Hybrid Recorder



HR-700 Series



A smaller, lighter recorder with RS-232C standard.



Distributed by:

Standard Features

True Hybrid Design

Units offer fully programmable features including: input types, chart speed, data recording session and intervals, scaling, alarm points, etc.

• True Multi-Input

Units feature true multi-input capabilities: 13 thermocouple types, 1 RTD type, 1 current inputs, and 7 voltage inputs.

Computer Communications

All units feature standard RS-232C communication interface.

Large/Full Function LED Display

All units feature full function digital display of channel number, PV value, and recording and alarm status, etc. Bright red 18mm display.

• 1, 2, And 6 Point Versions Available

Units are available in either 1 or 2 channel, or 6 point recording versions.

• Designed For Harsh Environments

Units rated to IP65, and constructed of flame resistant resin.

Compact Design

Unit measures only 150mm in depth and weigh less than 1.5kg. Chart width 100mm.

Safety Approvals

UL, CSA and CE Safety Approvals.

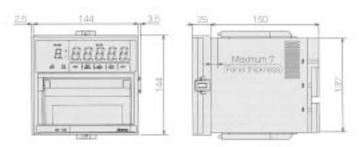
• Warranty

All units manufactured to strict ISO standards and offer full 2 year manufacturers warranty.

Low Cost

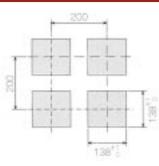
Most advanced price/performance package available.

External Dimensions

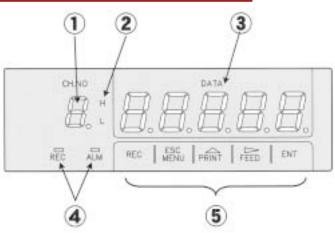


Allowable inclination angle, 0 to 30° or less.

Panel Cutout



Display And Operation Keys



1: Channel Number Indicator

Orange LED indicates Channel number 1 to 6.

2: Alarm Indicator

Red LED indicates the type of the alarm, [H] is lit when the alarm is High, and [L] is lit when the alarm is Low. Neither of them is lit when there is no alarm.

3: Data Indicator

Indicates the process variable, time, setting value and setting item by orange indicator.

4: Status Indicators

The [REC] (orange) is lit when recording.

The [ALM] (red) is lit when the alrm is being activated.

5: Operation Keys

Use these keys for setting and other operations.

High Performance Temperature & Recording Instrumentation ...at the lowest prices anywhere!

Input Range Table				
Input Type		Scale		
Thermocouple	B R S K E J T Au-Fe N PR40-20 PL-II U L	0 to 1820°C 0 to 1760°C -200 to 1370°C -200 to 1370°C -200 to 800°C -200 to 400°C 1.0 to 300K 0 to 1300°C 0 to 1880°C 0 to 1390°C -200 to 400°C -200 to 900°C	32.0 to 3308°F 32.0 to 3200°F 32.0 to 3200°F -328 to 2498°F -328 to 1472°F -328 to 752°F -328 to 752°F -32 to 2372°F 32 to 2372°F 32 to 234°F -328 to 752°F -328 to 752°F -328 to 752°F	
RTD	Pt100	-200 to 650°C	-328 to 1202°F	
DC Voltage, Current	-10 to 10m V 0 to 20m V 0 to 50m V -200 to 200m V -1 to 1V 0 to 5V -10 to 10V 4 to 20mA	Scaling is possible within the range -32767 to 32767. Decimal point may be placed where required.		

• For DC current input a shunt resistor (250Ω) is required.

