

FLAT-P-PP-A-FC

Installation and Operating Instruction for B.E.G. Controls - Occupancy sensor FLAT-P-PP-A-FC

1. Product information

- FLAT primary sensor with PIR technology for use with PP-A-J and PP-1-J power packs or proprietary low voltage system
- Designed for indoor locations
- Up to 4 Secondary sensors may be connected with a primary sensor to increase detection coverage.
- Spring clips for quick and easy installation in suspended ceilings and light fixtures
- 5-year limited warranty
- Masking blinds included
- All programmable features can be adjusted via B.E.G. Controls smartphone IR-Adapter and Android or iOS app.
- ROHS compliant
- Photocell included as a standard feature

2. Operation with power pack PP-A-J and PP-1-J

The FLAT with B.E.G. PP-A power pack detects both motion and the ambient light level in the room and then automates the lights according to the parameters set by the installer and/or building management. The integrated light sensor constantly measures the ambient light and if the light level is sufficient, the light will be switched off. If the ambient light level is below the preset brightness level the lights will be allowed to come on when the sensor detects movement in the room.

When motion is detected in the room, the PP-A's auxiliary dry contact relay will send a signal to HVAC or other systems indicating that the room is occupied. With the integration of simple off the shelf, normally-open momentary switches, the FLAT-PP-A can be set to operate in vacancy mode via the auto/manual switch selector on the power pack. The switches can be used to turn off the lighting before the preset time out period.

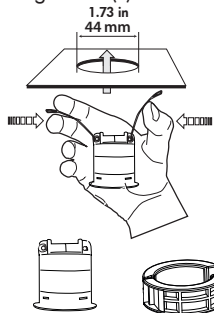
3. Safety information

Work should be carried out by qualified professionals or by instructed persons under the direction and supervision of qualified skilled electrical personnel in accordance with electrical regulations.

The device is not to be used to isolate other equipment from the mains supply!

4. Mounting

Select sensor(s) mounting location based on room dimensions and sensor coverage pattern. Avoid placing sensor(s) less than four feet away from a heat and/or ventilation sources. Avoid placing sensor(s) where view will be directed outside of intended controlled space, this to prevent outside sources from activating sensor(s). A circular opening of diameter 1.73 in/44 mm must be produced in the ceiling.



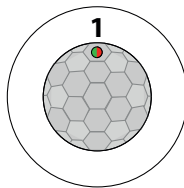
Connect the sensor to the power pack using the RJ12 connector. Pass sensor's RJ12 connector through ceiling opening. Next, squeeze spring clips through ceiling opening. Sensor should clip securely into place. (See figure)

For mounting into luminaires use the supplied clamp ring and remove the spring clips.

When using primary and secondary devices, please mount the primary device at the place with the least amount of natural light.

5. Position LEDs

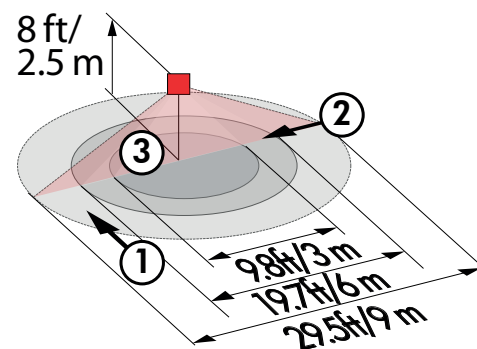
LED 1 green/red



6. Self test cycle/Startup behavior

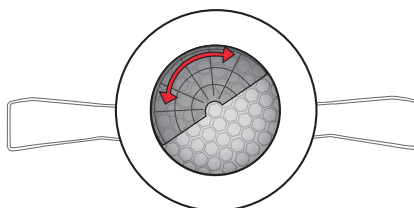
When power is first applied, the sensor enters an initial 60 second self-test cycle. During this time the device does not respond to movement and stays on.

7. Range



- ① Walking across
- ② Walking towards
- ③ Smaller movements

8. Exclude sources of interference



To prevent false activation from external heat-emitting sources, use blinds to mask sensor viewing angle.

