



## 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

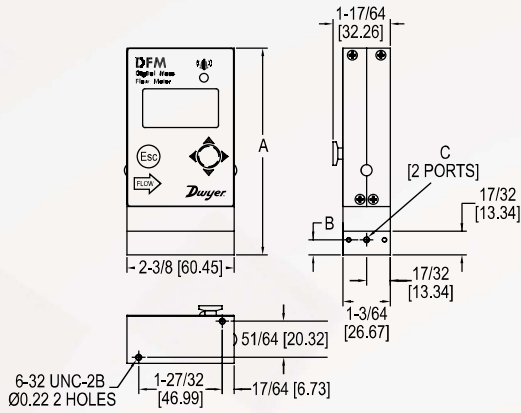
### DESCRIPTION

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.

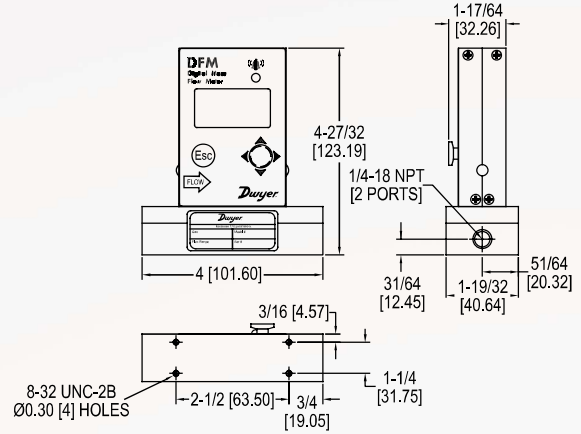
### SPECIFICATIONS

<b>Service</b>	Clean, non-corrosive gases compatible with wetted parts.
<b>Wetted Materials</b>	316 SS, 416 SS, high temperature polyamide, alumina ceramic, epoxy, silicone, glass, gold. FKM O-rings.
<b>Accuracy</b>	±(0.5% of reading + 0.2% FS).
<b>Repeatability</b>	±0.15% FS.
<b>Response Time</b>	10 ms.
<b>Output</b>	0-5 VDC, 0-10 VDC and 4-20 mA.
<b>Relay Rating</b>	Programmable solid state relay.
<b>Max. Particulate Size</b>	20 microns.
<b>Temperature Limits</b>	14 to 140°F (-10 to 60°C).
<b>Power Supply</b>	9-26 VDC.
<b>Process Connections</b>	1/8" compression fitting for flow rates ≤ 10 L/min; 1/4" for ≤ 50 L/min; 3/8" for ≤ 100 L/min.
<b>Display</b>	2 x 16 character OLED (model selectable).
<b>Pressure Limits</b>	120 psig (8.27 bar).
<b>Leak Integrity</b>	1 x 10 <sup>-9</sup> sccs of helium.
<b>Weight</b>	DFM-01/50: 0.85 lb (0.4 kg); DFM-51/56: 1.15 lb (0.52 kg).
<b>Agency Approvals</b>	CE.

## DIMENSIONS



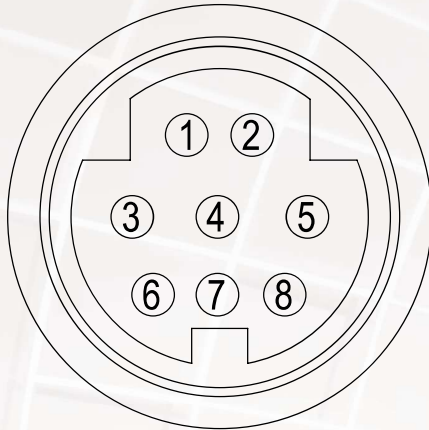
Ranges 0.5 mL/min-20L/min (DFM-01/50)



