

# KR2000 SERIES GRAPHIC RECORDER



KR2000 series are network-compatible paperless recorders with high performance and high operating function employed high visibility 5.7" TFT color LCD display. High speed of sampling rate 100ms and high accuracy of  $\pm 0.1\%$  were realized, and measured data is stored into internal memory and maximum 8GB compact flash card (CF card). As it can be monitored by a web browser display on several computers on intranet or internet, FTP transfer of data file and E-mail notification are also available.

## FEATURES

### ● Employing clear 5.7" TFT color LCD display

- Large-sized high visibility display with various display functions. Real time/historical trend screen, bar-graph screen, data screen are selectable for various applications.

### ● Large capacity of data memory and various recording method

- Compact flash card (CF card) slot is equipped as standard external memory. Large capacity storage of maximum 8GB is available.
- Various data storing methods are selectable such as schedule programming by time of day and time of date, recording start-up by external signal, and event and data logging of before and after trigger points for alarm.

### ● Multi points recording with high speed/accuracy

- High-speed recording of approximately 100ms and high accuracy of  $\pm 0.1\%$  were realized. Stable measuring and recording are possible with high speed.
- High withstand voltage of 1000V AC between input channels. (Except resistance thermometer input)

### ● Easy operating and programming without manual

- Easy operating by dedicated keys for each function

### ● USB port prepared in front compartment

- USB port is prepared for connecting maximum 8GB USB memory and PC.
- Readout of data and files are possible by connecting the panel mounted recorder.

### ● LAN network capability

- Various networked environment such as remote monitoring by browser, FTP server and E-mail notification are applied as Ethernet is equipped as standard.

### ● Safety system and reliability

- No battery backup needed for external memory for recorded data storage.

### ● Analyzing/data acquisition application software (option)

- It is easy to replay and edit the recorded data file. Replay display has various mode of vertical/horizontal trend, circular trend, and also has wave-analyzing and marking by using the cursor.

### ● Custom graphic screen for per each applications (NEW)

- By using optional custom graphic screen function, it can display the graphic screen which the user created by PC software KR Screen Designer (optional). Create letters, rectangle, oval, line, etc by drawing tool and allocate KR measuring data while making the background by JPEG or other images. By lower communication, controller SV, MV, PID can also be changed. Register up to 5 screens and its screens are switchable.



## MODELS

KR21      -

### Measuring points/sampling rate\*1

- 60 : 6 points/100ms
- 20 : 12 points/100ms
- 61 : 6 points/1s
- 21 : 12 points/1s

### USB port

- M : USB memory stick (type A)
- : PC (type B)

### Communications interface (option)

- N : None
- R : High-order (RS232C/RS485)
- Q : High-order (RS232C/RS485) + Low-order (RS485)

### Digital input/ alarm output (option)

- 0 : None
- 1 : Mechanical relay output -12 points (a contact)
- 2 : Mechanical relay output - 6 points (c contact)
- 7 : Digital input - 8 points + MOS relay output 8 points

### Carrying handle and feet (option)

- A : None
- T : With carrying handle and feet \*2

### Others (option)

- (Blank) : None
- 1NN : Custom graphic screen

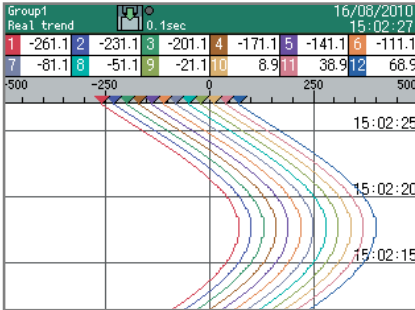
\*1 1 to 4 channels input (4 points) when setting faster than 500ms sampling rate with model of 1sec sampling rate.

\*2 Non-conformance to CE

**SCREENS**

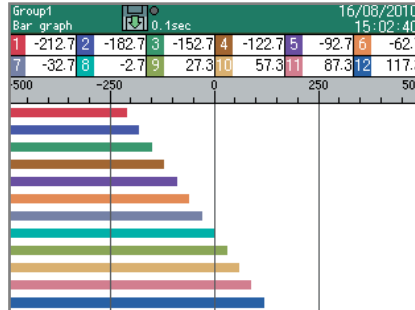
**● Real-time trend screen**

Displays data (measured and virtual) of selected group.  
Vertical trend and horizontal trend selectable.



**● Bar-graph screen**

Displays data (measured and virtual) of selected group.  
Combination display with real-time trend is available.