9. Description / Part No. / Accessory

Description	Part No.
FLAT-P-PP-A-FC	97032
FLAT-S-PP-FC	97033
Remote control: via B.E.G. Controls IR-Adapter	92726
Power pack PP-A-J	97020
Power pack PP-1-J	97036

The required app for smartphones can be downloaded from the App Store for iOS smartphones and Google Play Store for Android smartphones.

The manual for the B.E.G. Controls App can be downloaded from www.begcontrols.com

Note: Remote only works with primary FLAT-P-PP-A-FC sensor.

Note: Maximum distance between sensor and remote - 24 ft / 7.3 m

10. Technical data

Operating voltage: 24 VDC

Ambient temperature: -13°F/-122°F/-25°C to +50°C

Protection: Suitable for indoor use and dry locations only.

Factory settings: 50 fc/500 Lux, 10 min.

Note: Natural daylight contribution must be 2.5 times the artificial light contribution at the sensor for the controlled load to turn-off.

Recommended height

for mounting: 8 - 10 ft / 2.4 - 3.0 m

Range of coverage Ø H 8 ft/2.50 m :

walking across 29.5 ft / 9 m
walking towards 19.7 ft / 6 m
smaller movements 9.8 ft / 3 m

Area of coverage:

360°

Following settings can only be changed using the B.E.G. Controls IR-Adapter for smartphones and app.

Switch-on threshold: 2 - 100 fc/20 - 1000 Lux

Follow-up time: Load: 30 sec. - 30 min.
HVAC: 5 min. - 120 min.

Sensitivity: MIN-LOW-MID-HIGH-MAX

Dimensions:

Ø 2.05 in H 1.9 in
Ø 52 x H 48 mm

Technical data FLAT-Secondary

Operating voltage: 24 VDC

Pulse output: Digital output

11. Manual switching

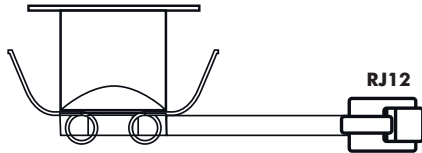
See manual of the power pack PP-A/PP-1: "PB load" and "All off" (only PP-A)!

12. LED-functional indicators

LED function indicators	Process
Red blinks once per second during the first 60 seconds after powering	Self-test cycle, unmodified device
Red blinks twice per second during the first 60 seconds after powering	Self-test cycle, previously modified device
Red flashes	Motion detected
Green blinks once per second	Too bright detected
Red and green flash once in quick succession	Remote control signal received
Red and green blink together once every 4 seconds	Device operates in pulse mode
Green is on for 4 seconds	Remote control signal received but device is locked
Green flashes twice per second for 5 seconds	Device has just been locked and can now be double locked

