

Compact Paddle Flow Sensor



measuring
•
monitoring
•
analyzing

DFT



- Measuring Ranges:
0.05...0.50 to 0.8...15 GPM
- PTFE or Brass Bodies
- Pulse Output Standard
- Optional Analog Outputs, Digital Displays, Totalizer and Batch Controllers
- No Straight Run Requirements
- Can Be Mounted in Any Orientation
- Compact, Economical Design



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Authorized Distributor:
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Houston, TX USA
832-615-3588
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Compact Paddle Flow Sensor Model DFT

Description

The DFT compact series of paddle flow sensors embodies the same rugged reliability of the workhorse DF series in a compact, more economical design. The DFT uses an inlet nozzle to re-direct flow onto the paddle thus there are no straight piping requirements as with many other paddle type designs. The DFT series is available in two material combinations to handle a wide variety of liquids. The nickel plated brass version handles water, light chemicals and low viscosity liquids (<10 cSt), while the PTFE version will stand up to aggressive chemicals. An open collector frequency output is standard with optional analog & controller outputs which offer an LCD displays, analog flow transmitters, programmable relays and totalizer & batch controller options.



Specifications

| | |
|---------------------------|---|
| Flow Range: | 0.05...0.30 GPM to 0.5...12 GPM |
| Accuracy: | ±2.5% of Full Scale |
| Media: | Water and Other Low Viscosity Liquids |
| Maximum Pressure | |
| Brass Body: | 230 PSIG |
| PTFE Body: | 70 PSIG |
| Temperature Range: | -4...176°F |
| Wetted Materials | |
| Brass Body: | Nickel-plated Brass, POM, NBR, Ceramic or Sapphire |
| PTFE Body: | PTFE, Ceramic or Sapphire |

Electrical Data

Pulse Output - Standard OEM

| | |
|-------------------------|---|
| Output Type: | NPN Open Collector |
| Frequency Range: | 0-100 Hz Approx. |
| Power Supply: | 5-24 V _{DC} , 15 mA Max. Sink Current |

| | |
|-------------------------------|-----------------------|
| Electrical Connection: | DIN 43650 Plug, PG 11 |
| Electrical Protection: | IP 65 |

Pulse Output - F400

| | |
|-------------------------------|------------------------------------|
| Output Type: | PNP Open Collector |
| Frequency Range: | 0-100 Hz Approx. |
| Power Supply: | 24 V _{DC} ±20%, Max. 20mA |
| Electrical Connection: | DIN 43650 Plug, PG 11 |
| Electrical Protection: | IP 65 |

Analog Output - L443 & L442

| | |
|-------------------------------|-----------------------------|
| Power Supply: | 24 V _{DC} ±20% |
| Output: | 4-20 mA 3-wire or 2-wire |
| Max Load: | 500 Ohms |
| Electrical Connection: | DIN 43650 Plug, PG 11 |
| Electrical Protection: | IP 65 |

Analog Output - MA Electronic

| | |
|-------------------------------|--|
| Power Supply: | 24 V _{DC} , +15% / -10% 110 V _{AC} , ±20% |
| Output: | 4-20 mA or 0-10 V _{DC} |
| Max Load: | 500 Ohms |
| Electrical Connection: | 1.5 m Cable Connection or Connector |
| Electrical Protection: | IP 65 |

Switching Output - WM Electronic

| | |
|-------------------------------|--|
| Power Supply: | 24 V _{DC} , +15% / -10% 110 V _{AC} , ±20% |
| Output: | SPDT Contact Max. 250V / 5A |
| Contact Resistance: | < 100 mOhms |
| Electrical Connection: | 1.5 m Cable Connection or Connector |
| Electrical Protection: | IP 65 |



Electrical Data (Continued)

Digital Rate Display - K Electronic

Display: LCD, 8-digit Backlit Rate,
Unit of Measure Selectable

Power Supply 24 V_{DC}, +15% / -10%

Analog Output: 4-20 mA or 0-10 V_{DC}

Max Load: 500 Ohms

Switching Output: Min. and Max. SPDT Contact
Max. 24 V / 2A

Hysteresis: 2.5% of Measured Value

Electrical Connection: 1.5 m Cable Connection

Electrical Protection: IP 65

Totalizer Display - E Electronic

Display: LCD, 2-line, 8-digit Backlit Rate, Total, & Grand Total
Unit of Measure Selectable

