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# APPENDIX 1

## PRESSUREMAP DEVICE & TRANSDUCER TYPES

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PressureMAP employs specific codes to distinguish among various monitoring devices and their functions in the cable pressurization system. Device Types are two-letter designations. Generally, the first letter represents the device's position or function within the pressurization system, and the second letter designates the actual type of device. For example, with Device Type UP, the "U" designates an underground monitoring device, and the "P" indicates that the device is a pressure transducer. With designated device types, PressureMAP is able to use special equations to help prepare data for indexes, reports, and dispatches.

In addition to Device Types, which are required for all offices regardless of the type of Cable Pressurization Automatic Monitoring System (CPAMS) used, PressureMAP systems that monitor 289H LSS, 289H-M and Dial-a-Ducers also require that a Transducer Type code is assigned to each device. This code provides additional information required by PressureMAP to perform 289-related monitoring functions. For some Device Types, the PressureMAP editor automatically fills in the required TD Type, and will not allow you to edit that field.

In order to correctly assign a PressureMAP Device Type, the following information is required:

- The CPAMS-assigned Device Code
- The device location
- The device's relation to adjacent devices

Before a PressureMAP Device Type can be determined, it is necessary to know what type the device is (for example, a pressure transducer (PTD), a flow transducer (FTD), a trunk/toll contactor, a volume counter, etc.). The easiest way to determine the device type is to reference the CPAMS printout and Master Transducer Log.

In addition, the device's location on the stickmap will help to define whether the device is an aerial, buried, or underground transducer. If, for example, a transducer is located in a manhole, it is an underground device. The location and function of a device in relation to adjacent devices also helps to determine the PressureMAP Device Type. To aid with the device relationships, refer to the stickmap where the device is documented.

Flow transducers will typically be installed at pipe alarm panels, distribution panels, air pipe manifolds, and remote dryers. Pressure transducers are usually installed on aerial, underground, and buried cables. Also, pressure transducers should be installed at air pipe endpoints and at pipe midpoints. If a device monitors a special type of cable or if it is located in an especially deep manhole, it may require a special code designation.

To help you understand which Device Types and Transducer Types need to be designated during data entry, the following tables and device profiles have been included in this appendix section. TABLE A1-1 lists the available PressureMAP Device Types, and TABLES A1-2 through A1-9 contain the 289H-related Transducer Type codes. In addition, CPAMS letter coding for Chatlos/Hercules and Sparton monitors is listed in TABLE A1-10.

<b>PressureMAP Device Types</b>	
<b>Pressure Transducers</b>	
AP	Aerial Cable PTD
BP	Buried Cable PTD
CP	Compressor/Dryer PTD
DP	Distribution Panel PTD
EP	Pipe Endpoint PTD
FP	Flow Bank PTD
GP	Aerial Single Feed PTD
HP	Buried Single Feed PTD
JP	Underground Single Feed PTD
MP	Manifold PTD (associated w/ a pipe)
PP	Pipe Midpoint PTD
QP	Priority Aerial Cable PTD
RP	Remote Dryer PTD
SP	Source (Pipe Panel) PTD
TP	Trunk/Toll Cable PTD
UP	Underground Cable PTD
WP	Deep Underground Cable PTD
\$P	High Priority PTD
<b>Flow Transducers</b>	
DF	Distribution Panel FTD (not associated w/ a pipe)
IF	Cable FTD
LF	Lateral FTD
MF	Manifold or other FTD (associated w/ a pipe)
QF	Single Feed Cable FTD
RF	Remote Dryer FTD (not associated w/ a pipe)
SF	Source (Pipe Panel) FTD
\$F	High Priority FTD
<b>Contactors</b>	
AC	Aerial Cable Pressure Contactor
BC	Buried Cable Pressure Contactor
CC	Compressor/Dryer Pressure Contactor
DC	Distribution Panel Pressure Contactor
EC	Pipe Endpoint Pressure Contactor
PC	Pipe Midpoint Pressure Contactor
RC	Remote Compressor/Dryer Pressure Contactor
SC	Source Pressure Contactor
TC	Trunk/Toll Pressure Contactor
UC	Underground Cable Pressure Contactor
WC	Deep Underground Cable Pressure Contactor
XC	Cable Theft Monitoring Contactor
\$C	High Priority Pressure Contactor
<b>Contact Alarms</b>	
CA	Compressor/Dryer Contact Alarm
DA	Distribution Panel Contact Alarm
KA	Alternating Compressor Contact Alarm
PA	Sparton 270/540K ohm Converter Contact Alarm
RA	Remote Dryer/Compressor Contact Alarm
SA	Source Pipe Panel Contact Alarm
\$A	High Priority Contact Alarm
YA	Configurable "Minor" Contact Alarm
ZA	Configurable "Major" Contact Alarm
<b>Volume Counters (not 289H-compatible)</b>	
DV	Distribution Panel Volume Counter (not associated w/ a pipe)
MV	Manifold or Distribution Panel Vol. Counter (assoc. w/ a pipe)
RV	Remote Compressor/Dryer Volume Contactor
SV	Source Volume Counter
\$V	High Priority Volume Counter
<b>Special Use Device Types</b>	
AB	Barometric Pressure Transducer
AT	Aerial Cable Temperature Transducer (289H)
AV	AC Voltage Transducer, 115VAC (289H)
BI	Bi-Directional Flow Transducer
BV	AC Voltage Transducer, 230VAC (289H)
CV	3-Phase AC Voltage Transducer (289H)
CW	Chilled Water Temperature Transducer (289H)
FT	Fahrenheit Temperature Transducer (Dial-a-Ducer)
JD	Air Temperature Sensor in Relative Humidity/Temperature Transducer (289)
LB	Air Tank Pressure Transducer - Metric (289H)
MB	Air Tank Volume TD, % Remaining (289H)
NB	Air Tank Volume Transducer (289H)
RG	Wire Pair Monitor - Ring/Gnd (289H)
RH	Relative Humidity Sensor (289H)
RS	Wire Pair Monitor - Tip/Ring (289H)
RT	Wire Pair Monitor - Tip/Gnd (289H)
TE	Air Temperature Sensor (289H)
VD	DC Voltage Output Measurement (289H)
VE	Variable Location Electric Transducer (TMACS)
VO	AC Voltage Output Measurement (289H)
VT	Variable Location Temperature Transducer (TMACS)
WA	Water Level Transducer - Addressable (289H)
WL	Water Level Transducer (289H)
WW	Warm Water Temperature TD (289H)
XL	Utility Hole Water Level Transducer (289H)
\$T	High Priority Temperature Transducer

TABLE A1-1: PRESSUREMAP DEVICE TYPES

## APPENDIX 1 - DEVICE & TRANSDUCER TYPES

For information about the alarming characteristics of the Device Types listed in Table A1-1 above, please refer to the PressureMAP Alarm Conditions & Examples document (2470405.JSD). This document is available on the System Studies website in the Reference, PDF Library section under Software Documents, PressureMAP ([www.airtalk.com/reference14.html](http://www.airtalk.com/reference14.html)).

<b>289 and 289H Resistive Transducer Types</b>	
<b>Pressure—PSI</b>	
RP	Standard Resistive Pressure Transducer: 0–9.5 PSI
RP/HP-PSI	High Pressure Resistive Transducer: 5–14.5 PSI
RP/RG-PSI	Resistive Pressure Transducer using ring with sheath as ground
RP/RG/HP-PSI	High Pressure Resistive Transducer using ring with sheath as ground
RP/TG-PSI	Resistive Pressure Transducer using tip with sheath as ground
RP/TG/HP-PSI	High Pressure Resistive Transducer using tip with sheath as ground
<b>Pressure—KPA</b>	
RP-KPA	Standard Resistive KPA Pressure Transducer: 0–65.5 KPA
RP/HP-KPA	High Pressure Resistive KPA Transducer: 34.48–99.98 KPA
RP/RG-KPA	Resistive KPA Pressure Transducer using ring with sheath as ground
RP/RG/HP-KPA	High Pressure Resistive KPA Transducer using ring with sheath as ground
RP/TG-KPA	Resistive KPA Pressure Transducer using tip with sheath as ground
RP/TG/HP-KPA	High Pressure Resistive KPA Transducer using tip with sheath as ground
<b>Flow—SCFH</b>	
RF/(range)	Standard Resistive Flow Transducer—9 ranges of SCFH: 0–9.5, 0–19.0, 0–20.0, 0–47.5, 0–50.0, 0–95.0, 0–100.0, 0–190.0, 0–200.0
RF/RG/(range)	Resistive Flow Transducer using ring with sheath as ground—9 ranges of SCFH: 0–9.5, 0–19.0, 0–20.0, 0–47.5, 0–50.0, 0–95.0, 0–100.0, 0–190.0, 0–200.0
RF/TG/(range)	Resistive Flow Transducer using tip with sheath as ground—9 ranges of SCFH: 0–9.5, 0–19.0, 0–20.0, 0–47.5, 0–50.0, 0–95.0, 0–100.0, 0–190.0, 0–200.0
<b>Flow—LPH</b>	
RF/(range)	Resistive Flow Transducer—9 ranges of LPH: 0–270, 0–540, 0–570, 0–1350, 0–1420, 0–2700, 0–2830, 0–5380, 0–5670,
RF/RG/(range)	Resistive Flow Transducer using ring with sheath as ground—9 ranges of LPH: 0–270, 0–540, 0–570, 0–1350, 0–1420, 0–2700, 0–2830, 0–5380, 0–5670
RF/TG/(range)	Resistive Flow Transducer using tip with sheath as ground—9 ranges of LPH: 0–270, 0–540, 0–570, 0–1350, 0–1420, 0–2700, 0–2830, 0–5380, 0–5670
<b>Contact Alarm</b>	
CPAMS_TD	Standard Resistive Contact Alarm
CPAMS_TD/RG	Resistive Contact Alarm using ring with sheath as ground
CPAMS_TD/TG	Resistive Contact Alarm using tip with sheath as ground
AC/115	Contact Alarm for 115V: 540K resistance OK, 270K resistance is ALRM
DRYER	Contact Alarm for 115V: 540K resistance OK, 270K resistance is ALRM
AC/230	Contact Alarm for 230V: 540K resistance OK, 270K resistance is ALRM
RR/540K	Contact Alarm; 540K resistance OK, SHRT is ALRM
<b>Other Device Applications</b>	
RG/100M	Resistive open pair, monitors the resistance of a pair (Ring/Gnd)
RR/100M	Resistive open pair, monitors the resistance of a pair (Tip/Ring)
RT/100M	Resistive open pair, monitors the resistance of a pair (Tip/Gnd)
TEMP/212	Thermistor Water Temperature Transducer; range -40 to +212° F
TEMP/212/H	Thermistor Air Temperature Transducer; range 32 to 212° F

