YAMATAKE **Specification**

6 Dot Printing Model
Smart Recorder
SRF106

FEATURES

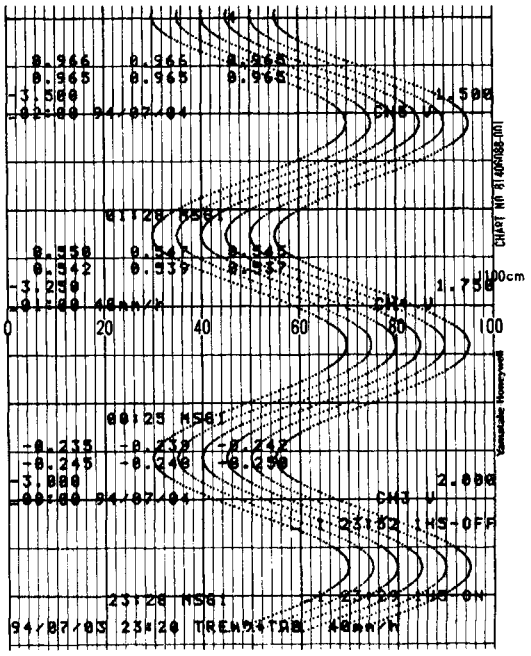
The SRF106 Smart Recorder is a high performance 6 dot printing chart recorder using 100mm wide chart.
The recorder accepts DC voltage, thermocouple, and resistance temperature detector signal inputs.
You can install the recorder in an instrumentation panel or other equipment, and can operate easily its sophisticated functions.
Options include event outputs, external contact inputs, chart illuminating lamp, and communications.

- *A combination of multiple inputs and a selection of record scale are configurable.*
  DC voltage, Thermocouple, and Resistance temperature detector
- *Three record formats are selectable freely.*
  Trend, Trend + Tabular, and Trend + Schedule demand
- *Three measuring methods are selectable per channel.*
  Process variable (PV), deviation between channels, and deviation from setpoints
- *Multi-voltage power supply for the use of the recorder in wide area*
  100V AC to 240V AC, 50/60Hz
- *A variety of printing functions*
  1. *Record start printing*
     Printing is possible for year/month/date, hour/minute, recording format, chart feed speeds, and recorder identification number
  2. *Preset time printing*
     Time marker, year/month/date, hour/minute, chart feed speeds, tag numbers (6 characters per channel), engineering units (6 characters per channel), recording scale, process variable (PV), and channel numbers (for trend)
  3. *Time and status printing for event occurrence/recovery*
  4. *Manual demand printing*
     Time and process variable (PV) of each channel can be printed when the DMD (demand) key is pressed or an external contact input is set ON.
  5. *When selecting "Trend + Schedule demand recording" for recording format, automatic printing of the time and process variable (PV) of each channel can be started at a preset time (up to 4 preset times).*
  6. *Message and time printing activated by external contact inputs (Up to 4 messages/up to 6 characters per message)*
  7. *List printing (full list or partial list)*
     The list of setting and registered data can be printed fully or partially.
  8. *Printing OFF function*
     Printing of year/month/date, hour/minute, scale, and event can be deactivated.
- *The thermocouple burnout performance recording is set individually for up scale, down scale, and off per input channel.*
- *The EEPROM allows preset data to be retained even when power is off.*
- *The printed part is faced down so that the latest trend recording can be read easily.*

Options

- *Event outputs (6 outputs: SPDT relay outputs)*
- *External contact outputs (4 outputs: recording ON/OFF, demand printing, chart feed, #1 to #4 message printing, and chart speed/scale selection)*
- *Chart illuminating lamp (cold cathode lamp)*
- *Communications (RS-485 and RS-232C)*

Example of Trend + Tabular Recording:



