

# Hydraulic layouts for

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# Oventrop **REGTRONIC PM**

## **Important!**

Please read the instructions carefully before installing and operating the unit!

Failure to do this can void product warranty!  
Please keep the instructions in a safe place!

This unit described has been manufactured and inspected according to CE regulations.

**Correct procedure for entering or changing system settings**

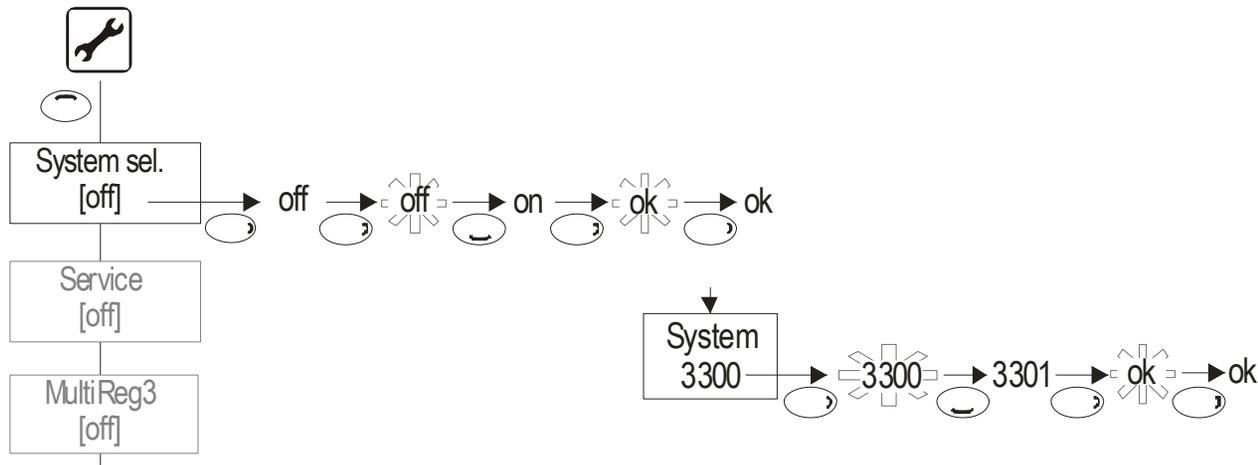
During initial start-up of the equipment, proceed as follows:

1. Select the hydraulic layout (e.g. M1013)
2. Enter the corresponding system number (3310) in the "System Settings" menu (see example below).

Finally, configure any selected ancillary features such as multi-function regulators, etc.

**Note:** 3300 is the initial software set!

**Example:** Change from 3300 initial software set to 3310



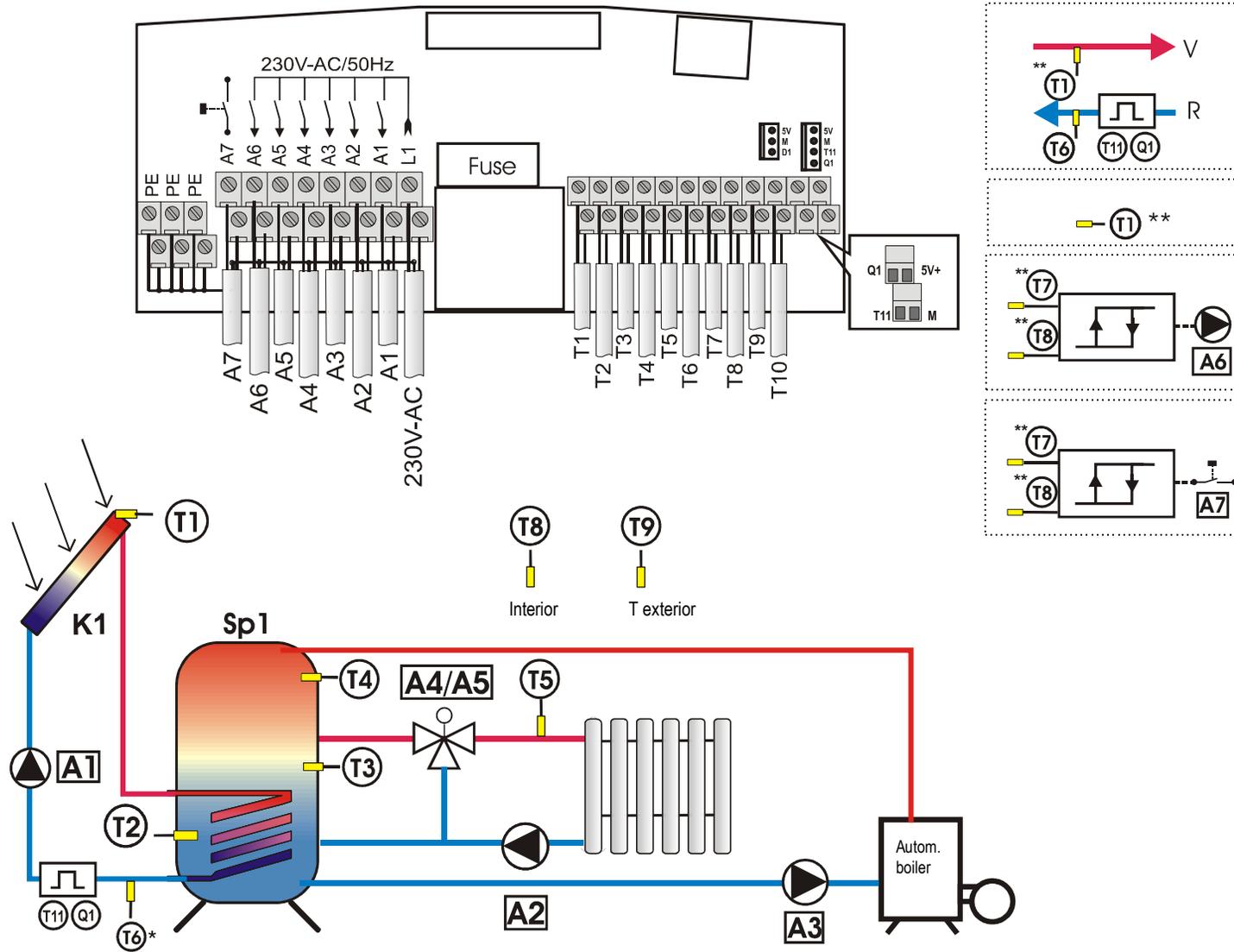
**Overview of individual layouts for Regtronic PM**

<b>System</b>	<b>Layout</b>	<b>Solar circuit</b>	<b>Ancillary features</b>
<b>3310</b>	<b>M1013</b>	1 collector, 1 storage tank, 3 pumps, 1 changeover valve	2 multi-function regulators
<b>3311</b>	<b>M1016</b>	1 collector, 2 storage tanks, 3 pumps, 2 changeover valves	1 multi-function regulator
<b>3312</b>	<b>M1020</b>	1 collector, 1 storage tank, 1 pump	6 multi-function regulators
<b>3313</b>	<b>M1021</b>	1 collector, 1 storage tank, 1 pump, 1 changeover valve	5 multi-function regulators
<b>3314</b>	<b>M1022</b>	2 collectors, 1 storage tank, 1 pump, 1 changeover valve	5 multi-function regulators
<b>3315</b>	<b>M1023</b>	2 collectors, 1 storage tank, 2 pumps	5 multi-function regulators
<b>3316</b>	<b>M1024</b>	1 collector, 2 storage tanks, 1 pump, 2 changeover valves	4 multi-function regulators
<b>3317</b>	<b>M1026</b>	1 collector, 2 storage tanks, 2 pumps	5 multi-function regulators
<b>3318</b>	<b>M1027</b>	1 collector, 2 storage tanks, 1 pump, 1 changeover valve	5 multi-function regulators
<b>3319</b>	<b>M1028</b>	2 collectors, 2 storage tanks, 2 pumps, 2 changeover valves	3 multi-function regulators
<b>3320</b>	<b>M1032</b>	7 multi-function regulators	
<b>3301</b>	<b>X1010</b>	1 collectors, 1 storage tank, 2 pumps	3 multi-function regulators
<b>3302</b>	<b>X1020</b>	1 collector, 1 storage tank, 2 pumps, 1 changeover valve	2 multi-function regulators
<b>3303</b>	<b>X1030</b>	1 collector, 2 storage tanks, 2 pumps, 1 changeover valve	2 multi-function regulators

**Note:** The following layout schematics do not represent complete hydraulic system diagrams.

Layout REGUSOL M1013, system no: 3310

Ancillary features for multi-function regulator



Heating, cooling, threshold switch, increased return flow, wood boiler feature, difference regulator, circulation function, alarm and timer

All sensors can be used for switching and control functions (included those already in use)

Only the output assignments are fixed.

Tx\*\* - Select as required

## Regtronic PM

## Sensor connections for M1013 layout:

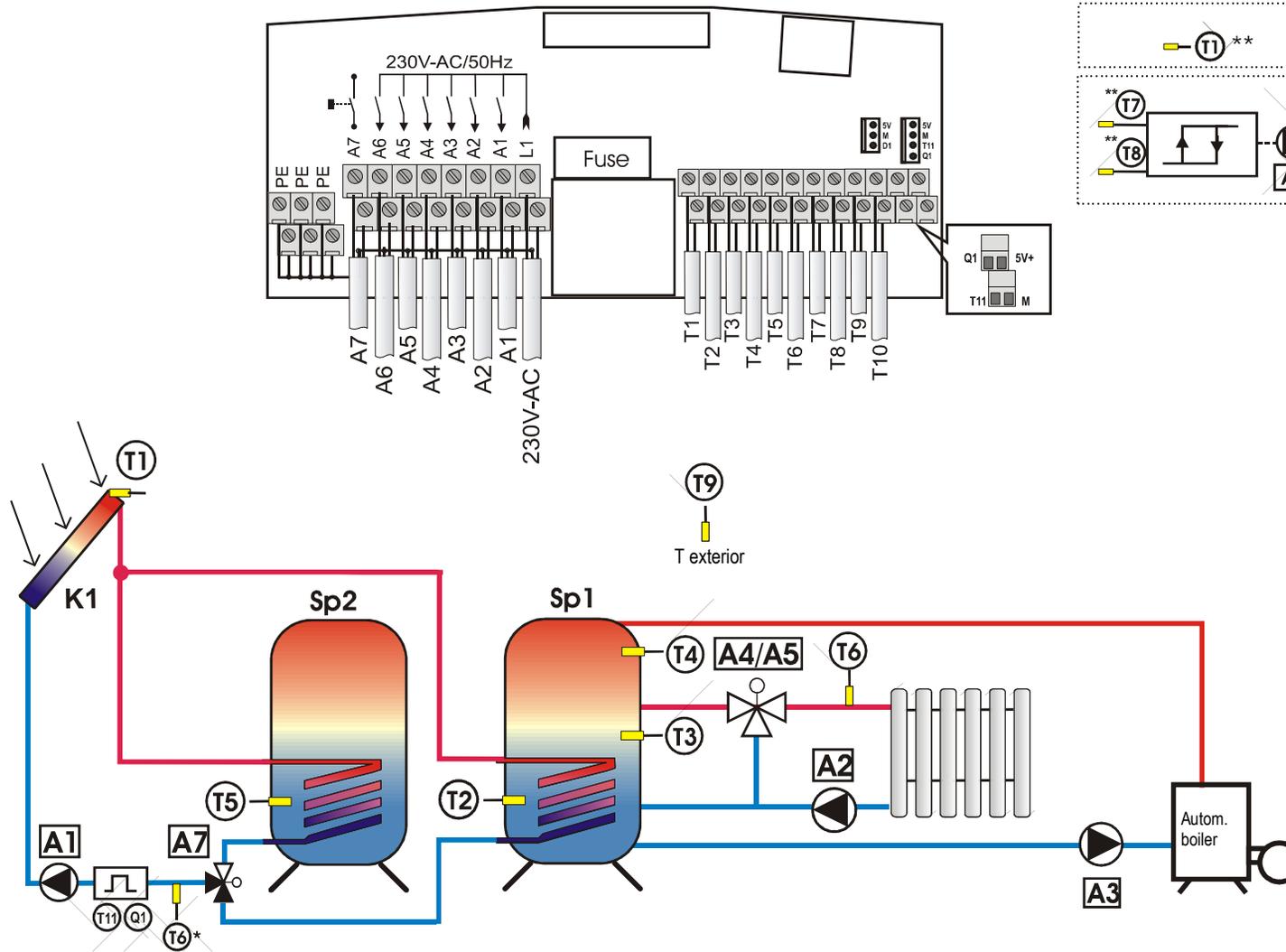
Description	Reference		Comment
	Connection terminal	Plan no.	
Collector temperature sensor	1	T1	Required for measuring the collector temperature. Optional: Can also be used for yield measurement flow temperature and anti-freeze protection
Storage tank (lower) temperature sensor	2	T2	Required for measuring the lower storage tank temperature
Storage tank (centre) temperature sensor	3	T3	Required for measuring the centre storage tank temperature
Temperature sensor storage tank (upper)	4	T4	Required for measuring the upper storage tank temperature
Temperature sensor Temp. heating flow	5	T5	Required for measuring the heating flow temperature
Temperature sensor	6	T6	Optional: can be used instead of T11 for return flow yield measurement, if "Yield Measurement" function selected
Multi-function regulator temperature sensor	7	T7	Sensor available for the multi-function regulator. T7 is a preset: any other sensor may also be used.
Multi-function regulator temperature sensor	8	T8	Sensor available for the multi-function regulator. T8 is a preset: any other sensor may also be used. Optional: Interior sensor.
Temperature sensor	9	T9	Exterior temperature sensor
Temperature sensor	10	T10	Can be assigned as needed. Not used here.
VFS Grundfos sensor	VFS 11/12/5V/M (11=Q, 12=T)	T11/Q1	Energy yield measurement with Grundfos sensor. Necessary if "Yield Measurement" activated.

