

with integrated process controller

Compact digital positioner for pneumatic valves with integrated process controller.

- Combination of positioner and process controller
- Compact solution for local control tasks
- Suitable for fast controlled systems
- Sampling rate 20 Hz, cycle time 50 ms
- Internal or external setpoint setting
- LED-display easy to read
- Sensor signal analogue as well as PT100
- Can be configured as P-, PI-, PD- and PID-controller
- Integrated stroke feedback without exposed parts
- Big stroke range 3 - 28 / 3 - 50 mm
- Self learning adaption to valve actuator
- Configuration and diagnosis functions via PC-software
- Not vulnerable to vibrations
- Protection class IP 65
- Also available for part turn actuators (single or double acting)



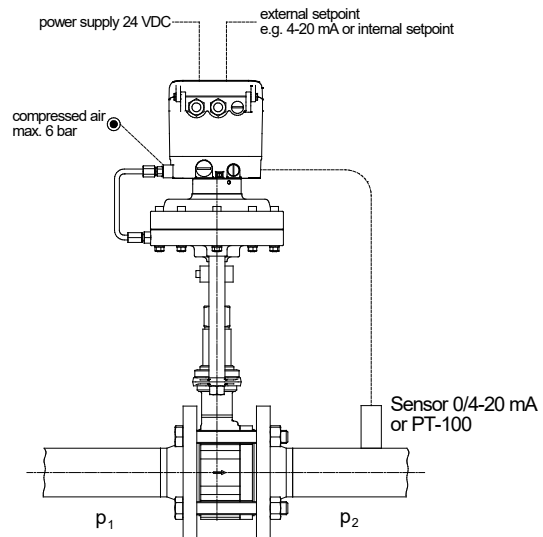
Technical Information

| | |
|---------------------------------------------------------|------------------------------------------------------------------------|
| nominal stroke | 3 - 28 / 3 - 50 mm |
| voltage of the working resistance | 3,5 V (175Ω@20mA) |
| ambient temperature | -10 up to +75°C |
| Control variable (actual value) | 0/4 - 20 mA, PT100 (2 or 3-wire) |
| Reference variable (set point) | via keyboard or 0/4 - 20 mA, 0/2 - 10 V |
| Control behaviour | P (with working point y0) PD (with working point y0) PI PID |
| Accuracy | ≤ 0,5% of the end value |
| Input filter control variable | OFF, 20 ms; (Pt100: 200 ms) ON, T = 800 ms |
| Alarm output | absolut direct/invers, relativ direct/invers, Band direct/invers |
| auxiliary energy, electric | 24 VDC ± 10%, max. 10 W |
| adjustment of stroke and zero point | self-learning |
| configuration | with control panel or PC-Software |
| auxiliary energy, pneumatic | max. 6 bar |
| air delivery* linear drive | 40 NI/min |
| consumption of auxiliary energy in the controlled state | < 0,06 NI/min |
| Leakage | < 0,01 NI/min |
| air quality according ISO 8573-1: | |
| max. particle size and density: | Class 5 |
| oil content | Class 4 |
| pressure dew point | Class 3 |
| | min. 20K (36°F) under ambient temperature |
| Actuation gas | compressed air or non flammable gases (nitrogen, CO2,...) |
| mounting to control valve | standardized mounting kits (also with optical position indicator) |
| pressure supply port | G 1/8" |
| protection class acc. DIN 40050 | IP 65 (additional over pressure in the body with scavenging air) |

