DeltaPoint®

Resistance welding tip loss monitor

Description

Deltapoint® detects leaks from cap loss, hose burst or inadvertent shutoff. Monitoring robotic cells, pedestal welders or multiple work cells. Water is shut down to stop the leak and a signal is sent to the controller. The flow sensors have no moving parts to be affected by entrained contaminants. The only mechanical parts are the shut off and check valves.

Features

- Stand alone package for installation ease
- Sensor has no moving parts to wear, break or cause nuisance tripping
- Visual flow indication reads in GPM or LPM
- Visual Temperature indication reads in degrees F or C
- User Programmable: Leak rate alarm, response time, restart delay, Flow OK level, temperature fault level and minimum flow monitoring.
- Bypass - Electrical & Mechanical
- Available Versions: AC, DC, DeviceNet, Ethernet and Profinet
- Available Range: 6 GPM (23 LPM), 12 GPM (45 LPM) and 50 GPM (190 LPM)
- Water/Glycol coolant up to 20% mix
- Alarms are digital or go from 0 to max voltage
- Female micro-connectors

Unit Specifications

General
- Pressure Drop: See chart
- Differential Pressure Limits: 5 – 80 PSID (0.3 – 5.5 Bar)
- Maximum Operation Pressure 190 PSI (13 Bar)
- Fluid Temperature Limits 35-210°F (2-99°C)
- Ambient Temperature Limits: 32 – 122 F (0-50°C)
- Weight: 13.5 Lb (6.1 kg) / 22 Lb (10 kg)
  Weight with CPH option: 18.7 Lb (8.5kg)
- Wetted Material: Brass
- Electrical Enclosure: Aluminum Optional mounting bracket
- Optional valves: standard, heavy duty and air operated
- Porting: ¾ NPTF or BSPT

Flow / Temperature Sensors
- Accuracy ± 2% Full Scale Flow, ±1% Temperature
- Repeatability ± .25% of actual flow
- Response Time Flow: 1 second to 63% of flow change
- Response Time Temperature: 1.8 seconds
- Material: PVDF (Kynar)

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 effects response time.
- Material: Forged Brass
- Seal: NBR (Buna N)

Check Valve
- Style: Piston, O ring seal
- Material: Forged Brass
- Seal: NBR (Buna N)

Electrical Specifications

- AC, DC, Ethernet, DeviceNet or Profinet
- Pass-through option (DeviceNet only)

DPL031015

Example: DPL -   50GM -   8 -   D15AB -

MAX FLOW RATE	
.6 - 6 GPM (2.3 - 23 LPM) =	**6GM**
1.2 - 12 GPM (4.5 - 45 LPM) =	**12GM**
5 - 50 GPM (19 - 190 LPM) =	**50GM**
2.3 - 23 LPM (.6 - 6 GPM) =	**23LM**
4.5 - 45 LPM (1.2 - 12 GPM) =	**45LM**
19 - 190 LPM (5 - 50 GPM) =	**190LM**
NOTE: CPH option available with 23LM rate only.	

PORT	SIZE
3/4" NPTF (available with 6GPM or 12GPM) =	**6**
1" NPTF (available with 50GPM only) =	**8**
3/4" NPTF Supply & Return AND 1.2" NPTF To and	
From Cell (available with CPH option only) =	**6/4**

**ELECTRICAL CONNECTOR TYPE. Select one only
from AC, DC, DeviceNet, EtherNet or Profinet:**

NOTE: With your DC Connector Selection, also select
one EACH wiring option where provided in blue.

DC PIN CONNECTOR WIRING OPTIONS

DC 5 pin Mini   = D15
1: Grey	0 VDC		
4: White	Remote Reset		
	Select 1 of the 2 options:		
	0 VDC	= A	
	+24 VDC	= B	= **B**
3: Black	Chassis Ground		
2: Red	Alarm Out		
	Select 1 of the 3 options:		
	0 VDC (NPN)	= A	= **A**
	+24 VDC (PNP)	= B	
	SSRNC	= C	
5: Blue	+24 VDC		

DC 4 pin Micro   = D24
1: Brown	+24 VDC	
2: White	Remote Reset	
	Select 1 of the 2 options:	
	0 VDC	= A
	+24 VDC	= B
3: Blue	0 VDC	
4: Black	Alarm Out	
	Select 1 of the 3 options:	
	0 VDC (NPN)	= A
	+24 VDC (PNP)	= B
	SSRNC	= C

