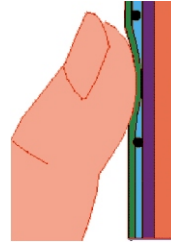


SERIES: VGR600

- UP TO 12 INPUTS
- 8 ANALOGUE OUTPUTS
- 16 DIGITAL INPUTS/OUTPUTS
- QVGA HIGH COLOUR SCREEN
- 7 MB BUFFER INTERNAL MEMORY
- Up TO 4 GB COMPACT FLASH DISK
- ACCESS TO RECORDER DATA VIA INTERNET
- MATHEMATICAL FUNCTIONS & OPERATIONS
- RS232 / RS485 COMMUNICATION INTERFACE



TOUCH SCREEN



SHARP & BRIGHT SCREEN

EASY CONFIGURATION

- 144 x 144 mm Front Panel, IP65
- Galvanically Isolated Measuring Channels
- ETHERNET Communication, WWW Server
- 32-bit Processor with ARM Core, 16-bit Transducer
- Recording of Data and Configuration on Compact Flash
- Configuration of Parameters through the recorder & Communication Interface



INTRODUCTION

Indumart VGR600 series Multipoint Paperless Recorders are valuable in the industry because of their ability to perform integrated recording, profiling and archiving functions. They offer display versatility, flexible data storage and **math & logic functions**. They are applied as a data acquisition station in monitoring of environmental pollution, climatic measurement and to supervise technical process parameters in industries such as pharmaceutical, chemical, petrochemical, power, food and pulp & paper. Integration of several functions within the same instrument eliminates the need for multiple devices and reduces installation costs. In addition to their multifunctionality, the VGR600 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 144 x 144 mm is the exact replacement for the existing chart recorders, while 155 mm depth is the shortest in the market.

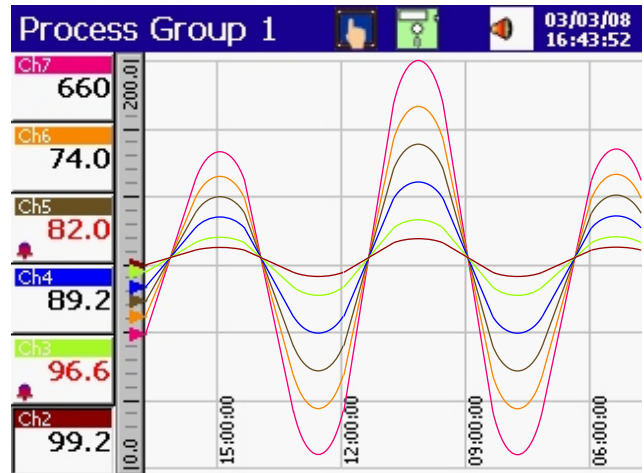
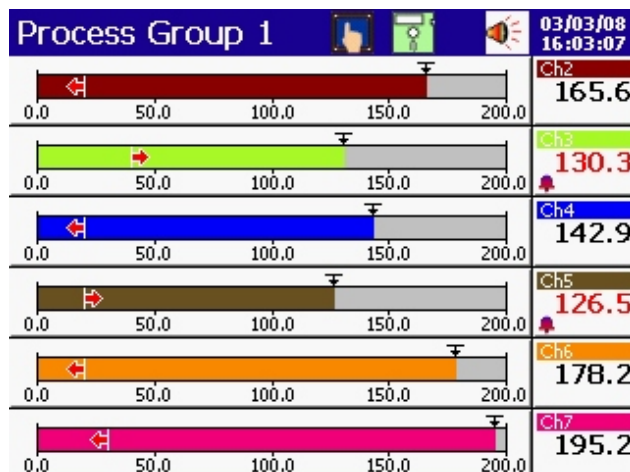
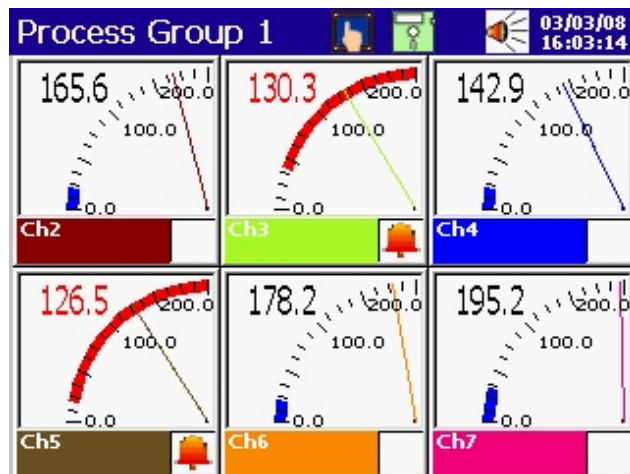
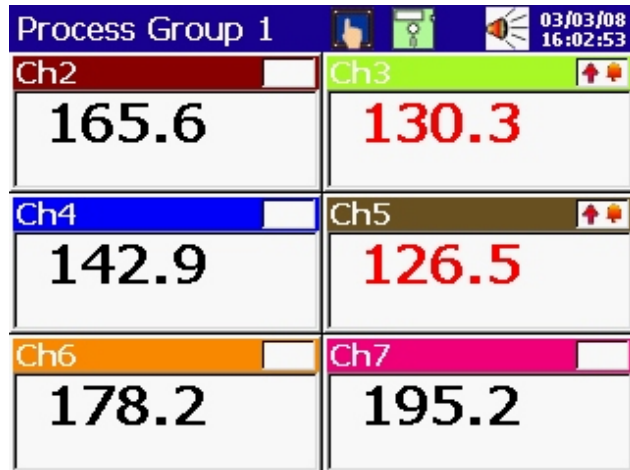
The most user-friendly setup and operation procedures, availability of many important math and logic functions to allow functionality of this recorder to nearly match that of computers, along with the real time measured parameter display to show the values of 24 channels on a very bright and touch-sensitive screen are some of the definite advantages of the VGR600 series of recorders. 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 circular or bargraphs indicators, horizontal or vertical line trends, statistical form (min., max., mean value with time stamp) and large digital format (numerical values are always shown on all the screens). Additionally **alarm and event histories** are stored for further analysis. 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. The historical data can be stored in the recorder flash ROM or on a compact flash disk (up to 4 GB). The VGR600 Series has two 24V/30 mA auxiliary power supply output.