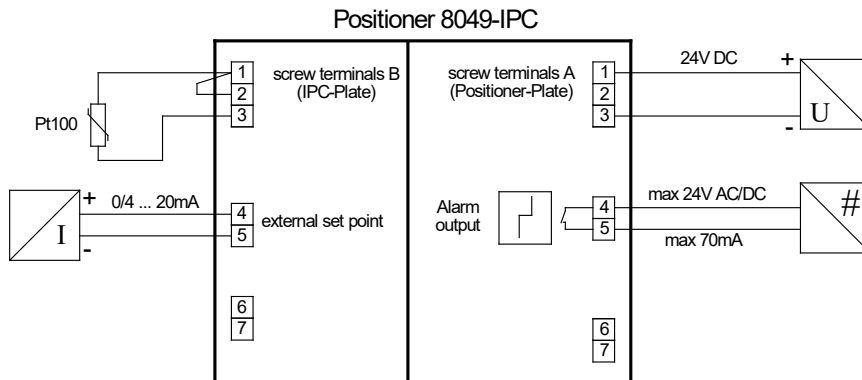
* at 5 bar pilot pressure

Functional description

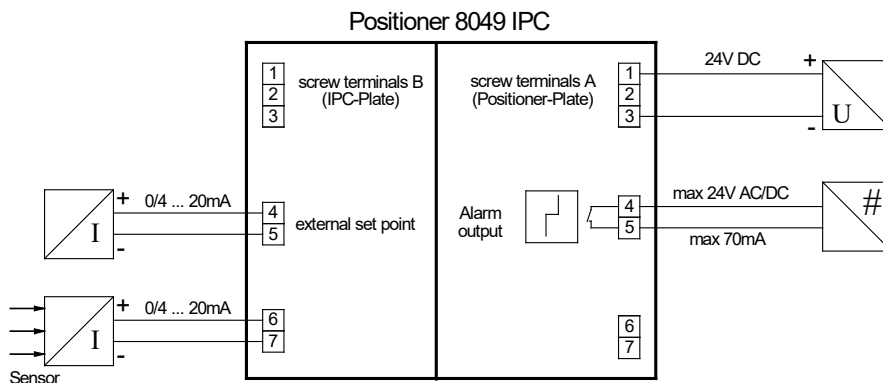
The 8049-IPC with integrated process controller offers a solution for demanding control tasks without higher-level process control systems. The basis of the 8049-IPC is the proven positioner 8049 in the 4-wire version. One additional IPC-module in the cover plate of the basic unit forms the complete unit of the 8049-IPC. The connection of a process sensor as reference variable, optionally as 0/4-20 mA sensor or PT-100 element, is made directly at the 8049-IPC. The setpoint can be specified either externally or directly on the module with scalable display. Scaling of the 8049-IPC as a P, PI, PD or PID controller offers the optimum solution for every process, especially in combination with valve technology from Schubert & Salzer. The process-related control parameters can be set either directly on the 8049-IPC or via the software DeviceConfig. Based on the control parameters, the IPC module calculates the difference between the reference variable and the setpoint. In parallel, the process controller supplies the positioner in 50 ms cycles with the control signal required for positioning. Thus, each control difference results in a change of the valve stroke.