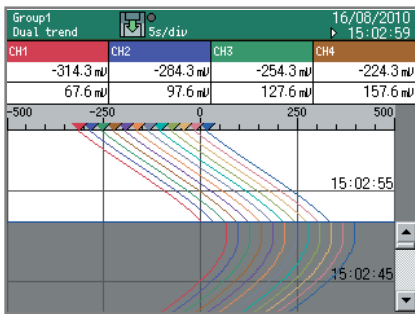
**● Data screen**

Displays data (measured and virtual) of selected group.  
Simultaneous display of alarm status.

CH1	CH2	CH3
17.2 mV	47.2 mV	77.2 mV
107.2 mV	137.2 mV	167.2 mV
197.2 mV	227.2 mV	257.2 mV
287.2 mV	317.2 mV	347.2 mV

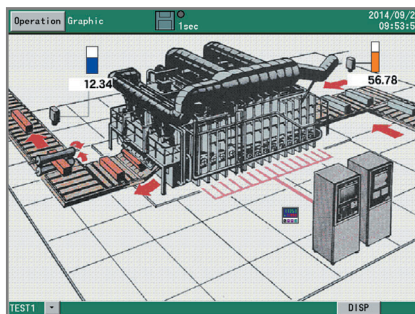
**● Dual trend screen**

2 split display for real-time trend and historical trend.  
Scroll available for historical trend.



**● Graphic screen**

Enable to create custom display for each user\*.



**● Information screen**

Start date and time	End date and time	Data count
16/08/2010 15:01:52	16/08/2010 15:01:56	43
06/08/2010 16:17:15	06/08/2010 16:17:16	20
06/08/2010 16:17:13	06/08/2010 16:17:13	9
06/08/2010 16:16:59	06/08/2010 16:16:59	5
06/08/2010 15:59:19	06/08/2010 16:00:02	434
06/08/2010 15:59:11	06/08/2010 15:59:16	60
26/07/2010 10:31:45	26/07/2010 10:32:04	40
22/06/2010 17:35:37	22/06/2010 17:35:41	10
22/06/2010 15:33:50	22/06/2010 15:33:54	10
22/06/2010 15:33:28	22/06/2010 15:33:31	4
22/06/2010 15:33:18	22/06/2010 15:33:27	10
22/06/2010 15:33:08	22/06/2010 15:33:17	10
22/06/2010 15:32:30	22/06/2010 15:32:34	10
22/06/2010 15:28:26	22/06/2010 15:28:33	37
22/06/2010 15:28:24	22/06/2010 15:28:25	10
22/06/2010 14:58:26	22/06/2010 14:58:27	10

**● HOME setting screen**

Group1  
CF card  
16/08/2010 15:03:16

Channel parameter :ALL channels batch

Range type 500mV

Range -500.0 to 500.0

Scale -500.0 to 500.0

RJ ----

Burn out ----

Recording cycle 0.1 sec.

Specifications

**● Channel setting screen**

CH	Range type	Tag	Unit
01	500mV		mV
02	500mV		mV
03	500mV		mV
04	500mV		mV
05	500mV		mV
06	500mV		mV
07	500mV		mV
08	500mV		mV
09	500mV		mV
10	500mV		mV
11	500mV		mV
12	500mV		mV
13	----		D
14	----		D

**● Schedule setting screen**

Group1  
CF card  
16/08/2010 15:03:56

Schedule settings Date

Date settings

Date	Time
Start date and time 01/09/10	00:00
End date and time 02/09/10	00:00

Day setting Sun Mon Tue Wed Thu Fri Sat

Usage days

Start time 00:00

End time 00:00

\*Graphic screen feature is provided optionally.  
BMP image has to be prepared by customer.

