Model

Programming button
P with LED display
(red/green/blue)

Only for LED strips!
P_rated: 384 W at U_rated: 48 V DC
12-48 V DC SELV
t_c: 75 °C

Ta   −   D   +   +

12-48 V DC
+
−

RCJ18E5001A01

Technical data

Frequency:	868.30 MHz
Modulation:	FSK
Coding:	Easywave EasywavePlus
Dimming procedure:	PWM
Voltage supply:	12-48 V DC SELV *)
Power consumption:	0.5 W stand by
Connected load:	max. 384 W (48 V DC)
Output load:	LED strips up to 8 A
Operating temperature:	0 °C to +40 °C
Protection rating:	IP20
Dimensions (W/L/H):	48/48/25 mm
Weight:	30 g
Cable cross-section:	0.5–5.0 mm² **)

*) The supply voltage corresponds to the voltage at output "D" and must be selected according to the specifications for the LED strip.

**) If flexible cables are used, then wire-end ferrules must be used and the required cross-section observed.

Scope of delivery

Flush-mounted dimmer RCJ18,
operating instructions

Intended use

The device may only be used as a dimmer for switching and dimming monochrome 12–48 V LED strips up to a maximum of 8 A.

It is operated with Easywave wireless transmitters or a wired button.

The manufacturer shall not be liable for any damage caused by improper or non-intended use.

Safety advice

⚠ Please read this manual carefully before putting the device into operation!

Caution! Electrical installation may only be carried out by a qualified electrician; otherwise there is a risk of electric shock or fire.

Minimum requirements for the external voltage supply: protection against short-circuit, overload (overvoltage, overcurrent) and overtemperature.

Observe the applicable laws, standards and regulations as well as the operating instructions of the devices to be switched!

Have faulty devices checked by the manufacturer!

Do not make any modifications to the device!

In order to ensure safe use, it is necessary that the RCJ18 is permanently installed in a flush-mounted outlet with an appropriate cover.

Function

With the RCJ18, LED strips with a supply voltage of 12–48 V DC can be dimmed or switched wirelessly.

With an Easywave wireless transmitter taught into the dimmer (1-button or 2-button operation), LEDs are always switched to soft. A total of 32 Easywave transmission codes can be taught into the dimmer.

An external button can be connected for local operation of the dimmer. The button behaves like a transmitter in 1-button operation and can be taught into any operating mode.

Three operating modes are available for the dimming functions:

- **Dimming with memory function**:
  The brightness selected last is saved and automatically restored the next time the power is turned on.

- **Dimming without memory function**:
  The dimmer always starts at 100 % when it is switched on. No brightness values are stored.

- **Switching of fixed brightness levels**:
  This function is suitable for creating personal lighting scenarios. A random, individual brightness value can be assigned to each transmitter. In this operating mode, taught-in transmitters can only control this brightness and have no other function.

The dimmer can also be programmed without direct access (remote programming). However, this requires that a transmitter with remote learning function (PTx learn button available in the transmitter) must have already been taught into the dimmer.

Electronic short-circuit and overload protection as well as an overtemperature protection ensure optimum safety of the dimmer.

Commissioning the dimmer

A	DIMMER INSTALLATION

A1	LOCATION SELECTION

Depending on the connected load, the dimmer heats up during operation. If good heat dissipation is not possible, the maximum connected load must be reduced as follows:

15 % for installation in hollow, plasterboard and wooden walls

25 % if several dimmers are installed next to or on top of each other.

Also make sure that the wireless connection between dimmer and transmitter is unimpeded. Avoid installing in a junction box, metallic housings, in the immediate vicinity of large metallic objects, on the ground or near these objects.

A2	COMMISSIONING

The dimmer must be installed by a qualified electrician in a commercially available flush-mounted outlet (min. diameter 68 mm) with cover, connected as shown in the connection diagram and put into operation.

1. Switch off the voltage supply.
2. Connect the cables for the power supply and for the consumer according to the connection diagram.
3. Switch on the supply voltage supply again.
4. Teach the Easywave transmitters to be used (see page 3, "On-site programming").
5. Seal the installed outlet with the corresponding cover.

