SR200 (Pen Type) Hybrid Recorder

Overview

As a standard feature, in addition to recording data on chart paper, the SR200 Hybrid Recorder (1/2/3/4pen printing model) has a slot for an SD card (sold separately), allowing data storage and reading and writing of settings.

This recorder also has an LCD digital display for easy reading of measured values, and provides three display modes: 1-point digital display, multi-point batch digital display, and digital display plus bar graph display.

Various settings for measurement and recording can be easily checked on the LCD digital display using the keys on the front panel.



Features

SD card support

Equipped with a standard slot for SD cards (sold separately), which can be used to store data and write or read settings.

Full multi-range input

A total of 58 input ranges is standard equipment: 10 for DC voltage, 36 for thermocouples, and 12 for resistance thermometers.

Ranges can be freely set for each channel.

Easy data management using the communication function

The USB port enables direct connection to a PC. Optional RS-232C, RS-422A, RS-485, and Ethernet communication interfaces are available.

With an Ethernet interface, e-mail notifications of alarms can be sent, and settings can be changed remotely using a Web browser.

Comes with a software package

Data editing software for use on a personal computer allows data to be processed, in addition to easy recording and management.

Note: An optional communication interface is required.

Analysis software enables replay and display, waveform processing, editing, and trend display from recorded data files.

In addition, parameter setting software allows the user to manage settings from a PC.

· Alarm display and printing functions are standard

Four types of alarms can be defined for each input port. When an alarm is activated, "ALM" and the measured value begin flashing on the LCD operation screen.

· End-of-chart detection function

Alarm actions upon detecting the end of the chart paper can be defined.

A variety of calculation functions

Measured data can be processed according to specified calculation settings, and the results of calculation can be displayed for each channel's displayed/recorded data.

Specifications

	<u></u>					
Input	Measurement point	1 pen, 2 pen, 3 pen, 4 pen				
	Input type	[DC voltage]				
		±13.8 mV, ±27.6 mV, ±69.0 mV, ±200 mV, ±500 mV, ±1 V, ±5 V, ±10 V, ±20 V, ±50 V [DC current]				
		Supported by additional shunt resistor (250 Ω)				
		[Thermocouple] K, E, J, T, R, S, B, N, U, L, W-WRe26, WRe5-WRe26, PtRh40-PtRh20, NiMo-Ni, CR-AuFe,				
		Platinel II, Au/Pt [Resistance thermometer]				
	Manager to the terminal	Pt100, old Pt100, JPt100, Pt50, Pt-Co				
	Measuring interval	Approx. 100 ms Approx. 1/40000 minimum (converted into reference range)				
	Input resolution	Approx. 1/40000 minimum (converted into reference range) Thermocouple/DC voltage (±5 V or lower range): 6 MΩ or higher				
	Input resistance	DC voltage (±10 V or higher range): Approx. 1 MΩ				
	Burnout	None/UP/DOWN selected for each input CH for thermocouple, resistance thermometer and DC voltage (±500mV or lower range.)				
		These cannot be selected with DC voltage(±1V or higher range).				
		Maximum time to burnout detection is three times as long as measuring interval.				
	Allowable signal source resistance	[Thermocouple/DC voltage] Burnout disabled: 1 kΩ or lower				
	source resistance	Burnout enabled: 100 Ω or lower				
		[Resistance thermometer]				
	Movimum is aut	10 kΩ or lower per wire, the same resistance for 3 wires				
	Maximum input voltage	Thermocouple/DC voltage (±5 V or lower range): ±10 V or lower DC voltage (±10 V or higher range): ±60 V or lower				
		Resistance thermometer: ±6 V or lower				
	Measuring current	Resistance thermometer: 1 mA ± 20 %				
	Maximum common	30 Vac/60 Vdc				
	mode voltage Common mode	120 dB or more (50/60 Hz)				
	rejection ratio	130 dB or more (50/60 Hz)				
	Series mode rejection ratio	50 dB or more (50/60 Hz)				
	Terminal board	Detachable				
	Accuracy rating	Refer to the tables of measuring range, rated accuracy and display resolution.				
	Reference junction compensation	At ambient temperature: 23°C ±10°C K, E, J, T, N, PlatineIII · · · · · ±0.5°C or EMF 20µV, whichever greater				
	accuracy	Other than above· · · · ±1.0°C or EMF 40µV, whichever greater				
	Temperature drift	±0.01%FS/°C				
D	D	Converted into reference electromotive force.				
Recording specifications	Recording system	Trace printing: disposable felt-tip pen Digital printing: dot type plotter pen				
	Recording color	Trace printing				
		CH 1 2 3 4				
		Color Red Green Blue Brown Digital recording / printing : Purple				
	Recording interval	100 ms				
	Chart	Fan-fold type				
		(total width 200 mm, total length 20 m, recordable width 180 mm)				
	Recording deadband	0.2%				
	Accuracy of recording	Measurement accuracy ±0.3%				
	Chart speed	Set arbitrarily from 1 to 600 mm/h or 1 to 200 mm/m in 1 mm interval. 12.5 mm/h can be set exceptionally. Chart speed accuracy is in 0.1 % of the chart scale.				
	Chart fast-feed	Operated by FEED key Feed 0.1 mm by one quick press of the key or feed continuously (approx. 600 mm/min) by holding down the key.				
	Display/recording ON/OFF	Select ON/OFF for trace printing to chart, digital printing to chart and recording to SD card for each CH.				
	Subtract printing	Difference between reference CH value and measured value or between set value and measured value is printed.				
	Zone printing	2/3/4 divisions				
	Compressed/	Chart recording lower/upper limit is made non-linear, and specific chart recording lower/upper				
	expanded printing	limit is shrunk or expanded.				