## INPUT SPECIFICATIONS

Measuring points: 6 points, 12 points  
 Input types: Universal  
 DC voltage ---  $\pm 13.8\text{mV}$ ,  $\pm 27.6\text{mV}$ ,  $\pm 69.0\text{mV}$   
 $\pm 200\text{mV}$ ,  $\pm 500\text{mV}$ ,  $\pm 2\text{V}$   
 $\pm 5\text{V}$ ,  $\pm 10\text{V}$ ,  $\pm 20\text{V}$ ,  $\pm 50\text{V}$   
 (\*with built-in voltage divider)  
 DC current --- With external shunt resistor (sold separately)  
 Thermocouple --- B, R, S, K, E, J, T, N, PtRh40-PtRh20,  
 W-WRe26, WRe5-WRe26, Platinell, NiMo-  
 Ni, CR-AuFe, U, L  
 Resistance thermometer --- Pt100, JPt100, Pt-Co, Pt50  
 Refer to the table of measuring range and accuracy  
 ratings  
 Reference junction compensation accuracy:  
 K, E, J, T, N, Platinell ---  $\pm 0.5^\circ\text{C}$  or less  
 R, S, W-WRe26, WRe5-WRe26, NiMo-Ni,  
 CR-AuFe, U, L ---  $\pm 1.0^\circ\text{C}$  or less  
 Sampling rate: 100ms --- Approximately 100ms for all points  
 1s --- Approximately 300ms for all points\*  
 \*100ms/4 points when setting faster than 0.5s (0.1s to 0.5s)  
 sampling rate with model of KR2161/KR2121  
 Burnout: Disconnection of input signal is detected on  
 thermocouple and resistance thermometer input.  
 UP/DOWN/DISABLE, is selectable.  
 Scaling: Range/scale is selectable.  
 Digital filter: Programming FIR filter for each point (common to  
 all points)  
 Allowable signal source resistance:  
 Thermocouple input (burnout disable)/  
 DC voltage input ( $\pm 2\text{V}$  or less) ---  $1\text{k}\Omega$  or less  
 DC voltage input ( $\pm 5\text{V}$  or more) ---  $100\Omega$  or less  
 Resistance thermometer --- Per wire  $10\Omega$  or less  
 (same resistance for 3 wires)  
 Input resistance: DC voltage, thermocouple input --- Approximately  $1\text{M}\Omega$   
 Maximum input voltage:  
 DC voltage input ( $\pm 2\text{V}$  or less)/  
 thermocouple input (burnout disable) ---  $\pm 10\text{VDC}$   
 DC voltage input ( $\pm 5\text{V}$  to  $\pm 50\text{V}$ ) ---  $\pm 60\text{VDC}$   
 Dielectric strength between channels:  
 $1000\text{V AC}$  or more between each channel  
 (High strength semiconductor relay used)  
 (B terminal of resistance thermometer is shorted inside between  
 channels)  
 Common mode rejection ratio:  
 $120\text{dB}$  or more (50 or 60Hz)  
 Series mode rejection ratio:  
 $50\text{dB}$  or more (50 or 60Hz)

## RECORDING SPECIFICATIONS

Memory for history: 132MB  
 Additional memory: CF card (Up to 8GB)  
 128MB standard attached, Apacer Technology made  
 recommended  
 USB memory stick (Up to 8GB)  
 Not all USB memory stick allowable  
 Recording cycle: 100, 200, 500ms  
 1, 2, 3, 5, 10, 15, 20, 30s  
 1, 2, 3, 5, 10, 15, 20, 30, 60min  
 Logging data: Measured data --- File name (group name), time of day,  
 month and year of recording start, tag, measured data,  
 alarm status/types and marker text  
 Setting parameter  
 Operation result data  
 Storing types: Binary/CSV  
 Storing methods: Manual start/stop (dedicated key operation)  
 Schedule (designation for time of day and date)  
 Trigger signal (alarm event, digital input)  
 \*Pre-trigger is selectable  
 Measuring numbers of pre-trigger --- Maximum 950 data  
 Recording group: Recording cycle 500ms or faster --- up to 3 groups of 12  
 points/group can be programmed  
 Recording cycle 1s or slower --- up to 5 groups of 44  
 points/group can be programmed  
 (Up to total of 100 points)

When 6 channels recorded in sampling mode (real data)

Recording cycle	128MB	256MB	512MB	1GB	2GB
0.1 sec	6.32 days	12.6 days	25.3 days	50.6 days	101 days
1sec	63.2 days	126 days	253 days	1.4 yrs	2.8 yrs
60 sec	10 yrs	21 yrs	42 yrs	83 yrs	166 yrs

When 12 channels recorded in sampling mode (real data)

Recording cycle	128MB	256MB	512MB	1GB	2GB
0.1 sec	3.16 days	6.32 days	12.6 days	25.3 days	50.6 days
1sec	31.6 days	63.2 days	126 days	253 days	1.4 yrs
60 sec	5.2 yrs	10 yrs	21 yrs	42 yrs	83 yrs

## COMPUTATION SPECIFICATIONS

Computation points: Maximum 44 points  
 Computation types: Arithmetic operations --- Addition, subtraction,  
 multiplication,  
 division, remainder, exponential  
 Comparison operations --- Equality, inequality, great, less,  
 equality /great, equality / less  
 Logical operations --- AND, OR, XOR, NOT  
 General functions --- Round-up, round-down, absolute  
 value, square root, exponent of e,  
 natural logarithm, common logarithm  
 Integration operations --- Analog integration, digital  
 integration  
 Channel data operations --- Measured data computation,  
 calculated data computation  
 Dew point, relative humidity, F-value  
 Others --- Remaining amount of CF card,  
 linearization table, data  
 communications input

## ALARM SPECIFICATIONS

Setups: Up to 4 alarms can be programmed per channel  
 Alarm types: Upper limit, lower limit, differential upper limit, differential lower  
 limit (deadband is selectable), abnormal data  
 Delay function: Setup range of alarm delay --- 1 to 3600 seconds  
 Alarm settings: AND/OR selectable  
 Alarm outputs: Refer to option specification

