

QUICK START GUIDE (T1048 RS485 INSTALLATION NOTES)

RULES FOR THE CORRECT INSTALLATION OF THE T1048 RS485 CONTROL UNIT

In order to guarantee the correct and reliable operation of the transformer temperature control system, follow the instructions supplied in this document about the installation of the control unit and the connection of the temperature sensors.

SAFETY REQUIREMENTS

ATTENTION:

Read the manual carefully before starting to use the control unit. Keep the instructions for future reference

Do not open the device, touching any internal components can cause electric shock. Contact with a voltage over 50 Volts can be fatal. To reduce the risk of electric shock, do not dismantle the back of the device for any reason. Moreover its opening would void the warranty.

Before connecting the device to the power supply, make sure that all the connections are correct. Always disconnect the unit from the supply before any cabling modification.

Any work on the equipment must be entrusted to a qualified engineer.

Failure to comply with these instructions can cause damages, fires or electric shock, and possible serious injuries!

POWER SUPPLY

T1048 RS485 has UNIVERSAL power supply, i.e. it can be supplied by 85 to 260 Vac-Vcc, irrespectively of polarity in Vdc.

Before using it, make sure the power cable is not damaged, knotted or pinched. Do not tamper with the power cable. Never disconnect the unit by pulling the cable, avoid touching the pins. Do not carry out any connecting/disconnecting with wet hands. To disconnect the device, do not use objects such as levers. Immediately disconnect the device if you smell burning or see any smoke: contact technical service.

LIQUIDS

Do not expose the equipment to splashes or drops, do not position it in places with humidity exceeding 90% and never touch with wet or humid hands during storms. If any liquid penetrates the control unit, disconnect it immediately and contact technical service.

CLEANING

Disconnect the power cable before cleaning the control unit, use a dry cloth to dust it, without any solvent or detergents, and compressed air.

OBJECTS

Never insert any objects into the cracks of the control unit. If this happens, disconnect the control unit and contact an engineer.

USE RESERVED TO QUALIFIED PERSONNEL

The purchased goods are a sophisticated electronic device that is totally unsuitable to be used by non-qualified personnel. Any work must be carried out by a specialist engineer.

ACCESSORIES

The use of non-original accessories or spare parts can damage the unit and endanger users' safety. In the event of faults, contact technical service.

LOCATION

Install the control unit indoors, in a place protected from water splashes and sun rays. Do not place near heat sources exceeding the parameters stated in this manual. Position on a stable surface, far from any possible vibrations. Position the unit as far as possible from any intense magnetic fields.

REPAIRS

Do not open the control unit. For any fault, always use qualified personnel. The opening of the control unit and/or the removal of the series identifying label entails the automatic forfeiture of the warranty. The Warranty seal is applied to all devices, any attempt to open the unit would break the seal and cause the consequent automatic forfeiture of the warranty.

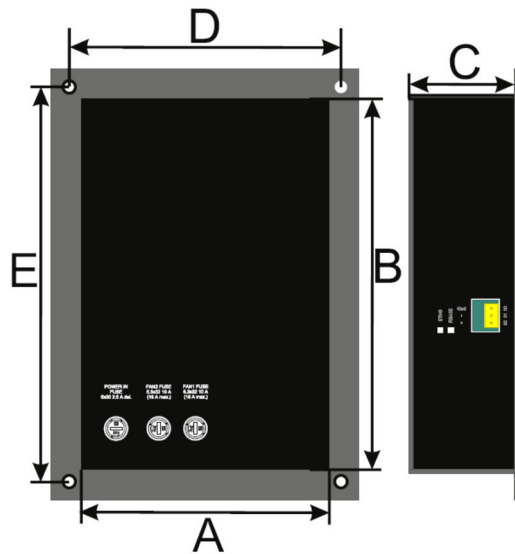
FUNCTION

To control the transformer correctly from a temperature point of view, enabling the VOTING function is allowed where the load distributed between the phases of the transformer is adequately balanced.

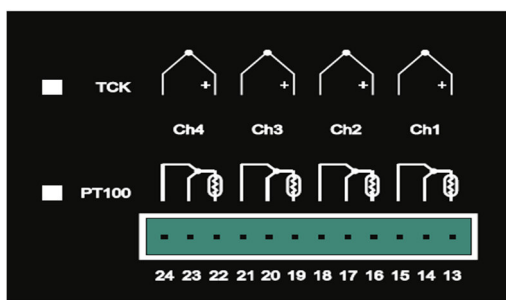
FITTING THE CONTROL UNIT

The temperature control unit must be fitted on a panel complying with the following instructions:

- The device is designed to be panel-mounted.
- Do not position the device near any heat sources or strong magnetic fields.
- Operating temperature from -20°C to 60°C.
- Maximum humidity 90% (non-condensing).
- Indoor work environment (protected by splashes and sun rays).
- Make a 140mm(A) x 205mm (B) (tolerance +0.2mm) in the panel metal sheet depth 60mm (C).
- Make 4 holes Ø 5.5mm at distance of 145mm (D) x 212mm(E).
- Fix the unit with screws and bolts nylon M5.