Recording specifications	Automatic rangeshift printing	Recording range is shifted automatically to another set range when measured value exceeds the current range. Overlap function available
	Periodic data printing	Digital printing is added to trace printing at (1) arbitrary intervals or (2) specified time. Printed items: Time, CH No., data and unit (1) Set interval and start time. Interval is limited by chart speed. (2) Set time for printing (24 points maximum)
	Data printing	Printing format differs depend on the chart speed. Printed items are time, CH No., data and unit Consecutive requests are limited to a certain number.
	Fixed time printing	Date, time and time line, scale (ZERO/SPAN), CH No. & tag, and unit can be printed in conjunction with the chart speed. Year/month/date is printed instead of month/date when printed at every midnight. Tag is printed at the set time only.
	Printing at power-on	Date and time are printed at power-on.
	Printing at recording start	Date and time are printed at recording start (recording OFF → ON).
	Alarm printing	Alarm activation time, CH No., alarm type and level are printed at alarm activation. Reset time, CH No., hyphen and alarm level are printed at alarm reset. Up to 48 data can be memorized.
	List printing	List printing is performed when required, interrupting trace printing. (1) "List 1": Major setting information
	Message printing	Printing is performed when required. Trace printing can be continued/interrupted. Linking to alarm activation/reset is possible. One message consists of up to 15 characters (alphabets, numbers, katakana, symbols, etc.). Up to 20 types can be registered. Consecutive requests are limited to a certain number.
	Calendar timer printing	Printing is performed with calendar timer ON and printing enabled. Trace printing is continued. Printed items: Year/month/date, time, calendar timer No. and message One message consists of up to 15 characters (alphabets, numbers, katakana, symbols, etc.), shared by message printing
	Setting change mark	Δ is printed on the right side of chart when setting change occurs.
	Operation recording	Remote contact ON/OFF status is recorded with straight line to specified area. Specified area: Within the range of 0 to 90% Up to 10 types can be recorded. * Only for the unit using remote contact and enabling operation recording.
	Chart illumination	White LED ON/OFF/AUTO (turn OFF after 3-minute unused period)
	Chart end detection	Notified on the operation window. Automatic recording stop (the rest operated normally)
	Pen up function	Performed automatically at recording stop and chart end. Manual pen up function is available.
	Time axis synchro- nization (POC)	ON/OFF can be set at using 2nd pen, 3rd pen and 4th pen.
Indication/ display specifications	Digital display	Full dot monochrome LCD 264 x 48 dots Display area 182 x 22 mm White LED backlight (turned off after 3-minute unused period when selecting AUTO) Channel number: 2 digits Data display: 5 digits (+/- and decimal point excluded)
	Analog indication	180 mm LCD bar graph
	Status LED	 (1) REC: Green LED OFF: Recording stopped Flash: Data printing, list printing and message printing in progress ON: Recording (2) CARD: Green LED OFF: No card inserted Flash: Card being accessed ON: Card inserted (3) ALM: Red LED OFF: All alarm OFF
		Flash: Any alarm ON

