# GR100

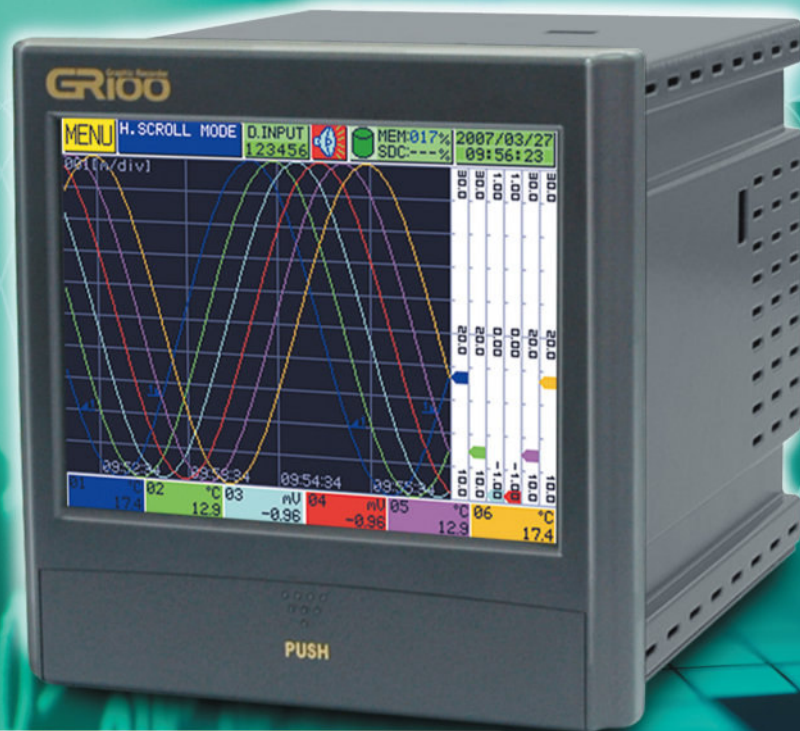### Graphic Recorder

## Graphic recorder using touch panel

- Various communications
- Support Large capacity SD memory card
- Apply color TFT LCD & touch panel
- Computing, Function conversion function
- Universal inputs

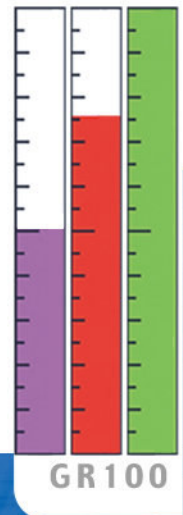| | | | | | | |
|---|---|---|---|---|---|---|
| Various display screen | Support SD memory card | Universal inputs (Thermocouple, R.T.D etc, 17 kinds in total) | 4 alarms per channel | Ethernet communication function | USB communication function | |

**Distribuidor Master** HANYOUNG NUX

# Graphic Recorder
# GR100

# Bright color TFT LCD & Touch panel system

**GR100**

### Various display screen

### Support SD memory card

### Universal inputs (Thermocouple, R.T.D etc. 17 kinds in total)

### 4 alarms per channel

### Ethernet communication function

### USB communication function

## FEATURES

- Bright color TFT LCD & Touch panel system
- Various input types
  (T/C 12 kinds, R.T.D 2 kinds, DC voltage 3 kinds)
- Horizontal & Vertical trend, Text, Bar graph, and History view
- 6 or 12 channel analog inputs, 6 external inputs (D/I),
  6 or 12 relay outputs (D/O)
- 4 alarms per channel
- Computing, Function, Conversion function
- RS232, RS422/485, USB, ETHERNET communication
  (MODBUS-RTU, MODBUS on TCP)
- Support Large capacity SD memory card (FAT 16 / 32)

