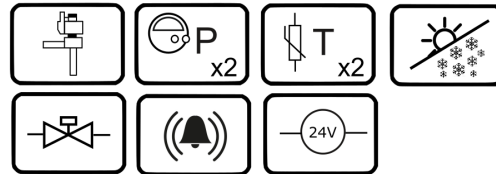


ecoVALVETRONIC

Expansion valve controller



The **ecoVALVETRONIC** controls the operation of a bipolar / unipolar expansion valve and is designed to maintain constant overhear/subcooling of the refrigerant during compressor operation. The controller uses a number of protective algorithms for compressor operation and its system, among others, from the overheating/subcooling of the refrigerant, exceeding the admissible values at the outlet of the evaporator and leakage of the refrigerant.

Functions

- Configuration of controller and valve parameters from the heat pump regulator menu
- Maintenance and control of too low or too high value of overheating/subcooling of the refrigerant based on measurement of pressure and temperature on the evaporator output (quick correction of valve position)
- Maintenance and control of the evaporator output pressure
- Operation via digital input of the bipolar expansion valve (unipolar expansion valve in development)
- Independent settings of valve operation modes for heating, cooling, defreezing
- Limitation of the valve regulation range for each valve operating mode
- The function of forced opening of the valve when switching between modes - stabilization mode
- Full-step, half-step, quarter-step operation - higher valve resolution and more precise regulation of overhear/subcooling of the refrigerant
- Refrigerant leak detection (optional)
- Full valve closure or any valve position after power failure (standard)
- Reading the status of digital inputs
- Electronic detection of the end position of the valve
- Hierarchy of protective algorithms
- Selection of refrigerant
- Reading of the second pressure and temperature value
- Possibility to test the valve motor
- LED indication of controller and valve operation status and additional alarm signaling by the relay
- Refrigerant leak detection (optional)
- Registration of the number of steps performed by the valve and the total duration of alarm conditions for the valve.

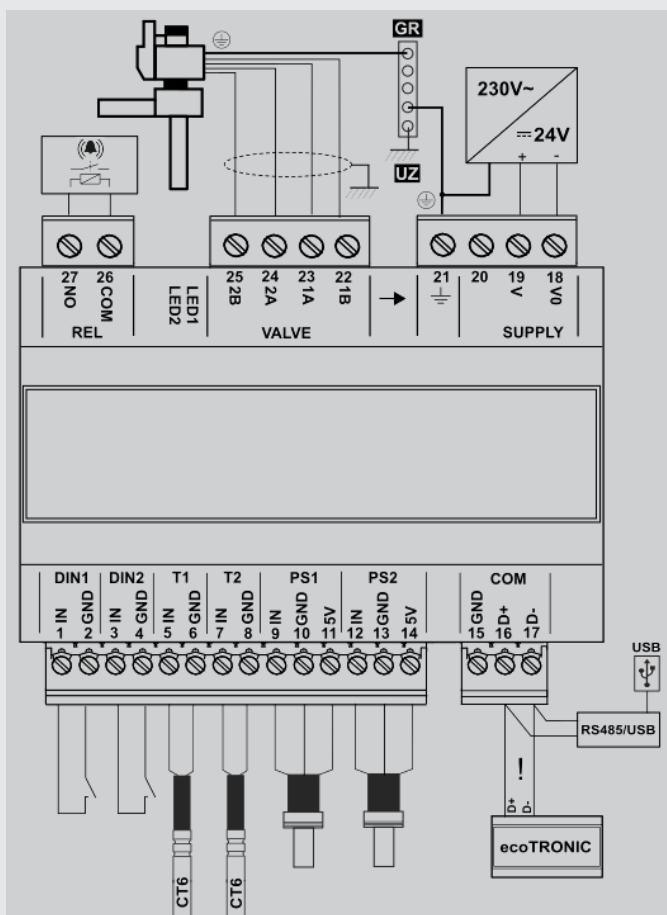
Benefits

The **ecoVALVETRONIC** provides protective functions of the compressor and its system before:

- too low and too high value of overheating/subcooling of the refrigerant
- too low and too high pressure on the evaporator output
- power failure of the controller and valve - the valve is automatically closed.



Electrical scheme



- Installing on TS35 DIN rail. Dimensions of the module: 65 mm x 90 mm x 52 mm
- UZ - earthing
- GR - grounding strip
- SUPPLY - power supply 24 VDC/15 W
- VALVE - expansion valve
- REL - relay output to control alarm signaling
- LED1, LED2 - signaling of the control controller operation
- DIN1, DIN2 - digital inputs
- T1, T2 - temperature sensors type CT6
- PS1, PS2 - electronic pressure sensors with voltage output
- COM - communication port with heat pump regulator or with the RS485/USB converter.

An example of connecting the controller to the electronic expansion valve in the system with the circulation of the refrigerant as a function of overheating.

