

# 1/8 DIN DUAL RATEMETER/TOTALIZER

## Two Separate Ratemeters, Totalizers with Combination Function



DPF82 1/8 DIN, shown larger than actual size.

## DPF80 Series



- ✓ Displays A, B, and C Rate and A, B, and C Total
- ✓ Separate Scaling Factors for A and B Inputs
- ✓ C Displays A + B, A - B, A ÷ B, and A ÷ (A+B)
- ✓ Pulse Input: 10 kHz Maximum
- ✓ Security Lockout
- ✓ NEMA 4X (IP66) Front Panel
- ✓ 30 mV Magnetic Pickup Inputs
- ✓ 4 to 20 mA or 0 to 20 mA Analog Output Available

The DPF80 Series (dual-rate totalizer) consists of 5-digit ratemeters and 6-digit totalizers in a 1/8 DIN package. The user can select 1 of 6 displays to show A, B, or C rate and A, B, or C total. Inputs A and B have separate scaling to read in engineering units.

A 4 to 20 mA (0 to 20 mA) output of the C rate or total is optional. The user can also press the VIEW button to see 6 separate items: total A, total B, total C, rate A, rate B, rate C. Negative values are displayed with a negative symbol (e.g., -12345). For the C value, the user can choose from the following combination of A and B inputs: TOTAL; with a choice of A + B or A - B, RATIO; with choice of A ÷ B (x100) to show percent of A to B quantity or A ÷ [A + B (x100)] to show percent of A to total quantity.

Two independent presets are standard. The user selects whether output A is activated by total or rate value of input B or selected C. Outputs activated by A or B total can be set to latch or auto-recycle with an adjustable output duration from 00.1 to 99.9 seconds. For rate, ratio, or C total, outputs pull in when value (equal to or above the preset and drop out when value) is below the preset minus the selected 0 to 99.9 hysteresis.

## SPECIFICATIONS

**Display:** 5-digit, 14 mm (0.55") high LED

**Input Power:**

110 Vac ±15% or 12 to 15 Vdc

220 Vac ±15% or 12 to 15 Vdc (optional)

24 Vac ±15% or 12 to 15 Vdc (optional)

**Current:** 250 mA dc max or 6.5 VA ac

**Output Power:**

(AC-powered units only) + 12 Vdc

@ 50 mA, unregulated -10 + 50%

**Temperature**

**Operating:** 0 to 54°C (32 to 130°F)

**Storage:** -40 to 93°C (-40 to 200°F)

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

**Memory:** EEPROM stores data for 10 years if power is lost

**Inputs**

**DPF82:** High-impedance DC pulse input 4 to 30 Vdc (high), open or 0 to 1 Vdc (low), 10 kΩ impedance, 10 kHz maximum speed; accepts simultaneous inputs

**DPF83:** Mag. input, input A only, accepts 30 mV input (50V max P/P), signals 10 kΩ impedance, 5 kHz maximum, (input B, 4 to 30V)

**DPF84:** Mag. input, inputs A and B, accepts 30 mV input (50V maximum P/P) signals 10 kΩ impedance 5 kHz maximum

**Reset**

**Front Panel:** Reset displayed value and control output

**Remote:** 4 to 30 Vdc negative edge resets all counters, "A" counter or "B" counter (user selectable)

**K factor/Scaling**

The DPF80 Series has 2 separate K factors that are used to convert the input pulses to engineering units. The 5-digit K-factor dividers, with decimal keyed into any position, allow easy direct entry of any K factor from 0.0001 to 99999. Separate factors may be entered for the 2 separate input channels.

**Control Outputs**

**Relays**

2 each NO Relay; 10 A 120/240 Vac or 28 Vdc. (NC relay contacts and NPN transistor output available with solder jumpers. Transistor output is internally pulled up to 10 Vdc through relay coil, sinks from 10 Vdc to 0.5V @ 100 mA)

**Analog Output**

An optional 4 to 20 mA (0 to 20 mA) output is available. The output can be programmed to track rate or total of the C display. This feature is available by adding suffix "A" to the model number. Connections are via a 2-terminal pluggable screw connector. Programming is accomplished by using the front panel in conjunction with rear DIP switches.

