OPT-2-VC, Operation terminal for TCX2 controller

Features

- Remote access to controller state, set points, inputs and outputs
- Access to time schedule and clock settings
- Access to configuration parameters
- RS485 peer to peer communication according to proprietary protocol of Vector Controls GmbH
- The terminal adapts itself to the TCX2 controller used. One terminal thus fits all the configuration variations of the TCX2 product range.
- Internal temperature sensor
- Internal humidity sensor (H version) or with AES-HT-A3 for example
- 2 passive inputs: (only available with firmware version V1.1 and up)

Ordering

Item name	Item code	Description/option
OPT-2-VC	40-50-0098	Operation terminal for TCX2-type controller with peer to peer RS485 communication and 1 voltage and 1 passive input

Error messages

The OPT-2-VC may display the following error conditions:

Err1: Communication error. Verify wiring. Make sure data lines are not mixed up or interrupted. Make sure the wire used is according to standards (see below) and no strong interference is present if unshielded cables are used.

Other errors: Refer to the engineering manual of the controller the operation terminal is connected to.

Mounting location

- Install the operation terminal on an easy accessible interior wall, approx. 1.5 m above the floor in an area of average temperature.
- Avoid direct sunlight or other heat sources, e.g. the area above radiators and heat emitting equipment.
- Avoid locations behind doors, outside walls and below or above air discharge grills and diffusers.
- Location of mounting is less critical if external temperature sensors are used.

Installation

1. Connect the wires to be connected to the terminals of the power case according to wiring diagram
2. Install the mounting plate to the flush mounting box
3. Screw the power case to the metal plate. Connectors need to point upwards!
4. Place the frame on mounting plate and hold it with one hand
5. Take the display and place it in the middle of the frame, the thick side of the display frame need to point downwards
6. Verify that the 10 pin connector connects correctly
7. Carefully press the display on the power part until the clamps are clicking in (it may be required to move the frame slightly).
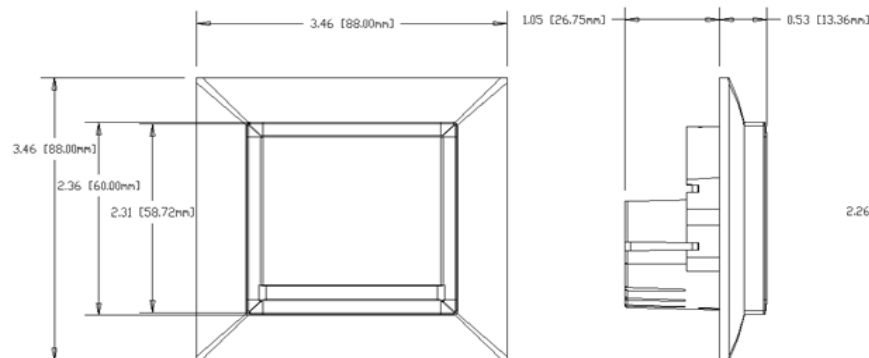
Operation and functionality

For operation and functionality of the terminal please refer to the operation instructions or engineering manual of the controller.
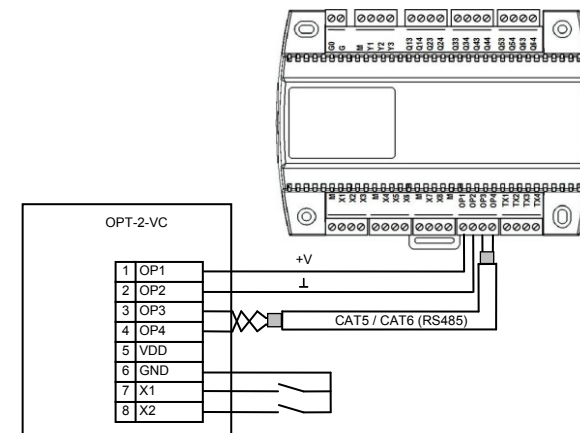
Technical specification

Power supply	Operating voltage	12-30 VDC
	Power consumption	Max.1 VA
	Electrical connection	Terminal connectors, wire 0.34…2.5 mm² (AWG 24…12)
Inputs	Passive inputs Range	X1 Open contact to GND
	Analog input Range Resolution Impedance	X2 0…10 VDC 39 mV 98 kΩ
Communication	Communication type Protocol	RS485, peer to peer, VCPP: Vector Controls proprietary protocol
	Cabling Impedance Nominal capacitance Nominal velocity	Shielded twisted pair (STP), CAT5 or CAT6. balanced 100 to 120 ohm 50 pF/m 16 pF/ft. or lower 65% or higher
Environment	Operation Climatic conditions Temperature Humidity	To IEC 721-3-3 class 3 K5 0…50 °C (32…122 °F) <95 % RH. non-condensing
	Transport &storage Climatic conditions Temperature Humidity Mechanical conditions	To IEC 721-3-2 and IEC 721-3-1 class 3 K3 and class 1 K3 -25…70 °C (-13…158 °F) <95 % RH non-condensing class 2M2
Standards	CE conform according to EMC standard 89/336/EEC EMEI standard 73/23/EEC	EN 61 000-6-1/ EN 61 000-6-3
	Product standards Automatic electrical controls for household and similar use Special requirement on temperature dependent controls	EN 60 730 –1 EN 60 730 – 2 - 9
	Degree of protection	IP30 to EN 60 529
	Safety class	III
General	Dimensions (H x W x D)	Front part: 88 x 88 x 21 mm (3.5" x 3.5" x 0.8") Power case: ø 58 x 32 mm (ø 2.3" x 1.3")
	Weight (incl. packaging)	252 g (8.9 oz.)
	Housing material	Fire proof ABS plastic (UL94 class V-0)
	Standard color	White RAL 9003

Dimensions inch [mm]

The OPT-2-VC is designed in such a way that it can be incorporated into a Swiss standard connection box with appropriate cover with an opening of 60x60mm. Mounting plate and frame need to be ordered separately.

Connection diagram

Description

OP1-OP4	Communication	Connection to TCX2 controller
VDD	5VDC output:	Do not connect
GND	Common:	Common for potential free contacts
X1	Passive input:	NTC 10kΩ@25°C (77°F) or dry contact: open 100%, close 0%
X2	Voltage input:	Voltage input for active sensor 0…10VDC