

PBIT, PBIR Infrared remote control unit

Infrared remote control unit for PRONTO IRC controllers PRU, PRU/A, PRVU, PRFB-A and PRFB-V. Can be used as a room operating unit.

- Temperature setpoint reset
- Occupancy switch for demand-dependent HVAC control
- Option of two lighting zones



PBIT




PBIR

Types

PBIT Infrared transmitter: control unit with wall bracket

PBIR Infrared receiver and interface unit

Technical data

Power supply:	
PBIT	4 x 1.5 V batteries, type AAA - AM4 Service life: approx. 2 years
PBIR	DC 15 V or AC 24 V from controller
Power consumption of PBIR	< 0.5 VA
Outputs	Setpoint reset and occupancy function, suitable for controller types PRU, PRU/A, PRVU, PRFB-A, PRFB-V
Temperature setpoint reset	± 3 K
Functions	<ul style="list-style-type: none"> • Increase setpoint HVAC ON (Comfort) • Decrease setpoint, HVAC ON (Comfort) • HVAC setback (Stand-by or Energy hold-off) • 2 lighting zones ON/OFF or dimmed (option)
Indication:	
Setpoint adjustment	7 LEDs, -3 ... +3 K
Max. distance between PBIT and receiver	5 m
Connection terminals	Screw terminals for max. 4 mm ²
Housing material	Lexan 161R
Protection standard	IP20 to IEC529
General ambient conditions:	
Operating temperature	5 ... 45 °C
Storage temperature	-25 ... 55 °C
Ambient humidity	20 ... 80 %rh, non-condensing
Weight (including packaging):	
PBIT	0.280 kg including batteries
PBIR	0.140 kg
Dimensions (W x H x D):	
PBIT	70 x 163 x 23 mm
PBIR Receiver	20 x 61 x 56 mm
PBIR Interface	40 x 28 x 159 mm
Colour (PBIT)	NCS 1005-R20B
	This product meets the requirements for CE marking

Ordering information:

The PBIT control unit and PBIR receiver are supplied separately. A separate order is required for each:

PBIT Infrared transmitter
PBIR Infrared receiver and interface unit

Option:

Lighting control system: PHILIPS Trios (obtainable from Philips).

Scope

The PBIT infrared remote control unit provides a convenient means of operating various plant (HVAC, lighting) from any location.

The PBIT is ideal, for example, in large areas where flexible partitioning may be subject to alteration to accommodate changing needs (such as open-plan offices or factory floors). Individual areas can be separated or merged provided that that HVAC and lighting are divided into sufficiently small zones. No additional installation work is required to adapt the control of plant to new partitioning arrangements. Only the assignment of PBIT units to PBIR receivers needs to be reconfigured (see "Commissioning").

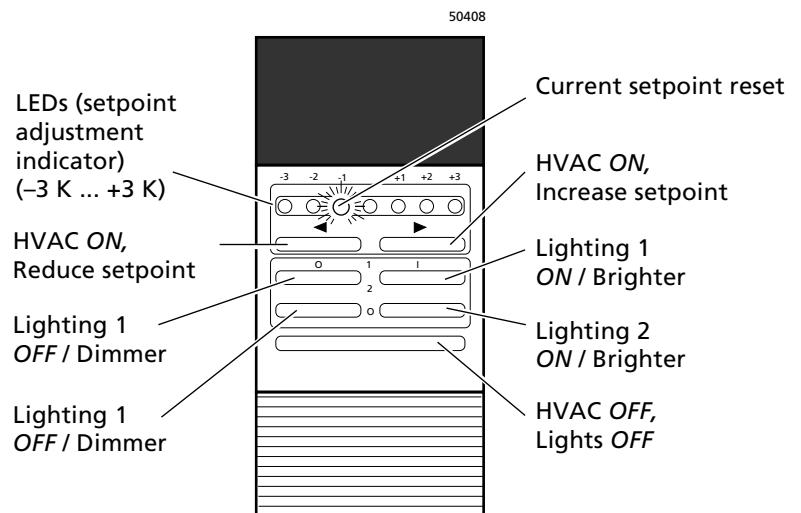
A maximum of seven control units can be used in the same space (i.e. a space without floor-to-ceiling partitions).

Principle of operation

The infrared remote control unit makes it possible to use a single control unit for local reset of the temperature setpoint, occupancy-dependent control of the individual room controller and, as an option, for the control of two independent lighting zones (supplier: Philips).

The remote control unit consists of a PBIT transmitter (similar to a TV remote control unit) and a receiver and interface (PBIR). The infrared signals are decoded in the interface unit and converted into control signals for the PRONTO IRC individual room controllers.

Operation



The portable PBIT control unit has seven function keys and a string of seven LED indicators.

Briefly pressing the keys <HVAC ON / Reduce setpoint> or <HVAC ON / Increase setpoint> will cause the individual room controller to switch to *Comfort* mode. At the same time the LED string will indicate the current setpoint reset (-3 ... +3 K). Hold the keys down a little longer to raise the setpoint <HVAC ON / Increase setpoint> or lower it <HVAC ON / Reduce setpoint>. The key should be held down until the LED string displays the desired value.