B OPERATION

B1 OPERATING MODES

Select the operating mode (OM) on the dimmer by pressing the programming button **P** several times until the LED flashes in the rhythm of the desired operating mode (see point C, "Programming").

When a transmitter is taught-in, the selected operating mode is assigned to the transmitter buttons. The dimmer is then ready for operation.

If a different operating mode is to be assigned to the transmitter, simply teach it in again in the desired operating mode.

Each transmitter button transmits its own Easywave code A, B, C or D.

With **2-button operation**, buttons A and C dim up or switch on, transmitter buttons B and D dim down or switch off. Only one transmitter button has to be taught into the device, the code of the second button is automatically assigned.

With **1-button operation**, each button of a transmitter can be alternately dimmed up or down or switched on or off.

2-button dimming with memory (OM1)
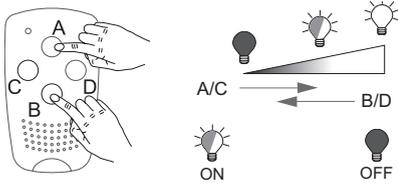
The brightness used last is stored when the unit is switched off.
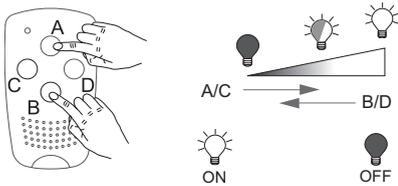Dimming or switching with two transmitter buttons (2-button operation).

Dimming up: Press and hold transmitter button A or C until the desired brightness is reached.

Dimming down: Press and hold transmitter button B or D until the desired brightness is reached.

Switching ON to the stored brightness: Press transmitter button A or C briefly.

Switching OFF: Press transmitter button B or D briefly.

2-button dimming without memory (OM2)

Dimming up and down without saving the last brightness.
Dimming or switching with two transmitter buttons (2-button operation).


Dimming up: Press and hold transmitter button A or C until the desired brightness is reached.

Dimming down: Press and hold transmitter button B or D until the desired brightness is reached.

Switching ON: Press transmitter button A or C briefly. Lighting is softly switched to full brightness.

Switching OFF: Press transmitter button B or D briefly.

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2-button switching of fixed brightness levels (OM3)
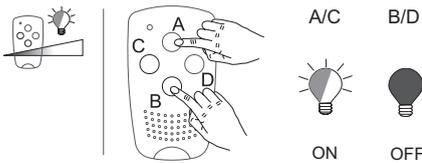
Switching personal lighting scenarios with two transmitter buttons (2-button operation).
The desired brightness can be selectively switched on and off.

Dimming impossible

Switching ON: Press transmitter button A or C. The stored brightness is switched on.

Switching OFF: Press transmitter button B or D.

1-button dimming with memory (OM4)
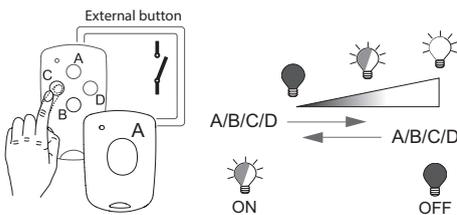
The brightness used last is stored when the unit is switched off.
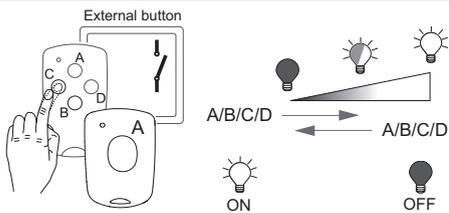Dimming or switching with one transmitter button (1-button operation).

Dimming up or down: Press and hold the transmitter button. When the brightness limits are reached, briefly release the button and continue dimming in the opposite direction by pressing the next button.

Dimming up and down takes place alternately.

Switching ON to the stored brightness: Press transmitter button briefly.

Switching OFF: Press transmitter button again briefly.

1-button dimming without memory (OM5)

Dimming up and down without saving the last brightness.
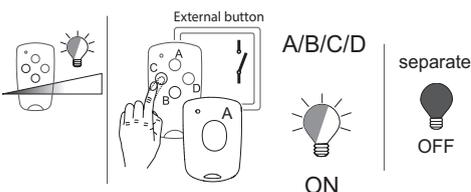Dimming or switching with one transmitter button (1-button operation).