SPECIFICATIONS

Performance specifications

Input section	Input type	DC voltage, thermocouple, and resistance temperature detector See **Table 1** (for input type, measuring range, and display accuracy). **Note 1**: For DC current input (4 to 20mA DC), use an optional external conversion resistor (Model: J-ARR50 or 81401325), and convert the signal to 1 to 5V.	
	The number of channel	For 6 points	
	Input measurement period	30s per 6 points (30 seconds disregarding the number of measurement points)	
	Input impedance	DC voltage (±2V range or less), thermocouple input: 10MΩ or higher	
		DC voltage (±5V range or more): 1MΩ or higher	
	Permissible circuit resistance	DC voltage, thermocouple input (input signal source resistance): 2kΩ or lower	
		Resistance temperature detector input (input circuit resistance): 10Ω or lower (per 1 line. The three lines shall have the same resistance.)	
	Burnout	For thermocouple input, either one of "up scale", "down scale", and "off" can be selected individually for every input. (Burnout condition: 10MΩ or higher)	
	Input bias current	DC voltage (±2V range or less), thermocouple input: ±100nA or less DC voltage (±5V range or more): ±1μA or less Note that it is ±200nA or less when burnout is set with thermocouple input.	
	Measurement current	Approximately 1mA for resistance temperature detector input	
	Permissible input voltage range	For any range other than that of resistance temperature detector: −7 to +11V DC For the range of resistance temperature detector: −5 to +5V DC	
	PV bias	Settable for each channel in the Unit range (Engineering unit including decimal point) of −19999 to +29999	
	Linear scaling	Displayed in actual unit (engineering unit) in the linear scaling range DC voltage (range codes: 00 to 06). Recording is possible.	
	Direct readout range	Possible to read mV or V values without setting linear scaling for input voltage direct readout range DC voltage (range codes: 10 to 16).	
	Measurement/ computation system	• PV value, • Deviation between channels, and • Deviation from the fixed value	
	Measuring range	DC voltage input: Setting of any measuring range (high and low limit values) is possible in each range.	
	Engineering range	DC voltage input: Setting of an engineering range (high and low limit values, decimal point, and unit) is possible in the measuring range of −19999 to +29999.	
	Recording scale	Setting of any recording scale is possible (reverse scaling is also possible) for each channel in the range of −19999 to +29999.	
	Reference contact compensation	Thermocouple input: Do/undo setting (not per input but all the input) is possible. When undo is selected, an external cold contact compensation unit (an ice box) is necessary.	
	Intrinsically safe apparatus (explosion-proof safety system)	The SRF106 with recording chart illumination uses 1000V AC for illumination power; therefore, it cannot be made as an intrinsically safe apparatus. If you need the equipment as an intrinsically safe apparatus, use the SRF106 without recording chart illumination, and connect externally a zener. Adjust PV bias if a neglectable temperature display error occurs because of unavoidable deviation in zener resistance. Note that the wiring resistance of the input is more than 10Ω and; therefore, the accuracy in **Table 1** is not applicable.	
Display section	Digital display	Display system	7 digits, 7 segment LEDs (red and green), and unit indication LEDs (green, 2) (Note that 5 digits with green LEDs are available for measurement display.)
		Display period	4 seconds/point
		Display contents	Measuring value, Channel number, Alarm display, Year/month/date, Hour/minute, Chart feeding speed, and Other configuration data
	Lamp display	Display contents	• Lights up when in recording ON mode and when an event occurs. • Lights up and indicates the contents in configuration mode and in operation mode.

<table>
<tr><td rowspan="15">Recorder selection</td><td rowspan="10">Recording system</td><td>Dot printing recording</td><td colspan="2">Wire dot + ink ribbon (6 colors) system</td></tr>
<tr><td>Size of dot print</td><td colspan="2">φ0.5 ±0.2mm</td></tr>
<tr><td>Trend recording period</td><td colspan="2">30 seconds/6 points
(It is 30 seconds irrespective of the number of measurement points. The double printing preventing function may extend the recording period when there is little input change at chart feeding speed of 20mm/h or less.)</td></tr>
<tr><td rowspan="8">Recording color</td><td>Trend</td><td>Setting is possible by selecting from two types.
<table>
<tr><td>Channel</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr>
<tr><td>STD</td><td>Violet</td><td>Red</td><td>Green</td><td>Blue</td><td>Brown</td><td>Black</td></tr>
<tr><td>DIN</td><td>Violet</td><td>Red</td><td>Black</td><td>Green</td><td>Blue</td><td>Brown</td></tr>
</table></td></tr>
<tr><td>Scale</td><td>The same color as the trend color for each input</td></tr>
<tr><td>Table recording</td><td>The same color as the trend color for each input</td></tr>
<tr><td>Scheduled printing</td><td>PV value : The same color as the trend color for each input
Hour/minute : Violet</td></tr>
<tr><td>Event</td><td>Occurrence : Red
Recovery : Blue</td></tr>
<tr><td>Channel No.</td><td>The same color as the trend color for each input</td></tr>
<tr><td>Demand</td><td>PV value : The same color as the trend color for each input
Hour/minute : Violet</td></tr>
<tr><td>Message</td><td>Violet</td></tr>
<tr><td>Others</td><td>Violet</td></tr>
<tr><td>Character construction</td><td>Dot matrix</td><td>7 (Height) × 5 (Width)</td></tr>
<tr><td>Character recording</td><td colspan="2">Recorded when the chart feeding speed is 120mm/h or less</td></tr>
<tr><td rowspan="8">Chart</td><td>Form</td><td colspan="2">Folding system</td></tr>
<tr><td>Effective recording width</td><td colspan="2">−1.0 to 101.0mm with respect to calibration position (0%)</td></tr>
<tr><td>Net length</td><td colspan="2">16m</td></tr>
<tr><td>End alarm mark</td><td colspan="2">Every 10cm long before 60cm to the end of chart.</td></tr>
<tr><td>Chart feeding system</td><td colspan="2">Stepping sprocket system</td></tr>
<tr><td>Chart feeding speed</td><td colspan="2">2.5, 5, 10, 20, 40, 60, 120, 240mm/h, selectable</td></tr>
<tr><td>Trend recording resolution</td><td colspan="2">0.1mm</td></tr>
<tr><td>Recording accuracy</td><td colspan="2">Along the PV axis : Display accuracy in table 1 plus (±0.5% or recording full scale)
Along the time base: ±0.5mm</td></tr>
<tr><td colspan="3">[Reference] Stretching and tightening of chart:
Stretched about 0.7% FS when ambient humidity changes from 60 to 85% RH.
Tightened about 0.2% FS when ambient humidity changes from 60 to 45% RH.</td></tr>
<tr><td>Display recording mode</td><td colspan="3">Selectable from the following three per channel
• No display recording,
• Display only, and
• Both display and recording</td></tr>
</table>