TABLE A1-2: 289H RESISTIVE TRANSDUCER TYPES

**289 and 289H Current Loop Transducer Types**

**Pressure—PSI**

CPA/15.0 Current Loop Pressure Transducer, 0–15.0 PSI (absolute)  
 CPA/30.0 Current Loop Pressure Transducer, 0–30.0 PSI (absolute)  
 CPA/RG/(range) Current Loop Pressure Transducer using ring with sheath as ground, 2 ranges: 0–15.0 PSI and 0–30.0 PSI

**Pressure—KPA**

CPA/100.0 Current Loop Pressure Transducer, 0–100.0 KPA (absolute)  
 CPA/200.0 Current Loop Pressure Transducer, 0–200.0 KPA (absolute)  
 CPA/RG/(range) Current Loop Pressure Transducer using ring with sheath as ground, 2 ranges: 0–100.0 KPA and 0–200.0 KPA

**Flow—SCFH**

CF/9.5 Current Loop Flow Transducer, 0–9.5 SCFH  
 CF/19.0 Current Loop Flow Transducer, 0–19.0 SCFH  
 CF/47.5 Current Loop Flow Transducer, 0–47.5 SCFH  
 CF/95.0 Current Loop Flow Transducer, 0–95.0 SCFH  
 CF/190 Current Loop Flow Transducer, 0–190 SCFH  
 CF/475.0 Current Loop Flow Transducer, 0–475.0 SCFH  
 CF/950.0 Current Loop Flow Transducer, 0–950.0 SCFH  
 CF/RG/(range) Current Loop Flow Transducer using ring with sheath as ground, 7 ranges: 0–9.5 SCFH, 0–19.0 SCFH, 0–47.5 SCFH, 0–95.0 SCFH, 0–190.0 SCFH, 0–475.0 SCFH, 0–950.0 SCFH

**Flow—LPH**

CF/270 Current Loop Flow Transducer, 0–270 LPH  
 CF/540 Current Loop Flow Transducer, 0–540 LPH  
 CF/1350 Current Loop Flow Transducer, 0–1350 LPH  
 CF/2700 Current Loop Flow Transducer, 0–2700 LPH  
 CF/5345 Current Loop Flow Transducer, 0–5345 LPH  
 CF/13500 Current Loop Flow Transducer, 0–13500 LPH  
 CF/27000 Current Loop Flow Transducer, 0–27000 LPH  
 CF/RG/(range) Current Loop Flow Transducer using ring with sheath as ground, 7 ranges: 0–270 KPA, 0–540 KPA, 0–1350 KPA, 0–2700 KPA, 0–5345 KPA, 0–13500 KPA, 0–27000 KPA

**Other Device Applications**

BARO/35 Barometric Pressure Transducer, range 20.6–91.1 inches of Hg  
 BARO/RG/35 Barometric Pressure Transducer using ring with sheath as ground, range: 20.6–91.1 inches of Hg  
 BARO/1200 Barometric Pressure Transducer, range: 750–1200 millibar  
 BARO/RG/1200 Barometric Pressure Transducer using ring with sheath as ground, range: 750–1200 millibar  
 CL/THEFT Current Loop Contact Alarm, used for cable theft detection (multiple devices on a pair)  
 RH/100 Relative Humidity Transducer, range: 0%–100% RH  
 TANK Tank Volume Transducer, 0–200 cubic ft  
 EURO\_TANK Tank Pressure Transducer (metric), 0–204 bars  
 TEMP/167 Temperature Transducer, range: 0–167° F  
 TEMP/RG/167 Temperature Transducer using ring with sheath as ground, range: 0–167° F  
 TEMP/75 Temperature Transducer, range: 0–75° C  
 TEMP/RG/75 Temperature Transducer using ring with sheath as ground, range: 0–75° C  
 WATER/20 Water Level Transducer, range: 0–20.8 inches

TABLE A1-3: 289H CURRENT LOOP TRANSDUCER TYPES

<b>289H Voltage Measurement Transducer Types</b>	
VAC/TG	AC Voltage, Tip to Ground
VAC/RG	AC Voltage, Ring to Ground
VDC/TG	DC Voltage, Tip to Ground
VDC/RG	DC Voltage, Ring to Ground
VAC/300	AC Voltage, Tip to Ring

TABLE A1-4: VOLTAGE MEASUREMENT TRANSDUCER TYPES

<b>289H LSS Addressable Transducer Types</b>	
<b>Flow—SCFH</b>	
AF/9.5	289H Addressable Flow Transducer, 0–9.5 SCFH
AF/19.0	289H Addressable Flow Transducer, 0–19.0 SCFH
AF/47.5	289H Addressable Flow Transducer, 0–47.5 SCFH
AF/95.0	289H Addressable Flow Transducer, 0–95.0 SCFH
AF/475.0	289H Addressable Flow Transducer, 0–475.0 SCFH
AF/950.0	289H Addressable Flow Transducer, 0–950.0 SCFH
<b>Flow—LPH</b>	
AF/270	289H Addressable Flow Transducer, 0–270 LPH
AF/540	289H Addressable Flow Transducer, 0–540 LPH
AF/1350	289H Addressable Flow Transducer, 0–1350 LPH
AF/2700	289H Addressable Flow Transducer, 0–2700 LPH
<b>Pressure—PSI</b>	
APA	289H Addressable PSI Pressure Transducer, 0–15 PSI (absolute)
<b>Pressure—KPA</b>	
APA/KPA	289H Addressable Pressure Transducer, 0–100.0 KPA (absolute)
<b>Dual—Pressure Side</b>	
APA/X2	289H Addressable Pressure/Flow Transducer, 0–15.0 PSI (absolute)
APA/KPAX2	289H Addressable Pressure/Flow Transducer, 0–100.0 KPA (absolute)
<b>Dual—Flow Side</b>	
AF/9.5X2	289H Addressable Pressure/Flow Transducer, 0–9.5 SCFH
AF/19.0X2	289H Addressable Pressure/Flow Transducer, 0–19.0 SCFH
AF/47.5X2	289H Addressable Pressure/Flow Transducer, 0–47.5 SCFH
AF/95.0X2	289H Addressable Pressure/Flow Transducer, 0–95.0 SCFH
AF/475.0X2	289H Addressable Pressure/Flow Transducer, 0–475.0 SCFH
AF/950.0X2	289H Addressable Pressure/Flow Transducer, 0–950.0 SCFH
AF/270X2	289H Addressable Pressure/Flow Transducer, 0–270 LPH
AF/540X2	289H Addressable Pressure/Flow Transducer, 0–540 LPH
AF/1350X2	289H Addressable Pressure/Flow Transducer, 0–1350 LPH
AF/2700X2	289H Addressable Pressure/Flow Transducer, 0–2700 LPH
<b>Special Addressable Transducers</b>	
ABARO/1200	289H Addressable Barometric Pressure Transducer, 750–1200 millibars
ABARO/35	289H Addressable Barometric Pressure Transducer, 20.6–35.0 inches of Hg
AWATER/30	289H Addressable Water Level Transducer, 0–30 feet

