ROCON LLC

FLOW RANGE: TWO SENSOR MODEL - Gun & Transformer .6-12 GPM (2.3-45 LPM) SERIES: DPM
THREE SENSOR MODEL - Gun .6-6 GPM, Transformer .3-6 GPM (GUN 2.3-23 LPM, 1-23 LPM)
MAX PRESSURE: 190 PSI (13 BAR)

DeltaPoint® Manifold

Resistance welding tip loss monitor

Description

The DeltaPoint Manifold is available in two models, a two and a three flow sensor model. The two flow sensor model senses flow for both the weld gun and transformer on a single flow circuit. The three flow sensor model has an additional flow sensor to monitor weld transformer flow on a second circuit. You can set an adjustable alarm that triggers when transformer flow is below the manufacturer's specification. Up to three temperature sensors are available.

Features

- Modular Manifold Design - no need to disconnect plumbing to replace the water saver
- Sensor has no moving parts to wear, break or cause nuisance tripping
- Gun flow, transformer flow and temperature displayed on LCD screen
- User adjustable setpoints: Flow, Leak, Temperature Alarm, Response Time, Restart Delay
- Flow displayed in GPM or LPM
- Temperature displayed in degrees F or C
- Bypass available both electrical and mechanical
- Available Communications Protocals: Ethernet/IP, Profinet or Devicenet
- Includes USB port: firmware updates / logging flow data for troubleshooting
- Graphical User Interface available for remote display and set point adjustment
- Available with the Venturi WET System Option - No water on plant floor during cap change

Unit Specifications

General

- Pressure Drop: See chart on the last page
- Differential Pressure Limits: 5-80 PSID (0.3-5.5 Bar)
- Maximum Operating Pressure: 190 PSI (13 Bar)
- Fluid Temperature Limits: 35-210°F (2-99° C)
- Ambient Temperature Limits: 32-122° F
- Weight: Two flow sensor model 13Lb (5.9Kg)
  Three flow sensor model 15Lb (6.8Kg)
- Wetted Material: Brass and PVC
- Electrical Enclosure: Aluminum
- Air Operated Shut Off Valve available
- Porting: ¾ NPTF or BSPP

Flow / Temperature Sensors

- Accuracy: ± 2% Full Scale
- Repeatability: ± .25% of actual flow
- Response Time Flow: 1 second to 63% of flow change
- Response Time Temperature: 1.8 seconds
- Material: Flow Sensor - PEEK,
  Temperature Sensor - Brass

Solenoid Valve

- Style: Diaphragm, 2-way pilot operated, NC
- CV: 8.4
- Mechanical Bypass: Standard
- Response Time: 1-1.5 seconds to shut off water. Length of hose run from unit to weld gun affects response time
- Material: Forged Brass
- Seal: NBR (Buna N)

Check Valve

- Style: Inline Check Valve
- Material: Brass
- Seal: NBR

Electrical Specifications

- Ethernet, Profinet or DeviceNet

HOW TO ORDER Select appropriate symbols and build a model code number, as in example shown:

Example: DPM-23/10LM - 6/4 - Q - E1U -

MODEL AND FLOW RANGE - GPM		
DPM-6GM	=	.6-6 GPM (Two flow sensor model, gun & transformer on one cooling water circuit)
DPM-12GM	=	1.2-12 GPM (Two flow sensor model, gun & transformer on one cooling water circuit)
DPM-6/6GM	=	.6-6 GPM for gun circuit & .6-6 GPM for transformer circuit (Three flow sensor model, gun & transformer on two cooling circuits)
DPM-6/3GM	=	.6-6 GPM for gun circuit & .3-3 GPM for transformer circuit (Three flow sensor model, gun & transformer on two cooling circuits)

MODEL AND FLOW RANGE - LPM		
DPM-23LM	=	2.3-23 LPM (Two flow sensor model, gun & transformer on one cooling water circuit)
DPM-45LM	=	4.5-45 LPM (Two flow sensor model, gun & transformer on one cooling water circuit)
DPM-23/23LM	=	2.3-23 LPM for the gun circuit & 2.3-23 LPM for transformer circuit (Three flow sensor model, gun & transformer on two cooling circuits)
DPM-23/10LM	=	2.3-23 LPM for the gun circuit & 1-10 LPM for transformer circuit (Three flow sensor model, gun & transformer on two cooling circuits)

