machines and housings. Switching Capacity: 24v- 230v, 50Hz.

### Mechanical - Bimetal



## INDUSTRY TECHNOLOGY

### ITR-79 RANGE - Controller for Distributer Assembly

| Model     | List £  | Control Range | Equipment / Sensor              |
|-----------|---------|---------------|---------------------------------|
| ITR79.402 | £102.56 | -35...+15°C   | Heating, red LED 1/21 NTC 1K    |
| ITR79.404 | £102.56 | 0...60°C      | Heating, red LED 4/24 NTC 10K   |
| ITR79.405 | £102.56 | 35...95°C     | Heating, red LED 5/25 NTC 50K   |
| ITR79.406 | £107.32 | 70...130°C    | Heating, red LED 6 NTC 100K     |
| ITR79.408 | £107.32 | -10...+40°C   | Heating, red LED 3/23 NTC 8K    |
| ITR79.503 | £116.29 | 0...11°C      | Frost protection, 0/20 NTC 2K25 |
| ITR79.504 | £107.32 | 0...60°C      | Cooling, green LED 4/24 NTC 10K |
| ITR79.508 | £107.32 | -10...+40°C   | Cooling, green LED 3/23 NTC 8K  |
| ITR79.600 | £120.38 | 5...30°C      | Heating, 2 NTC 47K              |
| ITR79.804 | £137.54 | 0...60°C      | Heating, red LED, 8 NTC 2K      |
| ITR79.811 | £137.54 | -15...+15°C   | Heating, red LED, 8 NTC 2K      |

Control and monitoring of the temperature in large halls, greenhouses and floor heating systems. The devices have sensor rupture and sensor short-circuit protection. **Sensors are not included.** except 79.804, 79.805 and 79.608. See page 28 onwards for sensors - use according to the specified number (for example number 4/24; all sensors with this number can be used, e.g. HF-4, LF 24). Switching Capacity: 24v- 230v, 50Hz.

### Remote Sensor, Electronic



### ETR-74 RANGE - Universal Controller

| Model   | List £  | Control Range | Equipment                         |
|---------|---------|---------------|-----------------------------------|
| ETR74.1 | £300.15 | 0...50°C      | Internal setting one stage outlet |
| ETR74.2 | £315.55 | 0...50°C      | Internal setting two stage outlet |

For controlling and/or monitoring the temperatures of liquid or gaseous media with digital actual value display. Suitable for surface-mounting in humid rooms, as a remote controller in industrial and agricultural applications. Operating Voltage: 250v~ 50/60 Hz

**Sensors are not included.** See page 28 onwards for these (all numbered 57 sensors can

### Remote Sensor, Electronic



### ETR-77 RANGE - Universal Controller

| Model        | List £  | Control Range | Equipment              |
|--------------|---------|---------------|------------------------|
| ETR77.008-5  | £115.10 | -50...+50°C   | Internal setting, IP65 |
| ETR77.108-5  | £127.12 | -50...+50°C   | External setting, IP54 |
| ETR77.009-5  | £115.10 | 0...100°C     | Internal setting, IP65 |
| ETR77.109-5  | £127.12 | 0...100°C     | External setting, IP54 |
| ETR77.109-15 | £128.44 | 0...100°C     | External setting, IP54 |

Thanks to various sensors, these models are suitable for universal use in heating, ventilation, air conditioning and refrigeration technology as well as in mechanical and plant engineering. Operating Voltage: 250v~ 50/60 Hz

**Sensors are not included.** See page 28 onwards for these (all numbered 51 sensors can

### Remote Sensor, Electronic



## INDUSTRY TECHNOLOGY

### JDI RANGE - Digital Temperature Display

DIN Rack

| Model  | List £  | Display Range | Equipment                         |
|--------|---------|---------------|-----------------------------------|
| JDI-0  | £148.37 | -40...+120°C  | 3 digit indication                |
| JDI-08 | £197.47 | -40...+120°C  | 8 measurement point rotary switch |

Usable as a thermometer in conjunction with remote sensors. Operating Voltage: 250v~ 50/60 Hz

**Sensors are not included.** See page 28 onwards for these (all numbered 51 sensors can be used).



### ITR-71 & JDI RANGE - Digital Controllers

DIN Rack

| Model     | List £  | Control Range | Equipment                  |
|-----------|---------|---------------|----------------------------|
| ITR71.050 | £188.89 | -40...+50°C   | 7-segment, 3-digit display |
| ITR71.100 | £188.89 | 0...100°C     | 7-segment, 3-digit display |
| ITR71.125 | £188.89 | 40...120°C    | 7-segment, 3-digit display |
| JDI-1     | £189.29 | -40...+120°C  | 7-segment, 3-digit display |
| JDI-10    | £202.22 | -40...+120°C  | 7-segment, 4-digit display |

For controlling or monitoring the temperature of liquid or gaseous media. Operating Voltage: 250v~ 50/60 Hz

**Sensors are not included.** See page 28 onwards for these (all numbered 51 sensors can be used).



### JDI & JDU RANGE - Microprocessor Controller

DIN Rack

| Model   | List £  | Control Range | Equipment                    |
|---------|---------|---------------|------------------------------|
| JDI-22  | £337.26 | -50...+200°C  | PT100 2/3 conductor          |
| JDU-210 | £358.20 | -200...+850°C | PT100 3 & PT1000 2 conductor |

2/3 point controller with serial interface, for controlling and/or monitoring the temperatures of liquid or gaseous media. With decimal place, digital setpoint / actual value display for front panel integration, As a digital remote controller for the use in the industrial, agricultural and in mechanical/plant engineering sectors. Operating Voltage: 230v~ 50/60 Hz

**Sensors are not included.** See page 28 onwards for these (all numbered 51 sensors can be used).





## INDUSTRY TECHNOLOGY

### ETR-78 RANGE - Differential Temperature Controller

| Model      | List £  | Control Range | Sensor          |
|------------|---------|---------------|-----------------|
| ETR 78.005 | £160.78 | 35...95°C     | 5/25 (NTC 50 K) |
| ETR 78.006 | £160.78 | 0...60°C      | 3/23 (NTC 8 K)  |

Capture of the temperature difference between 2 independent NTC sensors. Predominant use in solar heating systems for activating the circulating pump: also for controlling heating and raw water pumps, valves or heat pumps based on a temperature difference. Operating Voltage: 230v~ 50/60 Hz

**Sensors are not included.** See page 28 onwards for these (all sensors numbered 5/25 can be used). 2 sensors per device.

### Remote Sensor, Electronic



### JBT RANGE - 2-Stage Controller

| Model     | List £  | Control Range | Equipment / Sensor       |
|-----------|---------|---------------|--------------------------|
| JBT-21A   | £194.83 | -15...+25°C   | 0/20 (NTC 2K25)          |
| JBT-21ACP | £194.83 | -15...+25°C   | As above without housing |
| JBT-22A   | £194.83 | 10...50°C     | 3/23 (NTC 8K)            |
| JBT-22ACP | £194.83 | 10...50°C     | As above without housing |
| JBT-23A   | £194.83 | 35...95°C     | 5/25 (NTC 50K)           |

2-stage heating or cooling. With the corresponding wiring of the relay contacts, heating and cooling can also be realised with a neutral zone. The desired function can be selected by means of jumpers. Operating Voltage: 250v~ 50/60 Hz

**Sensors are not included.** See page 28 onwards for these (all H, F, RF and LF types can be used). Use according to the specified number (for example number 3/23; all sensors with this number can be used, e.g. HF-3, LF 23).

### Remote Sensor, Electronic



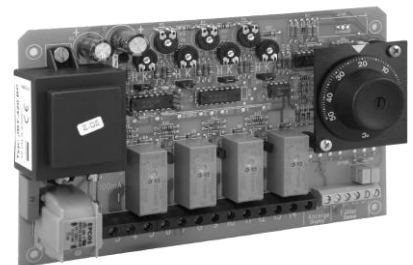
### JBT RANGE - 4, 6 and 8-Stage Controller

| Model          | List £  | Control Range | Equipment / Sensor                  |
|----------------|---------|---------------|-------------------------------------|
| <b>4 STAGE</b> |         |               |                                     |
| JBT-420B       | £313.24 | -10...+50°C   | 3/23 (NTC 8K)                       |
| JBT-420BC      | £282.08 | -10...+50°C   | As above without housing            |
| JBT-420BP      | £313.24 | -10...+50°C   | As above+ remote potentiometer      |
| JBT-420BPS     | £346.37 | -10...+50°C   | As above+ adjustable starting delay |
| JBT-420BS      | £351.25 | -10...+50°C   | 3/23 (NTC 8K) + starting delay      |
| JBT-420BCS     | £331.72 | -10...+50°C   | As above without housing            |
| <b>6 STAGE</b> |         |               |                                     |
| JBT-61AS       | £394.28 | -15...+30°C   | 0/20 (NTC 2K25) + starting delay    |
| <b>8 STAGE</b> |         |               |                                     |
| JBT-81AS       | £564.96 | -15...+30°C   | As above                            |

JBT 4 stage "heating or cooling". With the corresponding wiring of the relay contacts, "heating and cooling" with a neutral zone can also be implemented. The desired function can be selected by means of jumpers. JBT 6 or 8 stage "heating or cooling". Desired function can be selected with switches. LED serves as indication of operation. Operating Voltage: 250v~ 50/60 Hz

**Sensors are not included.** See page 28 onwards for these (all H, F, RF and LF types can be used). Use according to the specified number (for example number 3/23; all sensors with this number can be used, e.g. HF-3, LF 23).