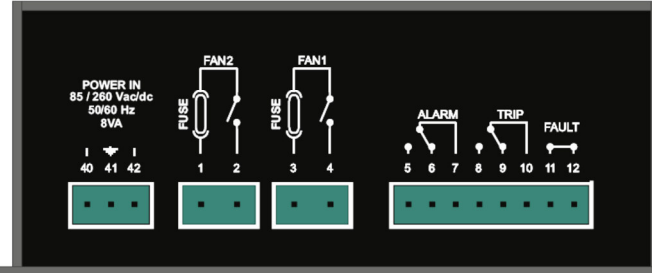


ELECTRICAL CONNECTIONS



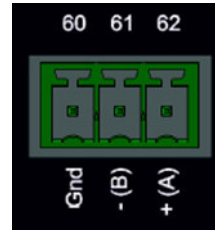
TCK SENSORS. Each temperature sensor TCK has a yellow conductor (+) and one red (-), connect the sensors following the image, example CH1 = 15 Red - 13 Yellow.

PT100 SENSORS. Each temperature sensor Pt100 has two red conductors and one white, connect the sensors following the image, example CH1 14-15 Red - 13 White.



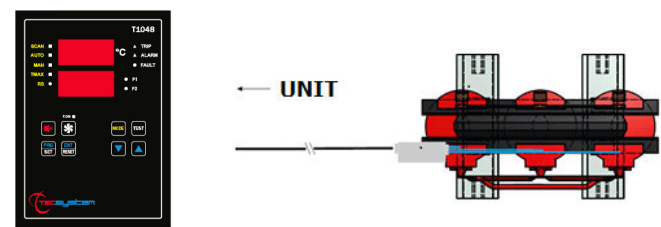
The 1048 RS485 control unit has UNIVERSAL POWER SUPPLY, it can be supplied by 85 to 260 Vca-Vcc, 50/60Hz irrespectively of polarity in Vdc (terminals 40-42). The ground must always be connected to terminal 41.

RELAYS: Output relays with 10A-250Vac-res COSΦ=1 contacts(ALARM-TRIP-FAULT).
RELAYS FAN: : Output relays fan 1 and fan 2 with 16A-250Vac-res COSΦ=1 contacts, fuse 10A for line.



The MODBUS INSIDE (Follow the standard IEA RS485) internal module allows connecting the T1048 control unit to an RS485 network with Modbus RTU. Connect the twisted pair 24AWG paying attention to polarities and lay the network avoiding to make sharp bends or ring windings in order not to modify line impedance. If necessary, the GND terminal for grounding is also available. Always position the RS485 twisted pair far from power cables. Modbus programming: see table PRG. DEFAULT.

CONNECTION FROM THE SCS BOX / SENSORS TO THE CONTROL UNIT



To connect the Pt100/Tck sensors correctly between the SCS box and the temperature control unit, comply with the following instructions rigorously:

Installation rules:

- Every Pt100 must be connected with a three-wire cable having a minimum section of 0.35mm² and a maximum of 1 mm².
- Every Tck must be connected with a 2-wire cable compensated: Chromium - aluminum (yellow-red), joints or terminal support must also be compensated.
- The extension cable must be screened with a tinned copper braid with 80% cover.
- The wires must be twisted.
- The cable screening must be grounded only with a termination, preferably on the unit side.
- The sensors' signal transfer cable must not be near any electrical cables, either low or medium-high voltage.
- The Pt100 cable and the signal transfer cable must be laid in a straight line, without any winding.
- Any caps used to butt conductors must be crimped properly to avoid false contacts.

If you do not comply with the instructions supplied, there may be anomalies in the temperature reading for which TECSYSTEM cannot be held responsible.

DEFAULT PROGRAMMING SETTING

| ALARM CH1-CH2-CH3 | | TRIP CH1-CH2-CH3 | | ALARM CH4 | TRIP CH4 | HFN |
|-------------------|-----------|------------------|-----------|-----------|-----------|-----------|
| 90°C | | 119°C | | NO/120°C | NO/140°C | NO |
| FAN1 | | FAN2 | | FCD | VOTING | ALARM FLS |
| YES | | NO | | NO | NO | NO |
| FAN1 | | FAN2 | | TRIP FLS | ALARM HYS | TRIP HYS |
| ON: 70°C | OFF: 60°C | ON: 45°C | OFF: 35°C | NO | NO | NO |

ATTENTION:

We recommend you check the unit's programming before starting the device.

The default parameters set by TECSYSTEM might not match your requirements.

TO DOWNLOAD THE COMPLETE "T1048 RS485 INSTRUCTION MANUAL", USE* THE QR CODE ON THE CONTROL UNIT OR CONNECT TO THE TECSYSTEM WEBSITE (www.tecsystem.it)



INSTRUCTION



MANUAL

TECHNICAL INFORMATION: Mail: ufficiotecnico@tecsystem.it — tel: 02/4581861

*download the QR CODE READER application to your smartphone / tablet and you will be ready to read all Q codes