Connection example Pt-100



Connection example mA-sensor

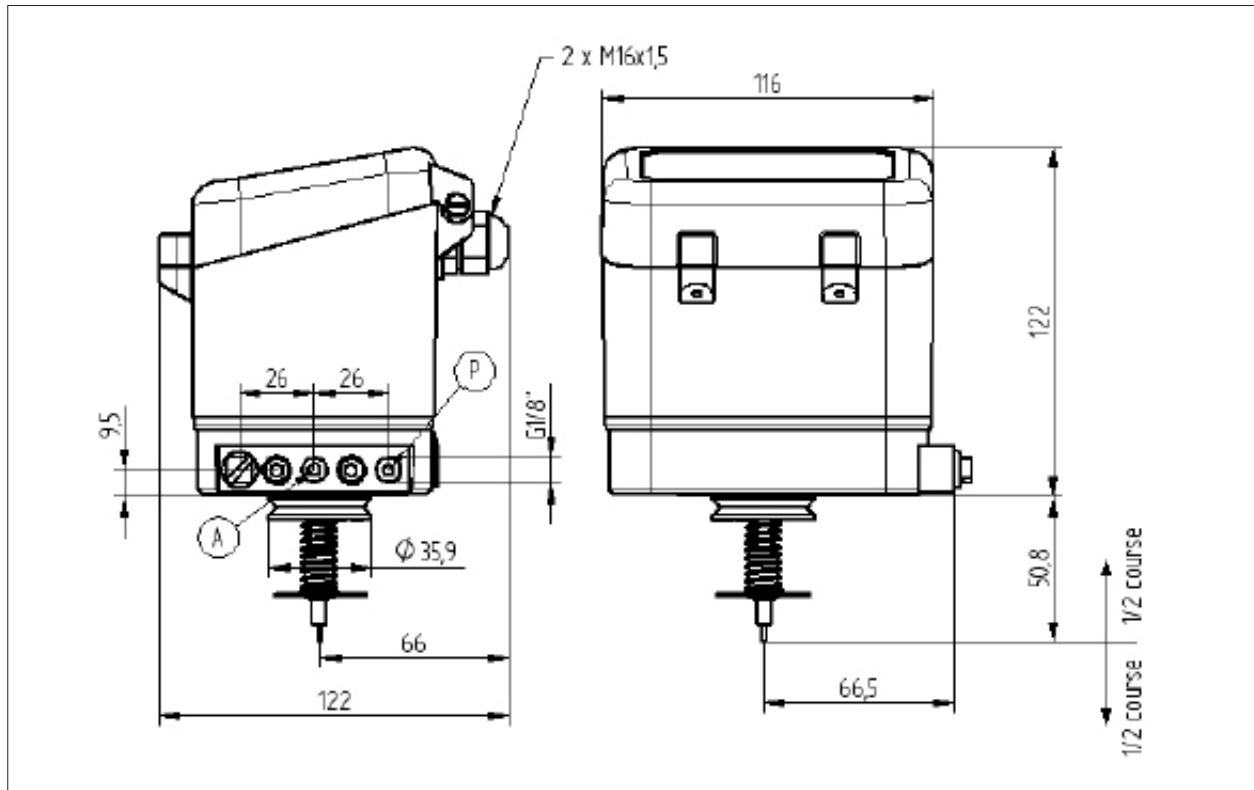


Ordering number system

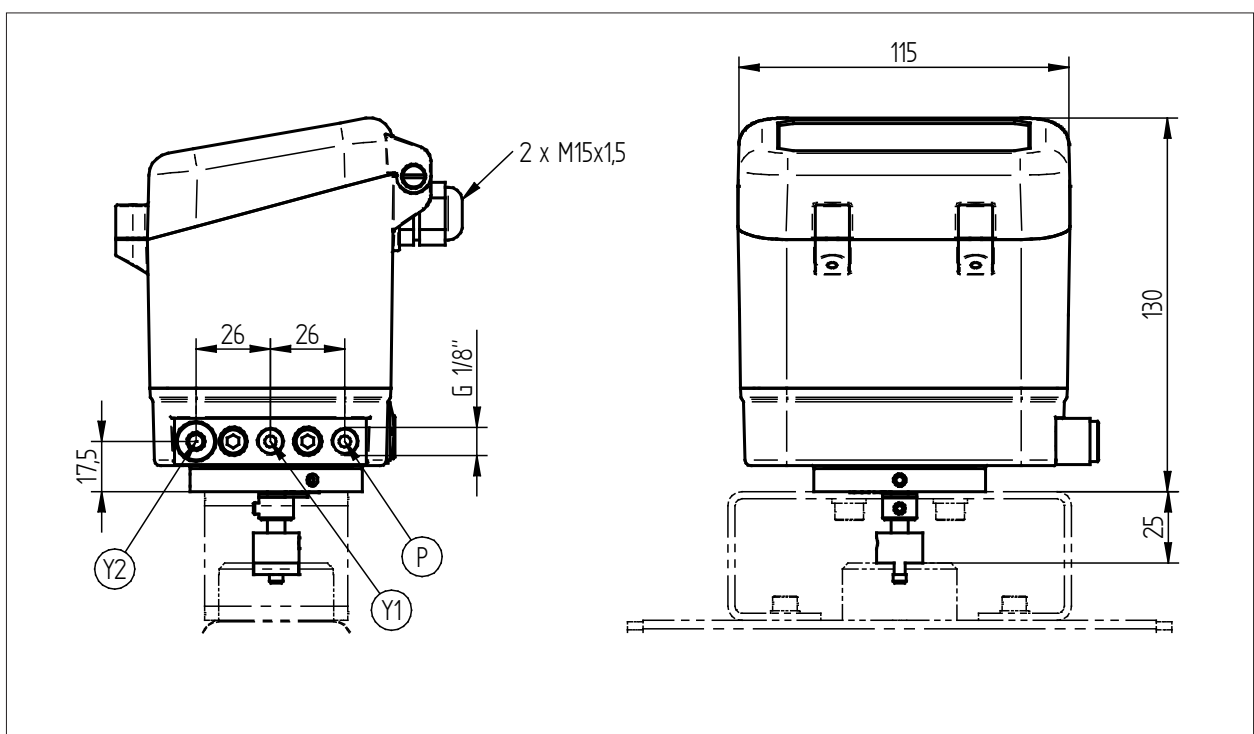
| | | | | | | | | | | quote only if required | | | | | |
|-------------------------------------------------------------|-----|---|--|--|--|--|--|--|--|------------------------|--|---|---|---|---|
| 8049/ | | - | | | | | | | | | | S | | - | |
| Basic design | | | | | | | | | | | | | | | |
| dig. positioner 8049-4 (version 5) | 4P5 | | | | | | | | | | | | | | |
| For actuator | | | | | | | | | | | | | | | |
| single acting | | | | | | | | | | | | | | | 1 |
| double acting | | | | | | | | | | | | | | | 2 |
| Air delivery | | | | | | | | | | | | | | | |
| standard | | | | | | | | | | | | | S | | |
| high | | | | | | | | | | | | | H | | |
| Body | | | | | | | | | | | | | | | |
| aluminium / plastic | | | | | | | | | | | | | | | 0 |
| stainless steel ground plate | | | | | | | | | | | | | | | 1 |
| body in stainless steel | | | | | | | | | | | | | | | 2 |
| Electro-pneumatic connection | | | | | | | | | | | | | | | |
| cable bushing 2 x M16x1,5 | | | | | | | | | | | | | | | 0 |
| NPT-thread 1/2" | | | | | | | | | | | | | | | 1 |
| plug connection M12x1, 5-pin | | | | | | | | | | | | | | | 2 |
| Pneumatic connection | | | | | | | | | | | | | | | |
| G 1/8" | | | | | | | | | | | | | | | 0 |
| NPT 1/8" | | | | | | | | | | | | | | | 1 |
| Position measuring | | | | | | | | | | | | | | | |
| linear potentiometer without sensing pin | | | | | | | | | | | | | | | 0 |
| linear potentiometer with standard sensing pin (L=99,6mm) | | | | | | | | | | | | | | | 1 |