## 230 V connections for M1013 layout:

Description	Reference		Comment
	Connection terminal	Plan no.	
Mains power	Mains	Mains	Ensure it can be switched off. (by removing a plug or double-pole isolation)
Switched output for solar circuit pump	A1	A1	230 V connection for pump <i>RPM controlled</i> if RPM min programmed < 100%
Switched output for heating circuit pump	A2	A2	230 V connection for pump <i>RPM controlled</i> if RPM min programmed < 100%
Switched output for boiler	A3	A3	230 V connection for pump
Switched output for 3-way valve	A4	A4	Switched output for 3-way valve: OPEN
Switched output for 3-way valve	A5	A5	Switched output for 3-way valve: CLOSE
Switched output for multi-function regulator	A6	A6	230 V connection for pump or valve If "MFR1" activated
Switched output for multi-function regulator	A7	A7	Potential-free N/O contact If "MFR2" activated

**Layout REGUSOL M1016, system no: 3311**

Ancillary features for Multi-function regulator



Heating, cooling, threshold switch, increased return flow, wood boiler feature, difference regulator, circulation function, alarm and timer

All sensors can be used for switching and control functions (included those already in use)

Only the output assignments are fixed.

Tx\*\* - Select as required

## Regtronic PM

## Sensor connections for M1016 layout:

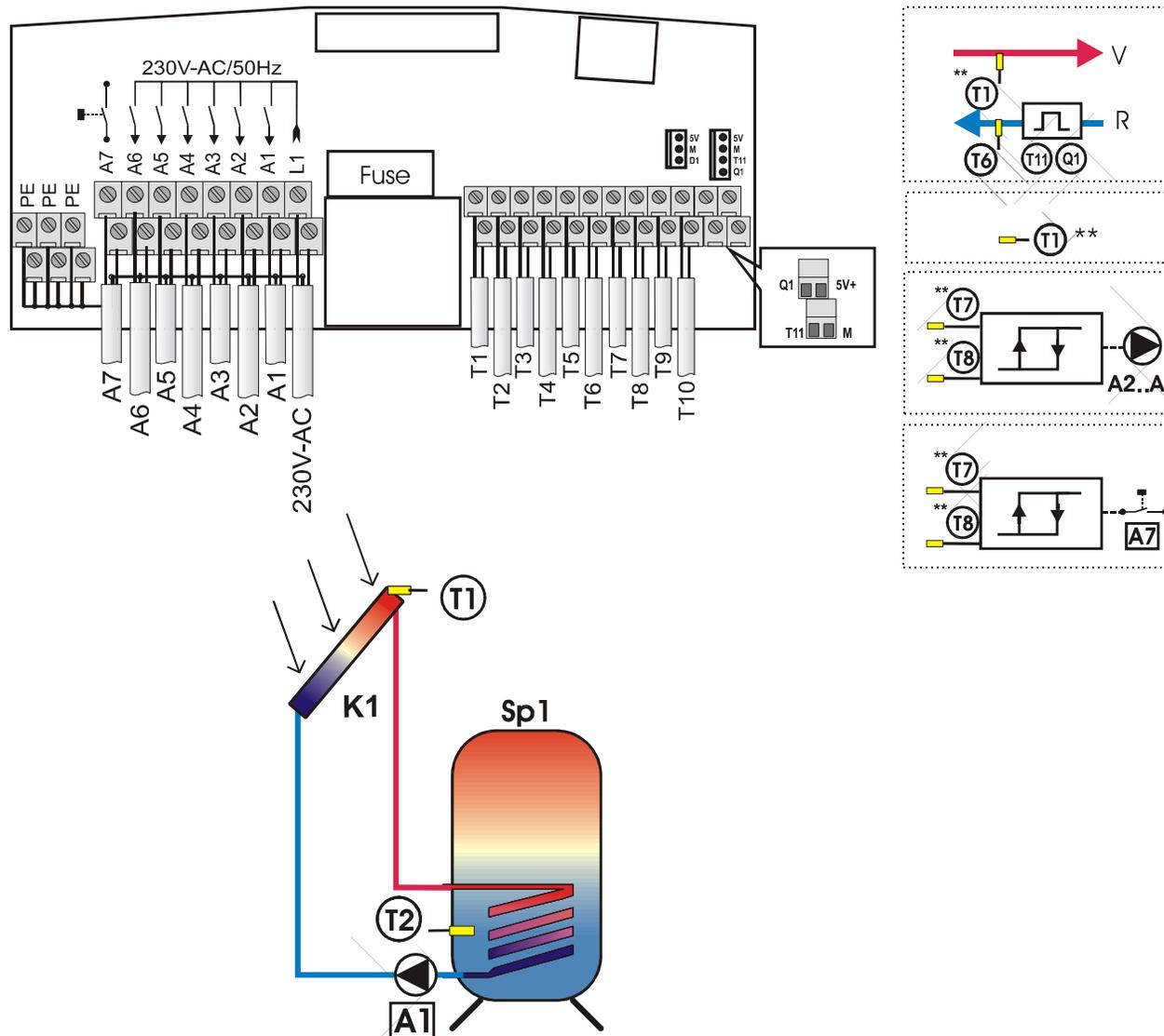
Description	Reference		Comment
	Connection terminal	Plan no.	
Collector temperature sensor	1	T1	Required for measuring the collector temperature. Optional: Can also be used for yield measurement flow temperature and anti-freeze protection
Storage tank 1 (lower) temperature sensor	2	T2	Required for measuring the lower storage tank temperature
Storage tank 1 (centre) temperature sensor	3	T3	Required for measuring the centre storage tank temperature
Storage tank 1 (upper) temperature sensor	4	T4	Required for measuring the upper storage tank temperature
Storage tank 2 (lower) temperature sensor	5	T5	Required for measuring the lower storage tank temperature
Temperature sensor Temp. heating flow	6	T6	Required for measuring the heating flow temperature Optional: instead of T11 for return flow yield measurement, if "Yield Measurement" function selected
Multi-function regulator temperature sensor	7	T7	Sensor available for the multi-function regulator. T7 is a preset: any other sensor may also be used.
Multi-function regulator temperature sensor	8	T8	Sensor available for the multi-function regulator. T8 is a preset: any other sensor may also be used.
Temperature sensor	9	T9	Exterior temperature sensor
Temperature sensor	10	T10	Can be assigned as needed. Not used here.
VFS Grundfos sensor	VFS 11/12/5V/M (11=Q, 12=T)	T11/Q1	Energy yield measurement with Grundfos sensor. Necessary if "Yield Measurement" activated.

## 230 V connections for M1016 layout:

Description	Reference		Comment
	Connection terminal	Plan no.	
Mains power	Mains	Mains	Ensure it can be switched off. (by removing a plug or double-pole isolation)
Switched output for solar circuit pump	A1	A1	230 V connection for pump <i>RPM controlled if</i> RPM min programmed < 100%
Switched output for heating circuit pump	A2	A2	230 V connection for pump <i>RPM controlled if</i> RPM min programmed < 100%
Switched output for boiler	A3	A3	230 V connection for pump
Switched output for 3-way valve	A4	A4	Switched output for 3-way valve: OPEN
Switched output for 3-way valve	A5	A5	Switched output for 3-way valve: CLOSE
Switched output for multi-function regulator	A6	A6	230 V connection for pump or valve If "MFR1" activated
Switched output for 3-way valve	A7	A7	Switched output for 3-way valve

**Layout REGUSOL M1020, system no: 3312**

Ancillary features for Multi-function regulator



Heating, cooling, threshold switch, increased return flow, wood boiler feature, difference regulator, circulation function, alarm and timer

All sensors can be used for switching and control functions (included those already in use)

Only the output assignments are fixed.

