

ROCON LLC DeltaPoint® Manifold

FLOW RANGE: TWO SENSOR MODEL - Gun & Transformer .6-12 GPM (2.3-45 LPM)
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)

Two Sensor Model



**Resistance
welding
tip loss
monitor**

Three Sensor Model



Description

The DeltaPoint Manifold is available in two models. A model with two flow sensors and a model with three flow sensors as shown above. The two flow sensor model senses cooling water flow to and from the weld gun & transformer on a common circuit. The three flow sensor model offers an additional flow sensor to sense transformer flow on its own dedicated circuit. No need for an external flow sensor. Faster reaction time in comparison to traditional transformer thermal switches. Cooling water flow for both weld gun and transformer are displayed on the LCD screen.

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 Protocols: 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: ¼ 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*
4, 1/2" BSPP ports (requires 2, 3/4" NPTF to 1/2" BSPP adapters)	= 8BP
4, 3/4-14 BSPP (requires 2, 3/4" NPTF to BSPP adapters)	= 12BP
2, 3/4" BSPP ports (requires 3/4" NPTF to 3/4" BSPP adapters) and 4, 1/2" BSPP ports	= 12BP/8BP*
*3 flow sensor DPM	

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 compatible	= 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

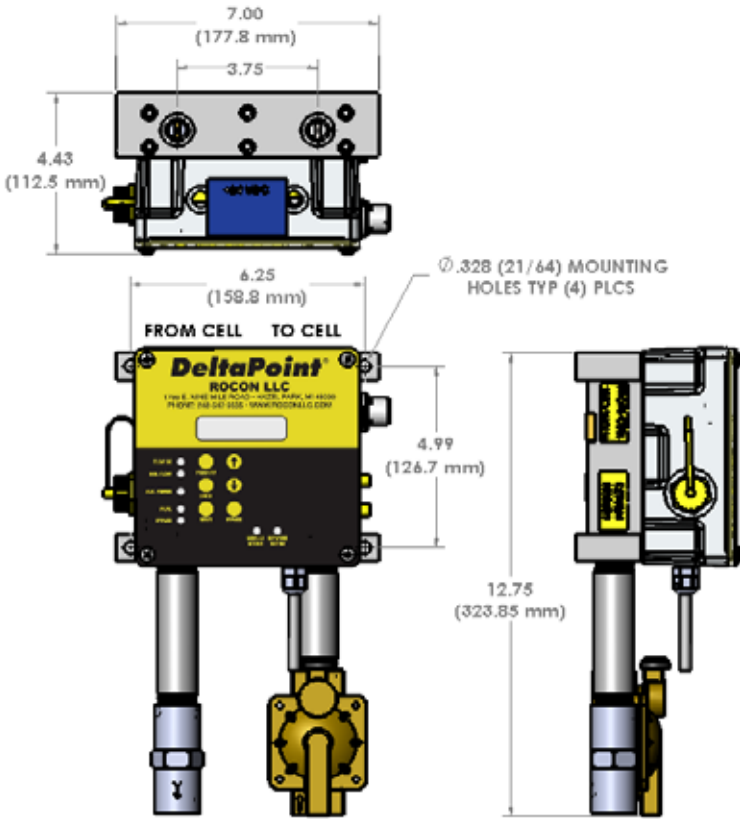
Factory Standard Water Saver Settings	= F
User Supplied Water Saver Settings	= U
DPM Factory Standard Settings for model DPM-12GM (Single Circuit)	
User Menu	
Flow OK	= 4 GPM/15 LPM
Min Flow	= 2 GPM/7.5 LPM
Leak Rate	= 1 GPM/3.7 LPM
High Temp	= 100° F/37° C
Low Temp	= 65° F/18° C
Response Time	= 1 second
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

