

Conter S

Metering, heating/cooling lines
and domestic hot/cold water lines

DESCRIPTION

CONTER S is a hydraulic interface unit (HIU) for the management and the direct metering in centralised heating/cooling and domestic water systems.

The unit is provided with a box for built-into-wall installation with vertical or horizontal flows with opposite connections. It comes with replacement meter stub pieces.

This unit is supplied with stub pieces.

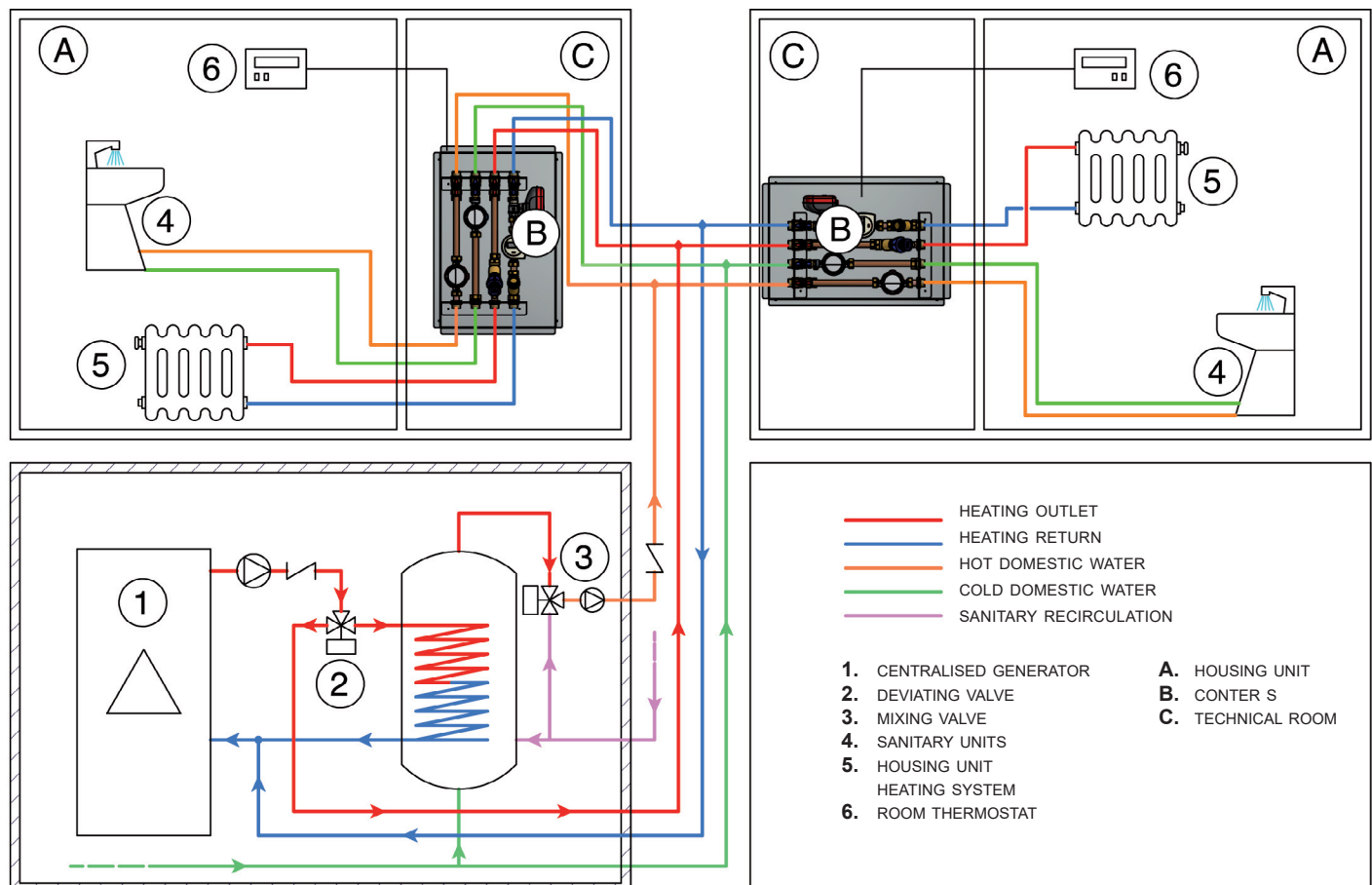
After flushing the system, the M-bus direct metering kit can be installed.