## DISPLAY SPECIFICATIONS

Display: 5.7" TFT color LCD  
 Display types: Measured data display (Trend screen, Data screen, Bar-graph  
 screen)  
 Historical trend display (simultaneous display with Real-time  
 trend is available)  
 Information display (alarm display, marker list, file list)  
 Setting screen (alarm, computation, memory, system,  
 maintenance, communication, etc.)  
 Trend screen: 12 colors selectable  
 Display screen --- 5 screens (5 groups)  
 Display points --- Maximum 44 points/screen  
 Time axis direction --- Vertical or horizontal  
 Line width --- 1/3/5 dot selectable  
 Scale display --- 4 scales  
 Tag/data display --- Show/Hide selectable  
 Marker display  
 Data screen: Display screen --- 5 screens (5 groups)  
 Display points --- Maximum 44 points/screen  
 Display contents --- Measured value, channel/tag, unit, alarm  
 status  
 Bargraph screen: 12 colors selectable  
 Display screen --- 5 screens (5 groups)  
 Display points --- Maximum 44 points/screen  
 Display direction --- Vertical or horizontal  
 Scale display --- 1 scale  
 Information display: Alarm display (alarm activation/released history display)  
 Marker list  
 File list (group data file list display)  
 LCD back light: Auto/manual OFF function  
 Unit information (Model, Serial no., option, etc.)  
 Brightness --- 4 levels adjustment

\*The LCD display may contain some pixels that always or never illuminate, and the brightness of some areas of the display may appear uneven. There are typical LCD performance characteristics and do not constitute malfunctions.

## COMMUNICATION FUNCTIONS

### Network

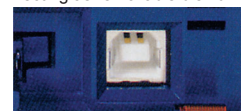
Communication type: Ethernet (10BASE-T/100BASE-TX)  
 Data file can be read from the network computer  
 FTP server: Transfer a data file to a network server  
 FTP client: The time can be synchronized to the time of SNTP server  
 SNTP client: Conformed to HTTP1.0 --- Displays the alarm, information of  
 maintenance by browser software (Internet Explorer 5.0 or later,  
 NetScape 6.0 or later, Opera 7 or later)  
 \* User's ID and password registration available  
 E-Mail: E-Mail notification at specified time for alarm activation  
 Report data at specified time is selectable from all registered  
 data.  
 Corresponds to SSL and TLS.  
 Notification address --- Maximum 8 contacts  
 Read and write the data of compatibles units.

### MODBUS TCP:

\*USB Communications  
 USB: Communication type --- USB1.1  
 Transfer systems --- Bulk transfer, control transfer  
 File transfer by connecting as removable disk drive

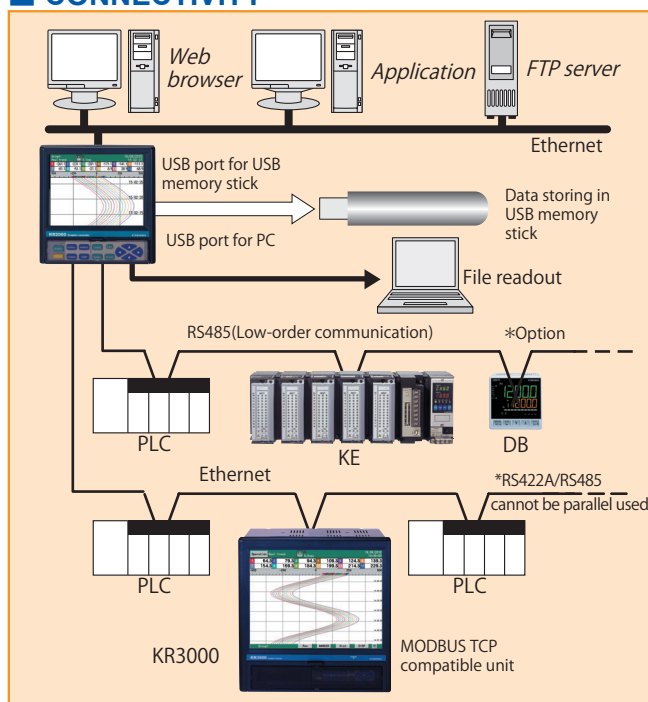


TYPE A



TYPE B

## CONNECTIVITY



# KR2000 SERIES

## PROGRAMMING/OPERATION SPECIFICATIONS

Operation key: HOME, MENU, DISP, MARKER, SCROLL, CURSOR, START, STOP, DIRECTION keys, ENTER, ESC

HOME settings: Simple recording settings --- Common setting to all channels  
Parameter programming for all channels together, recording cycle, selection settings

MENU settings: Input/computation programming --- Input parameter, computation parameter  
DISP settings --- Data channel parameter, group parameter, common parameter (combination display, trend vertical/horizontal)  
Alarm settings  
File settings (5 individual files) --- Storing method settings  
Marker text settings  
System settings --- Communication, clock, maintenance, key lock, password, screen, etc.