### Remote Sensor, Electronic



## INDUSTRY TECHNOLOGY

### HI RANGE - Mechanical Hygrostats

| Model | List £         | Setting Range | Equipment                          |
|-------|----------------|---------------|------------------------------------|
| HI-1  | <b>£206.71</b> | 30...100% r.h | External setting, mechanical range |
| HI-1F | <b>£204.47</b> | 30...100% r.h | Monitor, internal setting          |
| HI-2  | <b>£270.34</b> | 30...100% r.h | External setting, 2 stages         |

Use in ventilation and air-conditioning ducts, climate exposure cabinets and dehumidifiers for controlling and / or monitoring the atmospheric humidity in industrial and agricultural applications. Not suitable for aggressive gases. Max. air speed 8m/s, with sensor protection FS-HI 15m/s.

See page 41 for the JZ-20.01 wall suspension element, and for FS-HI - protective sleeve sensor see page 39

### Duct Assembly



### JSL-1E - Air Flow Switch

| Model  | List £        | Switch On / Switch Off Values                |
|--------|---------------|--|
| JSL-1E | <b>£87.52</b> | Min. 2m/s, Max. 9.2m/s Min. 1m/s Max. 8.0m/s |

Monitoring of air flows in ducts, in air supply and air exhausting devices of fans or electrical heat registers. The wind indicator relay is set to the minimum switching points at the factory. By turning the inside screw to the right, the switch-on / switch-off values can be increased. Fitting is done in the vertical paddle position from the top in a horizontal pipe/ duct. Switching Capacity: 24-250v~

JZ-08 - Spare tag see page 40

### Mechanical



### JSL-20-21 RANGE - Air Flow Monitors

| Model       | List £         | Equipment   |
|-------------|----------------|---|
| JSL-20      | <b>£209.59</b> | Switching contact: changover, without locking, 230V |
| JSL-20/24V  | <b>£263.19</b> | Switching contact: changover, without locking, 24V  |
| JSL-20K     | <b>£205.74</b> | Switching contact: changover, without locking, 230V |
| JSL-21*     | <b>£243.63</b> | Switching contact: 2x toggler, with locking, 230V   |
| JSL-21/24V* | <b>£299.38</b> | Switching contact: 2x toggler, with locking, 24V    |

For flow-dependent monitoring of fans, adjusting butterfly valves of humidifiers and electric heat registers according to DIN 57100, part 420, or for use in conjunction with DDC systems. The sensor cable can be extended up to 100m. \*Without locking (on request), device to be disconnected and made voltage free for resetting. No integral sensor except for JSL-20K

### Electronic



## INDUSTRY TECHNOLOGY

### JDW & JDL RANGE - Differential Pressure Switch

| Model    | List £ | Control Range    | Equipment                            |
|----------|--------|------------------|--------------------------------------|
| JDW-3    | £51.61 | 20...330Pa       | Internal setting                     |
| JDW-3 Z  | £57.29 | 20...330Pa       | Internal setting with fixing bracket |
| JDW-5    | £51.61 | 30...500Pa       | Internal setting                     |
| JDW-5 Z  | £57.29 | 30...500Pa       | Internal setting with fixing bracket |
| JDW-10   | £51.61 | 400...1,600Pa    | Internal setting                     |
| JDL-109  | £47.78 | 20 Pa fixed      | Silicon-free                         |
| JDL-111  | £57.82 | 20...330Pa       | Internal setting & silicon-free      |
| JDL-112  | £56.63 | 40...600Pa       | Internal setting & silicon-free      |
| JDL-113  | £49.10 | 40 Pa fixed      | Max. pressure 5,000Pa                |
| JDL-115  | £56.63 | 100...1,000Pa    | Internal setting & silicon-free      |
| JDL-116  | £56.63 | 250...5,000Pa    | Internal setting & silicon-free      |
| JDL-116A | £64.28 | 250...5,000Pa    | External setting & silicon-free      |
| JDL-117A | £64.28 | 3,000...15,000Pa | As above with scale mbar             |

Monitoring of overpressure, differential or under-pressure of air and incombustible, non-aggressive gases. Exhaust or fan monitoring or flow monitor for securing electrical heat registers, as filter monitoring, air pressure shortage safeguard, limit value controller.

**JDW** - supplied without mounting bracket, can be screwed on directly.

**JDW...Z and JDL** - supplied with attached mounting bracket JZ-10.

JZ-06/1 - Connection set with 2 channel connecting pieces of plastic, 2 extensions, 4 screws and 2m hose - See page 40

JZ-10 - Installation bracket with screws for types JDL-109/113 and JDW-3/5/10. See page 40



### JSF RANGE - Flow Switch

| Model   | List £  | Equipment / Sensor                           |
|---------|---------|--|
| JSF-3E  | £180.18 | 1/2" 5 bar Attached T-piece (grey cast iron) |
| JSF-4E  | £180.18 | 3/4" 5 bar Attached T-piece (grey cast iron) |
| JSF-1E  | £173.58 | 1"...8" 8 bar -                              |
| JSF-1RE | £173.58 | 1"...8" 5 bar Reduced switching values**     |
| JSF-2E  | £382.93 | 1"...8" 13 bar -                             |
| JSF-2RE | £382.93 | 1"...8" 5 bar Reduced switching values**     |

Flow monitoring of liquid media in pipes from 1/2" to 8", for example, oil, cooling and lubricant circuits or as safety against a shortage of water.

Assembly: Vertical in a horizontal pipe.

Calming path at least 5 times the pipe diameter before and after the paddle. The maximum flow can be significantly higher than the maximum setting value of the monitor. Not approved for drinking water applications. Switching Capacity: 24-250v~ Medium: Normal/Aggressive (JSF-2E & 2RE). Aggressive types=all parts in contact with media made of V4A, otherwise brass.

JZ-09 - Spare paddle (4 pieces). See page 40

### Mechanical - TÜV Tested



**JSW RANGE - Flow Switch**

**With Device Plug**

| Model   | List £         | Tube Size, Switch Point DEC*/INC.        |
|---------|----------------|--|
| JSW-3/8 | <b>£144.61</b> | 3/8", 3.5...5.0 l/min, 4.0...5.5 l/min   |
| JSW-1/2 | <b>£144.61</b> | 1/2", 5.0...6.5 l/min, 5.5...7.0 l/min   |
| JSW-3/4 | <b>£144.61</b> | 3/4", 7.0...9.5 l/min, 9.0...11.0 l/min  |
| JSW-1   | <b>£144.61</b> | 1", 13.5...16.5 l/min, 17.0...20.5 l/min |



Monitoring small and medium, non-aggressive quantities of liquid in pipes with small diameters 3/8" to 1".  
 Assembly: Vertical in a horizontal pipe. Calming path at least 5 times the pipe diameter before and after the paddle. Not approved for drinking water applications. Switching Capacity: 5A 24-250v~ Δl/min: 0.5, 0.5, 2.0 and 3.5

## SENSOR TECHNOLOGY

### BTF2 RANGE - Room Temperature Sensors

### Surface-Mounted Superflat

| Model                | List £ | Sensor          |
|----------------------|--------|-----------------|
| BTF2-C02-0000        | £31.57 | NTC 2K          |
| BTF2-C08-0000        | £31.57 | NTC 8K          |
| BTF2-C10-0000        | £31.57 | NTC 10K         |
| BTF2-C225-0000       | £31.57 | NTC 2K25        |
| BTF2-C47-0000        | £31.57 | NTC 47K         |
| BTF2-LM-0000         | £31.57 | LM235Z          |
| BTF2-N1000-0000      | £31.57 | Ni-1000         |
| BTF2-N1000TK5000-000 | £38.81 | NI 1000/TK 5000 |
| BTF2-P100-0000       | £31.57 | PT 100          |
| BTF2-P1000-0000      | £31.57 | PT 1000         |
| BTF2-Y11/7-0000      | £31.57 | KTY 11-7        |
| BTF2-Y81/121-0000    | £31.57 | KTY 81-121      |



For measuring the temperature in dry rooms, living spaces and office spaces etc. Assembly and wiring of the lower part can take place separately, surface mounted or on a switch socket  $\varnothing$  60 mm by means of socket screws. Ambient temperature:  $-10 \dots 50^{\circ}\text{C}$ . Potentiometers 5k $\Omega$  as standard. LED connection, max. 30V $\approx$ .

### FUF RANGE - Room Temperature Sensors

### Flush-Mounted

| Model                | List £ | Sensor          |
|----------------------|--------|-----------------|
| FUFC 02-0000         | £40.04 | NTC 2K          |
| FUFC 08-0000         | £40.04 | NTC 8K          |
| FUFC10-0000          | £40.04 | NTC 10 K        |
| FUFC 225-0000        | £40.04 | NTC 2K25        |
| FUFC 47-0000         | £40.04 | NTC 47K         |
| FUFP100-0000         | £40.04 | PT 100          |
| FUFP1000-0000        | £40.04 | PT 1000         |
| FUFN1000-0000        | £40.04 | NI 1000         |
| FUFN1000/TK5000-0000 | £48.20 | NI 1000/TK 5000 |
| FUFLM-0000           | £40.04 | LM 235Z         |
| FUFY 11/7-0000       | £40.04 | KTY 11-7        |
| FUFY 81/121-0000     | £40.04 | KTY 81-121      |



For measuring the temperature in dry rooms, living spaces and office spaces etc. The room temperature sensor with 50 x 50mm cover can be integrated into almost all switch ranges by means of an insert frame. **(Frames not included). All models are glossy finished but are available as matt if specified, prices remain the same for either option.** Ambient temperature:  $-10 \dots 50^{\circ}\text{C}$ . Storage temperature:  $-20 \dots 70^{\circ}\text{C}$ . LED standard green and red. Potentiometers 5k $\Omega$  as standard. LED connection, max. 24V $\approx$ . Control elements: key button, 35mA, rocker switch, 2 or 3 positions 1A, rotary switch, 4 positions 130mA.



