

# ELECTRONIC MINI-RECORDER



## MODEL ES6 □ □

The ES600 is a compact industrial analog recorder using 60-mm wide chart paper. Even with its compact size of 96×144 mm, it has functions comparable with a large-size recorder including a highly reliable automatic parallel system, easy-to-install fanfold recording chart paper, etc. There are two recording systems, pen type recorders have one-point continuous recording and dot printing type recorders are available which record a maximum of six points. Thermocouples, DC voltages/currents, resistance thermometers and thermistors measuring inputs are available which enable the recording of temperatures, various industrial units, signal voltages and currents.



MODEL ES600

### GENERAL SPECIFICATIONS

- Input signal** : mV: More than 10 mV DC span, less than 50 V span  
 Thermocouple: K, T More than 250°C span  
 E, J More than 200°C span  
 R More than 1000°C span  
 Resistance thermometer: (Pt100, JPT100)  
 More than 50°C span  
 Thermistor: More than 50°C span (at room temperature)
- Scale width** : 60mm
- Indicating accuracy**: ±1.0% of input span
- Dead band** : 0.4% of input span
- Balancing speed** : Approx. 2.0 sec (50 Hz), 1.6 sec (60 Hz) for full-scale movement
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- Chart paper** : Fanfold type, effective width 60mm, total width 73 mm, total length 10 m
- Recording points** : Pen type; 1 pen  
 Dot printing type; 4 types with 1, 2, 3 and 6 points
- Recording system** : Pen type: Cartridge pen continuous recording (color: red)  
 Dot printing type: Ink pad dot printing with each point in a different color  
 Dot printing color:  
 1 point: red  
 2 points: 1 red, 2 blue  
 3 points: 1 red, 2 blue, 3 green  
 6 points: 1 red, 2 blue, 3 green, 4 violet, 5 purple, 6 brown
- Chart speed** : 10, 20 mm/b and fast feed
- Dot printing interval**: Approx. 10 sec
- Pen lift** : Manual
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- (Pen-writing type)**
- Power supply** : 100, 110, 120, 130, 200, 220, 230, or 240 V AC, 50/60 Hz
- Allowable voltage fluctuations** : +10% to -10% of rated value
- Ambient temperature**: -10°C to 50°C
- Ambient humidity** : 30 to 90% RH
- Allowable signal source resistance** : mV input, thermocouple input: 1KΩ or less  
 Resistance thermometer input: less than 10 Ω per wire
- input resistance** : Approx. 8 MΩ
- Max. common mode voltage**: 200 V AC
- Common mode rejection ratio** : 100 dB or more

**Series mode rejection ratio** : 50dB or more

- Insulation resistance** : Between measuring terminals and ground terminal: 500 V DC, 20 MΩ or more  
 Between power terminals and ground terminal: 500 V DC, 20 MΩ or more  
 Between measuring terminals and power terminals: 500 V DC, 20 MΩ or more
- Withstand voltage** : Between measuring terminals and ground terminal: 500 V AC for 1 minute  
 Between power terminals and ground terminal: 1000 V AC for 1 minute  
 Between measuring terminals and power terminals: 1000 V AC for 1 minute

- Power consumption** : Approx. 7 VA
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- Casing** : Front door: ABS plastic  
 Flange and rear case: ABS plastic
- Color** : Gray
- Mounting** : Panel mounting
- Weight** : Approx. 1.7kg

### MODELS

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- Input** : 1: Thermocouple  
 2: Resistance thermometer  
 3: Thermistor  
 8: Current or voltage
- Alarm** : 0: None  
 1: High/Low limit5  
 2: High limit  
 3: Low limit\*
- Number of points** : 01: 1 pen  
 1D: 1dot  
 02: 2dots  
 03: 3dots  
 06: 6dots

Functions marked\* are optional.

