

VDC & mA DC INPUT 4½ DIGIT  
HIGH ACCURACY LCD DPM  
"Flat Pack" No Panel Cut Out Required  
(NEMA 3 or NEMA 4X)

MODEL  
524



FLAT PACK

Features

- 11 Ranges
- Lowest Component Count
- High Common Mode Voltage
- Low Power Requirements
- Auto Zero-Bipolar
- Splash Proof
- Display Hold
- Low Voltage Flag
- 0.5" LCD
- 80,000 Hours MTBF



SANITARY

D.C. VOLTS/AMPS

**DESCRIPTION:** The 524 is a high accuracy 4½ digit (19999 counts) LCD display DPM designed for high ambient light and/or low power applications (See Model 523 for LED version). Power requirement is only 5VDC at 5mA. Consequently, the 524 can be run from a 9VDC battery system (or other) by adding an external zener in series with the + power input to drop the excess voltage (over 5VDC) eliminating the need for special supplies.

**HOUSING:** Otek's Flat Pack requires no panel cut out. Just drill a 10mm (3/8") Ø 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 4 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:** Externally mounted. Two types are available, the "Open Frame" style accepts 120/240VAC and delivers 5VDC at up to 400mADC. The "Power Pack" is a wall plug in module available only for 120VAC input and delivers 5VDC at up to 100mADC.

SPECIFICATIONS AT 25°C

Input Type ..... Single Ended/Differential  
Accuracy and Linearity ..... ±0.01% ±1 Digit  
Drift vs. Temperature ..... ±0.003% °C

Sampling Rate ..... 2/Sec. Nominal  
CMV ..... ±2V Any Range  
Input Impedance ..... >1000 Meg. on .2V Range  
Input Bias Current ..... 5pA Typical  
Input Voltage Protection ..... ±700V  
Input Current Protection ..... ±200% of Range  
CMRR ..... 90dB  
Operating /Storage Temperature ..... -10° to +60°C/-20° to +70°C  
Power ..... 5VDC ±5% at 5mA  
Low Voltage Power Flag ..... <4VDC Power  
Display ..... 4½ Digit .5" Reflective LCD  
MTBF ..... 80,000 Hours  
Sanitary Case ..... NEMA 4X up to 250°F Steam Cleaning

LEAD  
COLOR

TERMINAL DESCRIPTION

YELLOW + **SIGNAL INPUT:** The most positive side of the signal input to indicate a positive reading with respect to - in.

BLUE **HOLD:** When this wire is connected to Red the 524 will hold the last reading. Open for normal operation.

RED + **5VDC IN:** Connect a +5VDC ±10% power source with a 200mA source capability.

WHITE - **SIGNAL INPUT:** Connect the most negative side of the input signal and connect to Black for single ended.

BLACK **GROUND:** Return for +5VDC power source.

GREEN **REF. LOW:** Connect to White for differential input, leave open for single ended.

\*VIOLET **DECIMAL POINT 1.XXXX:** This decimal point will illuminate when connected to Red.

\*GRAY **DECIMAL POINT 1X.XXX:** This decimal point will illuminate when connected to Red.

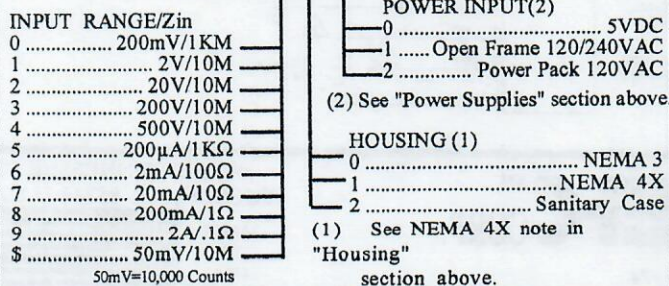
BROWN **DECIMAL POINT 1XX.XX:** This decimal point will illuminate when connected to Red.

ORANGE **DECIMAL POINT 1XXX.X:** This decimal point will illuminate when connected to Red.

\* **If left open, these decimal points will turn on automatically to indicate over-range or under-range. Connect to ground (Black) if function is not desired, through a 1MΩ, 5% resistor.**