## SENSOR TECHNOLOGY

### AF RANGE - Outdoor Temperature Sensors

With Passive Output

| Model           | List £ | Sensor            |
|-----------------|--------|-------------------|
| AFP-100         | £28.34 | PT 100            |
| AFP-1000        | £28.34 | PT-1000           |
| AFN-1000        | £29.88 | NI-1000           |
| AFN-1000 TK5000 | £36.96 | NI-1000 TK 5000   |
| AFLM            | £28.34 | LM 235Z           |
| AF-0            | £28.34 | "0" (NTC 2 K 25)  |
| AF-1            | £28.34 | "1" (NTC 1 K)     |
| AF-2            | £28.34 | "2" (NTC 47 K)    |
| AF-3            | £28.34 | "3" (NTC 8 K)     |
| AF-4            | £28.34 | "4" (NTC 10 K)    |
| AF-5            | £28.34 | "5" (NTC 50 K)    |
| AF-8            | £28.34 | "8" (NTC 2 K)     |
| AF-51           | £28.34 | "51" (KTY 81-121) |
| AF-57           | £28.34 | "57" (KTY 11-7)   |



The AF outdoor temperature sensors are used for temperature measurement in the outdoors, in damp environments, in cold rooms and greenhouses as well as in industrial application and are specially protected against dust and moisture. If there is direct incident sunlight on the sensor housing, the use of a sun shade is recommended.  
Measuring Range: -30...100°C Measurement Current: max. 3mA

### AFH, AFHM & MTRVD RANGE - Outdoor Temperature Sensors

With Passive and Active Output

| Model            | List £  | Sensor / Equipment                  |
|------------------|---------|-------------------------------------|
| <b>PASSIVE</b>   |         |                                     |
| AFHP-100         | £49.74  | PT 100                              |
| AFHP-100/3L      | £52.05  | PT 100                              |
| AFHP-100/4L      | £55.75  | PT 100                              |
| AFHP-1000        | £49.74  | PT-1000                             |
| AFHN-1000        | £49.74  | NI-1000                             |
| AFHN-1000 TK5000 | £54.82  | NI-1000 TK 5000                     |
| AFHC-10          | £49.74  | "4" (NTC 10 K)                      |
| AFHC-50          | £52.51  | "5" (NTC 10 K)                      |
| AFHLM            | £49.74  | LM 235Z                             |
| <b>ACTIVE</b>    |         |                                     |
| MTRVD-965.758    | £136.44 | -50..+50, 0..50, -20..+80, 0..100°C |
| AFHM/4-20        | £136.44 | -50...+50°C range                   |
| AFHM/2/4-20      | £136.44 | 0...50°C range                      |



The outdoor temperature sensors are used for temperature measurement in the outdoors, in damp room applications, in cold storage rooms and greenhouses as well as in individual applications and are specially protected against dust and moisture. Owing to the external sensor sleeve, this outdoor sensor has a very good actuation response to temperature changes. When the outdoor temperature sensor is active, the temperature-dependent resistance of the sensor is converted linearly into a current signal of 4-20 mA or a voltage signal between 0-10 V.  
Measuring Range: -130...100°C (Passive) -50...50°C (Active) Measurement Current: max. 3mA

## SENSOR TECHNOLOGY

### HF RANGE - Sleeve Temperature Sensors

| Model             | List £ | Sensor / Equipment            |
|-------------------|--------|-------------------------------|
| HFC 10/P          | £20.33 | NTC 10K, -35...+105°C         |
| HFC 10/S          | £28.49 | NTC 10K, -50...+150°C         |
| HFP100/P          | £20.33 | PT 100, -35...+105°C          |
| HFP100/S          | £28.49 | PT 100, -50...+150°C          |
| HFP100/S/3L       | £33.26 | PT 100, -50...+150°C          |
| HFP100/S/4L       | £35.27 | PT 100, -50...+150°C          |
| HFP100/S/6m       | £40.96 | PT 100, -50...+150°C          |
| HFP1000/P         | £20.33 | PT 1000, -35...+105°C         |
| HFP1000/S         | £28.49 | PT 1000, -50...+150°C         |
| HFLM/P            | £20.33 | LM 235 Z, -35...+105°C        |
| HFLM/S            | £28.49 | LM 235 Z, -50...+125°C        |
| HFN 1000 TK 5000P | £30.03 | Ni 1000 TK 5000, -35...+105°C |
| HFN 1000 TK 5000S | £38.50 | Ni 1000 TK 5000, -50...+150°C |
| HFN 1000/P        | £25.10 | Ni 1000, -35...+105°C         |
| HFN 1000/S        | £31.88 | Ni 1000, -50...+150°C         |



The HF sleeve sensors are used for temperature measurement in liquid or gaseous media. Thanks to the moisture-impermeable burnishing, the sleeve sensor is particularly protected against moisture and dust. Measurement Current: max. <1mA.

**HF.../P** - sleeve temperature sensor with PVC cable.  
**HF.../S** - sleeve temperature sensor with silicone cable.

If used in liquid media, integration in an immersion sleeve is necessary - see page 39

| Model     | List £ | Sensor / Equipment                  |
|-----------|--------|-------------------------------------|
| HF-0      | £32.80 | "0" (NTC 2 K 25) PE cable 1.5m      |
| HF-0/6    | £34.80 | "0" (NTC 2 K 25) PE cable 6m        |
| HF-1      | £32.80 | "1" (NTC 1 K) PE cable 1.5m         |
| HF-2      | £32.80 | "2" (NTC 47 K) PE cable 1.5m        |
| HF-3      | £32.80 | "3" (NTC 8 K) PE cable 1.5m         |
| HF-3/6    | £34.80 | "3" (NTC 8 K) PE cable 6m           |
| HF-4      | £32.80 | "4" (NTC10 K) PE cable 1.5m         |
| HF-4/6    | £34.80 | "4" (NTC 10 K) PE cable 6m          |
| HF-5      | £32.80 | "5" (NTC 50 K) PE cable 1.5m        |
| HF-5/4K2  | £35.11 | "5" (NTC 50 K) PVC cable 4m         |
| HF-5/4K3  | £38.19 | "5" (NTC 50 K) silicone cable 4m    |
| HF-5/6    | £34.80 | "5" (NTC 50 K) PE cable 6m          |
| HF-6      | £35.57 | "6" (NTC 100 K) silicone cable 1.5m |
| HF-6/3    | £36.96 | "6" (NTC 100 K) silicone cable 3m   |
| HF-8/4 K2 | £23.76 | "8" (NTC 2 K) PVC cable 4m          |
| HF-8/6 K2 | £26.40 | "8" (NTC 2 K) PVC cable 6m          |
| HF-51     | £35.57 | "51" (PTC 1 K) silicone cable 1.5m  |
| HF-51/6   | £40.19 | "51" (PTC 1 K) silicone cable 6m    |
| HF-57     | £32.80 | "57" (PTC 2 K) PE cable 1.5m        |
| HF-100    | £41.89 | PT-100 silicone cable 1.5m (4-wire) |
| HF-100/6  | £48.82 | PT-100 silicone cable 6m (4-wire)   |
| HF-1000   | £34.03 | PT-1000 silicone cable 1.5m         |



Used as a remote sensor for devices such as ITR79. For temperatures in liquid media after installation in a dip sleeve (TH/NTH). Also suited for air ducts or non aggressive types of gas when using a protective spiral such as SW-200. See pages 38 onwards for these. Ambient Temperature: for PE cable -50...100°C, for silicone cable -50...150°C and for PVC cable -35...80°C.

## SENSOR TECHNOLOGY

### LF RANGE - Air Temperature Sensors

| Model   | List £ | Sensor / Equipment             |
|---------|--------|--------------------------------|
| LF-20   | £31.88 | "0" (NTC 2 K 25) PE cable 1.5m |
| LF-21   | £31.88 | "1" (NTC 1 K) PE cable 1.5m    |
| LF-22   | £31.88 | "2" (NTC 47 K) PE cable 1.5m   |
| LF-23   | £31.88 | "3" (NTC 8 K) PE cable 1.5m    |
| LF-24   | £31.88 | "4" (NTC10 K) PE cable 1.5m    |
| LF-24/4 | £34.80 | "4" (NTC 10 K) PE cable 4m     |
| LF-25   | £31.88 | "5" (NTC 50 K) PE cable 1.5m   |
| LF-25/4 | £34.80 | "5" (NTC 50 K) PE cable 4m     |
| LF-8/4  | £34.80 | "8" (NTC 2 K) PE cable 4m      |
| LF-51   | £31.88 | "51" (PTC 1 K) PE cable 1.5m   |
| LF-51/6 | £36.65 | "51" (PTC 1 K) PE cable 6m     |
| LF-100  | £31.88 | PT-100 PE cable 1.5m           |
| LF-1000 | £31.88 | PT-1000 PE cable 1.5m          |



Used as a remote sensor for devices such as ITR79. For air ducts or non aggressive types of gas when using a protective spiral such as SW-200. See pages 38 onwards for these.  
Measuring Range: for PE cable -50...80°C

### ALF & MTRKK RANGE - Contact Temperature Sensors

| Model             | List £  | Sensor / Equipment |
|-------------------|---------|--------------------|
| ALFP-100          | £31.88  | PT-100             |
| ALFP-1000         | £31.88  | PT-1000            |
| ALFN-1000         | £35.88  | NI-1000            |
| ALFN-1000 TK-5000 | £35.88  | NI-1000 TK-5000    |
| ALFLM             | £31.88  | LM-235Z            |
| ALF-0             | £31.88  | "0" (NTC 2 K 25)   |
| ALF-2             | £31.88  | "2" (NTC 47 K)     |
| ALF-3             | £31.88  | "3" (NTC 8 K)      |
| ALF-4             | £31.88  | "4" (NTC 10 K)     |
| ALF-5             | £31.88  | "5" (NTC 50 K)     |
| ALF-51            | £31.88  | "51" (PTC 1 K)     |
| MTRKK-965.758     | £147.22 | PT-100             |



