CONTROLLER
SERIES 90C

The ESBE series 90C is a complete weather-compensating control unit. Simply mount it on an ESBE 3-way valve for excellent regulating performance, or mount it on a VRB140 for even more advanced functionality. Available in different versions to suit the demands of a wide variety of system layouts.

OPERATION

The series 90C comes in two different versions, all equipped with full graphic displays for easy handling and 1,5 m power supply cables for instant setup.

The tables below show the many different systems for which the 90C is suitable as a control unit. At the same time as the 90C controls a mixing valve, it can also handle up to 6 different sources of data input and has 3 possibilities of output control, which makes the 90C versatile and able to control a number of heat circuits and system components with high accuracy. The 90C is preset to control a normal household heating system, but the options for further fine tuning of the system are many and the settings easy to alter. This of course means taking the high level of comfort even higher.

FUNCTIONS

● = included, O = option

Functions	Version 90C-1	Version 90C-3
Daily / Weekly program	●	●
Heating curve limitation, max./min.	●	●
Valve exercising	●	●
Pump control, on/off	●	●
Pump control, secondary circuit		●
Boiler control		●
Auxiliary heat source - valve position control	●	●
Auxiliary heat source - temperature sensor control		●
Solar control		●
Load pump control		●
Manual operation override	●	●
Frost protection	●	●
Constant flow temperature control	●	●
Constant flow temperature sequence control, 14 days	●	●
Domestic hot water control		●
Temperature difference control		●
Set-up wizard	●	●
Operation statistics	●	●

HARDWARE

● = included, O = option

Hardware	Version 90C-1	Version 90C-3
Power supply cable (230V), 1,5 m	●	●
Pump / Heat source power supply cable (230V), 1,5 m	●	●
Sensor box	1	2
max. no. of input sources	3	6
max. no. of output sources	1	3
Flow pipe sensor, 1,5 m cable	●	●
Universal sensor, 1,0 m cable (pcs)		3
Outdoor sensor (without cable)	●	●
Sensor cable, 20m	O	O

SUITABLE MIXING VALVES

The series 90C is supplied with adaptor kits for easy mounting on all ESBE rotary mixing valves.

- Series VRG100
- Series VRG200
- Series VRG300
- Series VRH100
- Series VRB100
- Series 3F
- Series 3HG and 4HG

ADAPTOR KITS

Adaptor kits for easily fitting onto an ESBE rotary mixing valve is supplied with each controller.

If required, separate adaptor kits can be ordered as follows.

Art. No.
16053700 _____ ESBE valve series VRG, VRB, VRH

Adaptor kits for other mixing valves and valves built-into boilers are available as follows:

Art. No.
16053600 _____ BRV, Meibes, Oventrop, Watts
16053900 _ Honeywell Centra ZR, DR, DRG, DRU DN15–50)
16051700 _____ Honeywell Centra Kompakt DRK/ZRK
16052600 _____ Schneider Electric TRV / TAC-TRV
16052500 _____ Siemens VBG31, VBI31, VBF21, VCI31
16051400 _____ TA–VTR, TA–STM
16051500 _____ Viessmann (DN20–25)

OPTIONAL EQUIPMENT

Art. No.
17050800 _____ Flow pipe sensor CRS211
17050900 _____ Universal sensor CRS213
17051100 _____ High temperature sensor CRS215

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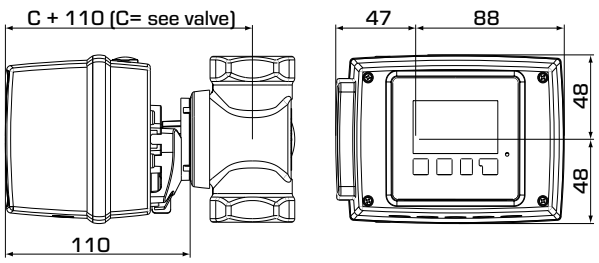
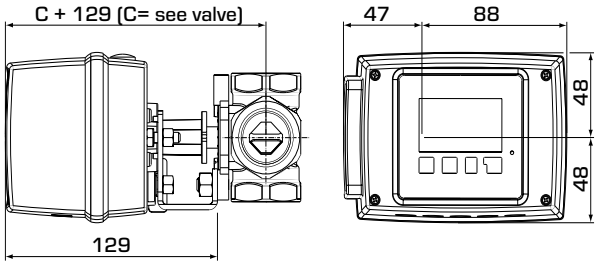