<table>
<tr><td rowspan="11">Recording format</td><td rowspan="3">Trend recording</td><td>Trend</td><td>• PV value (analog) • Channel No.</td></tr>
<tr><td>Scale printing</td><td>• Marker, Hour/minute, Year/month/date, Tag, Unit, and Scale high and low limits, or
• Marker, Hour/minute, Chart feeding speed, Tag, Unit, and Scale high and low limits</td></tr>
<tr><td>Event</td><td>• Marker (for trend), Channel No., Hour/minute, Event No., Relay No., and Status (occurrence and recovery)
IF occurrence/recovery happens before completing printing, up to 24 events will be buffered and stored in memory.
The buffer overflows the occurrence/recovery data if it is fully occupied.</td></tr>
<tr><td rowspan="3">Trend and table recording</td><td>Trend</td><td>• PV value (analog) • Channel No.</td></tr>
<tr><td>Scale printing</td><td>• Marker, Hour/minute, Year/month/date, Tag, Unit, and Scale high and low limits, or
• Marker, Hour/minute, Chart feeding speed, Tag, Unit, and Scale high and low limits</td></tr>
<tr><td>Table creation</td><td>• PV value (Printed by 2 lines/3 columns on the left. From the top left, CH1, CH2, and CH3. From the bottom left, CH4, CH5, and CH6.)
Table recording continues from scale printing.
• Table creation period
<table>
<tr><td>Chart feeding speed</td><td>2.5mm/h</td><td>5mm/h</td><td>10mm/h</td><td>20mm/h</td><td>40mm/h</td><td>60mm/h</td><td>120mm/h</td></tr>
<tr><td>Printing period</td><td>12 hours</td><td>12 hours</td><td>4 hours</td><td>2 hours</td><td>1 hour</td><td>1 hour</td><td>1 hour</td></tr>
</table></td></tr>
<tr><td>Event</td><td>• Marker (for trend), Channel No., Hour/minute, Event No., Relay No., and Status (occurrence and recovery)
IF occurrence/recovery happens before completing printing, up to 24 events will be buffered and stored in memory.
The buffer overflows the occurrence/recovery data if it is fully occupied.</td></tr>
<tr><td rowspan="3">Trend and schedule demand</td><td>Trend</td><td>• PV value (analog) • Channel No.</td></tr>
<tr><td>Scale printing</td><td>• Marker, Hour/minute, Year/month/date, Tag, Unit, and Scale high and low limits, or
• Marker, Hour/minute, Chart feeding speed, Tag, Unit, and Scale high and low limits</td></tr>
<tr><td>Schedule demand</td><td>• Hour/minute and PV value (Printed by 2 lines/3 columns on the left. From the top left, CH1, CH2, and CH3. From the bottom left, CH4, CH5, and CH6.)
Up to four schedules can be set.</td></tr>
<tr><td></td><td>Event</td><td>• Marker (for trend), Channel No., Hour/minute, Event No., Relay No., and Status (occurrence and recovery)
IF occurrence/recovery happens before completing printing, up to 24 events will be buffered and stored in memory.
The buffer overflows the occurrence/recovery data if it is fully occupied.</td></tr>
<tr><td></td><td>List printing</td><td colspan="2">• All list printing: All parameters set at configuration are printed.
• Partial printing: Chart feeding speed, ID number, Range code, Scale, Unit, and Event setting value are printed.</td></tr>
<tr><td rowspan="6">Event</td><td rowspan="3">Setting</td><td>Setting points</td><td>Up to 4 points per channell</td></tr>
<tr><td>Setting range</td><td>–19999 to +29999 (Decimal point differs between ranges.)</td></tr>
<tr><td>Operation delay</td><td>0 to 29999 (Decimal point differs between ranges.)</td></tr>
<tr><td>Operation</td><td colspan="2">Event operation is performed either in recording ON mode, and recording OFF (RCD OFF) mode.
OFF : Event operation stops.
LOW (Measuring low limit alarm) : Activated when PV value and deviation value are lower than the setting value.
HIGH: (Measuring high limit alarm): Activated when PV value and deviation value are higher than the setting value.</td></tr>
<tr><td rowspan="3">Result of operation</td><td>Recording</td><td>• Channel number, • Occurrence/recovery of event,
• Event status, • Relay number for output (with event option)</td></tr>
<tr><td>Display</td><td>• Event status and measurement value when an event occurs, and
• Occurrence/recovery status of other channel's event</td></tr>
<tr><td>Buffer</td><td>Up to 24 events are buffered and stored. (The data are cleared when turning OFF the power, or when sets in recording OFF mode.)</td></tr>
<tr><td></td><td>Relay output</td><td>Possible as an option to be used as event output.</td></tr>
</table>

