



MICRO INSTRUMENTS

Innovative electronics for a changing world

VTR-PRO

**Remote monitor with Ethernet & SNMP V2
AC voltage, DC Voltage , Temperature and Relay unit**



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1. SYSTEM QUICK DESCRIPTION

The VTR-PRO is a remote monitoring system measuring AC voltage , DC battery voltage, Temperature in Degrees celsius and with 2 x onboard relays controlled manually or configured to auto trigger on AC ,DC or temperature levels with Ethernet and SNMP V2.

Voltages and Temperature:

The VTR-PRO monitors mains AC Voltage from 0 to 275VAC , DC battery voltage from 10 to 60VDC and a temperature input probe from -55 Degrees C to 125 Degrees C with a 0.5 Deg C accuracy.

100Mbs Ethernet port with embedded web pages, **SNMP V2 and (SMTP) email function on unencrypted PORT 25 ONLY.**

The system can send **email alerts** when **AC mains input** or the **DC battery voltage** or **Temperature** level falls below or rises above the user defined levels.

SNMP V2 can also be used to actively monitor the values of DC, AC, Temperature and Relay states.

Note: The unit powers from the **DC** input and the **AC** input is only monitored.

Relays:

Two onboard relays can be controlled via the web pages, the relays can be configured to **latch (ON/OFF)** or **pulse** for a certain pre-set time when triggered manually to open gates, control systems, reboot electronic systems etc.

Relay auto triggers can also be configured for **AC voltage level** , **DC voltage level** or **temperature level** to **automatically trigger** specific relays with user adjustable high and low values.

An optional 5 Way Relay expander module is also available - see our website for 5 Way Relay module.

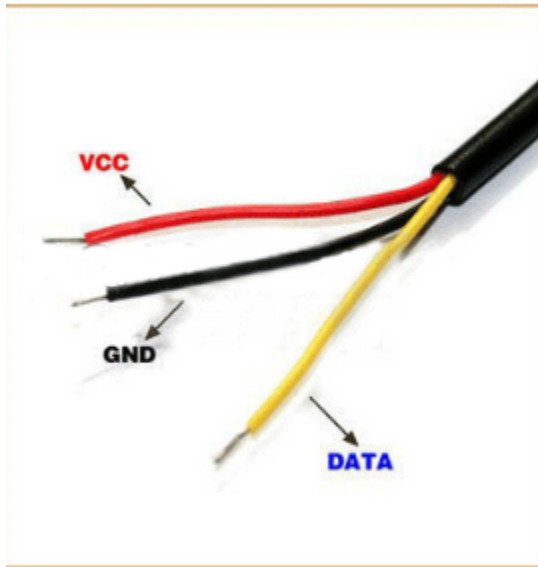
Embedded Graphing Function:

A **24Hr graph** records hourly averages for **AC voltage** , **DC voltage** and **temperature**. Shown on the **main web interface home page**.

