B.E.G. KNX Room Controller RCT

Installation and operating instructions B.E.G. KNX Room Controller

1. General information

The **B.E.G.** KNX Room Controller, abbreviated RCT, is a control unit for **B.E.G.** KNX occupancy detectors as well as other loads. The occupancy detector and the other loads are connected to the **B.E.G.** RCT by means of a plug connector system. The **B.E.G.** RCT controls several functions of a room based on the KNX bus.

The integrated DALI/KNX gateway offers the possibility to use DALI electronic ballasts, which are becoming more and more popular.

The DALI lights of a room are dimmed or switched depending on presence. Furthermore, an integrated actuator offers the possibility to actuate the blinds. Additionally, in the "service" mode, it is possible to control the lights or the blinds manually by means of two push button inputs. This offers the possibility to turn the lights on or off and to actuate the connected loads even without ETS. Therefore, the lights and the blinds can be used immediately during installation. After having finished the installation, the push button inputs can be programmed as desired for KNX operation.

2. Application programs

Currently, the following application programme is available:

RCT V1.0

Instructions see application description (to be downloaded on the **B.E.G.** homepage)

3. Safety instructions

⚠ Risk of death by electric shock

⚠ The device must only be installed and commissioned by an accredited electrical engineer.

⚠ Please follow country-specific safety and accident prevention rules as well as all current guidelines.

⚠ The device is intended for interior installation in dry rooms.

⚠ For installation, the device has to be switched to zero potential.

⚠ Do not open the device! Defective devices have to be returned to the manufacturer.
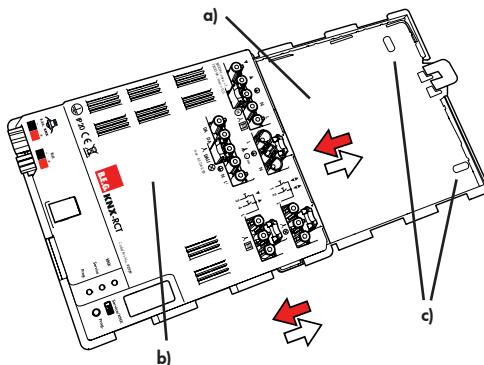
4. Connections
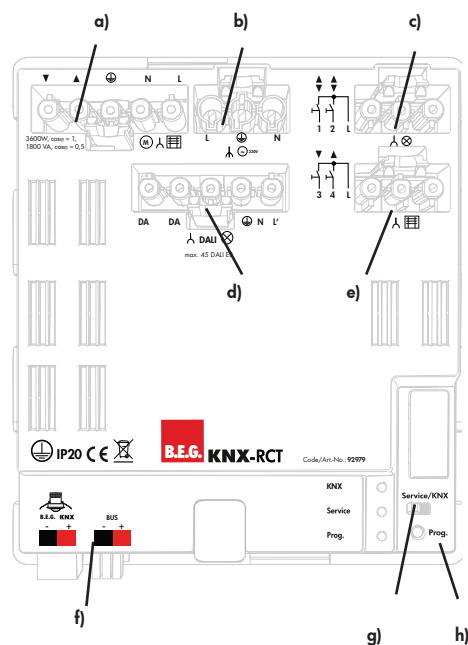
a) Shutter/Blind
b) Power supply
c) Pushbutton light
d) DALI ECG/L'
e) Pushbutton Shutter/Blind
f) BUS
g) Service/KNX
h) Programming button

5. Mounting and installation of the B.E.G. KNX Room Controller

1.

B.E.G.'s KNX Room Controller consists of a base plate and the power element. In order to loosen the snap-fit between base plate and power element, press the respective clip situated between the service switch and the middle of the RCT on the bottom end.

Pull the power element in the slide rail in order to separate the two parts from each other. The base plate is equipped with openings. Please drill holes at the desired mounting place which correspond to these openings and mount the RCT by means of screws. Afterwards, please insert the power element in the slide rail of the base plate and lock it into place.
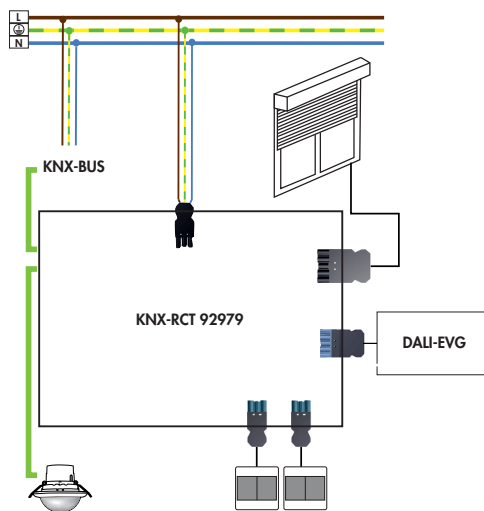

a) Base plate
b) Power element
c) Openings for screws
d) Clip

2.