PORT SIZE	
4, 3/4" NPTF ports, see front page	= 6
2, 3/4" NPTF & 4, 1/2" NPTF ports, see front page	= **6/4**
2, 1/2-14 BSPP ports with 2, 3/4 to 1/2-14 BSPP adapters installed	= 8BP
4, 3/4-14 BSPP	= 12BP
2, 3/4-14 BSPP & 4, 1/2-14 BSPP	= 12BP/8BP

ELECTRONIC BOARD REVISION = Q

CONNECTOR WIRING

ETHERNET/IP

4 Pin Mini Power Connector (Male) = E1U

1: Black	N/U
2: White	0 VDC
3: Red	N/U
4: Green/Yellow	+24 VDC"

4 Pin Micro Communication Connector (Female)

1: White/Orange	RX-
2: White/Green	RX+
3: Orange	TX-
4: Green	RX-

4 Pin Mini Power Connector (Male) = E1E

1: Brown	N/U
2: White +	24 VDC
3: Blue	0 VDC
4: Black	N/U

4 Pin Micro Communication Connector (Female)

1: White/Orange	RX-
2: White/Green	RX+
3: Orange	TX-
4: Green	RX-

4 Pin Mini Power Connector (Male) = E1C
(includes two M12 communications connectors)

1: Brown	N/U
2: White	+24 VDC
3: Blue	0 VDC
4: Black	N/U

4 Pin Micro Communication Connector 1 w/pass-through (Female)

1: White/Orange	RX-
2: White/Green	RX+
3: Orange	TX-
4: Green	RX-

4 Pin Micro Communication Connector 2 w/pass-through (Female)

1: White/Orange	RX-
2: White/Green	RX+
3: Orange	TX-
4: Green	RX-

NOTE: The 4 pin female Micro Communication Connector (Female) is automatically preselected with either Mini option selection made.

CONNECTOR WIRING (CONTINUED)

DEVICENET

DeviceNet 5 pin Mini (Male) = N1

1: Grey	Drain
2: Red	V +
3: Black	V -
4: White	CAN-H
5: Blue C	AN-L

AUXILIARY CONNECTOR TYPE (DeviceNet Only)
4 Pin Mini (Male) US Style, * = unswitched

Code = F1A

1: Black	0 VDC *
2: White	Chassis Ground
3: Red	N/U
4: Green/Yellow	+24 VDC *

Code = F1B

1: Black	0 VDC
2: White	N/U
3: Red	+24 VDC
4: Green/Yellow	N/U

Code = F1C

1: Black	0 VDC *
2: White	N/U
3: Red	N/U
4: Green/Yellow	+24 VDC *

Code = F1H

1: Brown	N/U
2: White	+24 VDC *
3: Blue	0 VDC *
4: Black	N/U

Code = F1J

1: Brown	+24 VDC
2: White	N/U
3: Blue	N/U
4: Black	0 VDC

PROFINET

Profinet 5 pin Mini Male 24 VDC Power = P1A

1: Grey	= 0V Out
2: Red	= 0V Sensor
3: Black	= Chassis GND
4: White	= 24V Sensor
5: Blue	= 24V Out

Communications - Two M12 Female Connectors

1: TXD+	= Transmit Positive
2: RXD+	= Receive Positive
3: TXD-	= Transmit Negative
4: RXD-	= Receive Negative
5: (Thread)	= Shield

HOW TO ORDER (continued)

FE19 - F - V1-V3-G-R3

FIRMWARE OPTIONS	
ETHERNET/IP	
12 GPM (2) flow sensor model - I/O byte config 4/1	= FE12
12 GPM (2) flow sensor model - I/O byte config 25/17, 2 temperature sensors	= FE13
12 GPM (2) flow sensor model - I/O byte config 4/1	= FE15
23/10 LPM (3) flow sensor model - I/O byte config 8/5	= FE16
12 GPM (2) flow sensor model - I/O byte config 8/5	= FE17
12 GPM (2) flow sensor model - I/O byte config 6/4	= FE18
23/10 LPM (3) flow sensor model - I/O byte config 8/5 with drawback code	= **FE19**
12 GPM (2) flow sensor model - I/O byte config 4/1 with Venturi timer code	= FE20
12 GPM (2) flow sensor model - I/O byte config 4/1 with Venturi timer code	= FE21
DEVICENET	
12 GPM (2) flow sensor model - I/O byte config 4/1 with Venturi timer code	= FN20V
12 GPM (2) flow sensor model same as FN11 with added 30 sec start up delay and Roman interface	= FN24
12 GPM (2) flow sensor model same as FN16 with added 30 sec start up delay	= FN25
12 GPM two flow sensor model Proteus compatable	= FN26
23/10, 23/23 LPM (3) flow sensor model I/O byte config 8/5	= FN28
PROFINET	
12 GPM (2) flow sensor model I/O byte config 4/1	= FP10
12/6 GPM (3) flow sensor model I/O byte config 10/7	= FP11
12 GPM (2) flow sensor model	= FP12
12 GPM (2) flow sensor model I/O byte config 4/1	= FP13