Additional function	External contact input (RSW)	Input points	4 points		
		Functions	• RSW1: Recording start (ON → OFF)/stop (OFF → ON) • RSW2: Demand (DMD) printing (Printed when OFF→ ON) • RSW3: Chart feeding (One feeding of 40mm long when OFF → ON) • RSW4: #1 message printing (Printed when OFF → ON) The setting for the equipment is fixed as above. The setting above and the functions below can be assigned to RSW freely (1 function per 1RSW) from the Smart Handy Loader. • #2 message printing • #3 message printing • #4 message printing • Chart speed/scale selection		
		Contact holding duration	500ms or longer		
		Switching system	Alternate		
		Open input voltage	Approximately 5V		
		Closed input voltage	Approximately 6mA		
	Event output	Output relay points	6 points		
		Output operation	Up to 4 event operations set per channel (up to 24 event operations in total) can be combined freely and ORed output is available.		
		Output form	Transfer contact (NC and NO contacts), Positive operation for the event relay drive		
		Contact ratings	250V AC/3A, non-inductive load 30V DC/3A, non-inductive load Minimum load: 5V DC/10mA		
	Chart illumination lamp	Cold cathode lamp			
	Communications		**Specification**	**RS-232C**	**RS-485**
		Communications specifications	The number of signal lines	3 lines (including signal ground SG)	5 lines (including signal ground SG)
			Transmission distance	15m or less	300m or less
		Protocol	Specification	Conforms to CP system protocol of Yamatake-Honeywell.	Conforms to CP system protocol of Yamatake-Honeywell.
			Networking	1 to 1	Multi-drop (Up to 31 units)
			Function	Child function	Child function
			Mother station type	Not specified	Not specified
		Communications system	Sync system	Asynchronous	Asynchronous
			Communication system	Half duplex	Half duplex
			Transmission speed	4800/9600bps	4800/9600bps
			Data length	8 bits	8 bits
			Parity	Odd/none	Odd/none
			Stop bit	1 and 2 bits	1 and 2 bits