Installation dimensions for Controller Series 90C with ESBE VRG100, VRG200, VRG300, VRH100 and VRB100 mixing valves



Installation dimensions for Controller Series 90C with ESBE series MG, G, F, T/TM, H/HG and BIV mixing valves

SERIES 90C-1

Art. No.	Reference	No. of input sources	No. of output sources	Sensor cable enclosed	Room sensor enclosed	Universal sensor	Remark	Replaces
12601500	90C-1A-90	3	1	●			Operating range 90°	12601100
12601600	90C-1B-90							12601200

SERIES 90C-3

Art. No.	Reference	No. of input sources	No. of output sources	Sensor cable enclosed	Room sensor enclosed	Universal sensor	Remark	Replaces
12603600	90C-3B-90	6	3			3	Operating range 90°	12602200, 12603200

TECHNICAL DATA

Basic unit: Actuator controller with plastic housing, prewired for supply and sensors
Dimensions (HxWxT): approx. 95x135x85 mm
Display: fully graphical display 128x64 dots
Light emitting diode: polychrome / multicolour
Operation: input keys

Power supply: 230 ±10% VAC, 50/60 Hz
Power consumption: ca 5,0 VA
Total switching capacity of the relay output 1-3: 2(0,8)A 250 VAC (circulation pump 185W)
Enclosure rating: IP 54 as per DIN 40050 CE
Protection class: II

Ambient temperature: 0° to 40°C max.
Ambient atmospheric humidity: max. 85% RH at 25°C

Actuator: Running time 120 s/90°
Torque: 15 Nm

Sensors: Temperature sensor type PT1000
Sensor cable: 4x0,38mm², max. length 30m
Temperature range:
- Flow pipe sensor CRS211, 1,5m: 0 to +105°C
- Outdoor sensor CRS214: -50 to +70°C
- Universal sensor CRS213 ø5mm, 1,5m: 0 to +105°C
- High temperature sensor CRS215: -50 to +550°C

ErP Temperature controls class: III
Energy efficiency contribution: 1,5 %

Weight: 0,9 kg

CE LVD 2014/35/EU
EMC 2014/30/EU
RoHS3 2015/863/EU

UKCA SI 2016 No. 1101
SI 2016 No. 1091
SI 2012 No. 3032

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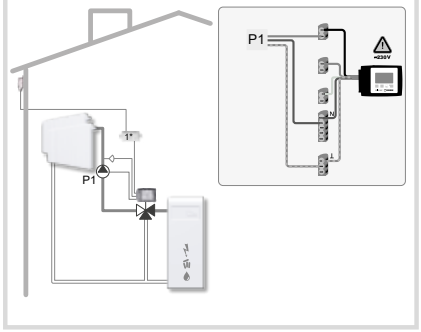
INSTALLATION EXAMPLES

1 **90C-1** (90C-3)



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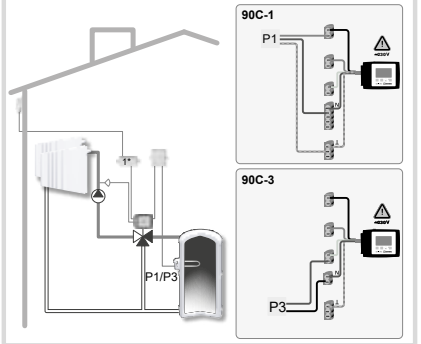