DISP operations: Operating screen selection --- Trend, data, bar-graph, historical trend, alarm display, maker list  
Display selection on each screen --- Group 1 to 5 selectable

## GENERAL SPECIFICATIONS

Rated power voltage: 100 to 240V AC (universal power supply) 50/60Hz  
Maximum power consumption: 50VA

Reference operating condition:  
Ambient temperature --- 21 to 25°C,  
Ambient humidity --- 45 to 65%RH  
Power voltage --- 100V AC±1.0%  
Power frequency --- 50/60Hz±0.5%  
Attitude --- Left/right 0°, forward/backward 0°  
Warm-up time --- Longer than 30 minutes

Normal operating condition:  
Ambient temperature --- 0 to 50°C  
Ambient humidity --- 20 to 80%RH  
Power voltage --- 90 to 264V AC  
Power frequency --- 50/60Hz±2%  
Attitude --- left/right 0°, forward tilting 0°, Backward tilting 0° to 20°

Transport condition (at the packed condition on shipment from our factory):  
Ambient temperature --- -20 to 60°C  
Ambient humidity --- 5 to 90%RH (No dew condensation)  
Vibration --- 10 to 60Hz 0.5G (4.9m/S<sup>2</sup>) or less  
Impact --- 40G (392m/S<sup>2</sup>) or less

Storage condition:  
Ambient temperature --- -20 to 60°C  
Ambient humidity --- 5 to 90%RH (No dew condensation)

Power failure protection:  
Setups and data are backed up by flash memory  
Clock --- Lithium battery backs up RAM (Minimum 5 years)

Insulation resistance: Secondary terminals and protective conductor terminals --- 20MΩ or more at 500V DC  
Primary terminals and protective conductor terminals --- 20MΩ or more at 500V DC  
Primary and secondary terminals --- 20MΩ or more at 500V DC  
Primary terminals: power terminals (L,N), alarm output terminals  
Secondary terminals: measuring input terminals, digital input terminals, communications terminals

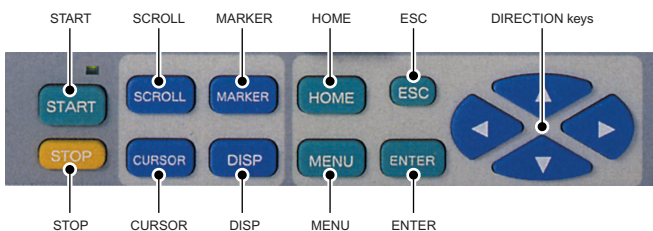
Dielectric strength: Secondary terminals and protective conductor terminals --- 1 minute at 500V AC  
Primary terminals and protective conductor terminals --- 1 minute at 1500V AC  
Primary and secondary terminals --- 1 minute at 2300V AC  
Primary terminals: power terminals (L,N), alarm output terminals  
Secondary terminals: measuring input terminals, digital input terminals, communications terminals

Case assembly material:  
Front bezel --- ABS resin  
Case --- Steel

Color:  
Front bezel --- Black (equivalent to Munsell N3.0)  
Case --- Painting color, gray (equivalent to Munsell N7.0)

Weight: 2.2kg  
Mounting: Panel mounting  
Terminal screws: Power terminals/protective conductor terminals/communications terminals --- M4.0  
Measuring input terminals/alarm output terminals/digital input terminals --- M3.5

## OPERATION KEYS



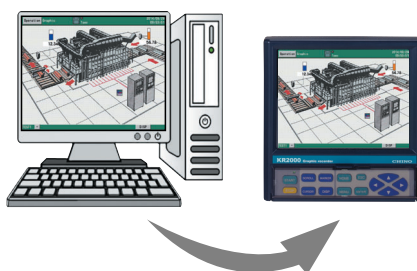
## STANDARDS

CE : EMC directive --- EN61326-1: 2006 Class A  
EN61000-3-2  
EN61000-3-3  
Low voltage directive --- EN61010-1(2001)  
Protection: Conformed to IEC60529 IP65 (recorder front bezel)

