



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

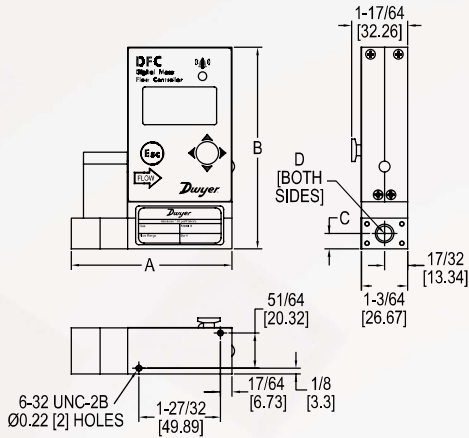
DESCRIPTION

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.

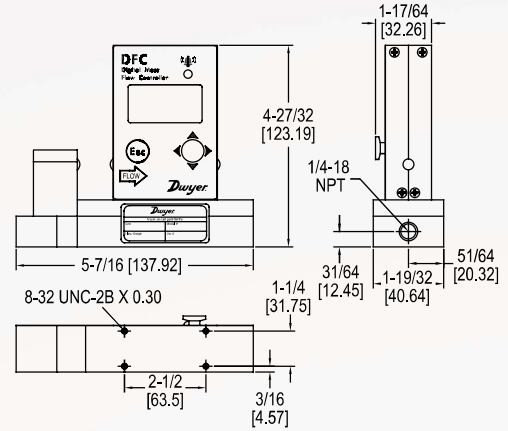
SPECIFICATIONS

| | |
|------------------------------|---|
| 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



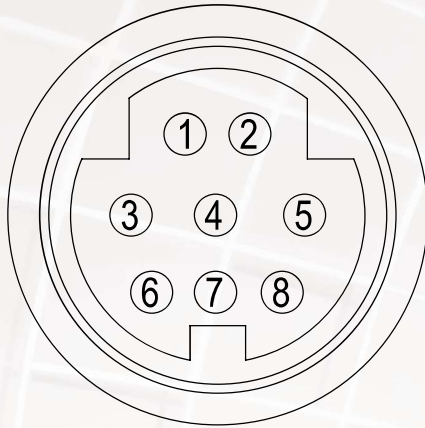
Ranges 0.5 mL/min-20 L/min (DFC-01/50)