Analog Output: 4-20mA
Load: 0...500 Ohms or 0...10 V_{DC}
Load: > 100k Ohms

Relay Outputs: 2x, Max. 30V / 1.5A

Functions: Reset, MIN/MAX-memory, Flow Rate Switch-point, Total & Grand Total Switch-point, Language

Power Supply: 24 V_{DC} ±20%
Max. Sink Current 100 mA

Electrical Connection: 10-pin Cable or 2x M12 (5,8 Pin)

Electrical Protection: IP 65

Batching Display - G Electronic

Display: LCD, 2-line, 8-digit Backlit Rate, Total, & Grand Total
Unit of Measure Selectable

Analog Output: 4-20mA
Load: 0...500 Ohms or 0...10 V_{DC}
Load: > 100k Ohms

Relay Outputs: 2x, max. 30V / 1.5A

Functions: Batch (Relay 2), Start, Stop, Reset, Fine Batch, Correction Quantity, Flow Rate Switch, Flow Total Switch, Language

Power Supply: 24 V_{DC} ±20%
Max. Sink Current 100 mA

Electrical Connection: 10-pin Cable or 2x M12 (5,8 Pin)

Electrical Protection: IP 65

Frequency/Pressure-loss Table

| Measuring range [gal/min] | Brass housing | | | PTFE housing | | |
|------------------------------|-----------------|---------------------------|-------------------------------|-----------------|---------------------------|-------------------------------|
| | Oriface [mm] | Frequency at max. flow | Pressure loss at max. flow | Oriface [mm] | Frequency at max. flow | Pressure loss at max. flow |
| 0.05...0.50 | 2.0 | approx. 70 Hz | 11.6 PSI | 2.0 | approx. 80 Hz | 10.15 PSI |
| 0.13...1.8 | 4.3 | approx. 85 Hz | 8.7 PSI | 4.3 | approx. 95 Hz | 7.25 PSI |
| 0.26...4.0 | 5.9 | approx. 130 Hz | 11.6 PSI | 5.9 | approx. 140 Hz | 10.5 PSI |
| 0.5...9.5 | 9.0 | approx. 130 Hz | 11.6 PSI | 9.0 | approx. 120 Hz | 13.0 PSI |
| 0.8...15.0 | 13.5 | approx. 85 Hz | 11.6 PSI | 13.5 | approx. 80 Hz | 13.0 PSI |



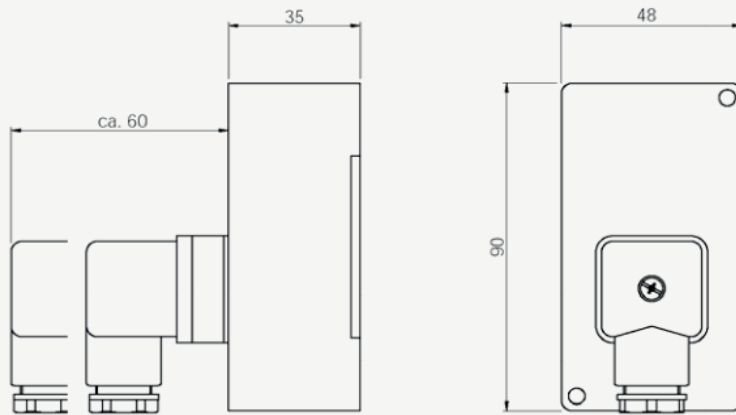
Compact Paddle Flow Sensor Model DFT

Order Details (Example: **DFT-3307N4L443**)