Tx\*\* - Select as required

## Regtronic PM

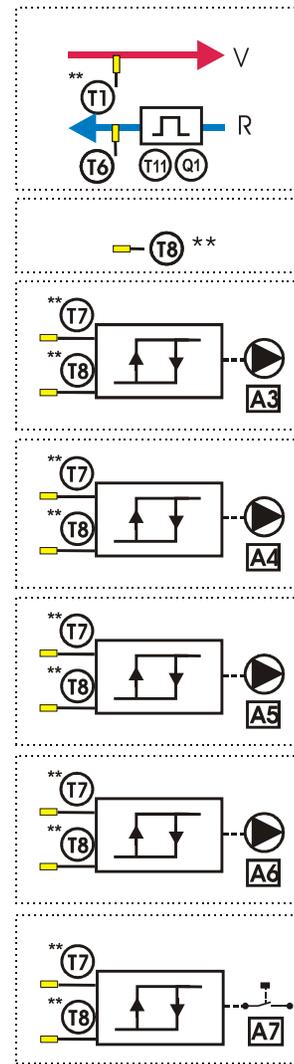
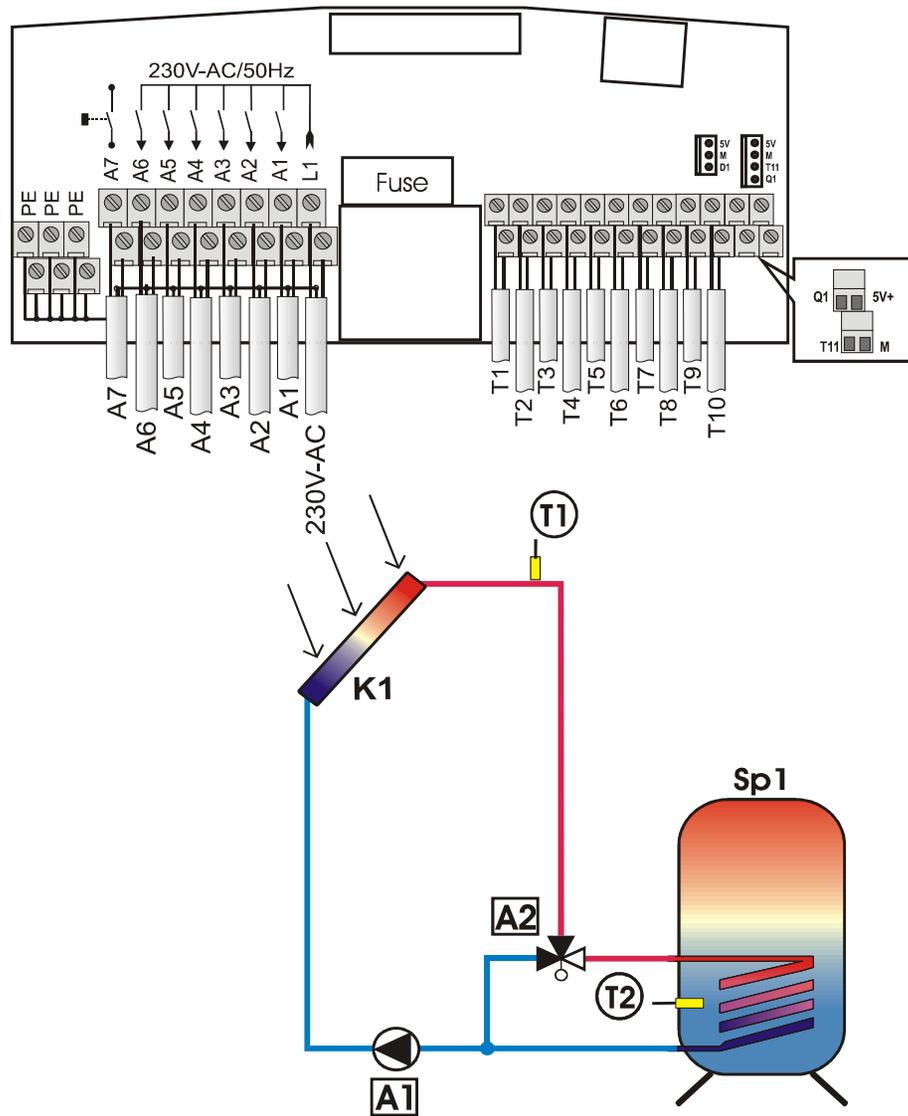
## Sensor connections for M1020 layout:

## 230 V connections for M1020 layout:

Description	Reference		Comment
	Connection terminal	Plan no.	
Collector 1 temperature sensor	1	T1	Required for collector temperature Optional: Can also be used for yield measurement flow temperature and anti-freeze protection
Storage tank (lower) temperature sensor	2	T2	Required for storage tank temperature.
Temperature sensor	3	T3	Can be assigned as needed. Not used here.
Temperature sensor	4	T4	Can be assigned as needed. Not used here.
Temperature sensor	5	T5	Can be assigned as needed. Not used here.
Yield measurement return temperature sensor	6	T6	Optional: instead of T11 for return flow yield measurement, if "Yield Measurement" function selected
Multi-function regulator temperature sensor	7	T7	Sensor 1 for the multi-function regulator. T7 is a preset and can be modified
Multi-function regulator temperature sensor.	8	T8	Sensor 2 for the multi-function regulator. T8 is a preset and can be modified
Temperature sensor	9	T9	Can be assigned as needed. Not used here.
Temperature sensor	10	T10	Can be assigned as needed. Not used here.
VFS Grundfos sensor	VFS 11/12/5V/M (11=Q, 12=T)	T11/Q1	Energy yield measurement with Grundfos sensor. Necessary if "Yield Measurement" activated.

Description	Reference		Comment
	Connection terminal	Plan no.	
Mains power	Mains	Mains	Ensure it can be switched off. (by removing a plug or double-pole isolation)
Switched output for solar circuit pump	A1	A1	230 V connector for pump <i>RPM controlled</i> if RPM min programmed < 100%
Switched output for multi-function regulator	A2	A2	230 V connection for pump or valve if "MFR1" activated.
Switched output for multi-function regulator	A3	A3	230 V connection for pump or valve if "MFR2" activated.
Switched output for multi-function regulator	A4	A4	230 V connection for pump or valve if "MFR3" activated.
Switched output for multi-function regulator	A5	A5	230 V connection for pump or valve if "MFR4" activated
Switched output for multi-function regulator	A6	A6	230 V connection for pump or valve if "MFR5" activated
Switched output for multi-function regulator	A7	A7	Potential-free N/O contact if "MFR6" activated

Layout REGUSOL M1021, system no: 3313



Ancillary features for multi-function regulator

Heating, cooling, threshold switch, increased return flow, wood boiler feature, difference regulator, circulation function, alarm and timer

All sensors can be used for switching and control functions (included those already in use)

Only the output assignments are fixed.

Tx\*\* - Select as required

## Regtronic PM

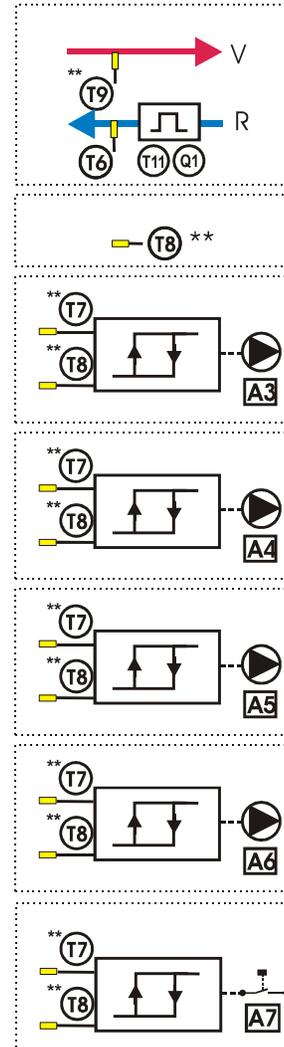
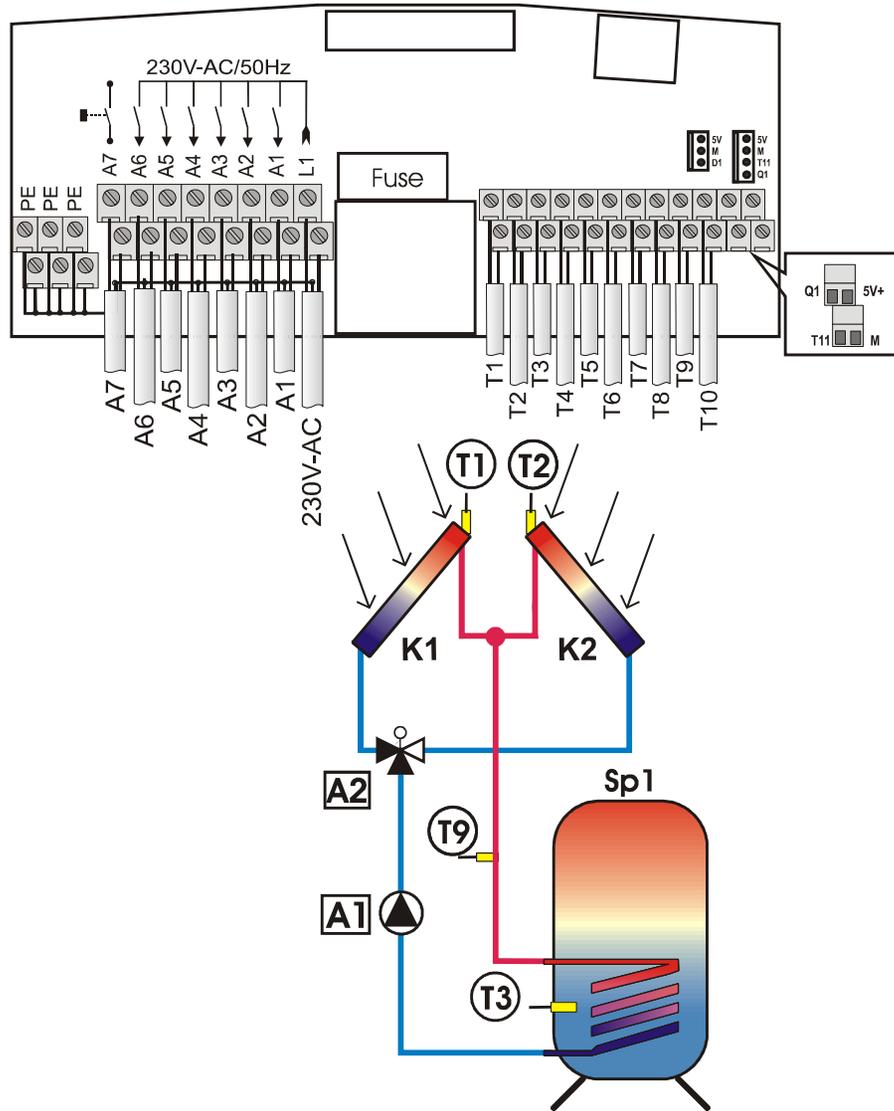
## Sensor connections for M1021 layout:

Description	Reference		Comment
	Connection terminal	Plan no.	
Collector temperature sensor	1	T1	Required for collector temperature Optional: Can also be used for yield measurement flow temperature
Storage tank (lower) temperature sensor	2	T2	Required for storage tank temperature.
Temperature sensor	3	T3	Can be assigned as needed. Not used here.
Temperature sensor	4	T4	Can be assigned as needed. Not used here.
Temperature sensor	5	T5	Can be assigned as needed. Not used here.
Yield measurement return temperature sensor	6	T6	Optional: instead of T11 for return flow yield measurement, if "Yield Measurement" function selected
Multi-function regulator temperature sensor	7	T7	Sensor 1 for the multi-function regulator. T7 is a preset and can be modified
Multi-function regulator temperature sensor.	8	T8	Sensor 2 for the multi-function regulator. T8 is a preset and can be modified. Optional: Frost protection
Temperature sensor	9	T9	Can be assigned as needed. Not used here.
Temperature sensor	10	T10	Can be assigned as needed. Not used here.
VFS Grundfos sensor	VFS 11/12/5V/M (11=Q, 12=T)	T11/Q1	Energy yield measurement with Grundfos sensor. Necessary if "Yield Measurement" activated.

## 230 V connections for M1021 layout:

Description	Reference		Comment
	Connection terminal	Plan no.	
Mains power	Mains	Mains	Ensure it can be switched off. (by removing a plug or double-pole isolation)
Switched output for solar circuit pump	A1	A1	230 V connector for pump <i>RPM controlled</i> if RPM min programmed < 100%
Switched output for 3-way valve	A2	A2	Switched output for 3-way valve
Switched output for multi-function regulator	A3	A3	230 V connection for pump or valve if "MFR1" activated.
Switched output for multi-function regulator	A4	A4	230 V connection for pump or valve if "MFR2" activated.
Switched output for multi-function regulator	A5	A5	230 V connection for pump or valve if "MFR3" activated
Switched output for multi-function regulator	A6	A6	230 V connection for pump or valve if "MFR4" activated
Switched output for multi-function regulator	A7	A7	Potential-free N/O contact if "MFR5" activated

Layout REGUSOL M1022, system no: 3314



Ancillary features for multi-function regulator

Heating, cooling, threshold switch, increased return flow, wood boiler feature, difference regulator, circulation function, alarm and timer

All sensors can be used for switching and control functions (included those already in use)

Only the output assignments are fixed.

