Electronic Wireless Receiver 3 F800 16

The 3 F80016 electronic wireless receiver serves for the independent control up to 16 heating circuits. Actuators used on thermoelectric valves, on heaters or water distribution manifolds. For the control of large premises, up to 3 control units can be connected. This combination offers independent control up to 48 circuits. The 3 F800 16 control unit can work with the wireless thermostats 3 F800 50 and 3 F800 55.

Installation

1. Release the screw on the front panel and open the cover
2. Fix the unit box to the DIN slot or mount it onto the selected place by the two screws inside the mounting holes. Think thoroughly about which inputs and outputs you are going to use to prepare the needed cables at the right places.
3. The mains connections is installed as a plug with a mains cable connectable to an electrical socket protected by a 16 A circuit breaker. The plug also has the role of an emergency disconnection point. Do not connect the mains yet!
4. Install the needed cables from the sensors to the unit, BUS devices and thermoelectric valves. When you are using round cables for the output, punch the plastic membranes through on the bottom of the plastic box.
5. Close the cover and fix it by a screw. Turn on the mains and then follow the instructions.

Important Information

Only professional personnel are allowed to connect the device to the power supply. Unqualified people are not allowed to remove the cover, or to do any modification on the device. The feeder has to be fixed in a correct way and the pin also has to follow the rules of applied norms.

Terminals and their functions

Input terminals of digital BUS-input (prepared for an appropriate thermostat). For the connection of a BUS-thermostat two terminals (heating/chilling) are needed.

Input terminals for switching of the operating mode (heating/chilling)
Factory setting:
Connected – Chilling
Disconnected - Heating

Input terminals of standby mode
These terminals could be used for extern controlling of the heating mode of all output terminals.
Terminals are disconnected:
The output-channel of the heating-system will be controlled by signals which are transmitted by the thermostats.
Terminals are connected:
Every output-channel will turn into the standby mode. The standby mode is signalized through the ON-LED. If the device is set into the standby mode, only the temperature which prevents freezing will be checked.

Input terminals for the conductors of the safety thermometer

Input terminals for the temperature sensor of the hot industrial water. If these terminals are connected, then output number 16 is only used to control the heating of the industrial water.

Alarm output

Terminals are switched on for 10 seconds if the high (or low) alarm temperature has been reached on some of the thermostats or the high temperature is reached on the protective thermometer. The output is designed for connecting a device which can remotely report the alarm state.

Output terminals of the receiver

1–16 24V DC outputs will be switched impulsive

Prepared connections for RJ-45 or other additional receiver

Supply terminals of the receiver

Output terminals for supply of the circulating pump

Output terminals for supply of the heat exchanger (use an external fuse foor its protection). Can be used as spare relay. it is recommended to check the correct connection of the relay with the manual of the connected device.

Output terminals of the power supply

Indicator description

LED 1 to 16	Description
OFF	Channel is not used (no device connected)
Green ON	The thermostat assigned to the channel, output is turned off
Red ON	Output is turned on (activated by assigned device)
Green flashes	Fault of communication with assigned device (Low battery)
Red flashes	Teach-in mode entered
Red flashes + Green ON	Channel is turned on by a periodical switching function to avoid clogging the valves or a protecting function when the communication is lost with all devices

"ON" channel indicator

OFF	Receiver is not powered
Green flashes slowly	Receiver is powered
Green ON	A device is enrolled to the "ON" channel and emergency mode is not active
Red ON	Emergency mode entered
Red flashes	Device teach-in mode entered
Green flashes	Connection with taught-in device failed

