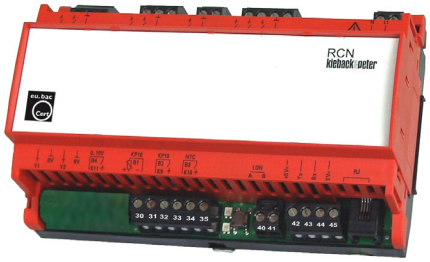
RCN122-L technolon® Room Controller



Application

The RCN122-L is a bus-communicating room controller for fan convectors, with heating and cooling coils and blind control for fan coil applications.

It communicates via the LON Talk protocol. The RCN122-L can also be used as a stand-alone device.The room temperature is operated and measured via room operating modules which can be connected directly to the controller.

The valve and fan outputs and blind control are voltage-free.

In addition, a supply air temperature limit can be activated for via an additional temperature sensor connected to the controller.

Configuration is carried out using a standardized plug-in. A network management tool based on LNS3 (LonWorks Network Services) can be used to configure the system and check the closed loop control functions.

Preconfigured application: Cooling and heating

Contents Page

Important Information Regarding Product Safety 2
Item 3
Technical Data 3
Accessories 4
Dimensions 4
Connection 4
Connection Example 6
Installation 8
Removal 8
Network Installation 9

Änderungen vorbehalten - Contents subject to change - Sous réserve de modifications - Reservado el derecho a modificación - Wijzigingen voorbehouden - Con riserva di modifiche - Innehåll som skall ändras - Změny vyhrazeny - Zmiany zastrzeżone - Возможны изменения - A változtatások jogát fenntartjuk - 保留未经通知而改动的权力

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Important Information Regarding Product Safety

Safety Instructions

This data sheet contains information on installing and commissioning the product "RCN122-L technolon® Room Controller". Each person who carries out work on this product must have read and understood this data sheet. If you have any questions that are not resolved by this data sheet, you can obtain further information from the supplier or manufacturer.

If the product is not used in accordance with this data sheet, the protection provided will be impaired.

Applicable regulations must be observed when installing and using the device. Within the EU, these include regulations regarding occupational safety and accident prevention as well as those from the VDE (Association for Electrical, Electronic & Information Technologies). If the device is used in other countries, it is the responsibility of the system installer or operator to comply with local regulations.

Mounting, installation and commissioning work on the devices may only be carried out by qualified technicians. Qualified technicians are persons who are familiar with the described product and who can assess given tasks and recognize possible dangers due to technical training, knowledge and experience as well as knowledge of the appropriate regulations.

Legend

WARNING

Indicates a hazard of medium risk which can result in death or severe bodily injury if it is not avoided.

CAUTION

Indicates a hazard of low risk which can result in minor or medium bodily injury if it is not avoided.

NOTICE

Indicates a hazard of medium risk which can result in material damage or malfunctions if it is not avoided.

NOTE

Indicates additional information that can simplify the work with the product for you.

Notes on Disposal

For disposal, the product is considered waste from electrical and electronic equipment (electronic waste) and must not be disposed of as household waste. Special treatment for specific components may be legally binding or ecologically sensible. The local and currently applicable legislation must be observed.

Item

RCN122-L	technolon® room controller, heating and cooling with fan coils plus blinds control

Technical Data

Nominal voltage	230V AC with integrated fuse 0.1 A; 8 VA
Inputs	– 2 universal inputs 1 mA/15V BI or AI temperature sensor with KP10 measuring system (2.73 V at 0°C, TC = 10 mV/K) – 1 universal input 0.5 mA/5V BI or AI temperature sensor with NTC10 measuring system
Outputs	– 1 BO thermoelectric heating valve, 85 W, external protection max. 2x type AA4004/80 or 5x type AA2004/80 can be connected – 1 BO thermoelectric cooling valve, 85 W, external protection max. 2x type AA4004/80 or 5x type AA2004/80 can be connected – 1 BO relay for electric heating coil, 230 V AC, max. 200 W Outputs – 3 BO relay for 3-stage fans, max. 400 VA – 2 BO relay, max. 85 W
Bus connection	LON FTT10, 78 Kbit/s
Standards	LonMark Funktionsprofil Space Comfort Controller #8501
Interface	Room controller – 4-wire, for connecting a RBW10x room operating module; – RJ9 socket for connecting the DDC111; RBW10X, RBU10x or an infrared receiver (IRR)
Housing	Plastic housing, flame-resistant
Connection	Screw terminals, max. 2.5 mm²
Overvoltage category	III
Rated impulse voltage	4000 V
Level of contamination	2
Automatic action	Typ 1
Degree of protection	IP20 (IP30 installation in HW-103465 wall-mounted enclosure)
Installation	Standard rail TH 35-7.5 in closed housingThis device is intended for installation in a wall-mounted enclosure/control cabinet installation having protection class II
Ambient temperature	0..45°C
Ambient humidity	20..80 % r.h., non-condensing
CE conformity	04/108/EC Electromagnetic Compatibility 06/95/EC Low Voltage Directive
Dimensions	WxHxD mm 143.5x90x60
Weight	0,42 kg