The ALF contact temperature sensors are used for temperature measurement on pipes, tubes or heat carriers. When the contact temperature sensor is active, the temperature-dependent resistance of the sensors is converted linearly into a voltage signal of 0-10 V or a current of 4-20 mA. Measuring Range: -30...105°C, MTRKK: -50...+50, 0..50, -20.. +80, 0..100oC50..+50, 0..50, -20..+80, 0..100°C

## SENSOR TECHNOLOGY

### PF RANGE - Pendulum Temperature Sensors

| Model    | List £         | Sensor / Equipment           |
|----------|----------------|------------------------------|
| PFP-100  | <b>£109.96</b> | PT-100, wire length 1m       |
| PFP-1000 | <b>£109.96</b> | PT-1000, wire length 1m      |
| PFN-1000 | <b>£109.96</b> | NI-1000, wire length 1m      |
| PFC-10   | <b>£109.96</b> | "4" NTC 10 K, wire length 1m |
| PFLM     | <b>£109.96</b> | LM-235Z, wire length 1m      |
| PFC47/6m | <b>£116.58</b> | "2" NTC 47 K, wire length 6m |

The pendulum temperature sensor PF serves to measure the temperatures in larger spaces. Owing to the spherical form, this sensor captures the temperature from all directions of the room, so that when correctly positioned in the room, a representative measurement result can be achieved. Measuring Range: -30...80°C



### STF RANGE - Radiation Temperature Sensors

| Model  | List £        | Sensor / Equipment      |
|--------|---------------|-------------------------|
| STF-0  | <b>£70.38</b> | x2 sensors "0" NTC 2K25 |
| STF-2  | <b>£70.38</b> | x2 sensors "2" NTC 47K  |
| STF-4  | <b>£70.38</b> | x2 sensors "4" NTC 10K  |
| STF-51 | <b>£70.38</b> | x2 sensors "51" PTC 1K  |

The radiation temperature sensor is a dual sensor for the measurement of radiation and room heat. The radiation sensor is located in the black hemisphere; the room sensor is located in the plastic housing, Connection with screw-type terminals. Measuring Range: -20...60°C



## SENSOR TECHNOLOGY

### EKF / GFL RANGE - Assembly-Type Duct Sensors

With Passive Output

| Sensor          | Model                               | List £ | Model                       | List £ | Model                       | List £ |
|-----------------|-------------------------------------|--------|-----------------------------|--------|-----------------------------|--------|
| <b>Length:</b>  | <b>65mm (50mm Immersion Sleeve)</b> |        | <b>115mm (100mm Sleeve)</b> |        | <b>165mm (150mm Sleeve)</b> |        |
| PT 100          | EKFP-100/50                         | £46.20 | EKFP-100/100                | £46.97 | EKFP-100/150                | £48.51 |
| PT 1000         | EKFP-1000/50                        | £46.20 | EKFP-1000/100               | £46.97 | EKFP-1000/150               | £48.51 |
| NI 1000         | EKFN-1000/50                        | £51.90 | EKFN-1000/100               | £53.44 | EKFN-1000/150               | £54.98 |
| NI 1000/TK 5000 | EKFN-1000 TK 5000/50                | £56.83 | 1000 TK 5000/100            | £58.52 | 1000 TK 5000/150            | £60.06 |
| "4" NTC 10 K    | EKFC-10/50                          | £46.20 | EKFC-10/100                 | £46.97 | EKFC-10/150                 | £48.51 |
| LM 235Z         | EKFLM-50                            | £46.20 | EKFLM-100                   | £46.97 | EKFLM-150                   | £48.51 |

| Sensor          | Model                                 | List £ | Model                       | List £ | Model                       | List £ |
|-----------------|---------------------------------------|--------|-----------------------------|--------|-----------------------------|--------|
| <b>Length:</b>  | <b>215mm (200mm Immersion Sleeve)</b> |        | <b>265mm (250mm Sleeve)</b> |        | <b>315mm (300mm Sleeve)</b> |        |
| PT 100          | EKFP-100/200                          | £50.20 | EKFP-100/250                | £51.90 | EKFP-100/300                | £53.44 |
| PT 1000         | EKFP-1000/200                         | £50.20 | EKFP-1000/250               | £51.90 | EKFP-1000/300               | £53.44 |
| NI 1000         | EKFN-1000/200                         | £56.67 | EKFN-1000/250               | £58.37 | EKFN-1000/300               | £59.91 |
| NI 1000/TK 5000 | EKFN-1000 TK 5000/200                 | £61.60 | 1000 TK 5000/250            | £63.45 | 1000 TK 5000/300            | £64.99 |
| "4" NTC 10 K    | EKFC-10/200                           | £53.44 | EKFC-10/250                 | £54.98 | EKFC-10/300                 | £56.67 |
| LM 235Z         | EKFLM-200                             | £50.20 | EKFLM-250                   | £51.90 | EKFLM-300                   | £53.44 |

| Sensor          | Model                                 | List £ | Model                       | List £ | Model                       | List £ |
|-----------------|---------------------------------------|--------|-----------------------------|--------|-----------------------------|--------|
| <b>Length:</b>  | <b>415mm (400mm Immersion Sleeve)</b> |        | <b>515mm (500mm Sleeve)</b> |        | <b>615mm (600mm Sleeve)</b> |        |
| PT 100          | EKFP-100/400                          | £54.98 | EKFP-100/500                | £56.67 | EKFP-100/600                | £58.52 |
| PT 1000         | EKFP-1000/400                         | £54.98 | EKFP-1000/500               | £56.67 | EKFP-1000/600               | £58.37 |
| NI 1000         | EKFN-1000/400                         | £61.45 | EKFN-1000/500               | £63.14 | EKFN-1000/600               | £64.83 |
| NI 1000/TK 5000 | EKFN-1000 TK 5000/400                 | £66.53 | 1000 TK 5000/500            | £68.07 | 1000 TK 5000/600            | £69.92 |
| "4" NTC 10 K    | EKFC-10/400                           | £58.37 | EKFC-10/500                 | £59.91 | EKFC-10/600                 | £61.45 |
| LM 235Z         | EKFLM-400                             | £54.98 | EKFLM-500                   | £56.67 | EKFLM-600                   | £58.37 |

| Model  | List £ | Sensor / Equipment |
|--------|--------|--------------------|
| GFL-0  | £56.36 | "0" (NTC 2 K 25)   |
| GFL-1  | £56.36 | "1" (NTC 1 K)      |
| GFL-2  | £56.36 | "2" (NTC 47 K)     |
| GFL-3  | £56.36 | "3" (NTC 8 K)      |
| GFL-4  | £56.36 | "4" (NTC 10 K)     |
| GFL-5  | £56.36 | "5" (NTC 50 K)     |
| GFL-51 | £56.36 | "51" (PTC 1 K)     |

The assembly-type duct sensors EKF / GFL are used for measuring temperatures in liquids and gases in pipes, air ducts or tanks. The mounting flange (MF) is required for use in air ducts. If used in liquids, immersion sleeves made of brass with nickel plating (THMs) should be used. For aggressive media, immersion sleeves made of stainless steel V4A (THV) are recommended. **Immersion sleeves or mounting flanges are not included**, see page 39 for these. Ambient max. temperature: 70°C



## SENSOR TECHNOLOGY

### IKF1 RANGE - Industrial Assembly-Type Duct Sensors (Form B)

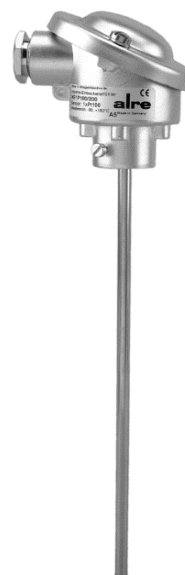
With Passive Output

| Sensor          | Model                               | List £        | Model                       | List £        | Model                       | List £        |
|-----------------|-------------------------------------|---------------|-----------------------------|---------------|-----------------------------|---------------|
| <b>Length:</b>  | <b>65mm (50mm Immersion Sleeve)</b> |               | <b>115mm (100mm Sleeve)</b> |               | <b>165mm (150mm Sleeve)</b> |               |
| PT 100          | IKF1P-100/50                        | <b>£76.85</b> | IKF1P-100/100               | <b>£78.39</b> | IKF1P-100/150               | <b>£79.93</b> |
| PT 1000         | IKF1P-1000/50                       | <b>£80.08</b> | IKF1P-1000/100              | <b>£81.77</b> | IKF1P-1000/150              | <b>£83.47</b> |
| NI 1000         | IKF1N-1000/50                       | <b>£81.77</b> | IKF1N-1000/100              | <b>£83.47</b> | IKF1N-1000/150              | <b>£85.01</b> |
| NI 1000/TK 5000 | IKF1N-1000 TK 5000/50               | <b>£83.47</b> | 1000 TK 5000/100            | <b>£85.01</b> | 1000 TK 5000/150            | <b>£86.55</b> |
| "4" NTC 10 K    | IKF1C-10/50                         | <b>£80.08</b> | IKF1C-10/100                | <b>£81.77</b> | IKF1C-10/150                | <b>£83.47</b> |
| LM 235Z         | IKF1LM-50                           | <b>£80.08</b> | IKF1LM-100                  | <b>£81.77</b> | IKFLM-150                   | <b>£83.47</b> |

