



SERIES DFC | DIGITAL FLOW CONTROLLER



BENEFITS/FEATURES

- Able to quickly see changes due to fast <20 ms response rate
- Simple setup using configuration/calibration software
- Works for a variety of application with up to 90 different user selectable gases and gas mixes
- Meet application requirements with high accuracy and repeatability
- Minimize downtime with self-diagnostics through status LED or OLED indication

APPLICATIONS

- Gas flow measurement
- Gas flow control
- Operating pumps and valves
- Process equipment
- Vacuum process
- Scientific and analytical
- Bioreactors and surface depositions

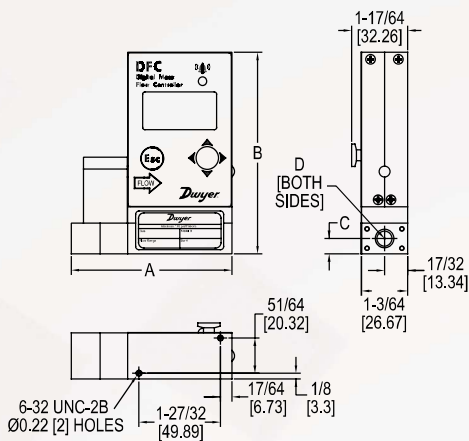
DESCRIPTION

The **Series DFC Digital Flow Controller** combines a straight tube sensor with a restrictor flow element to provide accurate readings and control. Simultaneous displays of mass flow, volumetric flow, pressure and temperature parameters promote applications in a variety of industries.

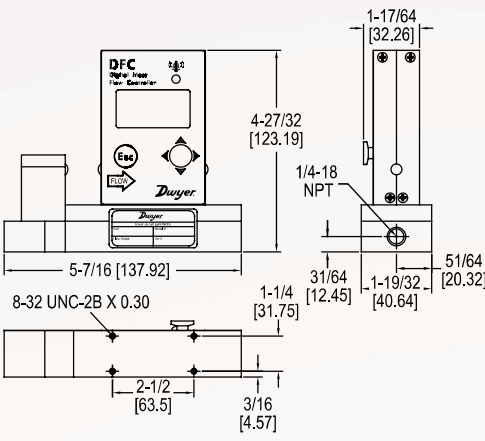
SPECIFICATIONS

Service	Clean, non-corrosive gases compatible with wetted parts.
Wetted Materials	316 SS, 416 SS, high temperature polyamide, alumina ceramic, epoxy, silicone, glass, gold. FKM O-rings.
Accuracy	±(0.5% of reading + 0.2% FS).
Repeatability	±0.2% FS.
Response Time	150 ms.
Output	0-5 VDC, 4-20 mA and 0-10 VDC.
Relay Rating	Programmable solid state relay.
Max. Particulate Size	20 microns.
Temperature Limits	14 to 140°F (-10 to 60°C).
Power Supply	12-26 VDC.
Process Connections	1/8" compression fitting for flow rates ≤ 10 L/min (-005, -010); 1/4" for ≤ 50 L/min (-050); 3/8" for ≤ 100 L/min (-100).
Pressure Limits	120 psig (8.27 bar).
Leak Integrity	1 x 10 ⁻⁹ sccs of helium.
Display	2 x 16 character OLED.
Weight	DFC-01/50: 1.40 lbs (0.635 kg); DFC-51/56: 1.66 lbs (0.755 kg).
Agency Approvals	CE.

DIMENSIONS



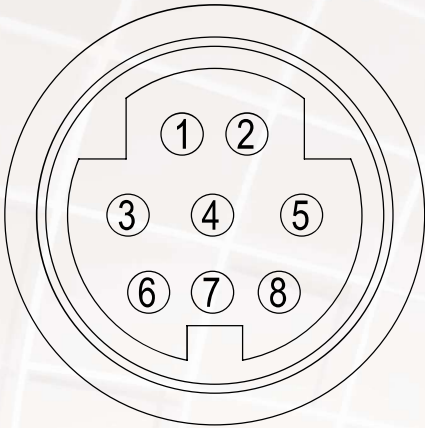
Ranges 0.5 mL/min-20 L/min (DFC-01/50)



Ranges 21 L/min-100 L/min (DFC-51/56)

Range	A	B	C	D
0.5 mL/min-50 mL/min	3-11/16 [93.47]	4-37/64 [116.33]	11/32 [8.64]	10-32 UNF
51 mL/min-20 L/min	3-21/32 [92.96]	4-13/32 [111.76]	11/32 [8.64]	1/8 NPT