Tx\*\* - Select as required

## Regtronic PM

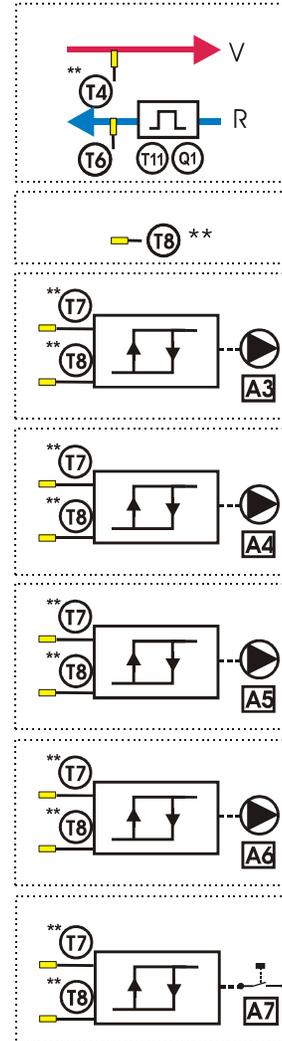
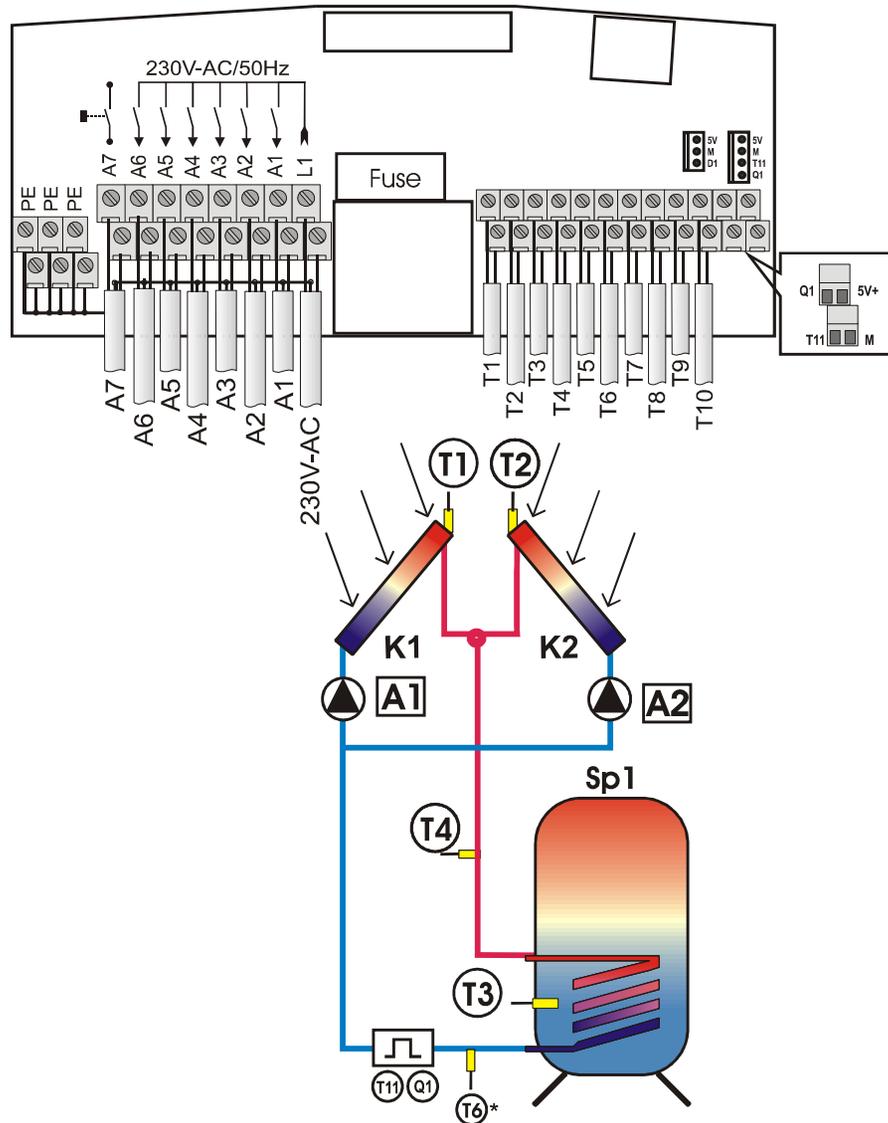
## Sensor connections for M1022 layout:

Description	Reference		Comment
	Connection terminal	Plan no.	
Collector 1 temperature sensor	1	T1	Required for collector temperature
Collector 2 temperature sensor	2	T2	Required for collector temperature
Storage tank (lower) temperature sensor	3	T3	Required for storage tank temperature.
Temperature sensor	4	T4	Can be assigned as needed. Not used here.
Temperature sensor	5	T5	Can be assigned as needed. Not used here.
Yield measurement return temperature sensor	6	T6	Optional: instead of T11 for return flow yield measurement, if "Yield Measurement" function selected
Multi-function regulator temperature sensor	7	T7	Sensor 1 for the multi-function regulator. T7 is a preset and can be modified
Multi-function regulator temperature sensor.	8	T8	Sensor 2 for the multi-function regulator. T8 is a preset and can be modified. Optional: Frost protection
Heating flow temperature sensor	9	T9	Required for heating flow temperature. Can also be used for yield measurement flow temperature
Temperature sensor	10	T10	Can be assigned as needed. Not used here.
VFS Grundfos sensor	VFS 11/12/5V/M (11=Q, 12=T)	T11/Q1	Energy yield measurement with Grundfos sensor. Necessary if "Yield Measurement" activated.

## 230 V connections for M1022 layout:

Description	Reference		Comment
	Connection terminal	Plan no.	
Mains power	Mains	Mains	Ensure it can be switched off. (by removing a plug or double-pole isolation)
Switched output for solar circuit pump	A1	A1	230 V connector for pump <i>RPM controlled</i> if RPM min programmed < 100%
Switched output for 3-way valve	A2	A2	Switched output for 3-way valve
Switched output for multi-function regulator	A3	A3	230 V connection for pump or valve if "MFR1" activated.
Switched output for multi-function regulator	A4	A4	230 V connection for pump or valve if "MFR2" activated.
Switched output for multi-function regulator	A5	A5	230 V connection for pump or valve if "MFR3" activated
Switched output for multi-function regulator	A6	A6	230 V connection for pump or valve if "MFR4" activated
Switched output for multi-function regulator	A7	A7	Potential-free N/O contact if "MFR5" activated

Layout REGUSOL M1023, system no: 3315



Ancillary features for multi-function regulator

Heating, cooling, threshold switch, increased return flow, wood boiler feature, difference regulator, circulation function, alarm and timer

All sensors can be used for switching and control functions (included those already in use)

Only the output assignments are fixed.

Tx\*\* - Select as required

## Regtronic PM

## Sensor connections for M1023 layout:

Description	Reference		Comment
	Connection terminal	Plan no.	
Collector 1 temperature sensor	1	T1	Required for collector temperature
Collector 2 temperature sensor	2	T2	Required for collector temperature
Storage tank (lower) temperature sensor	3	T3	Required for storage tank temperature.
Heating flow temperature sensor	4	T4	Required for heating flow temperature. Can also be used for yield measurement flow temperature
Temperature sensor	5	T5	Can be assigned as needed. Not used here.
Yield measurement return temperature sensor	6	T6	Optional: instead of T11 for return flow yield measurement, if "Yield Measurement" function selected
Multi-function regulator temperature sensor	7	T7	Sensor 1 for the multi-function regulator. T7 is a preset and can be modified
Multi-function regulator temperature sensor.	8	T8	Sensor 2 for the multi-function regulator. T8 is a preset and can be modified. Optional: Frost protection
Temperature sensor	9	T9	Can be assigned as needed. Not used here.
Temperature sensor	10	T10	Can be assigned as needed. Not used here.
VFS Grundfos sensor	VFS 11/12/5V/M (11=Q, 12=T)	T11/Q1	Energy yield measurement with Grundfos sensor. Necessary if "Yield Measurement" activated.

## 230 V connections for M1023 layout:

Description	Reference		Comment
	Connection terminal	Plan no.	
Mains power	Mains	Mains	Ensure it can be switched off. (by removing a plug or double-pole isolation)
Switched output for solar circuit pump	A1	A1	230 V connector for pump <i>RPM controlled</i> if RPM min programmed < 100%
Switched output for solar circuit pump	A2	A2	230 V connector for pump <i>RPM controlled</i> if RPM min programmed < 100%
Switched output for multi-function regulator	A3	A3	230 V connection for pump or valve if "MFR1" activated.
Switched output for multi-function regulator	A4	A4	230 V connection for pump or valve if "MFR2" activated.
Switched output for multi-function regulator	A5	A5	230 V connection for pump or valve if "MFR3" activated
Switched output for multi-function regulator	A6	A6	230 V connection for pump or valve if "MFR4" activated
Switched output for multi-function regulator	A7	A7	Potential-free N/O contact if "MFR5" activated

Layout REGUSOL M1024, system no: 3316

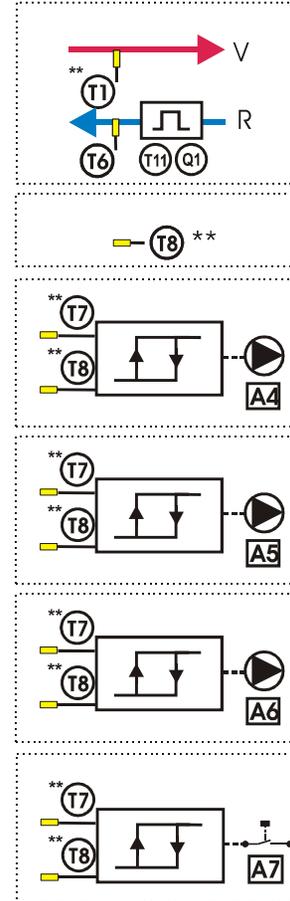
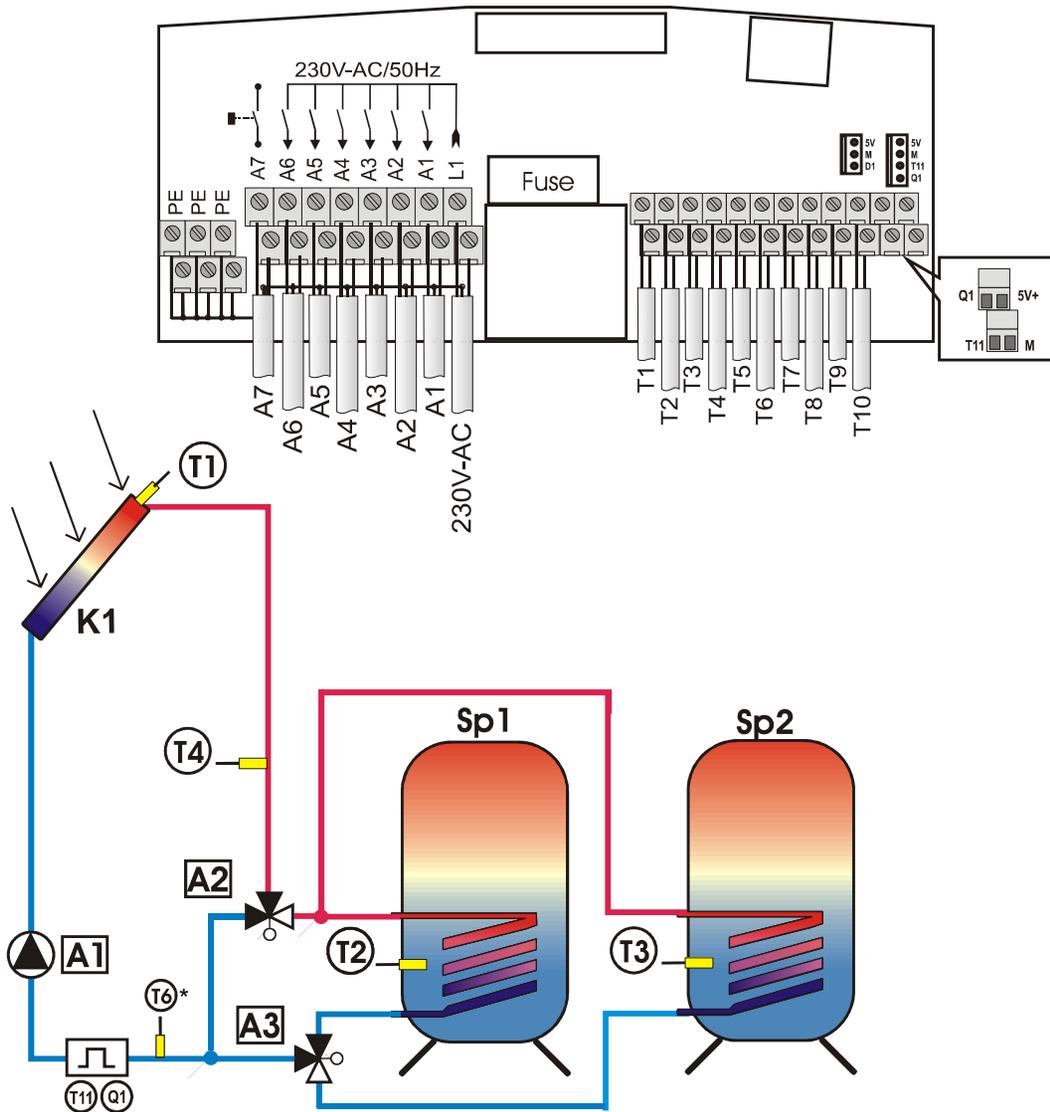
Ancillary features for multi-function regulator