| Sensor          | Model                                 | List £        | Model                       | List £        | Model                       | List £        |
|-----------------|---------------------------------------|---------------|-----------------------------|---------------|-----------------------------|---------------|
| <b>Length:</b>  | <b>215mm (200mm Immersion Sleeve)</b> |               | <b>265mm (250mm Sleeve)</b> |               | <b>315mm (300mm Sleeve)</b> |               |
| PT 100          | IKF1P-100/200                         | <b>£81.62</b> | IKF1P-100/250               | <b>£83.31</b> | IKF1P-100/300               | <b>£84.85</b> |
| PT 1000         | IKF1P-1000/200                        | <b>£85.01</b> | IKF1P-1000/250              | <b>£86.55</b> | IKF1P-1000/300              | <b>£88.24</b> |
| NI 1000         | IKF1N-1000/200                        | <b>£86.55</b> | IKF1N-1000/250              | <b>£88.24</b> | IKF1N-1000/300              | <b>£89.94</b> |
| NI 1000/TK 5000 | IKF1N-1000 TK 5000/200                | <b>£88.24</b> | 1000 TK 5000/250            | <b>£89.94</b> | 1000 TK 5000/300            | <b>£91.48</b> |
| "4" NTC 10 K    | IKF1C-10/200                          | <b>£85.01</b> | IKF1C-10/250                | <b>£86.55</b> | IKF1C-10/300                | <b>£88.24</b> |
| LM 235Z         | IKF1LM-200                            | <b>£85.01</b> | IKF1LM-250                  | <b>£86.55</b> | IKFLM-300                   | <b>£88.24</b> |

| Sensor          | Model                                 | List £        | Model                       | List £        | Model                       | List £        |
|-----------------|---------------------------------------|---------------|-----------------------------|---------------|-----------------------------|---------------|
| <b>Length:</b>  | <b>415mm (400mm Immersion Sleeve)</b> |               | <b>515mm (500mm Sleeve)</b> |               | <b>615mm (600mm Sleeve)</b> |               |
| PT 100          | IKF1P-100/400                         | <b>£86.39</b> | IKF1P-100/500               | <b>£88.09</b> | IKF1P-100/600               | <b>£89.78</b> |
| PT 1000         | IKF1P-1000/400                        | <b>£89.94</b> | IKF1P-1000/500              | <b>£91.48</b> | IKF1P-1000/600              | <b>£93.02</b> |
| NI 1000         | IKF1N-1000/400                        | <b>£91.48</b> | IKF1N-1000/500              | <b>£93.02</b> | IKF1N-1000/600              | <b>£94.71</b> |
| NI 1000/TK 5000 | IKF1N-1000 TK 5000/400                | <b>£93.02</b> | 1000 TK 5000/500            | <b>£94.71</b> | 1000 TK 5000/600            | <b>£96.40</b> |
| "4" NTC 10 K    | IKF1C-10/400                          | <b>£89.94</b> | IKF1C-10/500                | <b>£91.48</b> | IKF1C-10/600                | <b>£93.02</b> |
| LM 235Z         | IKF1LM-400                            | <b>£89.94</b> | IKF1LM-500                  | <b>£91.48</b> | IKFLM-600                   | <b>£93.02</b> |

The industrial assembly-type duct sensors IKF1 is used for measuring temperatures of liquids and gases in pipes, air ducts or tanks in the mechanical and plant engineering sector. The mounting flange (MF) is required for use in air ducts. If used in liquids, immersion sleeves made of brass with nickel plating (THMs) should be used. For aggressive media, immersion sleeves made of stainless steel V4A (THV) are recommended. **Immersion sleeves or mounting flanges are not included**, see page 39 for these. Ambient max. temperature: 100°C





## SENSOR TECHNOLOGY

### IKF1M RANGE - Industrial Assembly-Type Duct Sensors (Form B)

With Active Output

| Model            | List £  | Model             | List £  | Sensor / Dip Sleeve |
|------------------|---------|-------------------|---------|---------------------|
| Output: 0 - 10 V |         | Output: 4 - 20 mA |         |                     |
| IKF1M1/0-10/50   | £192.96 | IKF1M1/4-20/50    | £194.66 | 65mm / 50mm DS      |
| IKF1M1/0-10/100  | £194.66 | IKF1M1/4-20/100   | £196.35 | 115mm / 100mm DS    |
| IKF1M1/0-10/150  | £196.35 | IKF1M1/4-20/150   | £197.89 | 165mm / 150mm DS    |
| IKF1M1/0-10/200  | £197.89 | IKF1M1/4-20/200   | £199.58 | 215mm / 200mm DS    |
| IKF1M1/0-10/250  | £199.58 | IKF1M1/4-20/250   | £201.12 | 265mm / 250mm DS    |
| IKF1M1/0-10/300  | £201.12 | IKF1M1/4-20/300   | £202.82 | 315mm / 300mm DS    |



| Model            | List £  | Model             | List £  | Sensor / Dip Sleeve |
|------------------|---------|-------------------|---------|---------------------|
| Output: 0 - 10 V |         | Output: 4 - 20 mA |         |                     |
| IKF1M2/0-10/50   | £192.96 | IKF1M2/4-20/50    | £194.66 | 65mm / 50mm DS      |
| IKF1M2/0-10/100  | £194.66 | IKF1M2/4-20/100   | £196.35 | 115mm / 100mm DS    |
| IKF1M2/0-10/150  | £196.35 | IKF1M2/4-20/150   | £197.89 | 165mm / 150mm DS    |
| IKF1M2/0-10/200  | £197.89 | IKF1M2/4-20/200   | £199.58 | 215mm / 200mm DS    |
| IKF1M2/0-10/250  | £199.58 | IKF1M2/4-20/250   | £201.12 | 265mm / 250mm DS    |
| IKF1M2/0-10/300  | £201.12 | IKF1M2/4-20/300   | £202.82 | 315mm / 300mm DS    |

The industrial assembly-type duct sensor IKF1M is used for measuring temperatures of liquids and gases in pipes, air ducts or tanks in the mechanical and plant engineering sector. The temperature-dependent resistance of the sensor is converted linearly into a current signal of 4-20 mA or a voltage signal of 0-10 V. The transducer is supplied calibrated to the measurement range of -50...+50°C (IKF1M/1) or 0...+100°C (IKF1M/2). A mounting flange (MF) is required for use in air ducts. If used in liquids, immersion sleeves made of brass with nickel plating (THMs) should be used. For aggressive media, immersion sleeves made of stainless steel V4A (THV) are recommended. **Immersion sleeves or mounting flanges are not included**, see page 39 for these.

### MUD RANGE - "Pressure" Transducers

| Model         | List £  | Equipment           |
|---------------|---------|---------------------|
| MUD/0-10/0,16 | £222.07 | 0-160 mbar, 0-10 V  |
| MUD/4-20/0,16 | £222.07 | 0-160 mbar, 4-20 mA |
| MUD/0-10/2.5  | £222.07 | 0-2.5 mbar, 0-10 V  |
| MUD-4-20/2.5  | £222.07 | 0-2.5 mbar, 4-20 mA |
| MUD/0-10/6    | £222.07 | 0-6 mbar, 0-10 V    |
| MUD/4-20/6    | £222.07 | 0-6 mbar, 4-20 mA   |
| MUD/0-10/10   | £222.07 | 0-10 mbar, 0-10 V   |
| MUD/4-20/10   | £222.07 | 0-10 mbar, 4-20 mA  |
| MUD/0-10/25   | £222.07 | 0-25 mbar, 0-10 V   |
| MUD/4-20/25   | £222.07 | 0-25 mbar, 4-20 mA  |
| MUD/0-10/60   | £222.07 | 0-60 mbar, 0-10 V   |
| MUD/4-20/60   | £222.07 | 0-60 mbar, 4-20 mA  |



The MUD transducer is used for measuring pressure in non-aggressive gaseous or liquid media in hydraulics, pneumatics, in mechanical and plant engineering as well as in process engineering. The stainless steel membrane is fully vacuum tight. The pressure sensors are maintenance free. Current Output: 0...10V or 4...20mA Ambient Temperature: -40...100°C

## SENSOR TECHNOLOGY

### MF, MT & MK RANGE - "Temperature and Humidity" Transducer

#### Room & Duct Version

| Model               | List £         | Equipment                                      |
|---------------------|----------------|--|
| <b>ROOM VERSION</b> |                |  |
| MFEKB-045.000       | <b>£217.45</b> | Room humidity 0...100%, 4-20Ma/0-10v           |
| MTEKB-045.000       | <b>£156.16</b> | Room Temp. 0...50°C, 4-20Ma/0-10v              |
| MKEAB-045.100       | <b>£263.80</b> | Humidity 0...100%, temp. 0...50°C, 4-20Ma      |
| MKEVB-045.100       | <b>£263.80</b> | Humidity 0...100%, temp. 0...50°C, 0-10v       |
| <b>DUCT VERSION</b> |                |  |
| MFEKK-945.000       | <b>£254.10</b> | Duct humidity 0...100%, 4-20Ma/0-10v           |
| MTRKK-965.758/200   | <b>£143.99</b> | Temp -50..+50°C, 0..50°C, -20..+80°C, 0..100°C |
| MKEKK-945.000       | <b>£308.92</b> | Humidity 0..100%, temp. 0..50°C, -20..+80°C    |

For measuring the temperature, the relevant humidity or the temperature and the relative humidity and conversion into an electrical quantity (standard signal 0-10 V / 4-20 mA). Usable in refrigeration, air conditioning, ventilation and process engineering as a room or duct sensor.

