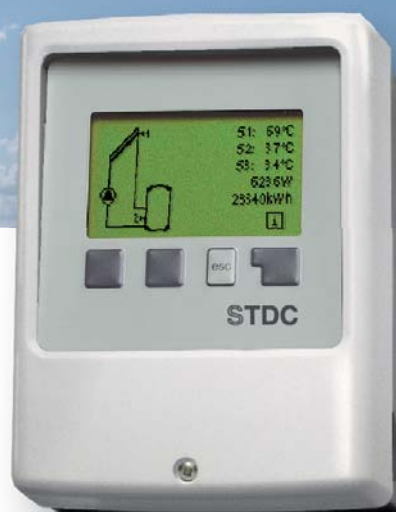


crystalclearoperatorguidance



Temperature Difference Controller
TDC for solar thermal energy

Temperature Difference Controller TDC

General information

As a leading manufacturer of solar thermal and heating circuit controllers, we have greatly enhanced our range of easy-to-use controllers.

The TDC series of temperature difference controllers combine practical design with a feature rich crystal clear operator guidance system capable of switching between a variety of languages.

Several models are available to suit virtually any application. Model specific features provide exceptional value in every price category. Model specific features include:

- 2-6 Pt1000 temperature probes
- 1-3 relay outputs
- Pump output with digital speed control for quiet motor operation
- Heat quantity metering with and without VFS direct vortex type flow sensor

A clearly written, easy to read, lighted display with comprehensive full text and graphic mode is used without confusing abbreviations.

The self-explanatory operation with 4 input keys allows the clear selection of different functions. The instructions are entered with the keys as text or symbols.

The unique TDC housing design allows for multiple installation options. Wall mount, panel mount and pump group integrated installations are supported.

The TDC's electronic control board is located in the front cover, and is easily separated from the terminal base during installation.

The wiring terminals are firmly integrated into the rear portion of the housing. All cables can be reliably terminated and secured using the integrated strain relief clamps.



All models can be refined to suit OEM customer requirements. Customer specific modifications include OEM branding of hardware and documentation, hardware revisions as well as customer specific software & firmware.

Additional models for heating circuits, heat pumps and solid fuel boilers are available.

Based on OEM requirements, options for enhancement may include:

- Ethernet interface for remote administration and data logging
- 0-10V or 4-20mA interface for analog heat requirement control
- PWM output for high efficiency pumps, etc.
- Additional relays for alarm notification