General specifications

General specifications	Memory protection	Setting data	EEPROM
		Timer back up	Coin type lithium battery (To be replace every about 5 years): CR2430
	Vibration resistance	0.1m/s² {0.01G} or less (0 to 100Hz)	
	Insulation resistance	Between the GND terminal and the other terminals: 20MΩ or more when measured with a 500V DC megger (insulation tester).	
	Dielectric strength	Dielectric strength for power supply and event output voltage (Leakage current: 5mA or less) Between the power terminals and the GND terminal : 1500V AC 50/60Hz for 1 minute Between the event output terminals and the GND terminal : 1500V AC 50/60Hz for 1 minute Dielectric strength for input (Leakage current: 2mA or less) Between the measurement input terminals and the GND terminal : 1000V AC 50/60Hz for 1 minute Between the measurement input terminals : 500V AC 50/60Hz for 1 minute (Except for the resistance temperature detector input) Between the external contact input terminals and the GND terminal: 500V AC 50/60Hz for 1 minute Between the communications terminals and the GND terminal : 500V AC 50/60Hz for 1 minute	
	Conductivity resistance	Common mode rejection ratio: 120dB (50/60Hz±0.1Hz, with input resistance 500Ω, between the terminals and the GND) Normal mode rejection ratio: 40dB (50/60Hz±0.1Hz)	
	Operating condition	Permissible ambient temperature	0 to 50°C
		Permissible ambient humidity	30 to 90% RH, No condensation
	Transportation/ storage condition	Storage ambient temperature	–20 to +60°C (–10 to +60°C applies to the ink ribbon. Store the ink ribbon separately for storage temperature of –10 to –20°C.)
		Storage ambient humidity	5 to 95% RH, No condensation
		Shock resistance	294m/s² {30G} (Hold on time: 11ms or less)
		Vibration resistance	4.9m/s² {0.5G} or less (0 to 100Hz)
	Power requirements	100 to 240V AC, 50/60Hz	
	Permissible power supply deviation	90 to 250V AC, 50/60Hz	
	Power consumption	Approximately 15VA (30VA max.)	
	Material	Case	Steel panel (Bonderizing)
		Door frame	Glass fiber polycarbonate
		Door window	Acrylate resin
	Color	Case	Flat finish gray (equivalent to DIC554)
		Door frame	Surface matte finish gray (equivalent to DIC554)
	Weight (Mass)	Without additional functions	3.4kg
		With additional functions	3.7kg
	Installation	Panel mounting	
	Installation angle	With reference to horizontal position, up to 30° when facing up, up to 3° when facing down.	

Related parts

Standard accessories

Parts name	Parts number	Quantity
Fan fold chart	—	1 volume
Fuse	—	1 piece
Mounting fixture	81446291-001	1 set
User's manual	CP-UM-1666	1 manual
CP-UM-1666 is a Japanese manual. An English manual can be supplied on request.		

Consumables (Option)

Other parts (Option)

	Parts name	Parts number	Quantity
Consumables (Option)	Fan fold chart	81406088-001	10 volumes
	Ink ribbon	81406107-001	1 piece
	Fuse	81446289-001	10 pieces
	Chart illumination lamp	81446290-001	1 piece
Other parts (Option)	Conversion resistor 250Ω (Accuracy: ±0.02%)	81401325	1 piece
	Conversion resistor 250Ω (Accuracy: ±0.05%)	J-ARR50 (6 resistors)	1 set
	RS-232C cross cable (8m long)	CBL-RS232Z08	1 piece

Table 1. Input types, measuring range and display accuracies (1/2)

Input				Measuring range		Display accuracy (rdg: the absolute value of displayed value) For linear scaling range, this value is the absolute value of process variable (in mV or V) before scaling.	Resolution
Type	Symbol		Code	mV/V input range	Measuring engineering range		
DC voltage	mV	± 20mV	00	±20.00mV	−19999 to +29999	±(0.2% of rdg + 3 digits)	10μV
		± 40mV	01	±40.00mV	−19999 to +29999	±(0.2% of rdg + 2 digits)	10μV
		± 60mV	02	±60.00mV	−19999 to +29999	±(0.2% of rdg + 2 digits)	10μV
		±200mV	03	±200.0mV	−19999 to +29999	±(0.2% of rdg + 2 digits)	100μV
	V	± 2V	04	± 2.000V	−19999 to +29999	±(0.2% of rdg + 2 digits)	1mV
		± 5V	05	± 5.000V	−19999 to +29999	±(0.2% of rdg + 2 digits)	1mV
		0 to 10V	06	0 to 10.000V	−19999 to +29999	±(0.2% of rdg + 2 digits)	1mV
	mV	± 20mV	10	±20.00mV		±(0.2% of rdg + 3 digits)	10μV
		± 40mV	11	±40.00mV		±(0.2% of rdg + 2 digits)	10μV
		± 60mV	12	±60.00mV		±(0.2% of rdg + 2 digits)	10μV
		±200mV	13	±200.0mV		±(0.2% of rdg + 2 digits)	100μV
	V	± 2V	14	± 2.000V		±(0.2% of rdg + 2 digits)	1mV
		± 5V	15	± 5.000V		±(0.2% of rdg + 2 digits)	1mV
		0 to 10V	16	0 to 10.000V		±(0.2% of rdg + 2 digits)	1mV

