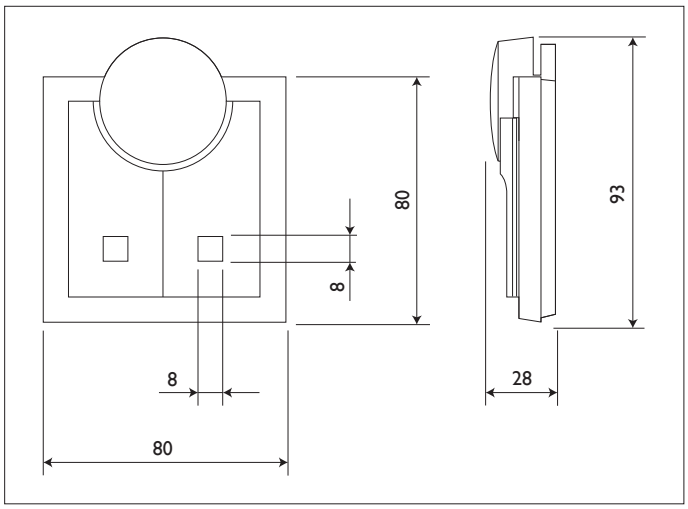
# IRT8050/00 Datasheet

## Two-key wall transmitter




*Dimensions in mm*

**Product details**

- The IRT 8050 is a multi-purpose two-key transmitter suitable for the infrared remote control of lighting installations and other building-related equipment.
- The IRT 8050 can be used to switch and/or regulate lighting in individual control circuits, select lighting presets, operate sun blinds and switch HVAC (heating, ventilation airconditioning) systems to comfort or standby.
- The two large keys can have 27 different sets (combinations) of control functions and 5 programming functions (for operational modes).
- The unit is suitable for wall mounting and for tabletop operation. The Infrared radiation pattern, however, has been optimized for wall-mounted operation.
- As a special feature it offers the possibility to operate two different control circuits using the "toggle key" principle. Toggle keys alternately send two different codes, i.e. the code changes each time the key is pressed. Thus two functions can be controlled with one key, e.g. "Circuit 1 ON - Circuit 1 OFF" or "Blinds UP - Blinds STOP".
- The transmitter has an integrated "teach mode" and can thus be used as programming tool for group and channel addresses.
- The actual function is selected by 5 dip switches in the battery compartment. Table 3, in the section "Miscellaneous", shows the setting of the dip switch for the 27+ 5 possible sets of key functions.
- The group address of the transmitter can be selected with 3 dip switches in the battery compartment. Table 2, in the section "miscellaneous", shows the exact settings.
- The key function can be selected and batteries can be exchanged without removing the unit from the wall.
- Transmission of infrared signals and the teach mode / normal mode is indicated by a red LED on the front of the unit.
- Battery life-time (with Philips Power Life batteries - 1050 mAh) has been calculated at over 5 years for an average of 50 normal key-operations per day.

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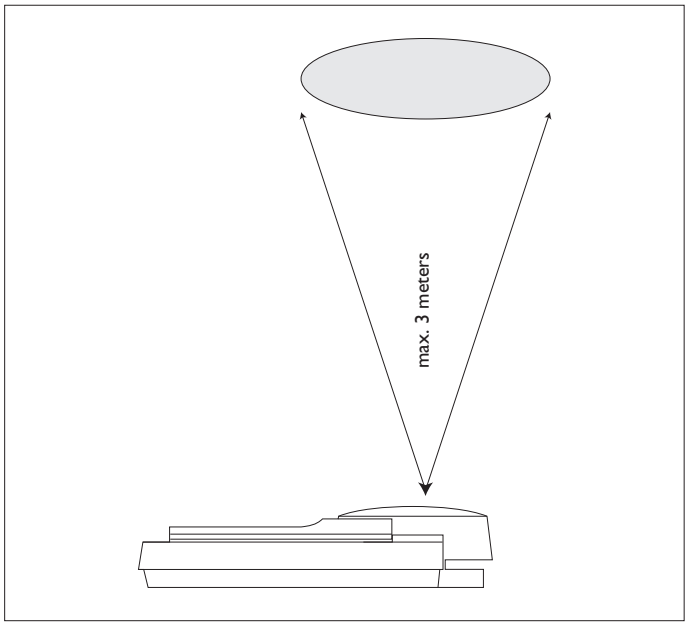
## Applications