DC 4 pin Micro   = D24F
1: Brown	+24 VDC	
2: White	0 VDC	
3: Blue	Remote Reset	
	Select 1 of the 2 options:	
	0 VDC	= A
	+24 VDC	= B
4: Black	Alarm Out	
	Select 1 of the 3 options:	
	0 VDC (NPN)	= A
	+24 VDC (PNP)	= B
	SSRNC	= C

DC 4 pin Micro   = D24W
1: Brown	+24 VDC	
3: Blue	Remote Reset	
	Select 1 of the 2 options:	
	0 VDC	= A
	+24 VDC	= B
2: White	Alarm Out	
	Select 1 of the 3 options:	
	0 VDC (NPN)	= A
	+24 VDC (PNP)	= B
	SSRNC	= C
4: Black	0 VDC	

DC 5 pin Micro   = D25
1: Brown	+24 VDC	
2: White	0 VDC	
3: Blue	Chassis Ground	
4: Black	Remote Reset	
	Select 1 of the 2 options:	
	0 VDC	= A
	+24 VDC	= B
5: Grey	Alarm Out	
	Select 1 of the 3 options:	
	0 VDC (NPN)	= A
	+24 VDC (PNP)	= B
	SSRNC	= C

DC options continue on next column

**ELECTRICAL CONNECTOR TYPE. Select one only
from AC, DC, DeviceNet, EtherNet or Profinet:**

AC PIN CONNECTOR WIRING OPTIONS

AC 5 pin Mini   = A15
1: Grey	AC Neutral
2: Red	Alarm (SSR NC)
3: Black	Chassis Ground
4: White	Reset
5: Blue	AC Hot

AC 6 pin Micro   = A26
1: Brown	AC Hot
2: White	AC Neutral
3: Blue	Chassis Ground
4: Black	Remote Reset
5: Grey	Alarm (SSR NC)
6: Pink	Alarm (SSR NC)

AC 6 pin Micro   = A263
6 Pin Micro
1: Brown	AC Hot
2: White	AC Neutral
3: Blue	Chassis Ground
4: Black	Remote Reset
5: Grey	Alarm (SSR NC)
6: Pink	Alarm (SSR NC)

3 Pin Micro
1: Gr/Ylw	N/U
2: Red/Black	Bypass Condition
3: Red/White	Remote Shutoff

NOTE: Option A263 includes both a 6 pin AND a 3 pin
Micro connector.

AC 6 pin Micro   = A27
6 Pin Micro only
1: Brown	AC Hot
2: White	AC Neutral
3: Blue	Chassis Ground
4: Black	Remote Reset
5: Grey	Alarm (Voltage out)
6: Pink	Alarm N/U

DC 6 pin Micro (Choose EOA or Proteus Style)
EOA Style   = D26E
Proteus Style   = D26P
1: Brown	+24 VDC	
2: White	0 VDC	
3: Blue	Chassis Ground	
4: Black	Remote Reset	
	Select 1 of the 2 options:	
	0 VDC	= A
	+24 VDC	= B
5: Grey	Alarm Out	
	Select 1 of the 3 options:	
	0 VDC (NPN)	= A
	+24 VDC (PNP)	= B
	SSRNC	= C
6: Pink	Remote Shutoff	
	Select 1 of the 4 options:	
	0 VDC	= A
	+24 VDC	= B
	Solenoid Interrupt	= D
	Not used	= E

NOTE: For Remote Shutoff, only "Solenoid Interrupt" and
"Not Used" pin selection options available if selecting FD11
firmware.

DC 6 pin Micro
Includes both EOA and Proteus Style   = D26ExxxPxxx
EOA
1: Brown	+24 VDC	
2: White	0 VDC	
3: Blue	Chassis Ground	
4: Black	Remote Reset	
	Select 1 of the 2 options:	
	0 VDC	= A
	+24 VDC	= B
5: Grey	Alarm Out	
	Select 1 of the 3 options	
	0 VDC (NPN)	= A
	+24 VDC (PNP)	= B
	SSRNC	= C
6: Pink	Remote Shutoff	
	Select 1 of the 4 options	
	0 VDC	= A
	+24 VDC	= B
	Solenoid Interrupt	= D
	Not used	= E

Proteus
1: Brown	+24 VDC	
2: White	0 VDC	
3: Blue	Chassis Ground	
4: Black	Remote Reset	
	Select 1 of the 2 options:	
	0 VDC	= A
	+24 VDC	= B
5: Grey	Alarm Out	
	Select 1 of the 3 options	
	0 VDC (NPN)	= A
	+24 VDC (PNP)	= B
	SSRNC	= C
6: Pink	Remote Shutoff	
	Select 1 of the 4 options	
	0 VDC	= A
	+24 VDC	= B
	Solenoid Interrupt	= D
	Not used	= E

NOTE: For Remote Shutoff on both EOA and Proteus, only
"Solenoid Interrupt" and "Not Used" pin selection options
available if selecting FD11 firmware.