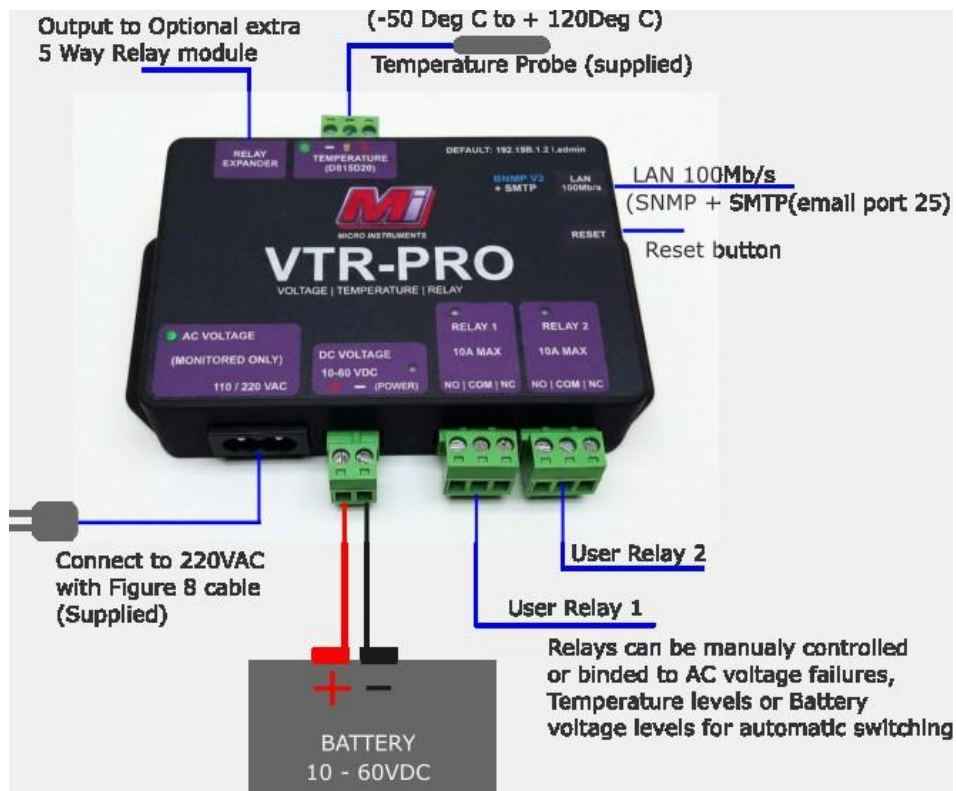
The **Alert log** will keep record of initially triggered alerts, users will have to clear the alert log manually, alerts will be cleared if power is cycled.

TEMPERATURE PROBE

The system is supplied with a digital DS18B20 temp probe - connect according to markings on the front label of the VTR-PRO



Basic Connection



Email function:

Power up email:

VTR-PRO POWERED ON:

IP: 192.168.5.180

Location: Home office

DC Voltage: 13.5 V

AC Voltage: 236 V

Temperature: 28.0 C

Alert emails:

Temperature alert

VTR-PRO ALERT!

IP: 192.168.5.180

LOCATION: Home office

Temperature: 37.5 C

Similar emails will be generated for AC and DC voltages out of range

Example AC failure:

VTR-PRO ALERT!