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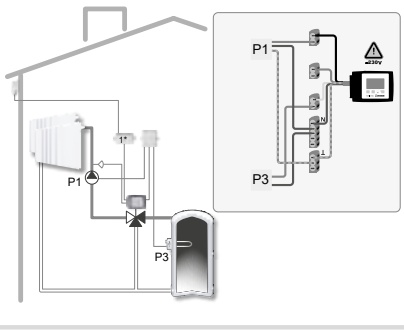

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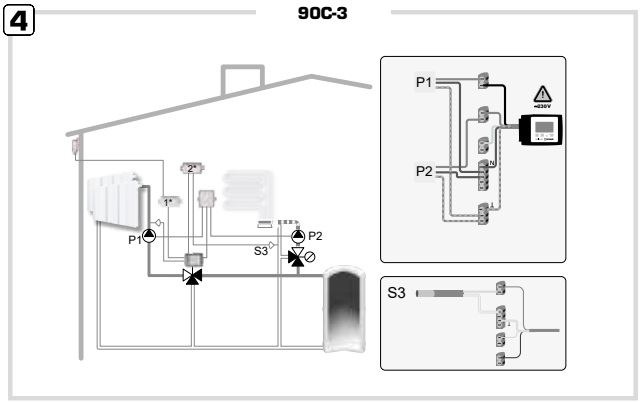

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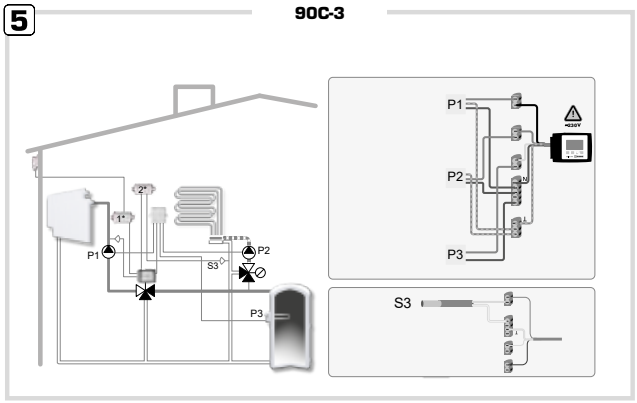

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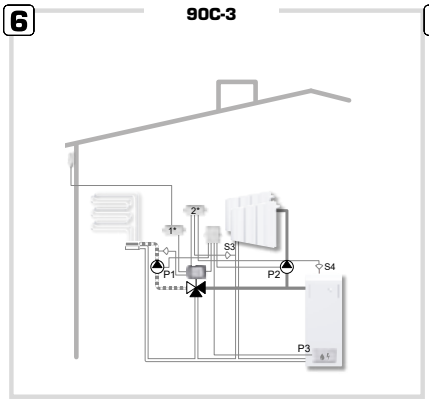

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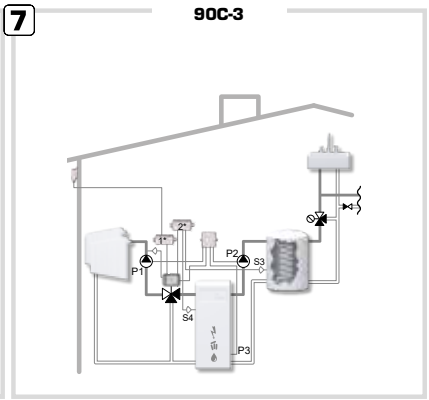

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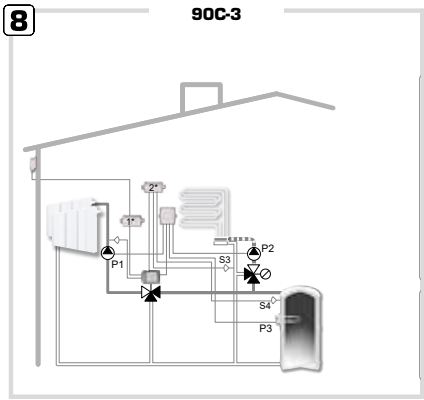