DC 6 pin Micro (Available in EOA style only)
EOA Style   = D26E1
1: Brown	+24 VDC	
2: White	0 VDC	
3: Blue	Chassis Ground	
4: Black	Remote Reset	
	Select 1 of the 2 options:	
	0 VDC	= A
	+24 VDC	= B
5: Grey	Alarm Out	
6: Pink	Alarm Out	
	Select 1 of 3 options for Grey & Pink:	
	0 VDC (NPN)	= AA
	+24 VDC (PNP)	= BB
	SSRNC	= CC

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FD11 - F - N

ELECTRICAL CONNECTOR TYPE. Select one only from AC, DC, DeviceNet or EtherNet:

DEVICENET PIN CONNECTOR WIRING OPTIONS
DeviceNet 5 pin Micro   = N2
    5 pin Micro
    1: Grey   Drain
    2: Red   V +
    3: Black   V -
    4: White   CAN-H
    5: Blue   CAN-L
    4 Pin Micro, Euro Style, * = unswitched
    1: Brown   N/U
    2: White   +24 VDC *
    3: Blue   0 VDC *
    4: Black   N/U
    NOTE: N2 selection includes this preselected
    4 pin Euro Style Micro Auxiliary Power Connector

DeviceNet 5 pin Mini   = N1
    1: Grey   Drain
    2: Red   V +
    3: Black   V -
    4: White   CAN-H
    5: Blue   CAN-L
    NOTE: Must select one Auxiliary Power Connector
    from below with an N1 selection:

AUXILIARY CONNECTOR TYPE (DeviceNet Only)
4 Pin Mini, 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		= F1D
1: Black	N/U	
2: White	Chassis Ground	
3: Red	+24 VDC	
4: Green/Yellow	0 VDC	

Code		= F1E
1: Black	0 VDC	
2: White	Chassis Ground	
3: Red	+24 VDC	
4: Green/Yellow	N/U	

Code		= F1F
1: Black	+24 VDC	
2: White	N/U	
3: Red	N/U	
4: Green/Yellow	0 VDC	

Code		= F1G
1: Black	N/U	
2: White	0 VDC *	
3: Red	N/U	
4: Green/Yellow	+24 VDC *	

4 Pin in Mini, Euro Style, * = unswitched

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	

ETHERNET PIN CONNECTOR WIRING OPTIONS
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
    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.

FIRMWARE OPTIONS
AC
FA11 (12 GPM)
FA12 (12 GPM)
DC
FD11 (6 and 12 GPM)
FD12 (12 GPM)
FD13 (12 GPM)
FD14 (50 GPM)
DEVICENET
FN11 (12 GPM)
FN12 (12 GPM)
FN13 (50 GPM)
FN14 (12 GPM)
FN15 (12 GPM)
FN16 (12 GPM)
FN17 (12 GPM)
FN18 (6 and 12 GPM)
FN19 (23 LPM - CPH option only)
FN20 (12 GPM)
FN21 (12 GPM - Drawback Cylinder option only)
FN23 (12 GPM)
ETHERNET
FE11 (12 GPM)
FE12 (12 GPM - E1C connector only)
FE13 (12GPM - E1C connector with dual temperature only)

NOTE: to select firmware, contact your Rocon salesperson.

DPL FACTORY / USER SETTINGS
Factory Standard	= **F**
User Settings	= U

DPL Factory Standard Settings
User Menu	6 GPM	12 GPM	50 GPM
Flow OK (FO)	1 GPM	4 GPM	40 GPM
Min Flow (MF)	.7 GPM	2 GPM	20 GPM
Leak Rate (LR)	.5 GPM	1 GPM	2 GPM
Over Temp (OT)	100 °F	100 °F	100 °F
Low Temp (LT)	65 °F	65 °F	65 °F
Response Time (RT)	1 second	1 second	1 second
Restart Delay (RD)	3 seconds	3 seconds	3 seconds