Large capacity SD memory card

USB connection

Stylus Pen

Leading high-tech Corporation In Measurement Field of Automatic Control

# SPECIFICATION

## Normal specification

- Power supply : 100 – 240 V a.c, 50/60 Hz
- Voltage variable rate : +/–10 % of rated power supply
- Power consumption : Max. 24 VA
- Ambient temperature : 0 ~ 50 ℃.
- Ambient humidity : 20 ~ 90 % RH (No condensation)
- Vibration : Vibration width 1.2 mm Max. (5 – 14 Hz)
- Shock : None
- Insulation resistance : Min. 20 MΩ (500 V d.c, between terminal and ground)
- Dielectric strength : 2500 V a.c. 50/60 Hz for 1 minute (Between 1st terminal and 2nd terminal, between 1st terminal and ground)
- Thickness of panel : 2 ~ 10 mm
- Material : Case → SPC, Front case (Bezel) → ABS
- External terminal : Bayonet mount type (available to separate when wiring)
- Memory backup : Internal memory – Parameters are saved
  Outer memory – Measuring value (SD card : 1GB, Approx. 1 year data can be saved when the record cycle is 2 seconds)
- Weight : Approx. 2.5 kg including packing box
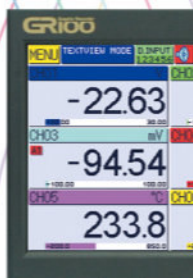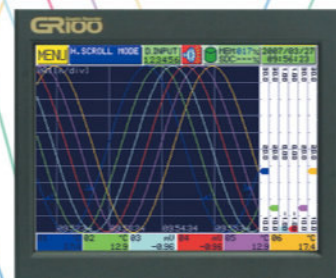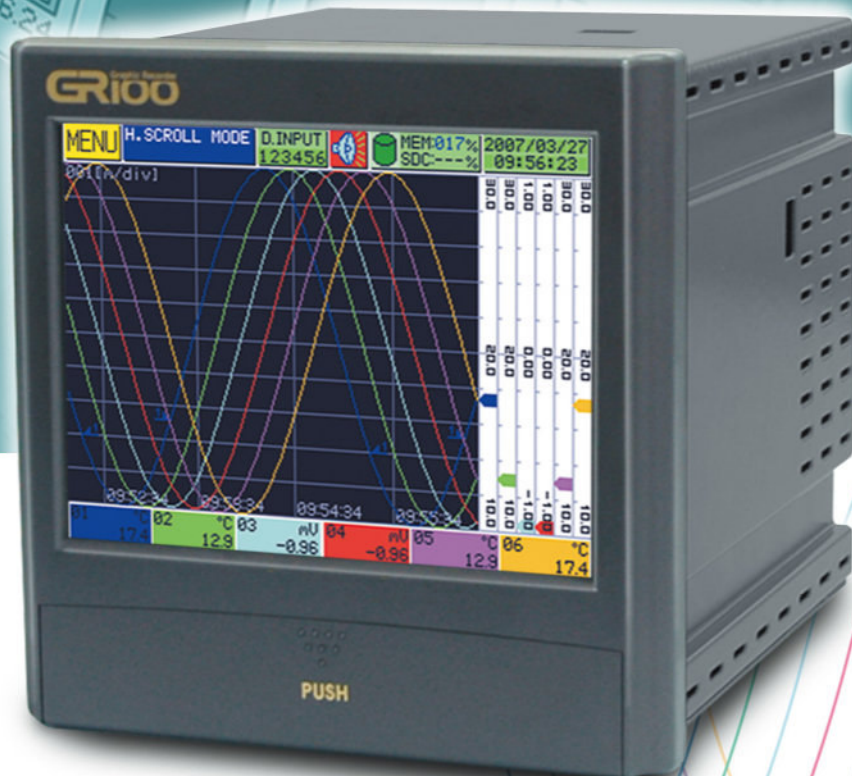
## Input

- Number of channel : 6 channels or 12 channels
- Input : Universal inputs (T/C 12 kinds, R.T.D 2 kinds, DC voltage 3 kinds)
- Range setting : Set input type and range by front touch menu
- Scale setting : Set Min. value, Max. value and unit by front touch menu
- Accuracy : 0.1 % of maximum range
- Measuring cycle : 1 second
- Accuracy of standard contact correction : Max. +/− 1.3 ℃ for T/C
- Burn−out function : Detect disconnection of input signal for T/C and R.T.D
- Input correction : Zero / Span or offset correction per channel
- Allowable input signal resistance : T/C → Max. 250 Ω,
  - d.c voltage → Max. 2 KΩ,
  - R.T.D → Max. 10 Ω per wire
  - (Note : resistance value of 3 wires should be equal)
- Input impedance : T/C, R.T.D, DC input(mV d.c) → Min. 10 MΩ
  - DC input(V d.c) → Min. 1 MΩ
- Terminal : Bayonet mount type (available to separate when wiring)

