

Specifications

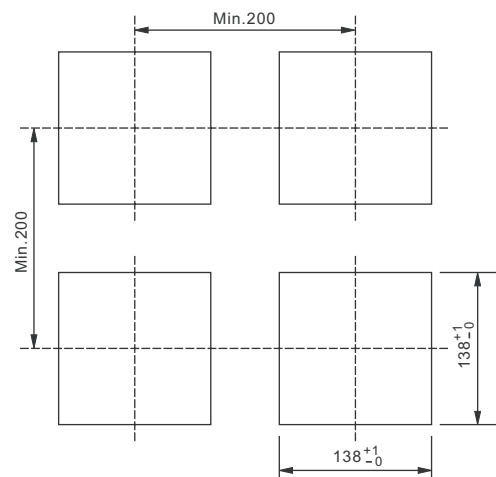
- **Power** : 90-264VAC, 47-63Hz, 60VA, 30W maximum
11-18 or 18-36 VDC 60VA, 30W maximum
- **Display** : 6.1" TFT LCD, 640X480 pixel resolution, 256 colors
- **Memory**: Storage Memory on board: 8MB.
CF Card: 16MB standard.
Optional 64,128MB
- **Analog Input Card** (AI181, AI182, AI183)
- **Resolution** : 18 bits
- **Sampling Rate** : 5 times/second
- **Maximum Rating** : -2 VDC minimum, 12 VDC maximum
(1 minute for mA input)
- **Temperature Effect** : $\pm 1.5 \mu\text{V}/^\circ\text{C}$ for all inputs except mA input
 $\pm 3.0 \mu\text{V}/^\circ\text{C}$ for mA input
- **Sensor Lead Resistance Effect**:
T/C: $0.2 \mu\text{V}/\text{ohm}$
3-wire RTD: $2.6^\circ\text{C}/\text{ohm}$ of resistance difference of two leads
2-wire RTD: $2.6^\circ\text{C}/\text{ohm}$ of resistance sum of two leads
- **Burn-out Current** : 200nA
- **Common Mode Rejection Ratio (CMRR)** : 120dB
- **Characteristics** :

TYPE	RANGE	ACCURACY @25°C	INPUT IMPEDANCE
J	-120°C - 1000°C (-184°F - 1832°F)	$\pm 1^\circ\text{C}$	2.2M Ω
K	-200°C - 1370°C (-328°F - 2498°F)	$\pm 1^\circ\text{C}$	2.2M Ω
T	-250°C - 400°C (-418°F - 752°F)	± 1	2.2M Ω
E	-100°C - 900°C (-148°F - 1652°F)	$\pm 1^\circ\text{C}$	2.2M Ω
B	0°C - 1820°C (32°F - 3308°F)	$\pm 2^\circ\text{C}$ (200°C - 1820°C)	2.2M Ω
R	0°C - 1767.8°C (32°F - 3214°F)	$\pm 2^\circ\text{C}$	2.2M Ω
S	0°C - 1767.8°C (32°F - 3214°F)	$\pm 2^\circ\text{C}$	2.2M Ω
N	-250°C - 1300°C (-418°F - 2372°F)	$\pm 1^\circ\text{C}$	2.2M Ω
L	-200°C - 900°C (-328°F - 1652°F)	$\pm 1^\circ\text{C}$	2.2M Ω
PT100 (DIN)	-210°C - 700°C (-346°F - 1292°F)	$\pm 0.4^\circ\text{C}$	1.3K Ω
PT100 (JIS)	-200°C - 600°C (-328°F - 1112°F)	$\pm 0.4^\circ\text{C}$	1.3K Ω
mV	-8mV - 70mV	$\pm 0.05\%$	2.2M Ω
mA	-3mV - 27mV	$\pm 0.05\%$	70.5 Ω
0-1V	-0.12 - 1.15V	$\pm 0.05\%$	32K Ω
0-5V	-1.3V - 11.5V	$\pm 0.05\%$	332K Ω
1-5V	-1.3V - 11.5V	$\pm 0.05\%$	332K Ω
0-10V	-1.3V - 11.5V	$\pm 0.05\%$	332K Ω