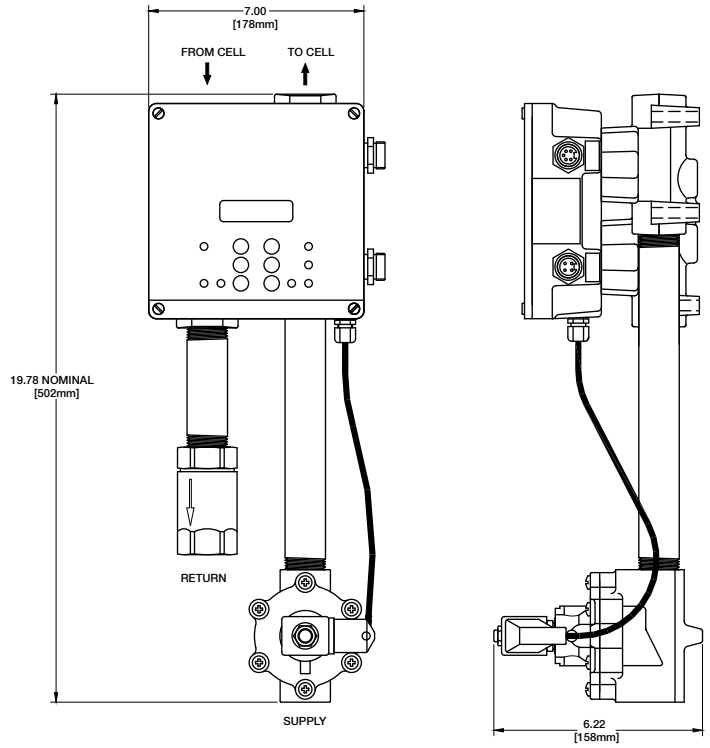**NOTE:** Factory standard settings are used by default. Consult factory for user defined settings.

OPTIONS
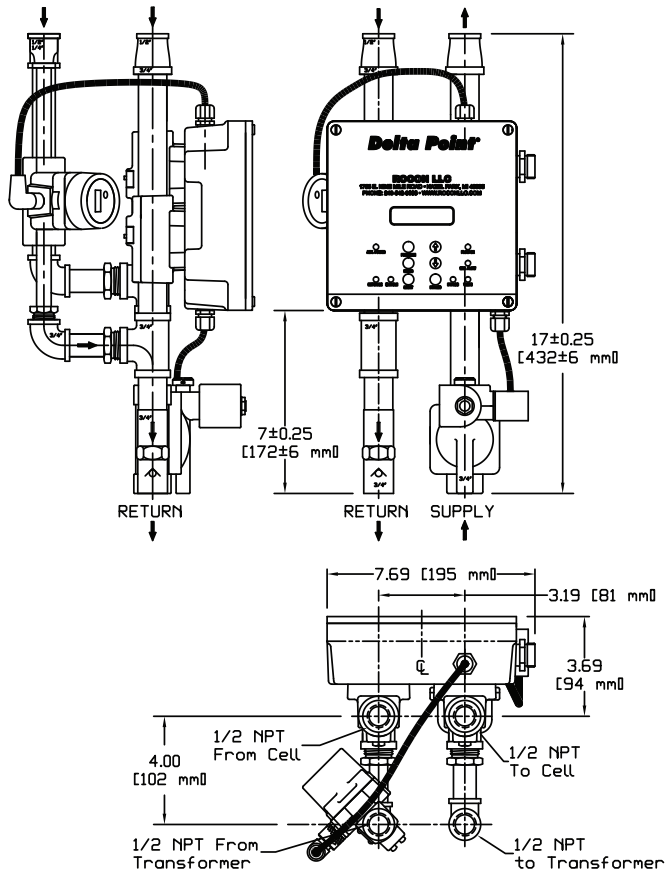|		
No Options Selected	=	**N**
Rotate Cover 180 Degrees	=	X
Rotate box 180 degrees for top feed installation	=	Y
External Flow Switch	=	F
Rev Polarity (+0VDC Ground)	=	R
Temp Probe on Supply Leg	=	S
High Temperature (200°F)	=	T
Pass-through (DeviceNet only)	=	P
DeviceNet Firmware Mod	=	D
Dual Temperature (E1C connector only)	=	DT
Ethernet EIP Configuration (2 bytes in, 4 bytes out)	=	E
Drawback Cylinder	=	C
Poppet Style Check Valve	=	V1
Air Operated Shut-Off Valve	=	V2
2-3/4" Ball Valves (1/4 turn) installed on supply and return legs	=	V3
Reverse Valve Positions	=	RV
CoolPoint Flow Meter (model CP2-V5-N7-C16)	=	CPH
Auxiliary Connector in upper L location	=	CUL

