

# 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

**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

#### (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 radio** : 100 db or more

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

**Insulation resistance** : Between measuring terminals and ground  
terminal: 500 VDC, 20 MΩ or more  
Between power terminals and ground  
terminal: 500 VDC, 20 MΩ or more  
Between measuring terminals and power  
terminals: 500 VDC, 20 MΩ or more

**Withstand voltage** : Between measuring terminals and ground  
terminal: 500 VAC for 1 minute  
Between power terminals and ground  
terminal: 1000 VAC for 1 minute  
Between measuring terminals and power  
terminals: 1000 VAC for 1 minute

**Power consumption** : Approx. 7 VA

**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 limit\*  
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**

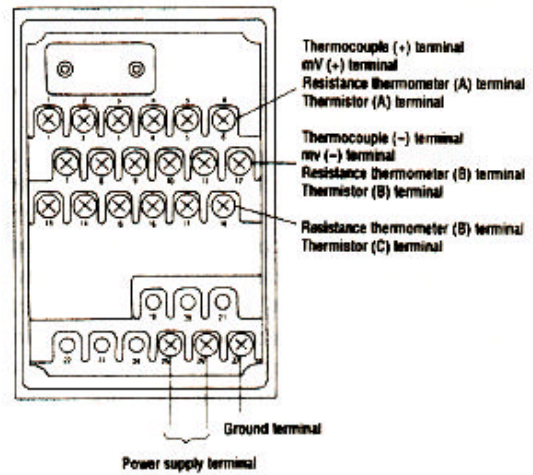
Input	Standard scale		
Thermocouple	R	0 to 1400(50)	0 to 1600(50)
	K	0 to 250(5)	0 to 300(10) 0 to 600(20)
		0 to 800(20)	0 to 1200(20)
	E	0 to 200(5)	0 to 300(10)
J	0 to 300(10)	0 to 400(10)	
	10 to 250(5)	0 to 300(10)	
mV	0 to 10 (0.2)	0 to 20(0.5)	0 to 100(2)
	-5 to 5 (0.2)	-10 to 10 (0.5)	50 to 50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

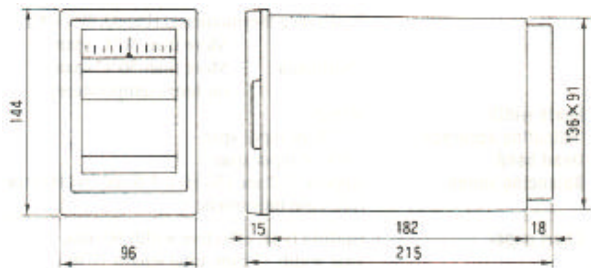
■ **OPTIONS**

Option name	Contents
Chart speed	Variable between 5 mtMi 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

■ **TERMINAL BOARD**

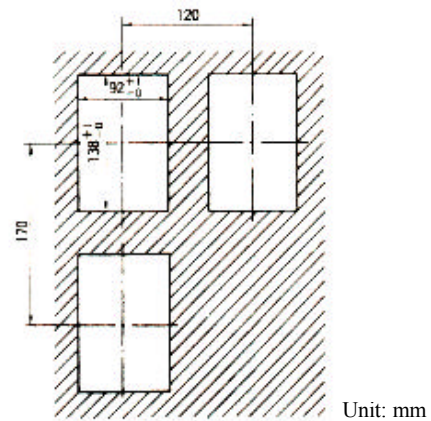
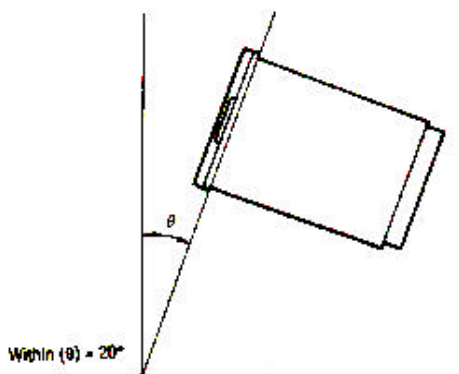


■ **EXTERNAL DIMENSIONS**



Panel cutout and mounting interval

■ **INCLINED MOUNTING**



Specifications subject to change without notice. Original 2000.12

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