

# RATEMETER/TOTALIZER

DPF501  
Starts at  
**\$368**



- ✓ **Magnetic Pickup, Contact Closure, and DC Pulse Inputs (Optically Isolated)**
- ✓ **Displays Rate and Total Simultaneously**
- ✓ **4½ Digit Rate Display**
- ✓ **8-Digit Totalizer Display**
- ✓ **4 to 20 mA Analog Output**
- ✓ **Powered from Internal Battery, External DC Supply, or 4 to 20 mA Output Loop**
- ✓ **20-Point Linearization**
- ✓ **Isolated Scaled Pulse Output**

The DPF500 Series consists of battery-powered ratemeters/totalizers capable of accepting magnetic pickup, DC pulse, and switch closure inputs directly, thereby eliminating the need for an amplifier. The unit features a 4½ digit rate display and an 8-digit totalizer and can be ordered with an optional 4 to 20 mA output.

All DPF500 Series displays also feature an isolated scaled pulse output and are available in either a NEMA 4X (IP66) box or an explosion-resistant housing.

## SPECIFICATIONS

**Power:** 2 "C" size lithium batteries (included)

### External Power Input

**Voltage:** 8.5 to 30 Vdc

**Current:** Less than 5 mA supplied with 1 "C" size lithium battery

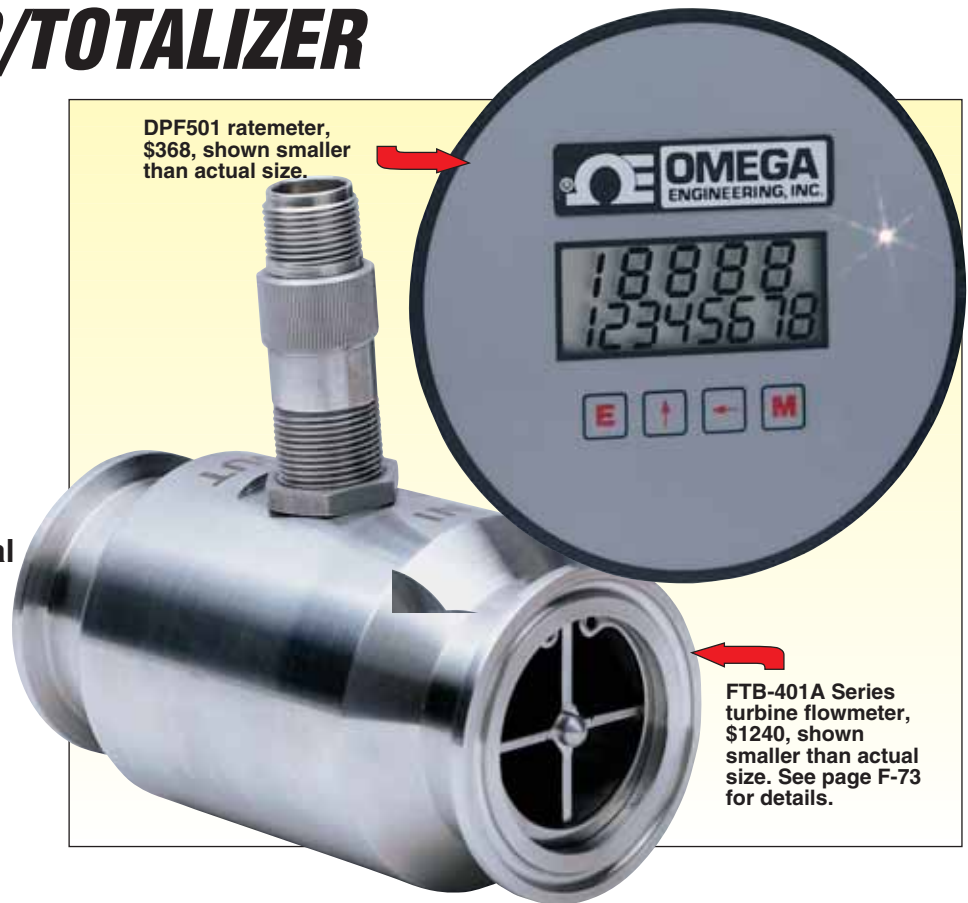
**Protection:** Reverse polarity protection on DC power input

### Loop Powered

**Voltage:** 8.5 to 30 Vdc supplied with 1 C size lithium battery

**Protection:** Reverse polarity protection on current loop

**Loop Burden:** 8.5 V max



DPF501 ratemeter, \$368, shown smaller than actual size.

FTB-401A Series turbine flowmeter, \$1240, shown smaller than actual size. See page F-73 for details.