DPL031015

DIMENSION DRAWING

6 AND 12 GPM UNIT

7.00 [179mm]

FROM CELL TO CELL

Ø.34 MOUNTING HOLES (4) PLACES IN OPTIONAL MOUNTING FEET

15.53 [395mm]

RETURN

SUPPLY

4.65 [118mm]

50 GPM UNIT

7.00 [178mm]

FROM CELL TO CELL

19.78 NOMINAL [502mm]

RETURN

SUPPLY

6.22 [158mm]

23 LM DPL WITH CPH OPTION

Delta Polar

ROCON LLC

17±0.25 [432±6 mm]

7±0.25 [172±6 mm]

RETURN   RETURN   SUPPLY

7.69 [195 mm]

3.19 [81 mm]

3.69 [94 mm]

4.00 [102 mm]

1/2 NPT From Cell

1/2 NPT To Cell

1/2 NPT From Transformer

1/2 NPT to Transformer
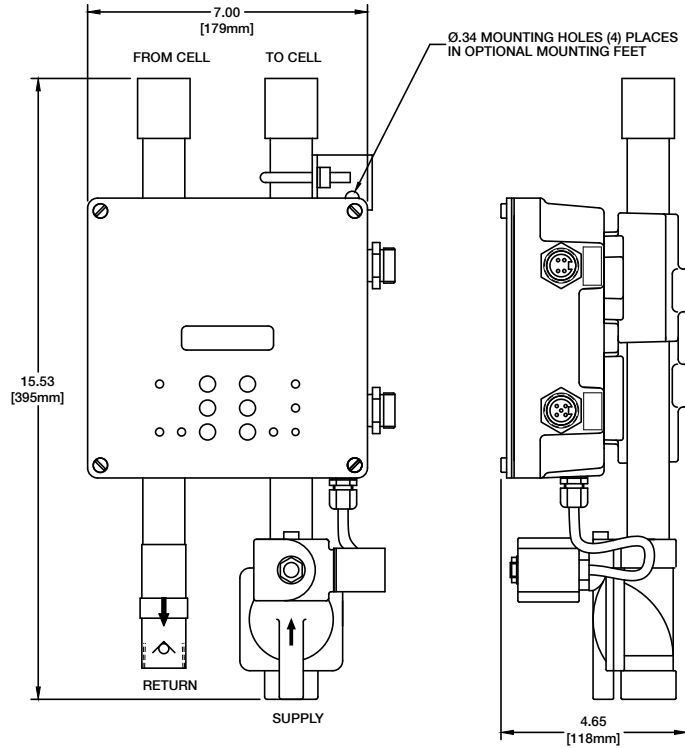
UNIT PRESSURE DROP CHART

PRESSURE DROP (PSID) vs FLOW RATE (GPM)

6 GPM   12 GPM   50 GPM

MILLIBAR vs FLOW RATE (LPM)

23 LPM   45 LPM   190 LPM
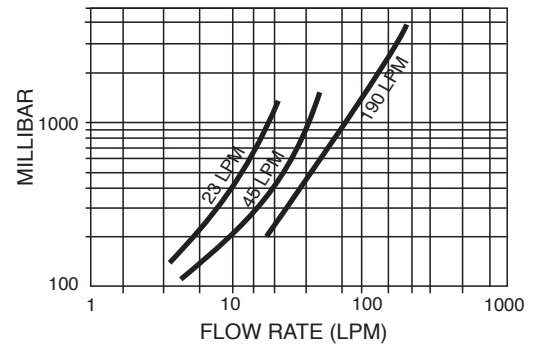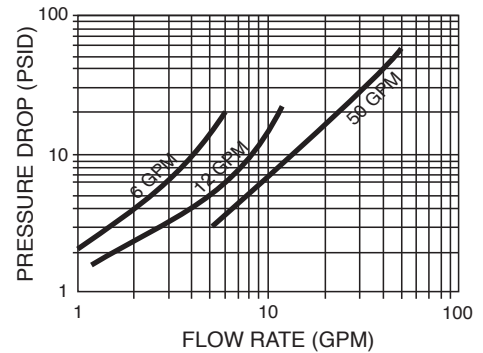
NOTE: Cables for all versions are available. See product manuals for details.

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