Heating, cooling, threshold switch, increased return flow, wood boiler feature, difference regulator, circulation function, alarm and timer

All sensors can be used for switching and control functions (included those already in use)

Only the output assignments are fixed.

Tx\*\* - Select as required



## Regtronic PM

## Sensor connections for M1024 layout:

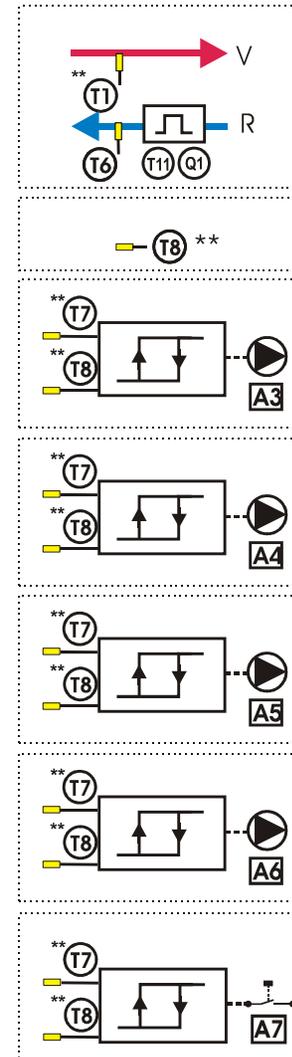
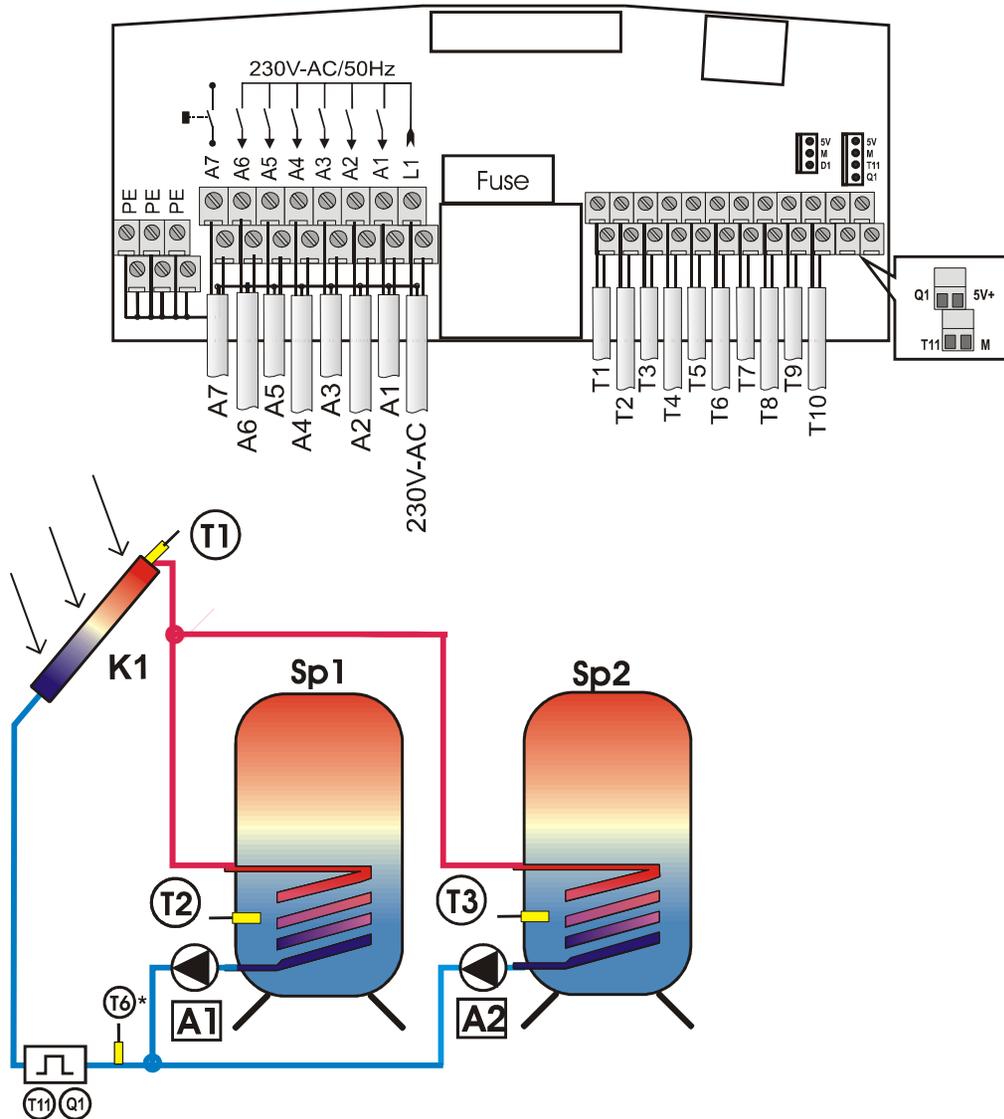
Description	Reference		Comment
	Connection terminal	Plan no.	
Collector temperature sensor	1	T1	Required for collector temperature Optional: Can also be used for yield measurement flow temperature
Storage tank 1 (lower) temperature sensor	2	T2	Required for storage tank temperature.
Storage tank 2 (lower) temperature sensor	3	T3	Required for storage tank temperature.
Heating flow temperature sensor	4	T4	Required for heating flow temperature.
Temperature sensor	5	T5	Can be assigned as needed. Not used here.
Yield measurement return temperature sensor	6	T6	Optional: instead of T11 for return flow yield measurement, if "Yield Measurement" function selected
Multi-function regulator temperature sensor	7	T7	Sensor 1 for the multi-function regulator. T7 is a preset and can be modified
Multi-function regulator temperature sensor.	8	T8	Sensor 2 for the multi-function regulator. T8 is a preset and can be modified. Optional: Frost protection
Temperature sensor	9	T9	Can be assigned as needed. Not used here.
Temperature sensor	10	T10	Can be assigned as needed. Not used here.
VFS Grundfos sensor	VFS 11/12/5V/M (11=Q, 12=T)	T11/Q1	Energy yield measurement with Grundfos sensor. Necessary if "Yield Measurement" activated.

## 230 V connections for M1024 layout:

Description	Reference		Comment
	Connection terminal	Plan no.	
Mains power	Mains	Mains	Ensure it can be switched off. (by removing a plug or double-pole isolation)
Switched output for solar circuit pump	A1	A1	230 V connector for pump <i>RPM controlled</i> if RPM min programmed < 100%
Switched output for 3-way valve	A2	A2	Switched output for 3-way valve
Switched output for 3-way valve	A3	A3	Switched output for 3-way valve
Switched output for multi-function regulator	A4	A4	230 V connection for pump or valve if "MFR1" activated.
Switched output for multi-function regulator	A5	A5	230 V connection for pump or valve if "MFR2" activated
Switched output for multi-function regulator	A6	A6	230 V connection for pump or valve if "MFR3" activated
Switched output for multi-function regulator	A7	A7	Potential-free N/O contact if "MFR4" activated

Layout REGUSOL M1026, system no: 3317

Ancillary features for multi-function regulator



Heating, cooling, threshold switch, increased return flow, wood boiler feature, difference regulator, circulation function, alarm and timer

All sensors can be used for switching and control functions (included those already in use)

Only the output assignments are fixed.

Tx\*\* - Select as required

## Regtronic PM

## Sensor connections for M1026 layout:

Description	Reference		Comment
	Connection terminal	Plan no.	
Collector temperature sensor	1	T1	Required for collector temperature Optional: Can also be used for yield measurement flow temperature
Storage tank 1 (lower) temperature sensor	2	T2	Required for storage tank temperature.
Storage tank 2 (lower) temperature sensor	3	T3	Required for storage tank temperature.
Temperature sensor	4	T4	Can be assigned as needed. Not used here.
Temperature sensor	5	T5	Can be assigned as needed. Not used here.
Yield measurement return temperature sensor	6	T6	Optional: instead of T11 for return flow yield measurement, if "Yield Measurement" function selected
Multi-function regulator temperature sensor	7	T7	Sensor 1 for the multi-function regulator. T7 is a preset and can be modified
Multi-function regulator temperature sensor.	8	T8	Sensor 2 for the multi-function regulator. T8 is a preset and can be modified. Optional: Frost protection
Temperature sensor	9	T9	Can be assigned as needed. Not used here.
Temperature sensor	10	T10	Can be assigned as needed. Not used here.
VFS Grundfos sensor	VFS 11/12/5V/M (11=Q, 12=T)	T11/Q1	Energy yield measurement with Grundfos sensor. Necessary if "Yield Measurement" activated.