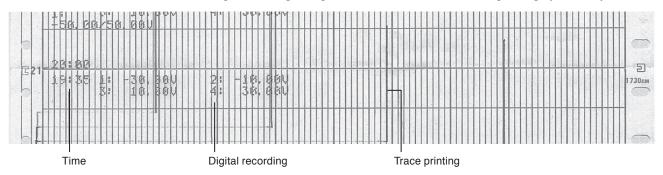
Indication/ display specifications	Operation/set keys Front engineering	FUNC1: Function switch 1 FUNC2: Function switch 2 ENTER: Register settings MENU: Display settings ESC: Cancel settings ▲: Forward ▼: Reverse 4: Move left ▶: Move right REC: Recording start/stop FEED: Chart fast feed DATAP: Data print			
Calculate	port Calculation types	Mini-USB port	root), LOGe (natural logarithm), LOG10 (common logarithm), INT (integration),		
specifications	valculation types	Humidity, COM.Inpu	ut (data communications input), MUL (arithmetic 1), DIV (arithmetic 2), ue), Low-Peak (min value), Average, Power (exponent), Formula, BrokenLine		
	Formula	Calculate	Four arithmetic operations, Comparison operation, Logical operation, General calculation functions		
		Function	Integration, 24-hour integration, F value,Relative humidity, Dew-point temp, Moving average, First-order lag filter, Increment per unit time		
General specifications	Rated power voltage	100 to 240 Vac, 50/6	60 Hz		
·	Power consumption	1 pen specification: 2 pen specification:	100Vac balanced*: 16VA 240Vac balanced*: 22VA		
		3 pen specification:	100Vac balanced*: 18VA 240Vac balanced*: 24VA		
		4 pen specification:	general specification, MAX 40VA 100Vac balanced*: 18VA 240Vac balanced*: 25VA		
			cording. Alarm and communication are not operated.		
	Memory protection	Clock data maintain (Data saved for mor	uined by nonvolatile RAM. led by lithium battery. le than 10 years with 8-hour or more operation per day.) le played when battery level drops.)		
	Clock accuracy	±2 minutes in 30 day caused by power Of	ys (under reference operating condition, error N/OFF excluded)		
	Insulation resistance	Secondary terminal Primary terminal – s * Primary terminal: (relay "a" and mech	protective conductor terminal: $20~M\Omega$ or more ($500~Vdc$) — protective conductor terminal: $20~M\Omega$ or more ($500~Vdc$) secondary terminal: $20~M\Omega$ or more ($500~Vdc$) General power terminal ($100~to~240~V$), alarm output terminal of mechanical nanical relay "c" al: All terminals other than primary and protective conductor terminals		
	Voltage resistance	Primary terminal – protective conductor terminal: 1500 Vac (1 min) Secondary terminal – protective conductor terminal: 500 Vac (1 min) Primary terminal – secondary terminal: 2300 Vac (1 min) * Primary terminal: Power terminal, alarm output terminal Secondary terminal: All terminals other than primary terminals [Front] Door: Aluminum die-casting Glass: Soda glass [Rear] Case: Cold-rolled steel plate			
	Exterior material				
	Exterior color	Glass: Clear and c	valent of Munsell N3.0) colorless alent of Munsell N7.0)		
	Normal operating condition	Ambient temperature	0 to 50 °C (20 to 65 %)		
	Condition	Ambient humidity	20 to 80 %RH (5 to 40 °C)		
		Power voltage	90 to 264 Vac		
		Power frequency	50/60 Hz ±2 %		
		Mounting posture	Forward tilt 0°, backward tilt 0 to 30°, left and right 0 to 10°		