DATA EXPOSURE

The VGR600 recorder enables visualization of the recorded data in the following modes.

- linear, circular or bar trend,
- digital and analogue indicators, and
- statistical forms

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



WORKING IN THE NETWORK

The VGR600 can be applied in autonomous control and measuring systems as a data acquisition station.

Depending on the needs, the user has the choice between various communication interfaces.

- RS-232
- RS-485 MODBUS Master and Slave
- ETHERNET 10 Base-T
- USB 1.1 Device

Communication of the recorder in the network is possible by means of MODBUS, or HTTP protocols.

The HTTP server (www) enables carrying out the preview of current state of the recorder and sampling of archived data through the **www** browser.

Variety of communication interfaces and friendly software of the VGR600 recorder ensure an easy operation.

Individual login and password for eight users, configurable access rights to the recorder resources and safe data format to confirm the integrity of data collected are some of the recorder's features to ensure safe working in the network.

PC SOFTWARE

The standard VGR600 software (VSR61) has two programs **CONNECT** and **CHECK**. The optional software (SVR62) has two extra programs; **SETUP** and **DATA ARCHIVING** programs.

The **CONNECT** program is destined for the communication between the PC and the recorder by means of the USB interface. It enables the acquisition of archived data from the recorder, writing and erasing data on the CF card.

The **CHECK** program is destined for the verification of file correctness with measuring data saved in the CSV with digital signature format.

SETUP Program

The **SETUP** program serves to configure the VGR600 recorder and service mathematical and logic functions.

The **SETUP** program displays the current recorder configuration on the computer screen and allows the user to alter the configuration parameters. Exchange of configuration data between the recorder and the computer is carried out through one of the accessible interfaces of the communication program or the compactFlash.

DATA ARCHIVING Program

The **DATA ARCHIVING** program is destined for, archiving, indication and printout of data obtained from the recorder through the **CONNECT** program. Data can be transferred to Excel® program.

Data issued from freely configured recorders are automatically recognized by the archiving program and recorded in the archive data bank. The data management is carried out automatically.

It enables grouping of the channels in a required fashion for analysis and data printout. The user introduces the complementary description for each data set to differentiate them, and can access the specific desired data.

UNIVERSAL INPUT SIGNALS

Type	Range	Min. Subrange
Current	±(0...20) mA	1 mA
Voltage	±(0...9999) mV	5 mV
Pt100	-200...+850°C / -328...1562° F	50°C (122° F)
Pt500	-200...+850°C / -328...1562° F	50°C (122° F)
Pt1000	-200...+850°C / -328...1562° F	50°C (122° F)
Ni100	-60...180°C / -58...356° F	50°C (122° F)
Cu100	-50...180°C / -76...356° F	50°C (122° F)
T/C "J"	-200...+1200°C / -328...2192°F	100°C (212° F)
T/C "K"	-200...+1370°C / -328...2498°F	130°C (266° F)
T/C "N"	-200...+1300°C / -328...2372°F	200°C (392° F)
T/C "E"	-200...+1000°C / -328...1832°F	100°C (212° F)
T/C "R"	0...+1760°C / 32...3200°F	540°C (1004° F)
T/C "S"	0...+1760°C / 32...3200°F	570°C (1058° F)
T/C "T"	-200...+400°C / -328...752°F	110°C (230° F)
T/C "B"	400...+1820°C / 752...3308°F	1000°C (1832° F)
Potentiometric Transmitter Resistance	0...2000 Ω	100 Ω
Transmitter	0...2000 Ω	100 Ω