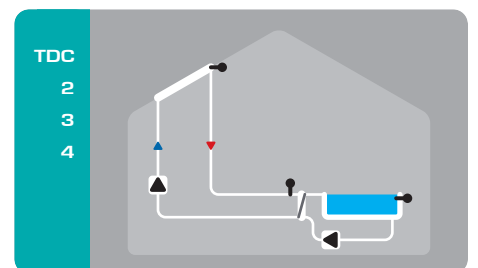
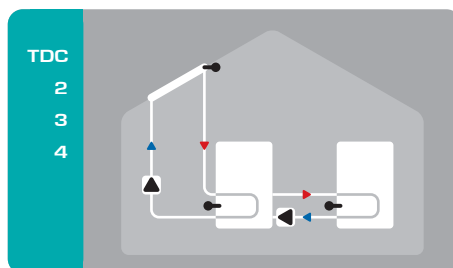
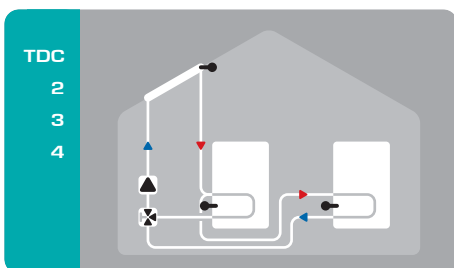
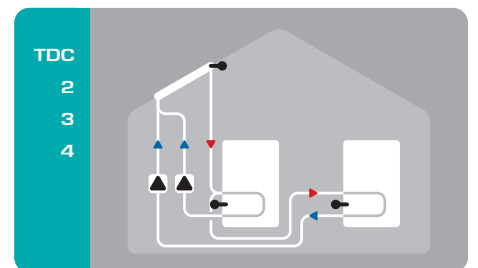
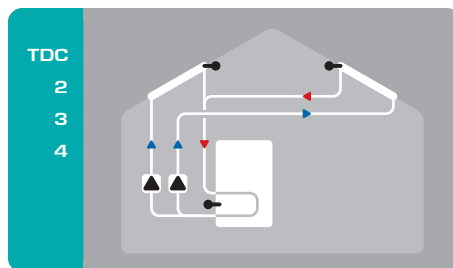
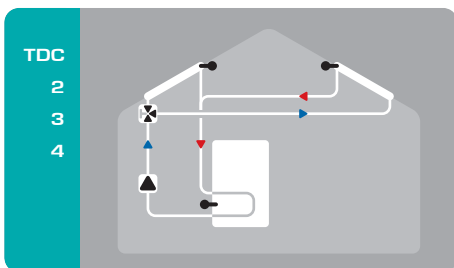
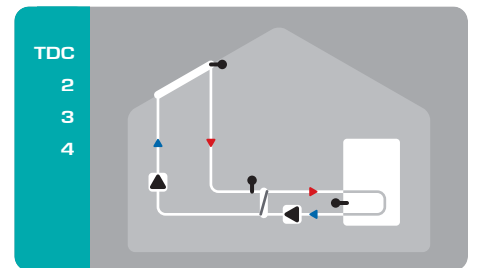
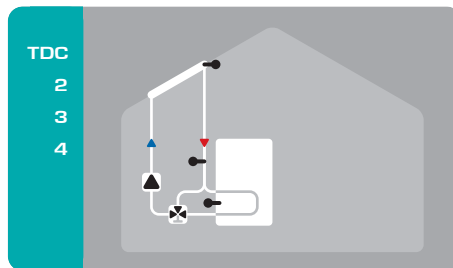