TABLE A1-5: 289H ADDRESSABLE TRANSDUCER TYPES

<b>Chatlos Addressable Transducer Types</b>	
<b>Flow—SCFH</b>	
AF/C9.5	Chatlos Addressable Flow Transducer, 0–9.5 SCFH
AF/C5/9.5	Chatlos 5-Bank Addressable FTD, 0–9.5 SCFH
AF/C10/9.5	Chatlos 10-Bank Addressable FTD, 0–9.5 SCFH
AF/C19.0	Chatlos Addressable Flow Transducer, 0–19.0 SCFH
AF/C5/19.0	Chatlos 5-Bank Addressable FTD, 0–19.0 SCFH
AF/C10/19.0	Chatlos 10-Bank Addressable FTD, 0–19.0 SCFH
AF/C47.5	Chatlos Addressable Flow Transducer, 0–47.5 SCFH
AF/C5/47.5	Chatlos 5-Bank Addressable FTD, 0–47.5 SCFH
AF/C10/47.5	Chatlos 10-Bank Addressable FTD, 0–47.5 SCFH
AF/C50.0	Chatlos Addressable Flow Transducer, 0–50.0 SCFH
AF/C5/50.0	Chatlos 5-Bank Addressable FTD, 0–50.0 SCFH
AF/C10/50.0	Chatlos 10-Bank Addressable FTD, 0–50.0 SCFH
AF/C95.0	Chatlos Addressable Flow Transducer, 0–95.0 SCFH
AF/C5/95.0	Chatlos 5-Bank Addressable FTD, 0–95.0 SCFH
AF/C10/95.0	Chatlos 10-Bank Addressable FTD, 0–95.0 SCFH
AF/C100.0	Chatlos Addressable Flow Transducer, 0–100.0 SCFH
AF/C5/100.0	Chatlos 5-Bank Addressable FTD, 0–100.0 SCFH
AF/C10/100.0	Chatlos 10-Bank Addressable FTD, 0–100.0 SCFH
<b>Flow—LPH</b>	
AF/C270	Chatlos Addressable Flow Transducer, 0–270 LPH
AF/C5/270	Chatlos 5-Bank Addressable FTD, 0–270 LPH
AF/C10/270	Chatlos 10-Bank Addressable FTD, 0–270 LPH
AF/C540	Chatlos Addressable Flow Transducer, 0–540 LPH
AF/C5/540	Chatlos 5-Bank Addressable FTD, 0–540 LPH
AF/C10/540	Chatlos 10-Bank Addressable FTD, 0–540 LPH
AF/C1350	Chatlos Addressable Flow Transducer, 0–1350 LPH
AF/C5/1350	Chatlos 5-Bank Addressable FTD, 0–1350 LPH
AF/C10/1350	Chatlos 10-Bank Addressable FTD, 0–1350 LPH
AF/C1420	Chatlos Addressable Flow Transducer 0–1420 LPH
AF/C5/1420	Chatlos 5-Bank Addressable FTD, 0–1420 LPH
AF/C10/1420	Chatlos 10-Bank Addressable FTD, 0–1420 LPH
AF/C2700	Chatlos Addressable Flow Transducer, 0–2700 LPH
AF/C5/2700	Chatlos 5-Bank Addressable FTD, 0–2700 LPH
AF/C10/2700	Chatlos 10-Bank Addressable FTD, 0–2700 LPH
AF/C2830	Chatlos Addressable Flow Transducer, 0–2830 LPH
AF/C5/2830	Chatlos 5-Bank Addressable FTD, 0–2830 LPH
AF/C10/2830	Chatlos 10-Bank Addressable FTD, 0–2830 LPH
<b>Pressure—PSI</b>	
AP/C	Chatlos Addressable PSI Pressure Transducer
AP/C5	Chatlos 5-Bank Addressable PSI Pressure Transducer
AP/C10	Chatlos 10-Bank Addressable PSI Pressure Transducer
AP/CH-PSI	Chatlos Addressable PSI High Pressure Transducer
AP/C5/H-PSI	Chatlos 5/10-Bank Addressable PSI High Pressure Transducer
<b>Pressure—KPA</b>	
AP/C-KPA	Chatlos Addressable KPA Pressure Transducer
AP/C5/KPA	Chatlos 5/10-Bank Addressable KPA Pressure Transducer
AP/CH-KPA	Chatlos Addressable KPA High Pressure Transducer
AP/C5/H-KPA	Chatlos 5/10-Bank Addressable KPA High Pressure Transducer

TABLE A1-6: CHATLOS ADDRESSABLE TRANSDUCER TYPES

<b>Sparton Addressable Transducer Types</b>	
<b>Pressure</b>	
AP/S730	Sparton Addressable mbar Pressure Transducer, 0-10 PSI
AP/S734	Sparton Addressable mbar Pressure Transducer, 0-14.5 PSI
<b>Flow—SCFH</b>	
AF/S9.5	Sparton Addressable SCFH Flow Transducer, 0-9.5 SCFH
AF/S10	Sparton Addressable SCFH Flow Transducer, 0-10 SCFH
AF/S19	Sparton Addressable SCFH Flow Transducer, 0-19 SCFH
AF/S20	Sparton Addressable SCFH Flow Transducer, 0-20 SCFH
AF/S47.5	Sparton Addressable SCFH Flow Transducer, 0-47.5 SCFH
AF/S50	Sparton Addressable SCFH Flow Transducer, 0-50 SCFH
AF/S95	Sparton Addressable SCFH Flow Transducer, 0-95 SCFH
AF/S100	Sparton Addressable SCFH Flow Transducer, 0-100 SCFH
AF/S500	Sparton Addressable SCFH Flow Transducer, 0-500 SCFH
<b>Flow—LPH</b>	
AF/S270	Sparton Addressable LPH Flow Transducer, 0-270 LPH
AF/S280	Sparton Addressable LPH Flow Transducer, 0-280 LPH
AF/S540	Sparton Addressable LPH Flow Transducer, 0-540 LPH
AF/S570	Sparton Addressable LPH Flow Transducer, 0-570 LPH
AF/S1350	Sparton Addressable LPH Flow Transducer, 0-1350 LPH
AF/S1420	Sparton Addressable LPH Flow Transducer, 0-1420 LPH
AF/S2700	Sparton Addressable LPH Flow Transducer, 0-2700 LPH
AF/S2830	Sparton Addressable LPH Flow Transducer, 0-2830 LPH
AF/S14200	Sparton Addressable LPH Flow Transducer, 0-14200 LPH

TABLE A1-7: SPARTON ADDRESSABLE TRANSDUCER TYPES (UAMC-equipped 289H)

<b>UAMC Addressable Transducer Types (Other Vendors)</b>	
<b>Pressure</b>	
AP/I	Inelcom Addressable mbar Pressure Transducer
AP/L	Lancier Addressable mbar Pressure Transducer
AP/M	Microsol Addressable mbar Pressure Transducer
AP/N	Nicotra Addressable mbar Pressure Transducer

TABLE A1-8: ADDRESSABLE TRANSDUCER TYPES (UAMC-equipped 289H)

<b>uM260 Micro Monitor Transducer Types</b>	
<b>Pressure—PSI</b>	
CPA/30.0	Current Loop Pressure Transducer, 0–30.0 PSI (absolute)
RP(9.5)	Resistive Pressure (0-9.5 PSI)
RP/HP-PSI	Resistive Pressure, High Range (5-14.5 PSI)
<b>Flow—SCFH</b>	
CF/9.5	Current Loop Flow Transducer, 0–9.5 SCFH
CF/19	Current Loop Flow Transducer, 0–19.0 SCFH
CF/47.5	Current Loop Flow Transducer, 0–47.5 SCFH
CF/95	Current Loop Flow Transducer, 0–95.0 SCFH
CF/190	Current Loop Flow Transducer, 0–190 SCFH
CF/475	Current Loop Flow Transducer, 0–475.0 SCFH
CF/950	Current Loop Flow Transducer, 0–950.0 SCFH
RF/9.5	Resistive Flow Transducer, 0–9.5 SCFH
RF/19	Resistive Flow Transducer, 0–19.0 SCFH
RF/47.5	Resistive Flow Transducer, 0–47.5 SCFH
RF/95	Resistive Flow Transducer, 0–95.0 SCFH
RF/20	Resistive Flow Transducer, 0–20.0 SCFH
RF/50	Resistive Flow Transducer, 0–50.0 SCFH
RF/100	Resistive Flow Transducer, 0–100.0 SCFH
RF/200	Resistive Flow Transducer, 0–200.0 SCFH
<b>Other Device Applications</b>	
CPAMS_TD	Standard Resistive Contact Alarm
AC/115	Contact Alarm for 115V: 540K resistance OK, 270K resistance is ALRM
CL/THEFT	Current Loop Contact Alarm, used for cable theft detection (multiple devices on a pair)
DRYER	Contact Alarm for 115V: 540K resistance OK, 270K resistance is ALRM
RR/540K	Contact Alarm; 540K resistance OK, SHRT is ALRM

TABLE A1-9: UM260 MICRO MONITOR TRANSDUCER TYPES

<b>Dial-a-Ducer Transducer Types</b>	
<b>Flow—SCFH</b>	
DF/9.5	Flow Transducer, 0-9.5 SCFH
DF/19.0	Flow Transducer, 0-19. SCFH
DF/47.5	Flow Transducer, 0-47.5 SCFH
DF/95.0	Flow Transducer, 0-95.0 SCFH
DF/475.0	Flow Transducer, 0-475.0 SCFH
DF/950.0	Flow Transducer, 0-950.0 SCFH
<b>Flow—LPH</b>	
DF/270	Flow Transducer, 0–270 LPH
DF/540	Flow Transducer, 0–540 LPH
DF/1350	Flow Transducer, 0–1350 LPH
DF/2700	Flow Transducer, 0–2700 LPH
DF/13500	Flow Transducer, 0–13500 LPH
DF/27000	Flow Transducer, 0–27000 LPH
<b>Pressure—PSI</b>	
DP/15.0	Pressure Transducer, gauge type
<b>Pressure—KPA</b>	
DP/100.0	Pressure Transducer, gauge type
<b>Other Device Applications</b>	
DT/167	Fahrenheit Temperature Transducer, (FT device type)
DI	Digital Input (CA device type); support the following values: 0x0 -> Logical 0 0xF -> Logical 1

TABLE A1-10: DIAL-A-DUCER TRANSDUCER TYPES

CPAMS UNIT	PRESSURE & FLOW TRANSDUCERS	CONTACT ALARMS	VOLUME COUNTERS	TRUNK/TOLL CONTACTORS
Chatlos L1	P	SS	VF	RC
Chatlos L2	P/TT	MA	MF	MC
Chatlos MPUZ	P	MA	MF	MC
Chatlos 600	DT/ST/TT	MA/SA	MF	MC
Chatlos L3	DT/ST/TT	MA	MF	MC
Teleducer 50	DT/ST/TT	MA	–	MC
Hercules 740	DT/ST	MA/SA	MF	MC
Hercules 940	DT/ST	MA/SA	MF	MC
Sparton 5301A	T	K	V	C
Sparton 5300B	T	B	–	C
Sparton 5318	T	B	–	–

TABLE A1-11: CPAMS LETTER CODING

### ***PRESSURE TRANSDUCER DEVICE TYPE CODING***

Note that PressureMAP requires at least one pressure monitoring device per air source or pipe route in order to produce a System Quality Index.