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

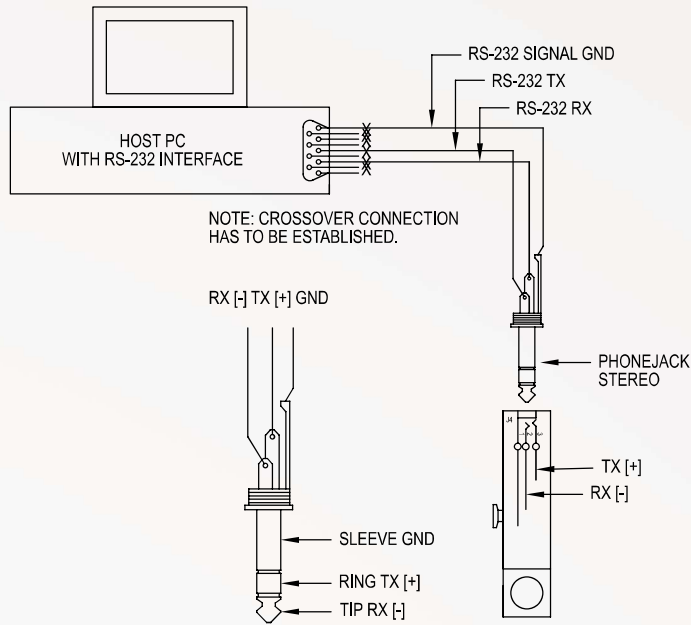
## WIRING DIAGRAM



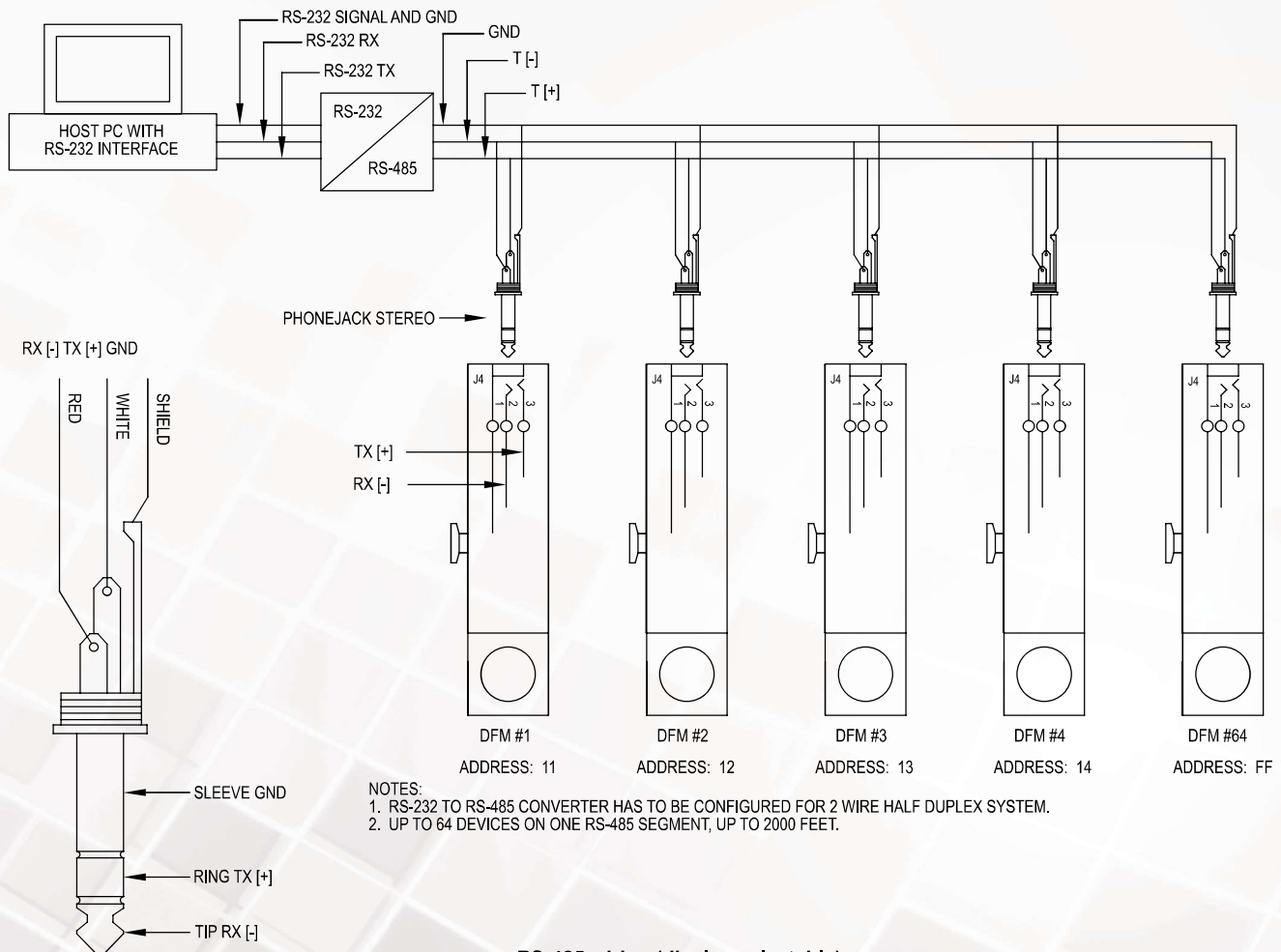
DIN connector wiring

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)**

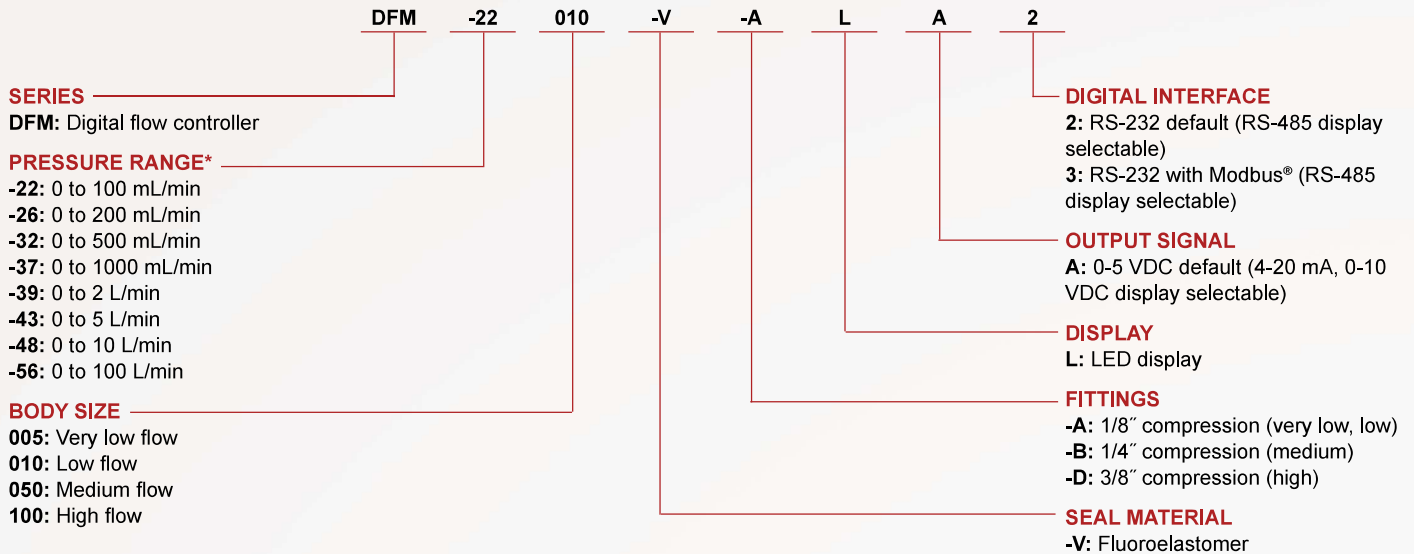


- NOTES:  
 1. RS-232 TO RS-485 CONVERTER HAS TO BE CONFIGURED FOR 2 WIRE HALF DUPLEX SYSTEM.  
 2. UP TO 64 DEVICES ON ONE RS-485 SEGMENT, UP TO 2000 FEET.

**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
<b>GFM-110P</b>	110 V power supply
<b>GFM-220PE</b>	220 V power supply
<p><b>Note:</b> 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.</p>	

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DS-DFM Rev. 1

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