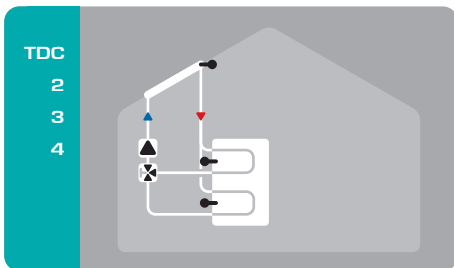
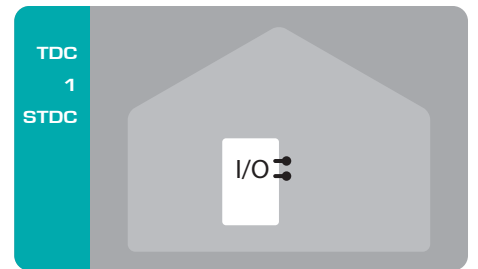
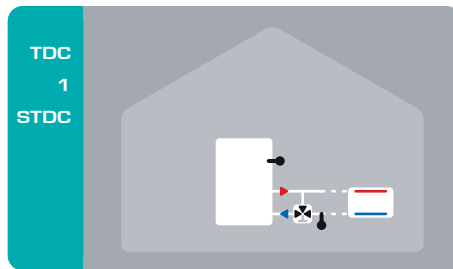
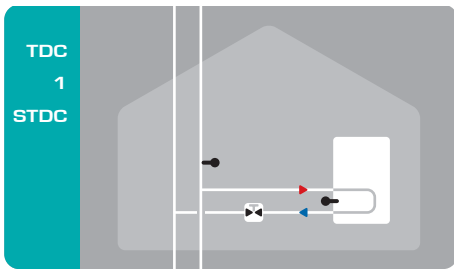
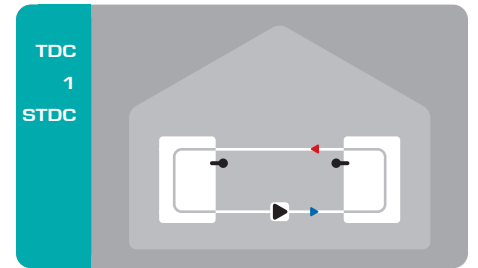
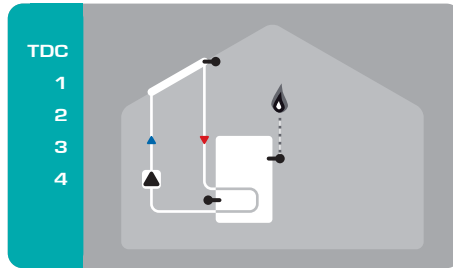
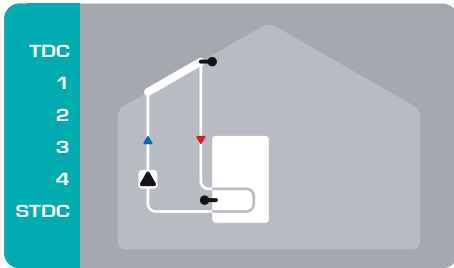
Upgrades 2010