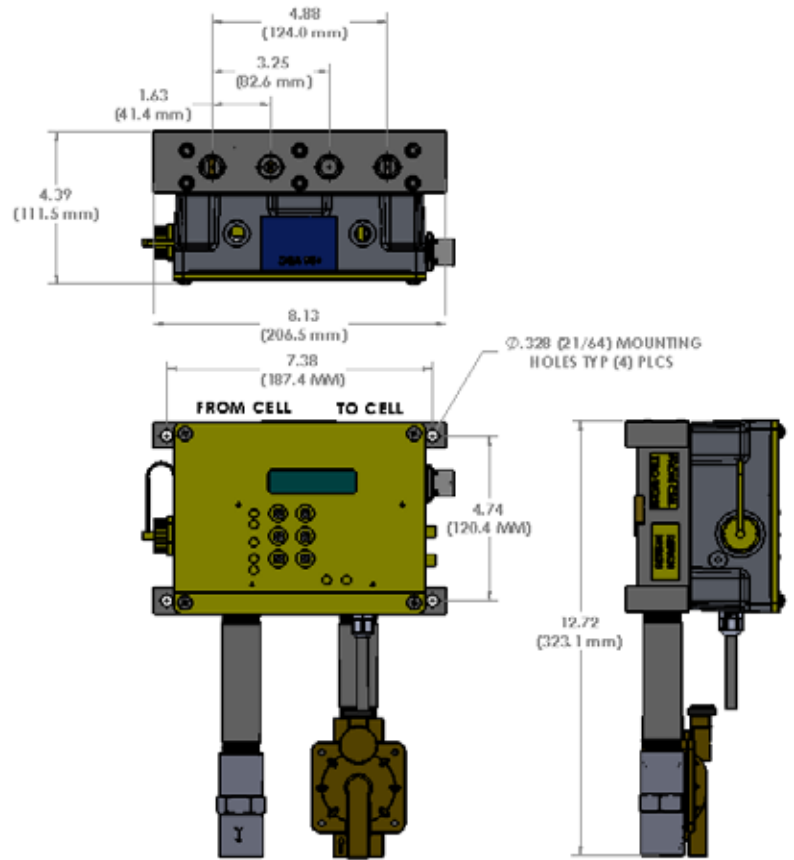
No Options Selected	= N
SMC 500 ML Drawback Air Cylinder mounted to a sub plate (DPL only at this time)	= CS5
Venturi System Model 4, Internal Timer Dual Vacuum Ports	= VIT4.1D
Poppet Style Check Valve	= V1
Flapper Style Check Valve	= VX
Air Operated Shut Off Valve	= V2
2- 3/4" Ball Valves	= V3
External 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

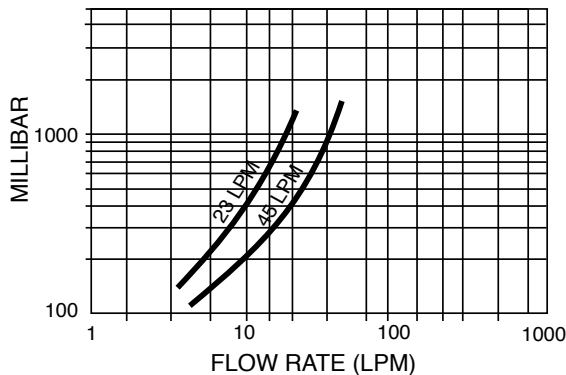
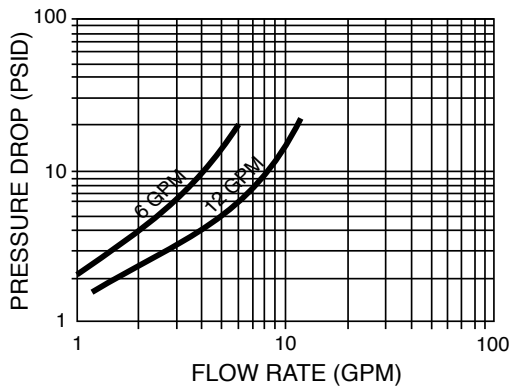
TWO FLOW SENSOR MODEL



THREE FLOW SENSOR MODEL



UNIT PRESSURE DROP CHART



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

ROCON LLC

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