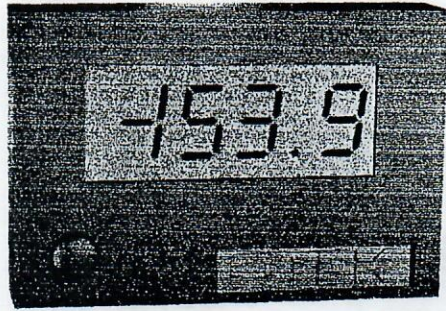


**POWERLESS CURRENT LOOP INPUT LCD DPM**  
**"Flat Pack" No Panel Cut Out Required**  
**(NEMA 3 or NEMA 4X)**

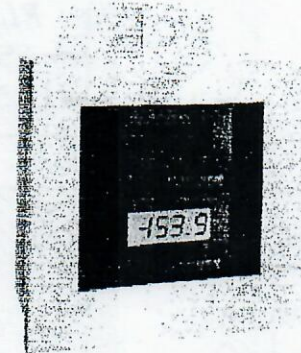
**MODEL**  
**521**



FLAT PACK

**Features**

- Powerless (Loop Powered)
- 1-5, 4-20, and 10-50mA Ranges
- Zero and Full Scale Adjustments (NEMA 3 only)
- Splash Proof Case
- Low Voltage Drop
- 0.5" LCD
- MTBF: 100,000 Hours



SANITARY

**DESCRIPTION:** The 521 requires no external power for operation. It uses loop current to convert the analog signal to a clearly visible LCD readout.

In operation, transmitter loop current is terminated in a 5-Ohm (typically) impedance with zener diode protection to clamp the signal at 5VDC. The voltage developed across the zener and resistor powers the single IC's and LCD. The zero potentiometer has 12 turns to allow high resolution offset of the zero of 1000 counts. The full scale potentiometer allows 1500 counts of adjustment.

**APPLICATIONS:** Milliampere Current Loop Digital indicator for pressure, velocity, temperature, tension, flow, etc. Milliammeter or Shunted Ammeter, the only restraint being that the current measured is between 1 and 50 mA DC and the Compliance Voltage be above 4 Volts.

**HOUSING:** Otek's Flat Pack requires no panel cut out. Just drill a 10mm (3/8")  $\pm$  hole, pass the wires through, attach the provided double-sided tape (to prevent rotation), align the flat pack, tighten the nut and make the connections to the wires. No connector or tools required! No behind the panel space needed! The case is U.L. approved ABS Polycarbonate 94VO rated. **NEMA 4X housing option does not have access to the adjustments. If other than Otek's standard setting is required, please specify at the time of ordering.** Sanitary Case is Wall, Panel or Pipe mount and can include up to 2 flat packs, please specify.

**POWER SUPPLIES (For Transmitters):** Externally mounted Two types are available, the "Open Frame" style accepts 120/240VAC and delivers 24VDC at up to 100mA DC. The "Power Pack" is a wall plug in module available only for 120VAC input and delivers 24VDC at up to 100mA DC.

**BACKLIGHT:** An optional loop powered backlight is available. Its intensity is proportional to the loop's current (lowest at 4mA, highest at 20mA). The backlight is either red or green and is a positive image (black segments over illuminated background).

**SPECIFICATIONS AT 25°C**

Accuracy and Linearity .....	+0.5% +1 Digit
Current Loop .....	2mA DC Min. 70mA DC Max.
Voltage Input (loop burden) .....	4VDC Min.
Protection .....	30VDC Max.
*Zero Adjustment .....	-1999 to +200 Counts at 4mA
*Full Scale Adjustment .....	350 to 1999 Counts at 20mA
Operating Temperature .....	-10° to +60°C
Storage Temperature .....	-20° to +70°C
Temperature Coefficient .....	$\pm$ 60ppm/°C
Humidity .....	521 Unaffected to 90% at 33°C
Display .....	3 1/2 Digit .5" Reflective LCD
Decimal Point .....	Externally Selectable
MTBF .....	100,000 Hours
Sanitary Case .....	NEMA 4X up to 250°F Steam Cleaning
*Other Scales on Request	

**ORDERING INFORMATION (11/9/86)**

<b>MODEL</b> 5 2 1 - - - - - 0 -	<b>POWER SUPPLY (2)</b>
<b>INPUT RANGE</b>	0 ..... None
0 ..... 1-20mA	1 ..... Open Frame
1 ..... 1-5mA	120/240VAC
2 ..... 10-50mA	2 .. Power Pack 120VAC
<b>HOUSING (2)</b>	
0 ..... NEMA 3	(1) ..... See NEMA 4 note in
1 ..... NEMA 4X	"Housing" section above.
2 ..... Sanitary Case	(2) For Transmitter (24VDC
<b>BACKLIGHT</b>	output)
0 ..... No Backlight	
2 ..... Red Backlight	
3 ..... Green Backlight	