- AP* Aerial Cable Pressure Transducer.
- BP* Buried Cable Pressure Transducer.
- CP* Compressor/Dryer Pressure Transducer. A CP is a 0-9.5 or 5-14.5 PSI pressure transducer that is used to monitor the delivery pressure of a central office air compressor. This device type generates a four star alarm for a 1PSI drop in pressure.
- DP* Distribution Panel Pressure Transducer. A DP is a 0-9.5 or 5-14.5 PSI pressure transducer that monitors the air delivery pressure at a Distribution Panel. This device type is treated as a source pressure device in index calculations, but does not alarm.
- EP* Pipe Endpoint Pressure Transducer. Both PPs and EPs monitor air pipes, not cables. There may be multiple PPs and EPs on a pipe. If there are a number of pressure transducers monitoring pressure on an air pipe, the last one at the end of the pipe is designated as an EP. If a pipe splits into two sections ("Ts") and both ends are monitored by PTDs, each can be designated as an EP. A type EP rarely occurs at the physical end of the air pipe. EP devices are regularly located at the last PTD housing on the run, generally at a manhole location about 1500' from the physical pipe end point. They do, however, occasionally appear at the physical end of the pipe (especially on single feed systems).
- FP* System Studies Flow Bank™ Pressure Transducer. The Flow Bank is installed in utility holes to pneumatically connect cables and provide dual feed protection. It is typically installed with a pressure transducer which monitors the average pressure in the Flow Bank. Note that some cables draw air flow from the bank and some contribute to the bank. This device is supported by both the 289H LSS™ monitor and Dial-a-Ducer™, and can be either a resistive or current loop pressure device.
- GP* Aerial Single Feed Pressure Transducer. This aerial single feed Device Type generates a four star alarm for a drop in cable pressure below the threshold value (**THR**) at any time, or for a drop equal to or exceeding the change value (**Chg**) in a 24-hour period. Additional alarms will be issued for subsequent changes by the **Chg** value in a 24-hour period. The default **THR** value is 1.5 PSI (10 KPA), and the default **Chg** value is 1.0 PSI (or 6.9 KPA).
- HP* Buried Single Feed Pressure Transducer. This buried single feed Device Type generates a four star alarm for a drop in cable pressure below the threshold value (**THR**) at any time, or for a drop equal to or exceeding the change value (**Chg**) in a 24-hour period. Additional alarms will be issued for subsequent changes by the **Chg** value in a 24-hour period. The default **THR** value is 4.4 PSI (30 KPA), and the default **Chg** value is 1.0 PSI (or 6.9 KPA).
- JP* Underground Single Feed Pressure Transducer. This underground single feed Device Type generates a four star alarm for a drop in cable pressure below the threshold value (**THR**) at any time, or for a drop equal to or exceeding the change value (**Chg**) in a 24-hour period.

## DATA ENTRY

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Additional alarms will be issued for subsequent changes by the **Chg** value in a 24-hour period. The default **THR** value is 4.4 PSI (30 KPA), and the default **Chg** value is 1.0 PSI (or 6.9 KPA).

- MP* Manifold Pressure Transducer. An MP is a 0-9.5 PSI pressure transducer that monitors the air pipe delivery pressure to a manifold. This device type does not produce alarms or affect indexing.
- PP* Pipe Midpoint Pressure Transducer. The PP Device Type will monitor an air pipe at a designated location other than at the end of the pipe. (See EP.) Please note that PPs contribute to indexing for the route, but do not alarm.
- QP* Priority Aerial Cable Pressure Transducer. This aerial cable Device Type generates a four star alarm for a drop in cable pressure to 0 PSI or for a drop equal to or exceeding 3.0 PSI. Standard AP types produce only a two star alarm regardless of the severity of the pressure drop.
- RP* Remote Compressor/Dryer Pressure Transducer. RPs are 0-9.5 or 5-14.5 PSI PTDs that monitor the delivery pressure of a Remote Dryer.
- SP* Source (Pipe Alarm Panel) Pressure Transducer. An SP is a 0-9.5 or 5-14.5 PSI PTD that monitors delivery pressure at a Pipe Alarm Panel, or remote dryer.
- TP* Trunk/Toll Cable Pressure Transducer. A TP is a special designation for a pressure transducer that monitors a trunk or toll cable. Functionally, TP transducers are the same as UP or BP pressure transducers.
- UP* Underground Cable Pressure Transducer. This is one of the most common types of devices found in the field, and is the default type used in the PressureMAP data entry screens.
- WP* Deep Underground Cable Pressure Transducer. WPs monitor underground cables that are located in manholes at depths greater than 10 feet. Cables in this type of environment require a special device type to reflect their higher minimum air pressure standards.
- \$P* High Priority Pressure Transducer. A dispatch condition on a “high priority” device will result in a higher priority dispatch than a similar condition on a device that is not high priority. The \$ device also differs from a standard device in that once an initial alarm has been generated and acknowledged, \$ devices do not send additional new alarms during the day the alarm was created, even if the alarm condition continues to escalate.

To determine if a \$ device is in an alarm condition, the MAP software refers to the value entered into the **Chng** field of the device data screen. The **Chng** value indicates the amount the PSI can drop from the **TODAY** reading before the device goes into alarm. The default **Chng** value is 1.5 PSI. In addition, this device type will generate an alarm for a verbose (non-valid) reading.

### ***FLOW TRANSDUCER DEVICE TYPE CODING***

When entering office data, keep in mind that PressureMAP requires at least one flow monitoring device per pipe route in order to calculate a System Quality Index (SQI).

- DF* Distribution Panel Flow Transducer. This flow transducer monitors a distribution panel that is fed directly from the central office dryer. DF FTDs encompass the function of SF and MF flow transducers in one type. A DF is not fed from a source (type SF), but is a source of air feeding the cables directly.
- IF* Cable Flow Transducer. The Cable Flow device is usually located on a distribution panel, and is identical in characteristics to the LF device type.
- LF* Lateral Flow Transducer. An LF is fed by a cable that feeds back to the same cable, usually at a bypass valve. An LF is sometimes found where an underground cable goes aerial. The cable is plugged and affixed with a bypass valve, a flow transducer (type LF), and another bypass valve. An OAU is calculated but ignored. This device type does not produce a four star alarm. A three star alarm is generated for a flow increase of 6 SCFH or more.
- MF* Manifold Flow Transducer. An MF monitors an air pipe manifold that is associated with a pipe, or a distribution panel that is associated (or plumbed in line) with a pipe panel.
- QF* Single Feed Cable Flow Transducer. This Device Type is used for flow transducers that monitor critical single feed cables. It will generate a four star alarm for flow increases of plus 4 SCFH and plus 2 SCFH, as well as zero flow and pegged flow reading conditions.
- RF* Remote Compressor/Dryer Flow Transducer. RFs monitor remote air dryers (or compressors) that feed cables directly. However, a flow transducer which monitors a remote dryer that supplies air via an air pipe is designated as type SF.
- SF* Source Flow Transducer. A SF will monitor a pipe panel or a remote compressor that is associated with a pipe. An SF will have no "Office 1", "Office 2", "Field 1", or "Field 2" relationships.
- \$F* High Priority Flow Transducer. The \$F is a manifold flow transducer that is used for user-designated priority flow monitoring. A \$F is given special emphasis by PressureMAP. The \$ device also differs from a standard device in that once an initial alarm has been generated and acknowledged, \$ devices do not send out additional new alarms during the day the alarm was created, even if the alarm condition continues to escalate.

To determine if a \$ device is in an alarm condition, the MAP software refers to the value entered into the **Chng** field of the device data screen. The **Chng** value indicates the amount the flow can increase from the **TODAY** reading before the device goes into alarm. The default **Chng** value is 2.0 SCFH. In addition, this device type will generate an alarm for a verbose (non-valid) reading.

### ***PRESSURE CONTACTOR DEVICE TYPE CODING***

PressureMAP Device Types for pressure contactors follow the designations assigned to pressure transducers. Like pressure transducers, the first letter of the code indicates the function or position of the contactor in the pressurization system.

The **PSI**, **LOOP**, and **NORM** data fields must be filled in for all contactors. The value entered into the **PSI** data field represents the value at which the contactor goes into alarm. By default, PressureMAP places the underground pressure standard for the office in this field.

