



## SERIES: VRC700



- UP TO 48 ANALOGUE OR DIGITAL INPUTS
- UP TO 24 THERMOCOUPLE OR 12 RTD INPUTS
- 8 ANALOGUE OR 16 RELAY OR SSR OUTPUTS
- 60 LOGICAL CHANNELS; DISPLAYS 60 CHANNELS
- CONTROL FUNCTIONS: PID, ON/OFF, TIME, ETC.
- PROFILE GENERATION & TIMER TRIGGER
- MATHEMATICAL & LOGIC FUNCTIONS
- RS232 / RS485 COMMUNICATION INTERFACE
- 3.5" HIGH COLOUR 320X240 PIXELS SCREEN
- NUMERICAL, CHART, BAR & GAUGE VIEWINGS
- GALVANIC ISOLATION OF INPUT/OUTPUT/SUPPLY
- AUXILIARY POWER SUPPLY TO POWER SENSORS
- 8 GB COMPACT MINI USB FLASH DISK (STICK)
- 1.5 GB BUFFER INTERNAL MEMORY (250,000,000 POINTS)



TOUCH SCREEN

**SHARP & BRIGHT  
SCREEN**

**30 Channel  
Indication on  
the same page**

**Displays &  
Records  
60 Channels**

**PID  
Controller  
with analogue output**

- 96 x 96 mm FRONT PANEL
- ETHERNET COMMUNICATION (ACM Option)
- DATA ACQUISITION SOFTWARE TO TRANSFER & OBSERVE THE DATA ON COMPUTER

### INTRODUCTION

Indumart *VRC700 series* Multipoint Paperless Recorders/Controllers are valuable in the industry because of their ability to perform integrated recording, creating reports and exporting data to external files. They offer display versatility, flexible data storage and **math and logic functions**. They are applied as a **data acquisition station** in many processes. Integration of several functions within the same instrument eliminates the need for multiple devices and reduces installation costs. In addition to their **multifunctionality** and being used as an **advanced controller** (PID, ON/OFF, time, profile, etc.), the *VRC700 series* provides several advantages over traditional paper and pen recorders, including improved accuracy of recorded data and reduction in the maintenance and operating costs, as they do not require chart paper and pens. Front panel of *VRC700 Series* is IP65 (washable) and the exact replacement for the 96 x 96 mm (¼ DIN) controllers, while 100 mm depth is the shortest in the market. Also for replacing the 144x144 mm recorders with the *VRC700 Series*, an adaptive accessory is offered, as option, to facilitate the replacement.

A user-friendly setup and operation procedures, availability of many important math and logic functions, along with the real time measured parameter display to show the values of 60 channels on a very bright and **touch-sensitive** screen are some of the definite advantages of the *VRC700 series* of recorders/controllers. High resolution, true VGA, full colour LCD displays using TFT (Thin Film Transistor) technology provides exceptionally vivid colour and clarity. Process information is presented in ways familiar to the operators, such as horizontal or vertical bargraph indicators, horizontal or vertical line trends, large numerical format and needle (gauge imitation).