General specifications Option	Terminal screw Weight Mounting type Marking External	Power terminal: M4.0 Protective conductor terminal: M4.0 Measuring input terminal: M3.5 Alarm output terminal: M3.5 Remote contact terminal: M3.5 Communications terminal: M3.0 1 pen specification: approx.: 6.8kg(with full options) 2 pen specification: approx.: 7.0kg (with full options) 3 pen specification: approx.: 7.3kg (with full options) 4 pen specification: approx.: 7.5kg(with full options) Panel mounting Mounting brackets attached to the top and bottom sides CE marking EN61326-1, EN61010-1			
	Operation	Using remote contact signal (no-voltage contact: short or open), selection of chart speed or printing can be executed without operating keys at the operation/set keys section. Input points 5, 10 Input type Non-voltage contact or open collector Outside point of contact capacity 5 Vdc/2 mA			
	Alarm output	Functions (1) Recording start/stop (2) Select chart speed from three speeds (3) Data printing (4) List printing (5) Message printing (6) Periodic (Date Interval) data printing (7) Integration value reset (8) SD card recording data-saving (9) Integration value reset (10) Time correction Mechanical relay output Common to 'a' contact · · · 2, 6, 12 Max load 100 to 240 Vac 0.2 A Minimum load 5 Vdc 10 mA Mechanical relay output Common to 'c' contact · · · 4, 8 Max load 100 to 240 Vac 0.2 A 30 Vdc 0.2 A Minimum load 5 Vdc 10 mA			
	Communication interface	RS-232C, RS-422A	·		
Acceptation	Communication protocol	MODBUS(ASCII/RTU), MODBUS/TCP			
Accessories	In admirable to the second of	Item		Remarks	Q'ty
	Instruction manual (SR-911DC0000	1
	<u> </u>	O /		-	1
	Brackets (for panel n			81446641-001	2 (1 set)
	Terminal screw M3.5	, ,		-	5
	Folding chart (100 d	-		81407891-001	1
	<u> </u>	01, SR-202, SR-203,	,	-	1
	No.2 pen Green (SF	R-202, SR-203, SR-20	14)	-	1
	No.3 pen Blue (SR-2	203, SR-204)		-	1
	No.4 pen Brown (SF	R-204)		<u> </u>	1
	Plotter pen Purple			-	1

Example of recording

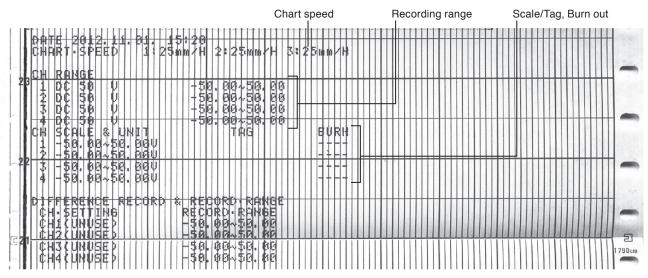
· Periodic data printing

Record the data with time, scale, chart speed, setting change mark and time line over trace printing by arbitrary interval.