For details on the suitable microprocessor controller JDU-210 see page 23



### AFT & MKEKD RANGE - "Temperature and Humidity" Transducer

#### Outdoor Use

| Model           | List £         | Equipment  |
|-----------------|----------------|--|
| MKEKD-945.700   | <b>£292.75</b> | Humidity 0..100%, temp. 0..50°C, -20..+80°C      |
| AFT/P100        | <b>£256.26</b> | Humidity 0-10V/4-20mA, temperature sensor PT100  |
| AFT/P1000       | <b>£256.26</b> | Humidity 0-10V/4-20mA, temperature sensor PT1000 |
| AFT/NI1000      | <b>£256.26</b> | Humidity 0-10V/4-20mA, temperature sensor NI1000 |
| AFT/N1000TK5000 | <b>£256.26</b> | Humidity 0-10V/4-20mA temp. sensor NI1000TK5000  |

The temperature-humidity transmitter is used in building automation, refrigeration and air conditioning, as well as in clean room technology, in greenhouses, medicine rooms and in meteorological applications.

For details on the suitable microprocessor controller JDU-210 see page 23



### MDEKD RANGE - "Differential Pressure-Air" Transducers

| Model         | List £         | Measurement Ranges           |
|---------------|----------------|------------------------------|
| MDEKD-940.000 | <b>£194.96</b> | 1000Pa, 750Pa, 500Pa, 250Pa  |
| MDEKD-940.100 | <b>£194.96</b> | 10000Pa 7500Pa 5000Pa 2500Pa |

The microprocessor-controlled pressure transducers are suitable for detecting overpressure, under-pressure or differential pressure of non-aggressive gases. They are used in heating, ventilation or air conditioning applications as well as in clean room technology or fine draft measurement. The pressure measurement is performed using piezo-resistive sensor.

Accessories including JZ-27 and connection set JZ-06/1 available - see pages 40-41



## SENSOR TECHNOLOGY

### MVEVK RANGE - "Air-Stream" Transducers

| Model         | List £  | Equipment                       |
|---------------|---------|---------------------------------|
| MVEVK-961.100 | £287.52 | Measures: 0...20 m/s, 19-29 VDC |

The MVEVK is a compact air speed transducer for mass applications. Thanks to its small size, the sensor can be used in almost any application. The use of a high-quality thin-layer sensor element, based on the hot film anemometer principle, guarantees the highest accuracy and sensitivity. Due to their design, the flow sensor elements are less sensitive to dust and other types of soiling than traditional hot wire anemometers, which has a proven long-term stability of the measurement results. The immersion depth can be set in a freely variable manner with the mounting flange.



### KLS RANGE - Air Quality Sensor

| Model | List £  | Output                |
|-------|---------|-----------------------|
| KLS   | £380.53 | 0-10V, 4-20mA         |
| KLS/R | £404.87 | 0-10V, 4-20mA, relay* |

The air quality sensor is used for needs-based ventilation in living spaces, offices, conference rooms, hotels or restaurants. It serves for the qualitative evaluation of the room air pollution with polluting gases like exhaled air, tobacco fumes, solvent vapours, cleaning agents and auto-mobile exhausts. The room air measured by the sensor is converted into an output signal in the range 0-10 V or 4-20 mA, with a minimum value at the output interpreted as clean air and a maximum value as highly polluted air. A selective CO<sub>2</sub> measurement is not possible with this sensor. Supply Voltage: 24V~/= Ambient Temperature: 0...50°C Running in Time: 1 hour

#### Duct Version



### MLEVB RANGE - Air Quality Sensor

| Model         | List £  | Output |
|---------------|---------|--------|
| MLEVB-042.000 | £245.48 | 0-10V  |

The air quality sensor is used for needs-based ventilation in living spaces, offices, conference rooms, hotels or restaurants. It serves for the qualitative evaluation of the room air pollution with polluting gases like exhaled air, tobacco fumes, solvent vapours, cleaning agents and auto-mobile exhausts. The room air measured by the sensor is converted into an output signal from 0-10 V, with a minimum value at the output interpreted as clean air and a maximum value as highly polluted air. A selective CO<sub>2</sub> measurement is not possible with this sensor. Supply Voltage: 24V~/= Ambient Temperature: 0...50°C

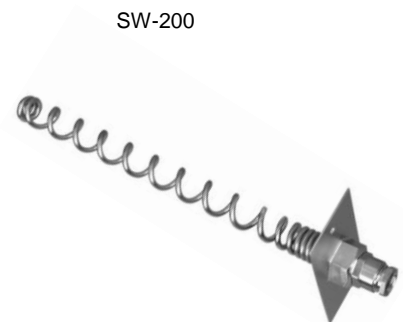
#### Room Version



## ACCESSORIES AND MISCELLANEOUS

### THK / NTHK & SW RANGE - Immersion Sleeves and Protecting Coils for KR/LR 80/85 Sleeve & Air Sensors

| Model  | List £ | Length / Diameter / Material          |
|--|--------|---------------------------------------|
| <b>IMMERSION / DIP SLEEVES FOR KR 80/85</b>                      |        |                                       |
| THK-100  | £20.06 | 100mm, 8 x 10mm, Nickel plated brass  |
| THK-120  | £22.97 | 120mm, 8 x 10mm, Nickel plated brass  |
| THK-200  | £23.63 | 200mm, 8 x 10mm, Nickel plated brass  |
| THK-280  | £28.91 | 280mm, 8 x 10mm, Nickel plated brass  |
| THK-600  | £46.20 | 600mm, 8 x 10mm, Nickel plated brass  |
| NTHK-100   | £55.57 | 100mm, 8 x 10mm, V4A (1.4571)         |
| NTHK-120   | £56.36 | 120mm, 8 x 10mm, V4A (1.4571)         |
| NTHK-200   | £57.42 | 200mm, 8 x 10mm, V4A (1.4571)         |
| NTHK-280   | £59.00 | 280mm, 8 x 10mm, V4A (1.4571)         |
| THK-100 X 17   | £29.57 | 100mm, 15 x 17mm, Nickel plated brass |
| THK-200 X 17   | £39.47 | 200mm, 15 x 17mm, Nickel plated brass |
| NTHK-100 X 17  | £57.82 | 100mm, 15 x 17mm, V4A (1.4571)        |
| NTHK-200 X 17  | £59.93 | 200mm, 15 x 17mm, V4A (1.4571)        |
| <b>PROTECTIVE SPIRAL FOR LR 80</b>                               |        |                                       |
| SWK-100  | £18.48 | 100mm, 11 x 17mm, Nickel plated steel |
| SWK-120  | £22.97 | 120mm, 11 x 17mm, Nickel plated steel |
| SWK-200  | £23.63 | 200mm, 11 x 17mm, Nickel plated steel |
| SWK-280  | £28.91 | 280mm, 11 x 17mm, Nickel plated steel |
| <b>PROTECTIVE SPIRAL FOR JET/ JMT/ JTF/ WR81 &amp; ALL HF/LF</b> |        |                                       |
| SW-200   | £22.97 | 200mm, 11 x 17mm, Nickel plated steel |
| SW-200-12  | £24.16 | 200mm, 11 x 17mm, Nickel plated steel |



Dip sleeves and protective spirals for KR80 and 85, LR80 and JET, JMT, JTF, WR81, HF and LF models. Max. Pressure: 20 up to 40 bar.

### TH / NTH RANGE - Immersion Sleeves for Capillary / Frost Protection Thermostats & HF Sensors

| Model   | List £ | Length / Diameter / Material          |
|---|--------|---------------------------------------|
| TH-55   | £19.27 | 55mm, 8 x 10mm, Nickel plated brass   |
| TH-100  | £20.86 | 100mm, 8 x 10mm, Nickel plated brass  |
| TH-140*   | £24.68 | 140mm, 10 x 12mm, Nickel plated brass |
| TH-200  | £25.34 | 200mm, 8 x 10mm, Nickel plated brass  |
| TH-280  | £30.49 | 280mm, 8 x 10mm, Nickel plated brass  |
| NTH-55  | £53.86 | 55mm, 10 X 55mm, V4A Internal Thread  |
| NTH-100   | £55.57 | 100mm, 8 x 10mm, V4A (1.4571)         |
| NTH-140*  | £57.42 | 140mm, 10 x 12mm, V4A (1.4571)        |
| NTH-200   | £58.08 | 200mm, 8 x 10mm, V4A (1.4571)         |
| NTH-280   | £59.00 | 280mm, 8 x 10mm, V4A (1.4571)         |
| <b>PROTECTIVE COPPER SLEEVE FOR SENSOR HF UP TO 8.9MM</b> |        |                                       |
| THF   | £11.22 | For installation into the pavement    |



TH/NTH for Ø7mm HF sleeve sensors and JET, JMT, WR81 and JTF thermostats. (TH/NTH with JTF only). \*Suited for all types with an X in the type designation code e.g JET-1...X or JMT-202X. Max. Pressure: 20 up to 40 bar.

## ACCESSORIES AND MISCELLANEOUS

### THM / THV RANGE - Immersion Sleeves / Mounting Flange for Sleeve Sensors

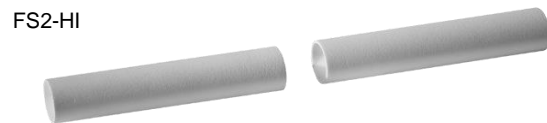
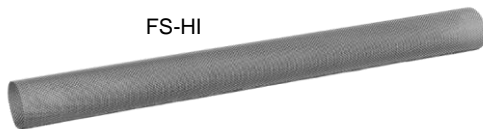
| Model    | List £ | Length / Diameter / Material         |
|----------|--------|--------------------------------------|
| THMs/50  | £13.86 | 50mm, 7 x 10mm, Nickel plated brass  |
| THMs/100 | £14.52 | 100mm, 7 x 10mm, Nickel plated brass |
| THMs/150 | £15.18 | 150mm, 7 x 10mm, Nickel plated brass |
| THMs/200 | £15.84 | 200mm, 7 x 10mm, Nickel plated brass |
| THMs/250 | £16.76 | 250mm, 7 x 10mm, Nickel plated brass |
| THMs/300 | £17.42 | 300mm, 7 x 10mm, Nickel plated brass |
| THV/50   | £30.76 | 50mm, 6.3 x 9mm, Stainless steel     |
| THV/100  | £32.21 | 100mm, 6.3 x 9mm, Stainless steel    |
| THV/150  | £33.79 | 150mm, 6.3 x 9mm, Stainless steel    |
| THV/200  | £35.11 | 200mm, 6.3 x 9mm, Stainless steel    |
| THV/250  | £36.43 | 250mm, 6.3 x 9mm, Stainless steel    |
| THV/300  | £37.88 | 300mm, 6.3 x 9mm, Stainless steel    |
| THV/400  | £40.79 | 400mm, 6.3 x 9mm, Stainless steel    |
| THV/450  | £41.71 | 450mm, 6.3 x 9mm, Stainless steel    |
| THV/500  | £43.69 | 500mm, 6.3 x 9mm, Stainless steel    |
| THV/600  | £46.46 | 600mm, 6.3 x 9mm, Stainless steel    |
| MF       | £8.16  | Installation flange 6 x 40mm         |



HF/EKF/IKF/MWF dip sleeves and installation flange for 6mm sleeve sensors. Dip sleeves with insertion, also suitable for empty enclosures of the KR series. Max. Pressure: 20 up to 40 bar.

