



# IDRATEK

INTELLIGENT AUTOMATION

## **RTX-401 Radio Transmitter Module (433.92Mhz OOK)**



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The RTX-401 module provides a low power 433.92Mhz OOK transmitter as a means of sending control signals to 3<sup>rd</sup> party radio controlled modules. At present the firmware and Cortex structures only support certain devices from the popular HomeEasy brand<sup>1</sup>. By virtue of being an IDRANet module it is also possible to achieve control of such 3<sup>rd</sup> party receivers using Reflex code alone, i.e. without a PC. Also it is possible to have more than one module on the wired network (for example to achieve better radio reach). It should be pointed out that this module and the target devices only provide a one way radio link with no data feedback and no acknowledgements, so should be avoided for use in mission critical applications.



Radio:

- 433.92Mhz OOK modulation
- Range ~ 30m (depends on various factors)
- License free operation in EU and several other countries

Functional

- In built support for HomeEasy<sup>1</sup> protocol (ON/OFF and Dimmer set)
- Buffered data hold
- Green status indicator LED
- In-situ reprogrammable firmware



Electrical

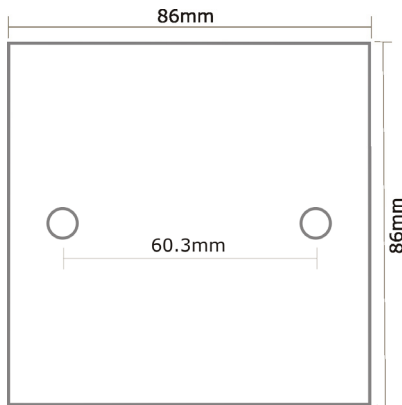
- Operating voltage 12-15V DC
- Current consumption 14mA nominal (36mA bursts)

Environmental

- Operating temperature -10°C to +45°C
- Operating humidity 5% to 95% (non-condensing)

Mechanical

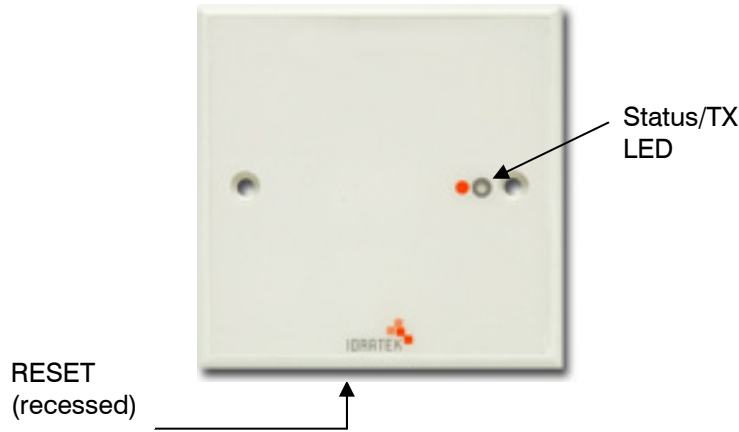
- Designed to fit UK standard 35mm deep electrical pattress (METAL BACK BOXES SHOULD BE AVOIDED)
- 60.3mm fixing centres using standard M3.5 screws



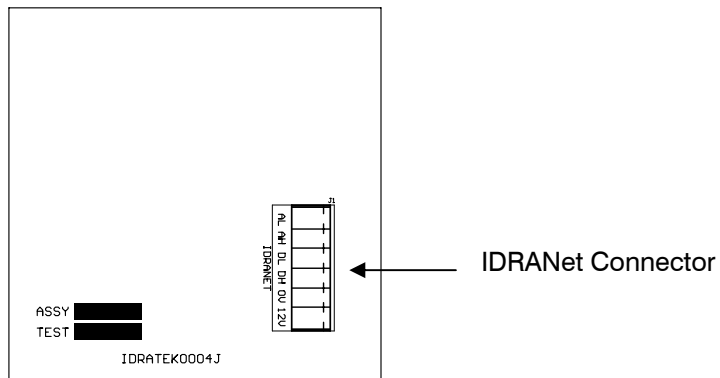
<sup>1</sup> HomeEasy is a CH Byron product division trademark  
 Tested compatibility: HE302, HE830, HE205B, HE202 (other similar models which respond to the same hand held transmitters will also likely be compatible)



Interfaces (front)



Interfaces (rear)



Example Connectivity



Note:

Whilst IDRATEK provide this product to facilitate connectivity to a popular range of 3<sup>rd</sup> party radio receivers, it should be stressed that such devices do not provide acknowledgements and data is unencrypted, therefore not recommended for mission critical controls. Some protection against lost frames is provided if Cortex is the network manager since Cortex sends regular state re-enforcement commands to output class modules.

It should also be noted that a HomeEasy<sup>1</sup> protocol transmission frame has a duration of approximately 300ms, so processes which need to transmit consecutive frames should enforce a suitable delay between these. The module itself will not overwrite frames and holds new frames in a 1 frame buffer, alerting other modules to retry in the case of a buffer full condition. Potential frame clashes from simultaneous IDRANet sources are therefore resolved without frame loss by the IDRANet protocol, but will naturally result in a delay whilst each frame is dealt with.