## Display

**Rate Display:** Selectable decimal 4½ digits (19999), 8.9 mm high (0.35"); display updates once every 2 seconds

**Rate Descriptors:** /SEC, /MIN, /HR

**Min Input Frequency:** 0.125 to 10 Hz (selectable delay of 0.1 to 8.0 seconds)

**Totalizer Display:** 8 digits (99999999), 5.1 mm H (0.2"), selectable decimal

**Totalizer Descriptors:** GAL, LIT, FT3, M3, "blank"

**Warning Displays:** Low-battery warning "BAT"

**Pulse Output:** Pulse output advances with the least significant digit of the totalizer

**Type:** Opto-isolated open collector transistor

**Max Voltage (Off-State):** 30 Vdc

**Current (On-State):** 5 mA @ 0.9 V drop, 0.1 mA @ 0.7 drop

**Pulse Duration:** 32 ms

**Pulse Output Rate:** 10 cps max

**Pulse Output Divider:** User selectable, ÷ 1, ÷ 10, ÷ 100 or OFF

**Note:** Select OFF for max battery life

## Mounting Styles:

**DPF501:** Panel-mount NEMA 4X (IP66) front

**DPF502:** Wall-mount NEMA 4X (IP66) enclosure

**DPF503:** Explosion-proof—Class I, Division I, Groups B, C and D; Class II, Division I, Groups E, F and G

## Environmental:

**Operating Temperature:** -20 to 70°C (-4 to 158°F)

**Extended Temperature:** -30 to 70°C (-22 to 158°F)

**Relative Humidity:** 0 to 90%, non-condensing

**Accuracy:** 0.01% of reading, ±1 count

**Temp Drift:** 50 ppm/°C worst case

## Inputs

### Magnetic Pickup Input

**Frequency Range:** 0 to 3500 Hz

**Trigger Sensitivity:** 30 mV p-p

**Overvoltage Protected:** ±30 Vdc

### Opto-Isolated DC Pulse Input

**High (Logic 1):** 4 to 30 Vdc

**Low (Logic 0):** Less than 1 Vdc

**Minimum Current:** 0.5 mA

**Hysteresis:** 0.4 Vdc

**Frequency Range:** 0 to 5 kHz

**Min Pulse Width:** 0.1 ms

### Contact Closure Input

**(Contact Closure to Common)**

**Internal Pull-Up Resistor:**

100 K to 3.5 Vdc

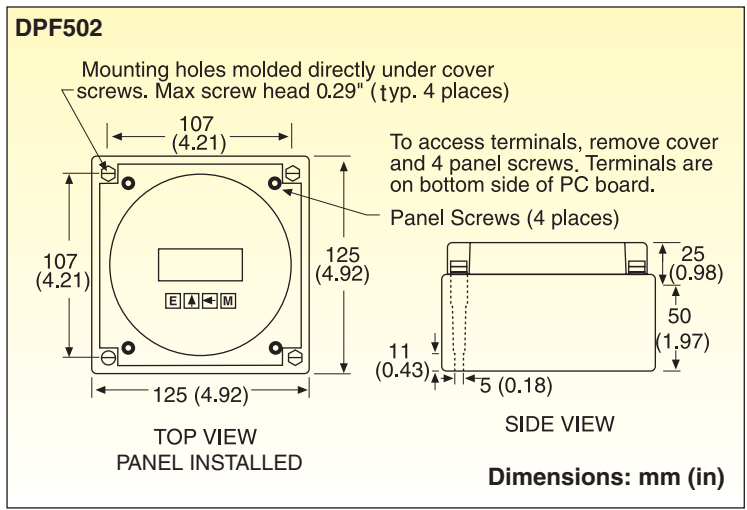
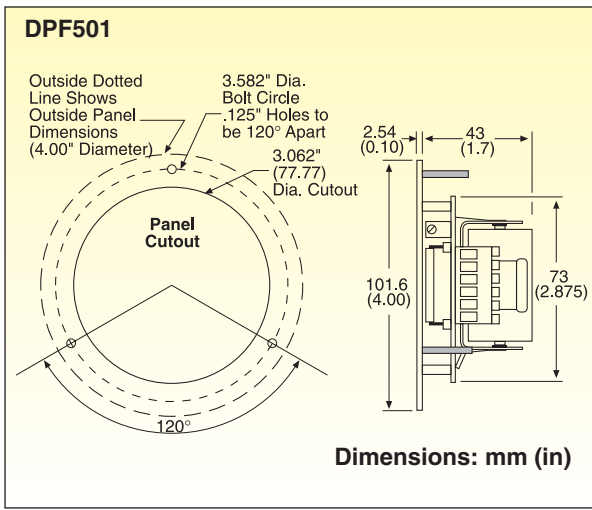
**High (Logic 1):** Open or 4 to 30 Vdc

**Low (Logic 0):** Less than 0.5 Vdc

**Internal Switch Debounce Filter:**

0 to 40 Hz

**Caution:** Sustained contact closure will shorten battery life



**K Factor**

**Range:** 0.001 to 59999 (divider)

**Decimal Point Locations:** XX.XXX to XXXXX

**20-Point Linearization Option:** This feature allows the user to enter 20 different frequencies with 20 different corresponding K factors to linearize non-linear signals.

