

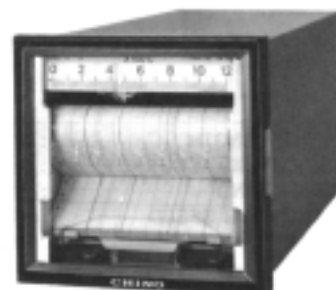
EL SERIES COMPACT ELECTRONIC RECORDER



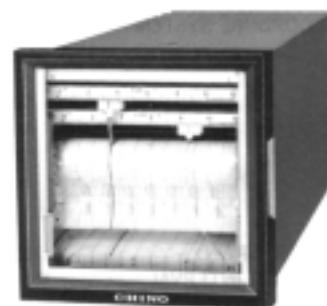
The EL recorders are compact and modular in design to provide versatility, easy maintenance and reliable operation.

The EL series includes a full range of models which accept inputs from mV• mA , thermocouples, resistance thermometers or thermistors. All EL models use fanfold chart paper, 100mm wide. Model EL includes 1, 2, 3, or 6 point recording systems, and a highly dependable one, two or three-pen continuous writing systems.

The EL series offers a variety of options. For example, chart speeds are available with one, two, three or six selectable positions. In addition, alarms can be provided at high and/or low limits. The alarms feature adjustable set points which can be set to provide 1.0% accuracy. These recorders can also include optional analog transmission signals used to obtain actual values on a process controller.



MODEL EL 100-06



MODEL FLI 100

MODELS

● 1-pen and dotting type instrument

Recording system	Type	Alarm action	Measurement				
			mV • mA type	Thermocouple	Resistance thermometer	Thermistor	
1-Pen	Recorder		EL800-01	EL100-01	EL200-01	EL300-01	
	Recording alarm	High (low) limit	EL826-01	EL126-01	EL226-01	EL326-01	
		High/low limits	EL836-01	EL136-01	EL236-01	EL336-01	
Dotting (multi.) point)	Recorder		EL800-□	EL100-□	EL200-□	EL300-□	*1
	Recording alarm	High (low) limit	EL826-□	EL126-□	EL226-□	EL326-□	
		High/low limits	EL836-□	EL136-□	EL236-□	EL336-□	

*1□ : 01D, 02, 03, 06 4 kinds

● 2-pen type instrument

Recording system	Type	Alarm action of 2nd pen	Alarm action of 1st pen			
			Record	High (low) limit	High/low limits	
2-pen	Recorder		FL□□ 00	—	—	
	Recording alarm	High (low) limit	FL□□ 06	FL□□ 66	—	
		High/low limits	FL□□ 07	—	FL□□ 77	

□ : Measurement System of 2nd pen 8 : mV -mA type, 1: Thermocouple type, 2 : Resistance thermometer type, 3 Thermistor type

● 3-pen type instrument

Recording system	Type	Alarm action of 3rd pen	Alarm action of 2nd pen			
			Record	High (low)	High/low limits	
3-pen	Recorder		GL□□□000	—	—	*2 *3
	Recording alarm	High (low) limit	GL□□□007	GL□□□066	—	
		High/low limits	GL□□□006	—	GL□□□077	
		High (low) limit		GL□□□666	—	
		High/low limits			GL□□□777	

□ : Measurement system of 1st-pen, 2nd pen and 3rd pen 8 : mV mA type, 1: Thermocouple type, 2 : Resistance thermometer type, 3 : Thermistor type

