

# AC AMPS CURRENT DPM POWERLESS DPM® "Flat Pack" No Panel Cut Out Required (NEMA 3 or NEMA 4X)

**MODEL**  
**528**

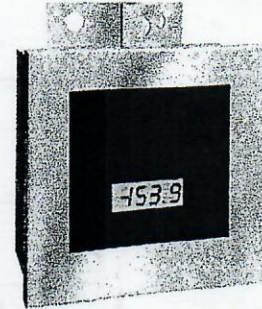
U.S. Patent No.  
4,908,569



FLAT PACK

**Features**

- Accepts Std. 5A C.T.
- 500mV Shunts
- Easy to Scale
- Optional Backlight
- .5" High LCD Display
- Rugged
- High Accuracy & Resolution
- Only 3 Connections Required
- 80,000 Hours MTBF



SANITARY

**DESCRIPTION:** Model 528 is designed for a typical 500mVAC full scale signal from a 5A current transformer (C.T.) shunted with a 0.1Ω .1% resistor. The 500mVAC signal is amplified, rectified, and RMS calibrated to display in decades of 1, 10, 100, 1000, etc. Amps. Consequently, always select a C.T. or shunt to give you 5 amps A.C. at 10, 100, etc. Amps A.C. for direct reading. Connect the included 0.1 ohm, 3 watt, 0.1% resistor across the C.T., or use a 500mV current shunt, see typical connections (on back) and C.T.'s section of catalog.

All models require the "Hot" line connection either from the power line or a potential transformer.

**NOTES:**

1. The A.C. current powerless has an internal amplifier to convert the 500mV full scale signal to a 1 Volt. Always use a C.T. (or an A.C. shunt) that will give you 500mVAC at 10, 100, 1000, etc., Amps (normally known as 10/5; 100/5; 1000/5, etc., current ratio). Or, specify your C.T.'s ratio (600:5, 300:5, etc.).

2. When using current shunts or resistors avoid any lead resistance at the shunt that will affect the total resistance of it.

**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. Our New Sanitary housing is wall, pipe or panel mount and can include 2 flatpacks, please specify.

**DECIMAL POINTS:** Externally selectable.

**BACKLIGHT:** Standard display is reflective black digits over silver background. An optional backlight (positive image) is available. When ordered, the digits are black over an illuminated green background. The intensity is not adjustable, and it's powered by the signal (line), (see Typical Connections). **Not available with 12-60VAC input range.**

**WARNING:** The 528 and all its components are referenced to the AC line, **NO ISOLATION!**

SPECIFICATIONS AT 25°C

Accuracy and Linearity .....	±1% of full scale, ±1 count
Maximum Power Input (volts) .....	±150% of range
Maximum Input Signal (current) .....	2V RMS (across R shunt)
Maximum Power Consumption .....	0.3 watt
Nominal Power Consumption .....	0.2 watts
Measuring Method .....	A.C. average RMS calibrated
Measuring Method (freq.) .....	Freq. to voltage
Span Adjustment Range .....	±30% of full scale
Zero .....	Factory Set Adjustable
Backlight Operating Range .....	60-200V and 200-500V; 50-400Hz
Operating Frequency Range .....	50-60Hz (others on request)
Standard Calibration .....	500mVRMS = 1000 counts
Operating/Storage Temperature .....	-10° to +60°C/-20° to +70°C
Temperature Coefficient .....	100 PPM
Display .....	.5" Reflective LCD
MTBF .....	80,000 Hours
Sanitary Case .....	NEMA 4X up to 250°F Steam Cleaning

**LEAD**

**COLOR**

**TERMINAL DESCRIPTION**

WHITE	AC Low Input
VIOLET	Current Shunt Input
BLACK	AC High Input
BROWN	Decimal Point Backplane
BLUE	Decimal Point Common
GREEN	1.XXX Decimal Point
YELLOW	1X.XX Decimal Point
ORANGE	1XX.X Decimal Point

**NOTE:** Undesired decimal points must be connected to **Brown**.  
Desired decimal point must be connected to **Blue**.