Option: The keys <Lighting 1/2 ON / Brighter> and <Lighting 1/2 OFF / Dimmer> can be used to control two independent lighting zones.

On leaving the room, the user can switch off the lights and set the controller operating mode to *Stand-by* or *Energy hold-off* (night mode) with a single key-press <HVAC off, lights off>.

For more detailed information (sample installations, alternative circuits, installation) refer to the manufacturer's literature.

Construction

PBIT

The plastic housing of the PBIT remote control unit accommodates the infrared transmitter, the operator controls and the batteries for the power supply.

PBIR

The PBIR receiver comprises two elements, connected with a cable, approx. 30 cm long. This connects

- The *receiver unit* which contains an acrylic insert (the lens) to receive the infrared signals. (Two brackets are also supplied).
- The *interface electronics*, in a plastic housing for luminaire mounting. The interface unit also accommodates the connection terminals.

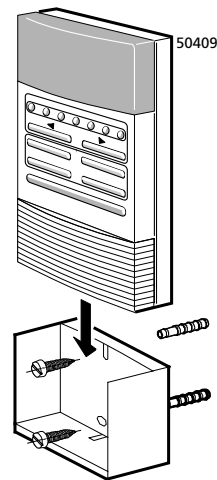
The PBIR power supply is derived from the connected individual room controller.

Mounting instructions

There must be a clear sight-line (for infrared) between the PBIT (transmitter) and the PBIR receiver.

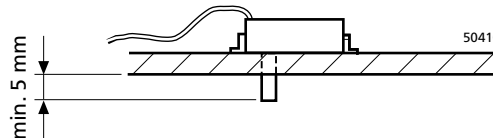
PBIT with wall bracket

The PBIT comes with a wall bracket enabling it to be mounted in the position normally occupied by a standard light switch.



Mounting the receiver unit

The receiver should be installed above a suspended ceiling (mounting kit enclosed). Note that at least 5 mm of the acrylic insert must protrude. Inserts of two different lengths (18 and 33 mm) are supplied.



Mounting the interface

The interface can be mounted directly adjacent to the receiver or with the controller in a control panel. The length of the cable connecting the interface and receiver must not exceed 40 m. Type RJ-12 extension cables should be used (not supplied).

Where required, PHILIPS lighting control is supplied as a proprietary item (not available from Staefa) with a separate receiver and associated electronics (see example circuit).

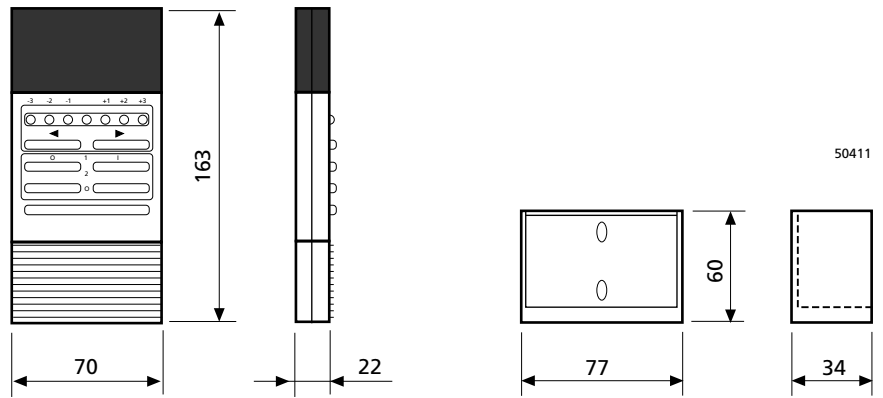
Important:

The maximum distance between the control unit and receiver must not exceed 5 m.

Maximum length of cable connecting receiver and interface: 40 m (cable type RJ-12).

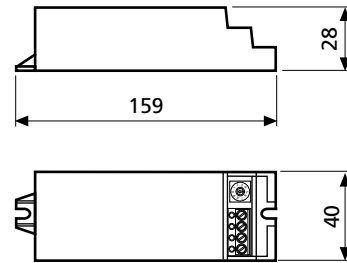
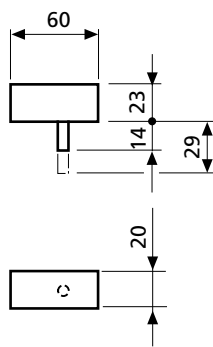
Mounting instructions (Ref. 35668) are enclosed with the PBIR receiver.