**Accuracy:** 50 µA worst case

**Compliance Voltage:** 3 to 30 Vdc non-inductive

**Presets**

Two control outputs are provided. To set relay values, press "menu" button until "Relay" appears on the display; the A and B outputs can be assigned to the A, B or C displays. A 5-digit value can be entered for both presets, and the decimal point location is the same as the counter. The outputs can be set to energize from 0.1 to 99.9 seconds or latch (0.0). If a value other than 0.0 is entered, the counters will auto reset at the preset (for A and B counters).

**Lockout**

Unauthorized front panel changes can be prevented by entering a user-selected 5-digit code. The front panel can be completely locked out or the presets can remain accessible.

**Ratemeter**

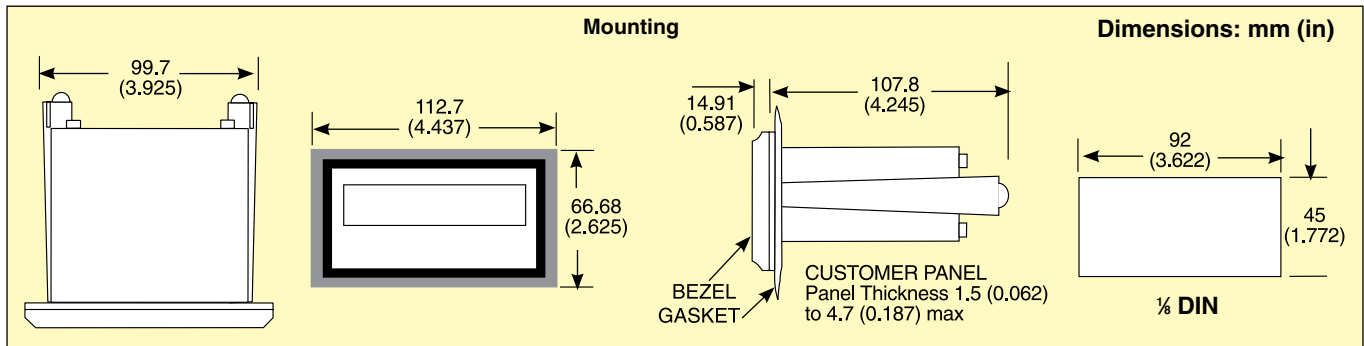
Accurate to 4½ digits (±1 display digit). The ratemeter uses 1/τ seconds with 8-digit math, can sample from 2 to 24 seconds maximum, and auto-range up to 5 digits of significant information. In the "RPS" mode, the ratemeter displays in units per second, and in the "scale" mode, units per hour or per minute. The unit will display the rate of the A and B Inputs.

**Counter**

The two 6-digit counters can count at 10 kHz speed. Each has a separate 5-digit dividing scale factor. The counters advance on the positive edge of each pulse. Besides being able to step through the total and rate values of A and B inputs, the user can see a selected combination of total and rate of A + B, A - B, A ÷ B x 100 (percent of A to B), A ÷ (A + B) x 100 (percent of A to total). A negative display will be viewed as a 5-digit display with a negative symbol (-12345).



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.



**Terminals:**

- COMMON
- N.O.(N.C./NPN) — A
- COMMON — B
- N.O.(N.C./NPN)
- A INPUT
- B INPUT
- 12 VDC OUT/+DC IN
- DC (GROUND)
- RESET INPUT
- 6 to 14 Vdc @ 50 mA
- AC INPUT
- AC INPUT
- V+ — ANALOG OUTPUT
- I-SINK —

To Order	
Model No.	Description
DPF82	Dual simultaneous 4 to 30 Vdc pulse inputs
DPF83	Magnetic pulse input A, and 4 to 30 Vdc pulse input B
DPF84	Dual simultaneous magnetic pulse inputs

**Accessory**

Model No.	Description
DPP-5	½ DIN panel punch

Comes complete with operator's manual.

For 24 Vac power, add suffix "-24V" to model number. For 220 Vac power add suffix "-220V" to model number, no extra charge. For analog output, add suffix "-A" to model number for additional cost.

**Ordering Examples:** DPF82, dual simultaneous 4 to 30 Vdc pulse inputs.

DPF84, dual magnetic pulse input ratemeter. OCW-3 OMEGACARE<sup>SM</sup> extends standard 2-year warranty to a total of 5 years.