



SERIES DFM | DIGITAL FLOW METER



BENEFITS/FEATURES

- Quick (<20 ms) response time
- Multi-parameter functionality
- Multi-gas functionality
- Capable of storing up to 90 gases and 20 custom gas mixes
- Simple field configuration
- Modifiable outputs
- High, low or in-range alarms with preset action delay for mass flow, temperature and pressure

APPLICATIONS

- Gas flow measurement
- Operating pumps and valves
- Process equipment
- Scientific and analytical
- Bioreactors and surface depositions
- Gas sampling
- General manufacturing

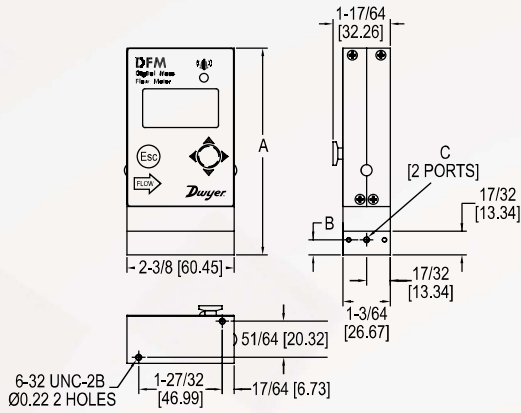
DESCRIPTION

The **Series DFM Digital Flow Meter** is the industry leader in the measurement of mass and volumetric flow rates of process gases. Using the OLED/joystick interface, the flowmeter can measure up to 30 different gases. Simultaneous displays of mass flow, volumetric flow, pressure and temperature parameters promote applications in a variety of industries.

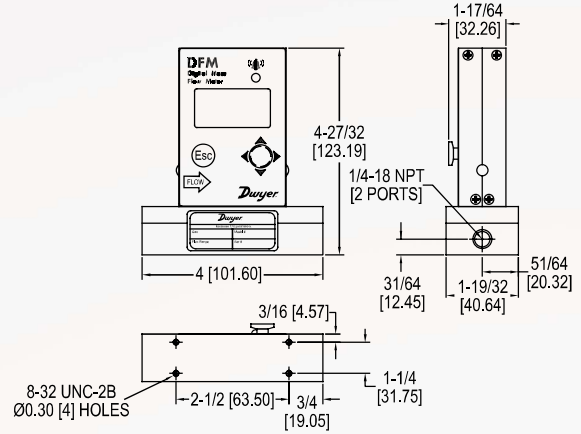
SPECIFICATIONS

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	±0.15% FS.
Response Time	10 ms.
Output	0-5 VDC, 0-10 VDC and 4-20 mA.
Relay Rating	Programmable solid state relay.
Max. Particulate Size	20 microns.
Temperature Limits	14 to 140°F (-10 to 60°C).
Power Supply	9-26 VDC.
Process Connections	1/8" compression fitting for flow rates ≤ 10 L/min; 1/4" for ≤ 50 L/min; 3/8" for ≤ 100 L/min.
Display	2 x 16 character OLED (model selectable).
Pressure Limits	120 psig (8.27 bar).
Leak Integrity	1 x 10 ⁻⁹ sccs of helium.
Weight	DFM-01/50: 0.85 lb (0.4 kg); DFM-51/56: 1.15 lb (0.52 kg).
Agency Approvals	CE.

DIMENSIONS



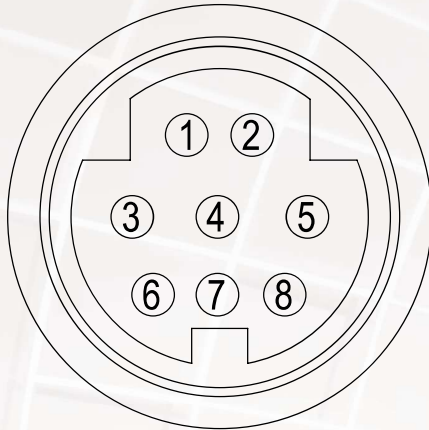
Ranges 0.5 mL/min-20L/min (DFM-01/50)



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

Range	A	B	C
0.5 mL/min-50 mL/min	4-13/32 [111.76]	4-37/64 [116.33]	10-32 UNF-2B
51 mL/min-20 L/min	4-37/64 [116.33]	4-13/32 [111.76]	1/8-27 NPT