The TDC series was largely improved and hosts a series of improvements and new functions

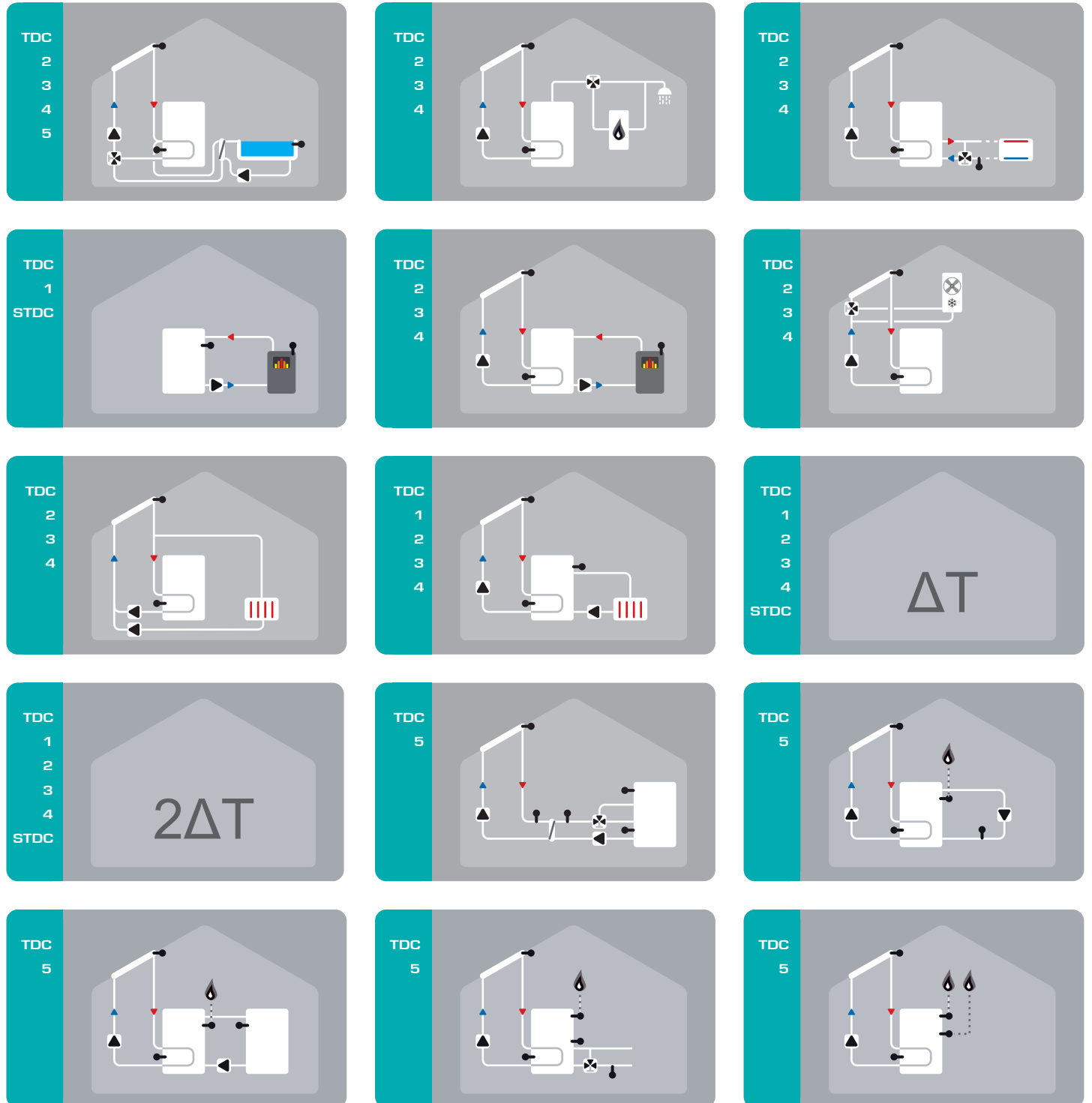
- All units can control more hydraulic variants than before
- ΔT now support switch on and switch off values
- New solar protection with collector-, storage- and system protection functions
- Time controlled thermostat function in all controllers
- Improved pump speed control and storage priority function
- New microcontroller now supports up to 15 languages
- TDC 1, TDC 2, TDC 3 and TDC 4 are now host to new hydraulic variants with collector-/system cooling functions
- Speed control for standard pumps, PWM and 0-10V pumps in the TDC 4
- TDC 4 and TDC 5 with battery backed real time clock
- TDC 4 with different heat metering modes with and without VFS sensor
- TDC 4's additional programmable relay can be used for functions like alarm, secondary pump etc.