CONTER S is available with 2-way **SINTESI** motorised valve with 24V or 230V power supply.

- Management independence
- Costs breakdown according to real consumptions
- Total security
- Energy saving
- Compact size



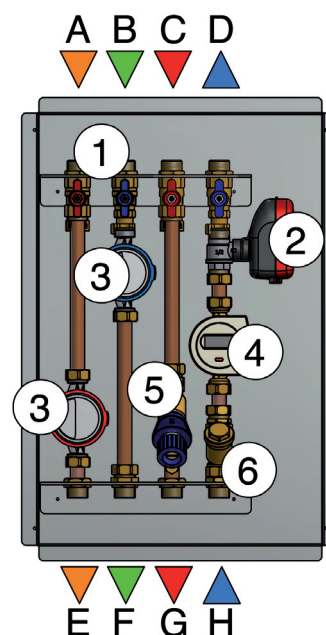
EXAMPLE OF USE



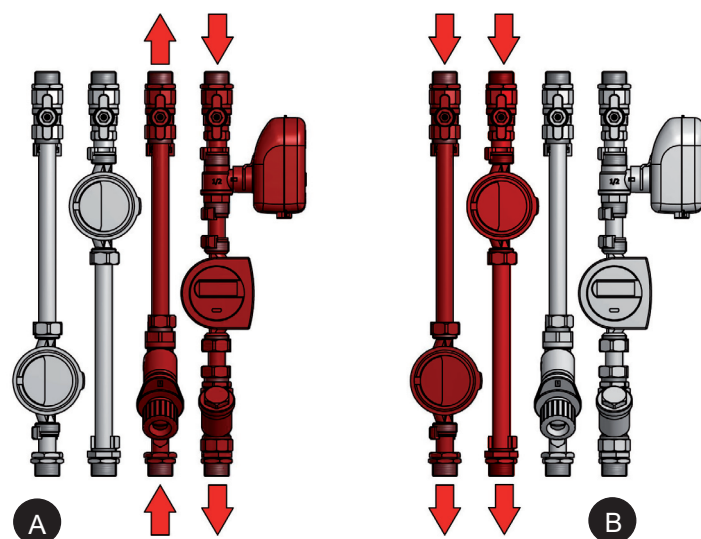
COMPONENTS AND FLOWS

- A : Domestic hot water inlet
- B : Domestic cold water inlet
- C : Outlet from centralised system
- D : Return to centralised system
- E : Domestic hot water outlet
- F : Domestic cold water outlet
- G : Heating/cooling flow
- H : Heating/cooling return

- 1 : Manual interception valves
- 2 : ON/OFF **SINTESI** actuator, 230V or 24V AC, 2-way ball valve (accessory)
- 3 : Domestic water direct metering lines
- 4 : Heating/cooling energy meter (accessory)
- 5 : Static balancing (optional)
- 6 : Y-strainer



HYDRAULIC FEATURES



A : Heating line
 kv 2,18 m³/h (with static balancing valve and heat meter)
 kv by-pass 0,79 m³/h

B : Domestic water lines
 kv 1,64 m³/h (with volumetric meter)

kv = flow coefficient [m³/h]

Q = flow rate [m³/h]

Δp = pressure drop = Q^2 / kv^2 [bar]

OPERATION

HEATING / COOLING

CONTER S HIUs allow to intercept the heat-transfer fluid flowing to the heating/cooling system of the housing unit by means of a 2-way ON/OFF **SINTESI** motorised valve controlled by a room thermostat (optional).

On the heating/cooling line, the flow rate of the fluid through the balance valve can be adjusted (optional).

DOMESTIC WATER

CONTER S HIUs are equipped with a domestic hot water line and a domestic cold water line, both provided with manual intercepting valves, non-return valves and pulse volumetric meter for data transmission via M-bus cable.