## 230 V connections for M1026 layout:

Description	Reference		Comment
	Connection terminal	Plan no.	
Mains power	Mains	Mains	Ensure it can be switched off. (by removing a plug or double-pole isolation)
Switched output for solar circuit pump	A1	A1	230 V connector for pump <i>RPM controlled</i> if RPM min programmed < 100%
Switched output for solar circuit pump	A2	A2	230 V connector for pump <i>RPM controlled</i> if RPM min programmed < 100%
Switched output for multi-function regulator	A3	A3	230 V connection for pump or valve if "MFR1" activated.
Switched output for multi-function regulator	A4	A4	230 V connection for pump or valve if "MFR2" activated.
Switched output for multi-function regulator	A5	A5	230 V connection for pump or valve if "MFR3" activated
Switched output for multi-function regulator	A6	A6	230 V connection for pump or valve if "MFR4" activated
Switched output for multi-function regulator	A7	A7	Potential-free N/O contact if "MFR5" activated

Layout REGUSOL M1027, system no: 3318

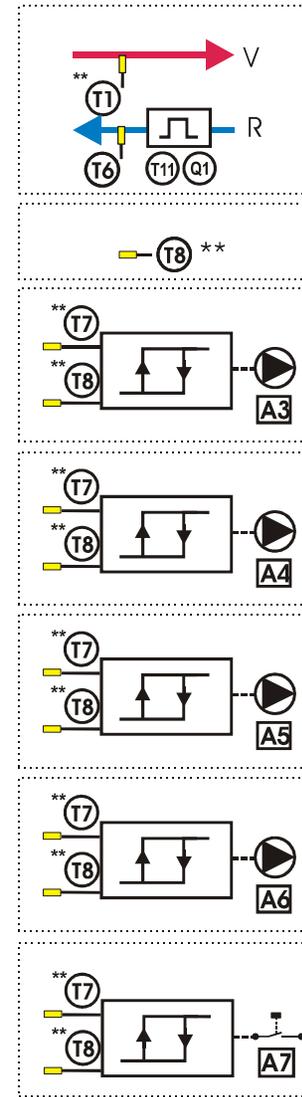
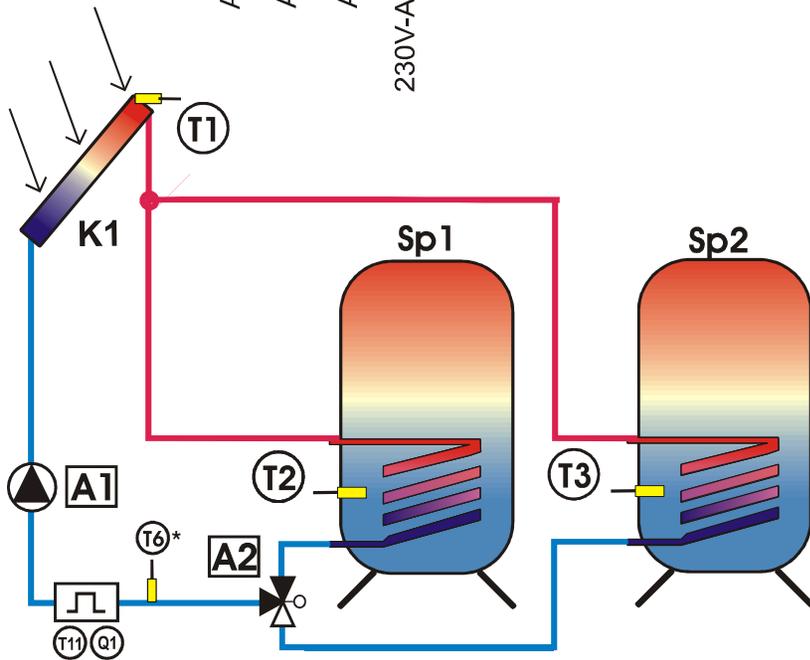
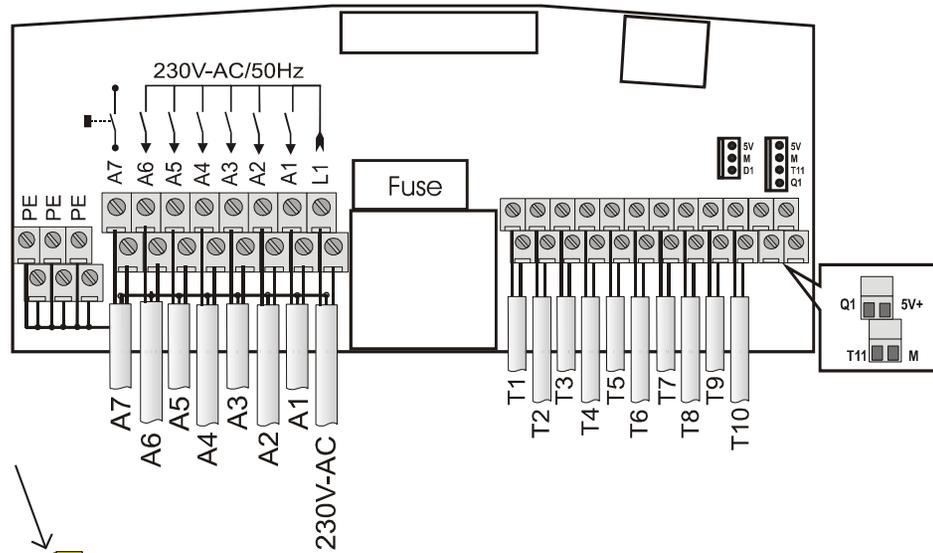
Ancillary features for multi-function regulator

Heating, cooling, threshold switch, increased return flow, wood boiler feature, difference regulator, circulation function, alarm and timer

All sensors can be used for switching and control functions (included those already in use)

Only the output assignments are fixed.

Tx\*\* - Select as required



## Regtronic PM

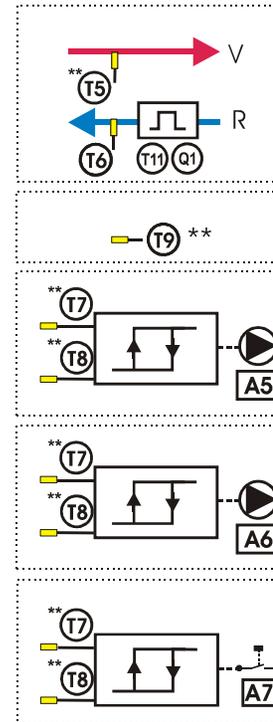
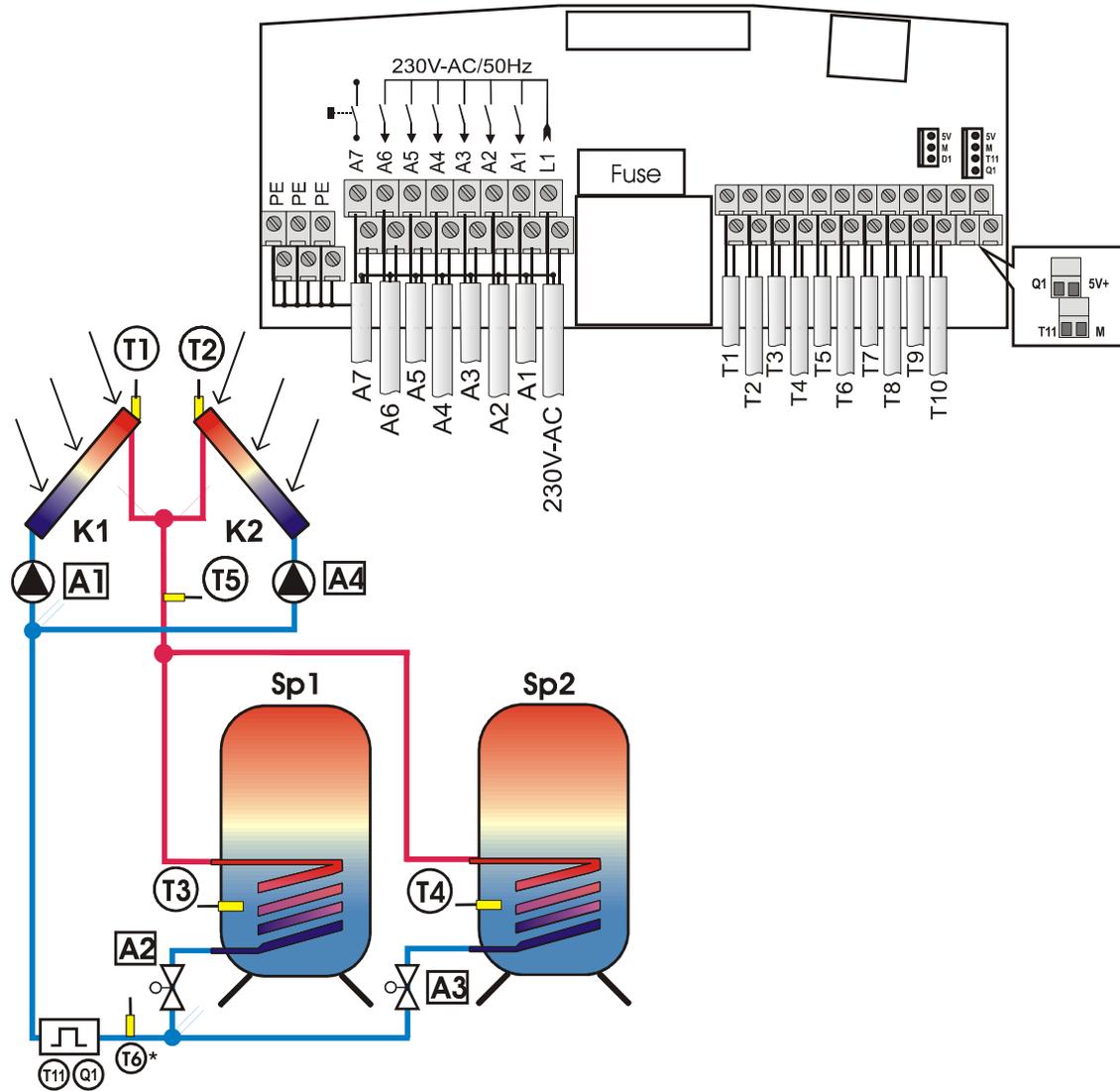
## Sensor connections for M1027 layout:

Description	Reference		Comment
	Connection terminal	Plan no.	
Collector temperature sensor	1	T1	Required for collector temperature Optional: Can also be used for yield measurement flow temperature
Storage tank 1 (lower) temperature sensor	2	T2	Required for storage tank temperature.
Storage tank 2 (lower) temperature sensor	3	T3	Required for storage tank temperature.
Temperature sensor	4	T4	Can be assigned as needed. Not used here.
Temperature sensor	5	T5	Can be assigned as needed. Not used here.
Yield measurement return temperature sensor	6	T6	Optional: instead of T11 for return flow yield measurement, if "Yield Measurement" function selected
Multi-function regulator temperature sensor	7	T7	Sensor 1 for the multi-function regulator. T7 is a preset and can be modified
Multi-function regulator temperature sensor.	8	T8	Sensor 2 for the multi-function regulator. T8 is a preset and can be modified. Optional: Frost protection
Temperature sensor	9	T9	Can be assigned as needed. Not used here.
Temperature sensor	10	T10	Can be assigned as needed. Not used here.
VFS Grundfos sensor	VFS 11/12/5V/M (11=Q, 12=T)	T11/Q1	Energy yield measurement with Grundfos sensor. Necessary if "Yield Measurement" activated.

## 230 V connections for M1027 layout:

Description	Reference		Comment
	Connection terminal	Plan no.	
Mains power	Mains	Mains	Ensure it can be switched off. (by removing a plug or double-pole isolation)
Switched output for solar circuit pump	A1	A1	230 V connector for pump <i>RPM controlled</i> if RPM min programmed < 100%
Switched output for 3-way valve	A2	A2	Switched output for 3-way valve
Switched output for multi-function regulator	A3	A3	230 V connection for pump or valve if "MFR1" activated.
Switched output for multi-function regulator	A4	A4	230 V connection for pump or valve if "MFR2" activated.
Switched output for multi-function regulator	A5	A5	230 V connection for pump or valve if "MFR3" activated
Switched output for multi-function regulator	A6	A6	230 V connection for pump or valve if "MFR4" activated
Switched output for multi-function regulator	A7	A7	Potential-free N/O contact if "MFR5" activated

Layout REGUSOL M1028, system no: 3319



Ancillary features for multi-function regulator

Heating, cooling, threshold switch, increased return flow, wood boiler feature, difference regulator, circulation function, alarm and timer

All sensors can be used for switching and control functions (included those already in use)

Only the output assignments are fixed.

