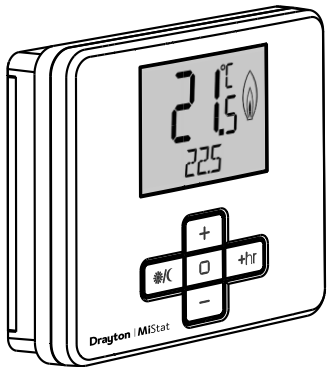


MiStat™ N
Room Thermostat

Model: N110R



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EU Design Regs:- 002180638-1/2/3
User Guide 06490191001 Iss G



HOMEOWNER Guide

HOMEOWNER Guide

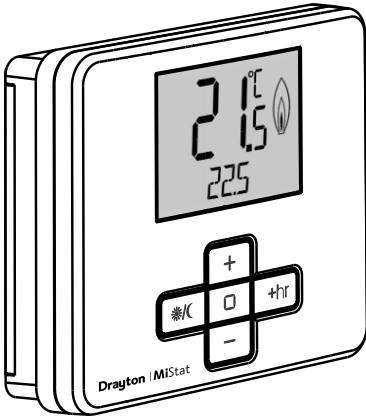
What is a room thermostat?

... an explanation for householders

A room thermostat simply switches the heating system on and off as necessary. It works by sensing the air temperature, switching on the heating when the air temperature falls below the thermostat setting, and switching it off once this set temperature has been reached.

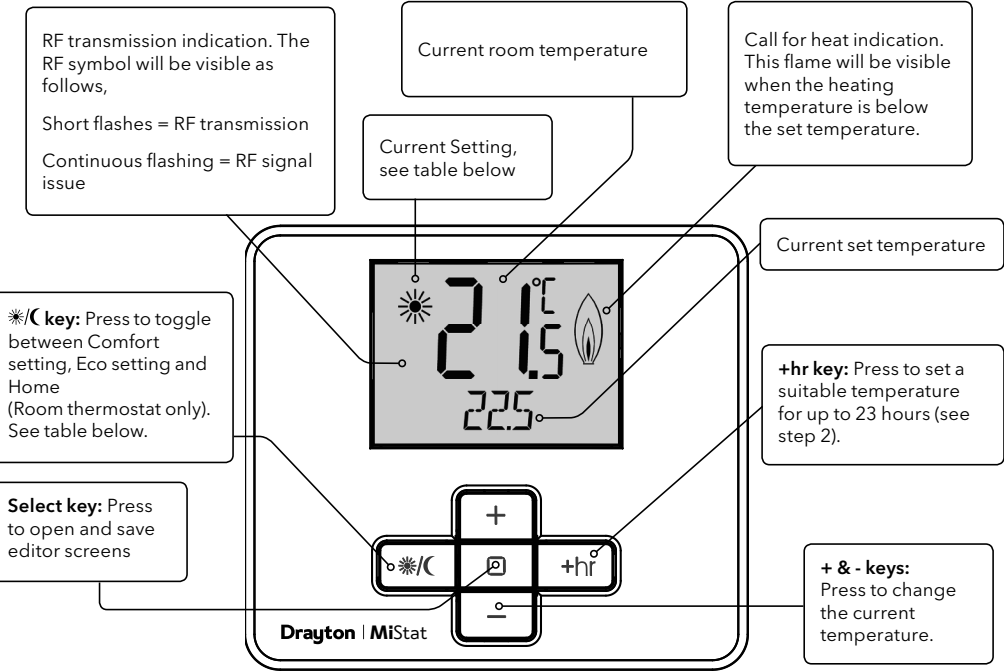
Turning a room thermostat to a higher setting will not make the room heat up any faster. How quickly the room heats up depends on the design of the heating system, for example, the size of boiler and radiators.

Neither does the setting affect how quickly the room cools down. Turning a room thermostat to a lower setting will result in the room being controlled at a lower temperature, and saves energy.



Step 1: Keys and Display - MiStat

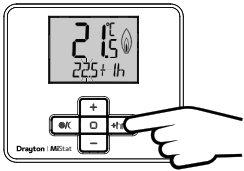
RF Pack: MiStat N110R



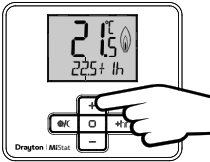
Symbol in display	Function	Description
	Comfort setting	Selects the comfort setting. The pre-set value is used each time when activated, adjustable within the user settings (see step 3).
	Eco setting	Selects the Eco setting. The pre-set value is used each time when activated, adjustable in the user settings (see step 3).
None	Home screen	Indicates that the pre-set temperatures were changed via +/- key

Step 2: +hr (Timer)

To set a suitable temperature for up to 23 hours, e.g. for short term absence.