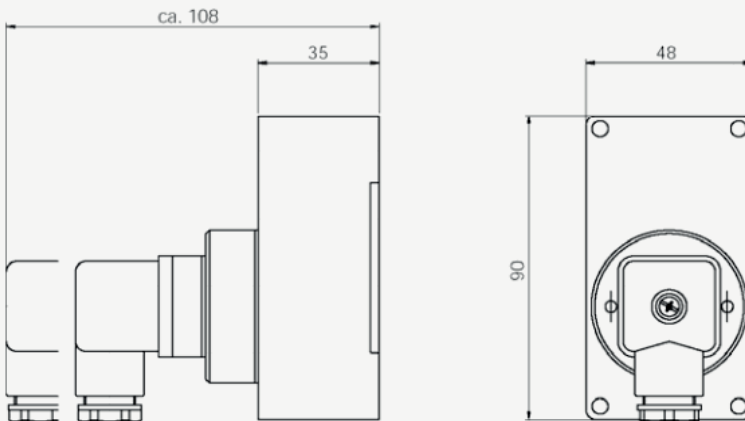
| Measuring Range (GPM) | Model | | | | Connection Female Thread |
|--|----------------------------|------------------------------|-----------------------------|-------------------------------|--|
| | Brass Housing Ceramic Axle | PTFE Housing Ceramic Axle | Brass Housing Sapphire Axle | PTFE Housing Sapphire Axle | |
| 0.05...0.50 | DFT-3103.. | DFT-3303.. | DFT-3603.. | DFT-3803.. | ..N2.. = 1/4" NPT ..N4.. = 1/2" NPT ..G2.. = G 1/4 ..G4.. = G 1/2 |
| 0.13...1.8 | DFT-3107.. | DFT-3307.. | DFT-3607.. | DFT-3807.. | |
| 0.26...4.0 | DFT-3116.. | DFT-3316.. | DFT-3616.. | DFT-3816.. | |
| 0.5...9.5 | DFT-3136.. | DFT-3336.. | DFT-3636.. | DFT-3836.. | ..N4.. = 1/2" NPT ..N5.. = 3/4" NPT ..G4.. = G 1/2 ..G5.. = G 3/4 |
| 0.8...15.0 | DFT-3160.. | DFT-3360.. | DFT-3660.. | DFT-3860.. | ..N5.. = 3/4" NPT ..G5.. = G 3/4 |
| Output/Electronic Option | | | | | |
| OEM Frequency Output | | | | | |
| ...0000 = NPN, Connector DIN 43650 | | | | | |
| Frequency Output | | | | | |
| ...F400 = PNP, Connector DIN 43650 | | | | | |
| Analog Output | | | | | |
| ...L443 = Connector DIN 43650, 4-20 mA, 3-wire ...L442 = Connector DIN 43650, 4-20 mA, 2-wire | | | | | |
| MA Electronic with Analog Output Option | | | | | |
| ..MK.. = 1.5 m Cable Connection | | ..1.. = 110 VAC | | ..4 = 4-20 mA | |
| ..MG.. = Connector and Mating Connector | | ..3.. = 24 VDC | | ..1 = 0-10 V | |
| WM Electronic with 1 Contact | | | | | |
| ..WK.. = 1.5 m Cable Connection | | ..1X = 110 VAC | | | |
| ..WG.. = Connector and Mating Connector | | ..3X = 24 VDC | | | |
| K Electronic (Display, MIN/MAX-Contact, Analog Output) | | | | | |
| ..KK.. = 1.5 m Cable Connection | | ..3.. = 24 VDC | | ..4 = 4-20 mA ..1 = 0-10 V | |
| Totalizer Electronic/Batching Electronic | | | | | |
| ..E.. = Totalizer Electronic (2x SPDT) | | ..3.. = Plug 2x M12 / 24 VDC | | ..4R = 4-20 mA | |
| ..G.. = Batching Electronic (2x SPDT) | | ..1.. = 1.5 m Cable / 24 VDC | | ..1R = 0-10 V | |
| Accessories: P/N 807.007 = 4-pin Micro-DC Connector with 6-foot Cable for Output Types E34R & G34R P/N 807.087 = 8-pin Micro-DC Connector with 6-foot Cable for Output Types E34R & G34R | | | | | |

Dimensions Brass (mm)