TECHNICAL FEATURES

HEATING LINE	
Fluid type	non-glycolate water - VDI 2035 (1)
Maximum / minimum temperature	90°C / 5°C
Maximum operating pressure	6 bar (2)
DOMESTIC WATER LINE	
Fluid type	water (3)
Maximum temperature	hot water 90°C cold water 30°C
Maximum operating pressure	6 bar (2)
PIPING	
Material	copper
Size	Ø 18 mm
HYDRAULIC CONNECTIONS	
Material	brass
Size	G3/4" M ISO228/1
HYDRAULIC SUPPORT / BOX	
Material	galvanized sheet 10/10
SHELL / FRAME AND DOOR	
Material	black sheet 10/10
Colour	RAL 9010
Painting	epoxy powders

POWER SUPPLY (with actuator installed)	
Voltage	230V - 24V ± 10%
Frequency	50 Hz
Maximum power consumption	5 W
USAGE	
Installation	indoor environments
Room temperature	5 ÷ 55 °C
Ambient humidity	25 ÷ 85%
INSULATION	
Type	thermoformed shell
Material	expanded polyethylene
STATIC BALANCING VALVE	
Type	manually adjustable
Kvs	6,4 m³/h

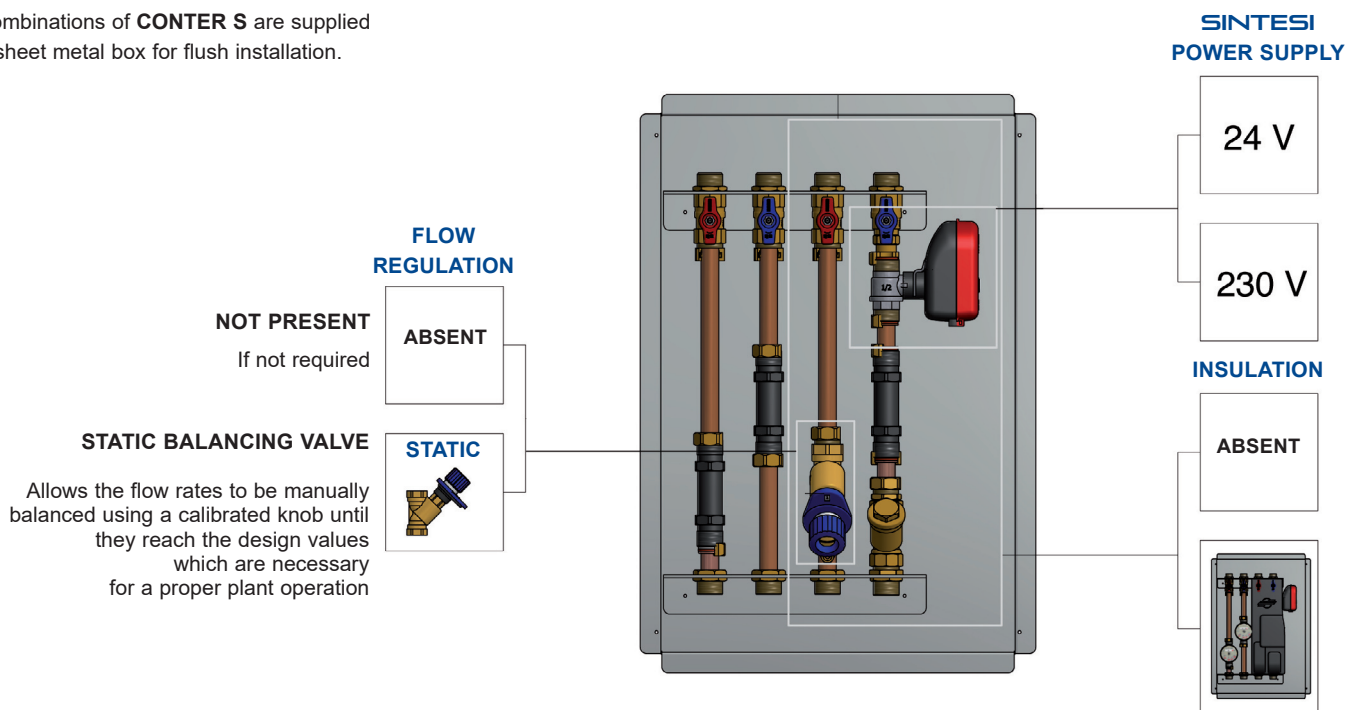
- 1 For glycol solutions please contact the Technical Office.
- 2 For higher pressures please contact the Technical Office.
- 3 In case of water hardness higher than 15°F, water softeners are recommended.