B.E.G.'s KNX Room Controller is connected to mains by means of the respective connection cable.

⚠ This work has to be done by an authorised electrician only. Before starting, always disconnect the fuse in the incoming circuit from the supply.


KNX-BUS

KNX-RCT 92979

DALI-EVG

(Connection diagram)

| Power cord: | Wieland | Nr. 92.931.3053.1 | black |
Blinds:	Wieland	Nr. 92.954.4053.1	black
DALI:	Wieland	Nr. 92.954.4453.0	blue
KNX:	Wieland	Nr. 93.421.0553.1	green and
	Wieland	Nr. 93.422.0553.1	green
Pushbutton:	Adels	Nr. 162463P	blue

⚠ PIR occupancy detector **obligatory**!

3.

The **B.E.G.** KNX Room Controller is connected to the KNX bus by means of the respective connection cable (green plug connector "Bus" at the left bottom side).

⚠ Please respect the correct polarity (+/-).
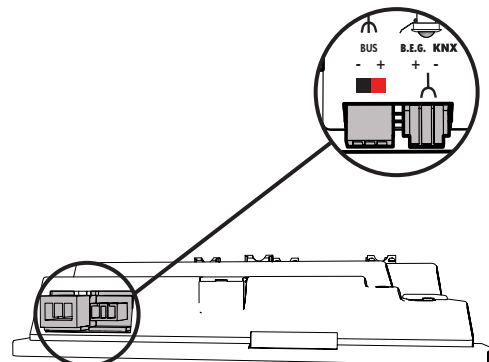
4.

The other loads are connected to the **B.E.G.** KNX RCT using the respective connection cables. An easy installation is ensured by the different colours of the cables and the shape of the plug connector.
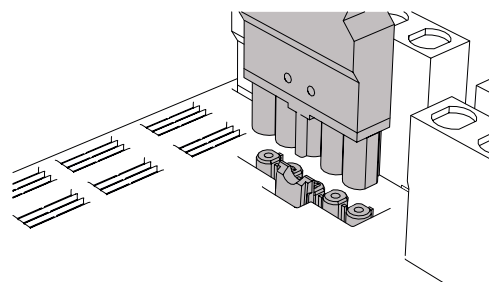

6. Putting into operation and programming

The "Service/KNX" switch is for operating the **B.E.G.** KNX Room Controller even without using ETS. The switch being in its "Service" position (left side), the basic functionality of the connected loads is given without ETS. After installation in ETS or if the service mode is no longer required the switch is put into its "KNX" position and all connected loads are controlled as programmed in ETS.

The current mode is indicated by LEDs:

a) green LED: KNX-Betrieb
b) yellow LED: service mode
c) red LED: The RCT is in its programming mode (pressing the programming button beneath the "KNX/Service" switch starts thex programming mode).
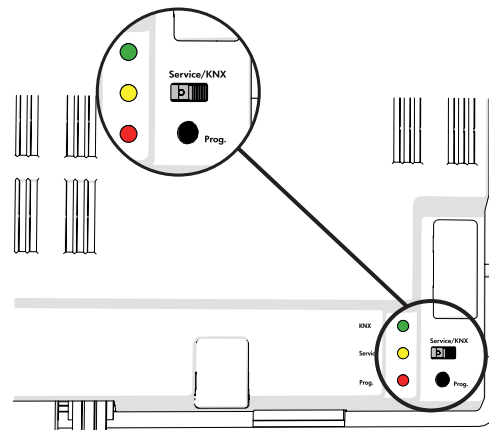
ⓘ All **B.E.G.** KNX occupancy detectors cooperate with the RCT.

7. ETS configuration

For connecting the RCT with the **B.E.G.** KNX occupancy detector please read the respective paragraph in the application description.