* 2 1st pen high (low) limit

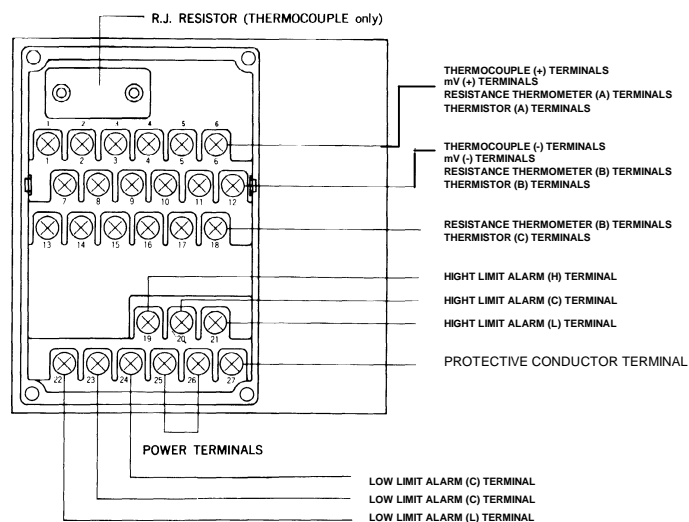
* 3 1st pen high/low limits

■ GENERAL SPECIFICATIONS

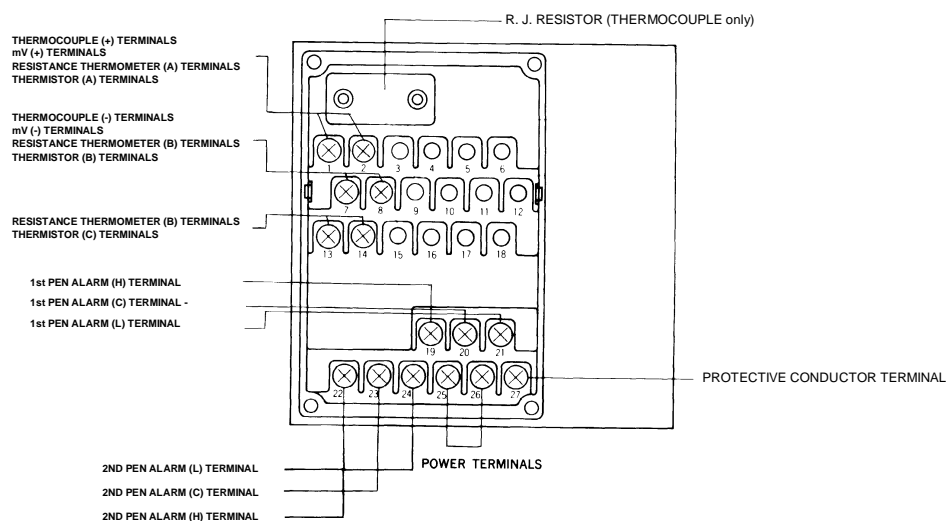
INPUT	:DC voltage	_____	More than	10mV DC span, less than 100V DC span
	DC current	_____	More than	20μA DC span, less than 50 mA DC span
	Thermocouple	_____	More than	250°C span (K)
			More than	150°C span (E)
			More than	200°C span (J, T)
			More than	800°C span (R)
	Resistance thermometer	_____	More than	50°C span (Pt 100, JPt 100)
	Thermistor	_____	More than	50°C span (at about room temperature)
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SCALE LENGTH	: 100mm			
INDICATING ACCURACY	: ± 0.5% of input span			
DEAD BAND	: 0.2% of input span			
BALANCING SPEED	: About 2 sec, (50Hz) or 1.6 sec (60Hz) for traveling full scale			
CHART	: Fanfold chart			
	Effective width	100mm		
	Total width	11.4mm		
	Total length	10m		
	Pen-writing type	— 1-pen, 2-pen, or 3-pen		
	Dotting type	— 1, 2, 3, or 6 points		
RECORDING POINTS	: Pen-writing type	— 1-pen continuous recording (red)		
		— 2-pen continuous recording (1st-pen : red 2nd-pen green)		
		— 3-pen continuous recording (1st-pen: red 2nd-pen: green 3rd-pen: blue)		
RECORDING SYSTEM	Dotting type	— 1, 2, 3, or 6 points		
	Ink pad dotting recording at each point with each color			
	1 point	_____	red	
	2 points	_____	1 red, 2 black	
	3 points	_____	1 red, 2 black, 3 blue	
	6 points	_____	1 red, 2 black, 3 blue, 4 green, 5 brown, 6 purple	
	: 20mm/h			
	: 5sec (60Hz)			
	± 1.0% of measuring range			
	Full scale			
	0.4% of measuring range			
	: 100V, 110V AC — 1A			
	200V, 220V AC — 0.5A			
