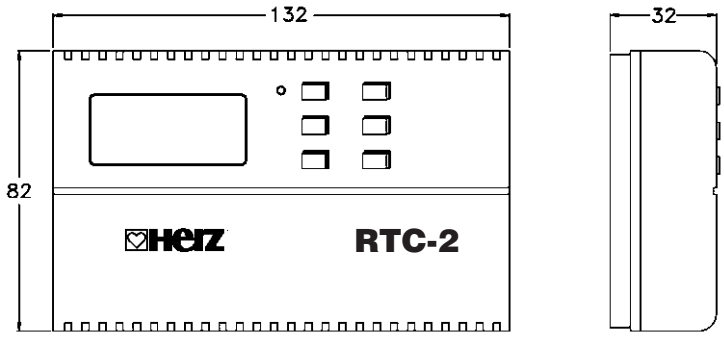
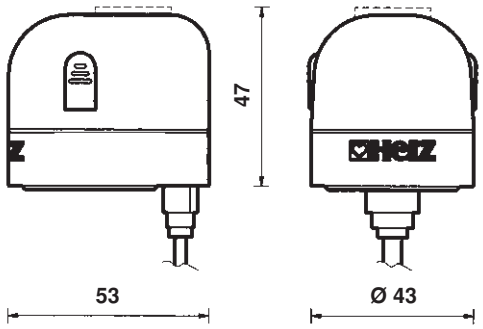
HERZ-RTC

Electronic Continuous Control System
Room Temperature Computer with Actuating Drives

Data Sheet
7940/7990
Edition 1004 (1004)



7940
HERZ-RTC-2



7990
DDC-Actuating Drive

System Components

1	**7940** 62	**HERZ-RTC-2 Room Temperature Computer** operating voltage 24 V/50 Hz
1	**7990** 00	**DDC-Actuating Drive** Thermoelectronic continuous drive, operating voltage 24 V AC, 0–10 V DC
1	**7796** 02	**HERZ-Safety Transformer 230 V/24 V**

Field of Application

Continuous electronic room temperature control in one- and two-pipe water heating systems, floor heating and cooling systems.

Hardware description Features

HERZ-RTC-2 Room Temperature Computer

The HERZ-RTC-2 is a continuous electronic room temperature controller with an operating voltage of 24 V offering a high degree of reliability and safety for children. The output voltage for activating DDC-actuating drives is 0–10 V. The ambient temperature is measured by an incorporated NTC-sensor. Operating and programming is achieved by means of seven function keys and 2 adjusting buttons.

Characteristics

- Basic programme set by manufacturer
- 112 switching points
- 4 temperature steps / programme
- Easy programming
- LCD visual display
- Selection of heating or cooling function modes
- 5 operating modes
- change of temperature possible without interfering with the programme
- permanent operating circuit
- party programme
- summer programme
- safety key lock
- frost protection
- actual temperature display
- adjustable proportional band
- power failure protection (power reserve)
- shock-proof housing

DDC-Actuating Drive

Thermoelectronic continuous drive in compact design with precise actuating behaviour, long service life and noise-free operation. The control voltage of 0–10 V is thermoelectronically transformed into a proportional lift.

We reserve the right to make modifications in accordance with technological progress.

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Installation

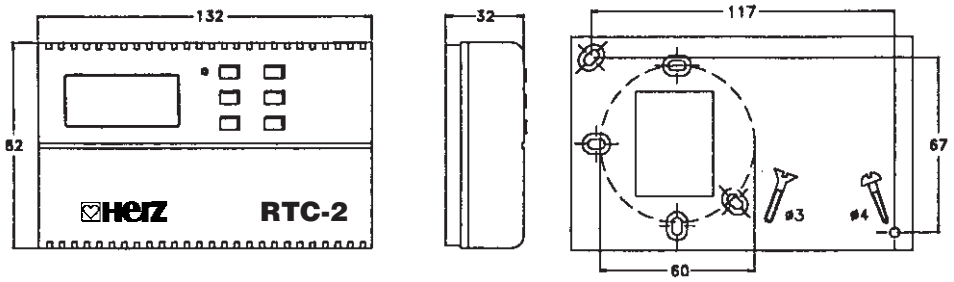
- Disconnect all power, before starting work on the appliance!
- Connecting and maintenance may only be done by authorised personnel.
- The appliance must be connected according to the attached diagram.
- The appliance is designed for installation in dry, closed rooms, and connection to fixed electric wiring.
- When installing the appliance, care must be taken that power wiring, such as mains wires and relay connection cables do not touch low voltage wiring, such as sensor wiring (minimum distance 4 mm with basic insulation wires).
- Moreover, adequate protection must be provided in conformity with EN 60730, Part 1 to ensure that supply leads cannot come loose. Flex grips can be used to tie the cables for example.
- VDE 0 100, EN 60730 Part 1 and the regulations of the power supplier apply.
- Should the appliance not function, please check the connections and the mains supply.