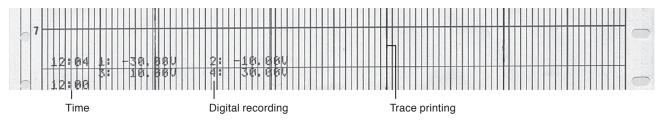
· List printing

Settings such as the range and scale of each channel are printed.



· Data print

When the latest data is required, trace printing will stop and recorded.



Alarm activation and reset printing

When alarm is activates/reset, print time, channel No. alarm type, and alarm No.

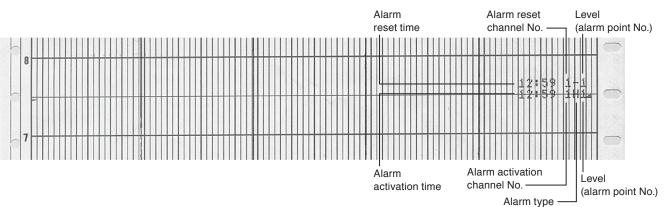


Table: Measuring range, rated accuracy and display resolution

Inpu	t type	Measuring range	Reference range	Rated accuracy	Display resoluti
		-13.80 to +13.80 mV	±13.8 mV		10 μV
		-27.60 to +27.60 mV	±27.6 mV		10 μV
	DC (mV)	-69.00 to +69.00 mV	±69.0 mV		10 μV
		-200 to +200 mV	±200 mV		100 μV
DC voltage		-500 to +500 mV	±500 mV	.019/EQ .1 digit	100 μV
DC voltage		-1 to +1 V	±1 V	±0.1 %FS ±1 digit	10 mV
		-5 to +5 V	±5 V		10 mV
	DC (V)	-10 to +10 V	±10 V		10 mV
		-20 to +20 V	±20 V		10 mV
		-50 to +50 V	±50 V		10 mV
		-200 to +300 °C	±13.8 mV		0.1 °C
	K	-200 to +600 °C	±27.6 mV	-	0.1 °C
		-200 to +1370 °C	±69.0 mV	_	1 °C
		-200 to +200 °C	±13.8 mV	-	0.1 °C
	E -	-200 to +350 °C	±27.6 mV	_	0.1 °C
	_	-200 to +900 °C	±69.0 mV		1 °C
			±13.8 mV	-	0.1 °C
	_	-200 to +250 °C		_	
	J	-200 to +500 °C	±27.6 mV	-	0.1 °C
		-200 to +1200 °C	±69.0 mV	-	1 °C
	т	-200 to +250 °C	±13.8 mV	_	0.1 °C
		-200 to +400 °C	±27.6 mV		0.1 °C
	R	0 to 1200 °C	±13.8 mV		1 °C
		0 to 1760 °C	±27.6 mV	±0.1 %FS ±1 digit	1 °C
	s	0 to 1300 °C	±13.8 mV		1 °C
	3	0 to 1760 °C	±27.6 mV		1 °C
	В	0 to 1820 °C	±13.8 mV		1 °C
		-200 to +400 °C	±13.8 mV		0.1 °C
	N	-200 to +750 °C	±27.6 mV		0.1 °C
Thermocouple		-200 to +1300 °C	±69.0 mV		1 °C
	U	-200 to +250 °C	±13.8 mV		0.1 °C
		-200 to +500 °C	±27.6 mV		0.1 °C
		-200 to +600 °C	±69.0 mV		0.1 °C
		-200 to +250 °C	±13.8 mV		0.1 °C
	L L	-200 to +500 °C	±27.6 mV		0.1 °C
	_	-200 to +900 °C	±69.0 mV	_	1 °C
	W-WRe26	0 to 2315 °C		±0.15 %FS ±1 digit	1 °C
			±69.0 mV	±0.15 %F3 ±1 digit	1 °C
	WRe5-WRe26	0 to 2315 °C	±69.0 mV	_	
		0.0 to 290.0 °C	±13.8 mV	±0.2 %FS ±1 digit	0.1 °C
	NiMo-Ni	0.0 to 600.0 °C	±27.6 mV	_	0.1 °C
		0 to 1310 °C	±69.0 mV		1 °C
		0.0 to 350.0 °C	±13.8 mV		0.1 °C
	Platinel II	0.0 to 650.0 °C	±27.6 mV	±0.15 %FS ±1 digit	0.1 °C
		0 to 1390 °C	±69.0 mV		1 °C
	PtRh40-PtRh20	0 to 1880 °C	±13.8 mV		1 °C
	CR-AuFe	0 to 280 K	±6.9 mV	±0.2 %FS ±1 digit	0.1 K
	Au/Pt	0 to 1000 °C	±27.6 mV		0.1 °C
		-140.0 to +150.0 °C	160 Ω		0.1 °C
	D#400	-200.0 to +300.0 °C	220 Ω		0.1 °C
	Pt100	-200.0 to +649.0 °C	340 Ω	1	0.1 °C
		-200.0 to +850.0 °C	400 Ω	1	0.1 °C
		-140.0 to +150.0 °C	160 Ω	1	0.1 °C
Resistance	Old Pt100	-200.0 to +300.0 °C	220 Ω	±0.1 %FS ±1 digit	0.1 °C
hermometer		-200.0 to +649.0 °C	340 Ω		0.1 °C
		-140.0 to +150.0 °C	160 Ω	-	0.1 °C
	ID+100			-	
	JPt100	-200.0 to +300.0 °C	220 Ω	-	0.1 °C
	Dusc	-200.0 to +649.0 °C	340 Ω	_	0.1 °C
	Pt50	-200.0 to +649.0 °C	220 Ω		0.1 °C