## OPTION SPECIFICATIONS

Options	Specifications	
Mechanical relay alarm output	Mechanical relay contact output for abnormal input and alarm activation Output: 12 points (a contact), 6 points (c contact) Contact ratings: Mechanical relay --- 100V AC 0.5A, 240V AC 0.2A, 30V DC 0.3A	
MOS relay alarm output	MOS relay contact output for abnormal input and alarm activation Output: 8 points Contact ratings: MOS relay --- 240V (DC, AC) 50mA	
Communications interface	High-order communications	Communications interface for high-order units RS232C/RS485 (MODBUS) switchable Ethernet is standard equipped
	Low-order communications	Communications interface for low-order units Input data storing of units connected to low-order RS485 (MODBUS) Recording points: 6 points recorder --- 30 points 12 points recorder --- 24 points Sampling rate: 1s per connected unit Models: KE, SE3000, KR2000, KR3000, LE5000, AL3000, AH3000, AL4000, AH4000, LT230, 830, 350, 450, 470, DB1000, 2000, KP1000/KP2000/DP-G (data acquisition only), JU, JW · Transfer input data of KR2000 to PLC. The input data can be written on PLC only. Data writing points: 44 points Connectable PLC: Mitsubishi Electric Corporation, MELSEC AnA, QnA, QnAS, FX series, OMRON Corporation, SYSMAC series (Note) Separate purchase of protocol converter SC8-10 (optional) is required for connection to OMRON PLC.
Digital inputs	ON/OFF signal	ON/OFF input recording
	Pulse input	Maximum 10Hz pulse input Used for flow, operating time and frequency Input system: Photocoupler isolation (Common use for contact and pulse input) Built-in isolated power supply (approx. 5V) Input type: Non-power contact, open collector (TTL or transistor)
	Remote contact	The following operations are available by contact input 8 points and common signal 4 points (Selectable by parameter). · Data memory triggering Start data recording by conductive signal from OFF to ON Data recording while conductive signal is ON · Marker display Registered makers display by conductive signal from OFF to ON · Integration operations Reset data for integration operations (all channels simultaneously)
Custom Graphic Screen	By KR Screen Designer (optional), create graphic screen by PC and display to KR screen via CF card. KR measuring value can be located to the screen.	
Others	Handle and feet, white front bezel, point indication card	

## KR SCREEN DESIGNER (sold separately) (NEW)



Model: KS3200-000  
OS: Windows Vista/7/8  
Others: Your OS recommended requirements or better

## MEASURING RANGES

Input type	Measuring range	Accuracy ratings
DC voltage	-13.80 to 13.80mV -27.60 to 27.60mV -69.00 to 69.00mV -200.0 to 200.0mV -500.0 to 500.0mV -2.000 to 2.000V	±0.1%±1digit
	(with built-in voltage divider) -5.000 to 5.000V -10.00 to 10.00V -20.00 to 20.00V -50.00 to 50.00V	
T/C	K -200.0 to 300.0°C -200.0 to 600.0°C -200 to 1370°C	±0.1%±1digit * -200 to 0°C: ±0.2%±1digit
	E -200.0 to 200.0°C -200.0 to 350.0°C -200 to 900°C	
	J -200.0 to 250.0°C -200.0 to 500.0°C -200 to 1200°C	
	T -200.0 to 250.0°C -200.0 to 400.0°C	
	R 0 to 1200°C 0 to 1760°C	±0.1%±1digit * 0 to 400°C: ±0.2%±1digit
	S 0 to 1300°C 0 to 1760°C	
	B 0 to 1820°C	±0.1%±1digit * 0 to 400°C: Out of accuracy ratings * 400 to 800°C: 0.15%±1digit
	N -200.0 to 400.0°C -200.0 to 750.0°C -200 to 1300°C	±0.15%±1digit * -200 to 0°C: ±0.3%±1digit
	W-WRe26 0 to 2315°C	±0.15%±1digit * 0 to 100°C: ±4%±1digit * 100 to 400°C: ±0.5%±1digit
	WRe5-WRe26 0 to 2315°C	±0.2%±1digit
	PtRh40-PtRh20 0 to 1888°C	±0.2%±1digit * 0 to 300°C: ±1.5%±1digit * 300 to 800°C: ±0.8%±1digit
	NiMo-Ni -50.0 to 290.0°C -50.0 to 600.0°C -50 to 1310°C	±0.2%±1digit
	CR-AuFe 0.0 to 280.0K	±0.2%±1digit * 0 to 20K: ±0.5%±1digit * 20 to 50K: ±0.3%±1digit
	PlatineII 0.0 to 350.0°C 0.0 to 650.0°C 0 to 1395°C	±0.15%±1digit
U -200.0 to 250.0°C -200.0 to 500.0°C -200.0 to 600.0°C	±0.15%±1digit * -200 to 0°C: ±0.3%±1digit	
L -200.0 to 250.0°C -200.0 to 500.0°C -200 to 900°C	±0.1%±1digit * -200 to 0°C: ±0.2%±1digit	
RTD	Pt100 -140.0 to 150.0°C -200.0 to 300.0°C -200.0 to 850.0°C	±0.1%±1digit * -140.0 to 150.0°C 700 to 850°C: ±0.15%±1digit
	JPt100 -140.0 to 150.0°C -200.0 to 300.0°C -200.0 to 649.0°C	±0.1%±1digit * -140.0 to 150.0°C: ±0.15%±1digit
	Pt50 -200.0 to 649.0°C	±0.1%±1digit
	Pt-Co 4.0 to 374.0K	±0.15%±1digit * 4 to 50K: ±0.3%±1digit