WATER SAVER SETTING	
Factory Standard Water Saver Settings	= **F**
User Supplied Water Saver Settings	= U

DPM Factory Standard Settings for model DPM-12GM (Single Circuit)
User Menu

Flow OK	= 4 GPM/15 LPM
Min Flow	= 2 GPM/7.5 LPM
Leak Rate	= 1 GPM/3.7 LPM
High Temp	= 100° F/37° C
Low Temp	= 65° F/18° C
Response Time	= 1 second
Restart Delay	= Model Dependant from 3-30 seconds

DPM Factory Default Settings for Model DPM-6/6GPM (Dual Circuit)
User Menu

Gun	= 2 GPM/15 LPM
Transformer	= 2 GPM/7.5 LPM
Leak Rate	= 1 GPM/3.7 LPM
Restart Delay	= 5 seconds

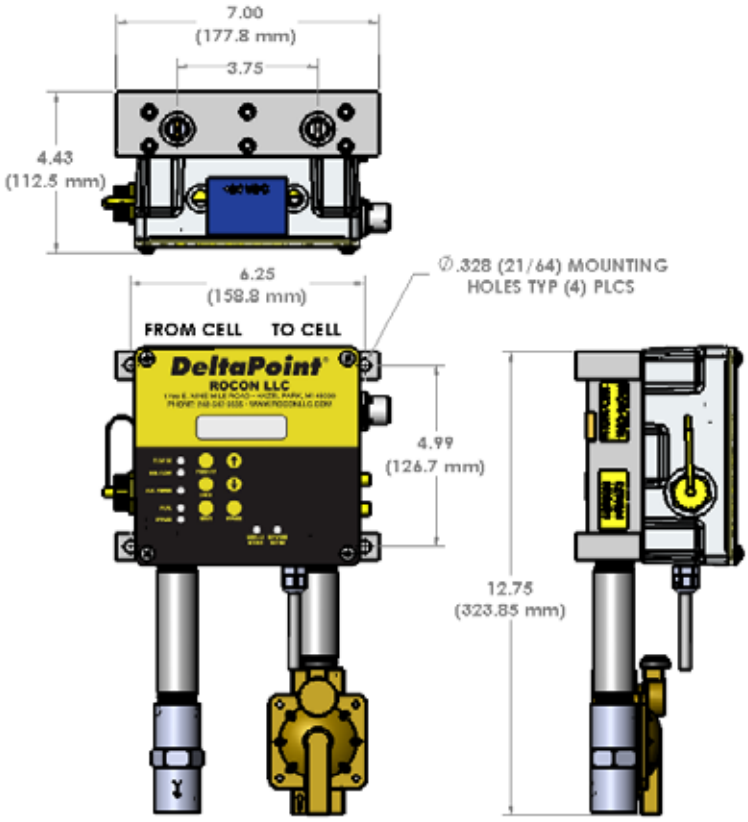
DPM Factory Default Settings for Model DPM-6/3GPM (Dual Circuit)
User Menu

Gun	= 2 GPM/15 LPM
Transformer	= 2 GPM/7.5 LPM
Leak Rate	= 1 GPM/3.7 LPM
Restart Delay	= 5 seconds