VERSIONS AND CODES

CODE	PRODUCT DESCRIPTION
Q3IVHT000Y	with replacement energy meter stub pieces, DHW and DCW
Q3IVHT0J0Y	with static balancing and replacement energy meter stub pieces, DHW and DCW

HIU CONFIGURATION

All combinations of **CONTER S** are supplied with sheet metal box for flush installation.



ACCESSORIES



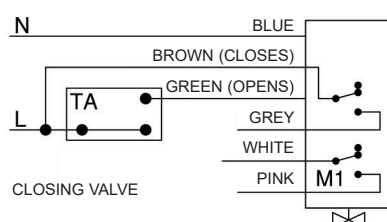
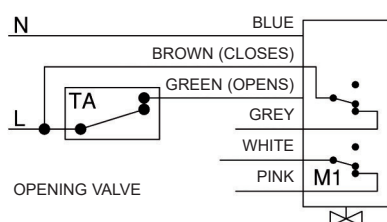
code SR2221U (230V) • SR2421U (24V)

2-point SINTESI actuator

TECHNICAL FEATURES

Electric control	2-point
Power supply	230V: 50/60 Hz 24V: 50/60 Hz
Operating time (rotation 90°)	45 sec
Torque	8 Nm
Input power	3,9 VA
Power output of the extra micro switch	1A, resistive
Operational room temperature	-10°C + +50°C
Protection degree	IP54
Insulation degree	double insulation
Maintenance	none
Certification	CE

ELECTRICAL DIAGRAM



BLUE wire: neutral

BROWN wire: fixed phase

GREEN wire: opening phase

GREY wire: outlet phase with open valve

TA: room thermostat

M1: extra microswitch free in opening position

Supplying power by means of a phase only across the brown wire causes the valve to close (electrical automatic closing); supplying power across the green wire too, causes the valve to open.

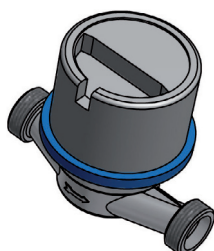
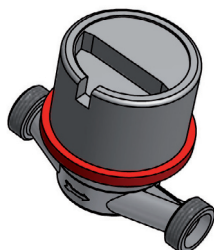
METERING KIT



ENERGY METER

Type	mechanical (1)
Flow rate Qp	1,5 m³/h
Minimum flow	0,015 m³/h
Maximum flow	3,0 m³/h
DN	15
PN	16
Power supply	lithium battery
Protection	IP54
Interface	M-bus (2)
Certification	MID

1 Ultrasonic upon request • 2 Wireless M-bus on request



VOLUMETRIC METER FOR DOMESTIC WATER

Type	mechanical
Permanent flow rate	2,5 m³/h
Minimum flow	0,03 m³/h
Maximum flow	3,0 m³/h
DN	15
PN	16
Interface	impulsive output
Certification	MID
Maximum water temperature	30°C for DCW version 90°C for DHW version

code RFKITSCAB (heating, DHW and DCW meter)

code RFKITCCAB (heating/cooling, DHW and DCW meter)

CONTER S is supplied with plastic stub pieces that temporarily replace the energy meter and domestic water meters to allow the system “flushing” before the components are installed.

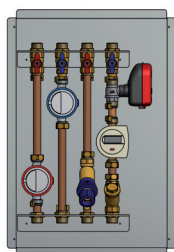
INSTALLATION

CONTER S is designed for indoor installation, in a frost-free room. The installation is vertical, with the hydraulic connections above the centralised system and below the housing unit, or horizontal with the hydraulic connections toward the centralised system on the left and toward the housing unit on the right. All connections are G3/4" M according to ISO228/1.

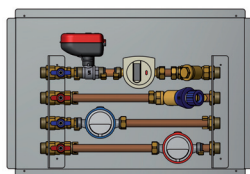
INSTALLATION WARNING

It is advisable to use flexible hydraulic connection in order to compensate for any thermal expansion and possible misalignment between the system connections.