Dimming up or down: Press and hold the transmitter button. When the brightness limits are reached, briefly release the button and continue dimming in the opposite direction by pressing the next button.

Dimming up and down takes place alternately.

Switching ON: Press transmitter button briefly. Lighting is switched to full brightness.

Switching OFF: Press transmitter button again briefly.

1-button switching of fixed brightness levels (OM6)

Switching personal lighting scenarios with one transmitter button (1-button operation).
The desired brightness can be selectively switched on.
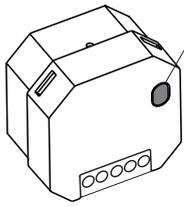

Dimming impossible

Switching ON: Press transmitter button briefly. The stored brightness is switched on.

Switching OFF: Lighting must be switched off using a separate transmitter or a button code in another operating mode.

C   PROGRAMMING

C1   ON-SITE PROGRAMMING

C1.1   Teaching in the transmitter 2-button operation
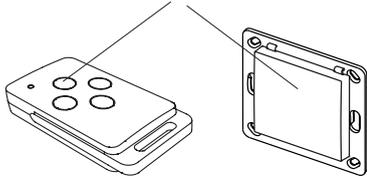
① **SELECTING OPERATING MODE**

Press programming button **P briefly**

P 1x : Dimming with memory
P 2x : Dimming without memory
P 3x : Switching of fixed brightness levels

② **TRANSMITTER TEACH-IN**

Press transmitter button **Tx briefly**

| Actuation [1) [Press button]	Display	Comment
① **SELECT OPERATING MODE**		
P 1x briefly	Blue LED flashes (1x|break|1x| ...)	**2-button dimming with memory** (OM1)
or P 2x briefly	Blue LED flashes (2x|break|2x| ...)	**2-button dimming without memory** (OM2)
or P 3x briefly	Blue LED flashes (3x|break|3x| ...)	**2-button switching of fixed brightness levels** (OM3) First dim your lighting to the desired brightness and leave the dimmer switched on when you start programming.
② **TRANSMITTER TEACH-IN**		
Tx 1x briefly	Blue LED lights up for 2 s and then goes out	Button codes were taught in and the brightness is stored in OM3, Dimmer ready for operation

1)   If no button is pressed within 30 seconds, the dimmer automatically switches to operational readiness. The settings are not saved.

☞ If the blue LED flashes rapidly for approx. 3 s, all 32 transmitters have been taught in.

C1.2   Teaching in the transmitter 1-button operation

① **SELECT OPERATING MODE**

Press programming button **P briefly**
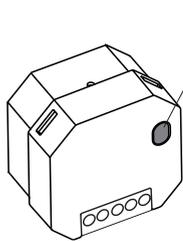
P 1x: Dimming with memory
P 2x: Dimming without memory
P 3x: Switching of fixed brightness levels

② **SWITCHING OPERATING MODE TO 1-KEY OPERATION**

Press programming button **P long**

③ **TRANSMITTER TEACH-IN**

Press transmitter button **Tx briefly**

Actuation [1) [Press button]	Display	Comment
① **SELECT OPERATING MODE**		
P 1x briefly	Blue LED flashes (1x|break|1x| ...)	**1-button dimming with memory** (OM4)
② P 1x long	Green LED flashes (1x|break|1x| ...)	Switch to 1-button operation
or P 2x briefly	blue LED flashes (2x|break|2x| ...)	**1-button dimming without memory** (OM5)
② P 1x long	Green LED flashes (2x|break|2x| ...)	Switch to 1-button operation
or P 3x briefly	Blue LED flashes (3x|break|3x| ...)	**1-button switching of fixed brightness levels** (OM6) First dim your lighting to the desired brightness and leave the dimmer switched on when you start programming.
② P 1x long	Green LED flashes (3x|break|3x| ...)	Switch to 1-button operation
③ **TRANSMITTER TEACH-IN**		
Tx 1x briefly	The green LED lights up for 2 s and then goes out	Button codes were taught in and the brightness is stored in OM6, dimmer ready for operation **Caution**: If the green LED flashes rapidly for approx. 3 s, all 32 transmitters have been taught in.

