

NRT 210, 220: Electronic room-temperature controller, equiflex

How energy efficiency is improved

Digital input for changeover between presence and absence modes, and setpoint adjustment knob directly on device

Features

- Individual unitary control (heating, cooling, heating/cooling) e.g. in hotels and residential and business spaces in 2- or 4-pipe systems
- Activation of thermal actuators for unit valves, or switching on/off additional heating or cooling units
- Direct measurement of room temperature via integrated temperature sensor
- Temperature setpoint can be set using a rotary knob
- NRT 210 for 2-pipe systems
- NRT 220 for 4-pipe systems
- Inputs for c/o signal and for changeover between presence and absence modes
- 2-point control with relay outputs
- Electronics in attachable housing

Technical data

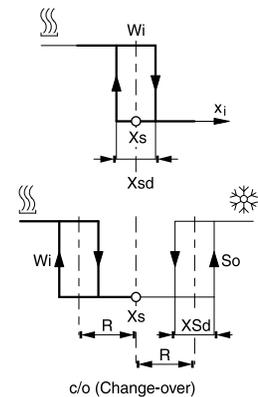
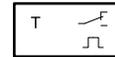
Power supply		
Power supply		24 V~/= / 230V~
Tolerance in power supply		±15%, 50...60 Hz
Power consumption		< 1 VA
Parameters		
Setting range		10...30 °C
Control characteristics		2-point
Switching difference X_{Sd}		0.5 K
Temperature sensor, internal		
Time constant		22 min
Dead time		2 min
Ambient conditions		
Admissible ambient temperature		0...50 °C
Admissible ambient humidity		5...95% rh, no condensation
Storage and transport temperature		-25...65 °C
Construction		
Weight		0.1 kg
Housing material		Fire-retardant thermoplastic
Housing		Pure white (RAL 9010)
Baseplate		Electrical, with screw terminals for cables of up to 1.5 mm ²
Fitting		Wall fitting/recessed junction box
Cable feed		At rear
Screw terminals		For electrical wires of up to 1.5 mm ²

Standards and directives		
Type of protection		IP 30 (EN 60529)
Protection class 24 V~/=		III (IEC 60730)
Protection class 24 V~		II (IEC 60730)
Conformity		EN 12098
CE conformity as per		
EMC immunity		EN 61000-6-1, EN 61000-6-2
EMC radiation		EN 61000-6-3, EN 61000-6-4
Low-voltage directive 2006/95/EC		EN 60730-1

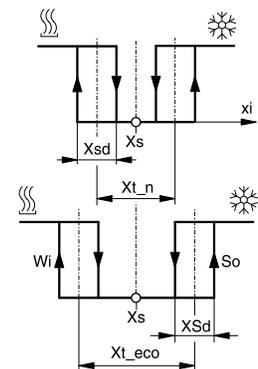
Overview of types				
Type	NRT210F011	NRT210F021	NRT220F011	NRT220F021
Function	H/C, 2-pipe	H/C, 2-pipe	H/C, 4-pipe	H/C, 4-pipe
Power supply	230 V~	24 V~/=	230 V~	24 V~/=
Number of inputs	2	2	1	1



NRT210F0*1



NRT210F0*1



NRT220F0*1



Type	NRT210F011	NRT210F021	NRT220F011	NRT220F021
Inputs	N/R, c/o	N/R, c/o	N/R	N/R
Load	5 (2) A; 1 relay	5 (2) A; 1 relay	2 (1.2) A; 2 relays	2 (1.2) A; 2 relays
Dead zone X_t	–	–	normal 1.5 K, extended 7 K	normal 1.5 K, extended 7 K
Setpoint shift (R)	±3 K	±3 K	–	–

Accessories

Type	Description
AXT2**	Thermal valve actuators (see product data sheet)
0303124000	Recessed junction box
0313347001	Cover plate, pure white, for 76 × 76 mm

Description of operation

The electronic NRT210/NRT220 room-temperature controllers are used as controllers for individual-room control for heating, cooling or heating/cooling. The 2-point control with relay outputs is performed with the integrated temperature sensor, with the normal and set-back modes available.

Intended use

This product is only suitable for the purpose intended by the manufacturer, as described in the "Description of operation" section.

All related product documents must also be adhered to. Changing or converting the product is not admissible.

Engineering and fitting notes

The unit should be fitted approx. 1.5 m above the floor, and protected from direct sunlight, draughts and sources of heat and cold. With the 230 V model, any external switches must fulfil EN 61058 (type of protection IP 30, protection class II).

Additional technical data

Temperature setpoint	20 °C (= factory setting 9 a.m.)
Temperature measurement	NTC sensor (internal)
Mode of operation in accordance with EN 60730	Type 1C, normally-open contacts with power applied - see connection diagrams
Relay switching frequency, mechanical	> 5 million.

Contacts inputs (switch with gold-plated contacts required):

Multiple controllers can be connected in parallel to one contact, but connecting more than 20 is not recommended.

