

ROCON LLC

FLOW RANGE .3-600 GPM (1.5 to 2250 LPM)
 MAX PRESSURE 300 PSI (20 Bar) 1/4" - 2"
 200 PSI (13 Bar) 3" & 4"

DU/DT SERIES

ROCON LLC

Vortex Shedding Flowmeter for Resistance Welding Cooling Water

DeltaPoint Uno™



DeltaPoint with Stationary Enclosure



DeltaPoint with Rotatable Enclosure

Description

This flowmeter is made for water, water/glycol coolant or low viscosity fluids.

It has the following features:

- Flow transmitter 4-20 mA and totalizer optional
- User configurable alarm set points or pulse output
- LED digital display
- No moving parts to clog or wear
- Certified CSA and CE
- 316SS available in some sizes
- Optional temperature transmitter

Electrical Specifications

- Output: 4-20 mA (3-wire)
- Alarm or Pulse Output: SPST Solid State Relay (NC or NO, selectable)
- Input Power: 10 - 30 VDC @ 80 mA
- Electrical Connection
 - Pin Connector (standard)
 - Pigtails (optional)
 - Junction Box with terminal strip (optional)

Material Specifications

Flow bodies of brass with PVDF (316SS bodies available in quarter and half inch sizes). Viton seals standard, Kalrez™ optional.

Special Options

- Solid cover (no display) when visual readout and frequent field configuration not required

User-Configurable Options

Features that are selectable include:

- Engineering units (GPM, LPM, Fahrenheit or Celsius)
- Selectable alarm state (N.O. or N.C.)
- Set point or pulse output
- Rotatable control box standard for all units except for DU2, DU3, DU3, DU4 or DU6 (F1 or F2)

Instrument Specifications

- Flow
 - Visual readout: 3 digit LED, 0.3" digit height (6 digit for totalizing)
 - Response time: user selectable from 0.9 to 7.5 seconds,
 - Alarm: 5% F.S. deadband
 - Accuracy: $\pm 2\%$ F.S.
 - Repeatability: $\pm .25\%$ of indicated flow
 - Turndown: 10:1 (20:1 available some sizes)
- Temperature
 - Response time: 1.8 seconds
 - Alarm: $\pm 2\%$ deadband
 - Accuracy: $\pm 1\%$ F.S.
 - Repeatability: $\pm .25\%$ of indicated flow
 - Output: 4 mA @32°F, 20mA @210°F linear
- Pressure
 - 300 PSIG (20 Bar) operating pressure (2" and lower)
 - 200 PSIG (13 Bar) operating pressure (3" & 4")
- General
 - Fluid temperature limits: 35-210°F (2-99°C)
 - Enclosure rating: IP 65, Type 1, 3, 4, 12 and 13
- Pipe Connections:
 - NPT, BSPP & BSPT Female for 1/4" - 2",
 - ANSI Class 150 R.F. Flanges for 3" & 4"

How To Order Select the appropriate symbols to build a model code:

STANDARD CONSTRUCTION FOR BASIC PRODUCTS

Model Code	Pipe Size Inches	Thread or Connection Type	Max Flow Rate GPM (LPM)	10:1 Turndown Min Flow Rate GPM (LPM)	20:1 Turndown Min Flow Rate GPM (LPM)
DU2	1/4	NPT	4 (15)	0.4 (1.5)	N/A
DU3	3/8	NPT	6 (22.7)	0.6(2.3)	0.3(1.13)
DU4	1/2	NPT	12 (45)	1.2 (4.5)	0.6 (0.75)
DU6	3/4	NPT	25 (95)	2.5 (9.5)	1.25 (4.75)
DU8	1	NPT	50 (190)	5.0 (19.0)	2.5 (9.5)
DU12	1 1/2	NPT	100 (380)	10.0 (38.0)	5 (19)
DU16	2	NPT	200 (750)	20.0 (75.0)	10 (37.5)
DU24	3	ANSI RF	300 (1136)	30.0 (114)	N/A
DU32	4	ANSI RF	600 (2271)	60.0 (227)	N/A

Standard models have fixed flow rates for each pipe size, brass construction, viton seals, 4-20mA output with programmable set point or pulse out selectable.

Example: DU12 is an 1 1/2 inch flowmeter with above characteristics.

FLOW AND TEMPERATURE

DT6	3/4	NPT	25 (95)	2.5 (9.5)	1.25 (4.75)
DT8	1	NPT	50 (190)	5.0 (19.0)	2.5 (9.5)
DT12	1 1/2	NPT	100 (380)	10.0 (38.0)	5 (19)
DT16	2	NPT	200 (750)	20.0 (75.0)	10 (37.5)
DT24	3	ANSI RF	300 (1136)	30.0 (114)	N/A
DT32	4	ANSI RF	600 (2271)	60.0 (227)	N/A

For Special Options - Added symbols required.