Type	Symbol	Code	°C process variable	Display accuracy	Resolution
Thermocouple (The display accuracy excludes the reference contact compensation accuracy.)	R	20	0.0 to 1760.0°C	0 to 100°C ±3.7°C 100 to 300°C ±1.5°C 300°C or higher ±(0.15% of rdg + 1°C)	0.2°C 0.2°C 0.2°C
	S	21			
	B	22	0.0 to 1760.0°C	Lower than 400°C ±50°C 400 to 600°C ±3°C 600°C or higher ±(0.15% of rdg + 1°C)	Not specified 0.3°C 0.2°C
	K	23	−200.0 to +1370.0°C	−200 to −100°C ±(0.15% of rdg + 1.5°C) −100°C or higher ±(0.15% of rdg + 0.9°C)	0.2°C 0.2°C
	E	24	−200.0 to +800.0°C	−200 to −100°C ±(0.15% of rdg + 1°C) −100°C or higher ±(0.15% of rdg + 0.6°C)	0.2°C 0.2°C
	J	25	−200.0 to +1100.0°C	−200 to −100°C ±(0.15% of rdg + 1.1°C) −100°C or higher ±(0.15% of rdg + 0.7°C)	0.2°C 0.2°C
	T	26	−200.0 to +400.0°C	−200 to −100°C ±(0.15% of rdg + 1°C) −100°C or higher ±(0.15% of rdg + 0.6°C)	0.2°C 0.2°C
	Nicrosil-Nisil	27	0.0 to 1300.0°C	All range ±(0.15% of rdg + 1°C)	0.2°C
	WRe0-26	28	0.0 to 2320.0°C	0 to 300°C ±(0.15% of rdg + 10°C) 300 to 600°C ±(0.15% of rdg + 1.5°C) 600°C or higher ±(0.15% of rdg + 1°C)	1.1°C 0.2°C 0.2°C
	WRe5-26	29	0.0 to 2320.0°C	0 to 300°C ±(0.15% of rdg + 1.5°C) 300°C or higher ±(0.15% of rdg + 1°C)	0.2°C 0.2°C
	PR40-20	30	0.0 to 1880.0°C	0 to 500°C ±40°C 500 to 900°C ±12°C 900 to 1500°C ±(0.3% of rdg + 6°C) 1500°C or higher ±(0.3% of rdg + 3.5°C)	2.2°C 0.7°C 0.4°C 0.2°C
	PLII	31	0.0 to 1290.0°C	All range ±(0.15% of rdg + 0.7°C)	0.2°C
	Ni-Ni Mo	32	0.0 to 1200.0°C	All range ±(0.15% of rdg + 0.7°C)	0.2°C
	Kp-Au7Fe	33	0.0 to 300.0K	0 to 25K ±(0.3% of rdg + 1.6K) 25K or higher ±(0.3% of rdg + 1.1K)	0.2K 0.2K
Resistance temperature detector	Pt100	40	−200.0 to +650.0°C	All range ±(0.15% of rdg + 0.6°C)	0.2°C
	JPt100	41	−200.0 to +550.0°C	All range ±(0.15% of rdg + 0.6°C)	0.2°C

Table 1. Input types, masuring range and display accuracies (2/2)

Type	Symbol	Code	°F process variable	Display accuracy	Resolution
Thermocouple (The display accuracy excludes the reference contact compensation accuracy.)	R	50	32 to 3200°F	32 to 212°F ±8°F 212 to 272°F ±4°F 572°F or higher ±(0.15% of rdg + 3°F)	1°F 1°F 1°F
	S	51			
	B	52	32 to 3308°F	Lower than 752°F ±90°F 752 to 1112°F ±6°F 1112°F or higher ±(0.15% of rdg + 3°F)	Not specified 2°F 1°F
	K	53	−328 to +2498°F	−328 to −148°F ±(0.15% of rdg + 4°F) −148°F or higher ±(0.15% of rdg + 3°F)	1°F 1°F
	E	54	−328 to +1472°F	−328 to −148°F ±(0.15% of rdg + 3°F) −148°F or higher ±(0.15% of rdg + 2°F)	1°F 1°F
	J	55	−328 to +2012°F	−328 to −148°F ±(0.15% of rdg + 3°F) −148°F or higher ±(0.15% of rdg + 2°F)	1°F 1°F
	T	56	−328 to +752°F	−328 to −148°F ±(0.15% of rdg + 3°F) −148°F or higher ±(0.15% of rdg + 2°F)	1°F 1°F
	Nicrosil-Nisil	57	32 to 2372°F	All range ±(0.15% of rdg + 3°F)	1°F
	WRe0-26	58	32 to 4208°F	32 to 572°F ±(0.15% of rdg + 19°F) 572 to 1112°F ±(0.15% of rdg + 4°F) 1112°F or higher ±(0.15% of rdg + 3°F)	3°F 1°F 1°F
	WRe5-26	59	32 to 4208°F	32 to 572°F ±(0.15% of rdg + 4°F) 572°F or higher ±(0.15% of rdg + 3°F)	1°F 1°F
	PR40-20	60	32 to 3416°F	32 to 932°F ±73°F 932 to 1652°F ±32°F 1652 to 2732°F ±(0.3% of rdg + 12°F) 2732°F or higher ±(0.3% of rdg + 7°F)	5°F 2°F 2°F 1°F
	PLII	61	32 to 2354°F	All range ±(0.15% of rdg + 2°F)	1°F
	Ni-Ni Mo	62	32 to 2192°F	All range ±(0.15% of rdg + 2°F)	1°F
Resistance temperature detector	Pt100	70	−328.0 to 1202.0°F	All range ±(0.15% of rdg + 1.2°F)	0.5°F
	JPt100	71	−328.0 to 1022.0°F	All range ±(0.15% of rdg + 1.2°F)	0.5°F