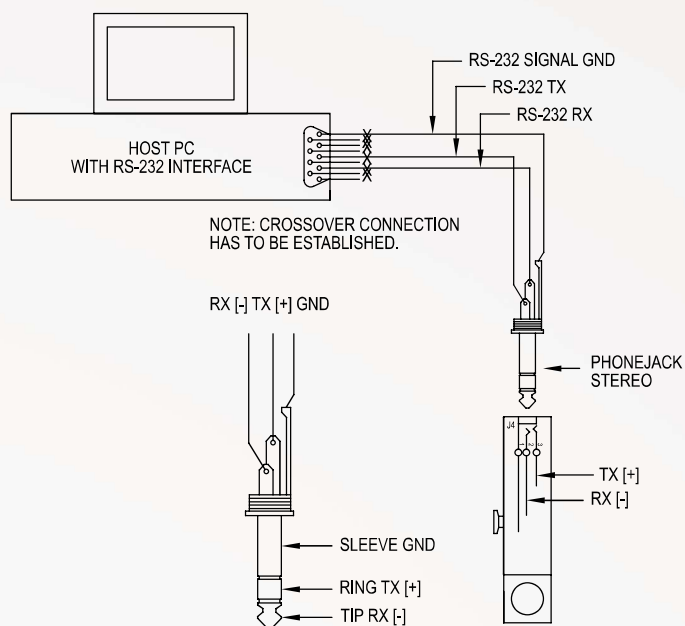
WIRING DIAGRAM



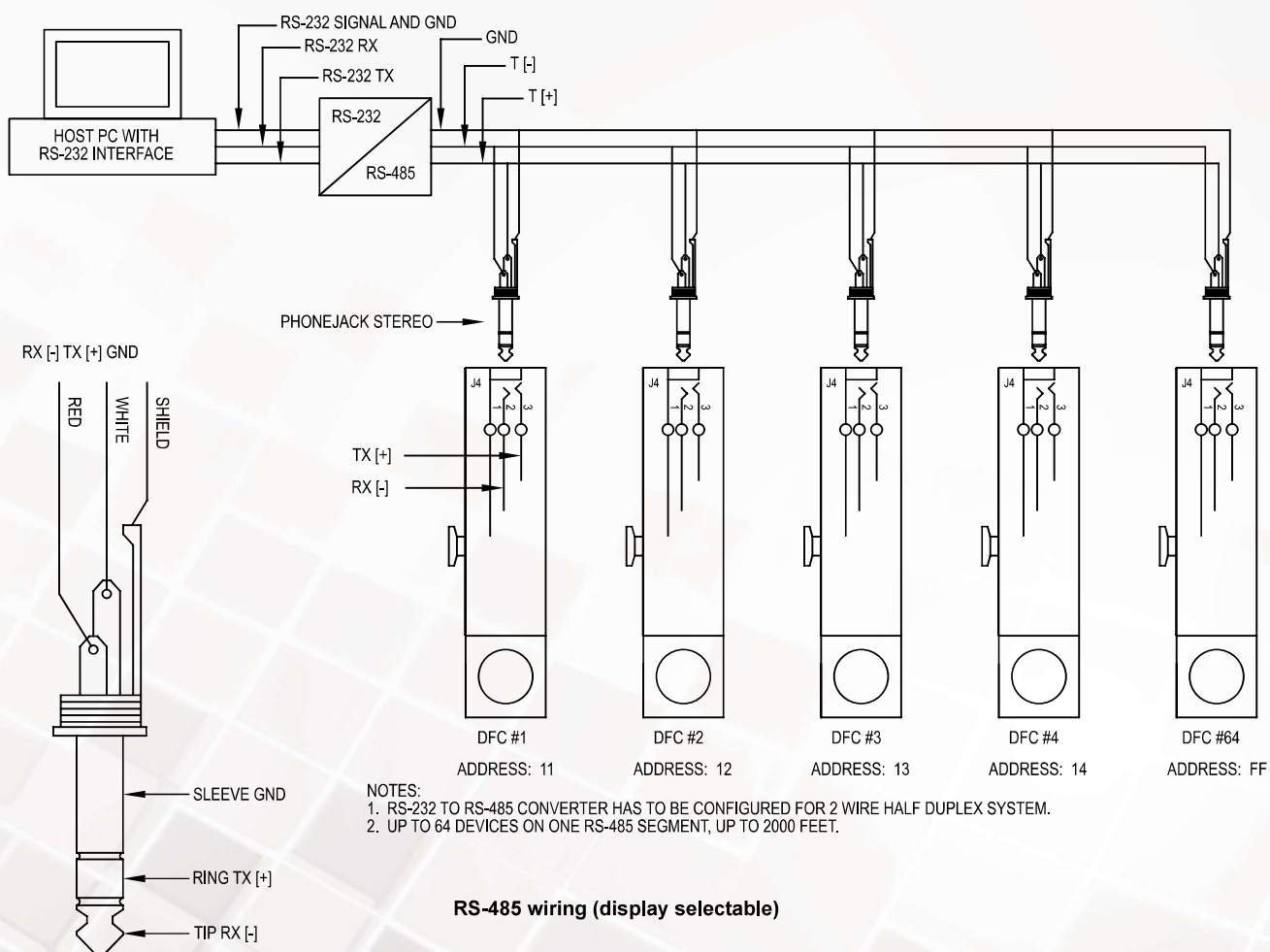
DIN connector wiring

PIN	Function	Note
1	Solid state SPST relay NO (normally open) contact #1	Do not exceed SSR maximum voltage 48 AC peak/DC and maximum load current 400 mA.
2	Solid state SPST relay NO (normally open) contact #2	
3	Analog set point input (+) (0-5 VDC, 0-10 VDC, 4-20 mA)	Input impedance: 100K (0-5, 0-10 VDC) 250 Ω (4-20 mA).
4	Analog (0-5 VDC, 0-10 VDC, 4-20 mA) input/output reference (-)	Common (return) for pins 3 and 6 (0-5 VDC or 0-10 VDC or 4-20 mA).
5	Not assigned. Do not connect!	Factory use only. Do not connect any signals to this pin!
6	Analog (0-5 VDC, 0-10 VDC or 4-20 mA) output (+)	Output. Do not apply external voltage or any current source. Be sure to observe recommended load impedance.
7	Power supply, positive (+)	Power input 12-26 VDC. (DFC-01-DFC-53) or 24-26 VDC (DFC-54-DFC-56).