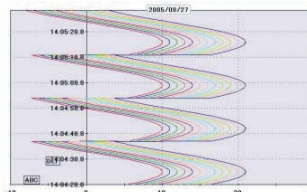
Note: The accuracy ratings are converted into the measuring range under reference operating condition. Thermocouple input does not contain reference junction compensation accuracy.  
 K,E,J,T,R,S,B,N:IEC584,JIS C1602-1995  
 W-WRe26,WRe5-WRe26,PtRh40-PtRh20,PlatineII,NiMo-Ni,  
 Cr-AuFe:ASTM Vol14.03  
 U(Cu-CuNi),L(Fe-CuNi):DIN43710  
 Pt100:IEC751(1995),JIS C1604-1997  
 JPt100:JIS C1606-1989

## APPLICATION SOFTWARE ZAILA (sold separately)

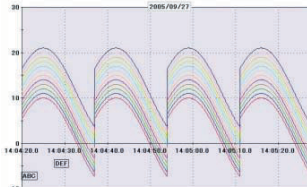
The software is applied for replay display/wave editing operation of recorded data in KR2000 series. It has replay display of vertical/horizontal trend and circular trend function, and also analyzing function such as magnify/reduce/partially magnify of graphs and message insert.

### Display examples

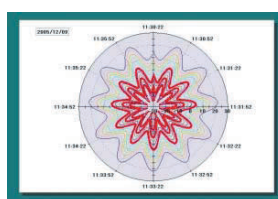
Trend display window (vertical flow)



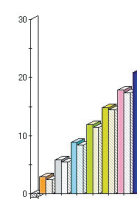
Trend display window (horizontal flow)



Trend display window (circular trend)



Bar-graph



### Main functions

#### Trend display

Selectable from trend display window (vertical flow, horizontal flow) and circular trend display window.

#### Continuous replay display window

Trend is scrolled continuously (automatically).  
 Scroll changes by speed and renewal data no.

#### Data list display window

Displays registered data as list display.

#### Bar-graph

Displays by bar. Message can be inserted into bar-graph.

#### Data between markers

Displays date/time, time difference between 2 data, data difference, maximum, minimum, average, standard deviation and median among all data.

#### Alarm display

Points for alarm activation at each level are displayed on a trend graph.

#### Settings

Cursor, trend line, scale axis, time axis, title input on the graph, graph assistant and magnify/reduce/rotation of graphs

#### Data conversion

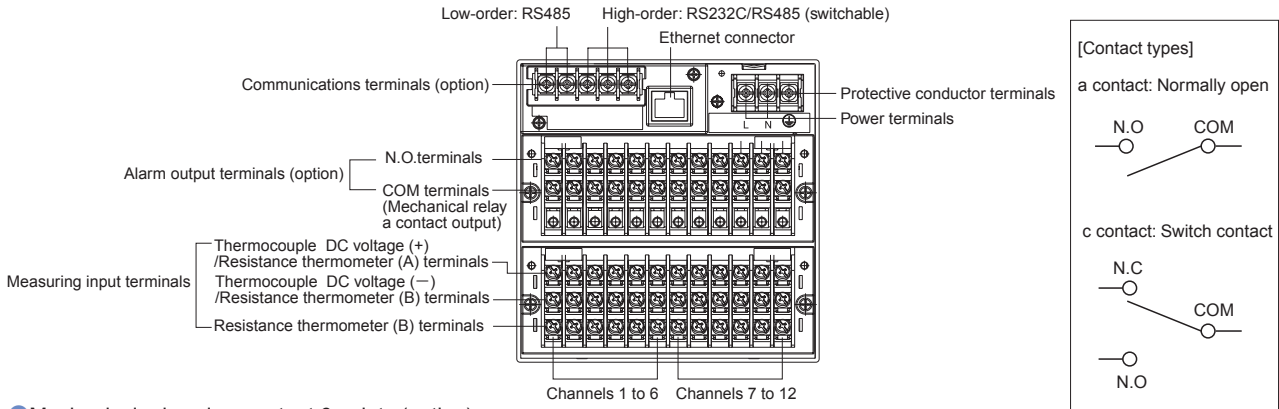
Exporting to Excel, and converting to CSV file or TEXT file are available.