## Indication part

- Indicator : TFT color LCD(113.28 mm X 84.71 mm) 320 X 234 Dots (18 bit color)
- Type of color : Color of channel → 12 kinds
  - Color of background → Black or white selectable
- Applicable language : English
- Operating screen : Horizontal trend, vertical trend, text, bar graph
- History screen : Display a past data in Horizontal / vertical trend and text screen
- Status−view display : Display alarm, digital input (D/I), relay operation, event−log and memory status.
- Time axis setting : 1 ~ 120 min. (Moving time between scale. m/div)
- Display cycle : According to time axis setting ( Min. time 1 sec.)
- Screen−protection function: When no regulated time exists for screen manipulation, the backlight turns off and goes into screen−protection mode. The screen is restored when touched.

## Recording function

- Internal memory : Flash (Non−volatiles)−Setting parameter
- External memory : SD−Card 1GB, Approx. 1 year data can be saved when the record cycle is 2 seconds.
- File system : FAT 16/32
- Data save cycle : 1~900 sec. (Max. 15 min.)
- Save information : Measuring data, Message, Setting parameter, Alarm and cancellation
- Save method: According to the indication screen's touch menu selection, content is saved from the internal memory to the SD−CARD

## Alarm function

- Alarm setting : 4 alarms per channel
- Type of alarm : 15 types
- Alarm save selection : Start, stop or pass a data save function of recorder by alarm operation.
- Contact output : 6 points or 12 points, Alarm, Burn−out, External contact input (D/I)

## Measuring range of Input and accuracy

| Input types | | Measuring range | | Accuracy (*Exceptional accuracy) |
|---|---|---|---|---|
| Thermocouple | K | −270.0 ~ | 1372.0 ℃ | ± 0.1% of F.S *1 |
| | J | −210.0 ~ | 1200.0 ℃ | ± 0.1% of F.S |
| | E | −270.0 ~ | 1000.0 ℃ | ± 0.1% of F.S *2 |
| | T | −270.0 ~ | 400.0 ℃ | ± 0.1% of F.S *3 |
| | R | −50.0 ~ | 1768.0 ℃ | ± 0.1% of F.S *4 |
| | S | −50.0 ~ | 1768.0 ℃ | ± 0.1% of F.S *4 |
| | B | 0.0 ~ | 1820.0 ℃ | ± 0.1% of F.S *5 |
| | N | −270.0 ~ | 1300.0 ℃ | ± 0.1% of F.S *3 |
| | PL2 | 0.0 ~ | 1395.0 ℃ | ± 0.1% of F.S |
| | U | −200.0 ~ | 600.0 ℃ | ± 0.1% of F.S |
| | L | −200.0 ~ | 900.0 ℃ | ± 0.1% of F.S |
| | W | 0.0 ~ | 2315.0 ℃ | ± 0.1% of F.S |
| R.T.D | Pt100 DIN | −200.0 ~ | 850.0 ℃ | ± 0.1% of F.S |
| | Pt100 JIS | −200.0 ~ | 660.0 ℃ | ± 0.1% of F.S |
| DC voltage | ±100 mV d.c | −100.00 ~ | +100.00 mV d.c | ± 0.1% of F.S |
| | ±10 V d.c | −10.000 ~ | +10.000 V d.c | ± 0.1% of F.S |
| | ±30 V d.c | −30.00 ~ | +30.00 V d.c | ± 0.1% of F.S |

- *1 : −250 ℃ below exceptional standard
- *2 : −260 ℃ below exceptional standard
- *3 : −235 ℃ below exceptional standard
- *4 : −20 ℃ below ± 0.2 %
- *5 : +310 ~ +470 ℃:± 0.15 %, +240 ~ +310 ℃:± 0.2 %, +240 ℃ below standard

Note) K, J, E, T, R, S, B, N : IEC 584−1, PL2, W : ASTM E988,
Pt100(DIN) : DIN 43760, IEC 751, Pt100(JIS) : JIS C1604(1989)

# INDICATION SYSTEM
## Graphic Recorder

### 1 Trend display
As a screen indicating a line graph of data being recorded, the screen is composed of 2 types of horizontal and vertical indications.



### 2 Text-view display
In addition to indicating the measured numerical values, level indication, channel number, channel title (Tag), and alarm information are also indicated.