Press +hr to start the Timer. The prior used temperature and time will be displayed and the temperature will flash.



Press +/- to adjust +hr temperature, then press (Select) to confirm.



Press +/- to adjust +hr period between 0 and 23 hours. Press (Select) to confirm.

Now the timer is running. The time will be counted down each hour.

Once the time has elapsed, control returns to the prior temperature screen.

The Timer can be cancelled by pressing */C key or by setting the +hr period to 0.

Step 3: Additional User Settings

Customize the controller according to personal requirements.

To enter User Settings

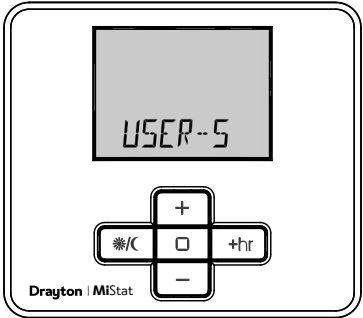
Press + & - keys for approx. 5 Seconds to enter the settings menu as shown below.

Press Select (Select) to enter the user settings.

To exit User Settings

Press + & - keys for approx. 5 seconds to exit.

If there is no key pressed for 2 minutes, the system will exit the menu, any changes will be saved.



ID	Feature:	Description:		Factory Pre-Set:
1	MAX-TEMP	It will not be possible to set a higher temperature	If MAX-TEMP and MIN-TEMP are set to the same value, it will not be possible to change temperature with the +/- keys.	30°C
2	MIN-TEMP	It will not be possible to set a lower temperature		5°C
3	ECO-TEMP	ECO Temperature used for energy saving periods e.g. during the night (☾)		16°C
4	COMF-TEMP	Comfort Temperature used for comfort periods e.g. during the day (☀)		21°C
	DONE	Exit from the settings menu to USER-5		

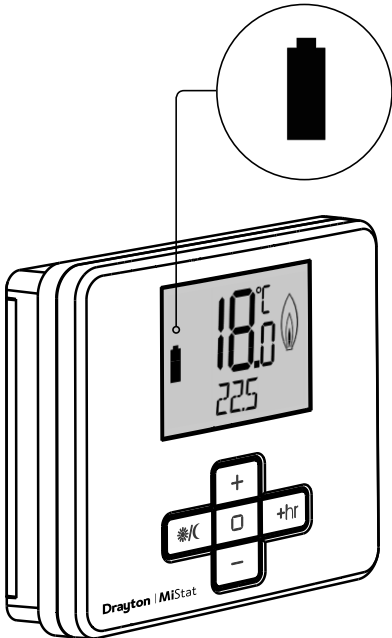
Troubleshooting:

1	Setting temperature values is restricted	4	Is the battery symbol visible?
a	Are Minimum/Maximum temperatures activated? see Homeowner Guide Step 3.	a	Replace batteries, see Homeowner Guide Step 4.
2	NO SIGNAL is visible on the screen, no reaction on key presses anymore	5	STARTING is visible on the screen, no reaction on key presses anymore
a	Is the receiver powered? (Red signal lamp should be visible)	a	Is the receiver powered? (Red signal lamp should be visible)
3	LOCKED is displayed	6	WAIT is visible on the screen, no reaction on key presses anymore
a	see Installation Guide Step 5 - LOCK	a	Is the receiver powered? (Red signal lamp should be visible)