### Accessories for Heating & Air Conditioning Technology

| Model  | List £ | Description   |
|--------|--------|---|
| ATRS-1 | £2.24  | Temperature determination set for ATR-83.0..                        |
| FS-HI  | £16.50 | Sensor protection (protective wire braiding) for duct hygrostat HI. |
| FS2-HI | £72.07 | PTFR filter fine sensor protection for duct hygrostat HI.           |



| Model    | List £ | Description   |
|----------|--------|---|
| JZ-01 L  | £3.17  | Single duct connection made of plastic 6mm for JDW, JDL, pressure transducers     |
| JZ-04    | £10.10 | Capillary tube for air duct installation purposes including 30cm protective hose. |
| JZ-05/6K | £12.67 | Installation clips for JTF (6 pieces). Made of plastic (max. 145°C).              |



## ACCESSORIES AND MISCELLANEOUS

### Accessories for Heating & Air Conditioning Technology

| Model    | List £        | Description  |
|----------|---------------|--|
| JZ-05/6M | <b>£13.60</b> | 1 set of installation clips for frost protection thermostat JTF (6 pieces). Made of metal.                       |
| JZ-05/1M | <b>£2.64</b>  | Single mounting bracket for frost protection thermostat, JTF, made of metal.                                     |
| JZ-06/1  | <b>£10.03</b> | Set with plastic duct connections (angle, 2x90°, 2 extensions (90mm), 4 self-tapping screws, 2m hose (dia. 6mm)) |

JZ-05/6M



JZ-06/1

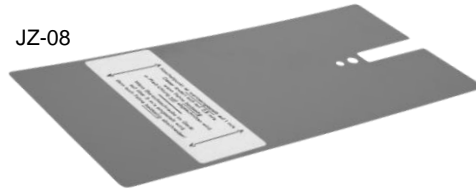


| Model | List £        | Description   |
|-------|---------------|---|
| JZ-07 | <b>£5.68</b>  | Installation bracket for frost protection thermostat JTF. |
| JZ-08 | <b>£20.72</b> | Spare tag for air flow sensing relay JSL.                 |

JZ-07



JZ-08



| Model | List £        | Description   |
|-------|---------------|---|
| JZ-09 | <b>£20.72</b> | Spare paddle (4 pieces) for flow monitor JSF (sizes from 1" to 8").       |
| JZ-10 | <b>£5.02</b>  | Installation bracket for JDL-109/-113 and JDW-3/5/-10 including 6 screws. |

JZ-09



JZ-10



| Model | List £       | Description   |
|-------|--------------|---|
| JZ-13 | <b>£4.88</b> | Standard rail with drilled holes for fastening cabinet controllers (length 40mm)        |
| JZ-17 | <b>£7.00</b> | Adapter plate Berlin 3000 design housing (hardwired)                                    |
| JZ-18 | <b>£7.00</b> | Snap-on adaptor plate for Berlin 3000 design housing (radio controller can be removed). |

JZ-17



JZ-18

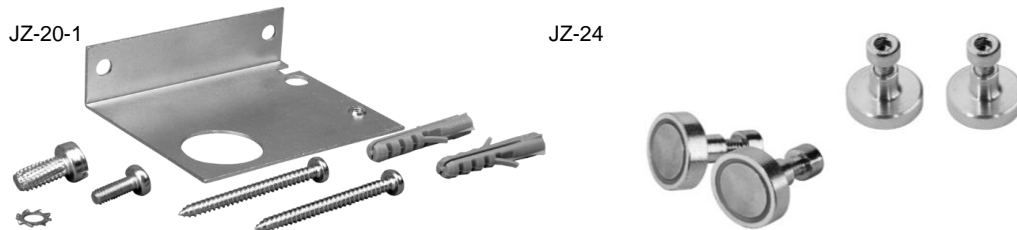




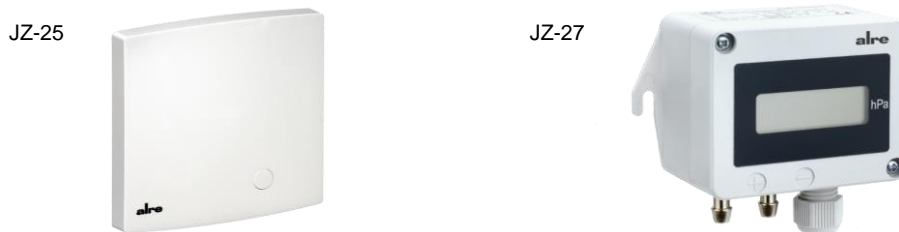
## ACCESSORIES AND MISCELLANEOUS

### Accessories for Heating & Air Conditioning Technology

| Model   | List £ | Description  |
|---------|--------|--|
| JZ-17   | £7.00  | Adapter plate Berlin 3000 design housing (hardwired)   |
| JZ-18   | £7.00  | Snap-on adaptor plate for Berlin 3000 design housing (radio controller can be removed).                            |
| JZ-19   | £36.56 | Fully prewired plug-in socket can be fitted to RTBSB-001.086 or RTBSB-001.096                                      |
| JZ-20-1 | £21.52 | Wall bracket for duct hygrostat HI, for duct measuring transducers TF,FF, FTF, FS-K3 and air flow monitor JSL-20K. |
| JZ-24   | £23.10 | Magnetic fastening set for simple and safe fastening of the multi channel receivers or wiring straps               |



| Model | List £ | Description   |
|-------|--------|---|
| JZ-25 | £63.10 | External antenna for reception enhancement under difficult reception conditions of the multi-channel receiver (JZ-26 not included). |
| JZ-26 | £38.41 | Antenna cable 1m for connecting the external antenna JZ-25 with multi channel receivers   |
| JZ-27 | £90.55 | LC display 3 1/2 digit for MDEKD  |



| Model      | List £ | Description  |
|------------|--------|--|
| JZ-28      | £33.00 | IP-65 cover set consisting of a cover with pressure compensation element, O-ring and 3 screws. |
| JZ-090.900 | £3.07  | Alre Frame 50 x 50mm pure white glossy   |
| JZ-090.910 | £3.07  | Alre Frame 50 x 50mm pearl white glossy  |
| JZ-DA      | £10.43 | Covering cap with external setting and seal for JDL  |
| MUD-A 1/2  | £11.24 | Adaptor G1/2" for pressure measuring transducer MUD  |
| WP-01      | £3.96  | Heat conduction paste (2ml).   |



## ACCESSORIES AND MISCELLANEOUS

### JZ Flush Mounted Cover Sets

| Cover Set                   | List £ | Cover Set             | List £ | Cover Set       | List £ | Equipment                       |
|-----------------------------|--------|-----------------------|--------|-----------------|--------|---------------------------------|
| FTR 101.000 / 002 / 010 #00 |        | FTR 101.062 / 262 #00 |        | FTR 101.063 #00 |        |                                 |
| JZ-001.000                  | £8.51  | JZ-002.000            | £9.50  | JZ-012.000      | £9.11  | 50 x 50mm, pure white glossy    |
| JZ-001.001                  | £8.51  | JZ-002.001            | £9.50  | -               | -      | 50 x 50mm, pure white matt      |
| JZ-001.010                  | £8.51  | JZ-002.010            | £9.50  | -               | -      | 50 x 50mm, pearl white glossy   |
| JZ-001.020                  | £10.00 | JZ-002.020            | £10.99 | -               | -      | 50 x 50mm, studio white glossy  |
| JZ-001.021                  | £10.00 | JZ-002.021            | £10.99 | -               | -      | 50 x 50mm, traffic white matt   |
| JZ-001.100                  | £10.69 | JZ-002.100            | £11.68 | -               | -      | 55 x 55mm, pure white glossy    |
| JZ-001.101                  | £10.69 | JZ-002.101            | £11.68 | -               | -      | 55 x 55mm, pure white matt      |
| JZ-001.110                  | £10.69 | JZ-002.110            | £11.68 | -               | -      | 55 x 55mm, pearl white glossy   |
| JZ-001.120                  | £12.18 | JZ-002.120            | £13.27 | -               | -      | 55 x 55mm, traffic white glossy |