Dimensions



Remote control

Wall bracket



Receiver

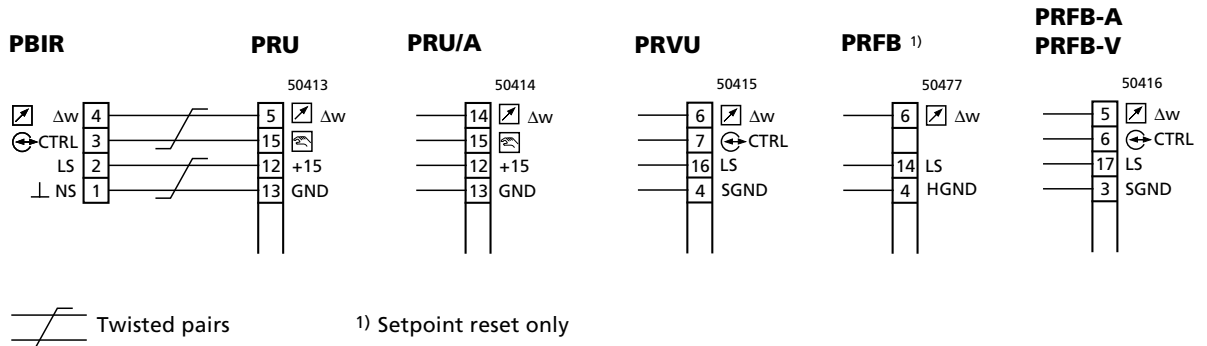
Interface unit

Terminal layout (interface unit)

50412

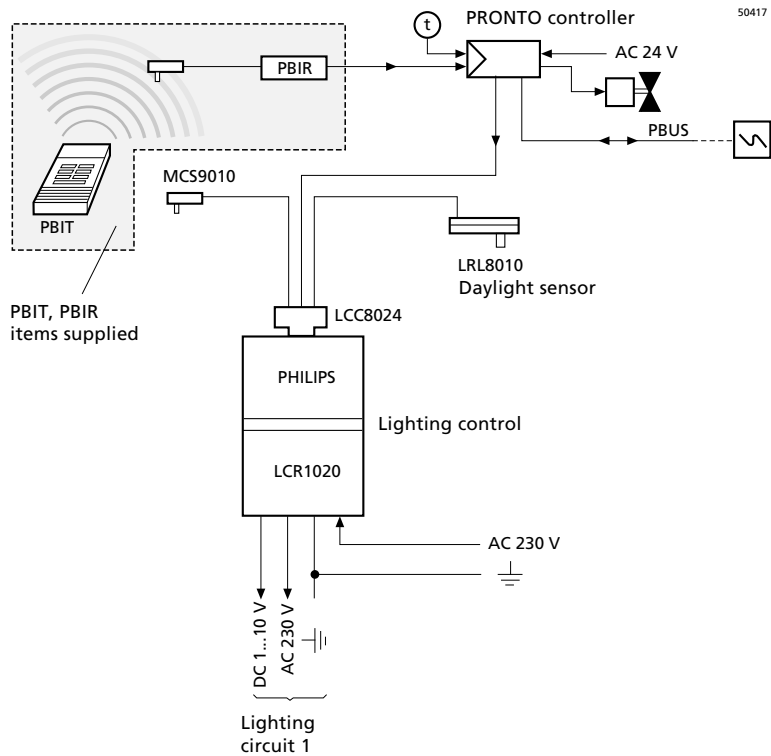
	Δw	4	Setpoint reset
	CTRL	3	Control signal (occupancy)
	LS	2	AC 24 V LS or DC +15 V
	NS	1	AC 24 V NS or GND

Connection diagrams



Example of circuit

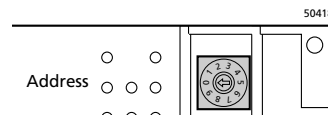
- 1 HVAC control system (PRONTO IRC)
- 1 lighting control circuit (PHILIPS Trios) with daylight compensation for dimmable ballasts
- Lighting can be switched off via central bus communication (*pronto bus*)



Commissioning: Transmitter/receiver allocation

To commission the PBIT or to make subsequent alterations to transmitter/receiver allocation, proceed as follows :

Setting the PBIR address: Use the programming switch to set the receiver channel (position 0...6) on the PBIR interface **before** connecting the power supply. Note that subsequent adjustments will have no effect.



Setting the PBIT address: The transmission channel can be programmed on the PBIT control unit by use of the keypad. There are seven individual channels and one common channel (for all receivers in the same room).

- Invoke programming mode by simultaneously holding down the <Lighting 1 OFF> and <Lighting 1 ON> keys for approximately 2 s. The LED on the extreme left (-3K) will flash to indicate programming mode. Release the keys immediately.
- Hold down the <HVAC ON / Increase setpoint> key until the desired channel number is indicated on the three LEDs to the right (+1 ... +3 K) (see table).
- To exit from programming mode, simultaneously press the <Lighting 1 OFF> and <Lighting 1 ON> keys briefly.

PBIT	+1+2+3	+1+2+3	+1+2+3	+1+2+3	+1+2+3	+1+2+3	+1+2+3	+1+2+3
PBIT	●●●	●●○	●○●	○●●	○●○	○●○	○●○	○●○
PBIR	0	1	2	3	4	5	6	0 ... 6
	●: LED OFF	○●○: Common channel, for transmission to all receiver channels 0 ... 6						
	○: LED ON							

Condensed operating instructions (Ref. 35669) are enclosed with the PBIT.