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POWER SUPPLY	: 100, 110, 115, 120, 200, 220, 230 or 240V AC, 50Hz or 60Hz			
ALLOWABLE VOLTAGE FLUCTUATION	: (+)10 — (-)10% of rated value			
AMBIENT TEMPERATURE	: (-) 10 to 50°C			
AMBIENT HUMIDITY	: 30 to 90% RH			
LE SIGNAL SOURCE RESISTANCE	mV — Less than 10k Ω			
	Thermocouple — Less than 10k Ω (with burnout circuit less than 150 Ω)			
	Resistance thermometer	Less than 10 Ω (per wire)		
	: DC voltage input	10mV ≤ Span voltage ≤ 500mV About 8MΩ		
		500mV < Span voltage ≤ 100V About 1MΩ		
	Thermocouple input — About 8MΩ			
	DC current input — 20μA ≤ Span current ≤ 200μA About 500Ω			
		20μA < Span current ≤ 50mA About 10Ω		
MAXIMUM COMMON MODE VOLTAGE	: AC 200V			
COMMON MODE REJECTION RATIO (CMRR)	: More than 100 dB			
SERIES MODE REJECTION RATIO (SMRR)	: More than 50 dB			
INSULATION RESISTANCE	: 500V DC, 20MΩ or more between measuring terminals and ground terminal			
	1000V DC, 20MΩ or more between power terminals and ground terminal			
	1000V DC, 20MΩ or more between measuring terminals and power terminals			
WITHSTAND VOLTAGE	: 500V AC, for 1 min between measuring terminals and ground terminal			
	1000V AC, for 1 min between power terminals and ground terminal			
	1000V AC, for 1 min between measuring terminals and power terminals			
POWER CONSUMPTION	: About 8VA (1-pen type)			
	About 10VA (Dotting type)			
	About 16VA (2-pen type)			
	About 20VA (3-pen type)			
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CASING	: Front door — ABS resin			
	: Rear case — Steel plate			
COLOR	: Door — Black			
	: Case — Metallic silver			
MOUNTING	: Flush panelmount			
WEIGHT	: About 3.4kg (1-pen), about 3.8kg (Dotting), about 4.9kg (2 pen), about 5.6kg (3-pen)			

