TECHNICAL DATA

ABB i-bus® KNX

HCC/S 2.1.2.1

Heating/cooling circuit controller

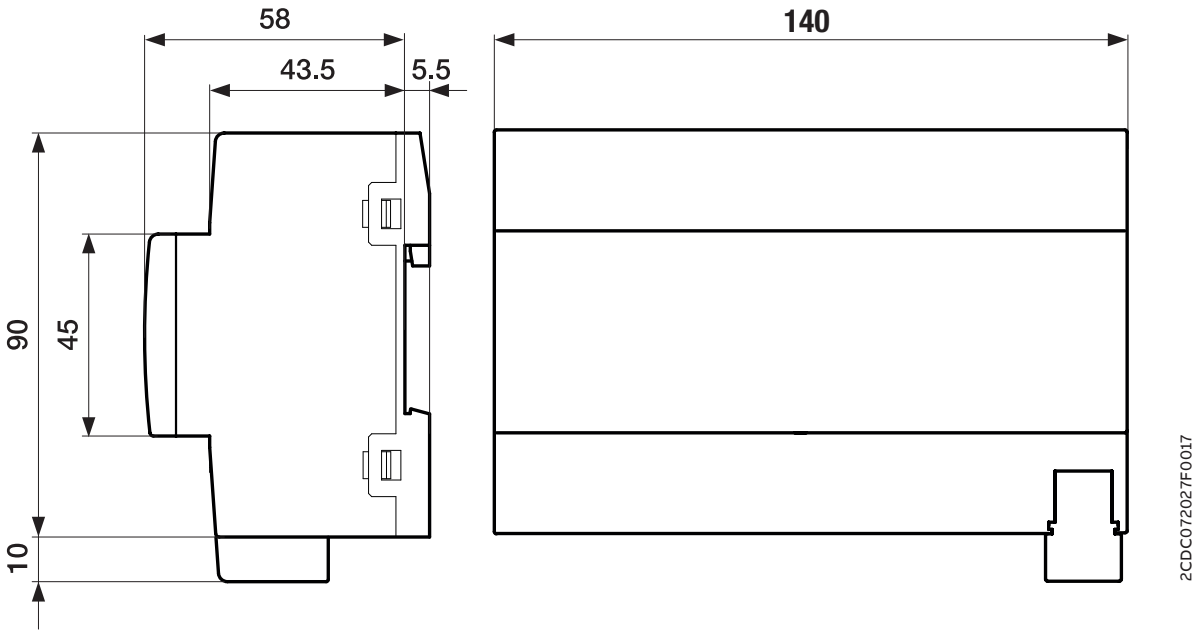
Description of product

The device is a modular DIN rail component (MDRC) in pro M design. It is intended for installation in distribution boards on 35 mm mounting rails. Physical address assignment and parametrization are carried out with ETS.

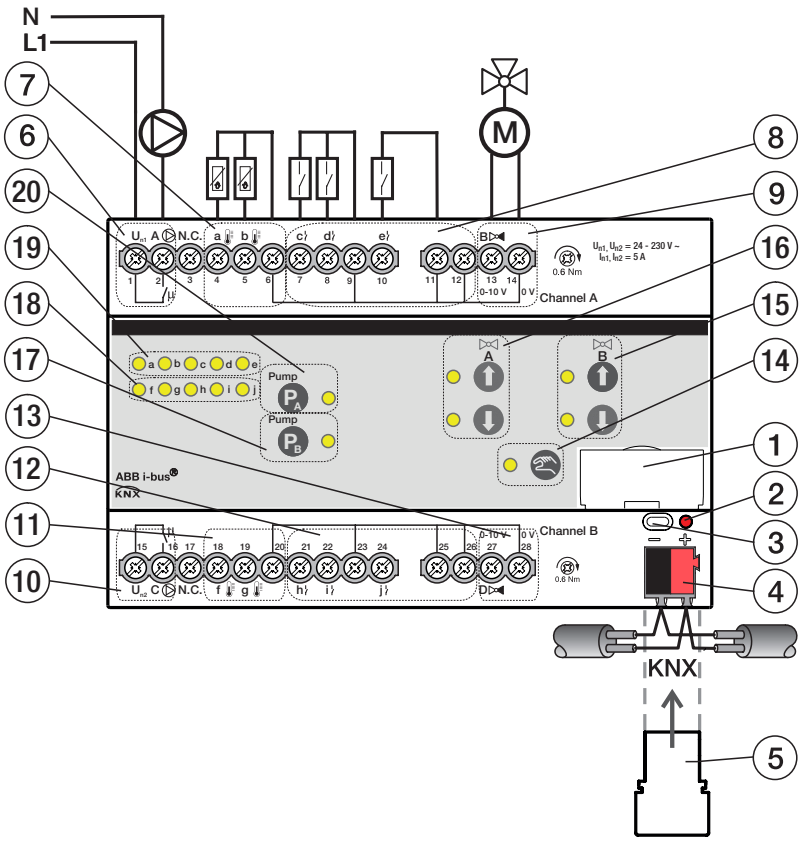
The device is powered via the ABB i-bus® KNX and requires no additional auxiliary voltage supply.