- The IRT 8050 is primarily intended for the infrared remote control of individual lighting control circuits and for control of sun blinds in systems with combined lighting and non-lighting building functions.
- Selection of presets is possible using "multiple-touch" operation, i.e. a sequence of 1, 2, 3 or 4 short key presses.
- It offers an easy to find, fixed point control to switch on basic lighting.
- The IRT 8050 can be used in combination with LMM and TRIOS. It may serve as the replacement of the IRC 2310 and the IRT 8060.
- The IRT 8050 can be used as programming tool, thus offering the same functionality as the TRIOS programming tool IRT 1090. For programming of group and channel addresses of a controller, the transmitter must be set in the "teach mode" by pressing both keys simultaneously for more than 2 seconds. A flashing LED indicates the teach mode.
  When the left key is pressed, the transmitter sends the codes that set the group address of the controller to the same group address as the transmitter. If the transmitter is set to the "general" address, no group addressing codes are generated.
  When the right key is pressed, the transmitter sends the codes that set the controller to the channel address that corresponds to the actual function of the transmitter.
  Channel addressing is only possible when the actual functionality of the transmitter includes channel commands. For instance, if the transmitter is set to call a preset or to operate sun blinds, no channel programming codes can be generated. If the transmitter is set to operate two channels (with toggle keys), the channel addressing codes in teach mode correspond to the left key (i.e. the lowest channel address, except for the ch5/ch1 combination). After programming has been completed, the transmitter can be reset to normal operation by pressing both keys again, until the LED lights up.
  The operational mode of a controller can be changed by setting the dip-switches in the transmitter to the required operational mode and pressing one of the keys.



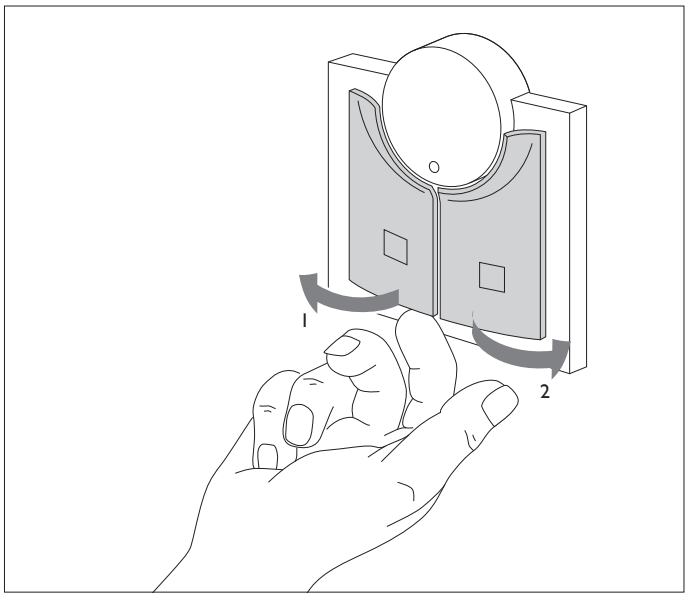

*Dimensions in mm*

**Note:** When transmitting addressing codes and operational mode commands, the infrared radiation pattern of the IRT 8050 is reduced to a narrow beam, in order to facilitate selective programming of luminaires or controllers. Therefore the transmitter must be pointed at the receiver. The maximum distance is 3 meters. The beam of radiation is perpendicular to the front of the transmitter (see also figure 1). The red LED can be used as reference for directing the transmitter to the receiver.

## Installation

### Opening the unit

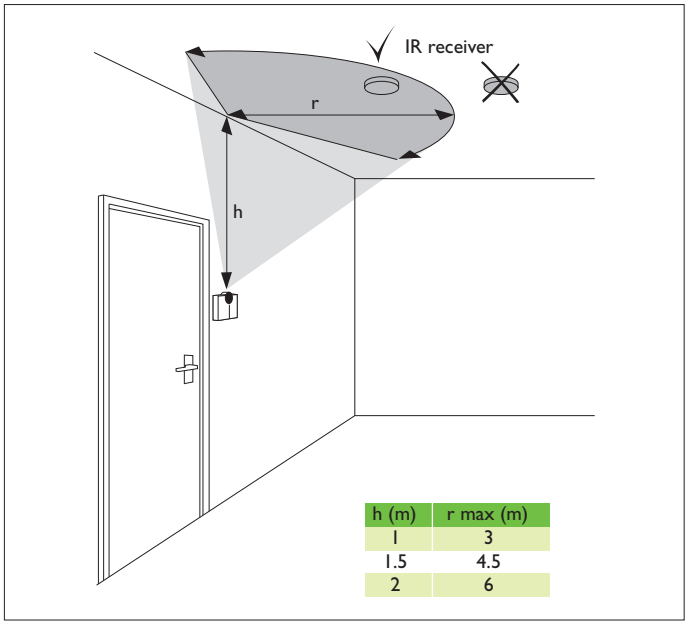
In order to reach the mounting holes, set the function and address dip-switches and insert the batteries, the unit can be opened using the keys as "doors". This can be done without any tool by lifting first the left key and then the right key from the bottom centre part.