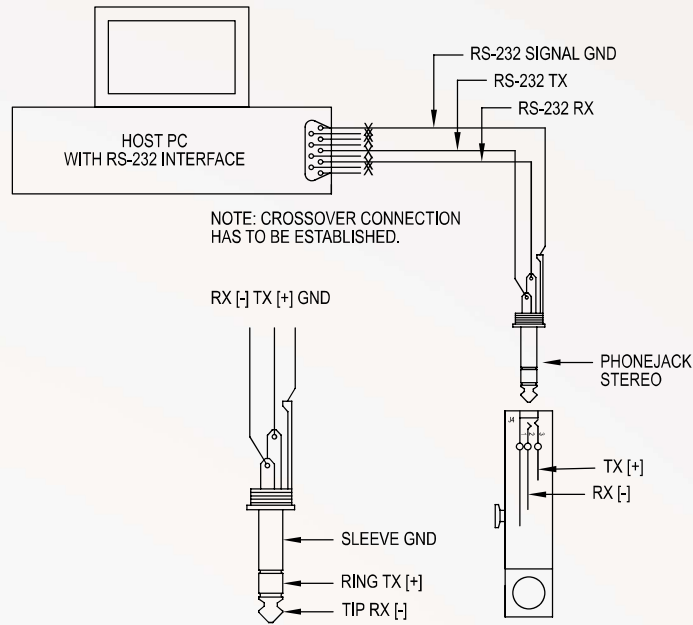
WIRING DIAGRAM



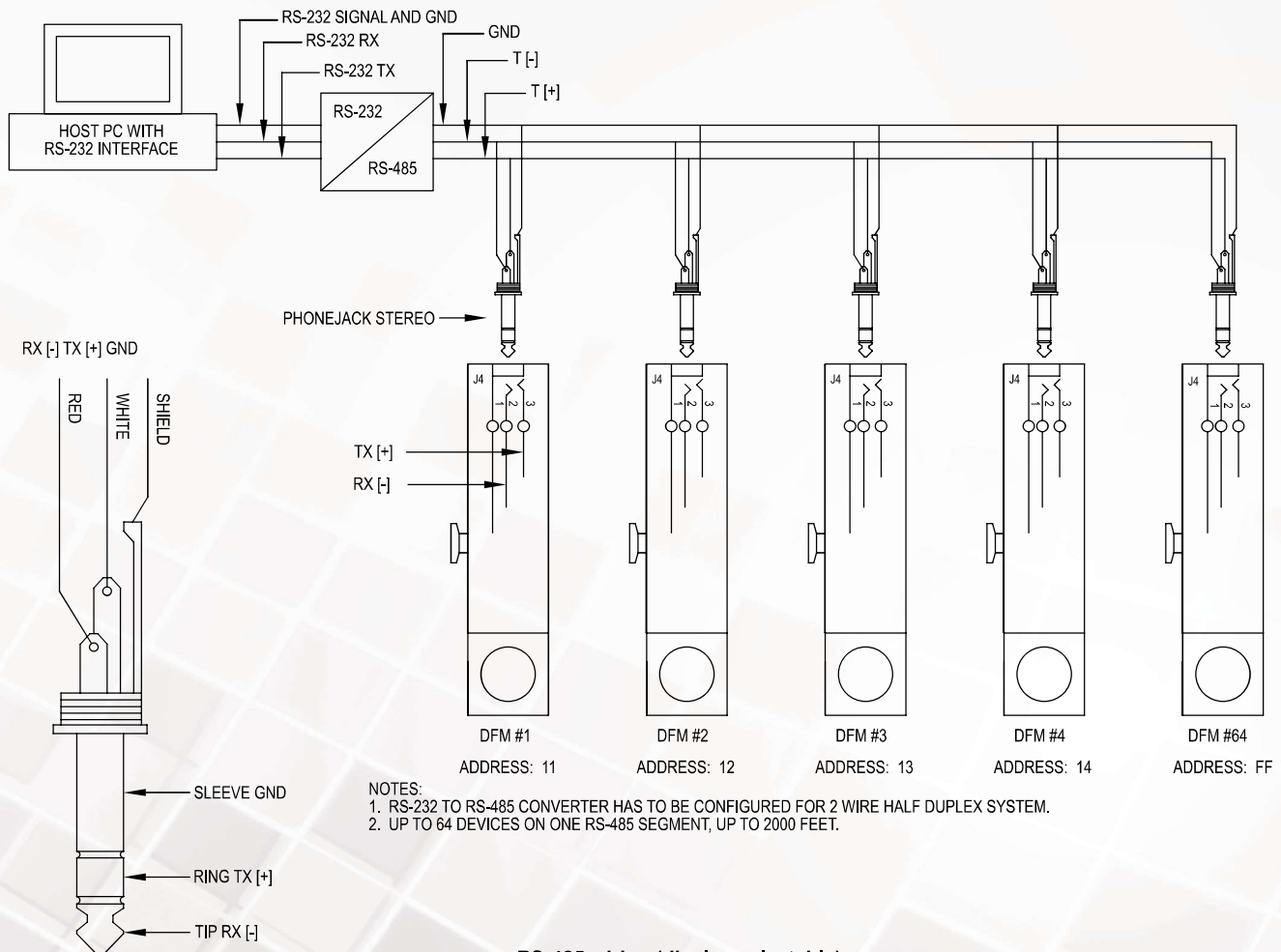
DIN connector wiring

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	RS-232 RX/RS-485 (-) communication interface input	Also accessible via audio jack connector (see figures 2 and 25 in IOM).
4	Analog (0-5 VDC, 0-10 VDC, 4-20 mA) input/output reference (-)	Common (return) for pin 6 (0-5 VDC or 0-10 VDC or 4-20 mA).
5	RS-232 TX / RS-485(+) communication interface input	Also accessible via audio jack connector (see figures 2 and 25 in IOM).
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 9-26 VDC.