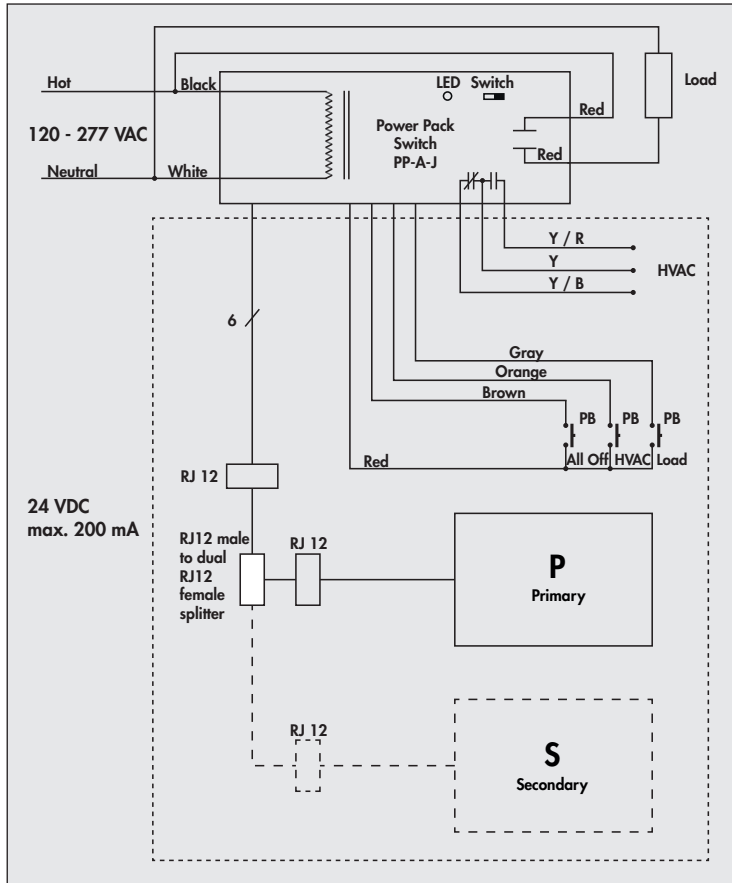
13. FLAT-P-PP-A-FC - Connection

Connect the B.E.G. Controls FLAT-P-PP-A-FC sensor to the PP-A-J or PP-1-J power pack using the sensor's RJ12 connector.



14. Wiring diagrams with Power pack PP-A-J and PP-1-J

Standard mode with Primary/Secondary

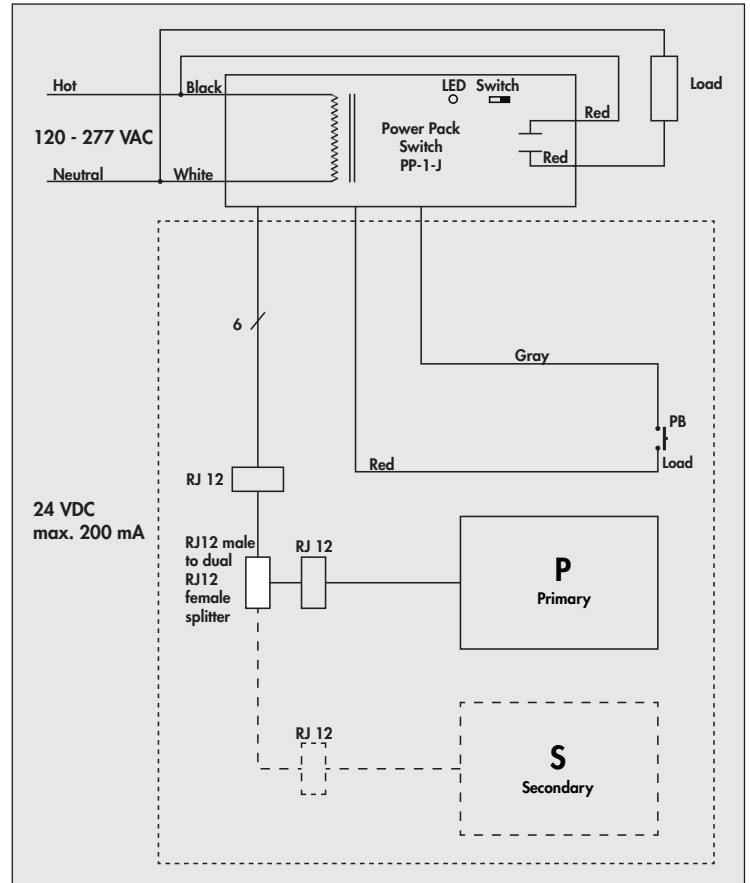


15. Reset of the detector

Following settings can only be changed using the B.E.G. Controls IR-Adapter for smartphones and app. If the configuration settings lock is activated, the detector can be released again as follows:

- Disconnect and reconnect sensor from power pack
- Let sensor initialize for about 31 to 59 seconds
- Disconnect sensor from power pack
- Connect sensor back to power pack and wait for the sensor to go through self-testing
- Press the unlock button

Pressing the "RESET" button on the remote control, in programming open mode, will delete all of the values set by the remote control. Sensor settings will be set back to factory settings. 50 fc (500 Lux), 10 minute timeout.



⚠ Secondary sensors and primary sensor must be connected to the same power pack.