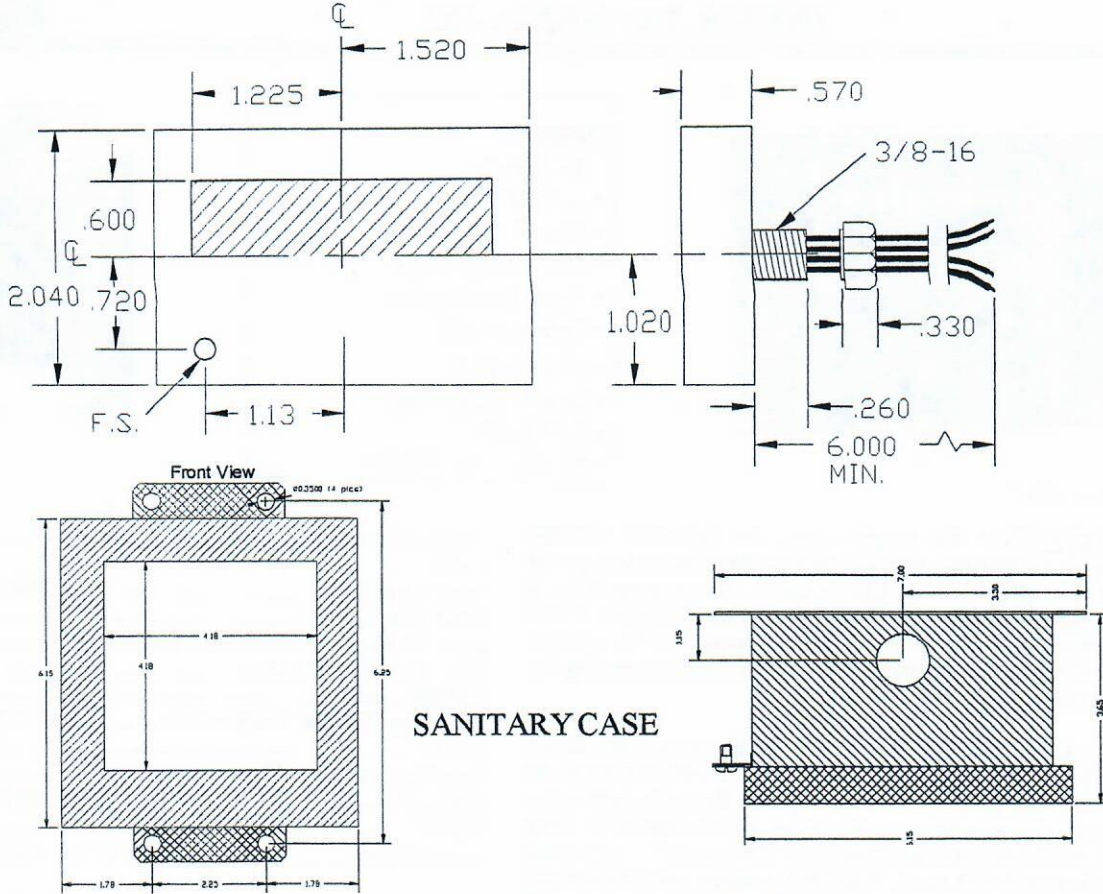
ORDERING INFORMATION (11/1/00)

MODEL 5 2 4 - - - - 0

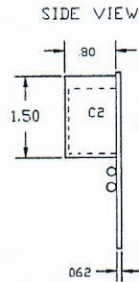
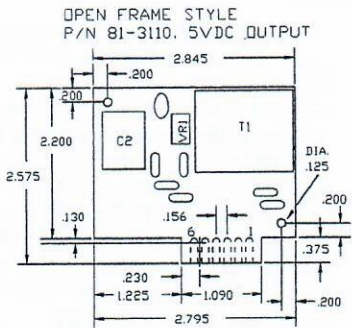


# 524 FLATPACK MECHANICALS & TYPICAL CONNECTIONS

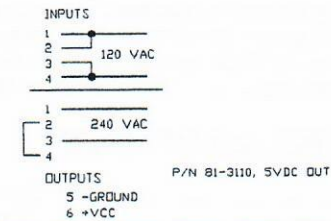
## FLAT PACK W/WIRES



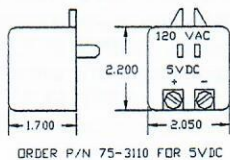
### MECHANICALS FOR POWER SUPPLIES



### OPEN FRAME POWER SUPPLY TYPICAL CONNECTIONS



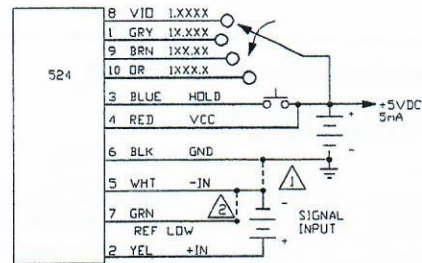
### POWER PACK STYLE



- ⚠ SINGLE ENDED CONNECT -IN TO GROUND, LEAVE REF LOW OPEN.
- ⚠ DIFFERENTIAL CONNECT -IN TO REF. LOW, DO NOT CONNECT TO GND.

F#87MC524.DWG

### 524 TYPICAL CONNECTIONS



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