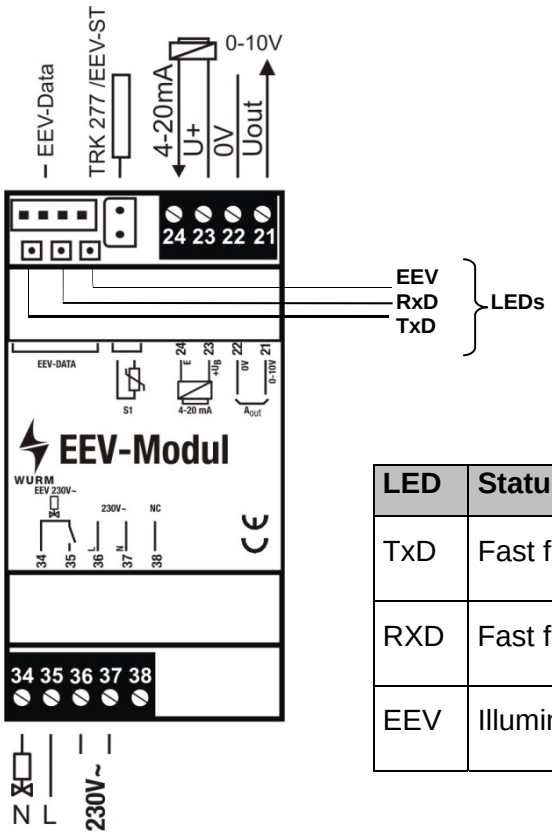
Front view

Control module for electronic expansion valves

Features

- Control by data interface of a CRD-XP/CRDP-XP
- 1 digital switching channel and 1 analogue voltage output
- 1 input for temperature sensor and 1 input for pressure transmitter
- No parameters need to be set

Circuit diagram



LED	Status	Meaning
TxD	Fast flashing	EEV module transmitting data to the cold location controller.
RXD	Fast flashing	EEV module receiving data from cold location controller.
EEV	Illuminated	EEV being controlled via normally open contact on terminal 35.

Writing conventions

Symbol	Meaning
⚠ **CAUTION!**	Avoid the described hazard: otherwise **minor** or **medium** physical injury or damage to property will result.
⚠ **WARNING!**	Avoid the described hazard: otherwise there is danger from **electric voltage** that could lead to death or **serious** physical injury.

For your safety

For safe operation and to avoid personal injury and equipment damage through operating error, always read these instructions, become familiar with the device, and follow all safety instructions on the product and in this document, as well as the safety guidelines of Wurm GmbH & Co. KG Elektronische Systeme. Keep these instructions ready to hand for quick reference and pass them on with the device if the product is sold.
Wurm GmbH & Co. KG Elektronische Systeme accepts no liability in case of improper use or use for other than the intended purpose.

Target group	These instructions are intended for "service technicians".
Intended use	The EEV module is a control module for electronic expansion valves.

⚠ **WARNING!**
Danger to life from electric shock and/or fire!

- Switch off the power to the entire plant when installing, wiring or removing! Otherwise a mains voltage and/or external voltage may still be present even if the control voltage is switched off!
- The wiring of the device should be carried out only by a qualified electrician!
- Use only the correct tools for all work!
- Check all wiring after connection!
- Take note of the maximum loads on all connections!
- Never expose the device to moisture, for example due to condensation or cleaning agents!
- Take the device out of operation if it is faulty or damaged and is therefore compromising safe operation!
- Do not open the device!
- Do not repair the device yourself! If required, send it in for repair with an exact description of the fault!

⚠ **CAUTION!**
Electromagnetic interference can cause faults!

- Use only shielded data lines and place them far away from power lines!

Software revisions and validity of documentation

Software version		
V1.30	2018-01	Documentation status

Any software versions not listed are special solutions for individual projects and are not described in detail in this document.
This document automatically ceases to be valid if a new technical description is issued.