8	Power supply, common (-) RS-232 signal ground	Power input and RS-232 communication common.

WIRING DIAGRAM



RS-232 wiring (default)

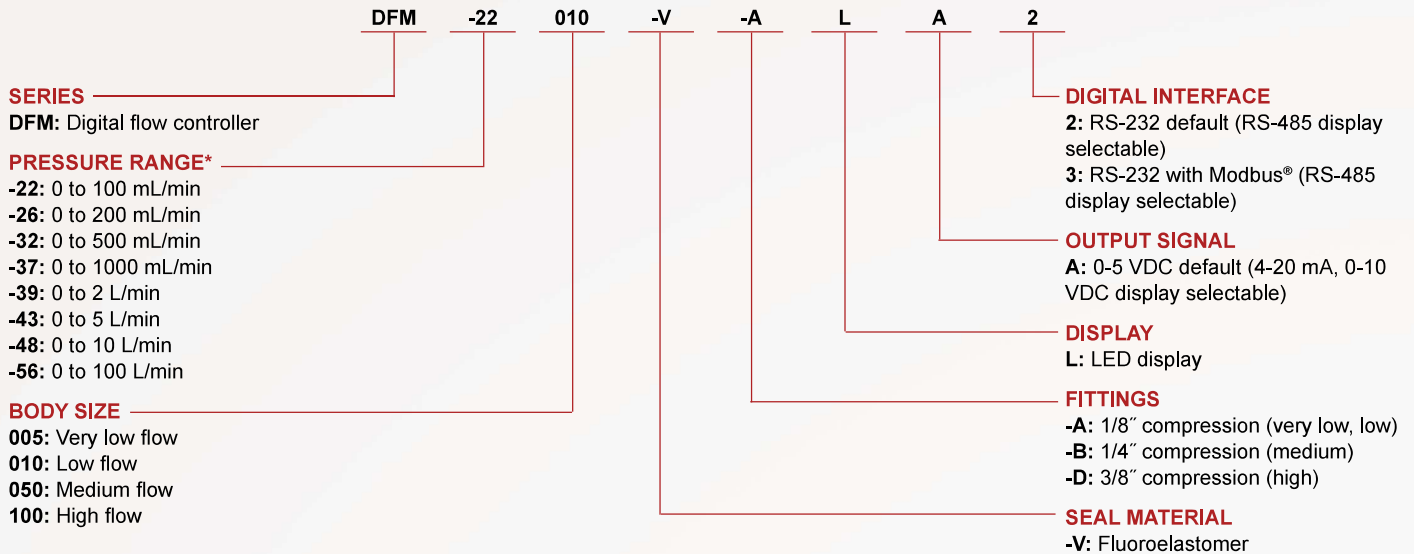


- NOTES:
 1. RS-232 TO RS-485 CONVERTER HAS TO BE CONFIGURED FOR 2 WIRE HALF DUPLEX SYSTEM.
 2. UP TO 64 DEVICES ON ONE RS-485 SEGMENT, UP TO 2000 FEET.

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 up from 0-0.5 mL/min 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.	

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DS-DFM Rev. 1

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