Tx\*\* - Select as required

## Regtronic PM

## Sensor connections for M1028 layout:

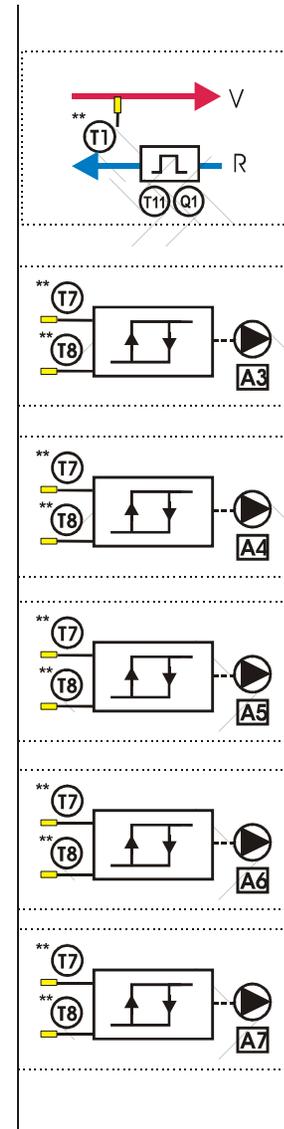
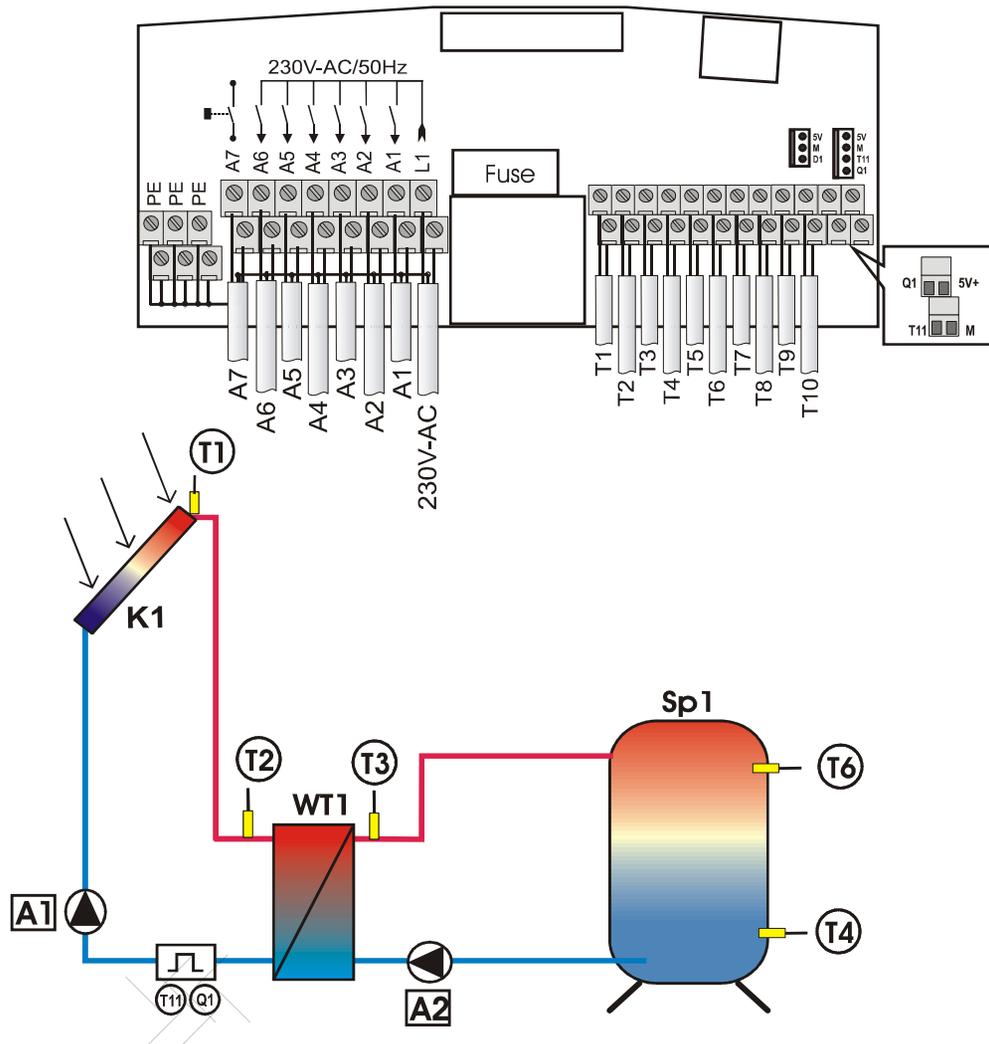
## 230 V connections for M1028 layout:

Description	Reference		Comment
	Connection terminal	Plan no.	
Collector 1 temperature sensor	1	T1	Required for collector temperature
Collector 2 temperature sensor	2	T2	Required for collector temperature
Storage tank 1 (lower) temperature sensor	3	T3	Required for storage tank temperature.
Storage tank 2 (lower) temperature sensor	4	T4	Required for storage tank temperature.
Heating flow temperature sensor	5	T5	Required for heating flow temperature. Can also be used for yield measurement flow temperature
Yield measurement return temperature sensor	6	T6	Optional: instead of T11 for return flow yield measurement, if "Yield Measurement" function selected
Multi-function regulator temperature sensor	7	T7	Sensor 1 for the multi-function regulator. T7 is a preset and can be modified
Multi-function regulator temperature sensor.	8	T8	Sensor 2 for the multi-function regulator. T8 is a preset and can be modified.
Temperature sensor	9	T9	Can be assigned as needed. Not used here. Optional: Frost protection
Temperature sensor	10	T10	Can be assigned as needed. Not used here.
VFS Grundfos sensor	VFS 11/12/5V/M (11=Q, 12=T)	T11/Q1	Energy yield measurement with Grundfos sensor. Necessary if "Yield Measurement" activated.

Description	Reference		Comment
	Connection terminal	Plan no.	
Mains power	Mains	Mains	Ensure it can be switched off. (by removing a plug or double-pole isolation)
Switched output for solar circuit pump	A1	A1	230 V connector for pump <i>RPM controlled</i> if RPM min programmed < 100%
Switched output for changeover valve	A2	A2	Switched output for valve
Switched output for changeover valve	A3	A3	Switched output for valve
Switched output for solar circuit pump	A4	A4	230 V connector for pump <i>RPM controlled</i> if RPM min programmed < 100%
Switched output for multi-function regulator	A5	A5	230 V connection for pump or valve if "MFR1" activated
Switched output for multi-function regulator	A6	A6	230 V connection for pump or valve if "MFR2" activated
Switched output for multi-function regulator	A7	A7	Potential-free N/O contact if "MFR3" activated

**Layout REGUSOL X1010, system no: 3301**

Ancillary features for multi-function regulator



Heating, cooling, threshold switch, increased return flow, wood boiler feature, difference regulator, circulation function, alarm and timer

All sensors can be used for switching and control functions (included those already in use)

Only the output assignments are fixed.

Tx\*\* - Select as required

## Regtronic PM

## Sensor connections for X1010 layout:

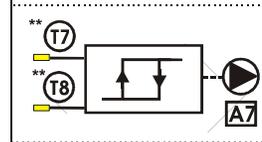
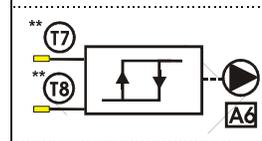
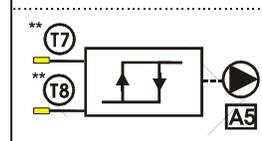
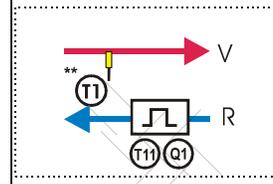
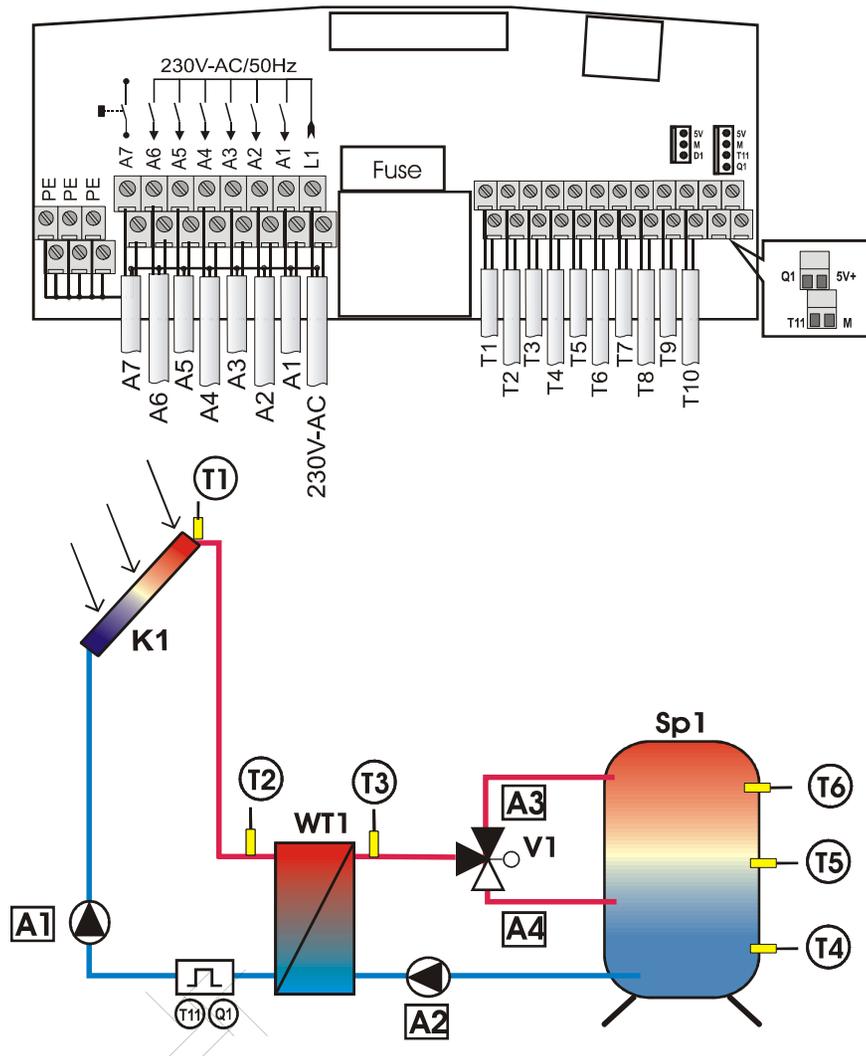
## 230 V connections for X1010 layout:

Description	Reference		Comment
	Connection terminal	Plan no.	
Collector 1 temperature sensor	1	T1	Required for measuring the collector temperature
Temperature sensor – primary heat exchanger	2	T2	Required for measuring the heat exchanger temperature in the primary circuit
Temperature sensor – secondary heat exchanger	3	T3	Required for measuring the heat exchanger temperature in the secondary circuit
Storage tank 1 (lower) temperature sensor	4	T4	Required for measuring the lower storage tank temperature
Temperature sensor	5	T5	Select as required. Not used here.
Storage tank 1 (upper) temperature sensor	6	T6	Required for measuring the upper storage tank temperature
Multi-function regulator temperature sensor	7	T7	Sensor available for the multi-function regulator. T7 is a preset: any other sensor may also be used.
Multi-function regulator temperature sensor	8	T8	Sensor available for the multi-function regulator. T8 is a preset: any other sensor may also be used.
Temperature sensor	9	T9	Can be assigned as needed. Not used here. Optional: Frost protection
Temperature sensor	10	T10	Can be assigned as needed. Not used here.
VFS Grundfos sensor	VFS 11/12/5V/M (11=Q, 12=T)	T11/Q1	Energy yield measurement with Grundfos sensor. Necessary if "Yield Measurement" activated.