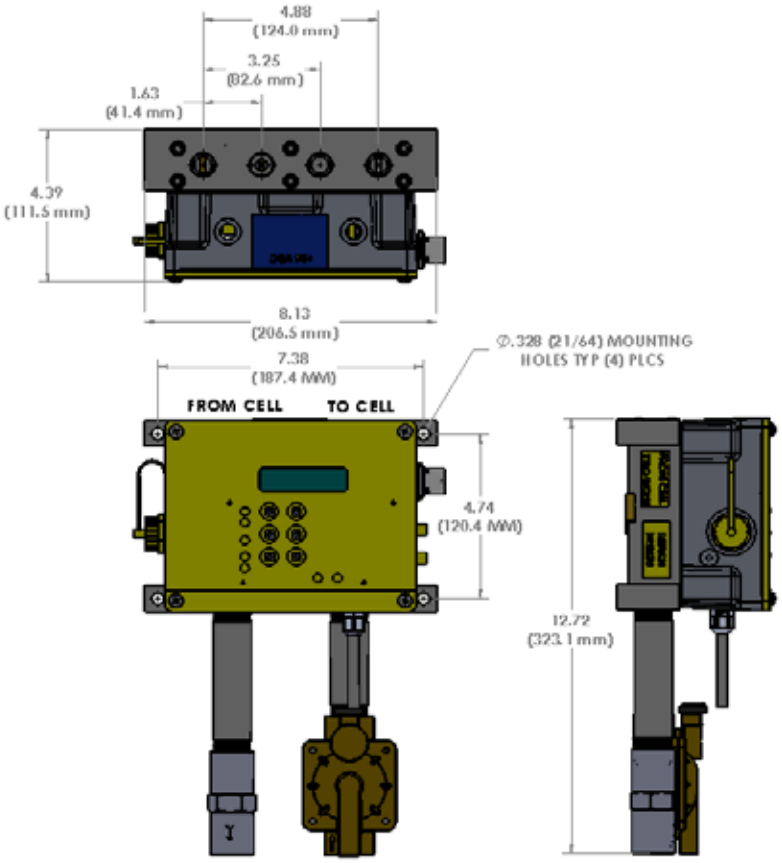
OPTIONS	
No Options Selected	= N
SMC 500 ML Drawback Air Cylinder mounted to a sub plate (DPL only at this time)	= CS5
Venturi System Model 4, Internal Timer Dual Vacuum Ports	= VIT4.1D
Poppet Style Check Valve	= **V1**
Flapper Style Check Valve	= VX
Air Operated Shut Off Valve	= V2
2- 3/4" Ball Valves	= **V3**
External Ground Lug	= **G**
Sheet Metal Flow Settings	= SM
Aluminum Flow Settings	= AL
Shut Off and Check Valve Assembled on Top	= Y
Drawback Receptacle Added to the Enclosure	= **R3**
Two Temperature Sensors (Flex-N-Gate)	= DT
4 Port - Quick Change Fittings - 4- 3/4"	= QC1
6 Port - Quick Change Fittings - 2- 3/4" & 4- 1/2"	= QC2

DIMENSION DRAWING

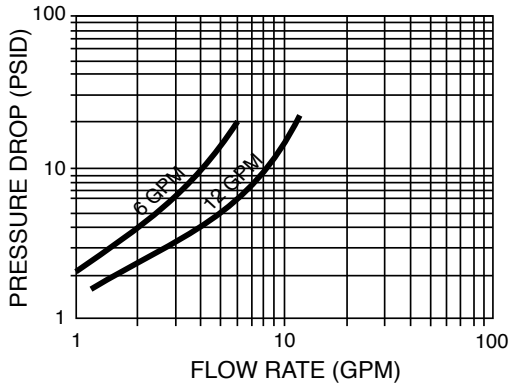
TWO FLOW SENSOR MODEL

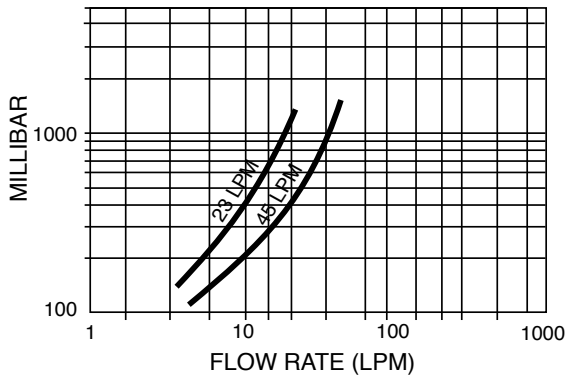


THREE FLOW SENSOR MODEL



UNIT PRESSURE DROP CHART





NOTE: Cables for all versions are available.
See product manuals for details.

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