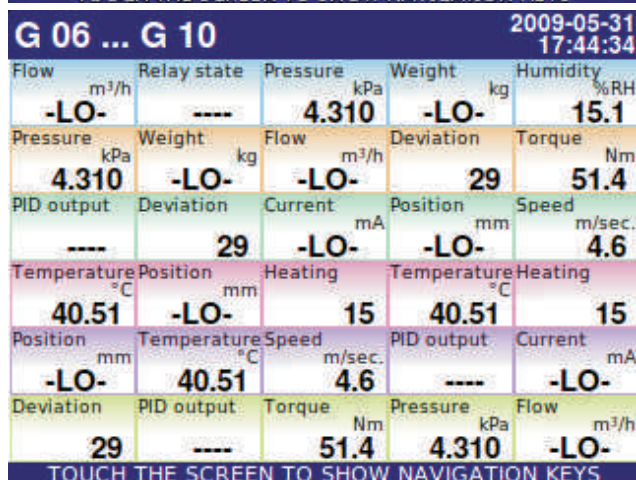
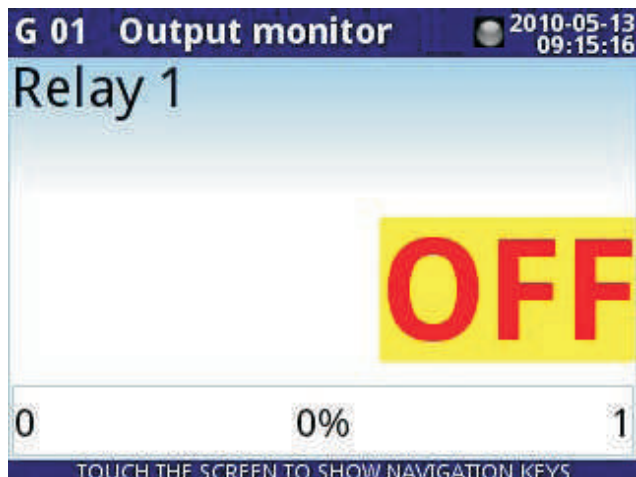
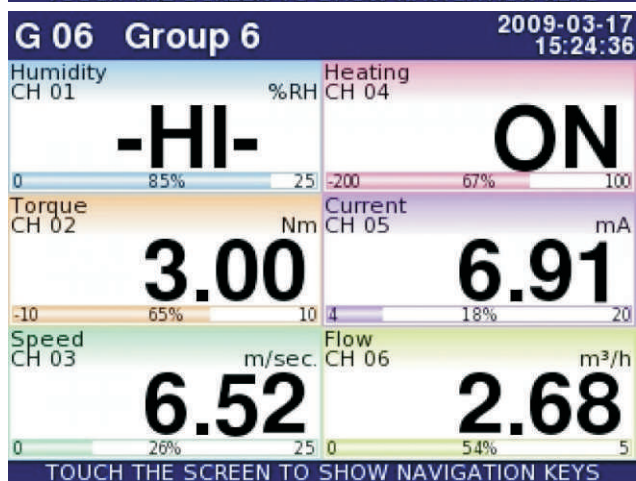
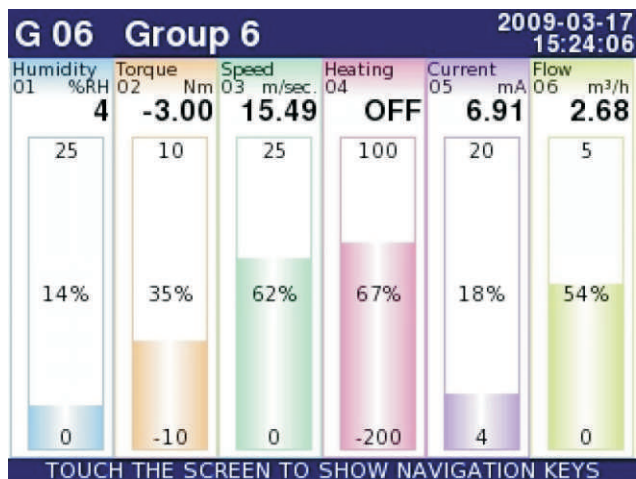
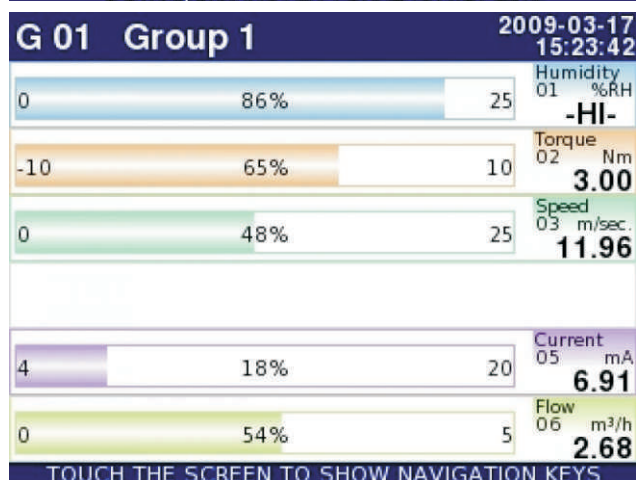
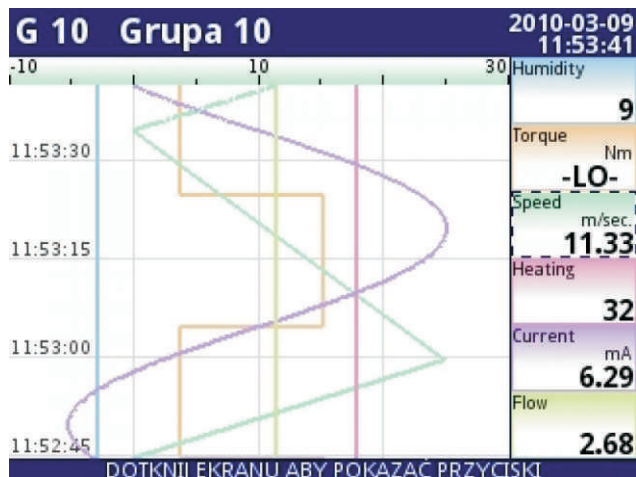
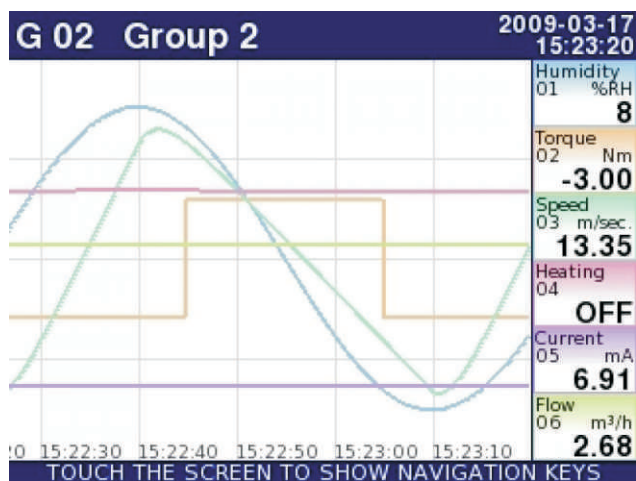
The user can access data on the screen as well as on site from a remote place via RS232/RS485 serial interface or ethernet networking (ACM option). The historical data can be stored in the recorder flash ROM with 250 million data capacity (months of recording) or on a compact 8 GB mini flash disk. The *VRC700 DAQ Manager* software allows visualization of recorded data in graphs or tables form, creating reports and exporting data to external files.