The **LOOP** data field specifies the loop resistance value in kilohms for the operated contactor (the contactor in an alarm state). The **NORM** field should reflect what the device reads in its normal, non-alarm state. As each monitor uses different designations for the alarm and normal conditions, refer to your monitor's data entry section for more information.

- AC* Aerial Cable Pressure Contactor.
- BC* Buried Cable Pressure Contactor.
- CC* Compressor/Dryer Pressure Contactor.
- DC* Distribution Panel Pressure Contactor.
- EC* Pipe Endpoint Pressure Contactor.
- PC* Pipe Midpoint Pressure Contactor.
- RC* Remote Compressor/Dryer Pressure Contactor.
- SC* Source Pressure Contactor.
- TC* Trunk/Toll Pressure Contactor. TC is a special designation for a pressure contactor that monitors a trunk or toll cable. The device number for each contactor on the same pair can be similar, with the extension (a period followed by the last two characters) representing the contactor's position on the cable. The device numbers 001-23.01, 001-23.02, and 001-23.12 are examples of this numbering scheme. Up to 99 contactors can use the same the trunk and toll cable device number.
- UC* Underground Cable Pressure Contactor.
- WC* Deep Underground Cable.
- \$C* High Priority Pressure Contactor. A dispatch condition on a "high priority" device will result in a higher priority dispatch than a similar condition on a device that is not high priority. A four star alarm will be generated for a verbose error reading. The \$ device also differs from a standard device in that once an initial alarm has been generated and acknowledged, \$ devices do not send additional new alarms during the day they are initially created, even if the alarm condition continues to escalate.

### **CONTACT ALARM DEVICE TYPE CODING**

Type "A" devices primarily monitor flow alarms, fuse alarms and water/humidity alarms. Beginning in Version 27 PressureMAP also reads and processes a special-application pressure converter device that provides an "A" device type output. Depending upon where they are installed in the system and how they are used, contact alarms are designated as follows:

CA Compressor/Dryer Contact Alarm.

DA Distribution Panel Contact Alarm.

KA Alternating Compressor Contact Alarm. The Alternating Compressor device type is used in offices that have two dryers operating on a 50% duty cycle. This device type enables you to monitor both dryer readings, identify which one is currently operating, and confirm that the dryers are alternating as intended. Both of these dryers are assigned the KA device type and the **same pipe name**. Both devices may have a blank pipe name if the dryers supply air for the entire office. An office may have more than one pair of alternating dryers if each pair feeds a different Pipe Route. In this application each dryer of a pair must be identified with the same pipe name.

To generate an alarm when both the operating and "resting" dryers have no flow, the monitor **MUST** be programmed to send either an **ALRM** or **ALARM** to PressureMAP.

PressureMAP will not alarm if FLT or any other entry is the monitor's programmed alarm condition.

PA Sparton 270/540K ohm Converter Contact Alarm. This device type is used exclusively with Sparton and Puregas PVD800 monitors. It permits the use of a dedicated or subscriber module, rather than the standard binary module, to read a 270/540K ohm resistive output device. Sparton reads the binary PA device as if it were a resistive pressure transducer, and PressureMAP converts the reading to either "OK" or "ALRM." Readings are interpreted as follows:

Sparton		PressureMAP
Ohms	PSI	Rdg
----	----	-----
540K	6.8	OK
270K	4.6	ALRM

Since the average of the two PSI reading values is 5.7 PSI, anything above the average will be considered *OK* and anything below as *ALRM*. OPEN and SHRT readings determined by the Sparton are preserved without interpretation by PressureMAP.

Please note that the alarm conditions reported by PressureMAP for a PA device follow those for ZA devices (described in the *Configurable Contact Alarms* explanation below).

Major Contact Alarm reading alarm (ALRM) in < nn hr

Major Contact Alarm reading error (xxxx) in < nn hr

## DATA ENTRY

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For flexibility, the PA device also provides for user defined alarm condition text, which can be entered on a per device basis in the **Dispatch Condition** field on the Specific Device Information Screen.

- RA Remote Compressor/Dryer Contact Alarm.
- SA Source Contact Alarm.
- \$A High Priority Contact Alarm. A dispatch condition on a “high priority” device will result in a higher priority dispatch than a similar condition on a device that is not high priority. A four star alarm will be generated for a verbose error reading. The \$ device also differs from a standard device in that once an initial alarm has been generated and acknowledged, \$ devices do not send additional new alarms during the day it was created, even if the alarm condition continues to escalate.

### ***Configurable Contact Alarms***

A Dispatch Condition remark may be entered for the Configurable Contact Alarm device types. When either the YA or ZA device comes in alarm, the remarks that have been entered into the **Dispatch Condition** field will be displayed along with the stars that represent the age of the condition. If the field is blank, PressureMAP will print “Major (or Minor) Contact Alarm came into alarm (ALRM).” The **Dispatch Condition** entry may be up to 54 characters in length, and may not include the \*, # or ? characters. This data field does not display in the device’s *Specific Device Information* screen.

- YA Configurable “Minor” Contact Alarm. This type of contact alarm will only generate high priority dispatches.
- ZA Configurable “Major” Contact Alarm. This configurable contact alarm will generate a Four Star alarm.

### ***VOLUME COUNTER DEVICE TYPE CODING***

Types SV, DV, and MV volume counters parallel PressureMAP Device Types SF, DF, and MF flow transducers. Please note that PressureMAP does not allow volume counter device types to be entered for offices monitored by 289H monitors as the 289H is not configured to read volume counters. Similarly, PressureMAP’s CPAMS programming function (described in the PressureMAP section of the Operations manual) does not program volume counter devices into other types of monitors.

- DV Distribution Panel Volume Counter. This device type is NOT associated with a source or pipe.
- MV Distribution Panel or Manifold Volume Counter associated with a source or pipe. MV Volume Counters are fed from a pipe panel that is monitored by an SF or SV.
- RV Remote Compressor/Dryer Alarm, parallels RF.
- SV Source Volume Counter or Pipe Volume Counter.
- \$V High Priority Volume Counter. A dispatch condition on a “high priority” device will result in a higher priority dispatch than a similar condition on a device that is not high priority. The \$ device also differs from a standard device in that once an initial alarm has been generated and acknowledged, \$ devices do not send additional new alarms during the day the alarm was created, even if the alarm condition continues to escalate.

To determine if a \$ device is in an alarm condition, the MAP software refers to the value entered into the **Chng** field of the device data screen. The **Chng** value indicates the amount the flow can increase from the **TODAY** reading before the device goes into alarm. The default **Chng** value is 2.0 SCFH. The SCFH value that should be entered into the **SAU** field is the normal, stable flow of the transducer, which should be obtained from past device history reports.

In addition, this device type will generate an alarm for a verbose (non-valid) reading.

### ***SPECIAL USE DEVICE TYPE CODING***

Most of the device types listed below can be read only by certain monitors.

#### **TMACS**

*VT* Variable Location Temperature Transducer. This device is only used by the TMACS monitor.

*VE* Variable Location Electric Transducer. This device is only used by the TMACS monitor.

#### **Dial-a-Ducer**

*FT* Fahrenheit Temperature Transducer. The FT device is used to identify temperature changes at a Dial-a-Ducer location. An alarm will be generated when the temperature reading is less than or equal to 32.0 degrees Fahrenheit. The alarm will clear when the temperature reaches 40 degrees F. DT/167 is entered into the **TD Type** field for this device.

#### **289H LSS**

*AB* Aerial Barometric Pressure Transducer. The AB device will measure between 20.6 and 35.0 inches of mercury (Hg) at local—not sea level—barometric pressure. PressureMAP will then adjust the readings of System Studies' current loop pressure devices to factor in the barometric pressure reading. When performing realtime readings using the 289H Diagnostics function of PressureMAP, both the absolute pressure reading and the compensated pressure reading for each current loop pressure device in the office are listed. BARO/35 is entered into the **TD Type** field. Please note that **Location**, **Pipe**, and **Location/Distance** data fields are not used for this device type. This device type can also be used in Lancier and Nicotra monitored offices.

*AT* Aerial Temperature Transducer. An AT device is like a flow transducer that measures air temperature, not flow. It is used to identify temperature changes on aerial cables which, in turn, affect cable pressure and flow rates. When entering an AT device in the **Type** data field

in the PressureMAP editor, the default value that appears in the **TD Type** data field is TEMP/167, which designates a temperature range of 0 to 167 degrees Fahrenheit for a 4 to 20mA loop current device. Two other TD Type possibilities exist: TEMP/212 (-40° to +212° F) or TEMP/212/H (32° to 212° F). Both of these TD Type designations are used for resistive transducers. To change the default setting, press > with the cursor at the **TD Type** field to toggle from one setting to another.

*AV* AC Voltage Transducer. This contactor device monitors 115VAC power. An alarm is generated when the resistance falls to 270K ohms. AC/115 is entered into the **TD Type** data field for this device.