*Opening the unit*

### Positioning

The transmitter IRT 8050 is suitable for wall-mounted operation and for tabletop operation. When mounted on the wall, the unit must be located between 1 and 2 meters from the ceiling.
The corresponding receiver must be located in the ceiling, within a circle around the transmitter, with a maximum radius of between 3 and 6 meters respectively (see figure 3).

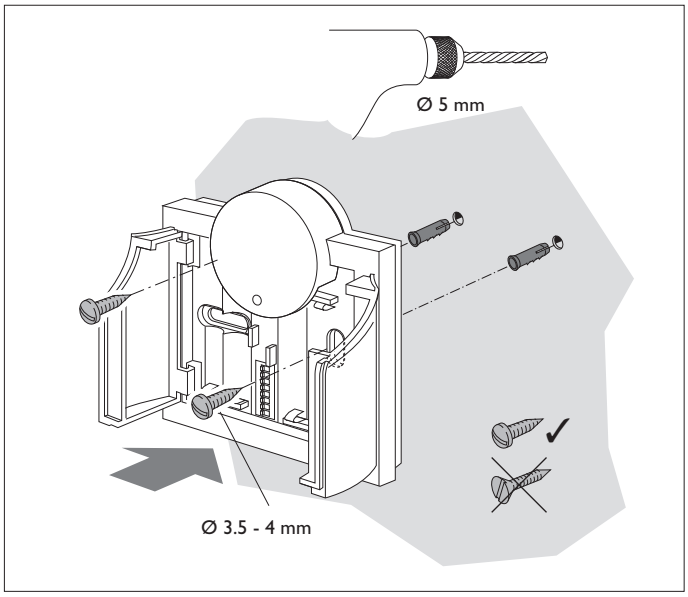



| h (m) | r max (m) |
|---|---|
| 1 | 3 |
| 1.5 | 4.5 |
| 2 | 6 |

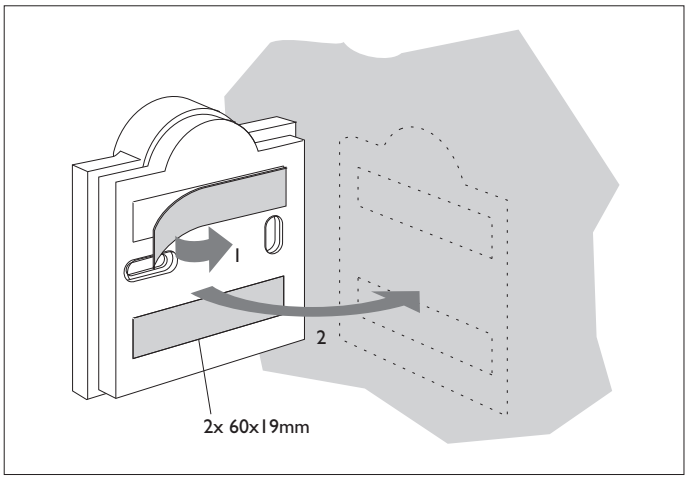
*Positioning*

### Mounting

The transmitter can be fixed to the wall using round-headed screws of 3.5 to 4.0 mm diameter or with two pieces of double-sided sticking tape. (60 x 19 mm). See figure 4.