The device is ready for operation after connecting the bus voltage.

Dimension drawing



Connection



2CDC072034F0017

LEGEND

1 Label carrier
2 KNX programming LED (red)
3 KNX programming button
4 KNX connection
5 Cover cap
6 Relay output pump channel A
7 Temperature inputs channel A
8 Binary inputs (pump) channel A
9 Valve output channel A
10 Relay output pump channel B
11 Temperature inputs channel B
12 Binary inputs (pump) channel B
13 Valve output channel B
14 Activate manual operation button/LED
15 Control valve output channel B button/LED
16 Control valve output channel A button/LED
17 Enable pump channel B button/LED
18 Display status inputs channel B LED
19 Display status inputs channel A LED
20 Enable pump channel A button/LED

Operating and display elements		
Button/LED	**Description**	**LED indicator**
	Assignment of the physical address	On: device is in programming mode

Manual operation		
Button/LED	**Description**	**LED indicator**
 Open valve output	Maximum valve control value (100 %) set. Reset the output: button must be pressed for at least 5 seconds.	On: Valve control value at 100 % Flashing: Indicates a fault, e.g. overload/ short circuit
 Close valve output	Minimum valve control value (0 %) is set.	On: Valve control value at 0 %
		Both LEDs on: Valve control value is between 1 and 99 %
Pump  Pump  Switch over pump	Relay for the pump output is switched over. Special feature, double pump mode: given corresponding parameterization, pressing one of the pump buttons causes the active pump to change	On: Contact closed Off: Contact open
 Manual operation	Activate KNX mode with a short press of the button.	On: The device is in the manual mode Off: Device is in the KNX mode
 Input a…x	LED indication depending on which inputs are in use	Binary sensor: LED on: Contact closed LED off: Contact open Temperature sensor: LED on: Temperature sensor connected LED flashing: Fault (cable break/ short circuit)

KNX operation		
Button/LED	**Description**	**LED indicator**
 Open valve output	Button without function	On: Valve control value at 100 % Flashing: Indicates a fault, e.g. overload/ short circuit
 Close valve output	Button without function	On: Valve control value at 0 %
		Both LEDs on: Valve control value is between 1 and 99 %
Pump  Pump  Switch over pump	Button without function	On: Contact closed Off: Contact open
 Manual operation	Activate KNX mode with a short press of the button.	On: The device is in the manual mode Off: Device is in the KNX mode
 Input a…x	LED indication depending on which inputs are in use	Binary sensor: LED on: Contact closed LED off: Contact open Temperature sensor: LED on: Temperature sensor connected LED flashing: Fault (cable break/ short circuit)

Technical data		
Supply	Bus voltage	21…32 V DC
	Current consumption, bus	< 12 mA
	Power loss, bus	Maximum 250 mW
	Power loss, device	Maximum 3 W
	KNX connection	0.25 W
	Relay 5 A	0.6 W
Connections	KNX	Via bus connection terminal
	Inputs/outputs	Via screw terminals
Connection terminals	Screw terminal	Screw terminal with universal head (PZ1)
	Screw terminal 1	0.2…2.5 mm^2 stranded, 2 x (0.2…2.5 mm^2)
	Screw terminal 2	0.2…4 mm2 solid, 2 x (0.2…4 mm^2)
	Wire end ferrule without plastic sleeve	0.25…2.5 mm^2
	Wire end ferrule with plastic sleeve	0.25…4 mm^2
	TWIN ferrules	0.25…4 mm^2
	Wire end ferrule contact pin length	Min. 10 mm
	Tightening torque	Max. 0.6 Nm
	Spacing	6.35
Protection degree	IP 20	According to EN 60 529
Protection class	II	According to EN 61140
Isolation category	Overvoltage category	III according to EN 60 664-1
	Pollution degree	II according to EN 60 664-1
SELV	KNX safety extra low voltage	SELV 24 V DC