B.E.G. Controls

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1. Remote control with IR-Adapter and Remote Control-App

With the IR-Adapter for smartphones, all remote-controllable B.E.G. Controls detectors can be set. The adapter is simply plugged into the phone connector of the Smartphone. A userfriendly navigation allows you to search by product name or by remote control name.

The B.E.G. Controls IR-Adapter is plugged into the headphone socket of the Smartphone and establishes the infrared connection to the detector, light or photoelectric switch.

13a. IR-Adapter for smartphones - Installation

Step 1: Install the remote control app "B.E.G. Controls" on the Smartphone



Step 2: Charge the adapter via Micro USB cable. When the battery is being charged, the red LED turns off.

⚠ The IR-Adapter has to be charged on a regular basis.

Step 3: Plug in IR-Adapter (phone connector).

⚠ Sometimes protection covers prevent the adapter from being plugged in completely. Please ensure that the IR adapter is plugged in correctly.

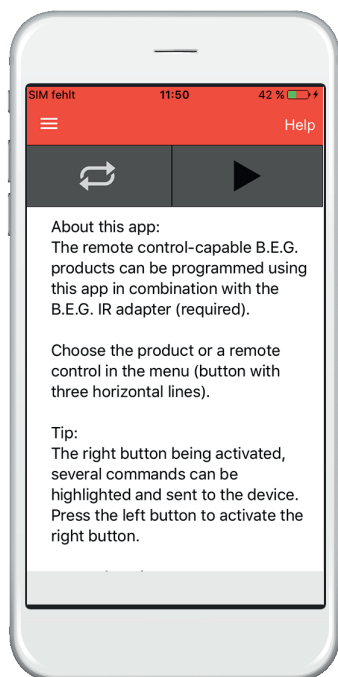
Step 4: Please check that the Smartphone's loudness level is maximum in order to ensure a correct operation.



2. Procedure to use the remote control app

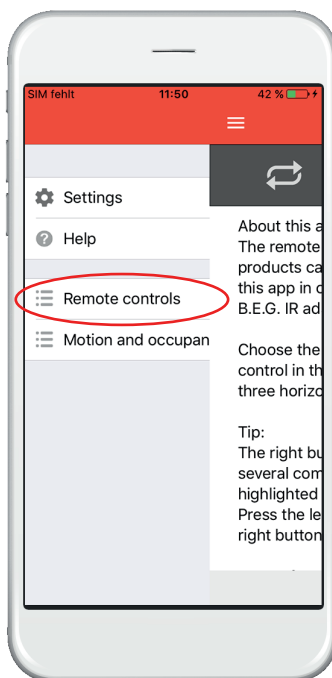
Start page / Help

To access the device selection page click on the three, white horizontal lines in the upper left corner or swipe from left to right.

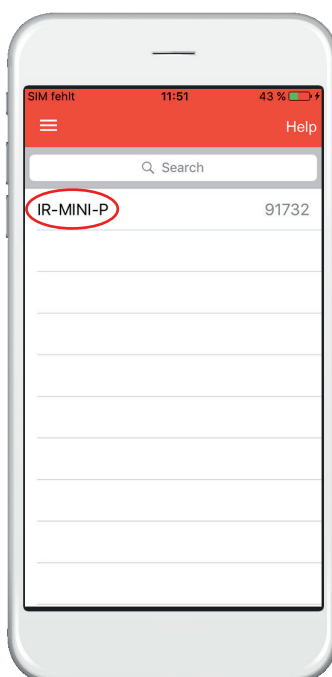


Device or remote control selection

Select "Remote controls".



Select "IR-FLAT-P".



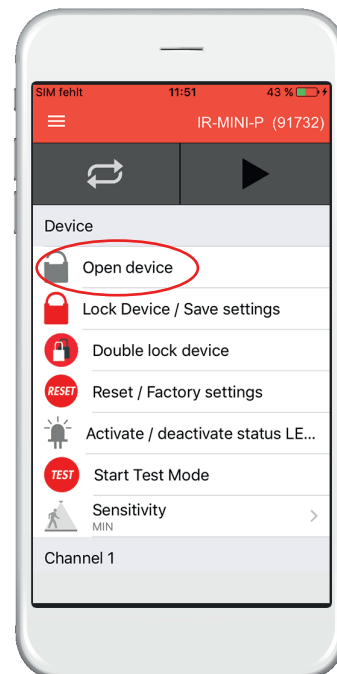
Functions – Device section

1. Open (unlock) the device

The functions with a grey symbol can only be used when the device is in opened state.