NOTE

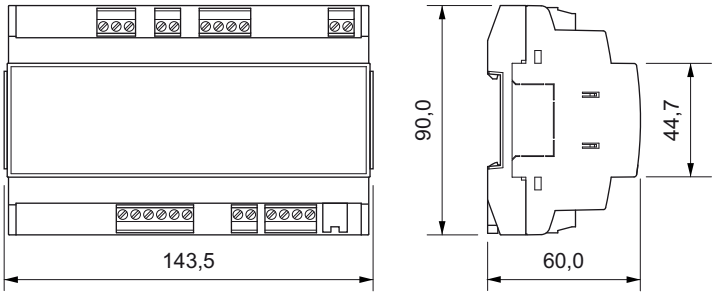
The outputs heating valve K2 and cooling valve K3 can be configured as a 3-point output to control a MD15.

Accessories

Not included in delivery.

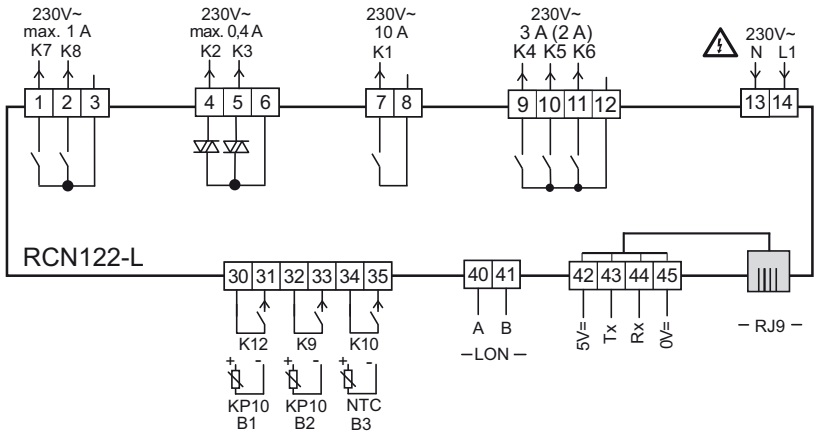
HW-103465	Empty housing for wall mounting (8TE/IP30)
HW-102290	Solid state relay input voltage 18-36V AC/DC
HW-101489	Solid state relay input voltage 90-280V AC
Z178	Connection line: room control module <> room controller
Z178/2	Adapter: RJ plug - terminal block, 4-pole

Dimensions



Connection

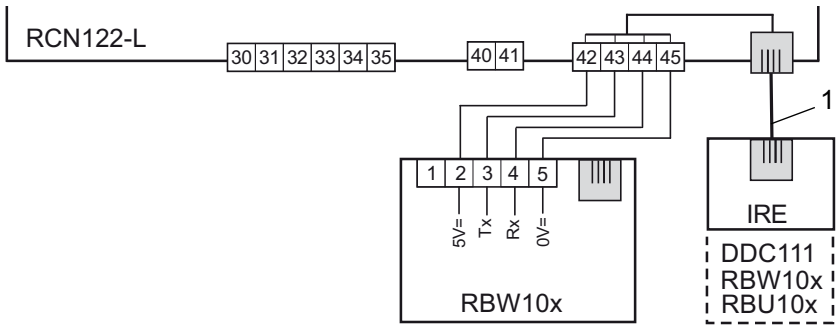
- Valve outputs voltage-free



NOTICE

The triac outputs (K2, K3) are to be protected externally in accordance with local regulations. Only thermoelectric drives are to be connected.