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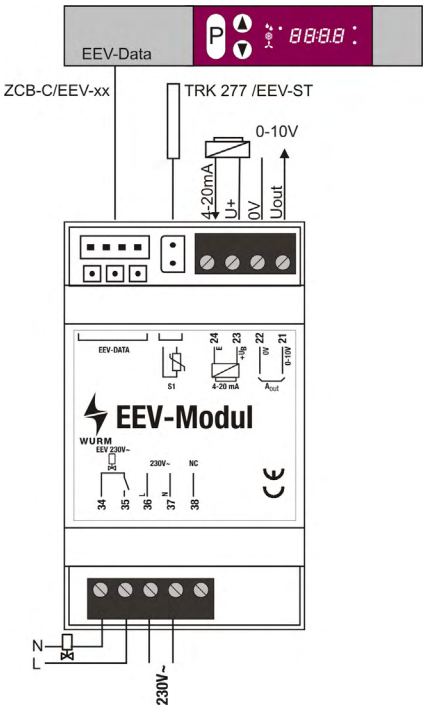
For further information, see our website at www.wurm.de

Function

The EEV module communicates with an appropriately equipped FRIGOENTRY cold location controller via the EEV-Data interface. The measured values of the pressure transmitter and temperature sensor are transmitted to the cold location controller. The adjustment signals that the EEV module receives from the cold location controller are output on the analogue and digital outputs of the EEV module in order to control electronic expansion valves.

Start-up

Connection diagram



Notes!

- Check all wiring before start-up!
- The parameter that defines the refrigerant being used is set in the cold location controller.

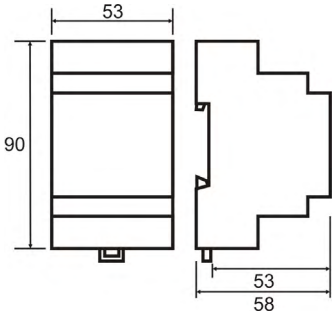
Monitoring and emergency programmes

If communication to a cold location controller fails, then the outputs are controlled with an emergency setpoint. This is set on the cold location controller.

Installation

Installing the EEV module

This device is designed for top-hat rail installation. The housings are standard size and are also suitable for installation in installation boxes. They can be positioned side by side without gaps.



Installing the temperature sensor

To ensure reliable operation of the electronic expansion valve, it is important to take special care when installing the suction gas temperature sensor.

Never fasten the suction gas temperature sensor with cable straps. Fasten it with a copper strap in the appropriate clock position. The clock position depends on the tube diameter (see fig.: “Installing the suction gas sensor”).

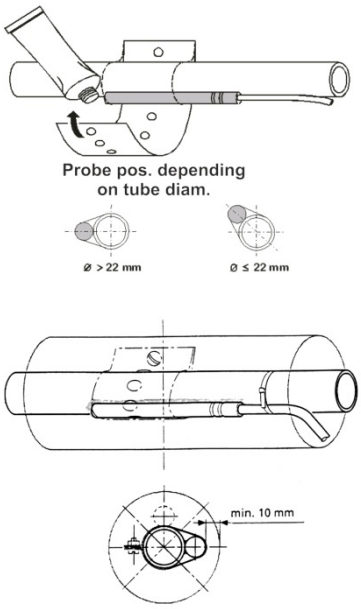


Abb.: Installing the suction gas sensor

Notes!

- In general, a suction gas temperature sensor is installed in exactly the same manner as the sensor cartridges of thermostatic valves. For low temperature cold locations, watertight insulation of the sensor is absolutely essential. There must be no formation of pads of ice on or around the sensor.
- Ensure that the sensor is fastened close to the evaporator, but not in a channel where refrigerant could accumulate.

Sensor extension: We recommend the use of shielded cables for sensor extension.

Cable length	Cross section
up to 100m	0.75mm²
up to 400m	1.5mm²

Technical data

Power supply	230V~, +10% / -15%, approx. 2.6VA
Temperature sensor	1 x TRK-EEV/7ST
Analogue input	4…20mA
Semiconductor relay output	1 x 230V~, 4…60VA, note the minimum output! ⚠ Residual voltage measureable! Integrated semiconductor protection (no isolator).
Analogue output	0…10V=, non-isolated, max. load 1mA
Central unit	Single-chip microcomputer
Monitoring system	Monitoring of communication, microcontroller self-monitoring
Communication	Serial interface
Dimensions	(WxHxD) 53 x 90 x 58mm (DIN 43880)
Fastening	Top-hat rail TH 35-15 or TH 35-7.5 (DIN EN 60715)
Ambient temperature	Operation: 0...+55°C, storage: -25...+70°C
Weight	About 300g
CE conformity	– 2014/30/EU (EMC Directive) – 2014/35/EU (Low Voltage Directive) CE
EAC conformity	– TR CU 004/2011 – TR CU 020/2011 EAC
	RoHS II
Valid from	Version 1.30