^{*} Measuring range conversion accuracy under reference operating condition. Reference junction compensation accuracy is added for thermocouple input.

K, E, J, T, R, S, B, N:IEC584(1977, 1982), JIS C 1602-1995, JIS C 1605-1995 W-WRe26, NiMo-Ni, PlatinellI, PtRh40-PtRh20, CR-AuFe, Au/Pt:ASTM E1751 WRe5-WRe26:ASTM E988

W-WRe26, NiMo-Ni, PlatinellI, PtRh40-PtRh20, CR-AuFe, Au/Pt:ASTM E1751 WRe5-WRe26:ASTM E988 U, L:DIN43710-1985 Pt100:IEC751(1995), JIS C 1604-1997 Old Pt100:IEC751(1983), JIS C 1604-1989, JIS C 1606-1989 JPt100:JIS C 1604-1981, JIS C 1606-1986 Pt50:JIS C 1604-1981 Pt-Co:CHINO

■ Escape clause of the precision rating

Input type	Escape clause range	Rated accuracy
K, E, J, N, U, L	–200 to 0 °C	±0.2 %FS ±1 digit or equivalent of 70 μV, whichever is large
T	–200 to 0 °C	±0.2 %FS±1 digit
R, S	0 to 400 °C	±0.2 %FS±1 digit
В	0 to 400 °C	None
Б	400 to 800 °C	±0.2 %FS ±1 digit
W-WRe26	0 to 400 °C	±0.3 %FS ±1 digit
PtRh40-PtRh20	0 to 400 °C	±1.5 %FS ±1 digit
PIRII40-PIRII20	400 to 800 °C	±0.8 % FS±1 digit
CR-AuFe	0 to 20 K	±0.5 %FS ±1 digit
On-Aure	20 to 50 K	±0.3 %FS ±1 digit
Pt-Co	4 to 20 K	±0.5 %FS ±1 digit
F t-00	20 to 50 K	±0.3 %FS ±1 digit