- **Normal Mode Rejection Ratio (NMRR)**: 55dB
- **Isolation Breakdown Voltage among channels**: 430VAC min.
- **Sensor Break Detection** : Sensor open for TC,RTD and mV inputs,
below 1 mA for 4-20mA input,
below 0.25V for 1-5V inputs,
unavailable for other inputs.
- **Sensor Break Responding Time**:
Within 10 seconds for TC, RTD and mV inputs,
0.1 second for 4-20 mA and 1-5V inputs.
- **Digital Input Card** (DI181)
- **Channels** : 6 per card
- **Logic Low** : -30V minimum, 0.8V maximum.
- **Logic High** : 2V minimum, 30V maximum
- **External Pull-down Resistance** : 1K Ω maximum
- **External pull-up Resistance** : 1.5M Ω minimum
- **Digital Output Card** (DO181)
- **Channels** : 6 per card
- **Contact Form** : N.O. (form A) .

- **Relay Rating** : 5A/240 VAC, life cycles 200,000 for resistive load.
- **COMM Module** (CM181)
- **Interface** : RS-232 (1 unit), RS-485 or RS-422 (up to 247 units)
- **Protocol** : Modbus Protocol RTU mode
- **Address** : 1-247
- **Baud Rate** : 0.3~38.4 Kbits/sec.
- **Data Bits** : 7 or 8 bits
- **Parity Bit** : None, Even or Odd
- **Stop Bit** : 1 or 2 bits
- **Standard Ethernet Communication**
- **Protocol** : Mod Bus TCP/IP, 10 BaseT
Auto polarity correction for 10 BaseT
- **Ports** : AUI (Attachment Unit Interface) and
RJ-45 Auto- detect capability
- **Infrared Detector**
- **Distance** : Detect moving human body within 2 meters
- **Environmental & Physical**
- **Operating Temperature** : 5°C to 50°C
- **Storage Temperature** : -25°C to 60°C
- **Humidity** : 20 to 80% RH (non-condensing)
- **Insulation Resistance** : 20 Mohms min. (at 500 VDC)
- **Dielectric Strength** : 3,000VAC 50/60 Hz for 1 minute
- **Vibration Resistance** : 10-55 Hz, 10m/S² for 2 hours
- **Shock Resistance** : 30 m/S² (3g) for operation,
100g for transportation
- **Dimensions** : 166mm(W) x 144mm(H) x 174mm(D) for panel mount
- **Approval Standards**
- **Safety** : UL873 (11' th edition, 1994)
CSA C22.2 No. 24-93
CE: EN61010-1 (IEC1010-1)
Overvoltage category II, Pollution degree 2
- **Protective Class** : IP 30 front panel, indoor use,
IP 20 housing and terminals
- **EMC**
- Emission: EN50081-1, EN61326
(EN55011 class B, EN61000-3-2, EN61000-3-3)
- Immunity: EN50082-2, EN61326
(EN61000-4-2, EN61000-4-3, EN61000-4-4,
EN61000-4-5, EN61000-4-6, EN61000-4-11,
EN50204)

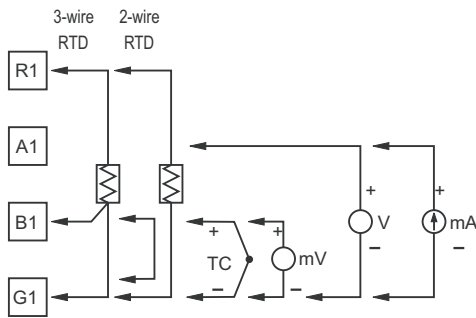
Panel Cutout



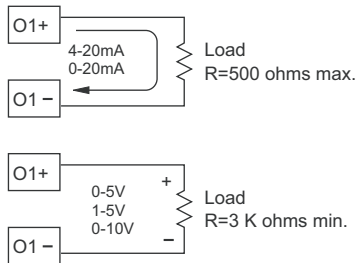
(Unit : mm)