Example: DU12-T2 is a standard model with BSPT threads.

SPECIAL OPTIONS AVAILABLE

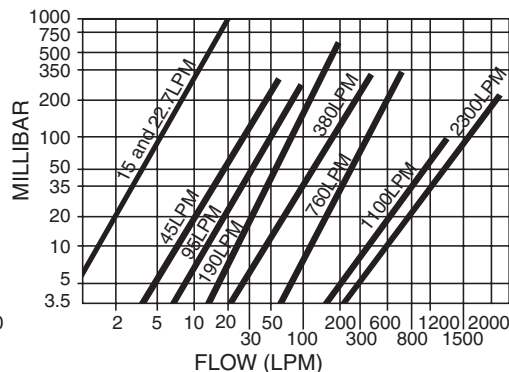
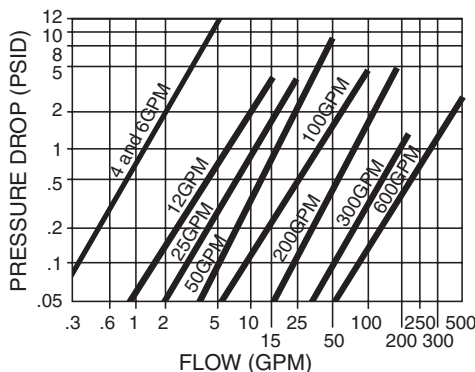
Thread type or connection type	Flow rate GPM (LPM)	Body material	Seal material	Switch and electronic options	Connector or conduit box	Enhanced Performance	Cover
BSPT = T2	4 (15) = F1	316 SS = M2	Kalrez = S2	2 set points, no transmitter = E2	Pig tails = C2	20:1 Turndown = W1	Solid = V2
BSPP = T3	12 (45) = F2			1 set point, pulse out = E3	Conduit box, terminal strip = C3		
	25 (95) = F3						
	50 (190) = F4						
	100 (380) = F5						
	6 (23) = F9						

SPECIAL OPTION AVAILABILITY BY PIPE SIZE AND UNIT TYPE

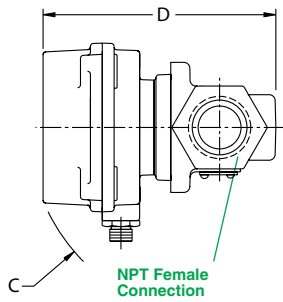
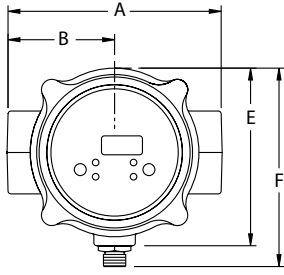
Model Code	Pipe size in inches	Thread or Connection Type	Flow rate GPM (LPM)	Body material	Seal material	Switch and electronic options	Connector or conduit box	Enhanced Performance	Cover
DU2	1/4	= T2, T3	= F1	= M2	= S2	= E2, E3	= C2, C3		= V2
DU3	3/8	= T2, T3	= F1	= M2	= S2	= E2, E3	= C2, C3	= W1	= V2
DU4	1/2	= T2, T3	= F9, F1	= M2	= S2	= E2, E3	= C2, C3	= W1	= V2
DU6	3/4	= T2, T3	= F9, F2, F1*	= M2 with F2 or F1 only	= S2	= E2, E3	= C2, C3	= W1	= V2
DT6	3/4	= T2, T3	= F2, F1		= S2		= C2, C3	= W1	
DT8	1	= T2, T3	= F3		= S2		= C2, C3	= W1	
DT12	1 1/2	= T2, T3	= F4		= S2		= C2, C3	= W1	
DT16	2	= T2, T3	= F5		= S2		= C2, C3	= W1	
DT24	3				= S2		= C2, C3		
DT32	4				= S2		= C2, C3		
DU8	1	= T2, T3	= F3		= S2	= E2, E3	= C2, C3	= W1	= V2
DU12	1 1/2	= T2, T3	= F4		= S2	= E2, E3	= C2, C3	= W1	= V2
DU16	2	= T2, T3	= F5		= S2	= E2, E3	= C2, C3	= W1	= V2
DU24	3				= S2	= E2, E3	= C2, C3		= V2
DU32	4				= S2	= E2, E3	= C2, C3		= V2

*DU6-F2 or F1 has a non-rotatable box.