General Specifications

Measuring Point	When ordering, one type can be selected from the following.		
	1-point (Pen writing type): HR-701, 2-point (Pen writing type): HR-701, 6-point (Dot printing type): HR-706		
Input	Multi-range (Types are selectable.) • Thermocouple • RTD • RTD • DC voltage ±10mV DC, 0 to 20MV DC, 0 to 50mV DC, ±200mV DC, ±1V DC, ±10V DC, 0 to 5V DC • DC current ±10mV DC, 0 to 20MV DC, 0 to 50mV DC, ±200mV DC, ±1V DC, ±10V DC, 0 to 5V DC • DC current ±10mV DC, 0 to 20MV DC, 0 to 50mV DC, ±200mV DC, ±10V DC, 0 to 5V DC • DC current ±10mV DC, 0 to 20MV DC, 0 to 50mV DC, ±200mV DC, ±10V DC, 0 to 5V DC • DC current ±10mV DC, 0 to 20MV DC, 0 to 50mV DC, ±200mV DC, ±10V DC, 0 to 5V DC • DC current ±10mV DC, 0 to 20MV DC, 0 to 50mV DC, ±200mV DC, ±10V DC, 0 to 5V DC • DC current # to 20mA DC (Needs external 250Ω of shunt resistor which is sold separately.) Scale Refer to rated scale Input resistance When Thermocouple, DC voltage (mV) range without burnout alarm :10kΩ or less When DC voltage (V) :1kΩ or less When RTD :10Ω or less per wire		
Display	System Digital indication, 7-segment orange, LED 6 digits (Channel number indicator: 1 digit, Measured value indicator: 5 digits) Contents Channel No., Process variable, Date and year, Chart feed speed, Alarm setting value Others REC: Lights while recording, ALM: Red LED lights when alarm action occurs to whichever channel.		
Performance	Digital accuracy rating ±0.2%±1 digit or less (Within the measuring range of mV or V input. TC and RTD are excluded.) Recording accuracy Measuring accuracy ±(0.3% of recording span) Dead band		
Recording	Chart paper		
Alarm	Alarm output is not available. (ALM is lit.) When alarm output is needed, alarm output function (Option) is required. Setting points Maximum 4 points (2 points for High limit and low limit each) can be set per channel Hysteresis width 0.5% Setting accuracy The same as Digital display accuracy		
Communication	RS-232C: 1200/2400/4800/9600/19200bps		
Power Consumption	1-pen: Approx. 25VA, 2-pen: Approx. 28VA, 6-pen: Approx. 25VA		
Insulation Resistance	Between each terminal and ground: 20M Ω or greater at 500V DC		
Supply Voltage	100 to 240V AC, 50/60Hz, allowable voltage fluctuation 85 to 264V AC		
Dielectric Strength	 1.5kV AC for 1 min between power terminal and ground terminal 500V AC for 1 min between input terminal and ground terminal 200V AC for 1 min between input terminal and the other input terminal 		
Ambient Surroundings	Temperature: 0 to 50°C, Humidity: 20 to 80% RH		
Material	Case: Flame resisting resin (Black) Door: Flame resisting resin (Transparent)		
Door	Dust-proof and Drip-proof (IEC529 IP65)		
Mounting Method	Panel mounting (Vertical panel), Allowable inclination angle: Backward 0 to 30° or less		
Weight	HR-701: Approx. 2kg. HR-702: Approx. 2.5kg. HR-706: Approx. 1.5kg		
Added Function	Skipping, Servo-stop, Self-diagnosis, Zone recording, Partial compression / expansion recording, Decade recording and indication, Tag number setting, Copy function, Input offset setting, Operation, Operation between channels, Scaling, Burnout, Memory back up (Clock function is protected by the internal lithium battery. [Battery life: Approx. 10 years]), Setting / Corrected data is protected by non-volatile memory.		

Options

Communication function [C5]	Communicating line: RS-485, Data transfer rate: 1200 / 2400 / 4800 / 9600 / 19200bps		
DI function [RE1] [RE6]	Settable at 3 points (Maximum) Chart feed Start / Stop :Relay ON :Start Relay OFF :Stop Changing chart speed :Changes 1st with tuning to ON and 2nd with OFF Comment print : Prints comments with tuning to ON (Up to 16 characters per line) Log print : Prints with tuning to ON Date and time print : Prints date and time with tuning to ON		
Empty paper tray detection function [FL]	Detects the paper-empty, stops recording, and performs the alarm output. (When adding this option, [LH3] or [LH6] needs to be specified.		
Alarm output function [LH3] [LH6]	Output number • Pen writng type, 3 points (Built-in option, a contact) • Dot printing type, 6 points (Built-in option,a contact) Contact capacity 250V AC Maximum 3A (Resistive load) 30V DC Maximum 3A (Resistive load) 125V DC Maximum 0.5A (Resistive load)		



Accessories

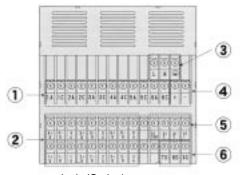
SPARE PARTS	PART NUMBER
Chart paper (20 charts per box) Cartridge pen (Red) Cartridge pen (Blue) Ribbon cassette (HR706) Ribbon cassette (HR701 & 702) Instruction manual (HR701 & 702)	H-10100 WPSR196A000001A WPSR196A000002A WPSR188A000001A HPSR001H002 HR72E3
Instruction Manual (HR706)	HR71E3

Shinko is an ISO 9001 facility





Terminal Wiring



- 1. Alarm output terminals (Option)
- 2. Input terminals
- 3. Power supply terminals
- 4. RS-485 Communication terminals (Option)
- 5. DI Function terminals (Option)
- 6. RS-232C Communication terminals

Model Number Configuration

н	R-70	_/M
NUMBER OF INPUTS	CODE	
1-Point (pen type) 2-Point (pen type) 6-Point (dotting type)	1 2 6	
INPUT	CODE	
Multi-range T/C, RTD, mA, VDC	М	
OPTIONS	CODE	
Communications (RS-485) DI function (pen type) DI function (dot type) Paper empty detection Alarm output function (pen type) Alarm output function (dot type)	C5 RE1 RE6 FL) LH3 LH6	