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- BI* Bi-Directional Flow Transducer. This device type designates a stand-alone, 4-20 mA flow transducer that is used with a 0-475 SCFH Flow Finder in an one inch air pipe emergency air supply system. This device type has no alarming characteristics. As the name implies, the transducer has the capability of indicating the actual direction of the flow, in addition to providing an accurate flow rate in SCFH.
- BV* AC Voltage Transducer. This contactor device monitors 230VAC power. An alarm is generated when the resistance falls to 270K ohms. AC/230 is entered into the **TD Type** data field for this device.
- CV* AC Voltage Transducer. This current loop device is designed for three-phase applications, such as central office air dryers. Each phase of the device requires a separate Access #. An alarm is generated when VAC drops to 185 VAC or less; the alarm clears when it increases to 200 VAC or more. VAC/300 is automatically entered into the **TD Type** data field by the PressureMAP editor.
- CW* Chilled Water Temperature Transducer. This resistive central office device monitors the temperature of water chilled for air dryers, normally 50 to 65 degrees Fahrenheit. The device will alarm if the temperature rises to 75 degrees Fahrenheit. The alarm will clear when the temperature drops back down to 60 degrees Fahrenheit. TEMP/212 is entered into the **TD Type** field for this device.
- JD* Air Temperature Sensor. The JD Device Type identifies a thermistor sensor that is installed in a Relative Humidity/Temperature Sensor. The device, which outputs electrical resistance readings in the range of 2069 ohms to 884.6 Kohms, reads up to 150 degrees Fahrenheit. It is programmed to alarm at 95 degrees Fahrenheit and clear when the temperature drops back down to 90 degrees Fahrenheit. TEMP/212/H is automatically entered in the **TD Type** data field for this device.
- LB* Air Tank Pressure Transducer - Metric. This device reads a current loop pressure device with a range of 0-204 bars (approximately 3000 PSI). An alarm is sent when a drop of 20.0 or more bars (300 PSI) in under 24 hours occurs, or if pressure drops to a threshold value of 20.0 bars or less. EURO\_TANK is automatically entered in the **TD Type** field for this device.
- MB* Air Tank Volume Transducer, Percentage Remaining. As the description implies, this version of the 0-3000 PSI current loop device provides a percentage output reading of the amount of air remaining in a 220 cubic foot tank. Like the NB device type described below, an alarm is generated when a 50.0 standard cubic foot volume drop occurs. TANK is entered in the **TD Type** field for this device.
- NB* Air Tank Volume Transducer. This device reads a 0-3000 PSI current loop device and determines the amount of air left in a 220 cubic foot tank. An alarm is sent when a 50.0 standard cubic foot volume drop occurs. TANK is also entered in the **TD Type** field for this device.
- RG* Wire Pair Monitor. This designation is specified for a LSS office when monitoring the electrical resistance of a conductor pair, measured across ring/ground. Please note that the pair is not wired to a transducer; as a result, an electrical resistance value in the range of 0 to 100 Mohms is generated. An alarm is sent when the resistance reads 15 Mohms or below; the alarm clears at 20 Mohms. Readings above 30 Mohms are displayed as "OK" rather than a

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## APPENDIX 1 - DEVICE & TRANSDUCER TYPES

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numeric representation. RG/100M is automatically entered into the **TD Type** field by the PressureMAP editor.

- RH* Relative Humidity Sensor. This current loop device monitors humidity in the central office dryer room. The RH Device Type can handle readings from 0 to 100% relative humidity. An alarm is generated when humidity increases to 80%, and clears when it decreases to 75%. RH/100 is automatically entered in the **TD Type** data field by the PressureMAP editor.
- RS* Wire Pair Monitor. Formerly used for monitoring the electrical resistance of a conductor pair, measured across tip/ring; replaced by use of the RG or RT device types. The pair is not wired to a transducer (which would read between 3.8 Mohms and 100 Kohms). As a result, an electrical resistance value in the range of 0 to 100 Mohms is generated. The alarming and reading thresholds are the same as those for RG and RT device types. RR/100M is entered into the **TD Type** field for this device type.
- RT* Wire Pair Monitor. This designation is specified for a LSS office when monitoring the electrical resistance of a conductor pair, measured across tip/ground. Please note that the pair is not wired to a transducer; as a result, an electrical resistance value in the range of 0 to 100 Mohms is generated. An alarm is sent when the resistance reads 15 Mohms or below; the alarm clears at 20 Mohms. Readings above 30 Mohms are displayed as “OK” rather than a numeric representation. RT/100M is automatically entered into the **TD Type** field by the PressureMAP editor.
- TE* Air Temperature Sensor. The TE Device Type identifies a thermistor sensor that is installed in a High Resolution Pressure Transducer housing (Utility Hole Temperature Transducer). The device, which outputs electrical resistance readings in the range of 2069 ohms to 884.6 Kohms, reads up to 212 degrees Fahrenheit. It is programmed to alarm at 110 degrees Fahrenheit and clear when the temperature drops back down to 90 degrees Fahrenheit. The TE Device Type requires the following entry in the **TD Type** data field: *TEMP/212/H*.
- VD* DC Voltage Output Measurement. This device type provides monitoring and diagnostic functions on a specific conductor via the 289H LSS (controller card equipped with Rev. B05 or higher EPROM). The VD Device Type may be used for either device monitoring or the 289H power supply. Readings for a VD Device Type will indicate one of two types of DC voltage measurements, specified in the **TD Type** data field.
- To determine if a VD device is in an alarm condition, the MAP software refers to the values entered into the **STD** and **Chng** fields of the device data screen. The **Chng** value indicates the amount the voltage can drop or increase from the settled reading before the device goes into alarm. In addition, an alarm is generated for voltage levels of 15% more or less than the **STD** value.
- VO* AC Voltage Output Measurement. This device type provides monitoring and diagnostic functions on a specific conductor via the 289H LSS (controller card equipped with Rev. B05 or higher EPROM). The VO Device Type may be used for either device monitoring or the 289H power supply. Readings for a VO Device Type will indicate one of two types of AC voltage measurements, specified in the **TD Type** data field.

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To determine if a VO device is in an alarm condition, the MAP software refers to the values entered into the **STD** and **Chng** fields of the device data screen. The **Chng** value indicates the amount the voltage can drop or increase from the settled reading before the device goes into alarm. In addition, an alarm is generated for voltage levels of 15% more or less than the **STD** value.

- WA** Addressable Water Level Transducer. This Device Type designates an addressable transducer that senses water levels up to 30 feet in tenths of a foot (1.20 inches). It is set to alarm when the water level rises to three feet above the transducer. It clears when the level drops back down to two feet above the device. AWATER/30 is automatically entered in the **TD Type** data field for this device.
- WL** Water Level Transducer. This Device Type is used to designate a 4–20 milliamperes flow transducer that has been converted to read 0–20.8 inches of water. An alarm is sent when the water level increases 12 inches or more in a 24 hour period. A PEGGED alarm occurs when the water level increases 20.8 inches, and clears when the level drops 15.0 inches or more. WATER/20 is entered in the **TD Type** field for this device.
- WW** Warm Water Temperature Transducer is a resistive central office device that monitors the temperature of incoming city water, which is normally 85 degrees Fahrenheit. This device will alarm if the temperature drops to 75 degrees Fahrenheit. The alarm will clear when the temperature rises back up to 80 degrees Fahrenheit. TEMP/212 is entered into the **TD Type** field for this device.
- XC** Cable Theft Monitoring Device. Refer to explanation below under uM260 Micro Monitor.
- XL** Utility Hole Water Level Transducer. This Device Type designates a modified 4–20 milliamperes pressure transducer that senses water levels up to 30 feet in tenths of a foot (1.20 inches). It is set to alarm when the water level rises to three feet above the transducer. It clears when the level drops back down to two feet above the device.
- \$T** High Priority Temperature Transducer. This programmable device type can be used for a Utility Hole Temperature Transducer monitored by a 289H, or for temperature devices in TELSEC or Sparton 5353 offices. A \$T is given special emphasis by PressureMAP. The \$ device also differs from a standard device in that once an initial alarm has been generated and acknowledged, \$ devices do not send out additional new alarms during the day the alarm was

created, even if the alarm condition continues to escalate. The \$T device type does not affect indexing, or temperature filtering of alarms.

To determine if a \$T device is in an alarm condition, the MAP software refers to the value entered into the **STD** and **Chng** fields of the device data screen. The **Chng** value indicates the amount the temperature can increase or decrease from the **STD** value before the device goes into alarm. The default **STD** (standard) is 75.0 degrees F; the default **Chng** value is one third of the standard (25.0). In addition, this device type will generate an alarm for a verbose (non-valid) reading.

### **uM260 Micro Monitor**

- XC** Cable Theft Monitoring Device. A software application, called CableWATCH™, along with the uM260 Micro Monitor or 289H LSS offer the capability of monitoring loop current on a

designated pair for the purpose of cable theft detection. For this application, up to seven Cable Section Locator (CSL) devices can be installed in parallel across the designated pair, which is called a Detection Pair. Each CSL has a specific milliampere value ( 3.0 mA, 6.0 mA, 9.0 mA etc.); each is given a unique Access Number (002-01.01, 002-01.02, 002-01.03, etc.); and each is assigned an XC Device Type. If CableWATCH receives a uM260 alert for an XC device on the Detection Pair, it calls the reporting monitor, takes a current loop reading on the monitored pair, and determines the farthest CSL location that provides a known value. A separate monitoring pair, called a Verification Pair, is equipped with one CSL device at or near the end of the cable. The Detection Pair indicates approximately where the cut has occurred, and the Verification Pair is used to confirm that the cable has been cut, as opposed to possible cable trouble on the pair.