PRESSURE DROP CHARTS



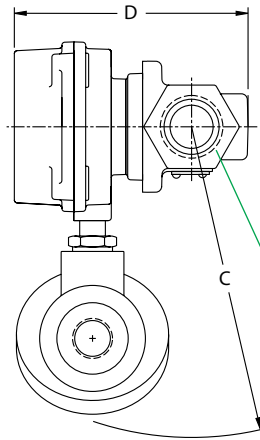
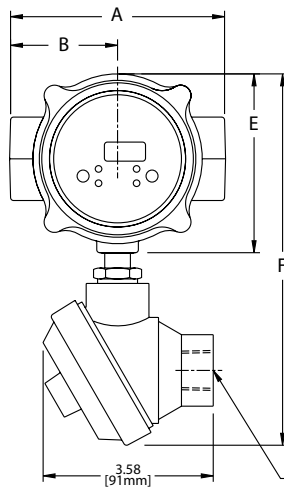
INSTALLATION DRAWING – BASIC METERS



Size	A	B	C	D	E	F
DU2, DU3, DU4, DU6-F1 & F2	3.25 [83mm]	1.62 [41mm]	3.13 [80mm]	4.07 [103mm]	2.31 [59mm]	2.73 [94mm]
DU6, DT6 DU8 & DT8	4.50 [113mm]	2.25 [57mm]	4.04 [103mm]	4.92 [125mm]	3.75 [95mm]	4.19 [113mm]
DU12,DT12 DT16 & DU16	6.75 [171mm]	3.37 [86mm]	4.71 [120mm]	6.14 [156mm]	3.75 [95mm]	4.19 [106mm]

**NOTE: The following units do not have a rotatable enclosure:
DU2, DU3, DU4, DU6-F1 and DU6-F2**

INSTALLATION DRAWING – METERS WITH OPTIONAL JUNCTION BOX

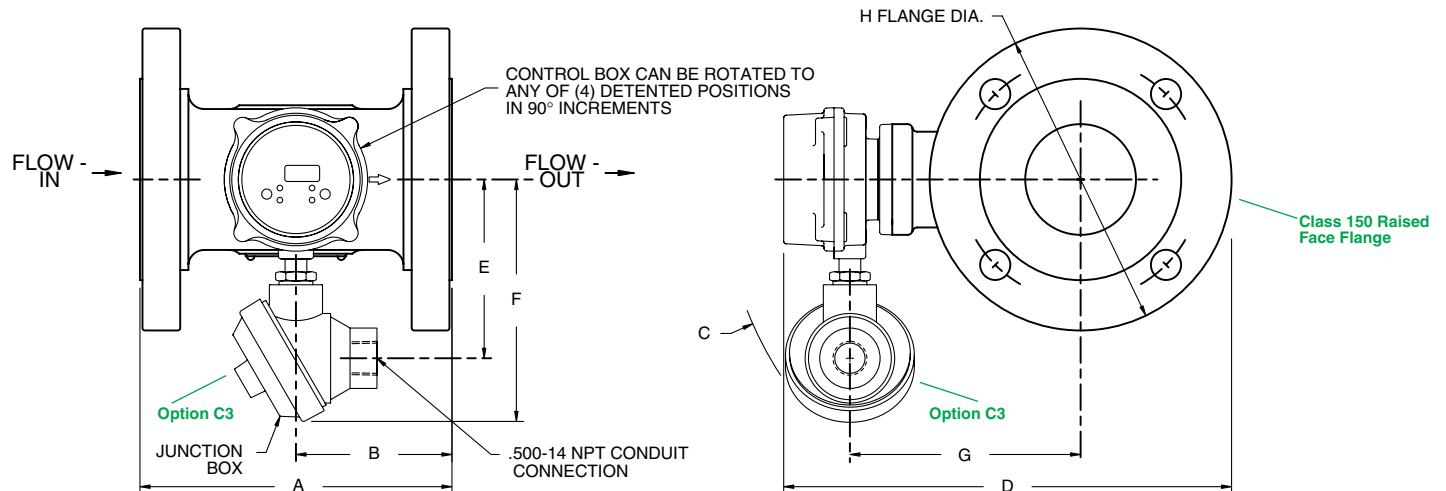


Size	A	B	C	D	E	F
DU2, DU3, DU4, DU6-F1 & F2	3.25 [83mm]	1.62 [41mm]	5.42 [138mm]	4.07 [103mm]	2.31 [59mm]	6.39 [162mm]
DU6, DT6, DU8 & DT8	4.50 [114mm]	2.25 [57mm]	6.52 [166mm]	4.92 [125mm]	3.75 [95mm]	7.79 [198mm]
DU12, DT 12 DT16 & DU16	6.75 [171mm]	3.37 [86mm]	6.87 [175mm]	6.14 [156mm]	3.75 [95mm]	7.79 [198mm]

