

# Temperature Difference Controllers

## XTDC


XtraLarge Temperature Difference Controller  
for flexible control of complex solar thermal systems

### Features

- For 48 basic solar systems with additional functions for unused relays
- Intuitive operator guidance via 4 input keys
- Full-text menu with explanatory texts and graphic mode with animations
- High-contrast lighted display with 128x128 dots
- Function check and graphical system analysis with long-term memory for statistics about heat quantity and operating hours
- White housing RAL9003, protection class IP40,
- Dimensions HWD 228x180x 53mm
- Mounting hardware, spare fuse and user manual

### Menu languages (additional languages on request)



XTDC	Version 1	Version 2
Sensor inputs	8	8
Relay outputs 230V	6	6
Relay output voltage-free	1	1
Outputs 0..10V or PWM signal for speed control of high-efficiency pumps 	2	2
Number of applications	48+	48+
LEDs red/green for display of operating status	✓	✓
Simple heat metering	✓	✓
Flow based heat metering (Grundfos VFS sensor)	0-2	0-2
Pressure monitoring (Grundfos RPS sensor)	0-2	0-2
Time and temperature-controlled thermostat function	✓	✓
Battery-backed Real Time Clock	✓	✓
Legionella protection via solar	✓	✓
Legionella protection via additional heating	✓	✓
Cooling function	✓	✓
Setup wizard	✓	✓
System protection	✓	✓
Collector protection	✓	✓
Storage protection	✓	✓
Anti-freeze programs	✓	✓
Recooling	✓	✓
Start logic for vacuum tube collectors	✓	✓
Control program for self-dumping systems (drain-back)	✓	✓

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Data storage with statistics and graphic analysis	✓	✓
Error memory and analysis with date and time	✓	✓
Menu blocker	✓	✓
Power supply for universal voltage range (100...240VAC) and reduced standby consumption	✓	✓
CAN bus connection for SOREL Connect	(as of July 2014)	(as of July 2014)
Data logging on SD Memory Card	✓	✓
Ethernet connection incl. licence for SOREL Connect	via data logger	✓

XTDC Hydraulic variants on page 18

Art. no. 18001 - XTDC with CAN

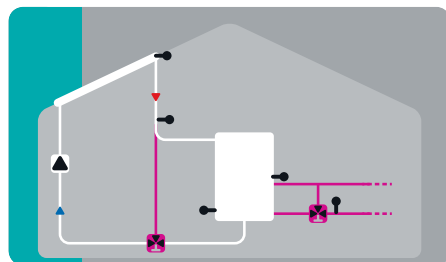
Art. no. 18002 - XTDC with Ethernet incl. SOREL Connect

## XTDC - Additional functions for free relays:

- Solar bypass
- Backup heating control
- Cooling function
- Collector field cooling
- Return flow increase
- Anti-legionella function
- Storage transfer
- Universal DeltaT
- Always on
- Thermostat 2
- Solid fuel boiler control
- Signalling with activated protection function
- Signalling with new information message
- Pressure monitoring
- Booster for fast system loading
- Heating circuit
- Parallel operating with R1
- Parallel operating with R2

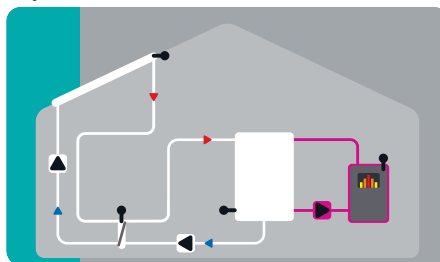
### Examples:

System 1 + +



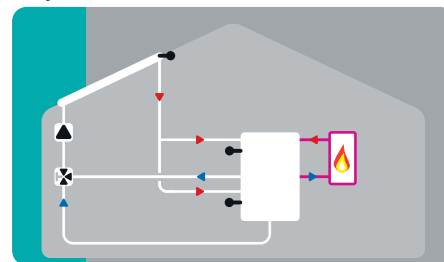
Solar with storage, additional function solar, bypass and return flow

System 2 +



Solar with heat exchanger and additional function fuel boiler

System 10 +

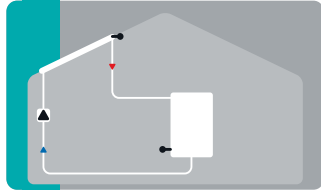


Solar with 2 zone storages and switch valve with additional function thermostat

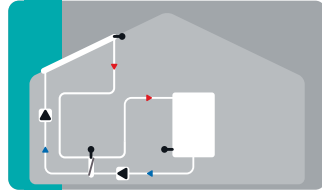
The illustrations should be viewed only as schematic diagrams showing the respective hydraulic systems, and do not claim to be complete. The controller does not replace safety devices under any circumstances. Depending on the specific application, additional system components and safety components may be mandatory, such as check valves, non-return valves, safety temperature limiters, scalding protectors, etc., and must therefore be provided.

