



## ELC-10JT

High-density Signal Conditioners 10-RACK	
<b>THERMOCOUPLE TRANSMITTER</b> (field-programmable)	MODEL <b>10JT</b>

### MODEL & SUFFIX CODE SELECTION

10JT-□□□-R□

MODEL \_\_\_\_\_

INPUT THERMOCOUPLE \_\_\_\_\_

1 : (PR)	6 : B (RH)
2 : K (CA)	7 : R
3 : E (CRC)	8 : S
4 : J (IC)	N : N
5 : T (CC)	0 : Specify

OUTPUT 1 \_\_\_\_\_

A : 4 – 20mA DC

6 : 1 – 5V DC

OUTPUT 2 \_\_\_\_\_

0 : None

6 : 1 – 5V DC

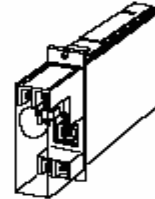
POWER INPUT \_\_\_\_\_

R : 24V DC

OPTIONS \_\_\_\_\_

/BN: No burnout

/BL : Downscale burnout



#### Functions & Features

- Accepting direct input from a thermocouple and providing two standard process signals
- Micro-processor based
- Field-programmable T/C type and temperature range
- Linearization
- Burnout protection
- High accuracy cold junction compensation
- Loop testing via hand-held programmer PU-2□
- Optional second channel output available at the front terminals and at the Standard Rack connector
- Fuse

#### Typical Applications

- Ideal for quick spare part
- High-accuracy cold junction compensation benefits narrow span measurements
- 0.1µA burnout sensing enables long distance transmission with minimum offset drifts
- Electric furnace (isolation)
- No burnout type can connect to a single T/C in parallel with a recorder

### ORDERING INFORMATION

Specify code number and variables. Default setting (table below) will be used if not otherwise specified. K thermocouple setting will be used if the input code is not specified.

- Code number (e.g. 10JT-2A6-R/BL)
- Temperature range (e.g. 0 – 800°C)

INPUT CODE	DEFAULT	TEMPERATURE RANGE
1	PR	0 – 1600°C
2	K	0 – 1000°C
3	E	0 – 500°C
4	J	0 – 500°C
5	T	0 – 300°C
6	B	0 – 1800°C
7	R	0 – 1600°C
8	S	0 – 1600°C
N	N	0 – 1000°C

### RELATED PRODUCTS

- Programming unit (model: PU-2□)

### GENERAL SPECIFICATIONS

**Construction:** rack-mounted; terminal access via screw terminals at the front and via card-edge connector at the rear; terminal cover provided

**Connection:** M3.5 screw terminals (nickel-plated steel; torque ≤0.8 N-m) and card-edge connector

**Housing material:** flame-resistant resin (black)

**Power input:** supplied from card-edge connector

**Power fuse:** 0.5A

**Isolation:** input to output 1 to output 2 to power

**Overrange output:** approx. -10 – +120% at 1 – 5V

**Adjustments:** Programming Unit (model: PU-2□);

T/C type, temp. range, zero and span, simulating output, etc.

**Burnout protection:** upscale standard; downscale or no burnout optional

**Linearization:** standard

**Cold junction compensation:** CJC sensor attached to the input terminals

Specifications subject to change without notice

**Enlaircon Pty Ltd**

Website: [www.enlaircon.com.au](http://www.enlaircon.com.au) Email: [sales@enlaircon.com.au](mailto:sales@enlaircon.com.au)

Phone: (612) 9909 0353 Facsimile: (612) 9909 0823

Postal Address: PO Box 697 Spit Junction NSW 2088 Australia

**INPUT & OUTPUT**

**INPUT:** thermocouples  
 Minimum span: 3mV  
 Zero suppression/elevation: max. 3 times span  
 Input resistance: 20k $\Omega$  minimum  
 Burnout sensing: 0.1 $\mu$ A  
 Temperature range

T/C	USABLE RANGE		MIN. SPAN	
	$^{\circ}$ C	$^{\circ}$ F	$^{\circ}$ C	$^{\circ}$ F
(PR)	0 to 1760	32 to 3200	370	670
K (CA)	-270 to +1370	-450 to +2500	75	140
E (CRC)	-270 to +1000	-450 to +1830	50	100
J (IC)	-210 to +1200	-350 to +2190	60	110
T (CC)	-270 to +400	-450 to +750	75	140
B (RH)	0 to 1820	32 to 3300	780	1440
R	-50 to +1760	-50 to +3200	360	680
S	-50 to +1760	-50 to +3200	380	700
N	-270 to +1300	-450 to +2370	110	200

Remark: For the temperatures that range below 0 $^{\circ}$ C, the transmitter may partially not satisfy the described accuracy. Consult factory.