Description	Reference		Comment
	Connection terminal	Plan no.	
Mains power	Mains	Mains	Ensure it can be switched off. (by removing a plug or double-pole isolation)
Switched output for solar circuit pump	A1	A1	230 V connection for pump <i>RPM controlled</i> if RPM min programmed < 100%
Switched output for charging circuit pump	A2	A2	230 V connection for pump <i>RPM controlled</i> if RPM min programmed < 100%
Switched output for multi-function regulator	A3	A3	230 V connection for pump or valve if "MFR1" activated
Switched output for multi-function regulator	A4	A4	230 V connection for pump or valve if "MFR2" activated
Switched output for multi-function regulator	A5	A5	230 V connection for pump or valve if "MFR3" activated
Switched output for multi-function regulator	A6	A6	230 V connection for pump or valve if "MFR4" activated
Switched output for multi-function regulator	A7	A7	Potential-free N/O contact if "MFR5" activated

**Layout REGUSOL X1020, system no: 3302**

Ancillary features for multi-function regulator



Heating, cooling, threshold switch, increased return flow, wood boiler feature, difference regulator, circulation function, alarm and timer

All sensors can be used for switching and control functions (included those already in use)

Only the output assignments are fixed.

Tx\*\* - Select as required

## Regtronic PM

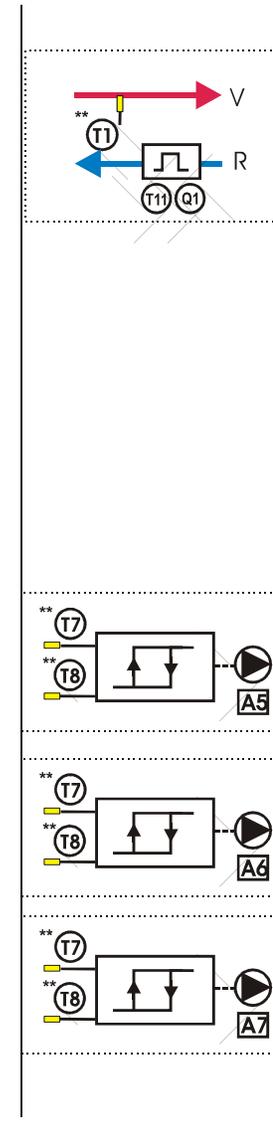
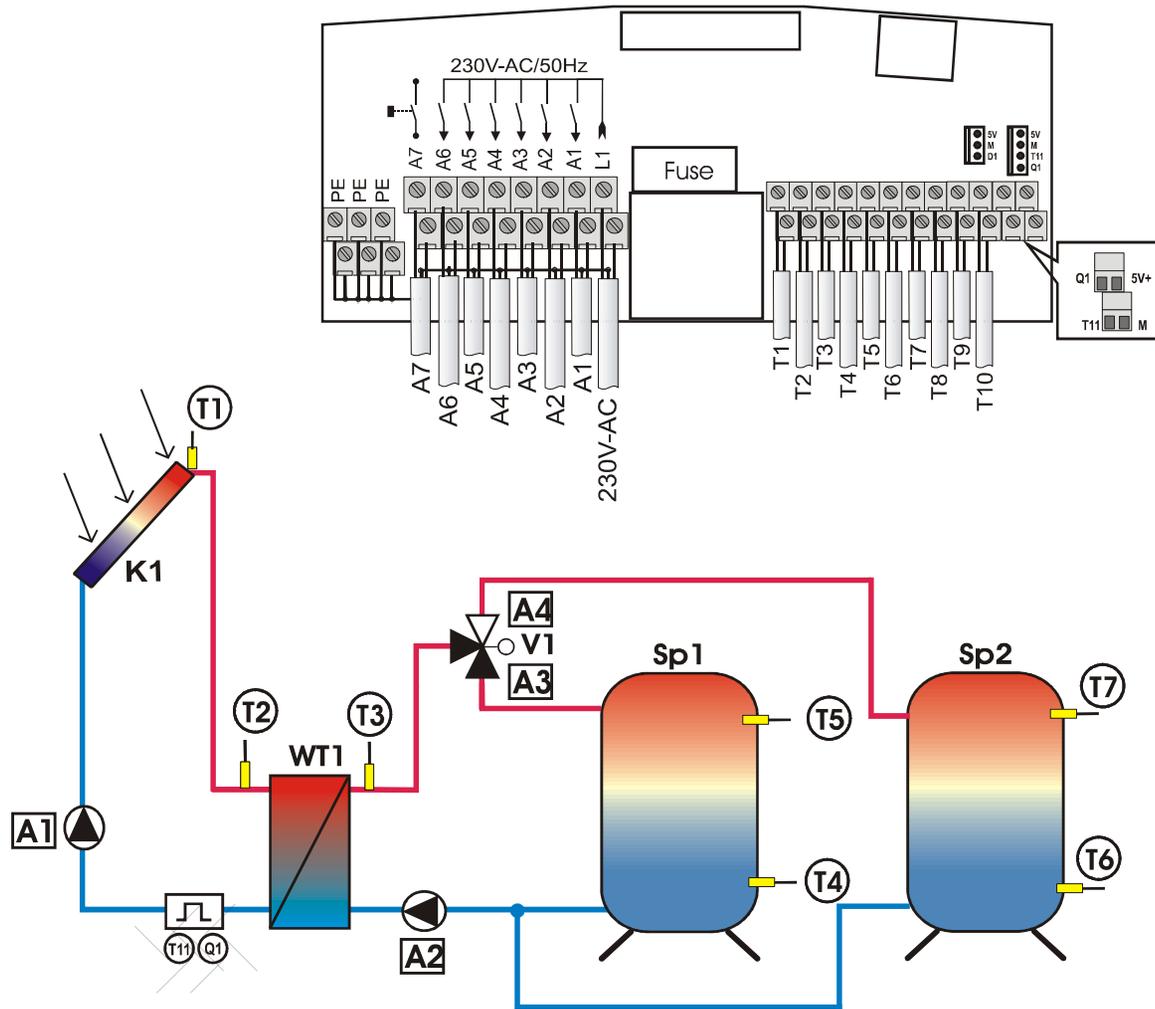
## Sensor connections for X1020 layout:

## 230 V connections for X1020 layout:

Description	Reference		Comment
	Connection terminal	Plan no.	
Collector 1 temperature sensor	1	T1	Required for measuring the collector temperature
Temperature sensor – primary heat exchanger	2	T2	Required for measuring the heat exchanger temperature in the primary circuit
Temperature sensor – secondary heat exchanger	3	T3	Required for measuring the heat exchanger temperature in the secondary circuit
Storage tank 1 (lower) temperature sensor	4	T4	Required for measuring the lower storage tank temperature
Storage tank 1 (centre) temperature sensor	5	T5	Required for measuring the centre storage tank temperature
Storage tank 1 (upper) temperature sensor	6	T6	Required for measuring the upper storage tank temperature
Multi-function regulator temperature sensor	7	T7	Sensor available for the multi-function regulator. T7 is a preset: any other sensor may also be used.
Multi-function regulator temperature sensor	8	T8	Sensor available for the multi-function regulator. T8 is a preset: any other sensor may also be used.
Temperature sensor	9	T9	Can be assigned as needed. Not used here. Optional: Frost protection
Temperature sensor	10	T10	Can be assigned as needed. Not used here.
VFS Grundfos sensor	VFS 11/12/5V/M (11=Q, 12=T)	T11/Q1	Energy yield measurement with Grundfos sensor. Necessary if "Yield Measurement" activated.

Description	Reference		Comment
	Connection terminal	Plan no.	
Mains power	Mains	Mains	Ensure it can be switched off. (by removing a plug or double-pole isolation)
Switched output for solar circuit pump	A1	A1	230 V connection for pump <i>RPM controlled</i> if RPM min programmed < 100%
Switched output for charging circuit pump	A2	A2	230 V connection for pump <i>RPM controlled</i> if RPM min programmed < 100%
Switched output for 3-way valve	A3	V1	Switched output for 3-way valve: charging storage tank top
Switched output for 3-way valve	A4	V1	Switched output for 3-way valve: charging storage tank center
Switched output for multi-function regulator	A5	A5	230 V connection for pump or valve if "MFR1" activated
Switched output for multi-function regulator	A6	A6	230 V connection for pump or valve if "MFR2" activated
Switched output for multi-function regulator	A7	A7	Potential-free N/O contact if "MFR3" activated

Layout REGUSOL X1030, system no: 3303



Ancillary features for multi-function regulator

Heating, cooling, threshold switch, increased return flow, wood boiler feature, difference regulator, circulation function, alarm and timer

All sensors can be used for switching and control functions (included those already in use)

Only the output assignments are fixed.

Tx\*\* - Select as required

## Regtronic PM

## Sensor connections for X1030 layout:

## 230 V connections for X1030 layout:

Description	Reference		Comment
	Connection terminal	Plan no.	
Collector 1 temperature sensor	1	T1	Required for collector temperature
Temperature sensor – primary heat exchanger	2	T2	Required for the heat exchanger temperature in the primary circuit
Temperature sensor – secondary heat exchanger	3	T3	Required for the heat exchanger temperature in the secondary circuit
Storage tank 1 (lower) temperature sensor	4	T4	Required for measuring the lower storage temperature of storage tank 1
Storage tank 1 (upper) temperature sensor	5	T5	Required for measuring the upper storage temperature of storage tank 1
Storage tank 2 (lower) temperature sensor	6	T6	Required for measuring the lower storage temperature of storage tank 2
Storage tank 2 (upper) temperature sensor	7	T7	Required for measuring the upper storage temperature of storage tank 2
Multi-function regulator temperature sensor	8	T8	Sensor available for the multi-function regulator. T8 is a preset: any other sensor may also be used.
Temperature sensor	9	T9	Can be assigned as needed. Not used here. Optional: Frost protection
Temperature sensor	10	T10	Can be assigned as needed. Not used here.
VFS Grundfos sensor	VFS 11/12/5V/M (11=Q, 12=T)	T11/Q1	Energy yield measurement with Grundfos sensor. Necessary if "Yield Measurement" activated.

Description	Reference		Comment
	Connection terminal	Plan no.	
Mains power	Mains	Mains	Ensure it can be switched off. (by removing a plug or double-pole isolation)
Switched output for solar circuit pump	A1	A1	230 V connection for pump <i>RPM controlled</i> if RPM min programmed < 100%
Switched output for charging circuit pump	A2	A2	230 V connection for pump <i>RPM controlled</i> if RPM min programmed < 100%
Switched output for 3-way valve	A3	V1	Switched output for 3-way valve: charging storage tank 1
Switched output for 3-way valve	A4	V1	Switched output for 3-way valve: charging storage tank 2
Switched output for multi-function regulator	A5	A5	230 V connection for pump or valve if "MFR1" activated
Switched output for multi-function regulator	A6	A6	230 V connection for pump or valve if "MFR2" activated
Switched output for multi-function regulator	A7	A7	Potential-free N/O contact if "MFR3" activated