Connections

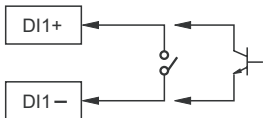
▶ Analog Input Card (AI181, AI182, AI183)



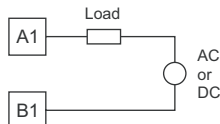
▶ Analog Output Card (AO181)



▶ Digital Input Card (DI181)



▶ Digital Output Card (DO181)

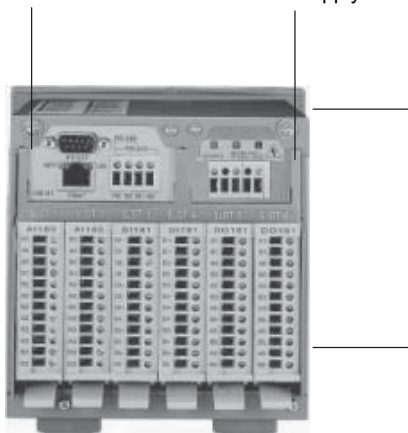


12 Soft Keys for Easy Operation

▶ Rear Terminals

standard Ethernet and optional RS-232/422/485

Power supply



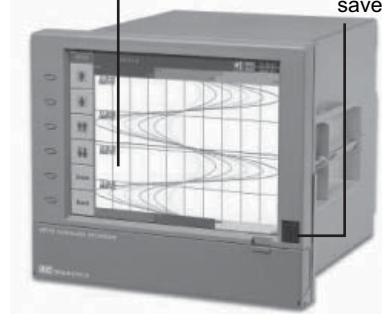
6 SLOTS for Plug & play I/O cards, maximum 18 analog input or mixed with analog & digital I/O cards

12 Soft Keys for Easy Operation

▶ Panel Mounted Style

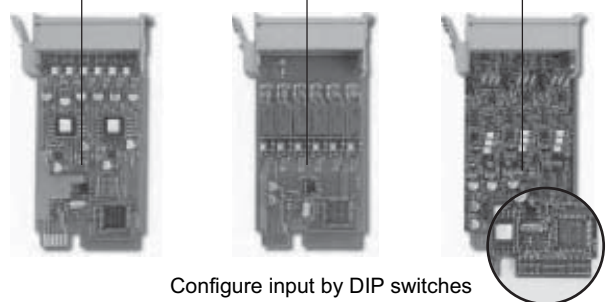
6.1" color TFT LCD 640x480 pixels resolution