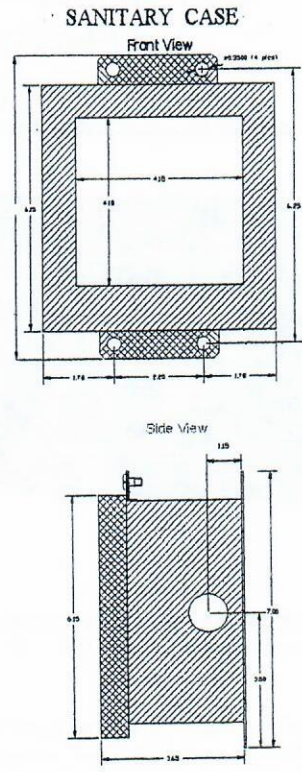
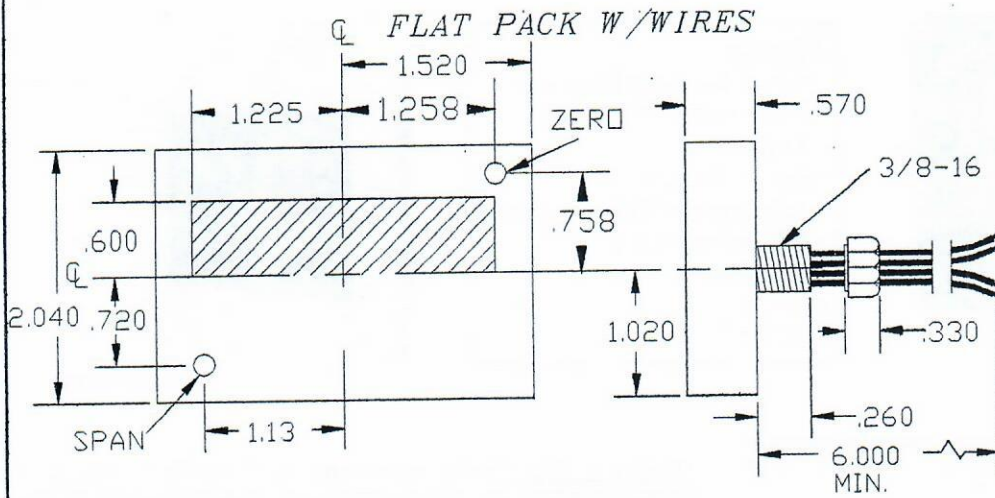
**LEAD COLOR**

**TERMINAL DESCRIPTION**

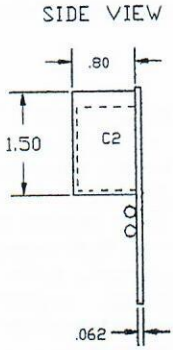
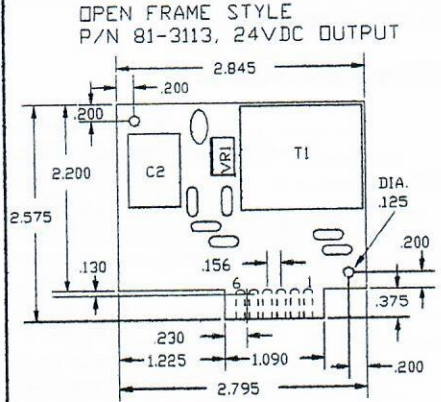
RED	+ INPUT: Connect the positive input of the current loop.
BLACK	- INPUT: Connect the negative input of the current loop.
BLUE	<b>DECIMAL POINT ENABLE:</b> Connect desired decimal point to this lead.
VIOLET	<b>DECIMAL POINT 1.XXX:</b> This decimal point will illuminate when connected to Blue.
GRAY	<b>DECIMAL POINT 1X.XX:</b> This decimal point will illuminate when connected to Blue.
BROWN	<b>DECIMAL POINT 1XX.X:</b> This decimal point will illuminate when connected to Blue.

**CURRENT LOOP**

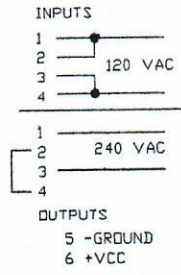
# 521 FLATPACK MECHANICALS & TYPICAL CONNECTIONS



## MECHANICALS FOR POWER SUPPLIES (FOR TRANSMITTER IF REQ'D)

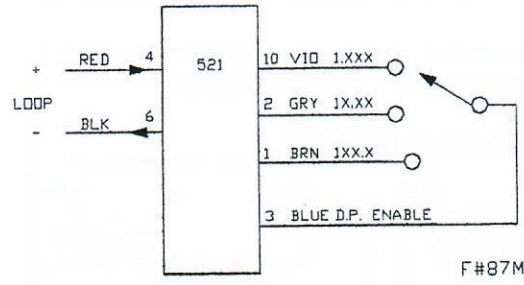
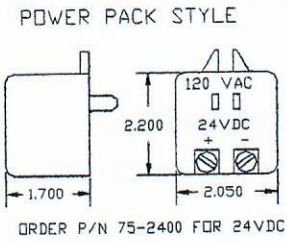


OPEN FRAME  
POWER SUPPLY  
TYPICAL CONNECTIONS



P/N 81-3113, 24VDC OUT

## TYPICAL CONNECTIONS (9-91)



F#87MC521.DWG

NOTE: THIS DIFFERS FORM OLDER VERSIONS WITH DUMMY ZERO.

FAX: 520-790-2808  
E-MAIL: sales@otekcorp.com  
TOLLFREE: 1-877-227-6835  
**520-748-7900**

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