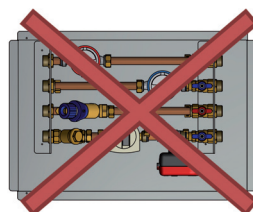
RECOMMENDED



ADMITTED



NOT ALLOWED

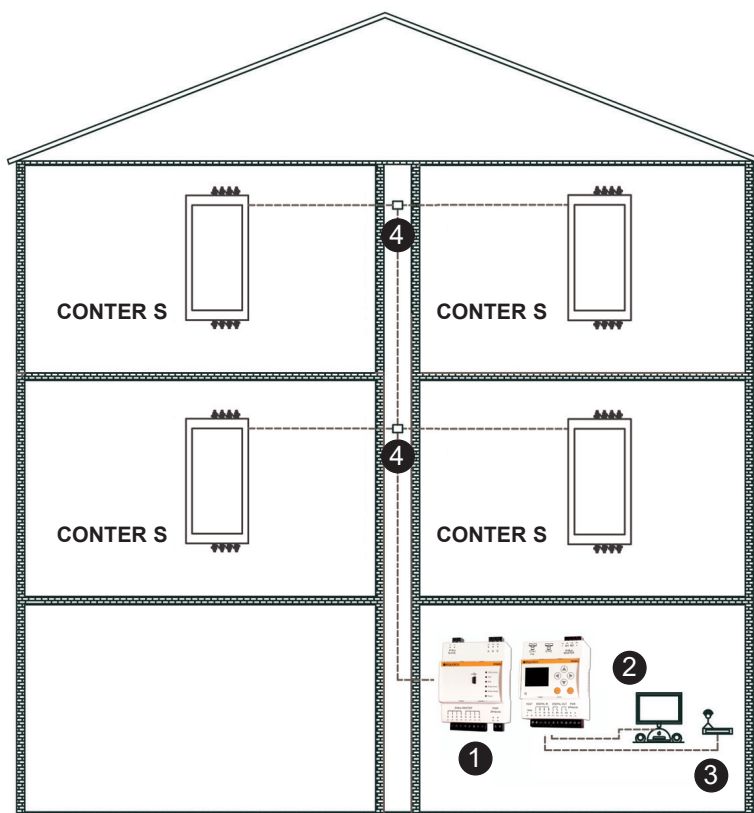


- The unit can not be installed with the **SINTESI** motorised valve facing downwards.

WARRANTY AND FIRST START-UP

The warranty becomes effective on the date of testing, if required, and shall last for 24 months. If testing is not required, the warranty will become effective on the date of purchase.

M-BUS SYSTEM



- 1 : M-bus data acquisition control unit
- 2 : Control unit-PC connection
- 3 : Control unit-modem connection
- 4 : Concentrator nodes

The **M-bus** system represents a cabled means of communication among the peripheral metering units and a remote control unit which collects the consumption data registered by each peripheral unit.

The consumption data can be read directly on the control unit display or by means of a PC connected to the control unit; moreover, it is possible to interface the control unit with a modem in order to be able to query the control unit from a remote position.

For further information please contact our Technical Office.

CERTIFICATIONS

CE Machinery Directive

2006/42/CE.