- Connection of the room control modules



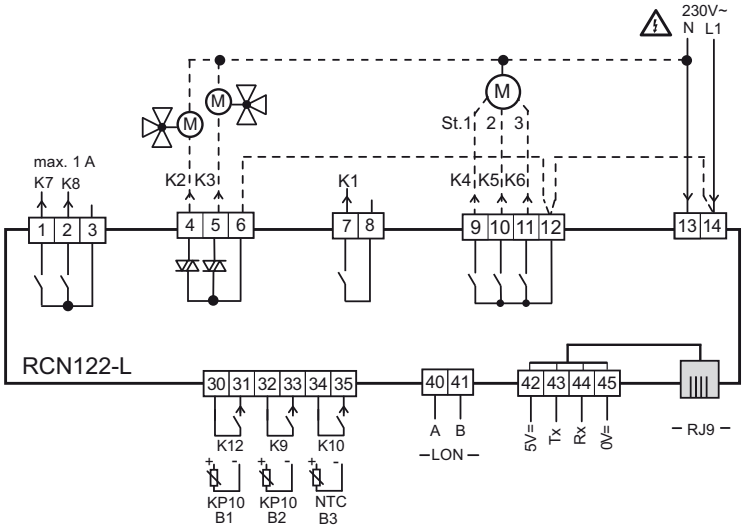
(1) Accessory Z178

NOTICE

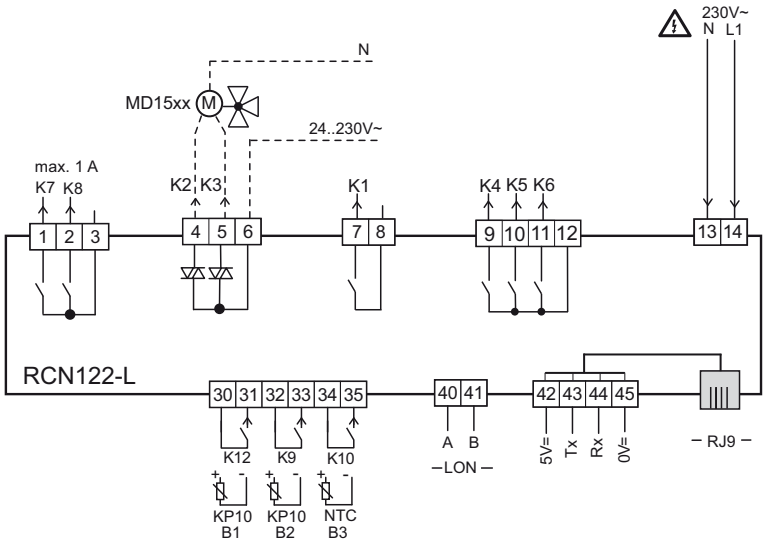
Lines for the power supply and Rx/Tx are to be laid together in one shielded cable that is a maximum of 20 m, cable type at least 0.8 mm in diameter, with the wires twisted together in pairs.

Connection Example

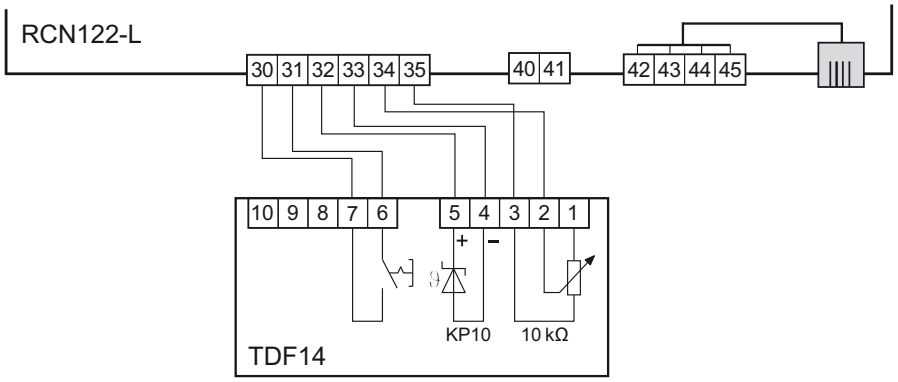
- Valve/fan outputs, 230 V AC, non-voltage-free
- Blind control voltage-free



- Valve output as 3-point 24 to 230 V AC
- Blind control and fan control voltage-free



- Sensor



NOTE

The outputs heating valve K2 and cooling valve K3 can be configured as a 3-point output to control a MD15.