## STANDARD SCALE

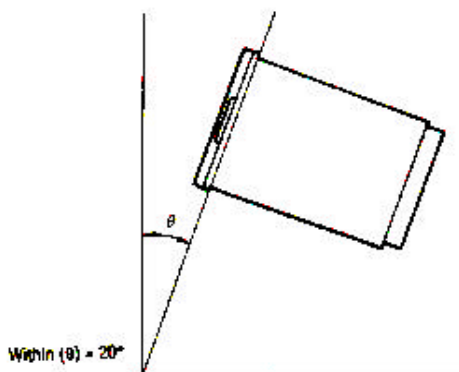
Input	Standard scale			
Thermocouple	R	0 to 1400(50)	0 to 1600(50)	
	K	0 to 250(5)	0 to 300(10)	0 to 600(20)
		0 to 800(20)	0 to 1200(20)	
	E	0 to 200(5)	0 to 300(W)	
	J	0 to 300(10)	0 to 400(10)	
I	0 to 250(5)	0 to 300(10)		
mV	0 to 10 (0.2)	0 to 20(0.5)	0 to 100(2)	
	-5 to 5 (0.2)	-10 to 10 (0.5)	-50 to 50 (2)	
	0 to 1V (0.02V)	-1 to 1 V (0.05V)		
mA	4 to 20mA (0.5mA)			
Resistance thermometer	0 to 50(1)	0 to 100(2)	0 to 150(5)	
	0 to 200 (5)	0 to 300(10)	-20 to 30(1)	
	Pt100	-20 to 80(2)	-30 to 70(2)	-50 to 50(2)
JPt100	-50 to 100(5)	-100 to 50(2)		
Thermistor	0 to 100(5)	0 to 200(5)		

Unit is °C. mV is used only for mV inputs. () shows 1 graduation.

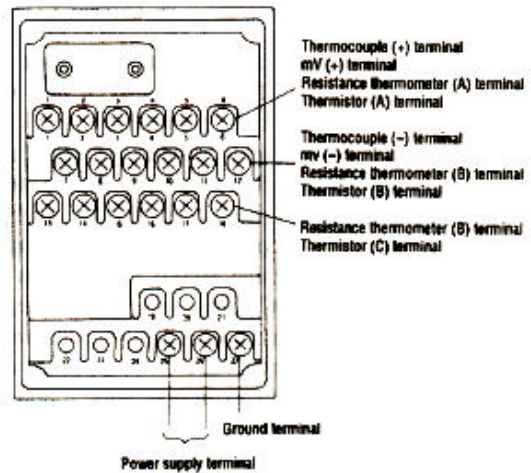
## OPTIONS

Option name	Contents
Chart speed	Variable between 5 mmMi to 400 mm.ft
Dot interval	Approx. 5 sec.
Alarm	Alarm system: High limit (Low limit) type or High/Low limit type Setting accuracy: ±1% of input span Deadband: 0.6% of input span Contact capacity: Resistance load 100V 0.5A, 200V 0.2A Alarm signal: On-off make-contact signal
Double scale	① Manual switching to double scale ② Double scale classified by positions
Burnout	In case input is interrupted, indicated value will be beyond high limit (or low limit)
Portable type	With handle and feet

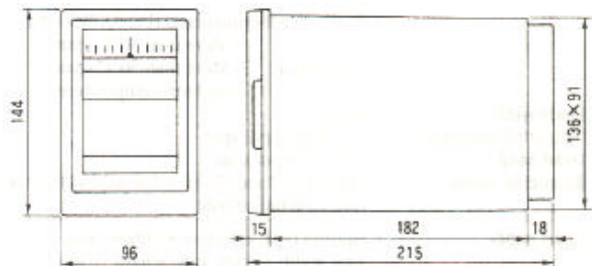
## INCLINED MOUNTING



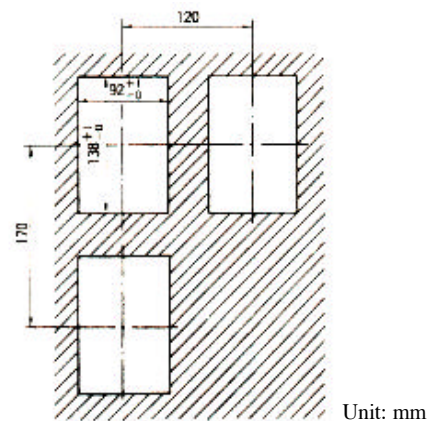
## TERMINAL BOARD



## EXTERNAL DIMENSIONS



Panel cutout and mounting interval



Unit: mm

Specifications subject to change without notice. Original 2000.12

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