1)   If no button is pressed within 30 seconds, the dimmer automatically switches to operational readiness. The settings are not saved.

Abbreviations:

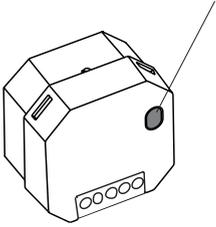|	
OM	Operating mode
P	Dimmer programming button
Tx	Transmitter button
briefly	Press button less than 1.6 s
long	Press button longer than 1.6 s

C   PROGRAMMING

C1.3   Deleting the transmitter

With this function, you can delete individual button codes from the memory of the dimmer.
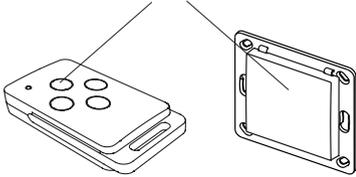
① **ACTIVATING THE DELETE MODE**

Press programming button **P long**

② **DELETING THE KEY CODE**

Press transmitter button **Tx briefly**

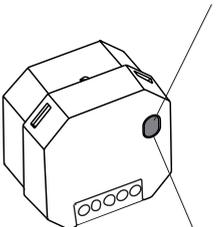| Actuation [1] [Press button]	Display	Comment
① **ACTIVATING THE DELETE MODE**		
P 1x long	LED flashes fast	RCJ18 in delete mode
② **DELETING THE BUTTON CODE**		
Tx 1x briefly	LED is lit for 2 s	Button code deleted, dimmer ready for operation

[1]   If no button is pressed within 30 seconds, the dimmer automatically switches to operational readiness.

C1.4   RESET

ALL button codes that have been taught-in are deleted and the factory settings are restored.

① **ACTIVATING THE DELETE MODE**

Press programming button **P long**

② **RESET**

Press programming button **P long**

Actuation [1] [Press button]	Display	Comment
① **ACTIVATING THE DELETE MODE**		
P 1x long	LED flashes fast	RCJ18 delete mode
② **CARRYING OUT A RESET**		
P 1x long	LED is lit for 4 s	Factory settings restored

[1]   If no button is pressed within 30 seconds, the dimmer automatically switches to operational readiness.

Abbreviations:

OM	Operating mode
P	Dimmer programming button
Tx	Transmitter button
briefly	Press button less than 1.6 s
long	Press button longer than 1.6 s

4

If the dimmer is already installed and no longer accessible, you can use remote programming to teach in additional transmitters. A special Easy-wave telegram is transmitted with the learn button **PTx** of a transmitter for this, which activates the learning or delete functions of the dimmer.

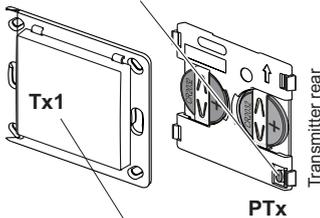In order to start remote programming, it is absolutely necessary to have a transmitter that has already been taught in.

Remote programming is possible only for the operating modes 2-button dimming and 2-button switching.

C2.1   Remote transmitter teach-in

① **ACTIVATING THE REMOTE LEARNING MODE**

Press learn button **PTx** of an already taught-in transmitter **briefly**

② **SELECTING OPERATING MODE**

Press transmitter button **Tx1 briefly**

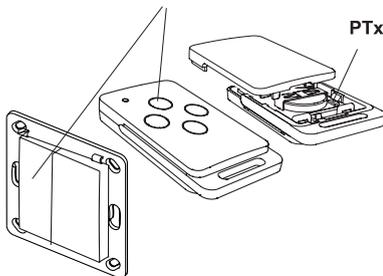**Tx1** 1x: Dimming with memory
Tx1 2x: Dimming without memory
Tx1 3x: Switching of fixed brightness levels