| Cover Set       | List £ | Cover Set       | List £ | Cover Set                   | List £ | Equipment                       |
|-----------------|--------|-----------------|--------|-----------------------------|--------|---------------------------------|
| FTR 101.065 #00 |        | FTR 101.075 #00 |        | FTR 101.086 / 202 / 210 #00 |        |                                 |
| JZ-004.000      | £9.11  | JZ-003.000      | £9.50  | JZ-001.000                  | £8.51  | 50 x 50mm, pure white glossy    |
| JZ-004.001      | £9.11  | JZ-003.001      | £9.50  | JZ-001.001                  | £8.51  | 50 x 50mm, pure white matt      |
| JZ-004.010      | £9.11  | JZ-003.010      | £9.50  | JZ-001.010                  | £8.51  | 50 x 50mm, pearl white glossy   |
| JZ-004.020      | £10.59 | JZ-003.020      | £10.99 | JZ-001.020                  | £10.00 | 50 x 50mm, traffic white glossy |
| JZ-004.021      | £10.59 | JZ-003.021      | £10.99 | JZ-001.021                  | £10.00 | 50 x 50mm, studio white matt    |
| JZ-004.100      | £11.29 | JZ-003.100      | £11.68 | JZ-001.100                  | £10.69 | 55 x 55mm, pure white glossy    |
| JZ-004.101      | £11.29 | JZ-003.101      | £11.68 | JZ-001.101                  | £10.69 | 55 x 55mm, pure white matt      |
| JZ-004.110      | £11.29 | JZ-003.110      | £11.68 | JZ-001.110                  | £10.69 | 55 x 55mm, pearl white glossy   |
| JZ-004.120      | £12.87 | JZ-003.120      | £13.27 | JZ-001.120                  | £12.18 | 55 x 55mm, traffic white glossy |

| Cover Set         | List £ | Cover Set         | List £ | Cover Set       | List £ | Equipment                       |
|-------------------|--------|-------------------|--------|-----------------|--------|---------------------------------|
| KTRRU-052.244 #00 |        | KTRRU-052.245 #00 |        | FHY 101.060 #00 |        |                                 |
| JZ-008.000        | £9.11  | JZ-007.000        | £9.50  | JZ-021.000      | £8.51  | 50 x 50mm, pure white glossy    |
| JZ-008.001        | £9.11  | JZ-007.001        | £9.50  | JZ-021.001      | £8.51  | 50 x 50mm, pure white matt      |
| JZ-008.010        | £9.11  | JZ-007.010        | £9.50  | JZ-021.010      | £8.51  | 50 x 50mm, pearl white glossy   |
| JZ-008.020        | £9.11  | JZ-007.020        | £9.50  | JZ-021.020      | £8.51  | 50 x 50mm, traffic white glossy |
| JZ-008.100        | £10.30 | JZ-007.100        | £10.69 | JZ-021.100      | £9.70  | 55 x 55mm, pure white glossy    |
| JZ-008.101        | £10.30 | JZ-007.101        | £10.69 | JZ-021.101      | £9.70  | 55 x 55mm, pure white matt      |
| JZ-008.110        | £10.30 | JZ-007.110        | £10.69 | JZ-021.110      | £9.70  | 55 x 55mm, pearl white glossy   |
| JZ-008.120        | £10.30 | JZ-007.120        | £10.69 | JZ-021.120      | £9.70  | 55 x 55mm, traffic white glossy |

| Cover Set  | List £ | Cover Set  | List £ | Cover Set  | List £ | Equipment                       |
|------------|--------|------------|--------|------------|--------|---------------------------------|
| JZ-005.000 | £11.29 | JZ-006.000 | £11.29 | JZ-009.000 | £11.29 | 50 x 50mm, pure white glossy    |
| JZ-005.001 | £11.29 | JZ-006.001 | £11.29 | JZ-009.001 | £11.29 | 50 x 50mm, pure white matt      |
| JZ-005.010 | £11.29 | JZ-006.010 | £11.29 | JZ-009.010 | £11.29 | 50 x 50mm, pearl white glossy   |
| JZ-005.020 | £11.29 | JZ-006.020 | £11.29 | JZ-009.020 | £11.29 | 50 x 50mm, traffic white glossy |
| JZ-005.100 | £12.77 | JZ-006.100 | £12.77 | JZ-009.100 | £12.77 | 55 x 55mm, pure white glossy    |
| JZ-005.101 | £12.77 | JZ-006.101 | £12.77 | JZ-009.101 | £12.77 | 55 x 55mm, pure white matt      |
| JZ-005.110 | £12.77 | JZ-006.110 | £12.77 | JZ-009.110 | £12.77 | 55 x 55mm, pearl white glossy   |
| JZ-005.120 | £12.77 | JZ-006.120 | £12.77 | JZ-009.120 | £12.77 | 55 x 55mm, traffic white glossy |



**Temperature and Pressure Sensed Condenser Fan Speed Controls**

**Single Phase Motors**

| Model   | List £         | Proportional Band / Hard Start |
|---------|----------------|--------------------------------|
| BJ10/2T | <b>£229.90</b> | ±6.0°C (Fixed), 3 seconds      |

Infinately variable speed control, adj. set point, min. fan speed & fixed proportional band. Set Point Control: 20...60°C Run Currents 6.0 and 10.0 amps Variable Speed: according to sensed temperature

| Model   | List £         | Proportional Band / Hard Start |
|---------|----------------|--------------------------------|
| BJ10/2P | <b>£687.28</b> | 1-3 bar, 5 seconds             |
| BJ12/2P | <b>£822.80</b> | 1-3 bar, 5 seconds             |

Infinately variable speed control, adj. set point, min. fan speed & proportional band, minimum speed or fan cut off mode. Set Point Control: 7-20 bar Run Currents 6.0, 10.0 and 12.0 amps Variable Speed: according to sensed pressure.



Formerly manufactured by Stock Electronics, now manufactured by ML Electronics other models available upon request.

**You may also be interested in:-**



**Pendle Refrigeration Wholesale Ltd**

A refrigeration wholesaler selling a wide range of products, tools and ancillary items including Caen Valves, Carly Line Components, Frimetal Evaporators and Condensers, GEA-Bock Compressors and Condensing Units and Siccom Condensate Pumps.

For more information, follow the links from our website, go direct to [www.pendle-refrig.co.uk](http://www.pendle-refrig.co.uk) or telephone 01282 832222



... helping you to prepare for a changing Industry

**Practical Refrigeration Training Centre Ltd**

A training centre offering a wide range of short, practical, Refrigeration, Air Conditioning and Electrical courses. Longer, RAC apprenticeships are also available.

For more information, follow the links from our website, go direct to [www.prtc.co.uk](http://www.prtc.co.uk) or telephone 01282 452152.

# Terms and Conditions

## 1. Prices

Unless otherwise specifically agreed all goods are sold at the price currently quoted by us on the day of despatch. Any price alteration to those currently shown in our Price Lists may be done so without prior notice. Prices shown do

## 2. Payment

Unless otherwise agreed, all goods are to be paid for by cash, cheque, debit card or credit card with order. Minimum purchase on debit or credit cards is £25.00.

## 3. Credit

Where credit is granted, payment shall be 30 days from date of invoice and must be strictly observed. We reserve the right to charge interest at the rate of 2% per month compound on all accounts in arrears and withhold credit

## 4. Carriage & Packing

All costs of carriage and packing are chargeable unless otherwise stated. Any damage in transit must be notified in writing within 3 days of receipt.

## 5. Delivery

Whilst every effort is made to adhere to delivery times stated, liability for delay however caused and for loss howsoever arising there from is hereby excluded.

## 6. Cancellations

Orders or part orders cannot be cancelled without prior agreement and written consent of the vendor. Returned material must be in new and unused condition and in the original packaging. A cancellation fee of 20% of the order value may be applied subject to our discretion when raising a credit for returned or cancelled items. Special orders cannot be cancelled nor can such items be returned.

## 7. Exclusions

All liability of whatsoever nature in respect of any loss whatsoever howsoever caused arising out of or in respect of or in connection with the sale of any goods is hereby excluded. This in no way prejudices the purchaser's right under current legislation.

## 8. Amendments

No employee or agent save for a Director has any authority to vary the terms of these conditions of trading whether by addition, subtraction, amendment, or by any other means whatsoever.

## 9. Returns

No goods will be accepted back without prior agreement or without a covering letter stating reason for return.

## 10. Retention of Title

The goods supplied, unless otherwise agreed, remain the property of the vendor until all debts owing to the vendor or to be created in the future and arising out of any business transaction with the purchaser have been paid. In the event of bankruptcy or insolvency of the purchaser, the title of the goods shall remain with the vendor until all outstanding debts owed by the purchaser to the vendor have been discharged. Upon the happening of such an event the vendor shall have the right to enter upon the premises of the purchaser for the purpose of re-possessing any goods, which he has supplied, and remove them at the purchaser's expense whether or not the goods have been mixed. Notwithstanding the foregoing, the goods shall be at the purchaser's risk on delivery.

## 11. Warranty

The vendor warrants to the original buyer in respect of goods supplied by the vendor that as from the date of supply/invoice for a period of twelve months the vendor will replace or repair free of charge any part of or parts thereof proved to its satisfaction to be defective owing to faults in workmanship or materials. All labour, travel and carriage costs involved in effecting such replacement or repair will be borne by the buyer. The vendor reserves the right to supply and charge for goods pending the outcome of any manufacturer's investigations into the validity of a warranty claim. Any item returned under warranty must be accompanied by a copy of our invoice and a full description of the goods along with the reason for return. Description "faulty" will not be accepted. Warranties shall not apply to:

## Terms and Conditions (Continued)

### 11. Warranty (Continued)

- i) Any defect which in the opinion of the vendor has arisen due to misuse, misapplication, neglect, accident, fair wear and tear, improper application, installation, servicing or repair, or alteration in any way not recommended by the manufacturer.
- ii) Any goods installed outside the UK.
- iii) Any defect not notified to the vendor by the buyer in writing within 7 days of it coming to or of when it should have come to the buyer's notice.
- iv) Any goods, which have not been paid in full.

### 12. Applicable Law

For the purpose of resolving any dispute arising out of a sale, the contract shall be governed by English Law.