**ORDERING INFORMATION (11/1/00)**

MODEL **5** **2** **8** - **0**

OPERATING VOLTAGE RANGE  
0 ..... 12-60VAC  
1 ..... 60-200VAC  
2 ..... 200-500VAC

HOUSING(1)  
0 ..... NEMA 3  
1 ..... NEMA 4X  
2 ..... Sanitary Case

BACKLIGHT(2)  
0 ..... No Backlight  
1 ..... Backlight

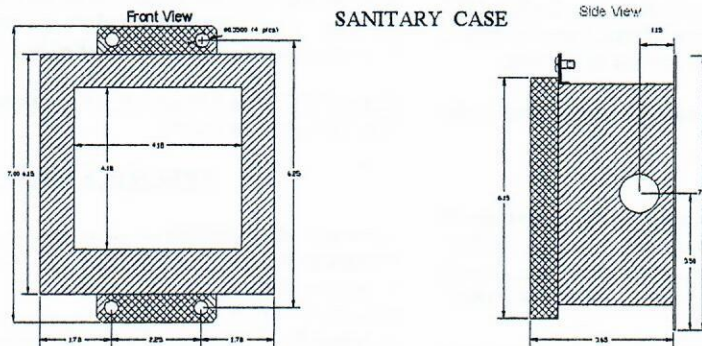
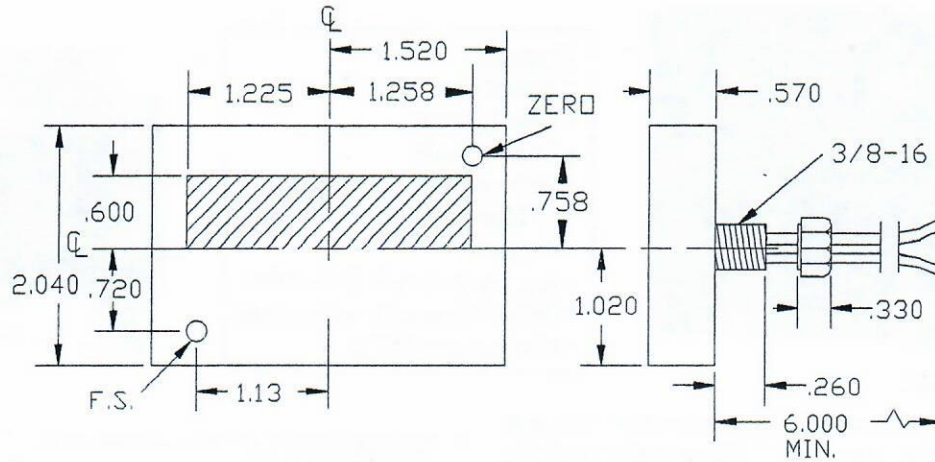
(1) See NEMA 4X note in "Housing" section above.  
(2) Backlight not available with 12-60VAC range. See "Backlight" section.

TRUE RMS AC

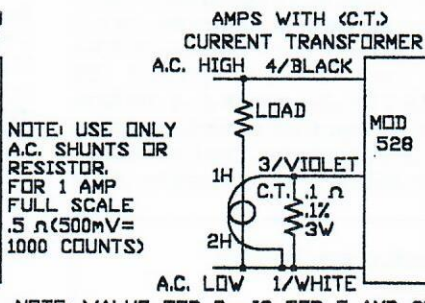
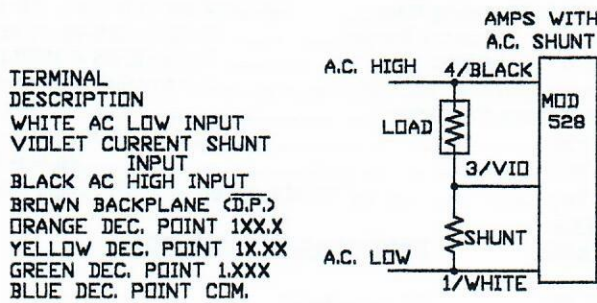
528 FLAT PACK MECHANICALS & TYPICAL CONNECTIONS

(WARNING! ALL CKT. REFERENCED TO AC LINE!)

FLAT PACK W/WIRES



TYPICAL CONNECTIONS (9-91)



NOTE: VALUE FOR  $R_s$  IS FOR 5 AMP CT.

(WARNING! ALL CKT. REFERENCED TO AC LINE!)

NOTE: UNDESIREED DECIMAL POINTS MUST BE CONNECTED TO 5 BROWN. DESIRED DECIMAL POINT MUST BE CONNECTED TO 10 BLUE.

F#87MC528.DWG

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