Infrared detector protect LCD & save power



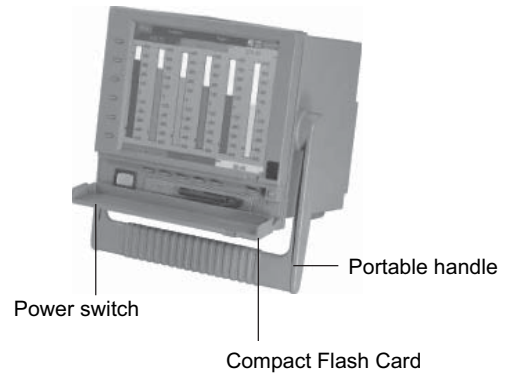
▶ Input & Output Cards

Digital input Digital output (6 alarms) Analog input

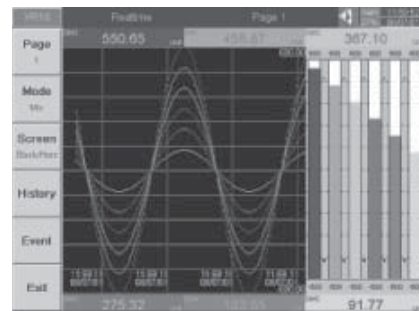


Configure input by DIP switches

▶ Bench Top / Portable Style



▶ Mixed Mode



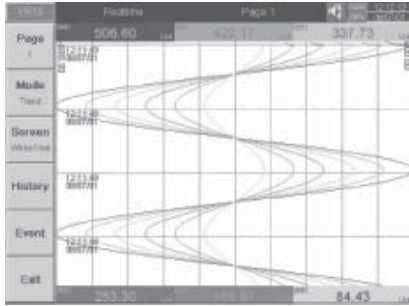
- View max. 6 mixed real time data trends horizontally.
- Display data in "Bars" and "Digits" together with mixed "Trends".
- Recognize data trends easily by different colors and tag names.
- Switch to other configured pages easily by "Page" function key.
- Display current "Time/Date" information.
- Remind the user of "Alarm" or "Memory Full".

A
Recorders
B
Data Loggers
C
Indicators
D
Converters
E
Controllers
F
Thyristor Units
G
Transmitters
H
Temp. Sensors
I
Thermo Meters
J
Pressure Gauges
K
Others

KR-50
KR - 100N
KA - 100
VR - 18

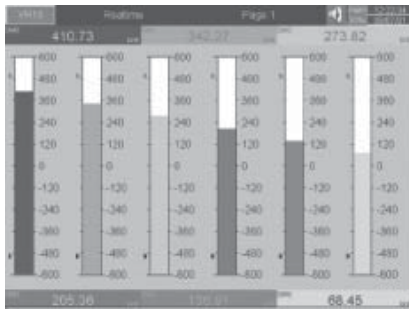
Functions

► Trend Mode



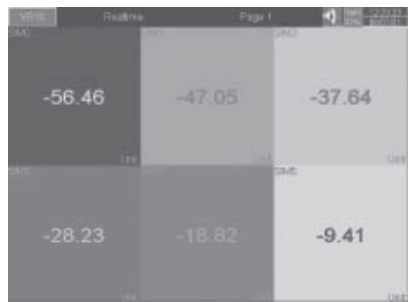
- View max. 6 real time data trends vertically.
- Recognize data trends easily by different colors and tag names.
- Switch to other configured pages easily by "Page" function key.
- Display current "Time/Date" information.
- Remind the user of "Alarm" or "Memory Full".

► Bar Graph Mode



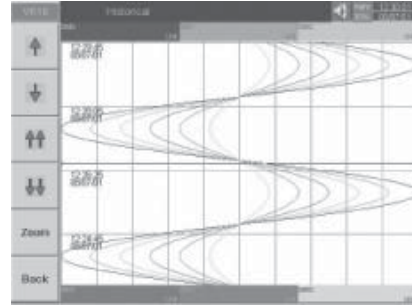
- View max. 6 real time data in bar graphs.
- Scale individually by user in "configuration".
- Display data value and tag name in different colors together with each bar graph.
- Mark "Hi/Lo" alarm limits.
- Display current "Time/Date" information.
- Remind the user of the "Alarm" or "Memory Full".

► Numerical Mode



- View max. 6 real time data in numbers.
- Display data value and tag name in different color.
- Mark "Hi/Lo" alarm limits.
- Display current "Time/Date" information.
- Remind the user of the "Alarm" or "Memory Full".

► Historical Mode



- Display max. 6 sets of historical data simultaneously.
- View desired data section by "↑" & "↓" function keys.
- Access precise data value at a point selected by moving the "ruler".
- "Zoom" to expand/contract the display time span.
- view historical data trends and their respective data values.
- Recognize trends easily by different colors and individual tag names.