Step 4: Changing the Batteries

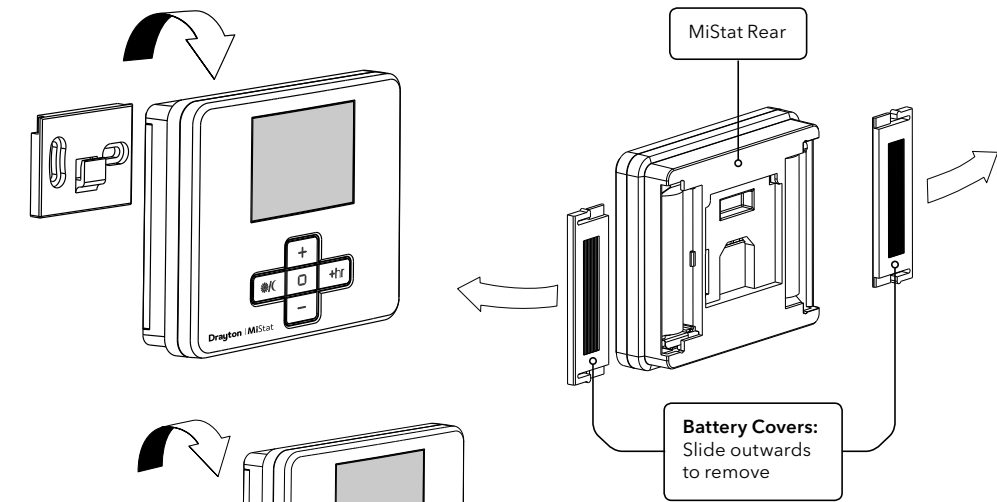
How do I know when to change the batteries?

When the batteries start to run low a battery icon will flash in the display to indicate "low battery", during this time the MiStat will function normally. When the battery icon alone is shown in the display, the batteries are completely exhausted and the MiStat will cease to function (see below). Re-activate by replacing the batteries.



How to replace the batteries

Remove the battery covers as shown. Replace the batteries with 2 x 1.5V IEC LR6 (AA) Alkaline batteries ensuring correct orientation. Replace the battery covers pressing fully home.



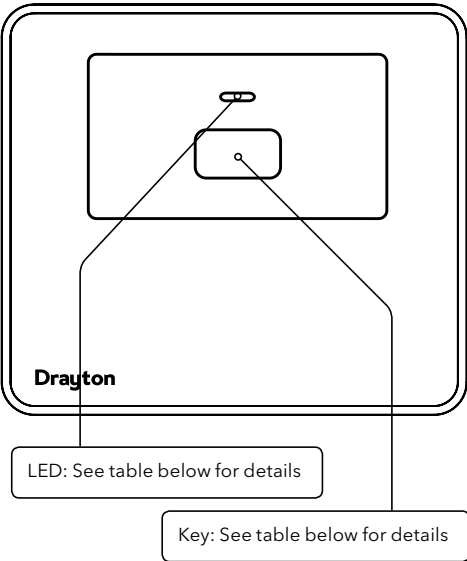
Battery Handling

Batteries, rechargeable or not, should not be disposed of into ordinary household waste. Instead, they must be recycled properly to protect the environment and cut down the waste of precious resources.

Your local waste management authority can supply details concerning the proper disposal of batteries.

In compliance with the EU Directive 2006/66/EC, the button cell battery located on the printed circuit board inside the product, can be removed at the end of the product life, by professional personnel only.

Step 5: Receiver - Key & LED



Lamp colour	Mode	Action	Key Function
Green	Normal	Call for heat (boiler is firing)	None
Green Flashing	Normal	RF communication	None
Off	Normal	No call for heat (boiler is not firing)	None
Red	RF loss or not bound	No call for heat	Switches the boiler On
Amber	RF loss or not bound	Call for heat	Switches the boiler Off

INSTALLATION Guide

Applications

The electronic room thermostat MiStat N can be used for temperature control together with:

- Boilers
- Oil and gas warm water heating
- Actuators of floor heating systems or radiators
- Circulating pumps
- Heat pumps

A MiSat R receiver is required for operation.

Note: To ensure a properly working heating system, the menu items in the Installer settings have to be set according to the needs of the heating system, see step 5.

Caution!

The radio receiver may be installed only by a competent electrician in compliance with the circuit diagram enclosed in the top housing cover or in compliance with these instructions. The current safety regulations must be observed.

In order to achieve protection class II, adequate installation measures must be taken.

This radio receiver, which can be installed separately, is designed exclusively for temperature control in dry and closed rooms and standard environments. This electronic device was created according EN60730-1, it operates according working principle 1C.