8. Technical data

In- and outputs:

Mains supply: Wieland GST18I3L S1V SW (L, PE, N)
Single-phased 230 VAC, -15 % / +10 %, 50/60 Hz

Power dissipation: Pv = 350 mW for I DALI= 0 mA
Pv = 3,5 W for I DALI = 100 mA
External fuse B16A

DALI connection: Wieland GST18I5L B1V PB02
(L, N, PE, D2, D1)

Output: DALI (typ. 16 V)

Maximum output current DALI: 100 mA

Maximum number of electronic ballasts (DALI): 45

Output: L, L', N, PE
L' : Switching output of the Room Controller for cutting off the lamp current circuit. μ contact

Nominal current: AC1 (240 V/ cosφ = 0,8): 16A
AC3 (240 V/ cosφ = 0,45): 8A

Maximum capacitive load for 16A: 140μF

Maximum start-up current (150μs/600μs): 700A / 370A (time indication for pulse width for 10% of the peak current, UL definition

Maximum load:
Incandescent lamp: 16A
Fluorescent lamps T5/T8:
- non compensated: 16A
- parallel compensated: 16A (for resulting maximum inrush peak 370A)
- DUO-circuit: 16A
- inductive transformer 5A
- electronic transformer 16A (for resulting maximum inrush peak 370A)
HV halogen lamp: 16A

LV halogen lamps
Shutter/Blinds connection: Wieland GST18I5L B1V SW
(1, 2, PE, N, 3)
Configuration 1: UP, 2: DOWN, 3: L μ-Kontakt
240 VAC, AC1-operation (cosφ = 0,8): 16 A AC3 (240 V/ cosφ = 0,45): 8A
Shutter motors: 6A

Connection binary inputs: 2 X Wieland GST18I3L B1V PB04 (1, 2, 3)
Input 1 (external): Configuration: 1: L;
2: binary input 2;
3: binary input 1
Input 2 (internal): Configuration: 1: L;
2: binary input 4;
3: binary input 3

In the service mode, binary inputs 1 and 2 are used for switching the light (toggling), binary inputs 3 and 4 are used to control the shutter/blind Switching threshold: effective input voltage = 130 V AC Connectable cable lenght: 50 m (10 nF).

KNX bus connection:
Input: Wieland plug BST14I2L S1 GN01
KNX bus tension 21 ..31 V DC SELV
TP1-256
I Bus = 5 mA (typisch)
I Bus max = 20 mA
Input power typ. typ. 150 mW
Output: Wieland female connector BST14I2L B1 GN01

Display and operating elements:
Programming button/ LED:
For assigning a physical address; LED shines red
Service switch/ LED:
Toggle between service and KNX mode; LED shines yellow in service mode
KNX-LED:
Displays standard operation, KNX communication taking place, service mode off; LED shines green

Environmental conditions:
Application area: Indoor, protected from the weather, no bedewing
Climate: Class 3k5 EN50491-2
Ambient temperature: -5 °C to +45 °C
Maximum humidity: 95 %, no bedewing admissible

Temperature for storage and/or transport: -25 … +70 °C
Mounting possibilities: adapted for ceiling, floor and wall mounting
Electrical safety: DIN EN 60669-1
DIN EN 60669-2-1
DIN EN 50090-2-2

Protection class: I
Protection type: IP20 according to DIN EN 60 529
Pollution degree: 2 according to DIN EN 60 664-1
Overvoltage category: III according to DIN EN 60 664-1
Insulation:
KNX: SELV (DIN VDE 0100-410);
Safe disconnection for 250 VAC against mains and DALI
DALI: basic insulation for 250 VAC against mains
EMV: DIN EN 50090-2-2
DIN EN 60669-2-1
Norms: DIN EN 60669-1
DIN EN 60669-2-1
DIN EN 50090-2-2
DIN EN 62386
Dimensions (in mm): H 45 x W 162 x L 180,5

Declaration of conformity:
This product respects the directives concerning
1. electromagnetic compatibility (2004/108/EU),
2. low voltage (2006/95/EU),
3. restriction of the use of certain hazardous substances in electrical and electronic equipment (2011/65/EU).

9. Article / Part no. / Accessory

Typ	Part.-No.
KNX Room Controller	92979
Connector Set RCT	92983

B.E.G.