IP: 192.168.5.180

LOCATION: Home office

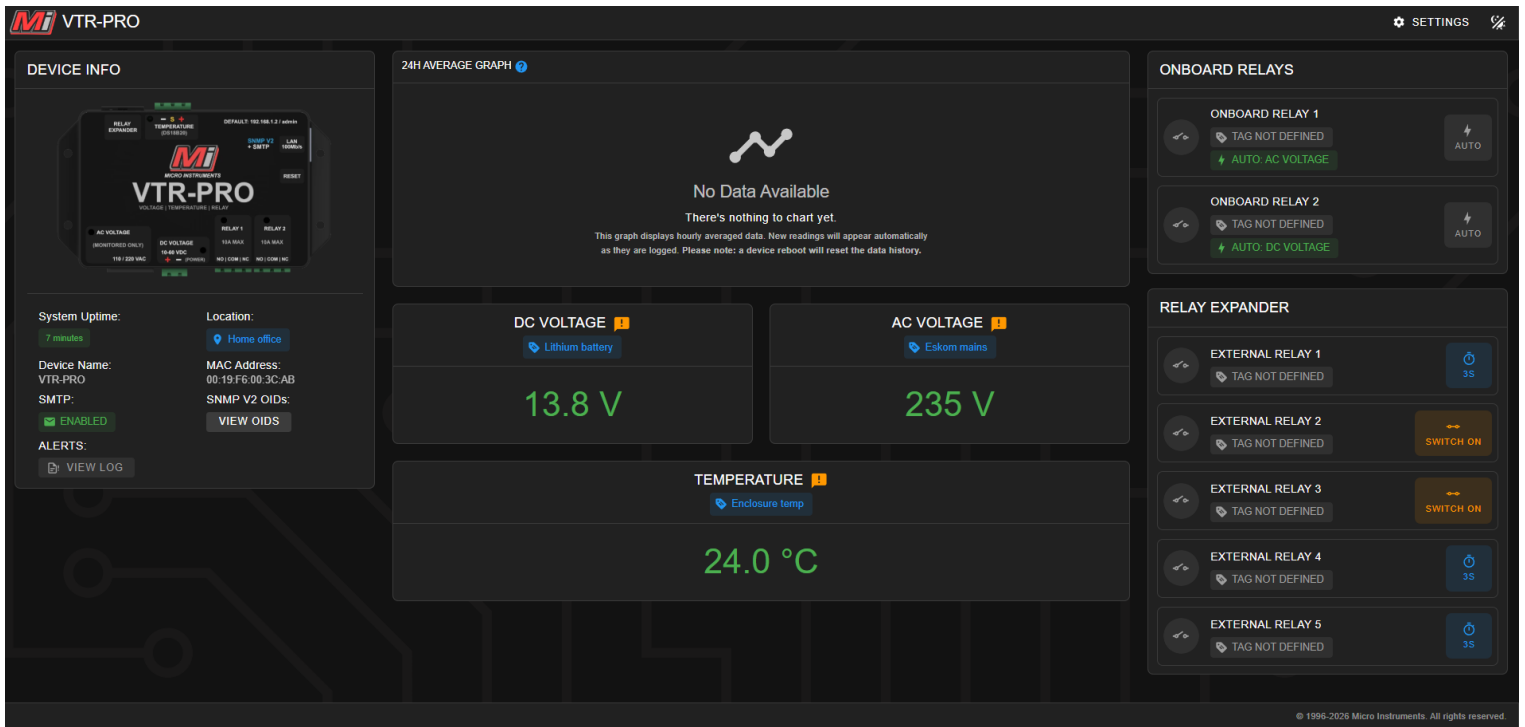
AC Voltage: 0 V

DEFAULTS:

Default IP : 192.168.1.2 password : admin

Master Reset : Hold reset button until leds flash - release button

Home page



Setup pages:

Set location name tag and alert levels for DC input voltage / set AC voltage alert levels

The screenshot shows the SETTINGS page, divided into two main sections:

- LOCATION:** A section for setting the location tag. The "Location Tag" field is set to "Home office".
- DC VOLTAGE:** A section for setting DC voltage tags and alert levels. The "DC Voltage Tag" is set to "Lithium battery". The "DC Voltage Alert Enabled" toggle is turned on. The "Range" is set to "10V - 60V". The "DC Voltage LOW" is set to 12.0, and the "DC Voltage HIGH" is set to 15.0.
- AC VOLTAGE:** A section for setting AC voltage tags and alert levels. The "AC Voltage Tag" is set to "Eskom mains". The "AC Voltage Alert Enabled" toggle is turned on. The "Range" is set to "70V - 270V". The "AC Voltage LOW" is set to 180, and the "AC Voltage HIGH" is set to 250.

Set Temperature name tag and alert values

 **TEMPERATURE**

☒ Temperature Enabled

Temperature Tag

 Enclosure temp

☐ Temperature Alert Enabled

Range: -50°C - 120°C

Temperature LOW

10.0

^
v

Temperature HIGH

35.0

^
v

 **ONBOARD RELAYS**

 **ONBOARD RELAY 1**

Onboard Relay 1 Tag

☒ Auto Trigger Enabled

Minimum ON Time After Trigger (minutes)

1

^
v

Trigger Source

 AC VOLTAGE

v

↓ BELOW

↑ ABOVE

↕ BOTH

Range: 70V - 270V

AC Voltage BELOW

180

^
v

Both onboard Relays and the 5 Way Relay expander relays can be configured to be manual controlled or to be triggered by the level of AC voltage , DC voltage or Temperature levels

Relays not configured to auto trigger can be programmed to pulse or latch

The screenshot shows the 'RELAY EXPANDER' configuration page. At the top, there is a toggle switch labeled 'Relay Expander Enabled' which is turned on. Below this is a section for 'EXTERNAL RELAY 1'. It contains a text input field for 'External Relay 1 Tag'. Below the tag field is a toggle switch for 'Auto Trigger Disabled' which is turned off. Underneath are two buttons: 'PULSE' (highlighted in blue) and 'LATCH'. At the bottom of this section is a 'Pulse Time' dropdown menu set to '3 Seconds'.