**OUTPUT 1**

•DC Current: 4 – 20mA DC  
 Load resistance: 600 $\Omega$  maximum

•DC Voltage: 1 – 5V DC  
 Load resistance: 500 $\Omega$  minimum

**OUTPUT 2: 1 – 5V DC**

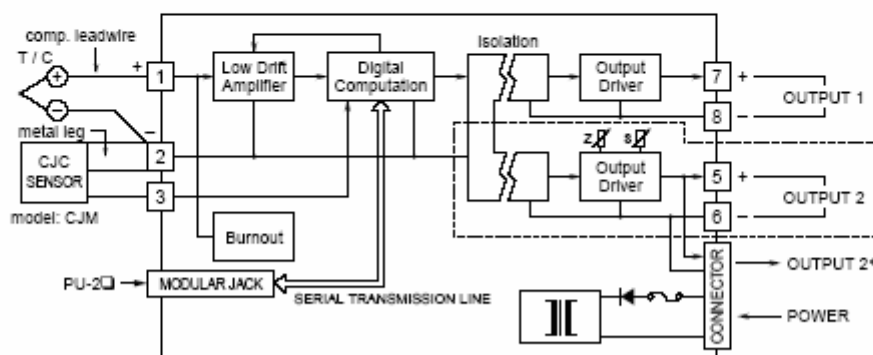
Load resistance: 5000 $\Omega$  minimum

**INSTALLATION**

Power input: 24V DC  $\pm$ 10% (ripple 10% p-p max.)  
 approx. 60mA with voltage output 1  
 approx. 90mA with current output 1  
 Operating temperature: -5 to +55 $^{\circ}$ C (23 to 131 $^{\circ}$ F)  
 Operating humidity: 30 to 90% RH (non-condensing)  
 Mounting: Standard Rack 10BX $\square$   
 Dimensions: W25 $\times$ H99 $\times$ D180 mm (0.98 $\times$ 3.90 $\times$ 7.09")  
 See General Spec. Sheet Figure A-1.  
 Weight: 220 g (0.49 lbs)  
 Terminal assignment: See General Spec. Sheet Figure B-3.

**PERFORMANCE in percentage of span**

Accuracy:  $\pm$ 0.1%  
 Linearization accuracy:  $\pm$ 0.05%  
 Cold junction compensation error:  $\pm$ 0.5 $^{\circ}$ C or  $\pm$ 0.9 $^{\circ}$ F  
 maximum (at 20 $^{\circ}$ C  $\pm$ 10 $^{\circ}$ C or 68 $^{\circ}$ F  $\pm$ 18 $^{\circ}$ F)  
 Temp. coefficient:  $\pm$ 0.015%/ $^{\circ}$ C ( $\pm$ 0.008%/ $^{\circ}$ F)  
 Response time:  $\leq$ 0.8 seconds (0 – 90%)  
 Burnout response:  $\leq$ 10 seconds  
 Line voltage effect:  $\pm$ 0.1% over voltage range  
 Insulation resistance:  $\geq$ 100M $\Omega$  with 500V DC  
 Dielectric strength: 500V AC @1 minute  
 (input to output 1 to output 2 to power)  
 1500V AC @1 minute  
 (input or output or power to ground)

**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**

\*1 output type has the output 1 connected to the card-edge connector in parallel.  
 Remark 1) The section enclosed by broken line is only for 2nd output channel.

Enlaircon Pty Ltd

Website: [www.enlaircon.com.au](http://www.enlaircon.com.au) Email: [sales@enlaircon.com.au](mailto:sales@enlaircon.com.au)

Phone: (612) 9909 0353 Facsimile: (612) 9909 0823

Postal Address: PO Box 697 Spit Junction NSW 2088 Australia