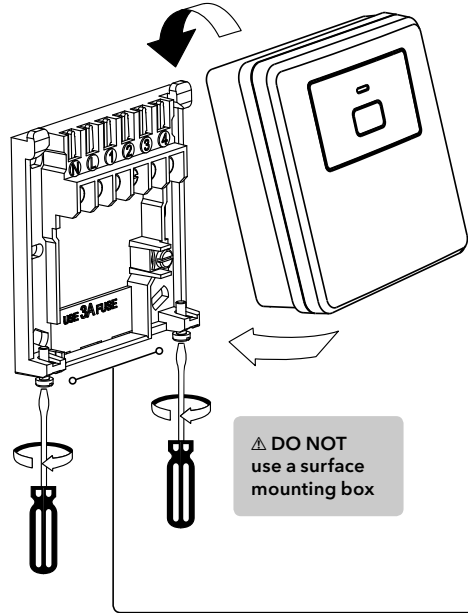
Step 1: Mounting the Wall-plate

! IMPORTANT:

Installation must only be carried out by a qualified electrician or heating engineer.

Make sure mains input has a 3 amp fuse.

! CAUTION! Before installation, make sure the mains supply is switched off!



Option 1: Fitting a new wall-plate

The ideal location is close to the boiler or central heating system. For the best performance install in an open space, at least 30cm distance from any metal objects including wall boxes and the boiler housing. It is recommended that the MiStat R is mounted on the wall nearest the final location of the MiStat N room unit and not less than 30cm from the boiler side panel.

Loosen the securing screws, remove the wallplate and, if surface wiring is to be used, snap out the cable entry strip on the bottom edge of the wallplate with a pair of pliers. Fix the wallplate, terminals at the top, either direct onto the flat wall using wall plugs and no 6 x1" wood screws or on a plastic flush mounting single conduit box using M3.5 x 14 screws. Check that there's 20mm clearance to the right of the wall-plate and 25mm above it. Complete the wiring to the MiStat R wallplate in accordance with the wiring diagram in step 2, to comply with current IEE regulations. Place the MiStat R onto the wallplate and tighten the securing screws.

Check the 3A fuse, and switch on the mains.

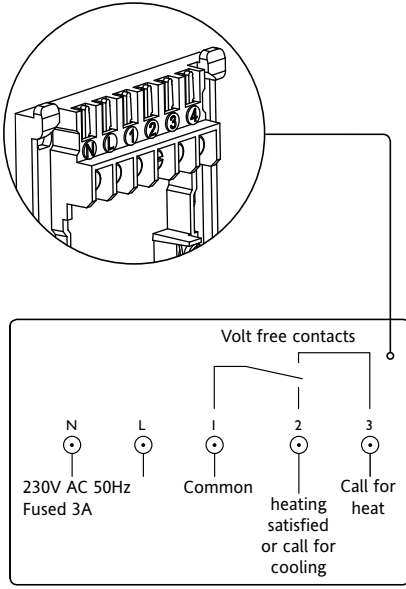
Warning: Installing the MiStat R too close to the metal side panel or mains cables may interfere with the radio signal.

Option 2: Using an existing wall-plate

Loosen the securing screws on the old receiver and unplug it. Check that there's 20mm clearance to the right of the wall-plate and 25mm above it. Check the wiring diagram for your product model to compare terminals and, if necessary, change the wiring of the wall-plate to suit. Now plug the MiStat R unit into the wall-plate and tighten the securing screws.

Check the 3A fuse, and switch on the mains.

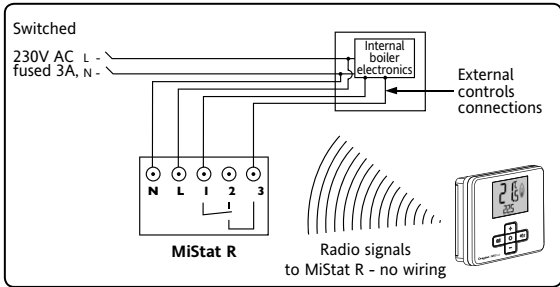
Step 2: Wiring



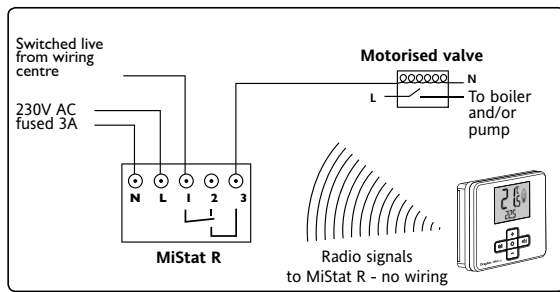
This product is double insulated and does not require an earth connection. The MiStat R should be wired to the boiler or central heating wiring using the correct type of cable or flex. The MiStat R should be wired to replace hard wired room or programmable thermostats, as shown on the system or boiler wiring diagrams.