③ **ACTIVATING THE REMOTE LEARNING MODE**

Press learn button **PTx** of the new transmitter **briefly**

④ **NEW TRANSMITTER TEACH-IN**

Press transmitter button **Tx2 briefly**

Actuation [1) (Press button]	Display	Comment
① **ACTIVATING THE REMOTE LEARNING MODE**		Only possible with a transmitter that has already been taught in.
PTx short	Transmitter LED flashes	Remote learning mode activated
② **SELECT OPERATING MODE**		
within 5 s Tx1 1x briefly	Output switches 1x for 1 s	**2-button dimming with memory (OM1)**
or within 5 s Tx1 2x briefly	Output switches 2x for 1 s	**2-button dimming without memory (OM2)**
or within 5 s Tx1 3x briefly	Output switches 3x for 1 s	**2-button switching of fixed brightness levels (OM3)** First dim your lighting to the desired brightness and leave the dimmer switched on when you start programming.
③ **ACTIVATING THE REMOTE LEARNING MODE**		
PTx short	Transmitter LED flashes	
④ **NEW TRANSMITTER TEACH-IN**		
Tx2 short	Output switches for 3 s	Button codes have been taught in, Dimmer ready for operation

1)   If no button is pressed within 10 seconds, the dimmer automatically switches to operational readiness.

Abbreviations:

OM	Operating mode
PTx	Learning button
Tx1	Transmitter button for taught-in transmitter
Tx2	Transmitter button of new transmitters
briefly	Press button less than 1.6 s
long	Press button longer than 1.6 s

C2.2   Replacement transmitter teach-in

In the event that there is no transmitter that has already been taught into the dimmer, the dimmer can be brought into remote learning mode by interrupting the voltage supply five times.

① **DE-ENERGIZE RCJ18**
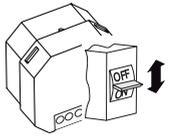
5x
Switch power supply
OFF and ON again

② **ACTIVATING THE REMOTE LEARNING MODE**
Press learn button **PTx** within 30 s

Tx

Transmitter rear

PTx
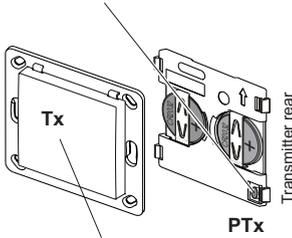
③ **SELECTING OPERATING MODE**

Press learn button **Tx** within 5 s

Tx 1x: Dimming with memory
Tx 2x: Dimming without memory
Tx 3x: Switching of fixed brightness
        levels

④ **TRANSMITTER TEACH-IN**

Wait **5 s**
Output switches for 3 s,
transmitter is taught-in

Afterwards, any transmitter can be taught into the dimmer within 30 seconds using the **PTx** learn button.

The learning mode is automatically interrupted after 30 seconds or when a taught-in telegram is received.

⚠️ **Note that ballast units may take some time for the voltage to drop on the secondary side.**

In this case, the voltage must be interrupted for a longer time to start the remote learning mode.

Actuation [Press button]	Display	Comment
① **DE-ENERGIZE DIMMER 5x** [1]		There is no signalling at the dimmer.
② **ACTIVATING THE REMOTE LEARNING MODE**		
PTx short	Transmitter LED flashes	
③ **SELECT OPERATING MODE**		
within 5 s Tx 1x briefly	Output switches 1x for 1 s	**2-button dimming with memory** (OM1)
or within 5 s Tx 2x briefly	Output switches 2x for 1 s	**2-button dimming without memory** (OM2)
or within 5 s Tx 3x briefly	Output switches 3x for 1 s	**2-button switching of fixed brightness levels** (OM3) Please note that lighting cannot be preset to a desired brightness in this operating mode.
④ **TRANSMITTER TEACH-IN**		
Wait 5 sec	Output switches for 3 s	Transmitter has been taught in, Dimmer ready for operation

1) If no transmitter has been taught into the RCJ18 (factory setting or after reset), it is sufficient to interrupt the voltage once in order to start remote programming with the **PTx** learn button.