### ***SYSTEM STUDIES 289H LSS TRANSDUCER TYPES***

In addition to the Device Types listed above, the 289H LSS is capable of reading many special transducers and sensors. Listed below are the resistive, current loop, and special use Transducer Types that need to be entered into the **TD Type** data field of the 289H PressureMAP data entry screen.

#### **Resistive Transducer Types**

##### **Pressure-PSI**

<i>RP</i>	Standard resistive pressure transducer.
<i>RP/HP-PSI</i>	High range pressure transducer with a reading output of 5 to 14.5 PSI. This Transducer Type does not require a PSI offset to be entered in the device data screen.
<i>RP/RG-PSI</i>	Resistive pressure transducer using ring as one side of the pair with a common (sheath) return.
<i>RP/RG/HP-PSI</i>	High range pressure transducer with a reading output of 5 to 14.5 PSI. It uses ring as one side of the pair with a common (sheath) return. This Transducer Type does not require a PSI offset to be entered in the device data screen.
<i>RP/TG-PSI</i>	Resistive pressure transducer using tip as one side of the pair with a common (sheath) return.
<i>RP/TG/HP-PSI</i>	High range pressure transducer with an output of 5 to 14.5 PSI. This Transducer Type uses tip as one side of the pair with a common (or sheath) return. This device type does not require a PSI offset to be entered in the device data screen.

##### **Pressure-KPA**

<i>RP-KPA</i>	Standard resistive KPA pressure transducer (0–65.5 KPA).
<i>RP/HP-KPA</i>	High pressure resistive KPA transducer (34.48–99.98 KPA).
<i>RP/RG-KPA</i>	Resistive KPA pressure transducer using ring as one side of the pair with a common (sheath) return.

## DATA ENTRY

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<i>RP/RG/HP-KPA</i>	High pressure resistive KPA transducer using ring as one side of the pair with a common (sheath) return.
<i>RP/TG-KPA</i>	Resistive KPA pressure transducer using tip as one side of the pair with a common (sheath) return.
<i>RP/TG/HP-KPA</i>	High pressure resistive KPA transducer using tip as one side of the pair with a common (sheath) return.
<b>Flow-SCFH</b> <i>RF/(range)</i>	Standard resistive flow transducer in nine possible SCFH ranges: 0-9.5, 0-19.0, 0-20.0, 0-47.5, 0-50.0, 0-95.0, 0-100.0, 0-190.0, 0-200.0.
<i>RF/RG/(range)</i>	Resistive flow transducer using ring as one side of the pair with a common (sheath) return. User must specify one of nine possible SCFH ranges: 0-9.5, 0-19.0, 0-20.0, 0-47.5, 0-50.0, 0-95.0, 0-100.0, 0-190.0, 0-200.0.
<i>RF/TG/(range)</i>	Resistive flow transducer using tip as one side of the pair with a common (sheath) return. One of nine possible ranges in SCFH must be specified during data entry: 0-9.5, 0-19.0, 0-20.0, 0-47.5, 0-50.0, 0-95.0, 0-100.0, 0-190.0, 0-200.0.
<b>Flow—LPH</b> <i>RF/(range)</i>	Resistive flow transducer in nine possible LPH ranges: 0-270, 0-540, 0-570, 0-1350, 0-1420,0-2700,0-2830, 0-5380, 0-5670.
<i>RF/RG/(range)</i>	Resistive flow transducer using ring as one side of the pair with a common (sheath) return. One of the following nine possible LPH flow ranges must be entered for the device during data entry: 0-270, 0-540, 0-570, 0-1350, 0-1420,0-2700,0-2830, 0-5380, 0-5670.
<i>RF/TG/(range)</i>	Resistive flow transducer using tip as one side of the pair with a common (sheath) return. User must designate one of nine LPH ranges: 0-270, 0-540, 0-570, 0-1350, 0-1420,0-2700,0-2830, 0-5380, 0-5670.
<b>Contact Alarm</b> <i>CPAMS_TD</i>	Standard resistive contact alarm.
<i>CPAMS_TD/RG</i>	Resistive contact alarm using ring as one side of the pair with a common (sheath) return.
<i>CPAMS_TD/TG</i>	Resistive contact alarm using tip as one side of the pair with a common (sheath) return.
<i>AC/115</i>	Contact alarm for measuring 115VAC: 540 Kohms resistance generates OK reading; 270 Kohms resistance produces an ALRM reading.
<i>DRYER</i>	Contact alarm for measuring 115VAC: 540 Kohms resistance generates OK reading; 270 Kohms resistance produces an ALRM reading. (Same as AC/115.)

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*AC/230* Contact alarm for 230VAC: 540 Kohms resistance is OK; 270 Kohms resistance indicates ALRM condition.

*RR/540K* Contact alarm: 540 Kohms resistance generates OK reading; SHRT reading produced by office monitor generates an ALRM reading in PressureMAP.

### Other Device Applications

*RG/100M* Resistive open pair: monitors the resistance of a pair (Ring/Ground).

*RR/100M* Resistive open pair: monitors the resistance of a pair (Tip/Ring).

*RT/100M* Resistive open pair: monitors the resistance of a pair (Tip/Ground).

*TEMP/212* Thermistor water temperature transducer: output range is -40 to +212 degrees Fahrenheit.

*TEMP/212/H* Thermistor air temperature transducer: output range is 32 to 212 degrees Fahrenheit.

### Current Loop Transducer Types

#### Pressure-PSI

*CPA/15.0* Current loop pressure transducer, 0-15.0 PSI (absolute)

*CPA/RG/15.0* Current loop pressure transducer, 0-15.0 PSI (absolute), using ring with sheath as ground

*CPA/30.0* Current loop pressure transducer, 0-30.0 PSI (absolute)

*CPA/RG/30.0* Current loop pressure transducer, 0-30.0 PSI (absolute), using ring with sheath as ground

#### Pressure—KPA

*CPA/100.0* Current loop pressure transducer, 0-100.0 KPA (absolute)

*CPA/RG/100.0* Current loop pressure transducer, 0-100.0 KPA (absolute), using ring with sheath as ground

*CPA/200.0* Current loop pressure transducer, 0-200.0 KPA (absolute)

*CPA/RG/200.0* Current loop pressure transducer, 0-200.0 KPA (absolute), using ring with sheath as ground

#### Flow—SCFH

*CF/9.5* Current loop flow transducer, 0-9.5 SCFH

*CF/RG/9.5* Current loop flow transducer, 0-9.5 SCFH, using ring with sheath as ground

## DATA ENTRY

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<i>CF/19.0</i>	Current loop flow transducer, 0-19.0 SCFH
<i>CF/RG/19.0</i>	Current loop flow transducer, 0-19.0 SCFH, using ring with sheath as ground
<i>CF/47.5</i>	Current loop flow transducer, 0-47.5 SCFH
<i>CF/RG/47.5</i>	Current loop flow transducer, 0-47.5 SCFH, using ring with sheath as ground
<i>CF/95.0</i>	Current loop flow transducer, 0-95.0 SCFH
<i>CF/RG/95.0</i>	Current loop flow transducer, 0-95.0 SCFH, using ring with sheath as ground
<i>CF/190</i>	Current loop flow transducer, 0-190 SCFH (supports System Studies' digital panels)
<i>CF/RG/190</i>	Current loop flow transducer, 0-190 SCFH, using ring with sheath as ground
<i>CF/475.0</i>	Current loop flow transducer, 0-475.0 SCFH; two dispatch alarm conditions: an increase of 100 SCFH or 200 SCFH in a 24-hour period generates a four star alarm
<i>CF/RG/475.0</i>	Current loop flow transducer, 0-475.0 SCFH, using ring with sheath as ground; two dispatch alarm conditions: an increase of 100 SCFH or 200 SCFH in a 24-hour period generates a four star alarm
<i>CF/950.0</i>	Current loop flow transducer, 0-950.0 SCFH; two dispatch alarm conditions: an increase of 100 SCFH or 200 SCFH in a 24-hour period generates a four star alarm
<i>CF/RG/950.0</i>	Current loop flow transducer, 0-950.0 SCFH, using ring with sheath as ground; two dispatch alarm conditions: an increase of 100 SCFH or 200 SCFH in a 24-hour period generates a four star alarm
<b>Flow—LPH</b>	
<i>CF/270</i>	Current loop flow transducer, 0-270 LPH
<i>CF/RG/270</i>	Current loop flow transducer, 0-270 LPH, using ring with sheath as ground
<i>CF/540</i>	Current loop flow transducer, 0-540 LPH
<i>CF/RG/540</i>	Current loop flow transducer, 0-540 LPH, using ring with sheath as ground
<i>CF/1350</i>	Current loop flow transducer, 0-1350 LPH
<i>CF/RG/1350</i>	Current loop flow transducer, 0-1350 LPH, using ring with sheath as ground
<i>CF/2700</i>	Current loop flow transducer, 0-2700 LPH
<i>CF/RG/2700</i>	Current loop flow transducer, 0-2700 LPH, using ring with sheath as ground