Always check other manufacturers instructions for compatibility.

Combi boiler basic wiring layout



Zone control basic wiring layout



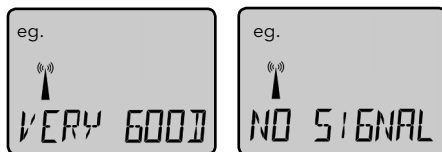
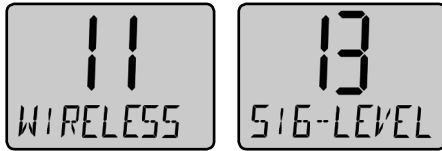
Step 3: Signal Strength

The MiStat Room thermostat is prebound to the MiStat receiver in the factory so they just need to be positioned in the best place for wireless communication. To help with this there is a built in Signal strength indicator, available in the Installer settings menu on the MiStat thermostat, as shown.

It is recommended that the signal strength is Good or Very Good to ensure ongoing communication is maintained.

To enter signal strength menu (see step 5 for more detail))

- Press + & - for approx. 5 secs, then scroll (+/-) to show INST-S,
- press (□) to enter the installer menu,
- Press +/- until 11 WIRELESS is shown,
- press (□) to enter,
- press +/- to show 13 SIG-LEVEL as shown,
- press (□) to see the current signal strength.



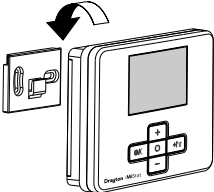
If POOR is displayed, look for a better location. If NO SIGNAL is displayed, try connecting again with the room unit in a different position.

Note: If not bound, the bind screen will be visible.

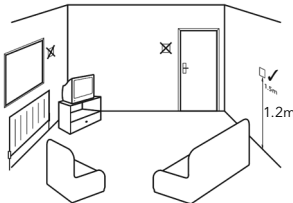
For commissioning see Step 6

Step 4: Mounting Options

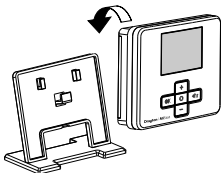
Once the best position has been identified, the MiStat N should be fixed to the wall using the wall bracket as shown.



Care should be taken to mount the thermostat in a position which is not subject to direct sunlight or draughts. Preferably it should be mounted on an inside wall about 1.2m (4ft) above the floor in a position where it can respond to room temperature but away from the direct influence of radiators or other appliances giving off heat.



NB. MiStat can also be positioned using the table stand included.



It has to be placed in a location where it will be able to control the room temperature.

Step 5: Installer Settings

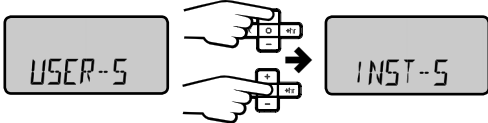
Customize the MiStat according to application needs.

Note: To ensure a properly working heating system, the menu items in Installer settings have to be set according to the needs of the heating system.

There can be gaps in the ID numbering.

To enter Installer Settings

Press + & - keys for approx. 5 Seconds to enter the settings menu as shown.



To exit Installer Settings

Press +/- until 'DONE' is shown, then press 'Select' or press + & - keys for approx. 5 seconds to exit. If there is no key pressed for 2 Minutes, the system will exit the menu, any changes will be saved.

Note: If not bound, the bind screen will be visible.