Reference contact point compensation accuracy:

- Type: K, E, J, T, Ni-NiMo, PL-II, and Nicrosil-Nisil: ±0.5°C/±1°F
  However, the following reference contact compensation accuracy applies for the input of low temperature.
  −100°C/−148°F or lower of input K, E, J, and T: ±1°C/±2°F
- Type: Kp-Au7Fe: ±0.5K
  However, the following reference contact compensation accuracy applies for the input of low temperature.
  25K or lower: ±1K
- Type: R, S, B WRe0-26, and WRe5-26: ±1°C/±2°F
- Type: PR40-20: ±2°C/±4°F

MODEL SELECTION GUIDE

I	II	III	IV	V	VI	VII	VIII

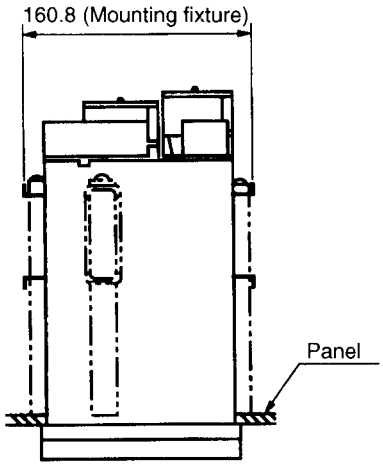
Example: SRF106AS111000

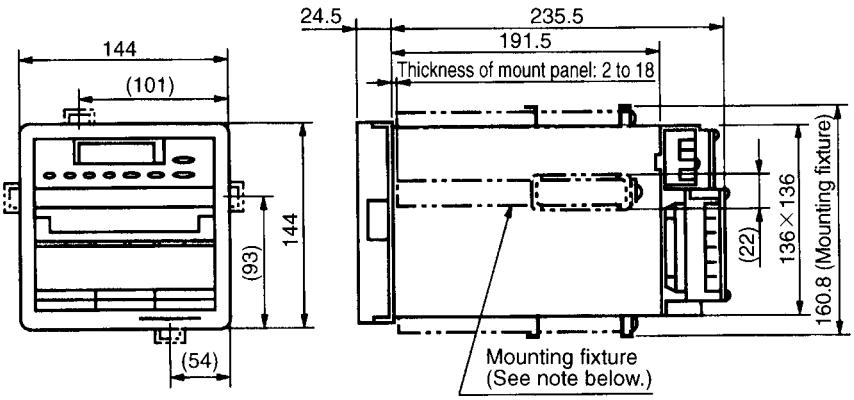
I	II	III	IV	V	VI	VII	VIII	Descriptions
Basic Model No.	Power requirement	Input	Additional function 1	Additional function 2	Additional function 3	Additional processing 1	Additional processing 2	
SRF106								100mm, 6 dot printing recorder
	A							100–240V AC
		S						Full-multi input (Standard specification)
			0					None
			1					6 events
			2					6 events, 4 remote switches
				0				None
				1				RS-485
				2				RS-232C
					0			None
					1			Chart illumination
						0		None
						D		With test data
						T		Tropical treatment
						B		With test data and tropical treatment
							0	None