SPECIFICATIONS

• Multiple Universal Programmable Measuring Places	
Input	3, 6, 9 or 12 inputs, universal, bipolar programmable; shown in the Table
Input Resistance	> 10 MΩ
Sampling Rate	350 ms (1 measurement)
Between Inputs Isolation	100 VDC
• Multiple Standard Measuring Channels	
Input	6 or 12 ; 0...10 VDC or 4...20 mA
Input Resistance (Volt)	> 1 MΩ
Input Resistance (mA)	< 10 Ω
Sampling Rate	100 ms (1 measurement)
Measurement Accuracy	0.25%
Between Inputs Isolation	500 VDC
• Digital Inputs	
Logic Inputs	8 or 16 with common mass 0 / 5...24 VDC
Switching Frequency	up to 50 Hz
• Analogue Output	
Outputs	4 or 8 galvanically isolated
Current Signals	4...20 mA with < 500 Ω load resistance
Voltage Signal	0...10 V (≥ 500Ω load resistance)
• Alarm Output	
Electromagnetic Relays	8 or 16 programmable
Load Capacity for Resist.	AC max: 250 VAC, 1 A DC max: 30 VDC, 1 A
• OptoMOS Relays	
OptoMOS Relays	8 or 16 programmable
Load Capacity for Resistant	≤ 85 VDC, 100 mA ≤ 60 VDC, 70 mA 300 mA / 10 ms
Current Peak Value	8 Ω approximately
OPTOMOS Resistance	
• Interfaces	
RS232 Communication	MODBUS transmission protocol with 300...256000 bit/s baud rate ASCII/RTU transmission mode D-sub 9 connector (female)
RS485 Modbus Master/Slave	300...256000 bit/s baud rate ASCII/RTU transmission mode
Ethernet	10 Base-T, Server www, socket RJ45
USB	V.1.1 Device, socket USB-B-G
• General Specifications	
Display	5.7" TFT LCD
Colour Graphical Screen	Touch screen
Resolution	320 x 240 pixels
Power	90...253 VAC, 18...30 VDC (24 VDC) < 30 VA consumption
Auxiliary Power Supply	2 (24 VDC/30A) to supply power to external devices; i.e. transmitters
Input/Output-Housing Isolation	500 VDC
Buffer Internal Memory	7 MB
Recording on Int. Memory	Cyclic - overwriting oldest data
CompactFlash Disk	512 MB to 4 GB (user's order)
Disk Overload	Signaling when full
Math Function	Arithmetical, integral and logic
Counter and Integrators	Standard features
Operating Temperature	0...50°C
Front Panel Protection	IP65
Safety	EN61010-1 (IEC1010-1), Over-voltage Category II, Pollution degree 2
Electromag. Emissions	According to EN 61000-6-4
Electromag. Immunity	According to EN 61000-6-2
Panel Cut-out	138 x 138 mm
Overall Dimension	144 x 144 x 155 mm (H x W x D)
Weight	2 kg (4.4 lb) approximately

ORDER CODES

Model **VGR6** -

ANALOGUE INPUT BOARD #1:

6 programmable universal inputs
 6 x 0...10 V inputs
 6 x 4...20 mA inputs
 3 programmable universal inputs

1
2
4
7

ANALOGUE INPUT BOARD #2:

Without measuring input
 Choose 1...7 from the above INPUT BOARD #1

0
X

RS485 INTERFACE MEASURING INPUT

With interface measuring input (24 channels)

1

DIGITAL SIGNAL/ANALOGUE OUTPUT BOARD #3:

Without
 8 alarms (NO electromagnetic relays) + 8 alarms (OptoMos)
 8 alarms (NC electromagnetic relays) + 8 alarms (OptoMos)
 8 digital inputs + 4 analogue outputs: 4...20 mA
 8 digital inputs + 4 analogue outputs: 0...10 V

0
1
2
5
7

DIGITAL SIGNAL/ANALOGUE OUTPUT BOARD #4:

Without
 Choose 1...7 from the above OUTPUT BOARD #3

0
X

INTERFACES (RS485 Master is a standard feature)

USB + Ethernet + RS485 (slave)
 USB + Ethernet + RS232

2
3

EXTERNAL MEMORY

512 MB CF card
 1 GB
 2 GB
 4 GB

3
4
5
6

POWER SUPPLY

90...253 VAC
 18...30 VDC

1
2

MATH & LOGIC FUNCTIONS (option)

Without mathematical and logic functions (standard)
 With Arithmetic + Integral + Advanced Logic functions

0
1

PC SOFTWARE

VRS61 software (standard)
 VRS62 software (optional)

18
28

