frc/set Remote Control

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The **frc/set** remote control is used for setting up any of the Flex Connectors Value range or Control plus range of sensors. Parameters such as occupancy time-out, light target-level and up to three operational options can all be set up using the **frc/set** remote control.

Setting up Time-Out

Considerations before installation

fnh200 ✓ I.R. receiver

fnh400 ✓ I.R. receiver — Light cell

Before starting ensure your sensor head is one of either the **fnh200** or **fnh400** sensor heads shown above.
Check the sensor head is powered by observing the green LED flashing whenever occupancy is detected.

fnh/slave ✗

fnh/slave does not require setting up, it inherits occupancy *time-out* period from its parent **fnh200** or **fnh400** sensor head connected in parallel.

frc/set

Use for occupancy walk test or to demonstrate *daylight linking* / *daylight dependency* reacting faster than usual.
See setting light level.

2, 5, 10, 20 and 40 mins.

Disables occupancy.
i.e. occupancy has no effect on the lights.

To set a time-out:
Using the remote control press and hold the desired time-out button until the green LED on the sensor head stops flashing (usually after 5 seconds). Then release the button and the LED will flash just once more to confirm the time-out has been set. If the confirmation flash was not observed - try the set up again.

Note: To find out the current stored time-out value, momentarily press the 'Test' button. The green LED will then flash a number of times corresponding to the current stored time-out

Time-out/mins	Test 10s	2	5	10	20	40	Disable*
No. of flashes	1	2	3	5	4	6	7

Operational Options

Important:
Operational options are factory set to those considered most likely required. We therefore only recommend changing an option after careful consideration of the information below. Options available vary according to the sensor type. In order to asertain the type and therefore which options can and can't changed use the flow chart below. Then use the table to find the option explained.

Note: Shaded buttons are default factory settings.

Presence	
P1	Enabled: Occupancy (presence) can initiate the lights ON **provided** the sensor has **timed-out**.
	Disabled: Occupancy (presence) can never initiate the lights ON (always requires a switch operation).

Day. dep.	
D1	Enabled: Lights switch OFF when too bright and ON when too dark - i.e. *Daylight dependent.*
	Disabled: Lights will not react to any changes in light level. i.e. *Daylight dependency* disabled.

Man. dim.	
M1	Enabled: Enables wall switch (with long pulse) to work as a dimmer (*daylight linking* disabled until next ON).
	Disabled: Limits the wall switch to just ON & OFF control i.e. *daylight linking* always running when lights ON.

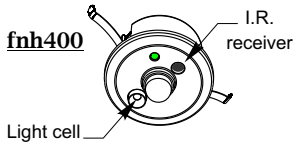
Day. dep.	
D2	Enabled: Lights can *daylight link* all the way down to OFF (don't use if **some** lights on circuit are **non-dimmable**)
	Disabled: Lights can only *daylight link* down to minimum brightness (does not switch OFF).

Man. dim.	
M2	Enabled: Long 'on pulse' on wall switch temporarily disables *daylight dependency* (until next ON).
	Disabled: *Daylight dependency* can not be temporarily disabled by wall switch.

Setting an option
Press and hold the desired enable or disable button until the green LED on the sensor head stops flashing (usually after 5 secs). Then release the button and the LED will flash just once more to confirm the option has been set. Note: if there is no confirmation flash try the set up again.

Setting up Daylight Linking / Dependency

Before starting ensure your installation is complete, all lights are operational and preferably any furnishings are in their final positions. Note that only the **fnh400** sensor head (shown on the right) is capable of light level sensing.



Background information

The sensor head uses the area below it to sample reflected light from the floor / desk. This local area is considered as the **controlled zone**. Any lighting beyond the **controlled zone** can be sympathetically illuminated provided the degree of any contribution of daylight is constant across the area - in other words do not attempt to control large areas where the daylight contribution is inconsistent across the area being controlled.

Determining your type of control unit

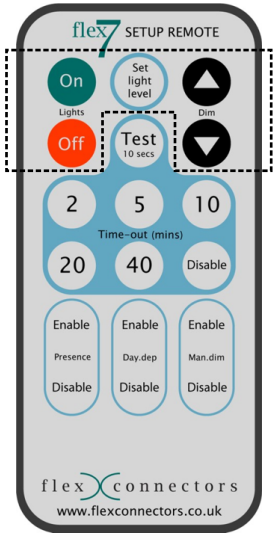
The sensor installation includes a control unit which may now be hidden from view behind the ceiling. In order to identify which type it is try out the Dim up ▲, Dim down ▼, ON (On) and OFF (Off) buttons of your remote control.

Note: If you have a latched override wall switch fitted ensure it is in the 'sensor' position.

If you can: Dim up / Dim down the lights - you have a dimmable control unit and will be setting up a target level for ***daylight linking***
If you can: Only turn the lights ON and OFF - you have an 'ON / OFF' control unit and will be setting up a target level for ***daylight dependency***.

In either case the procedure to set up the target level is the same.

Note: *Target level* = the minimum illumination required.



Achieving and setting the target level

Use a light meter held at arms length and at waist height so that the meter is pointing up at the sensor head (not directly into any one fitting). Adjust the lights to desired level (target level) using the '(On)' / '(Off)' (ON / OFF) buttons or if dimmable fittings, the '▲' / '▼' (Dim up / Dim down) buttons. In the event that there is too much daylight and you can not get down to the desired illumination it may be necessary to close blinds / curtains etc. or to carry out the set up at night. Once satisfied with the light level, stand slightly away from the sensor and using the remote control press and hold the '(Set light level)' (set light level) button until the green LED on the sensor head stops flashing (usually after 5 seconds). Then release the button and the LED will flash just once more to confirm that a light level setting will be attempted. The sensor head now runs through a routine to record the light level under various conditions - this means the lights will turn 'ON' or 'OFF' and possibly dim down over a period of the next 5 - 10 seconds. The exact routine will vary depending on your type of control unit. Provided this sequence was observed the target level has now been set.

How does Daylight linking work?

For dimmable control units only (see under - determining your type of control).

Lights are automatically regulated to compensate for any changes in ambient light in order to maintain a constant light level (target level) under the sensor head.

Note: *Daylight linking* can work in one of two ways:

If *daylight dependency* is disabled (see options) - Lights can only *daylight link* down to a minimum brightness (i.e. they do not switch OFF completely).

If *daylight dependency* is enabled (see options) - Lights can daylight link all the way down to OFF. More precisely - if, after 5 minutes, of *daylight linking* at minimum brightness and the detected light is still significantly brighter than the *target-level* - the lights will switch OFF completely.
(5 seconds if occupancy *time-out* is set to 'test 10 secs').

The lights will turn back ON again, if the detected light level subsequently falls below the *target-level*.

How does Daylight dependency work?

For ON/OFF control units only (see - determining your type of control)

Lights switch OFF - if, for a period exceeding 5 minutes:
Detected light level > target level + (the lights own contribution x 125%).
(5 seconds if occupancy *time-out* is set to 'test 10 secs').

Lights switch ON - provided they would otherwise be ON with occupancy, if:
Detected light level < target level.

Testing daylight linking / daylight dependency

To observe *daylight linking* / *daylight dependency* at work, set the occupancy *time-out* to '(Test 10 secs)' (Test 10 secs' (see under - setting up *time-out*)). In this mode, dimmable fittings react to changes in ambient light twice as fast as usual and *daylight dependency* (if enabled) can switch the lights OFF within 5 seconds (rather than the usual 5 minutes).

Note: It may be necessary, whilst testing, to maintain occupancy to avoid an unwanted occupancy *time-out*.