INSTRUCTION MANUAL

VRT200

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1) TECHNICAL SPECIFICATIONS

SUPPLY • Rated values 230 Vca±10% (10 A max) 50-60 Hz	
INPUTS • 1 contact to enable the remote control (ENABLE) • 2 inputs to check the temperature by PTC or auxiliary contact. • Removable rear terminals	**OUTPUTS** • 1 alarm and fault relay (ALARM/FAULT) • Output relay capacity 5A-250 Vac resistive • Output M1-M2: 230 Vac±10%, 5 A max., 50-60 Hz
TESTS AND PERFORMANCES • Assembling in accordance with CE EN61000-4-4, EN61000-4-5, EN61000-4-11 rules • dielectric strength 2500 Vca for 1 minute: supply-relay fault, supply-remote • Ambient operating temperature from –20°C to + 60°C • Humidity 90% non-condensing • NORYL 94V0 housing • **Option** Protection treatment of electronic part • Frontal in polycarbonate IP54 • Electronic part consumption 5VA (max)	**DISPLAYING AND DATA MANAGEMENT** • Alarm leds: undercurrent, overcurrent, overtemp-aux stop. • Running leds running, remote, local • Led's prg, prg setting, cal. • Starting AUTO-TUNING to set out the motor working • Front key for local START/STOP of the motors • Front alarm RESET key • Programming access through front key
DIMENSIONS • 100x100 mm DIN43700 depth140 mm (terminal box included) • Panel cut-out 92x92 mm	

2) SUPPLY

The VRT200 monitoring unit is designed to be supplied at 230VAC ±10%.
A variation in the line voltage higher than 10% could cause alarms owing to the variation of the current in the load.

If the presence of harmonic frequencies affects the electric network, there could be alarm warnings because of the consequent change of motors absorbed current.

According to the regulations for the plant typology, it is recommended to check the harmonic level in order to avoid malfunctions or damages to all electric and electronic instruments connected to the system

3) WORKING

After switching on, the meter carries out a LAMP TEST and sets itself in **REMOTE** or **LOCAL** mode, according to the condition present before switching off.
In **REMOTE** mode, the fans are activated by the closing of 52-53 contact which shall be connected to **FAN** contact of the temperature control monitoring unit.
In **LOCAL** mode, the fans are activated by pushing <START-STOP> key. The working state is stored if supply is lacking.

4) HOW TO CHECK STATE OF THE ALARMS

- **Running led off:** any fan activating command
- **Running led on:** REMOTE or LOCAL fan activating
- **Over under current leds off:** correct and regular working of the motor
- **Over current led on:** motor stopped by overcurrent
- **Under current led on:** working motor + alarm undercurrent signal
- **Over and under current on + overtemp aux stop:** alarm overtemperature
- **Under current led blinking:** motor disconnected during autotuning
- **Over current led blinking:** motor consumption >5,5A (immediate release without delay trip)
- **All leds are blinking:** corrupted memory error; press reset and repeat programming procedure

N.B.: Motor alerts or non-fed meter cause the closing of contacts 8-9 of ALARM/FAULT relay.

5) HOW TO RESET A MOTOR IN ALERT

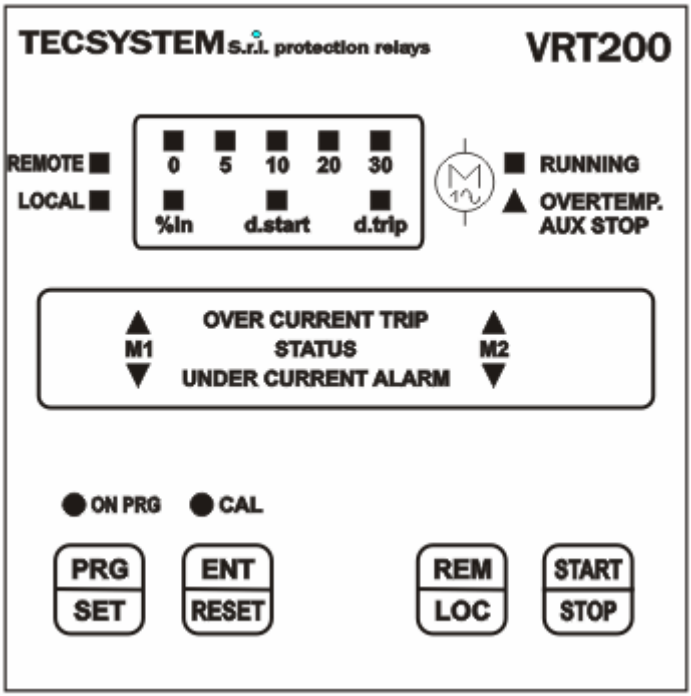
To reset an alert for under current, over current, overtemp-aux stop, press RESET key after the due checks and possible repairs.