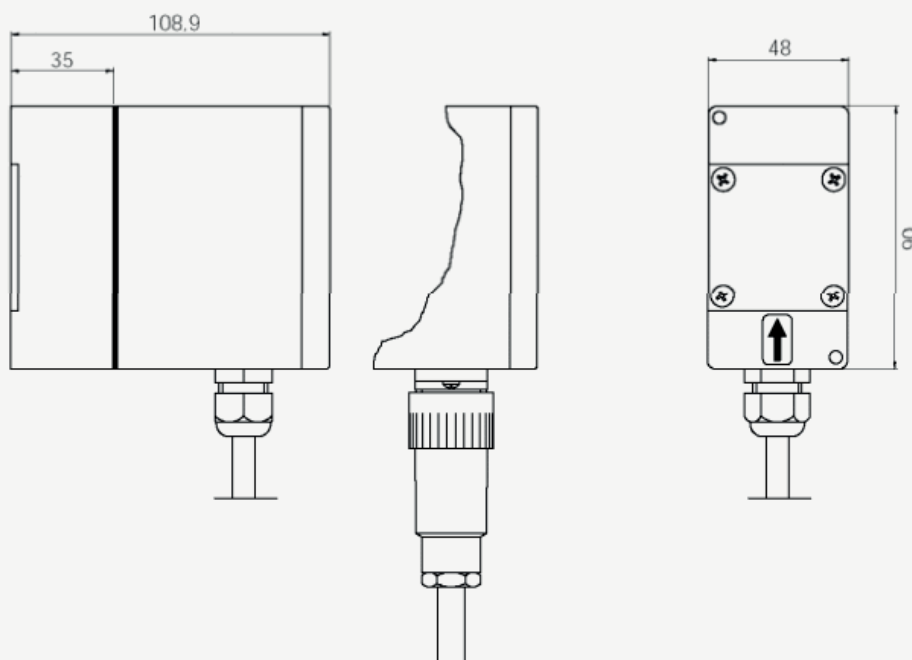
DFT-..0000



DFT-..F4../DFT-..L4..



DFT with MA/WM/K/E/G Electronics

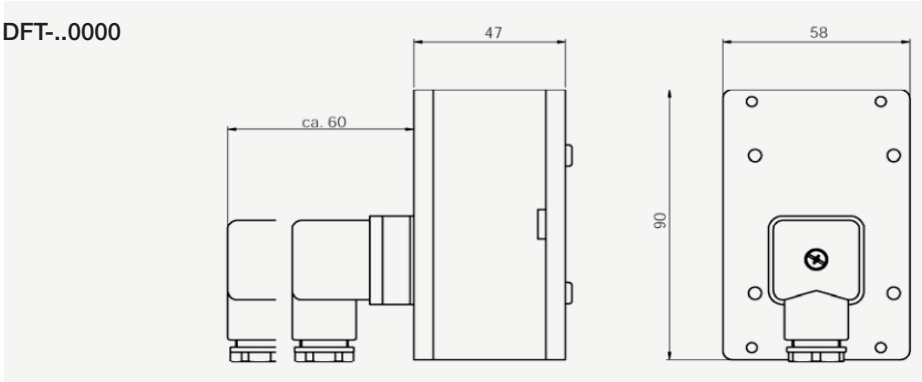




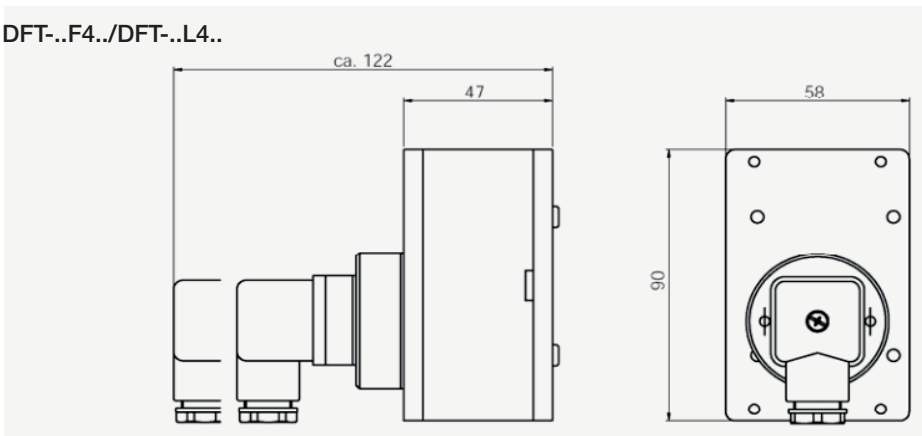
Compact Paddle Flow Sensor Model DFT

Dimensions PTFE (mm)

DFT-..0000



DFT-..F4../DFT-..L4..



DFT with MA/WM/K/E/G Electronics