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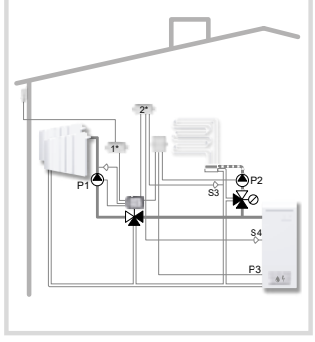

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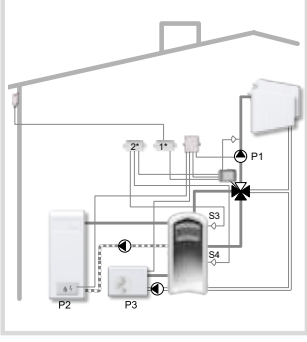

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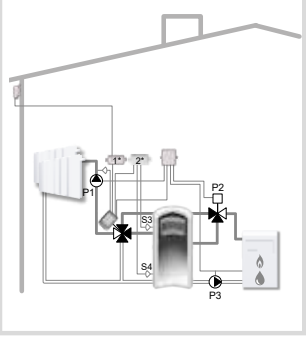

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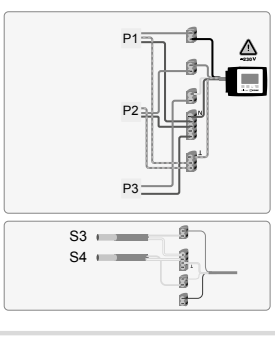

ESBE

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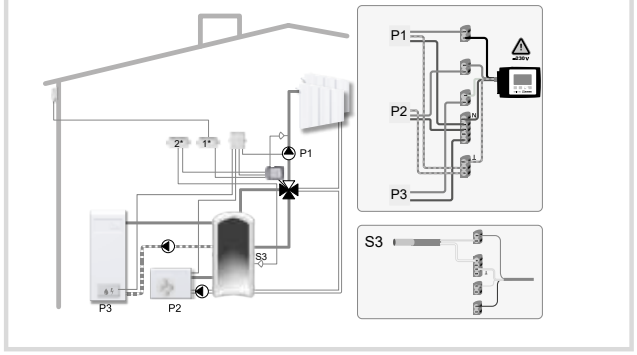
12 90C-3



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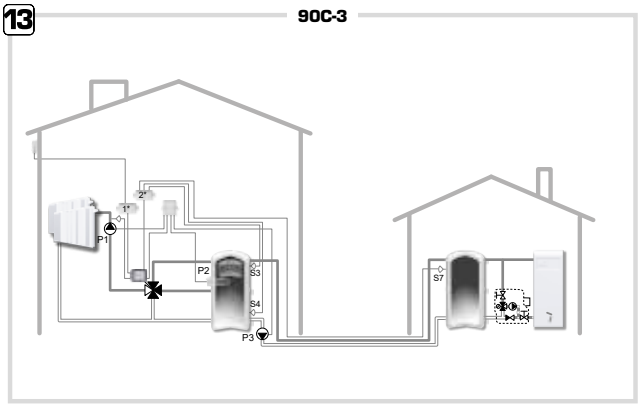

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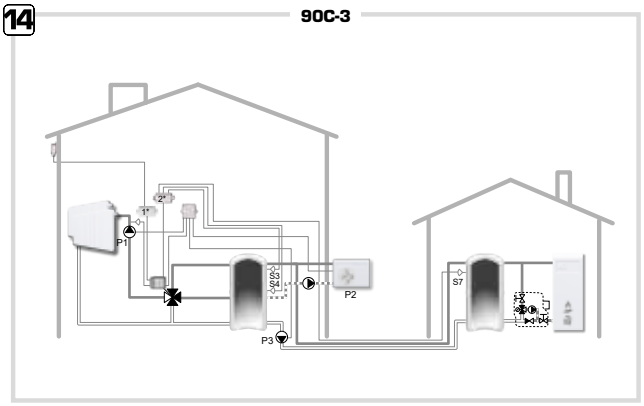