C2.3   Remote transmitter deletion

① **ACTIVATING THE REMOTE LEARNING MODE**
Press learn button **PTx** of an already taught-in transmitter **briefly**

Tx1

Transmitter rear

PTx
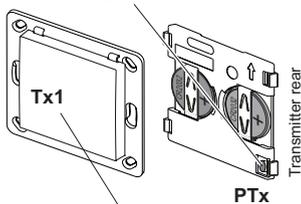
② **ACTIVATING THE REMOTE DELETE MODE**

Press transmitter button
Tx1 >5 s within 5 s

③ **REMOTE TRANSMITTER DELETION**

Press transmitter button **Tx briefly**
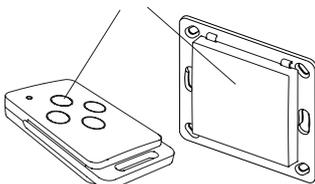
Actuation [1] [Press button]	Display	Comment
① **ACTIVATING THE REMOTE LEARNING MODE**		
PTx briefly	Transmitter LED flashes slowly	
② **ACTIVATING THE REMOTE DELETE MODE**		
within 5 s Tx1 > 5 s	Transmitter LED flashes faster, output switches 1x for 1 s	Remote delete mode activated. If you release the button after 5 seconds, the dimmer switches to the delete mode.
③ **REMOTE TRANSMITTER DELETION**		
Transmitter button to be deleted Tx briefly	Output switches 1x for 3 s	Transmitter has been deleted. Dimmer ready for operation

1) If no button is pressed within 10 seconds, the dimmer automatically switches to operational readiness.

☝️ To ensure constant access to the dimmer, the transmitter taught-in last cannot be deleted.
A transmitter used for deletion cannot be deleted itself.

Abbreviations:

OM	Operating mode
PTx	Learning button
Tx1	Transmitter button for taught-in transmitter
briefly	Press button less than 1.6 s
long	Press button longer than 1.6 s

C2.4   Remote RESET

ALL button codes that have been taught-in are deleted and the factory settings are restored during a RESET.

① **ACTIVATING THE DELETE MODE**
Press learn button **PTx long** (>5 s)

Tx1

Transmitter rear

PTx
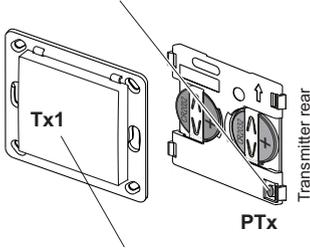
② **CARRYING OUT THE REMOTE RESET**
Press transmitter button
Tx1 long (>5 s)

Actuation [1] [Press button]	Display	Comment
① **ACTIVATING THE REMOTE RESET MODE**		
PTx > 5 s	Transmitter LED flashes faster	
② **CARRYING OUT THE REMOTE RESET**		
Tx1 > 5 s	Transmitter LED goes out Output switches 1x for 3 s	Factory settings restored Dimmer ready for operation

1)   If no button is pressed within 10 seconds, the dimmer automatically switches to operational readiness.

Abbreviations:

PTx	Learning button
Tx1	Transmitter button for taught-in transmitter
long	Press button longer than 1.6 s

D   TROUBLESHOOTING

Display	Problem	Solution
LED flashes in RED slowly after supply voltage is applied	Load check failed	- Interrupt voltage supply - Check load and supply voltage
LED flashes in RED quickly during operation	Switching off the load due to excessive load current	- Reduce illuminant output if necessary
LED lights up RED permanently during operation	Load disconnection due to short-circuit	- Switch on the voltage supply again
LED flashes RED at 2-pulse intervals after supply voltage is applied or during operation	Switching off the load due to excessive internal device temperature	Check the ambient temperature, wait for the temperature to drop until the flashing stops and the device is ready for operation again. **Note**: If there is a significant increase in the internal device temperature, the limit is initially set to 50 % of the maximum possible dimming value.

E   GENERAL INSTRUCTIONS

Disposal

Waste electrical products may not be disposed of with household waste!

Dispose of the waste product at a designated collection point for electronic waste or via your specialist retailer.

Dispose of the packaging material in the recycling containers for cardboard, paper and plastics.

Warranty

During the warranty period, we undertake to rectify free of charge by repair or replacement any product defects arising from production or material faults.

Any unauthorised tampering with, or modifications to, the product shall render this warranty null and void.

Conformity

ELDAT EaS GmbH hereby declares that the radio system type RCJ18 complies with Directive 2014/53/EU. The full text of the EU declaration of conformity can be obtained at the following internet address: www.eldat.de

Customer Service

If, despite correct handling, faults or malfunctions occur or in case of damage, please contact your retailer or the manufacturer.

ELDAT

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