DIMENSIONS

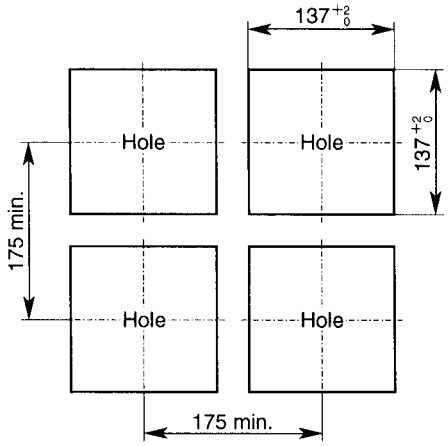
[in mm]

SRF106 instrument



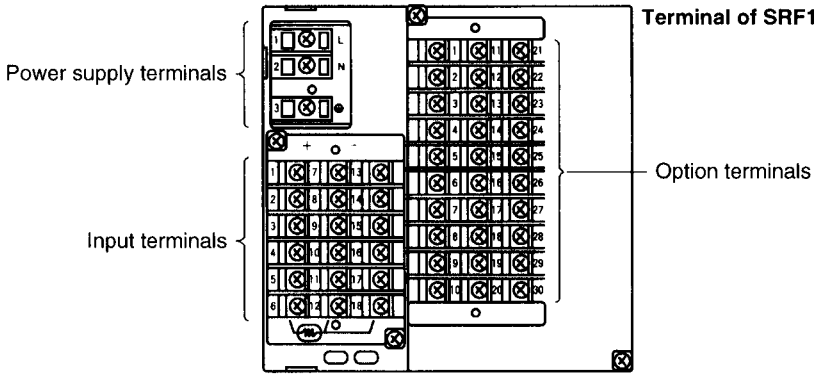


Panel cutout



Note: Use the mounting fixtures for the top and bottom, or for the left and right.

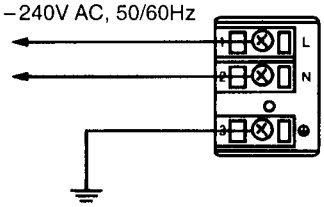
WIRING



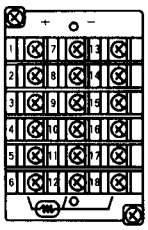
Power supply terminal

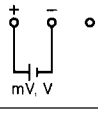
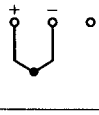
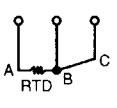
To a power source for measuring instruments

100 – 240V AC, 50/60Hz

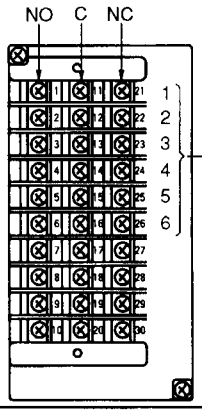


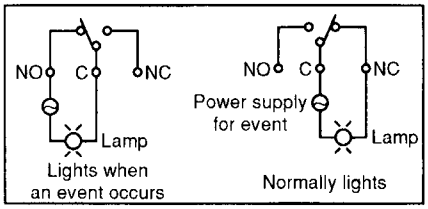
PV input terminals



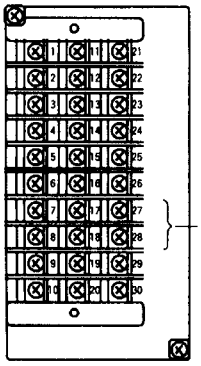
DC voltage	Thermocouple	Resistance temperature detector
		

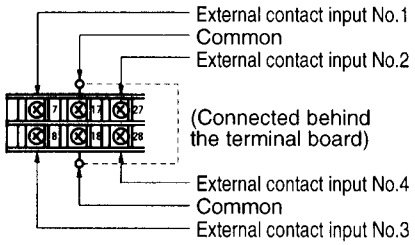
Event output terminals (option)



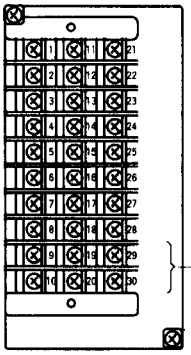


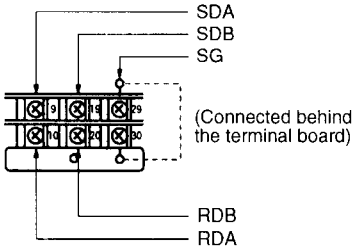
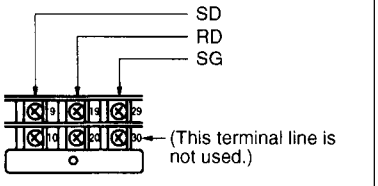
External contact input terminals (option)





Communications terminals (option)



RS-485 (Yamatake-Honeywell CP communications system	RS-232C (Yamatake-Honeywell CP communications system
	

Specifications are subject to change without notice.

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