### 3 Bar graph display
The data being recorded is indicated as a bar graph together with numerical values, unit, or channel number.



### 4 History-view display
Past data stored in memory are displayed in both horizontal and vertical trends. Furthermore, numerical values, units, and channel numbers are also indicated and can be expanded or reduced along time and size axis.



### 5 Status view display
Each channel indicates alarm operations, outer contact point inputs (D/I), and relay outputs (D/O), composing the screen into 3 parts of event-log and memory use indication, et cetera.
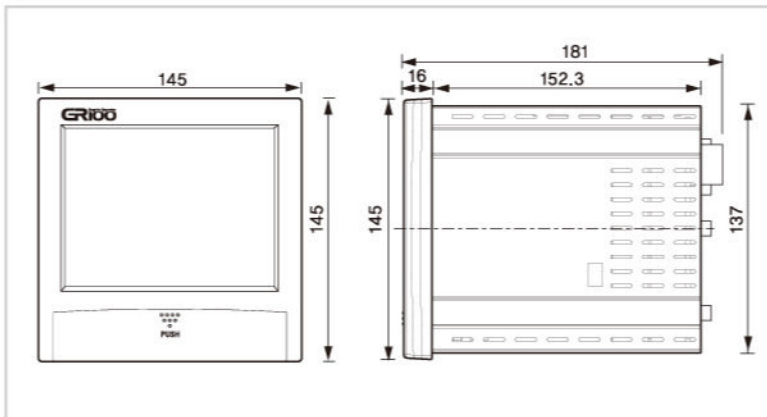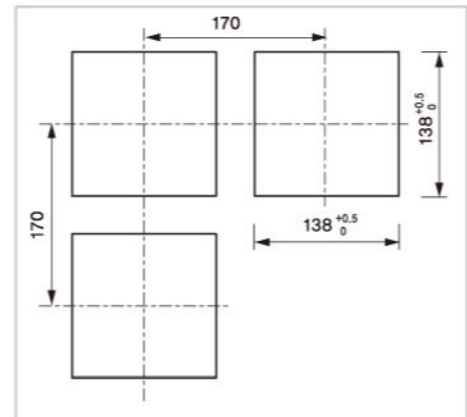
**GR100** Graphic Recorder

## ● Model and Suffix code

| MODEL | Suffix code | | Description |
|---|---|---|---|
| GR100– | 1 | 0 | GR100 Graphic recorder |
| Input channel | 1 | | 6 Channel |
| | 2 | | 12 Channel |
| Communication specification | 0 | | RS232 + RS422/485 + USB |
| | 1 | | RS232 + RS422/485 + USB + ETHERNET |

## ● Dimension (Unit : ㎜)



## ● Panel cutout (Unit : ㎜)



## ● Connection Diagram
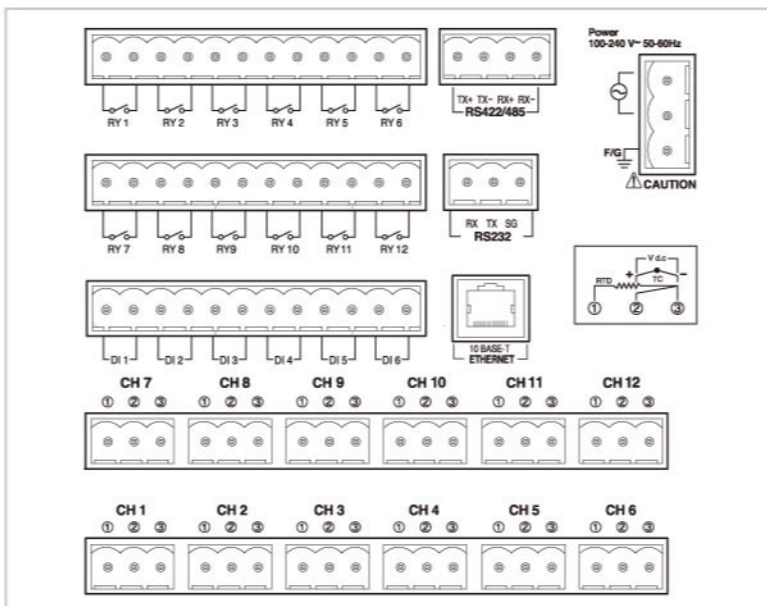


※ This diagram is for GR100–21(12CH)

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