*Fixing to a wall with screws*




*Fixing to a wall with double-sided adhesive tape*

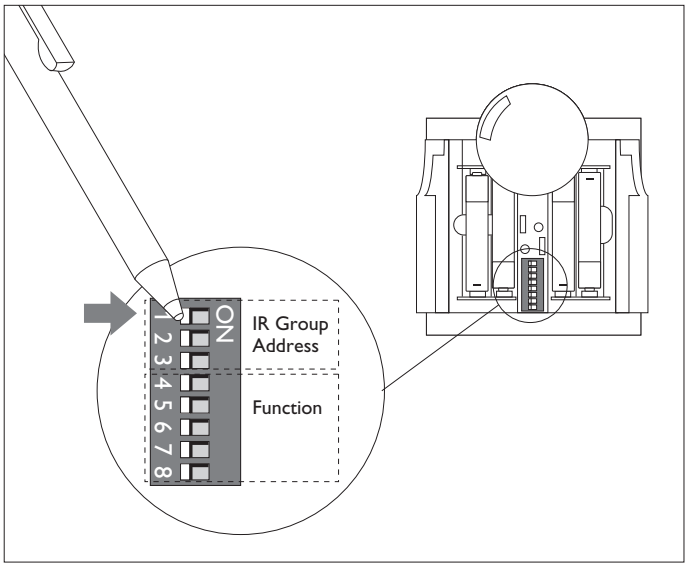
### Battery handling

Batteries must be replaced simultaneously. Always use a set of four batteries from the same brand with the same production date.
Please make sure that batteries are inserted with the correct polarity. Inverted batteries may cause damage to the transmitter (see installation instructions).
Disposal of batteries must be in accordance with local regulations.

## Miscellaneous

### Group address selection

| Dip switch position | | | Helio - Trios | Scenio |
|---|---|---|---|---|
| 1 | 2 | 3 | group address | group address |
| | | | A | 1 |
| • | | | B | |
| | • | | C | |
| • | • | | D | 2 |
| | | • | E | |
| • | | • | F | |
| | • | • | G | |
| • | • | • | General | |




*Setting the Dip switch position*

Functions of the keys

| DIP Switch Position | | | | | Left key function | Right key function |
|---|---|---|---|---|---|---|
| 4 | 5 | 6 | 7 | 8 | | |
| | | | | | Ch 1 Off / Down | Ch 1 On / Up |
| • | | | | | Ch 2 Off / Down | Ch 2 On / Up |
| | • | | | | Ch 3 Off / Down | Ch 3 On / Up |
| • | • | | | | Ch 4 Off / Down | Ch 4 On / Up |
| | | • | | | Ch 5 Off / Down | Ch 5 On / Up |
| • | | • | | | All Off | Preset 1 |
| | • | • | | | All Off | Preset 2 |
| • | • | • | | | All Off | Preset 3 |
| | | | • | | All Off | Preset 4 |
| • | | | • | | Blinds Down | Blinds Up |
| | • | | • | | Ch 1 On - Ch 1 Off | Ch 2 On - Ch 2 Off |
| • | • | | • | | Ch 2 On - Ch 2 Off | Ch 3 On - Ch 3 Off |
| | | • | • | | Ch 3 On - Ch 3 Off | Ch 4 On - Ch 4 Off |
| • | | • | • | | Ch 4 On - Ch 4 Off | Ch 5 On - Ch 5 Off |
| | • | • | • | | Ch 5 On - Ch 5 Off | Ch 1 On - Ch 1 Off |
| 1) • | • | • | • | | All Off | Preset 1 - Preset 2 |
| 1) | | | | • | All Off | Preset 1 - Preset 3 |
| 1) • | | | | • | All Off | Preset 1 - Preset 4 |
| 1) | • | | | • | All Off | Preset 4 - Preset 3 |
| 1) • | • | | | • | All Off | Preset 4 - Preset 2 |
| 1) | | • | | • | All Off | Preset 4 - Preset 1 |
| 4) • | | • | | • | All Off | P1, P2, P3, P4 |
| 4) | • | • | | • | All Off | P4, P3, P2, P1 |
| • | • | • | | • | Absent + All Off | Setpoint 0 + Preset 1 |
| 2) | | | • | • | Blinds Down - Stop | Blinds Up - Stop |
| 3) • | | | • | • | Light Level Down - Stop | Light Level Up - Stop SCENIO ONLY |
| | • | | • | • | All Off (1+2) | Preset 1 SCENIO ONLY |
| • | • | | • | • | Operational Mode 1 | Operational Mode 1 |
| | | • | • | • | Operational Mode 2 | Operational Mode 2 |
| • | | • | • | • | Operational Mode 3 | Operational Mode 3 |
| | • | • | • | • | Operational Mode 4 | Operational Mode 4 |
| • | • | • | • | • | Operational Mode 5 | Operational Mode 5 |
| teach mode | | | | | group addressing codes | channel addressing codes |