Functions with a red symbol can only be used in closed state (like "Start Test Mode") or have a double function, depending on the state of the device. For example "Reset": If the device is locked "Reset" will end all ongoing follow-up times (time out period) and switches off the load and HVAC channels. In opened state, "Reset" will recall the factory settings of the device.

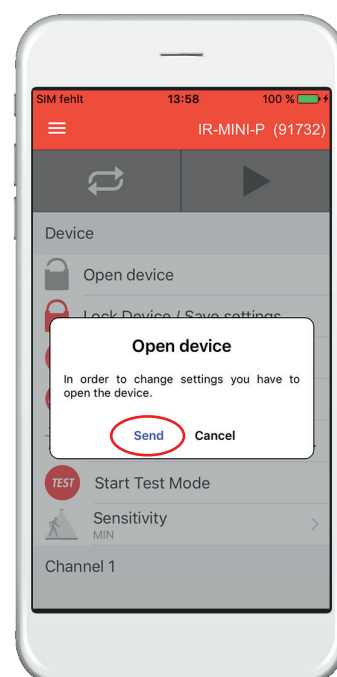
To open the device click on "Open device". (An options window will pop up).



Functions – Open device

Click "Send" to open the device.

(The LED of the FLAT will flash green and red consecutively to indicate that a remote control signal has been received.)

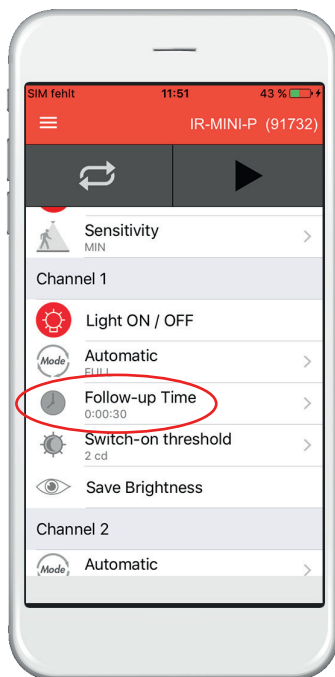


Functions – Channel 1 (load) section

2. Changing the follow-up time

You can now change the follow-up time for example. Click on "Follow-up Time".

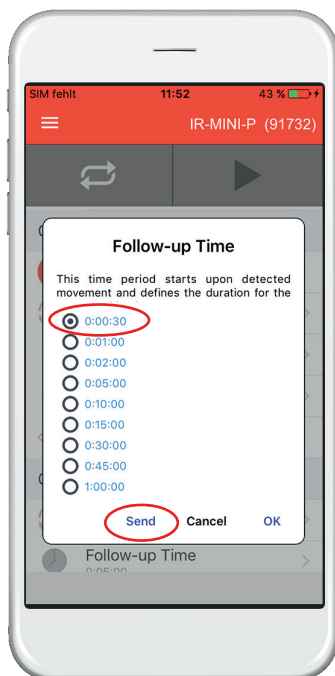
(An options window will pop up).



Functions – Changing the follow-up time

Choose a follow up time, then click "Send".

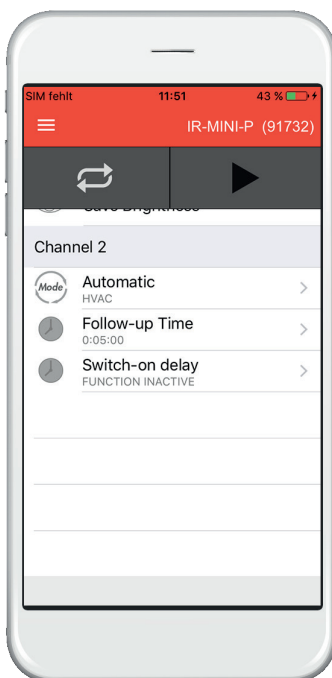
(The LED of the FLAT will flash green and red consecutively to indicate that a remote control signal has been received.)