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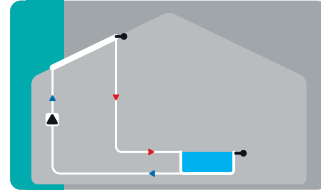
## Hydraulic variants XTDC



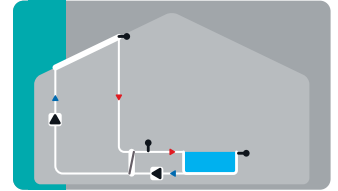
Solar with storage



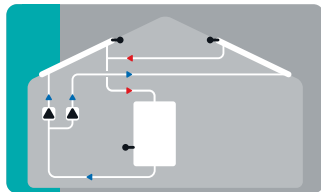
Solar with heat exchanger



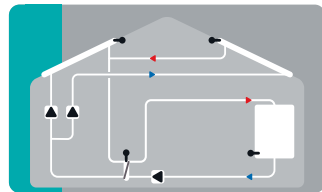
Solar with swimming pool



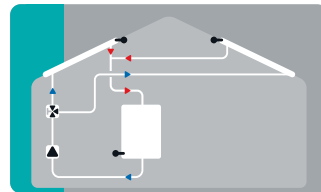
Solar with swimming pool and heat exchanger



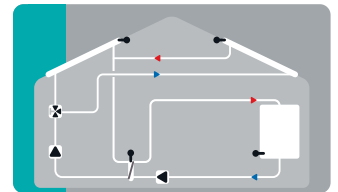
Solar with 2 collector surfaces and 2 pumps



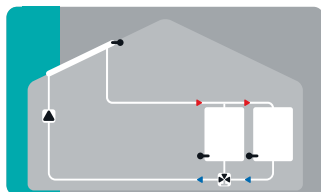
Solar with 2 collector surfaces with 2 pumps, 1 storage, heat exchanger and pump



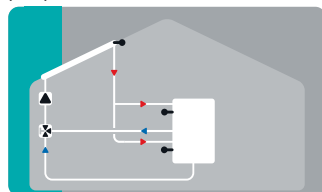
Solar with 2 collector surfaces and switching valve



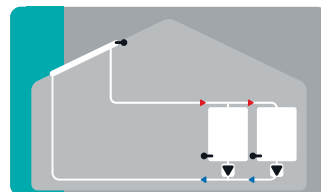
Solar with 2 collector surfaces, switching valve and heat exchanger



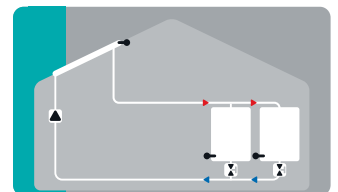
Solar with 2 storages and switching valve



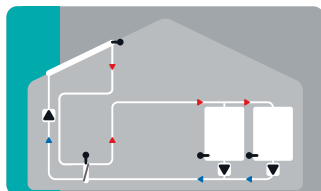
Solar with two-zone storage and switching valve



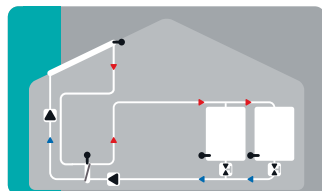
Solar with 2 storages and 2 pumps



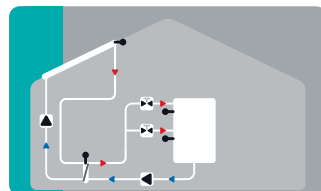
Solar with 2 storages and 2 stop valves



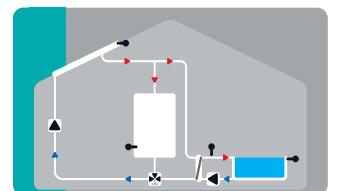
Solar with 2 storages, 2 pumps and heat exchanger



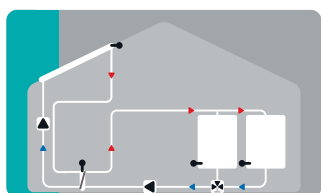
Solar with 2 storages, 2 stop valves and heat exchanger