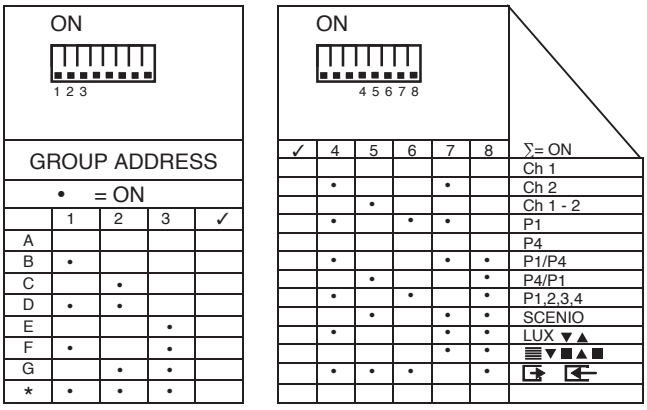
**Remarks:**
In order to avoid unexpected and inconsistent system reactions, the lighting "toggle functions" can be used for switching only!
Do not use toggle keys;
- with multiple transmitters in one room
- in combination with a movement detector
- in centrally-controlled systems.

Channel commands are not applicable for Scenio.

1) In all code sets of the type Px <–> Py ("toggle key") and all off, the all off key resets the other key to the Px command. Thus the lighting will always be switched on at Px, regardless the status before switch off .
2) For the window blinds "toggle functions" up <–> stop and down <–> stop, both keys reset the other to the first command. (i.e. only the last operated key will generate a stop command). Additionally, both keys are automatically reset to the first command 1 minute after the last key press. Thus a consistent operation is maintained, even with centrally controlled window blinds.
3) For the SCENIO "toggle functions" up <–> stop and down <–> stop, both keys reset the other to the first command. (i.e. only the last operated key will generate a stop command). Additionally, both keys are automatically reset to the first command, 1 minute after the last key press. Thus the correct operation of the up and down keys is maintained when for some reason the stop command was not given (e.g. after dim up to maximum or dim down to minimum).
4) Multiple touch keys: A sequence of 1, 2, 3, or 4 short key presses will call different presets. Time between two subsequent presses must be less than approx. 0.5 seconds.

## Memo card

Memo cards are printed at the rear side of the keys.
These cards show the address setting (left key) and the 12 most common key functions (right key). Space has been reserved to mark the settings used.




*Memo cards at rear side of keys*

## Indications and Diagnostics

- teach mode
  A flashing LED indicates that the teach mode has been selected.
- normal mode
  a constant LED when the two keys are pressed indicates that the transmitter reverted to normal mode. After key release, the LED is switched off.
- transmission indication
  A fast flashing LED during key press indicates that infrared radiation is taking place.

## Technical Data

| | |
|---|---|
| Number of keys | 2 |
| Number of indicator LEDs | 1 |
| Number of IR-LEDs | 5 |
| Carrier frequency | 36 KHz. (RC5 standard) |
| Supply voltage | 6.0 V nominal |
| Number of batteries | 4 each 1.5 V nominal |
| Battery type | LR03, AAA Power Life (1050mAh) |
| Environmental conditions | |
| operating conditions | |
| temperature | 5 to 50°C |
| relative humidity | 20 to 85 % |
| condensation | not allowed |
| storage conditions | |
| temperature | -25 to 85°C |
| relative humidity | 5 to 95 % |

**Note:** The IRT 8050 should not be exposed to direct sunlight or to high temperatures and should not be used in damp rooms such as bathrooms.

| | |
|---|---|
| Dimensions | 93 x 80 x 28 mm (max. height x width x depth) |
| Weight | 0.070 Kg (without batteries)<br>0.115 Kg (with batteries) |
| Housing | |
| Material | ABS |
| Colour | White (Bayer 0177 - close to RAL 9010) |
| Mounting | screws 3.5 to 4.0 mm. diameter, through mounting holes in battery compartment |
| EMC | |
| immunity | in accordance with EN 50082-1 |
| radiated interference | in accordance with EN 50081-1 |
| Reliability | |
| call rate | 1% per year (estimated) |
| life time | 10 years (estimated) |

Packing data

| Type | Box dimensions (mm) | Qty | Material | Weight (Kg) net | gross |
|---|---|---|---|---|---|
| Unit box | 124 x 92 x 50 | 1 | cardboard | 0.115 | 0.160 |
| Outer box | 205 x 192 x 133 | 8 | cardboard | 0.92 | 1.380 |

Ordering Data

| Type | MOQ | Ordering number | EAN code level 1 | EAN code level 3 | EOC |
|---|---|---|---|---|---|
| IRT 8050/00 | 8 | 9137 003 10703 | 87 11559 517070 | 87 11559 517087 | 517070 xx |

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Data subject to change
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