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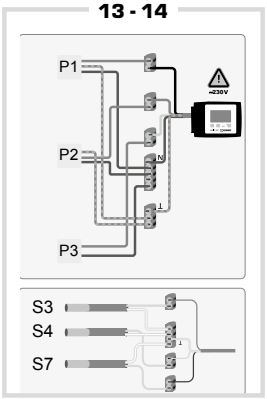

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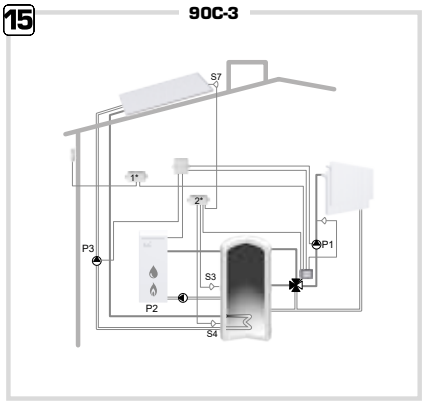

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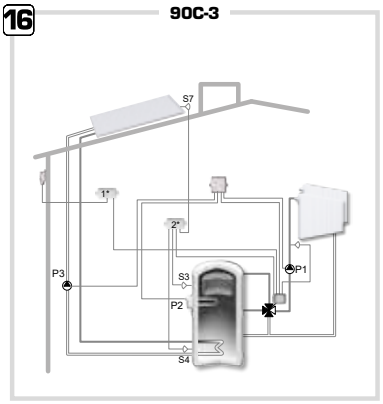

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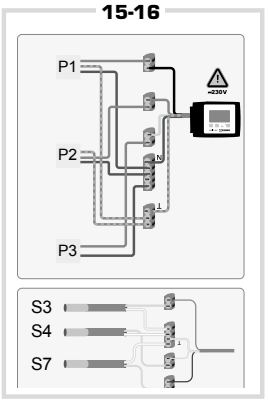

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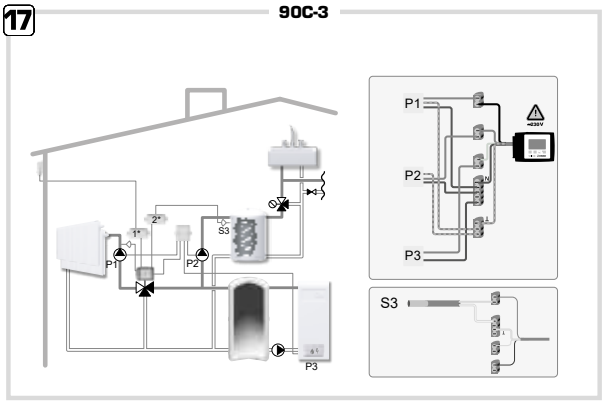

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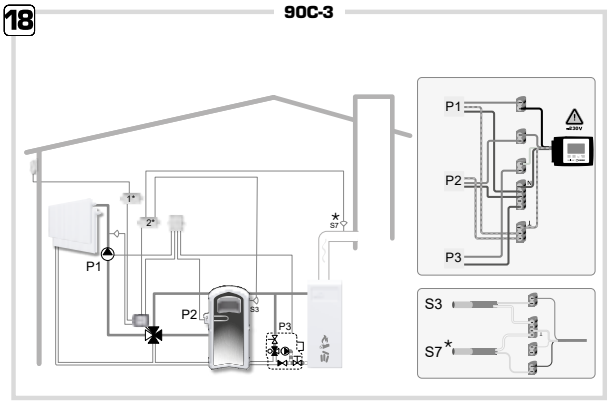

* Addition of High temperature sensor CRS215 necessary.