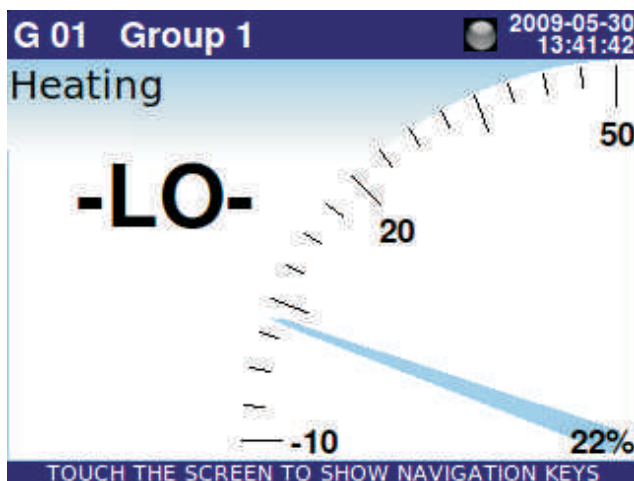
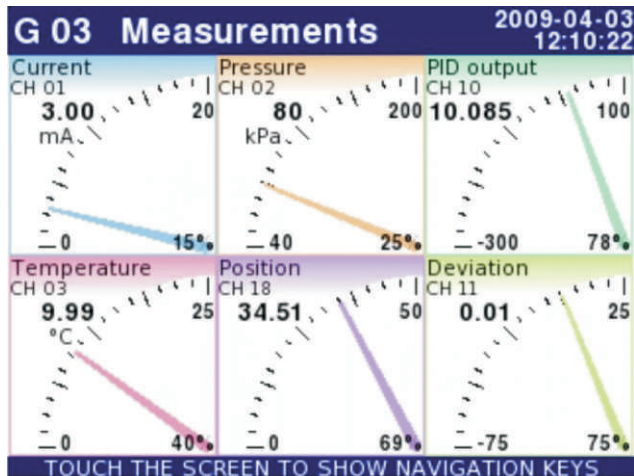
## DATA EXPOSURE

The VRC700 recorder/controller enables visualization of the recorded data in the following modes.