Email SMTP settings - PORT 25 emails only !

The screenshot shows the SMTP configuration page. At the top, there is a toggle switch labeled 'SMTP Enabled' which is turned on. Below this are several input fields: 'SMTP Server' (with a red border and 'Required' text below it), 'SMTP Username', 'SMTP Password' (with a toggle icon to the right), 'From Address', 'Recipient 1' (with a red border and 'Recipient 1 is required' text below it), 'Recipient 2', and 'Recipient 3'. Each recipient field has an envelope icon to its left.

Network settings

 **NETWORK**

IP Address

 192.168.5.180

Subnet Mask

 255.255.255.0

Gateway

 192.168.5.1

DNS

 192.168.5.1

SNMP Community String

 public

Password setup: no back door , unit will have to be master reset if forgotten

 **SECURITY**

 New Password



 Confirm New Password



SAVE SETTINGS & REBOOT

SNMP screenshot from Ireasoning mib browser

Result Table	
Name/OID	Value
sysDescr.0	VTR-PRO
sysObjectID.0	.1.3.6.1.4.1.45501
sysUpTime.0	40 minutes 52 seconds (245200)
sysContact.0	Micro Instruments (www.microinstruments.co.za)
sysName.0	VOLTAGE TEMPERATURE RELAY
.1.3.6.1.4.1.45501.1.3.1.0	13.7
.1.3.6.1.4.1.45501.1.3.2.0	234
.1.3.6.1.4.1.45501.1.3.3.0	23.5
.1.3.6.1.4.1.45501.1.3.4.0	0
.1.3.6.1.4.1.45501.1.3.5.0	0
.1.3.6.1.4.1.45501.1.3.6.0	0
.1.3.6.1.4.1.45501.1.3.7.0	0
.1.3.6.1.4.1.45501.1.3.8.0	0
.1.3.6.1.4.1.45501.1.3.9.0	0
.1.3.6.1.4.1.45501.1.3.10.0	0
.1.3.6.1.4.1.45501.1.3.11.0	0
.1.3.6.1.4.1.45501.1.3.12.0	END
.1.3.6.1.4.1.45501.1.3.12.0	

SYSTEM DESCRIPTION:

1.3.6.1.2.1.1.1.0

SYSTEM OBJECT ID:

1.3.6.1.2.1.1.2.0

SYSTEM UPTIME:

1.3.6.1.2.1.1.3.0

SYSTEM CONTACT:

1.3.6.1.2.1.1.4.0

SYSTEM NAME:

1.3.6.1.2.1.1.5.0

DC VOLTAGE: (OCTET STRING)

1.3.6.1.4.1.45501.1.3.1.0

AC VOLTAGE: (OCTET STRING)

1.3.6.1.4.1.45501.1.3.2.0

TEMPERATURE: (OCTET STRING)

1.3.6.1.4.1.45501.1.3.3.0

ONBOARD RELAY 1: (INTEGER)

1.3.6.1.4.1.45501.1.3.4.0

ONBOARD RELAY 2: (INTEGER)

1.3.6.1.4.1.45501.1.3.5.0

EXTERNAL RELAY 1: (INTEGER)

1.3.6.1.4.1.45501.1.3.6.0

EXTERNAL RELAY 2: (INTEGER)

1.3.6.1.4.1.45501.1.3.7.0

EXTERNAL RELAY 3: (INTEGER)

1.3.6.1.4.1.45501.1.3.8.0

EXTERNAL RELAY 4: (INTEGER)

1.3.6.1.4.1.45501.1.3.9.0

EXTERNAL RELAY 5: (INTEGER)

1.3.6.1.4.1.45501.1.3.10.0

ALERT: (INTEGER)

1.3.6.1.4.1.45501.1.3.11.0

Dimensions and weight:

L = 130mm

W = 100mm

H = 30mm

Weight = 0.3Kg

For more info contact:

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