Cross-section of cable $\geq 0. \text{ mm}^2$ Cu and distance for contact controller $\leq 100 \text{ m}$.

N = normal comfort and energy requirement (contact N/R open: temperature setpoint normal)

N = reduced comfort and energy (contact N/R closed: temperature setpoint for heating -3 K, for cooling +3 K)

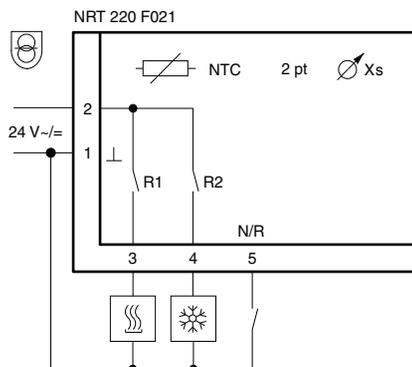
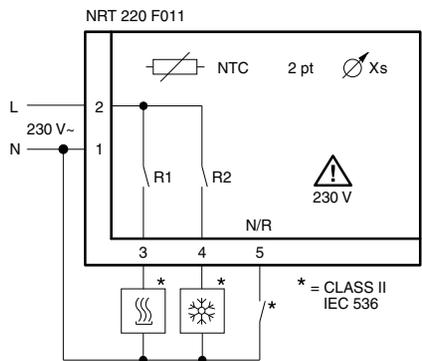
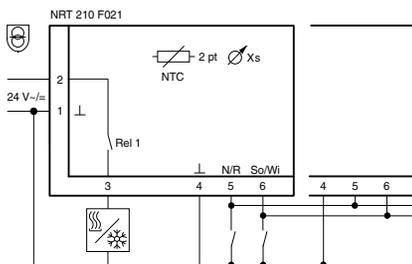
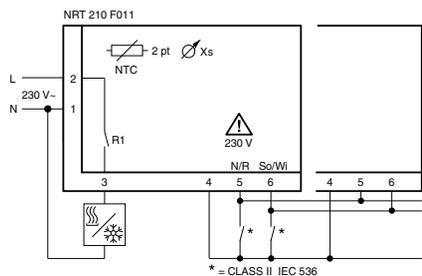
C/O= summer-winter changeover (contact open: heating; contact closed: cooling)

Disposal

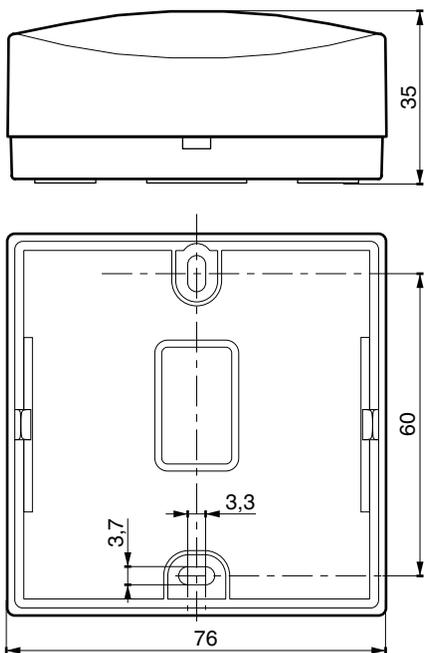
When disposing of the product, observe the currently applicable local laws.

More information on materials can be found in the Declaration on materials and the environment for this product.

Connection diagrams

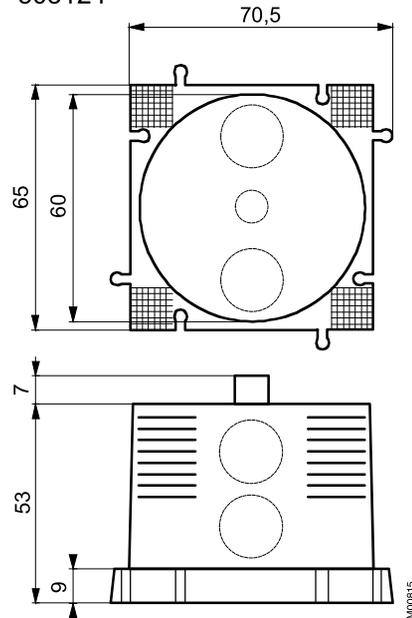


Dimension drawing

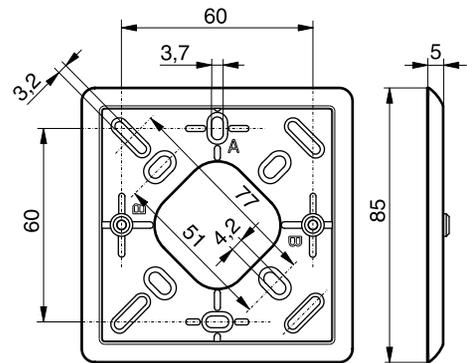


Accessories

303124



0313347



Applications for air-conditioning

Room controller NRT 210 for heating or cooling for 2- pipe systems Room controller NRT 220 for heating/cooling sequence for 4-pipe systems