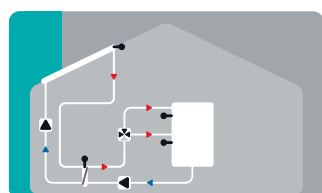
Solar with two-zone storage and stop valve



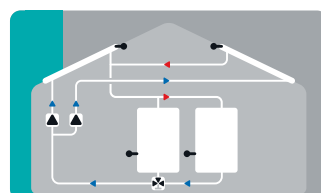
Solar with storage, swimming pool and heat exchanger



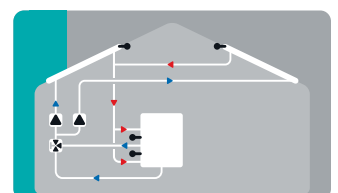
Solar with 2 storages, switching valve and heat exchanger



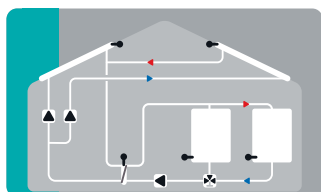
Solar with two-zone storage, switching valve and heat exchanger



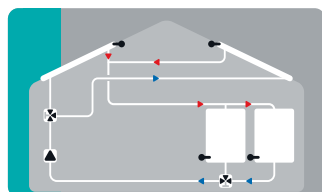
Solar with 2 collector surfaces, 2 storages, 2 pumps and switching valve



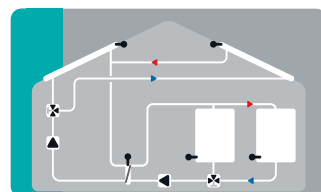
Solar with 2 collector surfaces, two-zone storage, 2 pumps and switching valve



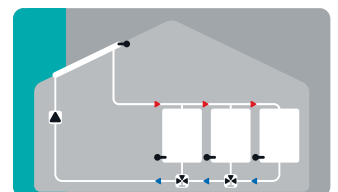
Solar with 2 collector surfaces with 2 pumps, 2 storages, heat exchanger and pump



Solar with 2 collector surfaces, 2 storages and 2 switching valves



Solar with 2 collector surfaces with 1 valve, 2 storages, heat exchanger and pump



Solar with 3 storages and 2 switching valves

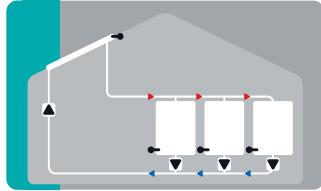
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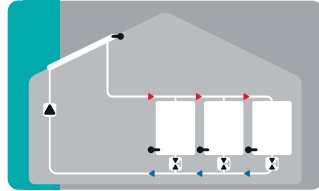
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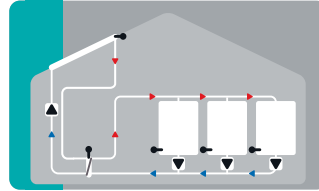
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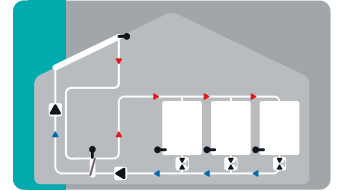
Solar with 3 storages and 3 pumps



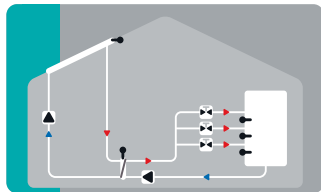
Solar with 3 storages and 3 stop valves



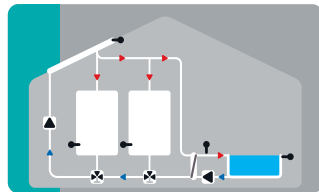
Solar with 3 storages, 3 pumps and heat exchanger



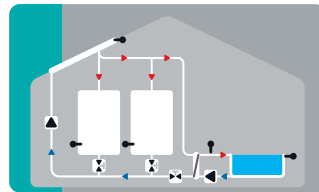
Solar with 3 storages, 3 stop valves and heat exchanger



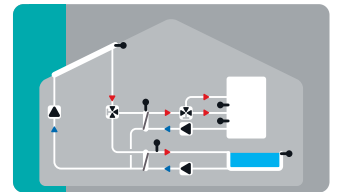
Solar with three-zone storage, 3 stop valves and heat exchanger



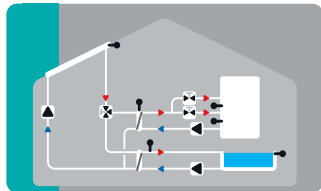
Solar with 2 storages, switching valves and swimming pool with heat exchanger