6) PROGRAMMING

STEP	Key	Effect	NOTES
1	PRG SET	Start Programming	Keep it pressed for 5 seconds until the led ON PRG is on
2	ENT RESET	Programming **"%In"**	Load the highest admitted current variation as percentage value (5-10-20-30%), compared to the rated value In.
3	PRG SET	Passage to **"d.start"** programming step	Delay start: fan start time, during which no alarm is generated
4	ENT RESET	Time selection in seconds **"d.start"**	Select the desired time (5-10-20-30 seconds)
5	PRG SET	Passage to **"d.trip"** programming step	Delay trip: residence time of alert necessary for reporting
6	ENT RESET	Time selection in seconds **"d.trip"**	Select the desired time (5-10-20-30 seconds)
7	PRG SET	Passage to **"OVERTEMP-AUX STOP"** programming step	Enabling this function, it is possible to connect a PTC (or a PTC series) to check the motor temperature. AUX1 for line M1 and AUX2 for line M2
8	ENT RESET	PTC inputs enabling or disabling.	Leds ▲ on: ptc enabled Leds ▼ on: ptc disabled N.B.: if the PTC sensors are not connected the function must be disabled.
9	PRG SET	Motor starting for automatic calibration **"CAL"**	To carry out the "automatic calibration" all the motors must be connected as per final configuration. At **START** , the motors are started up for 60 seconds, **CAL** led blinks and leds 0-5-10-20-30 switch on in sequence. When the calibration is over the monitoring unit resets itself and sets up in REMOTE mode

N.B.: If the programming procedure is not correctly carried out, the fans cannot properly working.

FRONT PANEL



LEDS

5-10-20-30:	programming settings %In, delay start, delay trip
d.start:	monitoring delay at start
d.trip:	releasing delay
Remote:	fan external control 52-53
Local:	fan local control <start-stop>
Running:	ventilation control received
Overtemp-Aux Stop:	shutdown for over temperature (ptc)
▲M1, ▲M2:	motor in over-current (trip)
▼M1, ▼M2:	motor in under-current (alarm)
On Prg:	programming phase
Cal:	motor autotuning phase (autotuning)

KEYS

PRG-SET:	entry in programming and passage to the next step
ENT_RESET:	alarm reset and data selection to be programmed
REM-LOC:	remote-local fan control mode.
START_STOP:	fan local turning on and turning off

7) *VRT200 WORKING WITH BARRA 400 OR BARRA 600*

Barra 400 and Barra 600 are equipped with low current variation motors in case of shut-down or block.**To optimize the VRT working with these bars is suggested to set the current alarm at 5%.**

8) GUARANTEE

"VRT" series monitoring units are covered by a 12-18 months guarantee starting from the delivery date on the device itself.

This guarantee is valid if the device should be damaged by causes which can be attributed to **TECSYSTEM srl**, such as manufacturing defects or improper calibration.

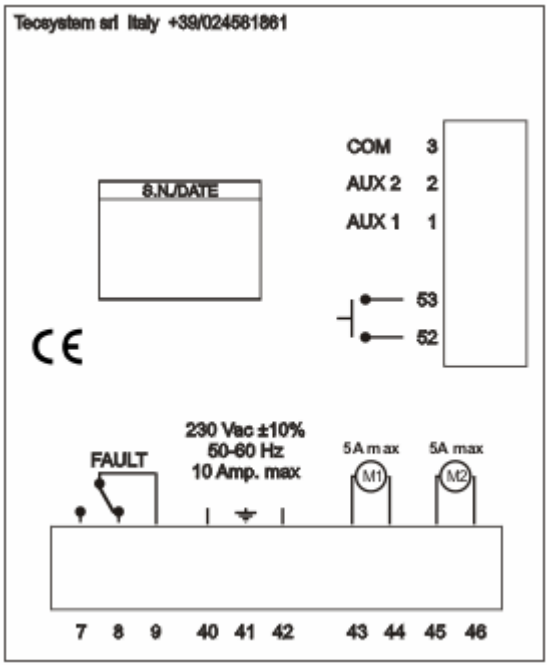
The guarantee is not valid if the monitoring unit would be tampered or if it would be damaged by supply voltages beyond the highest working limits (220V alternating current). The guarantee is not valid if the device would be burnt out by too many transient voltage peaks. In this case **TECSYSTEM srl** do not answer for damages caused by faulty or detective monitoring units. All the deliveries (go and back) costs for repair will be at Customer's expense.

In case of contest may only be instituted the Milan court.
The guarantee is always free our domicile in Corsico.

REMARK: In case of unit replacement, to grant the correct and safe operating, <u>you must</u> replace all the connecting terminals with the new terminals provided with the unit: this only if the terminal blocks are of different brand.

RAEE: This SYMBOL, shown on the unit, indicates that the waste must be subject to "separate collection". The end-user must send the unit to the "waste collection centers", or return the unit to the dealer against the purchase of a new equivalent device.

REAR PANEL



INPUTS

40-41-42:	supply 230VAC±10% 50-60Hz.
52-53:	remote control (to fan contact of the thermal check monitoring unit)
AUX1:	ptc or series of ptc's input line M1
AUX2:	ptc or series of ptc's input line M2
COM:	common for ptc AUX1-2 connection

OUTPUTS

M1 43-44:	motor or series of motors output 1
M2 45-46:	motor or series of motors output 2

RELAY

FAULT 7-8-9:	trouble report, contact 8-9 open during the regular working.

TEST DECLARATION FOR VRT200

This device has passed a test at the origin, according to the following procedure:

N°	Description
1	Mounting card check
2	Input working check
3	Relay contacts and output check
4	Push-button working check
5	Check lamp
6	Software working check
7	Burn-in min. 24h

Date: 07/2010