8	Power supply, common (-)	Power input common.

WIRING DIAGRAM



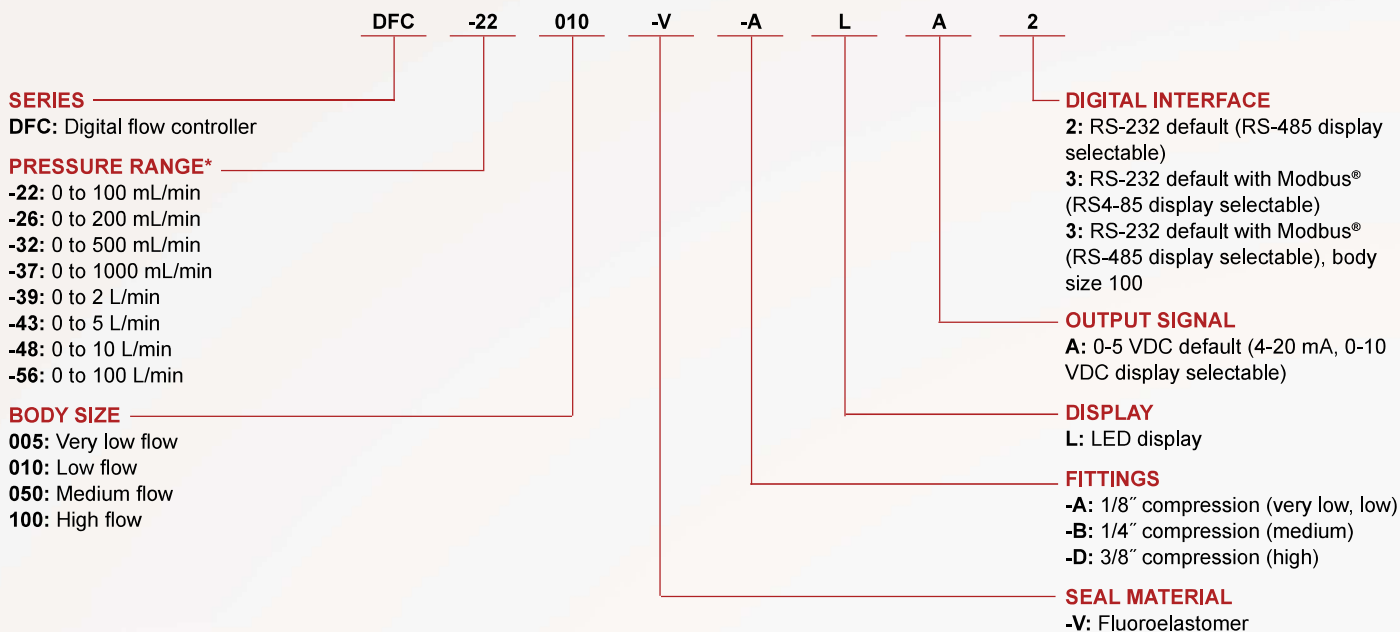
RS-232 wiring (default)



RS-485 wiring (display selectable)

HOW TO ORDER

Use the **bold** characters from the chart below to construct a product code.



*Consult factory for ranges from 0-0.5 mL/min up to 0-100 L/min.

ACCESSORIES

Model	Description
GFM-110P	110 V power supply
GFM-220PE	220 V power supply
Note: 1.5 ft RS-232 interface 3-wire 9-pin D connector included. For RS-485 contact factory for A-DFM-CBL-A485DP 3 ft RS-485 3.5 mm stereo-audio connection with stripped ends available for purchase.	

Modbus® is a registered trademark of Schneider Automation, Inc.

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dwyer-inst.com/Product/SeriesDFC



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DS-DFC Rev. 1

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