- Horizontal or vertical linear trend (1 to 6 in one page),
- Horizontal or vertical bargraphs (1 to 6 in one page),
- Numerical values (up to 30 in one page),
- Gauge like (needles) imitation (1 to 6 in one page).

Presentation view, range, colour and name of each channel are selected by the user.





## OTHER FEATURES OF VRC700

- Writing the unit of measurement by the user
- Special characters and symbols of many languages
- Font and background colour selections
- Line width adjustment
- Back light adjustable
- Signal scaling
- Indication as percentage of full scale
- Averaging
- Low/high selection
- Alarm annunciation
- Alarm trip function
- Damping (filter) time
- Display time setting
- Triggering source and time
- View change timeout
- Control of multiple outputs from a single input value
- Control of outputs from logical combination of several inputs
- Output hysteresis adjustment
- Output delay adjustment
- Offset value adjustment
- Controllers cascading and ratio control
- Ramp & soak, heat /cool and motorized valve control
- Timer
- Auxiliary power supply 200 mA@24 VDC
- Programming via touchscreen or PC mouse.

## SPECIFICATIONS

<b>Current Inputs</b>	0/4...20 mA; 30 mA max.
<b>Voltage Inputs</b>	0/1...5 V or 0/2...10 V; 13 V max.
<b>Thermocouples Inputs</b>	Types J, K, S, T, N, R, B, E Range: $\pm 30$ mV or $\pm 120$ mV
<b>RTD Inputs</b>	Pt100, Pt500, Pt1000 Range: -200...600°C
<b>Digital Input</b>	1 x 0/15...24 VDC, 7.5 mA Isolation 1 min @ 500 VDC
<b>Math Function</b>	Arithmetical and logic
<b>Analogue Output</b>	4-20 mA
<b>Relay Output</b>	250 V, 1A or 5A (see ordering)
<b>Internal Impedance</b>	Volt Input: 100 kW mA Input: 100 W
<b>Input Impedance</b>	T/C Input: 1 M $\Omega$
<b>Accuracy</b>	0.25% F.S.
<b>Output Precision</b>	0.1% @ 25°C, 50 ppm/°C
<b>Output Resolution</b>	12 bit
<b>Sampling Rate</b>	10 per second, limitation on # rec.
<b>Communication Interface</b>	RS485 (Modbus RTU), 1 USB host, USB device; For enhanced version, please see ACM in the ordering
<b>RS485 Modbus Master/Slave</b>	1200...115200 bit/s baud rate ASCII/RTU transmission mode
<b>Ethernet</b>	10Mb Base-T, socket RJ-45
<b>Display</b>	3.5" TFT LCD
<b>Colour Graphical Screen</b>	Touch screen
<b>Resolution</b>	320 x 240 pixels
<b>Power</b>	85...260 VAC/DC; 19...24...50 VDC or 16...35 VAC < 30 VA consumption
<b>Auxiliary Power Supply</b>	24 VDC $\pm$ 5%, 200 mA max. to supply power to external devices (for versions with current input only)
<b>Insulation Strength</b>	Between power and input/output: 1 min @ 2300 V Between inputs: 1 min @ 500 VAC
<b>Relay to Relay Isolation</b>	1 min @ 1000 VAC
<b>Buffer Internal Memory</b>	1.5 GB; 250,000,000 samples
<b>Compact Flash Disk</b>	8 GB Mini USB Flash Memory
<b>Operating Temperature</b>	0...50°C
<b>Case Material</b>	NORYL (Hard Plastic)
<b>Front Panel Protection</b>	IP65
<b>Safety</b>	EN 61010-1 (IEC 1010-1), Over-voltage Category II, Pollution degree 2 Voltage in relation to ground: 300 VAC Insulation resistance: >20 M $\Omega$
<b>EMC</b>	According to EN 61326-1
<b>Panel Cut-out</b>	90.5 x 90.5 mm
<b>Overall Dimension</b>	96 x 96 x 100 mm (H x W x D)

