

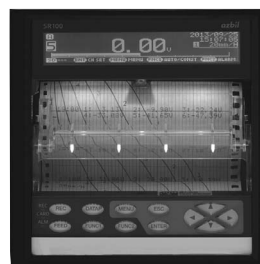
Hybrid Recorder, Pen Type | SR-101/102/103/104



The SR100 Hybrid Recorder is a pen-type recorder with an LCD digital display for easy reading of measured values.

This recorder has three modes for displaying measured values: 1-point digital display, multi-point batch digital display, and digital display + 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.



Specifications

Input	Measurement point	1st pen, 2nd pen, 3rd pen and 4th pen	
	Input type	DC voltage, DC current, thermocouple, resistance thermometer detector (see input list) *DC current input is supported by additional shunt resistor (250 Ω)	
	Measuring interval	Approx. 100 ms	
Recording specifications	Recording system	Trace printing: disposable felt-tip pen Digital printing: dot type plotter pen	
	Recording color	Analog recording/printing ··· 1 pen red, 2 pen green, 3 pen blue, 4 pen brown Digital recording/printing ··· purple	
	Recording interval	100 ms	
	Chart	Fan-fold type (total width 114 mm, total length 10 m, recordable width 100 mm)	
	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.	
Indication/display specifications	Digital display	Full dot monochrome LCD 240 x 48 dots Display area 106 x 16 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	100 mm LCD bar graph	
Calculate specifications	Calculation types	None, Root (square root), LOGe (natural logarithm), LOG10 (common logarithm), INT (integration), Humidity, COM.Input (data communications input), MUL (arithmetic 1), DIV (arithmetic 2), High-Peak (max value), Low-Peak (min value), Average, Power (exponent), Formula, BrokenLine (broken line approximation)	
General specifications	Rated power voltage	100 to 240 Vac, 50/60 Hz	
	Power consumption	40 VA max.	
	Memory protection	Set contents maintained by nonvolatile RAM. Clock data maintained by lithium battery. (Data saved for more than 10 years with 8-hour or more operation per day.) (Alarm message displayed when battery level drops.)	
Option specifications	Weight	Approx. 3.2 kg	
	External Operation	Using remote contact signal (no-voltage contact: short or open), selection of chart speed or data printing can be executed without operating keys at the operation/set keys section.	
		Input points	5
		Input type	Non-voltage contact or open collector
		Outside point of contact capacity	5 Vdc / 2 mA
		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			
Alarm output	Mechanical relay output	Common to 'a' contact ··· 2 or 6	
	Max load	100 to 240 Vac 0.2 A 30 Vdc 0.2 A	
	Minimum load	5 Vdc 10 mA	
	Mechanical relay output	Common to 'c' contact ··· 4	
Max load	100 to 240 Vac 0.2 A 30 Vdc 0.2 A		
Minimum load	5 Vdc 10 mA		

Input list

Input type	Measurement range
DC voltage	±13.80 mV to ±50.00 V

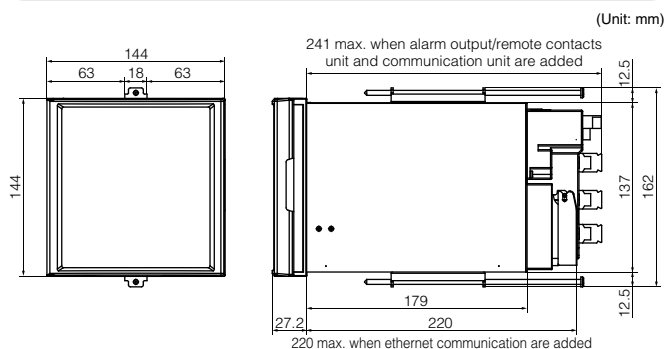
Standards for input sensor

Thermocouple K, E, J, T, R, S, B, N: IEC584 (1977, 1982), JIS C 1602-1995, JIS C 1605-1995
W-WRe26, Ni-Mo-Ni, Platine II, 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

Resistance thermometer detector JPt100: JIS C 1604-1981, JIS C 1606-1986
Pt50: JIS C 1604-1981
Pt-Co: CHINO

Input type	Symbol
Thermocouple	K, E, J, T, R, S, B, N, U, L, W-WRe26, WRe5-WRe26,
	PtRh40-PtRh20, Ni-Mo-Ni, CR-AuFe, Platine II, Au/Pt
Resistance thermometer detector	Pt100, old Pt100, JPt100, Pt50, Pt-Co

External dimensions



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Model No. configuration

Ex.: SR-101AN00NNN

Basic model No.	Input point	Power	Communications	Alarm output + remote contacts	Addition	Design code	Description	
SR-1	01						100 mm chart recorder	
	02						1 pen	
	03						2 pen	
	04						3 pen	
			A					4 pen
								100 to 240 Vac
				N				None
				E				Ethernet
				R				RS232C
				A				RS422A/RS485
				Q				RS232C/RS485
				C				RS422A/RS485+RS485
				G				Ethernet+RS422A/RS485+RS485
					0			None
					2			2 mechanical relay 'a' contact alarm outputs
					4			4 mechanical relay 'c' contact alarm outputs + 5 remote contacts
					A			6 mechanical relay 'a' contact alarm outputs + 5 remote contacts
						0		None
						D		With inspection results
						Y		With traceability certification
						T		Tropical treatment*1
						B		With inspection results + tropical treatment*1
						NNN		None

*1. Tropical treatment does not comply with the CE marking.

Optional Parts (Separately Sold)

·About attached chart paper

Name	Model No.	Remarks
Folding chart 50 divisions	81406088-001	10 books 16 m
Folding chart 40 divisions	81425048-004	10 books 16 m
Folding chart 50 divisions	81425048-001	10 books 16 m
Folding chart 60 divisions	81425048-002	10 books 16 m
Folding chart 70 divisions	81425048-003	10 books 16 m
Folding chart 75 divisions	81425048-005	10 books 16 m
Clean paper chart	81407115-001	10 books 12 m

* The chart paper has the same printed linear scale as the standard scale. Therefore, it can be shared in regardless of input types (thermocouple, resistance thermometer, or others).

·Cartridge pen

Name	Model No.	Quantity
Cartridge pen (analog pen) Red	SR-931CP000R	3 pieces
Cartridge pen (analog pen) Green	SR-931CP000G	3 pieces
Cartridge pen (analog pen) Blue	SR-931CP000B	3 pieces
Cartridge pen (analog pen) Blue	SR-931CP000C	3 pieces
Plotter pen (digital pen) Purple	81446296-001	3 pieces

·Resistor

Name	Model No.	Quantity
250 Ω resistor (accuracy ±0.02 %)	81401325	1 resistors
250 Ω resistor (accuracy ±0.05 %)	81446642-001	2 resistors

·SD card

Name	Model No.	Quantity
SD card (512 MB)	SR-911SD0512	1
SD card (1 GB)	SR-911SD1000	1
SD card (2 GB)	SR-911SD2000	1

1

DIGITAL CONTROLLERS

2

RECORDERS, INDICATORS

3

CONVERTERS

4

FLAME SAFEGUARD SYSTEM

5

ACTUATORS

6

SENSORS

7

GAS FLOW MEASUREMENT AND CONTROL PRODUCTS