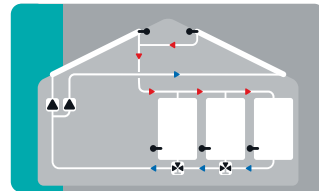
Solar with 2 storages, 3 stop valves and swimming pool with heat exchanger



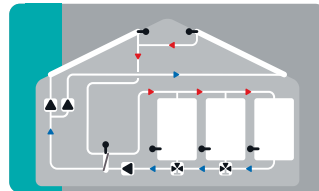
Solar with two-zone storage, switching valve, heat exchanger and pool with heat exchanger



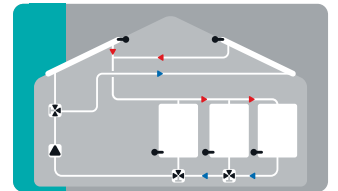
Solar with two-zone storage, 2 stop valves, heat exchanger and pool with heat exchanger



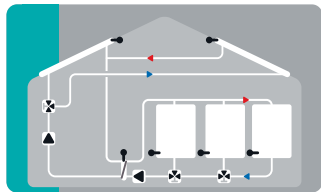
Solar with 2 collector surfaces and 3 storages with 2 switching valves



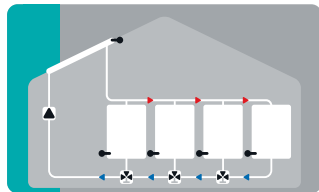
Solar with 2 collector surfaces, 3 storages with 2 switching valves and heat exchanger



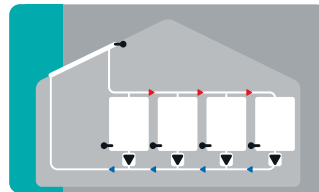
Solar with 2 collector surfaces with 1 valve, 1 pump, 3 storages with valves



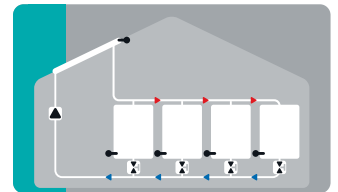
Solar with 2 collector surfaces with 2 pumps, 3 storages, heat exchanger and pump



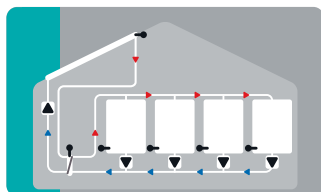
Solar with 4 storages and 3 valves



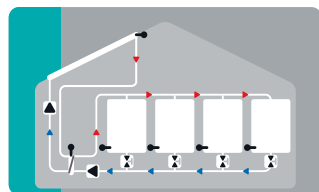
Solar with 4 storages and 4 pumps



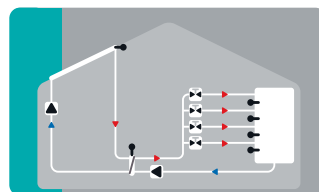
Solar with 4 storages and 4 stop valves



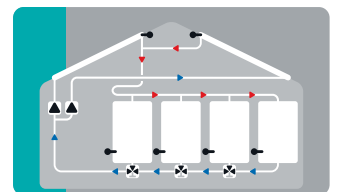
Solar with 4 storages, 4 pumps and heat exchanger



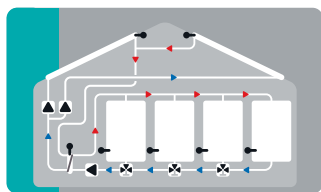
Solar with 4 storages, 4 stop valves and heat exchanger



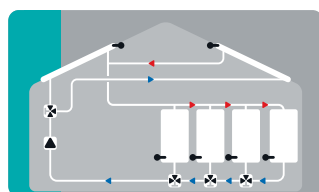
Solar with four-zone storage and 4 stop valves



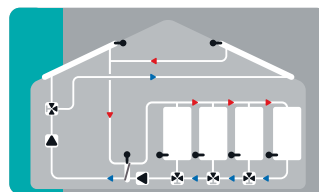
Solar with 2 collector surfaces, 4 storages, 2 pumps and 3 switching valves



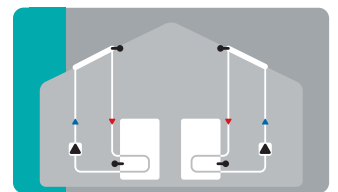
Solar with 2 collector surfaces, 4 storages, 2 pumps, 3 switching valves and heat exchanger



Solar with 2 collector surfaces, 4 storages and 3 switching valves



Solar with 2 collector surfaces, 4 storages and 3 switching valves and heat exchanger



2 x Solar

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