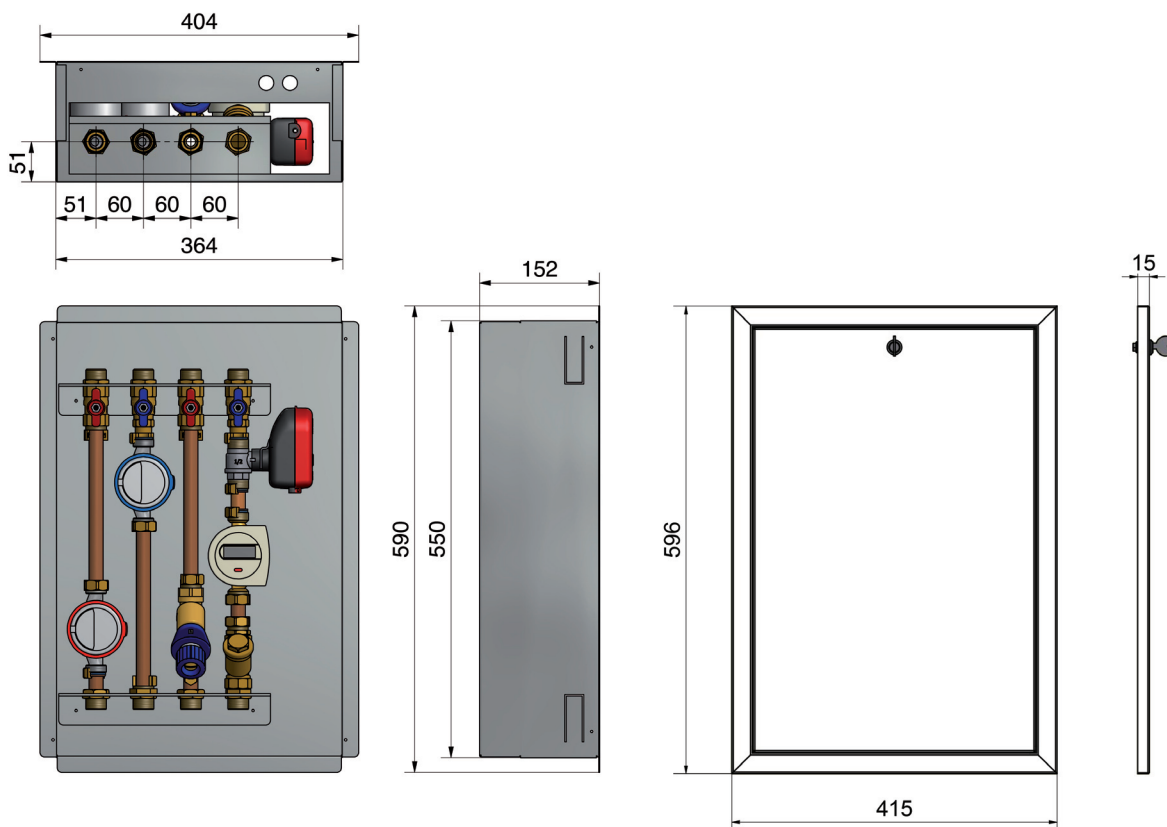
CE Low Voltage Directive

2014/35/ue: 26/04/2014

CE Electromagnetic Compatibility Directive

2014/30/UE

OVERALL SIZE



EXAMPLE OF SPECIFICATIONS

CONTER S HYDRAULIC INTERFACE UNIT for direct metering and management of heating/cooling systems with central production of domestic hot water: • Manual shut-off valves on central side with red and blue handwheels • 2-way **SINTESI** ball valve on heating/cooling line • DHW and DCW meters replacement stub pieces • Energy meter replacement stub piece • Y-strainer • Static balance valve. Copper pipes Ø18 mm, hydraulic connections G3/4" M (ISO 228/1 standard). Maximum pressure 6 bar, maximum temperature 90°C. Vertical installation with top inlets or horizontal installation with left inlets. Dimensions (HxWxD): 550x364x152 mm.

Brand: **COMPARATO**

Code: **Q3IVHT0J0Y**

FRAME AND DOOR with custom lock, epoxy painted RAL 9010.

Brand: **COMPARATO**

Code: **QS4CS**

ON/OFF SINTESI actuator, 230V 50Hz 2-point control.

Brand: **COMPARATO**

Code: **SR2221U**

METERING KIT consisting of 3 counters: • Heating and/or cooling energy meter with local and M-bus, DN15 cable reading, nominal capacity Qp 1,5 m³/h, MID certified • DCW volumetric meter with local pulse reading (10 litres/pulse), DN15, permanent capacity Q 2,5 m³/h, MID certified • DHW volumetric meter with local pulse reading (10 litres/pulse), DN15, nominal capacity 2,5 m³/h, MID certified.

Brand: **COMPARATO**

Code: **RFKITCCAB**

UPDATED DATA SHEETS AVAILABLE AT www.comparato.com

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HYDROTHERMAL SYSTEMS
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