

High Accuracy Frequency or Analogue Input Flow Indicator For Flowrate, Total or Batch Control

DPF401
Starts at
£265



- ✓ Easy to Read Alphanumeric 6-Digit Display
- ✓ UL Listed
- ✓ Versions Available to Accept Low-Level Frequency Input Directly
- ✓ Analogue Input for Linear or Square Root Input Optional
- ✓ 5 Open Collector Outputs Standard
- ✓ Optional Scalable Analogue, BCD, RS-232 or RS-485 Outputs
- ✓ Optional Dual 7A Relays

The DPF400 Series is a complete range of flowrate indicators offering exceptional performance at an economical price. Individual models are available for flowrate totalisation (with or without square root extraction) and batch control.

The DPF400 is front panel programmable to scale any input range to display in desired engineering units. Independent scale factors for rate and total allow rate indication and totalisation in different units, such as GPM rate and total barrels. If the optional RS-232 or RS-485 communications are installed, the unit may also be programmed by remote computer. The DPF400 is available with 4 input types, including TTL/open collector pulse, low level frequency, analogue voltage or analogue current. The unit can be user-configured for one of three functions:

- 1) a ratemeter/totaliser/batcher
- 2) a ratemeter/totaliser/batcher with square root extraction (for differential pressure flow measurement)

DPF401,
£265, shown
actual size



PATENTED

Covered by U.S and International patents and pending applications

- 3) a batch controller only with multibatch counting, auto/manual batch recycle, and remote or local STOP/CONTINUE control (START control can be obtained with a user supplied switch in series with the control relay)

Options to the DPF400 include analogue and BCD outputs, alarm/control outputs, and RS-232 or RS-485 communications.

The RS-232 or RS-485 communications options are bi-directional, allowing the user to configure the DPF400 as well as read current values.

While each DPF400 comes standard with 5 open collector outputs, the optional DP40-R board provides dual 7A mechanical relays which replace two of the open collector alarms, for a total of two 7A relay and three open collector alarms.

Specifications

TTL Level Inputs (DPF401): 0.7 to 2.0 V threshold; 0.2 Hz to 20 kHz frequency; 24 V protection, positive trigger slope; 16 to 30 V unregulated 75 mA sensor excitation

Isolated Pulse Input with Excitation (DPF402): 60 Vrms with protection to 240 V max signal

	Excitation	Hysteresis	Sensitivity
DPF402 5 V	13 mV	30 mV	
Low	8.2 V	22 mV	50 mV
Level	2.4 V	35 mV	60 mV

NPN Open Collector Input (DPF402): 3-wire connection; 12 V regulated excitation

NAMUR Input (DPF402): 2-wire connection; 8.2 V excitation; 1 kohm impedance; <1 mA activated, >3 mA deactivated

Contact Closure Input (DPF402): 2-wire connection; 12 V regulated sensor excitation, 10 on/off per second frequency range

Analogue Input (DPF403): 0 to 5 V, 1 to 5 V, or 4 to 20 mA range; 0 to 10 V, or 0 to 1 mA inputs optionally available; 354 Vp isolation; programmable low-level shutoff; 0.02% FS non-linearity; 0.05% FS accuracy; accuracy, 50 ppm/°C temperature coefficient, max

Display: 6-digit, 14-segment LED, red or green; 13.8 mm H; indicator lights for alarms and status modes

Display Update: 0.04 to 3 seconds, programmable



FP9001 Sensor, £151 shown with FP9P-T interface, £104, sold separately. See omega.co.uk for more information



Min Input Frequency: 0.2 Hz
Power: 115 standard, 230 Vac optional
 50/60 Hz; 10 W max

Accuracy:
Frequency: 0.01% of reading
Analogue: 0.05% of full scale

Step Response:
Analogue: 50 msec for 10 to 90% FS
Frequency: Equal to selected gate time

Operating Ambient Range: 0 to 50°C,
 95% RH, non-condensing

Storage Temperature: -40 to 85°C

RS-232 Communications (Optional):
 Front panel programmable for
 300/1200/2400/4800/9600/19.2k baud;
 RJ11 4-wire connection; complete
 program setup and message display
 capability; programmable to transmit all
 measured values, alarm status, actual
 measured input value (not scaled) and
 status on programmable intervals from
 1 to 60,000 seconds

RS-485 Communications (Optional):
 300/1200/2400/4800/9600/19.2k baud;
 RJ11 6-wire connection; addressable
 from 0 to 199

Open Collector Outputs: Five 150 mA
 @ 1 Vdc sink; 30 V open

BCD Output (Optional): Isolated;
 3- or 6-digit addressing; TTL level
 output; 5 Vdc external power supply
 required for isolated output

Mechanical Relays (Optional): Dual,
 form C; 7A at 230 Vac/30 Vdc

Analogue Outputs (Optional): 0 to 5 V/
 1 to 5 V/0 to 10 V/0 to 20 mA/4 to 20
 mA all field selectable; all internally
 powered (sourcing); 600 Ω max loop
 impedance for 20 mA outputs; min
 500 Ω input impedance for voltage
 outputs; 354 Vp isolation; 15-bit
 resolution; 0.1% of reading accuracy;
 50 ms step response; fully adjustable
 zero and span adjustments

Dimensions: 48 H x 96 W x 149 mm D
Panel Cutout: 45 H x 92 mm W; ½ DIN
Weight: 574 g

DP41 models are also available with mV, V, mA and frequency
 input, for measuring pressure, flow, pH and other processes.
 Call OMEGA for details.

AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)

Model No.	Price	Description
DPF401	£265	TTL/open collector/contact closure input meter includes 16 V @ 70 mA output power
DPF402	315	Low level pulse input meter includes 12 V @ 70 mA output power or 8.2 V with 1 KΩ source impedance
DPF403*	395	4 to 20 mA/0 to 5 Vdc/1 to 5 Vdc (field- selectable) input meter includes nominal 24 V @ 25 mA output power

* **Note:** 0 to 10 Vdc and 0 to 1 mA inputs optionally available for DPF403, add suffix "-10VINP" or "-1MA", no additional charge.

Display and Power Options

Order Suffix	Price	Description
-GR	N/C	Green display
-230V	N/C	230 Vac power

Output Boards and Communications Options

Model No.	Price	Description
DPF400-A3	£74	Analogue output board
DP40-B*	74	Isolated BCD output board
DP40-R*	50	Dual 7A mechanical relays
DPF400-S2†	74	Isolated RS-232 communications
DPF400-S4†	74	Isolated RS-485 communications

* Both options are not available in one unit.

† Both options are not available in one unit. DPF400-S2 and DPF400-S4 options come with setup/programming software, and 1.8 m communications cable which plugs into the rear of the DPF400 and terminates with a phone plug. For proper termination to a computer, a 9-pin and 25-pin connector which mates with the phone plug, are offered below.

Options

Model No.	Price	Description
DP40-9SC2	£20	9-pin serial connector for RS-232
DP40-9SC4	20	9-pin serial connector for RS-485
DP40-25SC2	20	25-pin serial connector for RS-232
DP40-25SC4	20	25-pin serial connector for RS-485

Ordering Examples: DPF401-230V, DPF400-S2 and DP40-9SC2 options: DPF401 unit for
 TTL level input, with 230 Vac power, analogue output, RS-232 communications and 9-pin
 serial connector, £265 + 74 + 74 + 20 = £433. DPF402, low level pulse input meter, £315.



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• Heaters

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