**Analog Output Option\***

**Type:** 4 to 20 mA follows rate display, 2-wire hookup

**Accuracy:** 0.15% FS at 20°C (68°F)

**Temperature Drift:** 50 ppm/°C typical, 200 ppm/°C worst case; reverse polarity protected

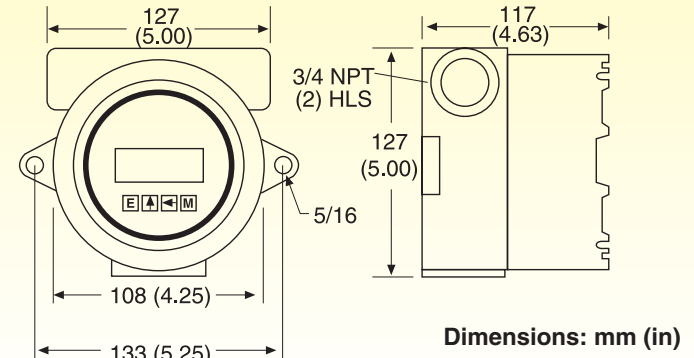
*\*Note: The DPF500 Series uses the 4 to 20 mA loop power as its power source when this option is used.*

OMEGACARE<sup>SM</sup> extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARE<sup>SM</sup> covers parts, labor and equivalent loaners.



**DPF503**

To access terminals, unscrew cover and loosen 2 panel screws. (If screws are removed, spacers may drop out.) Terminals are on bottom side of PC board.



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**Accessories**

Model No.	Price	Description
DPF500-BAT	\$27	Spare battery
FPW-15	75	15 Vdc power supply
DPF5-BP	93	External battery pack with 2 size "C" batteries and 12" leads
FSW-336	66	Reference Book: Instrumentation and Control Systems Documentation

**To Order (Specify Model Number)**

Model No.	Price	Description
DPF501	\$368	Panel-mounted 8.5 to 30 Vdc powered ratemeter/totalizer
DPF502	391	Wall-mounted 8.5 to 30 Vdc powered ratemeter/totalizer with NEMA 4X (IP66) enclosure
DPF503	558	Explosion-resistant 8.5 to 30 Vdc powered ratemeter/totalizer

Comes with complete operator's manual.

**Ordering Examples:** DPF501, panel-mounted ratemeter/totalizer, FPW-15, power supply, \$368 + 75 = \$443. OCW-3, OMEGACARE<sup>SM</sup> extends standard 2-year warranty to a total of 5 years (\$92), \$350 + 92 = \$460. DPF502, wall-mounted ratemeter/totalizer, FPW-15, 15 Vdc power supply, \$391 + 75 = \$466.

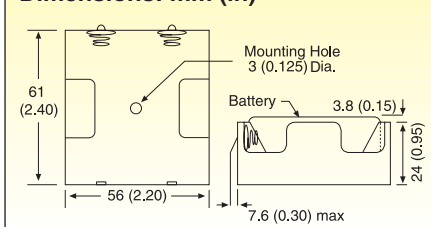
For battery-powered version, add suffix "-BAT" to model number and add \$23 to price.

\* For 4 to 20 mA output, add suffix "-MA" to model number and add \$140 to price.

For 20-point linearization option, add suffix "-LIN" to model number and add \$57 to price.

For extended operating temperature range (-22 to +158°F), add suffix "-ET" to model number and add \$57 to price.

**Dimensions: mm (in)**



Model No.	Idle	Run Time 2 hrs/day	8 hrs/day	24 hrs/day
-BAT	5 years	4.5 years	3.5 years	2.1 years
-BAT-LIN	5 years	3.7 years	2.7 years	1.5 years
Standard Unit and -MA (Standard Operation)	2.5 years	2.25 years	1.75 years	1 year
Standard Unit and -MA (External or Loop Power)	10 years			

All of the above values are calculated with pulse output ON. Turn the pulse output OFF to prolong battery life up to 30%.



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