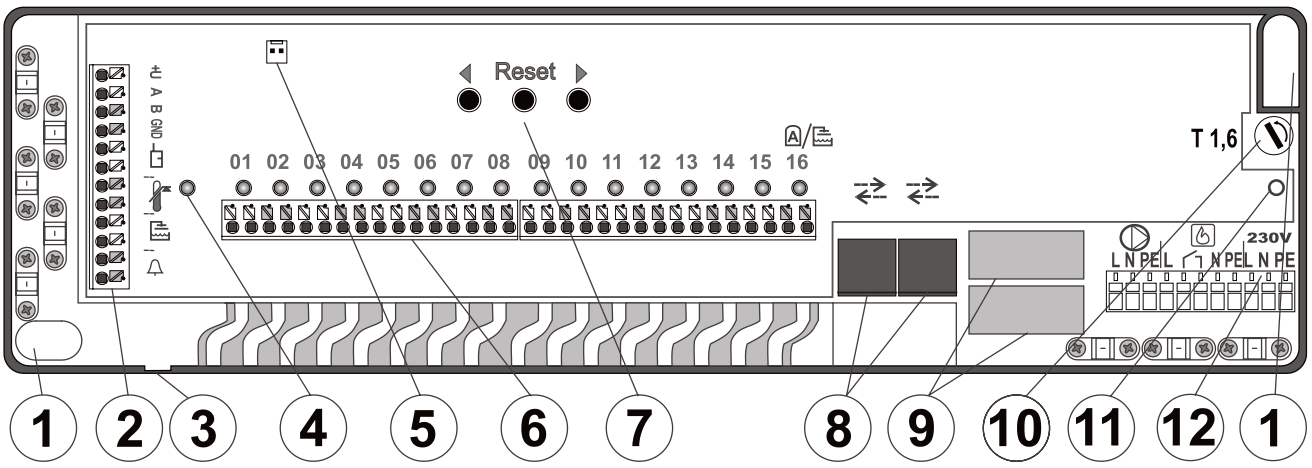

Figure 1: 1 – mounting holes; 2 – Input / Output terminals; 3 – Blind hole for an external antenna; 4 – LED “ON”; 5 – Antenna connector; 6 – Channel output terminals and LED indication 1-16; 7 – Reset and Enroll buttons; 8 – 2 x communication interface connectors; 9 – Output relay; 10 – Fuse, 1.6 A; 11 – Screw for the front panel; 12 – Mains terminals

Assignment

Procedure can be done by 3 buttons on the front panel:

(left /right arrow) channel selection for enrolling wireless devices

Reset

teach-out all assigned devices on the selected channel

Enrolling a thermostat to one channel

1. By repeated pressing of the arrow buttons select the required channel.
2. Insert a battery into the wireless thermostat- this way the required channel is assigned. On the 3 F800 16 it will be indicated by a permanent green LED of the selected channel. The thermostat shows LRn to represent succesfull enrolling.
3. Teach-in all thermostats according to the requirements

Important Information:

- When batteries have already been inserted, it is not necessary to take them out and insert them again. Just press and hold the knob on thermostat until “LRn” appears on the LCD.
- 48 devices maximum can be assigned to the main unit regardless of their channel order.
- Several thermostats can be assigned to one channel.
- When several thermostats are assigned to one channel, this channel is turned on when at least one of the thermostats sends a heating requirement signal (OR logic).
- If no device has been assigned in a 5 minute period then assignment mode is terminated automatically.

Function:

An assigned thermostat controls the heating according to the currently measured temperature and the predefined target temperature for a specific output channel

Enrolling a thermostat to several channels

It is very similar procedure to assigning devices to one channel. The only exception is that the same thermostat is assigned to several output channels one by one. All this involved channels are linked to each other (switched on/off at the same time = they behave as one channel.

Important Information:

- A thermostat always has to be assigned to a channel first and then some output channels can be linked.
- A thermostat can only be assigned to channels which are linked to each other.

Function:

“The linking” is often used for under-floor heating where the large floor surface needs the water splitting into a few other circuits. That is how only one thermostat can control several circuits at the same time.

Teaching-out of the devices

1. By repeated pressing of the arrow button select the required channel
2. Press the Reset button. All devices enrolled to the chosen channel are erased and the LED goes off.

Important Information:

- In the case of linked channels, all the devices of all linked channels will be erased.
- Perform a main unit reset to factory default settings according to the procedure above, see points 1 and 2. The only exception is that the reset button is pressed and held for approximately 12 seconds. Then all devices are erased and the main unit has factory default settings.

Use and maintenance

The system does not require any special maintenance in operational mode. Before the heating season starts, we recommend to replace the batteries in the wireless devices (the declared lifetime for batteries in thermostats is one year). When any device reports a low battery condition, then the unit indicates this by a relevant LED. The device still works, but it is strictly recommended to replace the battery in 14 days.
If the outputs from 1-16 have not been active for seven days, then they are switched on one after the other for 15 minutes because of the protection against the clogging of the thermoelectric valves.
Each device sends periodical transmissions. If the 3 F800 16 doesn't receive them, then it starts to indicate communication lost (by a flashing green LED on a specific channel). If all the devices enrolled to the specific channel are lost then this channel is switched on every one hour for 15 minutes.
In the case of troubles with lost communication first check the environment and avoid the negative influence of any other radio device. This causes a communication loss with more than one device at the same time. Move the device to a better place if only this particular device's communication is lost.

Important Information:

- Anti-clogging protection works independently of the "ON" channel status and even if a device has no communication with the main unit.

Caution:

The producer shall not be held responsible if the system has been installed or set up incorrectly.

Specifications

Power:	230 V AC, 50 Hz
Current consumption:	0.02 A standby; 0.3 A max.
Maximum output current:	1.6 A
Built in current protection:	fuse, 1.6 A
Maximum allowed relay load:	10 A / 230 V
Voltage for outputs 1-16:	24 V DC
Load for outputs 1-16:	max. 0.4 A for each output
Communication band:	1.6 A for sum of all outputs
RF range receiver/transmitter:	868.1 MHz
Maximum no. of devices:	100 m (open area)
Dimensions:	48
Mechanical resistance:	400 x 100 x 60 mm
Housing:	IK06 (EN62262)
Operational enviroment:	IP-30 (EN60529)
Operational temperature (environment):	-10°C to +40°C
Radio parameters:	ETSI EN 300 220
EMC:	EN 50130-4, EN 55022
Safety:	EN 60730-1
Can be operated to:	ERC REC 70-03

Herz Armaturen
A-1230 Wien, Richard-Strauss-Straße 22
Telefon: + 43/(0)1/616 26 31-0
Fax: + 43/(0)1/616 26 31-227
e-mail: office@herz.eu
www.herz.eu

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