► Alarm List

Ack	Type	Source	Active Time	Clear Time	Status
1	Over	SV12	2001/07/12 21:37		
4	Low	SV06	2001/07/12 21:41	2001/07/12 28:30	Cleared
4	Low	SV12	2001/07/12 21:41	2001/07/12 28:44	Cleared
6	Low	SV16	2001/07/12 21:41	2001/07/12 28:45	Cleared
8	Hi	SV06	2001/07/12 21:42	2001/07/12 28:45	Cleared
8	Hi	SV12	2001/07/12 21:42	2001/07/12 28:46	Cleared
8	Hi	SV16	2001/07/12 21:42	2001/07/12 28:46	Cleared
10	Hi	SV06	2001/07/12 21:42	2001/07/12 28:46	Cleared
10	Hi	SV12	2001/07/12 21:42	2001/07/12 28:46	Cleared
10	Hi	SV16	2001/07/12 21:42	2001/07/12 28:46	Cleared
12	Low	SV06	2001/07/12 21:42	2001/07/12 28:46	Cleared
12	Low	SV12	2001/07/12 21:42	2001/07/12 28:46	Cleared
12	Low	SV16	2001/07/12 21:42	2001/07/12 28:46	Cleared
14	Hi	SV06	2001/07/12 21:42	2001/07/12 28:46	Cleared
14	Hi	SV12	2001/07/12 21:42	2001/07/12 28:46	Cleared
14	Hi	SV16	2001/07/12 21:42	2001/07/12 28:46	Cleared
16	Hi	SV06	2001/07/12 21:42	2001/07/12 28:46	Cleared
16	Hi	SV12	2001/07/12 21:42	2001/07/12 28:46	Cleared
16	Hi	SV16	2001/07/12 21:42	2001/07/12 28:46	Cleared
18	Hi	SV06	2001/07/12 21:42	2001/07/12 28:46	Cleared
18	Hi	SV12	2001/07/12 21:42	2001/07/12 28:46	Cleared
18	Hi	SV16	2001/07/12 21:42	2001/07/12 28:46	Cleared
20	Hi	SV06	2001/07/12 21:42	2001/07/12 28:46	Cleared
20	Hi	SV12	2001/07/12 21:42	2001/07/12 28:46	Cleared
20	Hi	SV16	2001/07/12 21:42	2001/07/12 28:46	Cleared
22	Hi	SV06	2001/07/12 21:42	2001/07/12 28:46	Cleared
22	Hi	SV12	2001/07/12 21:42	2001/07/12 28:46	Cleared
22	Hi	SV16	2001/07/12 21:42	2001/07/12 28:46	Cleared
24	Hi	SV06	2001/07/12 21:42	2001/07/12 28:46	Cleared
24	Hi	SV12	2001/07/12 21:42	2001/07/12 28:46	Cleared
24	Hi	SV16	2001/07/12 21:42	2001/07/12 28:46	Cleared
26	Hi	SV06	2001/07/12 21:42	2001/07/12 28:46	Cleared
26	Hi	SV12	2001/07/12 21:42	2001/07/12 28:46	Cleared
26	Hi	SV16	2001/07/12 21:42	2001/07/12 28:46	Cleared
28	Hi	SV06	2001/07/12 21:42	2001/07/12 28:46	Cleared
28	Hi	SV12	2001/07/12 21:42	2001/07/12 28:46	Cleared
28	Hi	SV16	2001/07/12 21:42	2001/07/12 28:46	Cleared
30	Hi	SV06	2001/07/12 21:42	2001/07/12 28:46	Cleared
30	Hi	SV12	2001/07/12 21:42	2001/07/12 28:46	Cleared
30	Hi	SV16	2001/07/12 21:42	2001/07/12 28:46	Cleared

- List all the alarm records clearly with useful information .
- Browse through the alarm list or "acknowledge" alarm easily by function keys on the vertical bar.
- Remind the user of the alarm status in different colors.

► Configuration Mode

Event	Type	Source	Unit1	Unit2
1	H	500.00	LogAlarm	HiAction
2	Lo	500.00	LogAlarm	HiAction

- Configure pen (input/output, pen name, event.....)
- Configure page (color, pen, decimal, pen width.....)
- Configure timer.
- Configure instrument (storage media, display, communication, time/date.....)