Model selection

I II III IV V VI VII Ex. SR-101AN00NNI							
I	II	III	IV	V	VI	VII	Discriptions
Model	Input point	Power	Communi- cations	Alarm output + remote contacts	Addition	Design code	
SR-2							180 mm chart recorder
	01						1 pen
	02						2 pen
	03						3 pen
	04						4 pen
		Α					100 to 240 Vac
			N				None
			E				Ethernet
			R				RS-232C
			Α				RS-422A/RS-485
			Q				RS-232C/RS-485
			С				RS-422A/RS-485+RS-485
			G				Ethernet+RS-422A/RS-485+RS-485
				0			None
				2			2 mechanical relay 'a' contact alarm outputs
				4			4 mechanical relay 'c' contact alarm outputs + 5 remote contacts
				Α			6 mechanical relay 'a' contact alarm outputs + 5 remote contacts
				8			8 mechanical relay 'c' contact alarm outputs + 10 remote contacts
				В			12 mechanical relay 'a' contact alarm outputs + 10 remote contacts
				*1	0		None
					D		With inspection results
					Υ		With traceability certification
						NNN	None

^{*1} Additionally, tropicalization and anti-sulfidation treatments can be ordered. However, there are some specifications restrictions. For details, contact the azbil Group.

Consumables

· About attached chart paper

Item	Item number	Remarks	Printed sca
Folding chart 100 divisions	81407861-001	10 books 16 m	0, 20, 40, 60, 80, 100
Folding chart 100 divisions (20% Recycling paper)	81425049-001	10 books 16 m	0, 10, 20, 30, 40, 50 0, 20, 40, 60, 80, 100 0, 50, 100, 120, 160, 200 The above 3 paterns are printed.
Folding chart 120 divisions (20% Recycling paper)	81425049-002	10 books 16 m	0, 10, 20, 30, 40, 50,60 0, 200, 400, 600, 800, 1000, 1200 The above 2 paterns are printed.
Folding chart 60 divisions (20% Recycling paper)	81425049-003	10 books 16 m	0, 2, 4, 6, 8, 10, 12, 14 0, 10, 20, 30, 40, 50, 60, 70 The above 2 paterns are printed.
Folding chart 80 divisions (20% Recycling paper)	81425049-004	10 books 16 m	0, 20, 40, 60, 80 0, 100, 200, 300, 400 0, 400, 800, 1200, 1600 The above 3 paterns are printed.
Folding chart 150 divisions (20% Recycling paper)	81425049-005	10 books 16 m	0, 50, 100, 150
Clean paper chart 100 divisions	81407937-001	10 books 12 m	0, 20, 40, 60, 80, 100

^{*} The chart paper has the same printed linear scale as the standard scale.

· Cartridge pen

Item	Item number
Cartridge pen (Red: 3 pieces)	SR-932CP000R
Cartridge pen (Green: 3 pieces)	SR-932CP000G
Cartridge pen (Blue: 3 pieces)	SR-932CP000B
Cartridge pen (Blown:3 pieces)	SR-932CP000C
Plotter pen (Purple: 3 pieces)	81446296-001

· Ribbon cassette

Item	Item number	Quantity	Remark
Ribbon cassette	SR-922RC0000	1	

• 250 Ω resistor

Item	Item number	Quantity	Remark
250 Ω resistor (accuracy ±0.02 %)	81401325	1 resistors	
250 Ω resistor (accuracy ±0.05 %)	81446642-001	2 resistors	

• SD card

Item	Item number	Quantity	Remark
SD card (512 MB)	SR-911SD0512	1	
SD card (1 GB)	SR-911SD1000	1	
SD card (2 GB)	SR-911SD2000	1	