Technical data		
Temperature range	Operation	- 5…+45 °C
	Transport	-25…+70 °C
	Storage	-25…+55 °C
Ambient conditions	Maximum atmospheric humidity	95 %, no condensation allowed
	Atmospheric pressure	Atmosphere up to 2,000 m
Design	Modular DIN rail component (MDRC)	Modular installation device
	Design	pro M
	Housing/color	Plastic, gray
Dimensions	Dimensions	90 x 140 x 63.5 mm (H xW x D)
	Mounting width in space units	8x modules of 17.5 mm
	Mounting depth	63.5 mm
Mounting	35 mm mounting rail	According to EN 60715
Mounting position	Any	
Weight		0.24 kg
Fire classification		Flammability V-0 as per UL94
Approvals	KNX certification	According to EN 50 491
	Certification	According to EN 60 669
CE marking	In accordance with the EMC and Low Voltage Directives	

Software				
Device type	**Application**	**Maximum number of group objects**	**Maximum number of group addresses**	**Maximum number of associations**
HCC/S 2.1.2.1	Heating/Cooling Circuit Controller, 0-10V, manual Operation, 2-f/…*	106	255	255

* … = Current version number of the application. **Please refer to the software information on our website for this purpose.**

Valve outputs (analog)		
Rated values	Quantity	2, non-floating, short-circuit proof
	Control signal	0…10 V DC
	Signal type	Analog
	Output load	> 10 kOhm
	Output tolerance	± 10 %
	Current limitation	Up to 1.5 mA

Pump outputs (RC 5 A)		
Rated values	Quantity	2
	U_n rated voltage	250 V AC (50/60 Hz)
	I_n rated current (per output pair)	5 A
Switching currents	AC3* operation (cos ϕ = 0.45)	According to EN 60 947-4-1
	AC1* operation (cos ϕ = 0.8)	According to EN 60 947-4-1
	Fluorescent lighting load AX	According to EN 60 669-1
	Minimum switching capacity at 20 mA	5 V AC
	Minimum switching capacity at 10 mA	12 V AC
	Minimum switching capacity at 7 mA	24 V AC
Service life	DC current switching capacity, resistive load, at 5 A	24 V DC
	Mechanical service life	> 10^7 cycles
	Electrical service life of switching contacts according to IEC 60 947-4-1	> 10^6 cycles
Operating times	Maximum relay position changes per output and minute if only one relay is switched	> 500

Inputs		
Rated values	Quantity	10
For temperature measurement	Quantity	4
For contact scanning	Quantity	6
Contact scanning	Scanning current	1 mA
	Scanning voltage	12 V
Resistance	Selection	User-defined
	PT 1000	2-conductor technology
	PT 100	2-conductor technology
	KT	1 k
	KTY	2 k
	NI	1 k
	NTC	10 k
	NTC	20 k
Cable length	Between sensor and device input	Max. 100 m, one-way

Ordering details

Device type	Product Name	Order No.	bbn 40 16779 EAN	Weight 1 pcs. [kg]	Packaging [pcs.]
HCC/S 2.1.2.1	Heating/cooling circuit controller	2CDG110219R0011	01162 4	0.285	1

NOTE

Please refer to the HCC/S 2.x.x.1 Heating/cooling circuit controller product manual for a detailed description of the application. It is available free of charge at www.abb.com/knx.
ETS and the current version of the device application are required for programming.
The latest version of the application and corresponding software information is available for download from www.abb.com/knx. After import into ETS, it appears in the Catalogs window under Manufacturers/ABB/Heating, ventilation, air conditioning/Primary systems.
The device does not support the locking function of a KNX device in ETS. Using a BCU code to inhibit access to all the project devices has no effect on this device. Data can still be read and programmed.

ABB STOTZ-KONTAKT GmbH
Eppelheimer Straße 82
69123 Heidelberg, Germany
Telefon: +49 (0)6221 701 607
Telefax: +49 (0)6221 701 724
E-Mail: knx.marketing@de.abb.com

Further Information and Local Contacts:
www.abb.com/knx

© Copyright 2018 ABB. We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB AG does not accept any responsibility whatsoever for potential errors or possible lack of information in this document. We reserve all rights in this document and in the subject matter and illustrations contained therein.
Any reproduction, disclosure to third parties or utilization of this contents - in whole or in parts - is forbidden without prior written consent of ABB AG.

Order Number 2CDC508247D0211 Rev. A (08.2018)