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 |

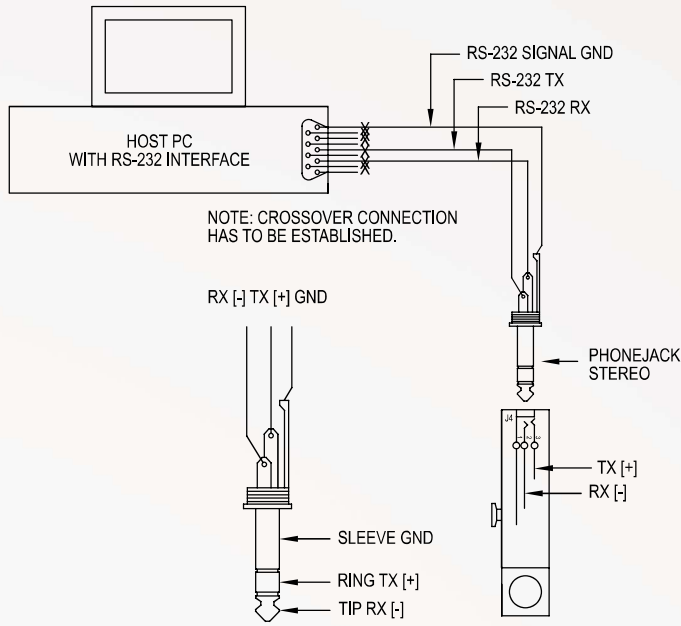
WIRING DIAGRAM



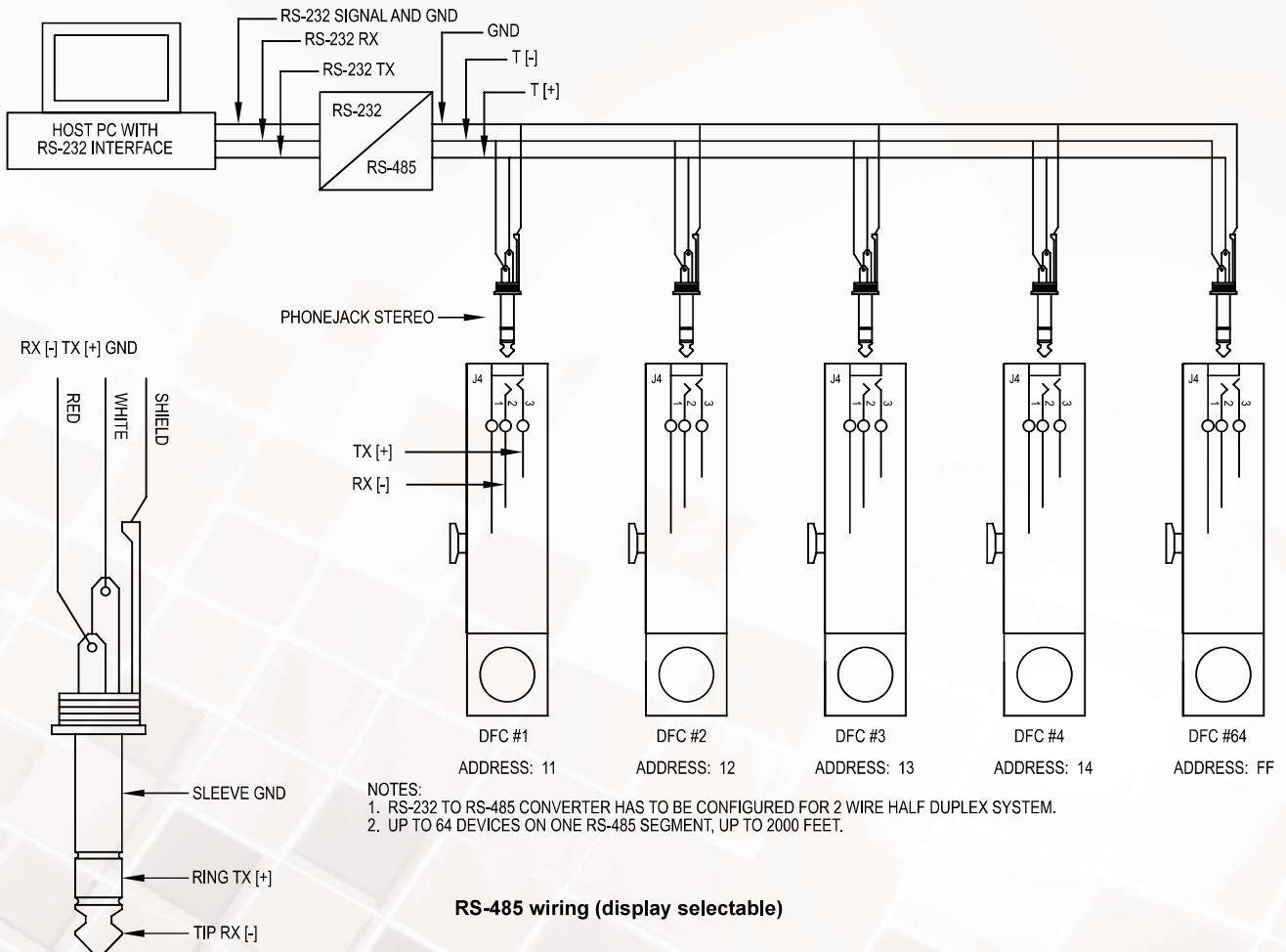
DIN connector wiring

| 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



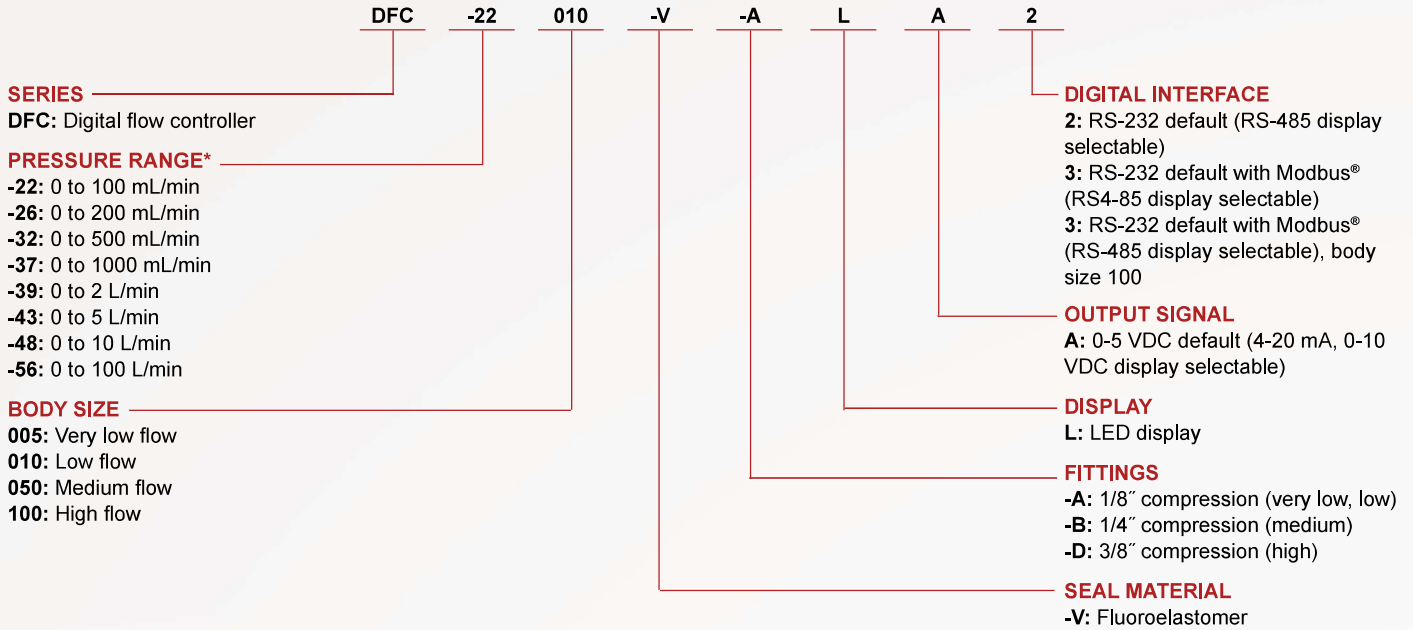
RS-232 wiring (default)



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. | |

ORDER ONLINE TODAY!

dwyer-inst.com/Product/SeriesDFC

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



DWYER INSTRUMENTS, INC.

©Copyright 2021 Dwyer Instruments, Inc.
 Printed in U.S.A. 5/21

DS-DFC Rev. 1

Important Notice: Dwyer Instruments, Inc. reserves the right to make changes to or discontinue any product or service identified in this publication without notice. Dwyer advises its customers to obtain the latest version of the relevant information to verify, before placing any orders, that the information being relied upon is current.