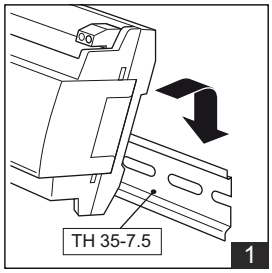
Installation

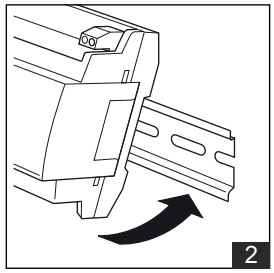
WARNING

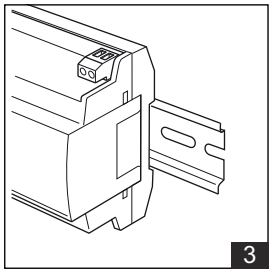
Warning: Mains voltage AC 230 V.

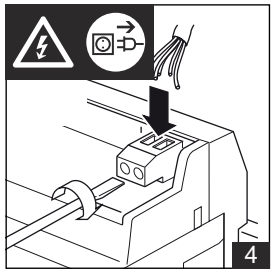
Electrical installation and unit connection may only be carried out by qualified technicians.

The mains supply may only be connected after the electrical installation.
Be sure to comply with VDE guidelines and local wiring regulations.
The device is connected according to the obligatory wiring diagram.

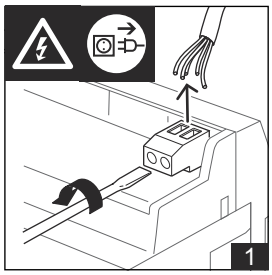


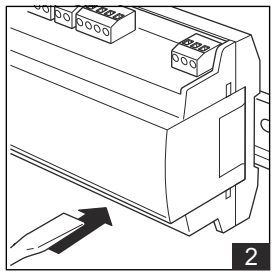


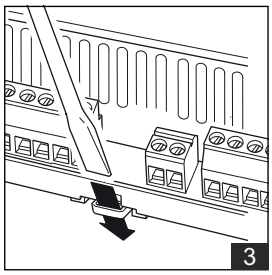


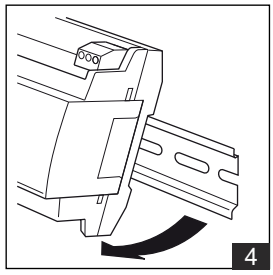


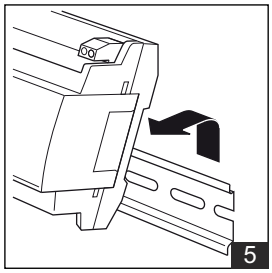
Removal











Network Installation

Network installation is performed using a network management tool based on LonWorks LNS3 network services.

Offline installation

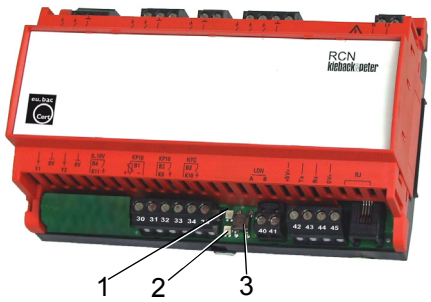
The neuron ID of the technolon® room controller can be found on the included pull-off bar code label, which is used for system documentation.

A simple bar code reader can be used for reading in the neuron ID.

Online installation

- Online installation on the technolon® room controller RCNxxx-L:

The node is identified by manually inputting the neuron ID code or by activating the service PIN (1) on the technolon® room controller RCNxxx-L.



(1) Operating voltage and service LED
(2) Status LED
(3) Service PIN

- Online installation on the room control module RBW10x or RBU10x:

The technolon® room controller RCNxxx-L can also be identified quickly and easily directly on the room control module using a magnet (5). A magnet (5) is guided along the right side of the room control module RBW10x/RBU10x. Internally, this triggers the service PIN in the RCN room controller

The RBW10x indicates this with a service LED (4), located on the top of the housing, that lights up in green. The RBU10x indicates this by lighting up all operating keys shortly.

RBW108

RBU109