For commissioning see Step 6

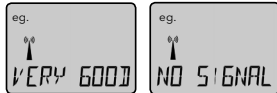
ID	Feature:	Description:	Factory Pre-Set:
5	BACKLIGHT	Available options are: On with timeout (TIMED), Always Off (OFF)	TIMED
6	OFFSET	Adjust displayed temperature to suit personal needs (-5 to 5°C)	0.0°C
7	LOCK	Protect MiStat against unauthorised use. If active, any key press will show LOCKED for a few Secs. To lock: Enter your 3 digit code for protection. To unlock: Press +&- key for approx. 5 sec. Enter your 3 digit code	000 Master code 401
8	CTRL-TYPE	Configure the control parameters for the specific application	
9	CTRL-ALG	Select TPI, TP or On/Off	TPI
	CYCL-RATE (only shows when CTRL-ALG is TPI or TP)	Select 6 (GAS) cph (cycles per hour), 12 (ELECtric) cph or 3 (OIL) cph	6 cph
	HYST (only shows when CTRL-ALG is On/Off)	Select OFF, 0.1 to 5°C (OFF = No temperature hysteresis, even on very low temp. changes, the relay will switch over according to MIN-OnOFF time)	0.5°C
	MIN-OnOFF (only shows when CTRL-ALG is On/Off)	Select 1 to 30 minutes (The minimum duration for the relay to be On or Off)	5 min
	DONE	To exit CTRL-TYPE sub menu	
10	VALV-PROT	The output will be activated for the specified time (in Minutes). This will happen weekly, related to the last actuation of the output. Select OFF, 1 to 10 Minutes.	OFF
11	WIRELESS	To create a radio link with the receiver or to view the RF signal quality	Pre-bound
12	BIND	Press (□) key to start connecting to the receiver. NB. "binding" must also be activated on the receiver, see Step 6 Commissioning	
	BINDING	An RF connection to the receiver will be created. If successful, the SIGNAL level will be displayed. If unsuccessful, FAILED will be displayed.	
13	SIG-LEVEL	Indicates the quality of the RF transmission VERY GOOD, GOOD, POOR, NO SIGNAL	
	DONE	To exit WIRELESS sub menu	
15	PROD-INFO	View the product details, e.g. Part number, Firmware revision etc. Use (□) key to show the details	
16	RESET	Will reset all settings to factory pre-sets	OFF
	DONE	Exit from the settings menu to INST-S	

Step 6: Commissioning

Note: Only needed if not already bound, ie if replacing either the MiStat thermostat or the MiStat receiver.

- Turn on power for the receiver. The red lamp will come on. (if green lamp is visible, the device is already bound, no further action needed here) (If a separate programmer/Timer is fitted, ensure that it is switched on)
- Push the button for >5 Seconds and the LED will flash red - yellow - green --- red - yellow - green...
- Enter binding mode on the corresponding MiStat room unit, see Step 5: Installer settings , item 11
Important: It is essential, that the binding is carried out between the corresponding room unit and the receiver
- If binding is successful, the signal strength will be indicated on both the MiStat room unit and the MiStat receiver as follows. If unsuccessful, FAILED will be displayed. If POOR SIGNAL is displayed, look for a better location. If NO SIGNAL is displayed, try connecting again with the room unit in a different position.

MiStat Room Unit



MiStat Receiver

Immediately after binding, these signals will indicate the signal quality for 1 minute.

- three green flashes = Very good signal
- double amber flashes = Good signal
- single red flashes = Poor signal
- steady red = No signal

To check the wireless connection

A green lamp on the receiver will indicate a good RF connection.

Technical Data

MiStat N110R & MiStat R111M	
Supply voltage	MiStat N: 2 x AA 1,5V alkaline batteries MiStat R: 230V
Switch rating	MiStat R: 2(1)A 230V a.c.
Ambient temperature	Operating: 0°C to 45°C; Storage: -20°C to 55°C;
Battery life	MiStat N: 2 years (typically)
Temperature range	5°C to 30°C
Temperature resolution	0.5 °C, display and setting
Control accuracy	<0.6°C at 4°/hour
Wiring	MiStat R: Fixed wiring only, to comply with current IEE regulations (BS7671) MiStat N: No wiring required
Mounting	MiStat R: Industry standard wallplate MiStat N: Wall bracket or table stand
Radio frequency	868.3 (Bi-directional communication)
Radio signal range	30m typically. The range may be affected by the composition / density and number of walls between the MiStatN and MiStatR
Pollution degree	2
Software class	A
Rated impulse voltage	MiStat R: 2.5kV
Ball pressure test temperature	MiStat R: 75°C
Energy Class	IV = 2% (According to EU 811/2013, 812/2013, 813/2013, 814/2013)
Relevant EC Directives:	2014/35/EC Low Voltage Directive 2014/30/EC Electromagnetic Compatibility Directive 1995/5/EC R&TTE Directive 2006/66/EC Battery Directive 2011/65/EU RoHS Directive
Applied Standards:	EN60730-1; EN60730-2-9 ETSI EN 300 220-3; ETSI EN 301 489-3