| linear potentiometer with curtated sensing pin (L=94,4 mm) | | | | | | | | | | | | | | | G |
| rotary potentiometer for semi-rotary drive | | | | | | | | | | | | | | | 2 |
| EMV-galvanic separating module for exterior path sensor | | | | | | | | | | | | | | | 3 |
| Optical indicator | | | | | | | | | | | | | | | |
| without indicator | | | | | | | | | | | | | | | 0 |
| indicator disc for sensing pin in PA | | | | | | | | | | | | | | | 1 |
| indicator disc for sensing pin in metal | | | | | | | | | | | | | | | 2 |
| rotation angle indicator | | | | | | | | | | | | | | | 3 |
| Auxiliary module | | | | | | | | | | | | | | | |
| without auxiliary module | | | | | | | | | | | | | | | 0 |
| IPC-process controller | | | | | | | | | | | | | | | C |
| Accessories | | | | | | | | | | | | | | | |
| without accessories | | | | | | | | | | | | | | | 0 |
| manometer bloc single acting, scaling in bar and PSI | | | | | | | | | | | | | | | 1 |
| optical position indicator for rotating actuators | | | | | | | | | | | | | | | 2 |
| Further details | | | | | | | | | | | | | | | |
| special design (quote only if required) | | | | | | | | | | | | | | | S |
| positioner montage (only for the manufacturer) | | | | | | | | | | | | | | | M |
| Settings | | | | | | | | | | | | | | | |
| standard | | | | | | | | | | | | | | | - |
| settings on customer request | | | | | | | | | | | | | | | 1 |
| Special design | | | | | | | | | | | | | | | |
| without | | | | | | | | | | | | | | | - |
| separated version incl. exterior path sensor for lift drive | | | | | | | | | | | | | | | 1 |