**NOTE: The following units do not have a rotatable enclosure:
DU2,DU3, DU4, DU6-F1 and DU6-F2**

INSTALLATION DRAWING – 3" AND 4" PORT SIZE

Size	A	B	C	D	E	F	G	H
DU24 DT24	7.75 [197mm]	3.88 [99 mm]	8.90 [226 mm]	11.13 [283 mm]	4.44 [113 mm]	6.03 [153 mm]	5.73 [146 mm]	7.50 [191 mm]
DU32 DT32	10.75 [273 mm]	5.38 [137 mm]	9.46 [240 mm]	12.57 [319 mm]	4.44 [113 mm]	6.03 [153 mm]	6.43 [163 mm]	9 [229 mm]

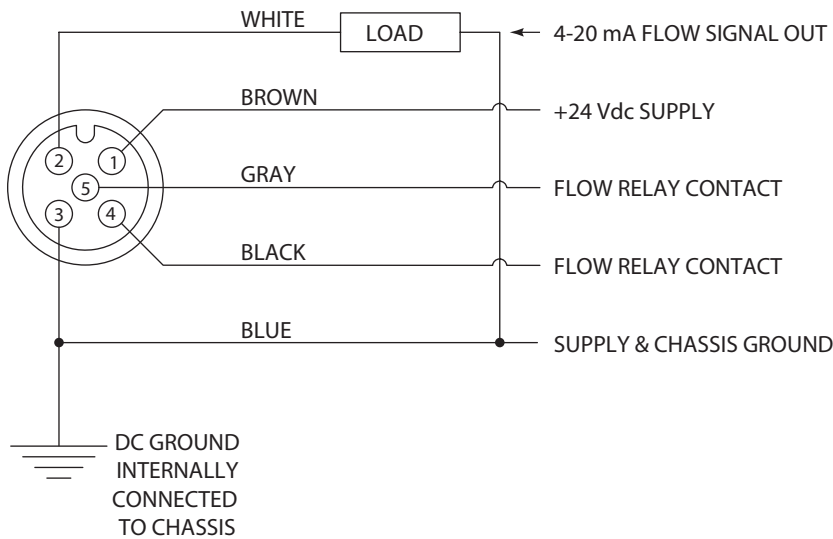


ACCESSORY CABLES AVAILABLE FOR PIN CONNECTOR METERS

Series	Description	Length in Meters	Part Number
DU	5 pin female	1	6241-1M
		3	6241-3M
		10	6241-10M
DT	8 pin female	2	6242-2M
		5	6242-5M
		10	6242-10M

PIN CONNECTOR PINOUTS

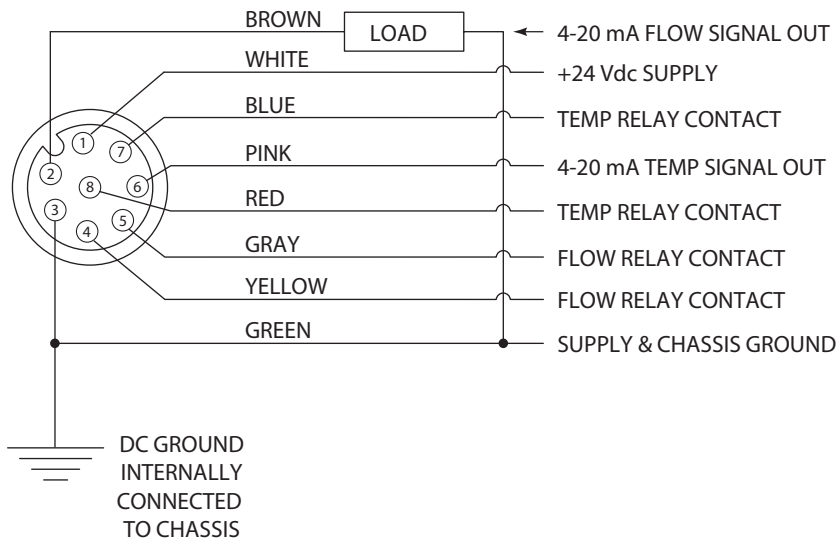
DU (FLOW ONLY)



PIN CONFIGURATION:

- 1: + 24 VDC power supply
- 2: 4-20 mA flow signal out
- 3: power supply ground
- 4: flow relay contact
- 5: flow relay contact

DT (FLOW AND TEMPERATURE)



PIN CONFIGURATION:

- 1: + 24 VDC power supply
- 2: 4-20 mA flow signal out
- 3: power supply ground
- 4: flow relay contact
- 5: flow relay contact
- 6: 4-20 mA temp signal out
- 7: temp relay contact
- 8: temp relay contact

ROCON LLC

(Rocon is a wholly owned subsidiary of Universal Flow Monitors, Inc.)

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