Faulty connections can cause damage to the appliance! The manufacturer accepts no liability for faults caused by incorrect connection and/or improper handling.

Installation HERZ-RTC-2

The HERZ-RTC-2 is to be mounted directly onto the wall or into a flush box. The cables are fastened by means of screw connections; the cable duct has been designed for surface or flush mounting.

The control unit is suitable for mounting on a large range of European flush boxes, as well as directly on the wall, with surface wiring.



When mounting the unit on the wall, care should be taken that only the relevant part of the box bottom is extracted. The case might not close properly, should the crosspiece be extracted.

Make sure the HERZ-RTC-2 is mounted at a location where it can measure the actual room temperature (avoid draught and proximity to doors and windows). The unit should be mounted on interior walls, about 1.5 m. above the ground.

The DDC Actuating Drive

The DDC actuating drive can be installed on any HERZ-valve designed for thermostatic operation. Installation below the valve spindle axis is to be avoided (dripping water). The connecting cables must be attached to the relevant terminals of the HERZ-RTC-2.

The DDC actuating drive must not be opened. In case of long connecting cables, a terminal box must be installed.

For additional functions, installation procedure and setting options, see data sheets supplied with the unit.

Plug-in mounting

After screwing on the valve adapter ring snap the actuating drive into place (click). The actuating drive can be removed after pressing two buttons. The valve adapter remains mounted on the valve, the valve is completely open.

Installation and operation mode

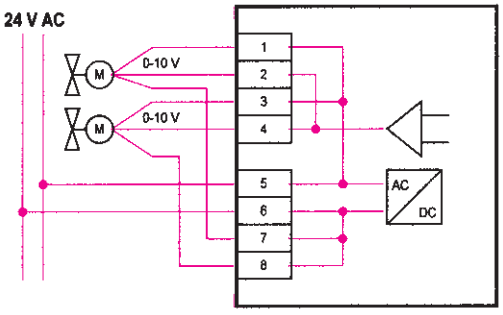
The actuating drive is to be mounted and wired, but not connected to the mains supply. This mode is the function ”open without current”, which enables operations such as flushing the system and test runs.

When the unit is connected to the mains supply, the function “closed without current” is activated.

Function Control

The actuating drive head is provided with a function display: if the blue zone is visible, then the valve is open.

Wiring Diagram



Accessories

1 **7708** 80 Adapter ring high

HERZ-RTC-2
Technical data

Order number	1 **7940** 62
Set temperature range	+5 °C to +40 °C.
Temperature reduction	2 to 10 K, adjustable
Temperature sensor	NTC
Sensor tolerance	±1 K
Proportional band	1 to 10K, adjustable
Sensor type	NTC
Temperature resolution	set value 0.5 K actual value 0.1 K
Adjusting of set temperature	rotary buttons
Switching points	16
Timer	electronic 1 week timer
Power failure reserve of clock	approx. 15 minutes The power reserve is for the display of time. All other parameters remain saved.
Display	LCD
Operating voltage	24V AC (–10%, +20%)
Power consumption	approx. 2VA
Output	analogue output 0-10V DC max. load 3mA
Electric connections	screw terminals
Electrical life cycle	0.5 x 10 operating cycles
Permissible ambient temp. range	0 °C to 50 °C.
Storage temperature	–10 °C to +70 °C.
Housing: Material	plastic
Protection Type	IP 20
Protection class	II, according to DIN EN 60335-1
Dimensions:	132 x 82 x 32 mm. (W x H x D)
Mounting	wall mounting or in flush box
Cable duct	for surface or flush cabling
Weight	approx. 220 g.

DDC actuating drive

Order number	1 **7990** 00
Closing behaviour	closed without current
Operating voltage	24V AC –10%, +20%
Power rating	1.5W
Control voltage	0-10V DC
Input resistance	100 kW
Mean actuating time	30s/mm.
Ambient temperature	max. 50 °C
Protection type	IP 40
Protection class	protective low voltage
Connection cable	3 x 0.22 mm² white
Cable length	1 m
Dimensions	height: 47 mm, Ø 43 mm
Weight	97 g

HERZ-Transformer
1 **7796** 02

Technical Data

The overload-proof HERZ-safety transformer has been designed for the connection of HERZ-RTC system components. It is installed by simply snapping it onto the equipment carrier rail according to DIN EN 50022.

Design type	according to IEC 61558-2-6; DIN EN 61558-2-6; VDE 0570 part 2–6
Protection class	II
Protection type	IP 00
ISO class	B
Input voltage	230 V
Input circuit fuse	50–60 Hz, 315 mA
Output voltage	24 V
Power rating	63 VA
Quick installation on equipment rail	according to DIN EN 50022
Dimensions	159 x 94 x 63 mm (L x W x H)