## ORDER CODES

Model **VRC700** -

**BOARD #1:**

- No Input\*
- 4 x Voltage + 4 x Current Inputs
- 8 x Voltage + 8 x Current Inputs
- 16 x Voltage Inputs
- 16 x Current Inputs
- 4 x RTD Inputs
- 4 x Thermocouple Inputs
- 8 x Thermocouple Inputs
- 8 x Digital Inputs
- 16 x Digital Inputs

**BOARD #2:**

- Please select one of the above under BOARD #1, or
- 8 x SPST Relay 1A
- 2 x 4-20 mA Outputs
- 4 x 4-20 mA Outputs

**BOARD #3:**

- Please select one of the above under BOARD #1 or BOARD #2, or
- 4 x SPDT Relay 5A
- 8 x SSR Outputs
- 16 x SSR Outputs

**ADVANCED COMMUNICATION MODULE**

- Standard (RS485, 1X USB Host, USB Device)
- Enhanced: 2 x RS485, 1 x RS485/RS232, 2 x USB Host, USB Device, 1 X Ethernet 10 MB

**POWER SUPPLY**

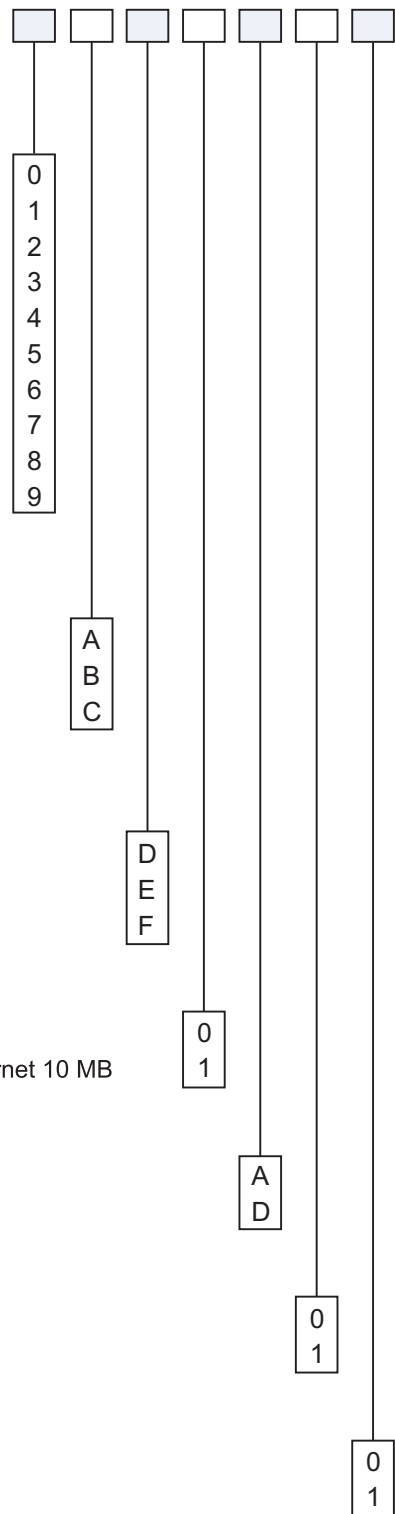
- 85...260 VAC/DC
- 19...50 VDC (nominal 24 VDC) or 16...35 VAC

**EXTERNAL MEMORY**

- Not Required
- 8 GB Mini USB Flash Memory

**ACCESSORY**

- Not Required
- Adaptive Frame to Facilitate Replacing 144x144 mm Recorder



\* VRC700 with or without analogue input can receive measurement data of sensors/transmitters connected to its RS485 interface. The data can be indicated and recorded.