Temperature Difference Controller TDC

Hydraulic variants



Temperature Difference Controller TDC

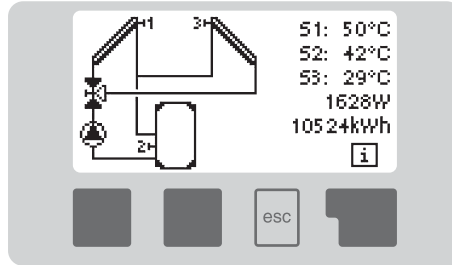


Temperature Difference Controller TDC

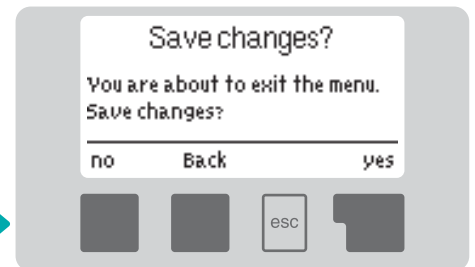
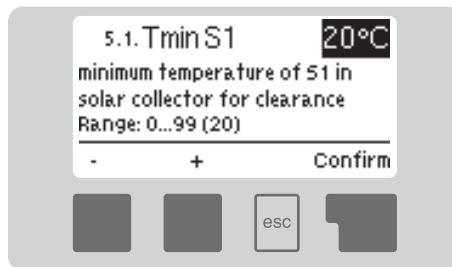
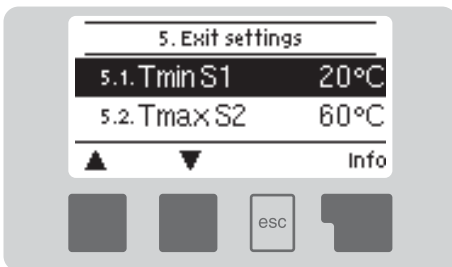
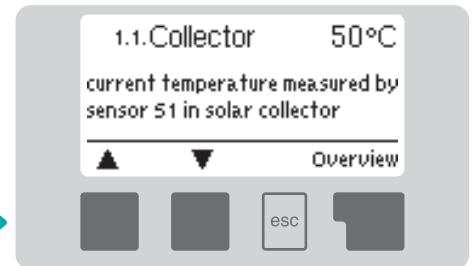
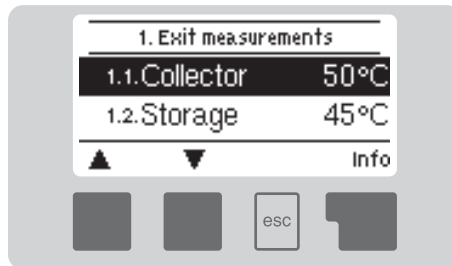
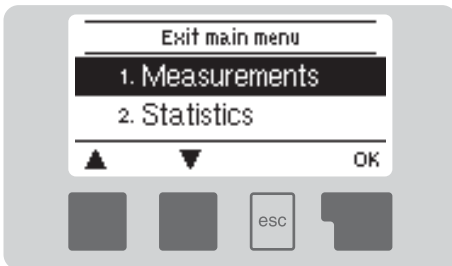
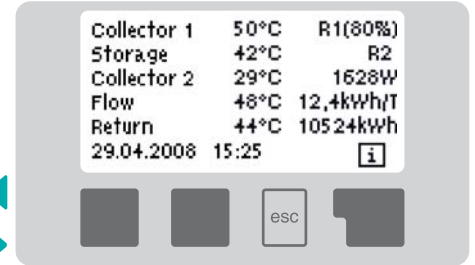
Operator guidance



The setup wizard will rapidly guide you through the settings required for proper system operation. System setup time is greatly reduced, and configuration errors are easily avoided.



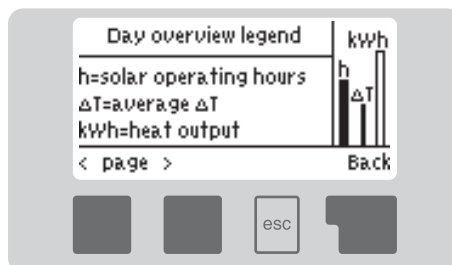
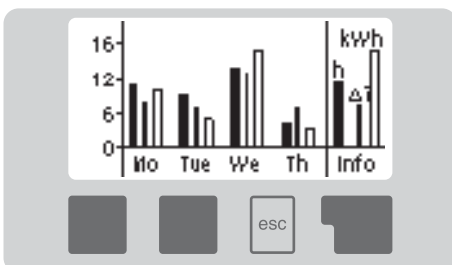
The current status can be displayed in graphical mode with animation, or in text-only mode.



The crystal clear system menu offers many options for visual display, analysis and configuration. Special functions such as storage priority, system protection, pump speed, rapid-start for vacuum tubes, and heat dissipation can be easily configured. An event log with date and time stamps can also be displayed.

The self explanatory operator guidance system allows for quick and easy setup of configuration parameters. Detailed descriptions of each parameter are also provided.

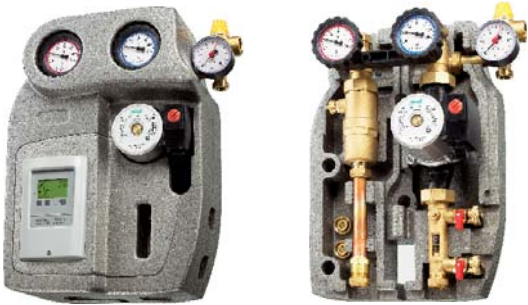
Configuration parameters are easily understood and described in detail on screen. System security features can also be enabled in order to prevent unauthorized parameter changes.