■ TERMINAL BOARD

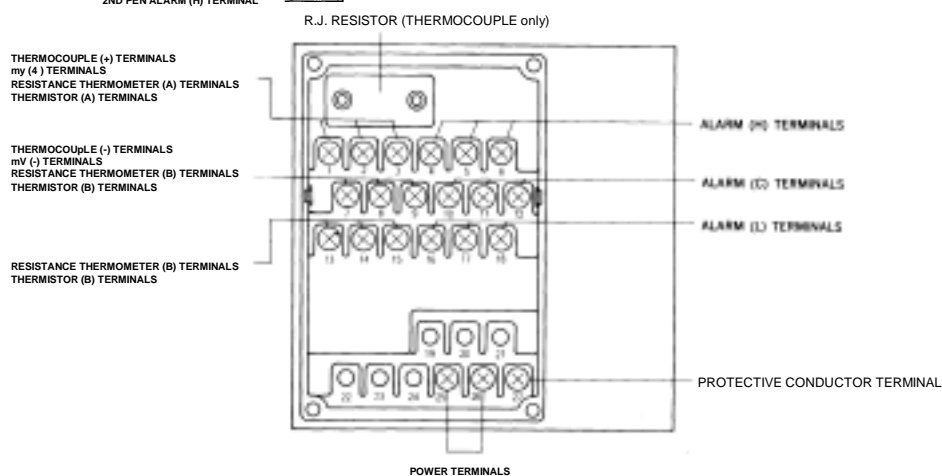
• 1-pen and dotting type



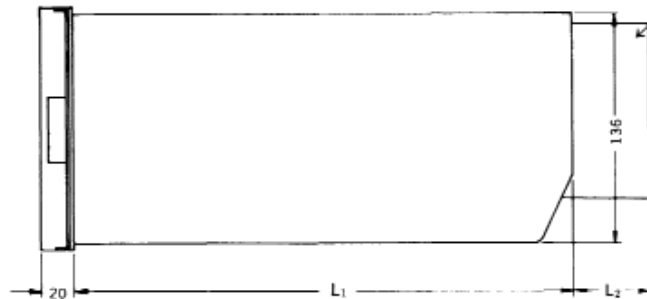
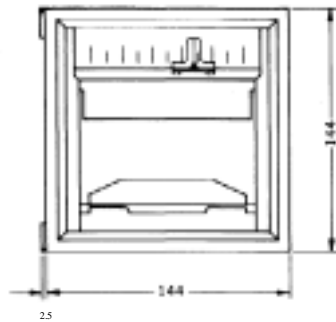
• 2-pen type



3-pen type



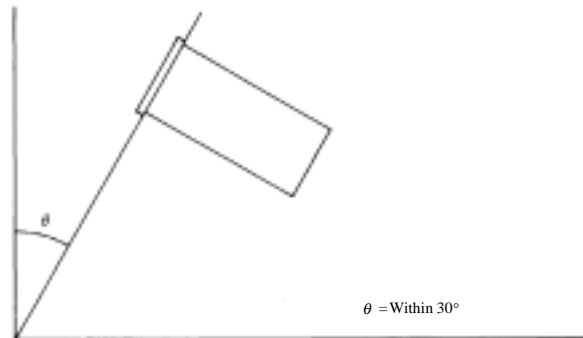
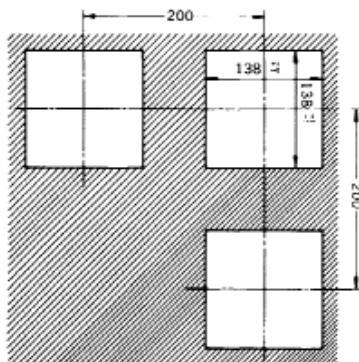
EXTERNAL DIMENSIONS



When the power supply is other than AC100V, a down-transformer is installed on the instrument case as shown in the left drawing.

L₁ : 1-pen and dotting type — 200mm
2-pen and 3-pen type — 350mm
L₂ : 2-pen and 3-pen type — 80mm

PANEL CUTOUT AND MOUNTING ANGLE



$\theta = \text{Within } 30^\circ$

STANDARD SCALE

	Input	Standard scale (°C)		
Thermocouple	R	0 to 1400(20) 0 to 1600(20) 800 to 1600(10)		
	K	0 to 250(5)	0 to 300(5)	0 to 400(5)
		0 to 600(10)	0 to 800(10)	0 to 1000(20)
		0 to 1200(20)	500 to 1200(10)	
	E	0 to 150(2)	0 to 200(5)	
		0 to 300(5)	(-)50 to 100(2)	
	J	0 to 300(5)	0 to 400(5)	
	T	0 to 200(5)	0 to 300(5)	(-)50 to 150(5)
mV		0 to 10mV(0.2)	0 to 20mV (0.5)	
		0 to 50mV(1)	(-)5 to 5mV(0.2)	
		(-)10 to 10mV(0.5)		

	Input	Standard scale (°C)		
Resistance thermometer	Pt 100	0 to 50(1)	0 to 100(2)	0 to 150(2)
	JPt 100	0 to 200(5)	0 to 300(5)	0 to 500(10)
		(-)20 to 80(2)	(-)50 to 50(2)	
	Thermistor	0 to 100(2)	0 to 200(5)	
Linear scale		4 to 20mA	1 to 5V	

() shows 1 graduation.

Specifications subject to change without notice. 2001.4

CHINO CORPORATION

32-8, KUMANO-CHO, ITABASHI-KU, TOKYO 173-8632

PHONE: +81-3-3956-2171

FAX: +81-3-3956-0915

E-mail: inter@chino.co.jp

Webside: <http://www.chino.co.jp>