

## Red Lion Digital Panel Meters

- Voltage, Current, Process & Temperature Inputs
- Five Digit 0.48" (12 mm) LCD
- Red/Green Backlight Changes at Setpoint
- Input Scaling & Units Annunciator
- Min / Max Display Capture
- NEMA 4X/IP65 Front
- Setpoint Relay Output Options
- Optional RS232, RS485 or USB Communications
- Crimson Software for Simple Programming



**CUB5I**

**CUB5TC**


The CUB5I offers 4 DC current ranges with a maximum input of 200 mA. The CUB5V has 4 DC voltage ranges and a maximum input of 200 VDC.

- Current Ranges: 0 to 199.9  $\mu$ A, 1.999 mA, 19.99 mA, 199.99 mA
- Voltage Ranges: 0 to 199.9 mV, 1.999 V, 19.99 V, 199.9 V

The CUB5P accepts signals from flow meters, pressure sensors, position sensors and other process transmitters. Display can be scaled for readout in the desired units.

- Ranges: 4 to 20 mA, 10 to 50 mA, 0 to 10 V
- Span and Offset Capability

For temperature measurements, the CUB5RT accepts inputs from several types of RTD sensors. The CUB5TC accepts all popular thermocouples.

- RTD: Pt385, Pt392, Ni672, Cu427
- Thermocouple: T, E, J, K, R, S, B, N, or mV

The capability of the CUB5 can be easily expanded with plug-in option cards. Setpoint capability is field installable with the addition of a setpoint output card. Serial communications capability for RS232, RS485 or USB is added with a serial option card.

The CUB5 can be powered from an optional Red Lion Micro Line /Sensor Power Supply (MLPS), which attaches directly to the back of a CUB5. The MLPS operates from 85 to 250 VAC and provides up to 400 mA to drive the meter and sensors.

### ORDERING INFORMATION

CUB5IR00	DC Current Meter with Reflective Display
CUB5IB00	DC Current Meter with Backlight Display
CUB5VR00	DC Volt Meter with reflective display
CUB5VB00	DC Volt Meter with backlight display
CUB5PR00	Process Meter with Reflective Display
CUB5PB00	Process Meter with Backlight Display
CUB5TCR0	Thermocouple Meter with Reflective Display
CUB5TCB0	Thermocouple Meter with Backlight Display
CUB5RTR0	RTD Meter with Reflective Display
CUB5RTB0	RTD Meter with Backlight Display
<b>Plug-in Options: *</b>	
CUB5RLY0	One Form C Setpoint Relay Card (1 A @ 30 VDC, 0.3 A @ 125 VAC, resistive)
CUB5SNK0	Dual Sinking Open Collector Output Card (100 mA, 30 VDC max., non-isolated)
CUB5COM1	RS485 Serial Communications Card (half-duplex, addressable, non-isolated)
CUB5COM2	RS232 Serial Communications Card (non-isolated)
CUB5USB0	USB Programming Card
<b>Accessories</b>	
MLPS1000	+12 VDC, 400 mA Micro-Line Power Supply, 85-250 VAC
MLPS2000	+24 VDC, 200 mA Micro-Line Power Supply, 85-250 VAC
CBLPROG0	RS232 Cable (RJ11-DB9)
CBPRO007	RS485 Cable (RJ11-DB9)
CBLUSB00	USB Programming Cable
ENC8B000	NEMA 4X Plastic Enclosure 4.8" H x 4.7" W x 3.77" D

\*add -ASSY to CUB5 model number for factory installation of options & meter setup. Crimson software is a free download from the Red Lion website.

### SPECIFICATIONS

Range	Resolution	Input R	Max. Input
<b>CUB5I:</b>			
200 $\mu$ ADC	10 nA	1.111 k $\Omega$	15 mA
2 mADC	0.1 $\mu$ A	111 $\Omega$	50 mA
20 mADC	1 $\mu$ A	11 $\Omega$	150 mA
200 mADC	10 $\mu$ A	1 $\Omega$	500 mA
<b>CUB5V:</b>			
200 mVDC	10 $\mu$ V	1.027 M $\Omega$	75 VDC
2 VDC	0.1 mV	1.027 M $\Omega$	75 VDC
20 VDC	1 mV	1.027 M $\Omega$	250 VDC
200 VDC	10 mV	1.027 M $\Omega$	250 VDC
<b>CUB5P:</b>			
20 / 50 mADC	1 $\mu$ A	10 $\Omega$	150 mA
10 VDC	1 mV	538 k $\Omega$	30 V
Accuracy:	0.1% of span at 23 °C for DCV & DCA		
A/D Converter:	16 bit		
NMRR:	60 db, 50/60 Hz for DCV & DCA		
<b>CUB5RT:</b>			
	<b>Range</b>	<b>Accuracy 23 °C</b>	<b>Accuracy 0-50 °C</b>
100 $\Omega$ Pt 385/392	-200 to 850 °C	0.4 °C	1.6 °C
120 $\Omega$ Nickel 672	-80 to 260 °C	0.2 °C	0.5 °C
10 $\Omega$ Copper 427	-100 to 260 °C	0.4 °C	0.9 °C
Input:	2, 3 or 4 wire sensor, 10 $\Omega$ max lead res. (3 $\Omega$ on Cu RTD)		
Readout:	°C or °F, with 1° or 0.1° resolution		
Offset Range:	-19999 to 19999 digits		
Failed Sensor:	Display shows OPEN or SHORT		
<b>CUB5TC:</b>			
	<b>Range</b>	<b>Accuracy 23 °C</b>	<b>Accuracy 0-50 °C</b>
TC Type T	-200 to 400 °C	2.3 °C	5.8 °C
TC Type E	-200 to 871 °C	2.7 °C	4.9 °C
TC Type J	-200 to 760 °C	1.9 °C	4.3 °C
TC Type K	-200 to 1372 °C	2.3 °C	5.8 °C
TC Type R, S	-50 to 1768 °C	4.5 °C	15.0 °C
TC Type B	200 to 540 °C	9.1 °C	42.6 °C
	540 to 1820 °C	4.5 °C	15.0 °C
TC Type N	-200 to 1300 °C	2.8 °C	8.1 °C
mV	-10.00 to 65.00	0.02 mV	0.08 mV
Readout:	°C or °F, with 1° or 0.1° resolution		
Offset Range:	-999 to 9999 digits		
Failed Sensor:	Display shows OPEN		
Control Inputs:	Three, jumper selectable sink/source, max. input 30 VDC continuous, not isolated to sensor input		
User Input:	Programmable function input Logic Input, Current Sinking (active low)		
Display:	Reflective LCD with full viewing angle or selectable transmissive red/green backlight LED (display color changes at preset when using output module)		
Response Time:	Display 500 ms, Output 800 ms (filter set to 0)		
Power:	9-28 VDC @ 30 mA max. from Class 2 supply; Power circuit not isolated from signal input		
LED Backlight:	Adds 95 mA to supply current		
Temperature:	-35 to 75 °C operating @ min. backlight (35 °C max. at max. backlight), <85% RH (non-condensing)		
Connections:	Wire clamping screw terminals		
Dimensions:	1.54" H x 2.95" W x 1.75" D (40x75x45mm)		