

QUICK START GUIDE (NT935 IR AD ED16 INSTALLATION NOTES)

RULES FOR THE CORRECT INSTALLATION OF THE NT935 IR AD ED16 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 TIR409 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 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

The NT935 IR AD has UNIVERSAL power supply, i.e. it can be supplied by 24 to 240 Vac-Vdc, 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.

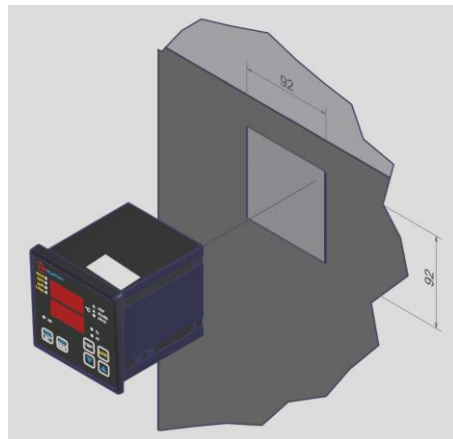
FUNCTION

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.

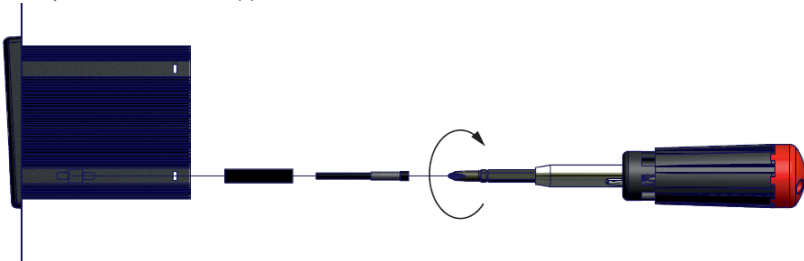
FITTING THE CONTROL UNIT

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

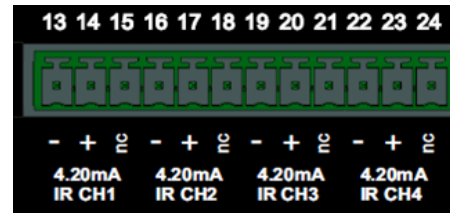
- The device is designed to be panel-mounted.
- Do not position the device near any heat sources or strong magnetic fields.
- Operating temperature from -20°C to 60°C
- Maximum humidity 90% (non-condensing)
- Indoor work environment (protected by splashes and sun rays)
- Make a 92 x 92mm hole (tolerance +0.8mm) in the panel metal sheet.



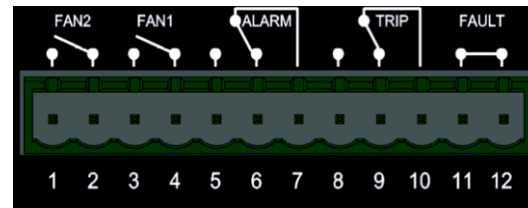
Fix the unit securely with the blocks supplied.



ELECTRICAL CONNECTIONS

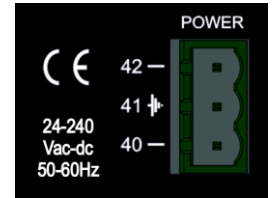


4 inputs 4.20mA for TIR409 sensors (1,5mm² section max). The sensors must be connected observing the polarity + and -.



NT935 IR AD control unit has UNIVERSAL POWER SUPPLY it can be supplied by 24 to 240 Vac-Vdc, 50/60Hz irrespectively of polarity in Vdc (terminals 40-42).

The ground must always be connected to terminal 41.



RELAYS. Output relay with 10A-250Vac-res COSΦ=1 contacts.



The MODBUS INSIDE (Follow the standard IEA RS485) internal module allows connecting the NT935 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.

It is possible to connect a displaying or acquisition device to the 4.20 mA output. The permitted load impedance for each output is from 0 to 500 ohm.



CONNECTION FROM THE TIR409 SENSORS TO THE CONTROL UNIT NT935 IR



The 4.20 mA output of each TIR409 sensor must be connected to the 4.20 mA input of the relevant NT935 IR control unit input channel.

As to the sensor wiring, just comply with the following installation instructions:

- Always use a 4-wires screened cable with AWG20 or AWG22 section.
- All the wires conductors must be twisted and shielded
- The cable must be connected considering the +/- polarities
- The cable screening must be connected to ground only on one side
- The cable must not be placed near the LV/MV and HV power cables.
- The cable must be laid straight, without any ring winding or binding.
- Any tip used to channel the sensor wires must be properly crimped 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
90°C		119°C		NO/120°C	NO/140°C
FAN1		FAN2		HFN	FCD
YES		YES		NO	NO
FAN1		FAN2		ADDRESS	BAUD
ON: 70°C	OFF: 60°C	ON: 45°C	OFF: 35°C	1	19200
PARITY		VOTING			
NONE		HOT			
		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 "NT935 IR AD INSTRUCTION MANUAL", USE* THE QR CODE ON THE CONTROL UNIT OR CONNECT TO THE TECSYSTEM WEBSITE (www.tecssystem.it)



INSTRUCTION



MANUAL

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

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