Functions

Likewise you can set the channel control modes, the follow-up times, the switch-on threshold (CH 1) and the switch-on delay (CH 2).

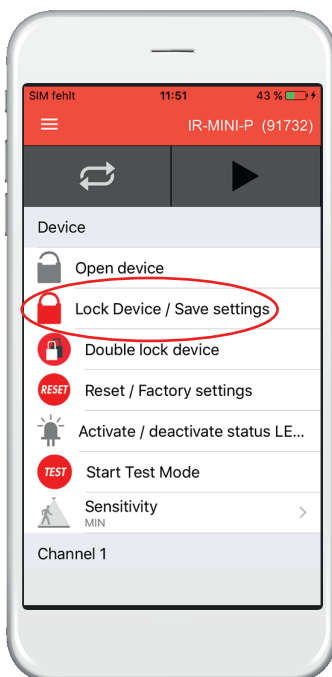
Remember that the device must be unlocked (open device) first, to access the grey functions. Having the device unlocked, you may also adjust the sensors sensitivity, and deactivate/activate the status LED.



Functions – Locking the device

Once you are done altering the parameters, you can lock the device by clicking "Lock Device/Save settings".

(The LED of the FLAT will flash green for 5 seconds - During this time you can "Double lock device". In double locked state you cannot alter any device parameter with the smartphone app.)



Functions – Highlight and send

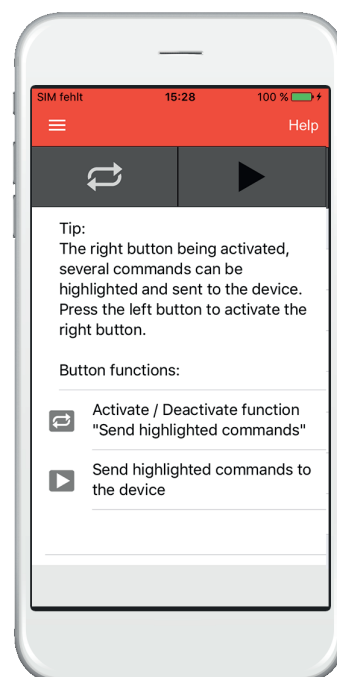
3. Send multiple parameters at once

You may want to apply the same parameter settings to more than just one FLAT Primary sensor, in this case you can use the "Activate / Deactivate function" to select multiple commands.

The "Send highlighted commands" button will then send all selected parameters.

Please note that this is only applicable for open state functions. The app will always send the "Open device" command before sending all other parameters, even if it is not highlighted.

After 3 minutes without receiving commands from the app, the FLAT will return into locked state automatically. Alternatively, the device can be closed manually by using the "Lock device / Save settings" button.

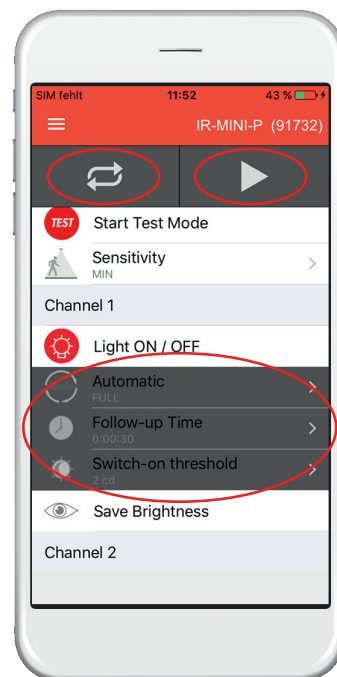


Functions – Highlight and send

First click on [icon]. Now highlight the different parameters, which you have modified in beforehand, by clicking on them. (They will turn dark grey to indicate that they are highlighted).

Then just click [icon] when in range of the FLAT that you want to modify.

This allows you to move from room to room and program a number of FLATs with the same settings, by just pressing one button each time.



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