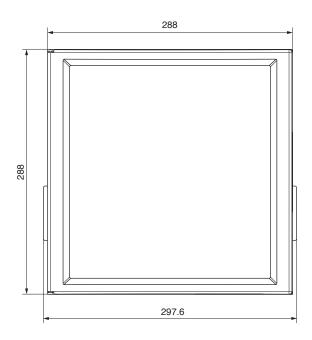
Tag plate

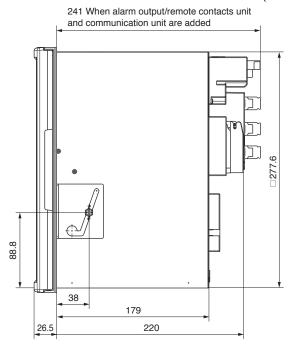
Item	Item number	Quantity	Remark
Tag plate for pen type	SR-932TP0000	1	

Therefore, it can be shared in regardless of input types (thermocouple, resistance thermometer, or others).

External dimensions

(Unit: mm)

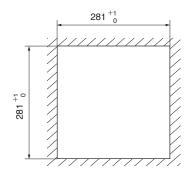


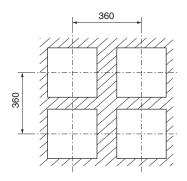


Mounting

(Unit: mm)

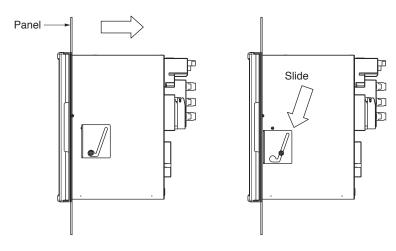
Minimum interval on multiple units mounting





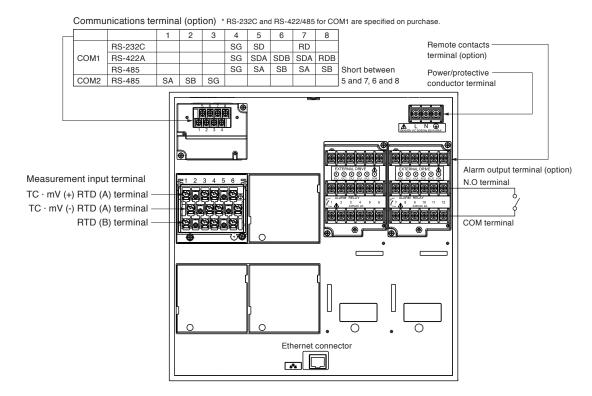
Panel mounting method

- (1) Insert the unit into the panel cutout from the front of the panel.
- (2) Screw lightly two provided mounting screws into the screw holes on left/right side (two locations in total) of the recorder.
- (3) Insert the hexagon heads of screws installed above into the round holes of brackets, (from the front) sliding them as shown in the figure, press it firmly against the panel, and tighten them with the provided wrench or a Phillips-head screwdriver. In addition, the tightening torque of the screw is 2 Nm (for use of a Phillips-head screwdriver).
- * Note that the left bracket differs from the right one (Mounting must be performed by two persons).

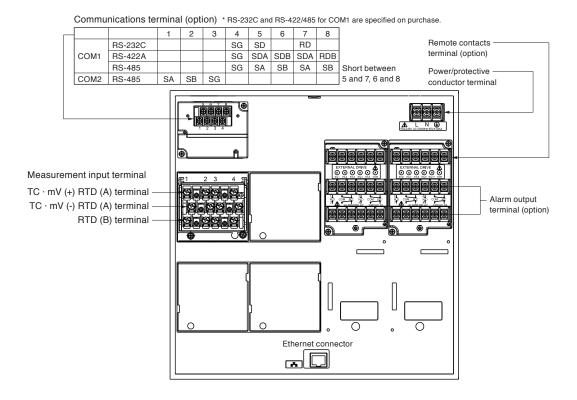


Wiring

■ The figure below is the diagram of the terminal board with the option [Alarm relay output (12 points 'a' contact) + remote contacts (10 points) and communication interface].



■ The figure below is the diagram of the terminal board with the option [Alarm relay output (8 points 'c' contact) + remote contacts (10 points) and communication interface].



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