Dimensions

For linear actuators



For quarter-turn actuators



Configuration-Software „DeviceConfig“

Setup-Parameters

Adjustment of controlling parameters (input signal, stroke limitation, tight closing function, control hysteresis, valve function,....)

Live-Monitor

The operating conditions of the positioner, can be viewed with the live monitor.

Configuration-Software „DeviceConfig“

Settings of the IPC-Modul parametrisation of the IPC-module

IPC

Settings
Information
Monitor

IPC settings:

ALAr - alarm-setpoint value:

HISr - alarm hysteresis: In physical unit

PASS - password: Negative value = complete lock

IPC: ON OFF

InPu - source of actual value:

Sub-menu USER ->

Ctrl - control function: d - direct i - inverse

SEtP - source of setpoint value:

Internal setpoint value:

ALr - Type of alarm:

FILt - Filter: ON OFF

Sub-menu PId ->

Mode: Automatic mode Manual mode

Sub-menu USER - scaling of input values:

dEC - decimal points: 0..2

Lo - Lower setpoint value and actual value: In physical unit

Hi - Upper setpoint value and actual value: In physical unit

Only IPC extension

Diagnostic data

Informations of valve stroke, running time, soft- and hardware-versions, achieved temperature- and stroke levels, error messages, number of cycles, operating hours...