## ENVIRONMENT

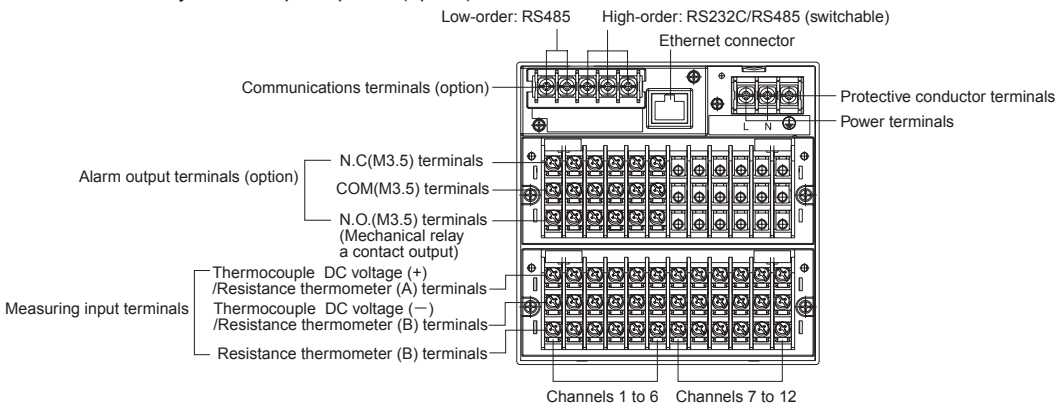
CPU	Your OS recommended CPU and/or upper grade
OS	Windows VISTA / 7 / 8 *Internet Explorer 6.0 or later
Others	Your OS recommended memory or larger
Disk drive	CD-ROM drive: 1 drive or more Hard disk drive: Disk space of 1 drive or more for 100MB or more
Language	Japanese, English, Chinese (simplified and traditional characters), Korean

## ■ TERMINAL ARRANGEMENT

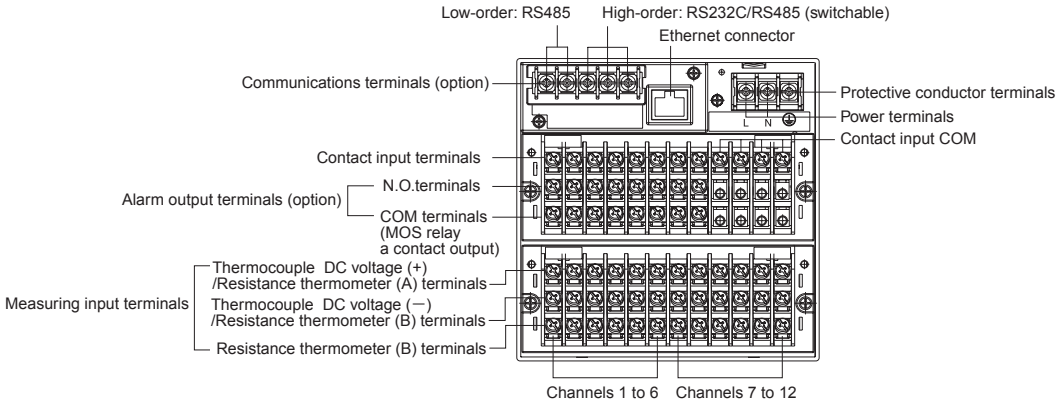
### ● Alarm mechanical relay alarm output 12 points (option)



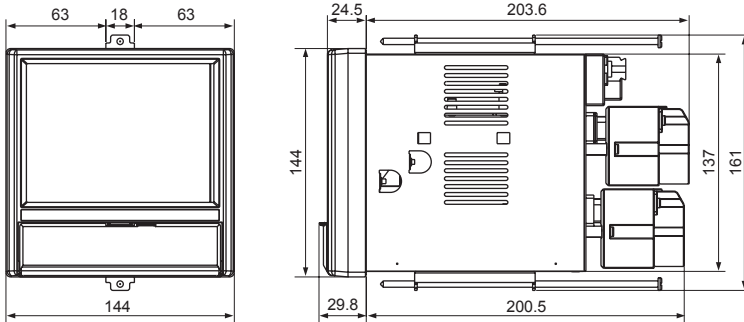
### ● Mechanical relay alarm output 6 points (option)



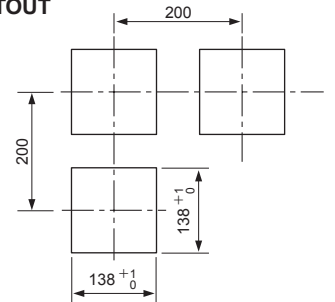
### ● Digital input 8 points + MOS relay alarm output 8points (option)



## ■ DIMENSIONS



### ● PANEL CUTOUT



Unit: mm

Specifications subject to change without notice. Printed in Japan (I) 2020. 3

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