Built-in, long term system monitoring allows for recording and display of system data. Statistics can be recalled based on daily, weekly, monthly and yearly averages.

Pump groups

S2 Solar 30 + TDC



completely pre-assembled and tested pump group 3/4" with solar pump, safety assembly, breather tube and solar controller TDC

- solar pump WILO ST 25/6
- Temperature Difference Controller TDC plugwired and tested, including sensors
- ball valves with integrated non-return valves and thermometer
- flowmeter 2-12 l/min with shut-off and 2 fill and drain ball valves
- safety assembly with manometer 0-10 bar and safety valve 6 bar
- outlet 3/4" to expansion tank at the safety assembly
- wall-fastening fixture
- distance between supply and return 125 mm
- working temperature 120 °C (short-term 160 °C)

Tacosol 4.0 ZR + TDC



completely pre-assembled and tested pump group DN25 1" including pump, safety assembly, breather tube and solar controller TDC

- pump WILO ST 20/6
- Temperature Difference Controller TDC plugwired and tested, including sensors
- ball valves with integrated shut-off valve
- flow meter 4-16l/min
- thermometer and manometer
- safety assembly with manometer 0-10 bar and safety valve 6 bar
- outlet 3/4" to expansion tank
- additional fill- and drain ball valve
- wall-fastening fixture
- distance between supply and return 125 mm
- working temperature: 160 °C flow, 110 °C return

Regusol EL + TDC



completely pre-assembled and tested pump group DN25 1" including pump, safety assembly, breather tube and solar controller TDC

- pump WILO ST 25/6 (or Grundfos Solar 25-60)
- Temperature Difference Controller TDC plugwired and tested, including sensors
- ball valves with integrated non return valves and thermometer
- flow meter 2-15l/min with shut-off and 2 fill and drain ball valves
- safety assembly 0-10 bar and safety valve 6 bar
- outlet 3/4" to expansion tank at the safety assembly
- additional fill- and drain ball valve
- wall-fastening fixture
- distance between supply and return 100mm
- working temperature: 120°C (short term 160°C)

S1 Solar 10 + STDC



completely pre-assembled and tested pump group 3/4" including solar pump and safety assembly and solar controller STDC

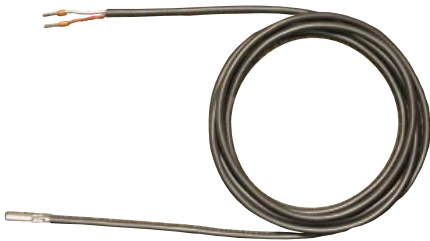
- solar pump WILO ST 25/6
- Temperature Difference Controller STDC plugwired and tested, including sensors
- ball valves with integrated non return valves and thermometer
- flow meter 2-12l/min with shut-off and 2 fill and drain ball valves
- safety assembly 0-10 bar and safety valve 6 bar
- outlet 3/4" to expansion tank at the safety assembly
- wall-fastening fixture
- working temperature: 120°C (short term 160°C)

Accessories

Probes

The SOREL temperature probe utilizes a Pt1000 platinum sensing element in order to provide precise temperature sensing.

The probes are available in configurations suitable for temperature stability up to 300°C. Custom and standard length cables are available upon request.



Immersion sleeves

The SOREL immersion sleeves are equipped with a conical tip for rapid and exact heat transmission to the probe.

They also feature a threaded cable gland with silicon gasket. Sleeve lengths from 30 to 400mm are available and can be supplied in brass, copper or stainless steel.



Valves

For switching processes in solar thermal and heating applications, 2- and 3-way zone valves are available.

Thermostatic mixing valves are applicable for use on solar storage tanks where scald-proof functionality is required.



SOREL

SOREL GmbH Mikroelektronik
Jahnstraße 36
D - 45549 Sprockhövel

Tel. +49 (0)2339 6024
Fax. +49 (0)2339 6025

info@sorel.de
www.sorel.de