Diagnosis

| Base | Version information | Temperature- /way classes | Status / Error | Maintenance | Diagnosis | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------|-----------|-----|----------|----------------------------------|-----|---------------|---------------------------------|-----|-------------|---------------------------------|-----|------------|--------------------------------|-----|-------------|----------------------------------|-----|-------------|----------------------------------|-----|-------------|---------------------------------|-----|-------------|--------------------------------|-----|-------------|---------------------------------|------|------------|---------------------------------|--|--|--|
| | | <p>Way classes</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Class</th> <th>Range</th> <th>No. hours</th> </tr> </thead> <tbody> <tr><td>W1:</td><td>0 ./ 10%</td><td><input type="text" value="232"/></td></tr> <tr><td>W2:</td><td>11 ./ 20%</td><td><input type="text" value="17"/></td></tr> <tr><td>W3:</td><td>21 ./ 30%</td><td><input type="text" value="15"/></td></tr> <tr><td>W4:</td><td>31 ./ 40%</td><td><input type="text" value="7"/></td></tr> <tr><td>W5:</td><td>41 ./ 50%</td><td><input type="text" value="7"/></td></tr> <tr><td>W6:</td><td>51 ./ 60%</td><td><input type="text" value="8"/></td></tr> <tr><td>W7:</td><td>61 ./ 70%</td><td><input type="text" value="16"/></td></tr> <tr><td>W8:</td><td>71 ./ 80%</td><td><input type="text" value="9"/></td></tr> <tr><td>W9:</td><td>81 ./ 90%</td><td><input type="text" value="13"/></td></tr> <tr><td>W10:</td><td>91 ./ 100%</td><td><input type="text" value="57"/></td></tr> </tbody> </table> | Class | Range | No. hours | W1: | 0 ./ 10% | <input type="text" value="232"/> | W2: | 11 ./ 20% | <input type="text" value="17"/> | W3: | 21 ./ 30% | <input type="text" value="15"/> | W4: | 31 ./ 40% | <input type="text" value="7"/> | W5: | 41 ./ 50% | <input type="text" value="7"/> | W6: | 51 ./ 60% | <input type="text" value="8"/> | W7: | 61 ./ 70% | <input type="text" value="16"/> | W8: | 71 ./ 80% | <input type="text" value="9"/> | W9: | 81 ./ 90% | <input type="text" value="13"/> | W10: | 91 ./ 100% | <input type="text" value="57"/> | | | |
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| W2: | 11 ./ 20% | <input type="text" value="17"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W3: | 21 ./ 30% | <input type="text" value="15"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W4: | 31 ./ 40% | <input type="text" value="7"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W5: | 41 ./ 50% | <input type="text" value="7"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W6: | 51 ./ 60% | <input type="text" value="8"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W7: | 61 ./ 70% | <input type="text" value="16"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W8: | 71 ./ 80% | <input type="text" value="9"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W9: | 81 ./ 90% | <input type="text" value="13"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W10: | 91 ./ 100% | <input type="text" value="57"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | <p>Temperature classes</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Class</th> <th>Range</th> <th>No. hours</th> </tr> </thead> <tbody> <tr><td>T1:</td><td>< -30 °C</td><td><input type="text" value="0"/></td></tr> <tr><td>T2:</td><td>-30 ./ -15 °C</td><td><input type="text" value="0"/></td></tr> <tr><td>T3:</td><td>-15 ./ 0 °C</td><td><input type="text" value="0"/></td></tr> <tr><td>T4:</td><td>0 ./ 15 °C</td><td><input type="text" value="0"/></td></tr> <tr><td>T5:</td><td>15 ./ 30 °C</td><td><input type="text" value="190"/></td></tr> <tr><td>T6:</td><td>30 ./ 45 °C</td><td><input type="text" value="331"/></td></tr> <tr><td>T7:</td><td>45 ./ 60 °C</td><td><input type="text" value="1"/></td></tr> <tr><td>T8:</td><td>60 ./ 75 °C</td><td><input type="text" value="0"/></td></tr> <tr><td>T9:</td><td>75 ./ 85 °C</td><td><input type="text" value="0"/></td></tr> <tr><td>T10:</td><td>> 85 °C</td><td><input type="text" value="0"/></td></tr> </tbody> </table> | Class | Range | No. hours | T1: | < -30 °C | <input type="text" value="0"/> | T2: | -30 ./ -15 °C | <input type="text" value="0"/> | T3: | -15 ./ 0 °C | <input type="text" value="0"/> | T4: | 0 ./ 15 °C | <input type="text" value="0"/> | T5: | 15 ./ 30 °C | <input type="text" value="190"/> | T6: | 30 ./ 45 °C | <input type="text" value="331"/> | T7: | 45 ./ 60 °C | <input type="text" value="1"/> | T8: | 60 ./ 75 °C | <input type="text" value="0"/> | T9: | 75 ./ 85 °C | <input type="text" value="0"/> | T10: | > 85 °C | <input type="text" value="0"/> | | | |
| Class | Range | No. hours | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1: | < -30 °C | <input type="text" value="0"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T2: | -30 ./ -15 °C | <input type="text" value="0"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T3: | -15 ./ 0 °C | <input type="text" value="0"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T4: | 0 ./ 15 °C | <input type="text" value="0"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T5: | 15 ./ 30 °C | <input type="text" value="190"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T6: | 30 ./ 45 °C | <input type="text" value="331"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T7: | 45 ./ 60 °C | <input type="text" value="1"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T8: | 60 ./ 75 °C | <input type="text" value="0"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T9: | 75 ./ 85 °C | <input type="text" value="0"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T10: | > 85 °C | <input type="text" value="0"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Text and pictures are not binding. We reserve the right, to alter the equipment.