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<i>CF/5345</i>	Current Loop Flow Transducer, 0-5345 LPH
<i>CF/RG/5345</i>	Current Loop Flow Transducer, 0-5345 LPH, using ring with sheath as ground
<i>CF/13500</i>	Current loop flow transducer, 0-13500 LPH
<i>CF/RG/13500</i>	Current loop flow transducer, 0-13500 LPH, using ring with sheath as ground
<i>CF/27000</i>	Current loop flow transducer, 0-27000 LPH
<i>CF/RG/27000</i>	Current loop flow transducer, 0-27000 LPH, using ring with sheath as ground
<b>Other Applications</b>	
<i>BARO/35</i>	Barometric Pressure Transducer: range is 20.6 to 91.1 Hg
<i>BARO/RG/35</i>	Barometric Pressure Transducer: range is 20.6 to 91.1 Hg, using ring with sheath as ground
<i>BARO/1200</i>	Barometric Pressure Transducer: range is 750 to 1200 millibars
<i>BARO/RG/1200</i>	Barometric Pressure Transducer: range is 750 to 1200 millibars, using ring with sheath as ground
<i>CL/THEFT</i>	<p>Loop Current Device—for use in the Cable Theft Monitoring application. Designation for each Cable Section Locator (CSL) device installed on a dedicated monitoring pair. For the CableWATCH application each monitored cable sheath requires a Detection Pair and a Verification Pair. The Detection Pair has multiple (up to seven) CSL devices installed in parallel at spaced intervals. The Verification Pair includes one CSL at the end of the monitored cable.</p> <p>If someone cuts the cable, both pairs will go into alarm. The current loop reading on the Detection Pair will indicate an approximate location of the cut (between two CSL locations). The Verification Pair reading will confirm that a cut has occurred.</p>
<i>RH/100</i>	Relative Humidity Transducer: range is 0% to 100% RH
<i>TANK</i>	Tank Volume Transducer: range is 0 to 200 cubic feet
<i>EURO_TANK</i>	Tank Pressure Transducer (metric): range is 0 to 204 bars
<i>TEMP/167</i>	Temperature Transducer: range is 0 to 167 degrees in Fahrenheit
<i>TEMP/RG/167</i>	Temperature Transducer: range is 0 to 167 degrees in Fahrenheit, using ring with sheath as ground
<i>TEMP/75</i>	Temperature Transducer: range is 0 to 75 degrees in centigrade

## DATA ENTRY

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<i>TEMP/RG/75</i>	Temperature Transducer: range is 0 to 75 degrees in centigrade, using ring with sheath as ground
<i>WATER/20</i>	Water Level Transducer: range is 0 to 20.8 inches
<i>WATER/30</i>	Water Level Transducer: reads levels up to 30 feet above transducer

### 289H LSS Voltage Measurement Transducer Types

The 289H LSS has the ability to take either AC or DC voltage measurements on selected, dedicated cable conductors that are terminated on the 289H connector blocks. Measurements are made using either a tip or a ring conductor as one side of the pair with a sheath (ground) return.

PressureMAP Device Type VO designates the AC voltage measurement capability, while device type VD designates the DC voltage measurement capability. The Transducer Types listed below specify the appropriate reading output. Alarms and dispatch priorities are generated by PressureMAP for both voltage increases and decreases: by the amount designated in the **Chng** field of the device data screen when compared with a prior settled reading; or of 15% (and more) over or under the value in the **STD** field.

One of the two following designations must be entered for each VO Device Type:

<i>VAC/TG</i>	AC Voltage, Tip to Ground
<i>VAC/RG</i>	AC Voltage, Ring to Ground

For each VD Device Type, one of the two following TD Types must be entered:

<i>VDC/TG</i>	DC Voltage, Tip to Ground
<i>VDC/RG</i>	DC Voltage, Ring to Ground

The following Transducer Type is automatically entered by the PMAP editor for Device Type CV:

<i>VAC/300</i>	AC Voltage, Tip to Ring
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### 289H LSS Addressable Transducer Types

PressureMAP supports several types of addressable transducers for 289H LSS offices. Addressable transducers manufactured by System Studies Incorporated, which have since been discontinued, and Chatlos can be read with a 289H LSS monitor if it is equipped with one or more Addressable Monitoring Cards (AMC), or with one or more of the newer Universal Addressable Monitoring Cards (UAMC). These addressable transducers require a unique Device/Access Number format (described in the 289H Device Data section of this manual) and a descriptive designation in the **TD Type** data field. The following Transducer Types pertain to the High Resolution Addressable Transducers that were originally manufactured by System Studies Incorporated but have since been discontinued.

#### Flow—SCFH

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The designations in this group are used to indicate specific addressable flow transducer functions. The first character (*A*) is used by PressureMAP to distinguish among addressable, resistive and loop current devices. This character is followed by a *P* or *F*, which represents the monitoring function (pressure or flow). The numeric characters following the forward slash (/) represent the output of the device in Standard Cubic Feet per Hour for each flow range listed.

<i>AF/9.5</i>	289H Addressable Flow Transducer: 0–9.5 SCFH
<i>AF/19.0</i>	289H Addressable Flow Transducer, 0–19.0 SCFH
<i>AF/47.5</i>	289H Addressable Flow Transducer, 0–47.5 SCFH
<i>AF/95.0</i>	289H Addressable Flow Transducer, 0–95.0 SCFH
<i>AF/475.0</i>	289H Addressable Flow Transducer, 0–475.0 SCFH
<i>AF/950.0</i>	289H Addressable Flow Transducer, 0–950.0 SCFH

### **Flow—LPH**

The output of each of the following Transducer Type designations is displayed by PressureMAP as a flow reading in Liters per Hour.

<i>AF/270</i>	289H Addressable Flow Transducer, 0–270 LPH
<i>AF/540</i>	289H Addressable Flow Transducer, 0–540 LPH
<i>AF/1350</i>	289H Addressable Flow Transducer, 0–1350 LPH
<i>AF/2700</i>	289H Addressable Flow Transducer, 0–2700 LPH

### **Pressure—PSI**

<i>APA</i>	289H Addressable PSI Pressure Transducer, 0–15 PSI (absolute): This APA designation identifies the output of the addressable pressure transducer as a value in Pounds per Square Inch (PSI) between 0 and 15 PSI.
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### **Pressure—KPA**

<i>APA/KPA</i>	289H Addressable PSI Pressure Transducer, 0–100.0 KPA (absolute): The output of the this addressable pressure transducer is between 0 and 100 kilopascals (KPA).
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### **Dual—Pressure Side**

Addressable High Resolution Dual Transducers contain both a pressure sensor and a flow sensor. Each of these requires a unique Device/Access number and Transducer Type designation. Please note in the explanations below that the first part of the transducer designation identifies the type of addressable sensor—either pressure (APA) or flow(AF). The middle segment, where applicable, refers to an output value (KPA or 9.5, for example), and the last two characters (X2) indicate that the device is one of two sensors in a transducer housing.

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The following two designations are used to identify the pressure side of a System Studies Addressable Dual Transducer.

*APA/X2*                      289H Addressable Pressure/Flow Transducer, 0–15.0 PSI (absolute)

*APA/KPAX2*                      289H Addressable Pressure/Flow Transducer, 0–100.0 KPA (absolute)

### Dual—Flow Side

The designations below pertain to the flow component of an Addressable Dual Transducer. Designations identify output in either Standard Cubic Feet per Hour or Liters per Hour.

*AF/9.5X2*                      289H Addressable Pressure/Flow Transducer, 0–9.5 SCFH

*AF/19.0X2*                      289H Addressable Pressure/Flow Transducer, 0–19.0 SCFH

*AF/47.5X2*                      289H Addressable Pressure/Flow Transducer, 0–47.5 SCFH

*AF/95.0X2*                      289H Addressable Pressure/Flow Transducer, 0–95.0 SCFH

*AF/475.0X2*                      289H Addressable Pressure/Flow Transducer, 0–475.0 SCFH

*AF/950.0X2*                      289H Addressable Pressure/Flow Transducer, 0–950.0 SCFH

*AF/270X2*                      289H Addressable Pressure/Flow Transducer, 0–270 LPH

*AF/540X2*                      289H Addressable Pressure/Flow Transducer, 0–540 LPH

*AF/1350X2*                      289H Addressable Pressure/Flow Transducer, 0–1350 LPH

*AF/2700X2*                      89H Addressable Pressure/Flow Transducer, 0–2700 LPH

### Special Addressable Transducers

In addition to reading addressable pressure, flow and dual transducers, PressureMAP can also access data from the 289H LSS for both Addressable Barometric Pressure Transducers and Addressable Water Level Transducers. The following Transducer Types are used to identify these special function devices.

*ABARO/1200*                      289H Addressable Barometric Pressure Transducer, 750–1200 millibars

*ABARO/35*                      289H Addressable Barometric Pressure Transducer, 20.6–35.0 inches of Hg

*AWATER/30*                      289H Addressable Water Level Transducer, 0–30 feet

### Chatlos Addressable Transducer Types

The following designations pertain to Chatlos addressable pressure and flow transducers. In many ways the TD Types for these devices are similar to the ones described above for System Studies' addressable transducers. In the following examples, the first character (*A*) indicates that the device is an addressable transducer. The next character (*F* or *P*) describes what is being monitored (either flow or pressure). Following the forward slash (/), the character *C* indicates that the device is a Chatlos addressable.

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It is very important to use the correct TD Type for the type of device that is installed in the field, in order to obtain accurate readings. A *C* alone designates a device in a 2-bank addressable module, while *C5* identifies a 5-bank module, and *C10* is used for a 10-bank. The last characters identify the output (pressure or flow range) of the device in either U.S. or metric values.

### Flow—SCFH

<i>AF/C9.5</i>	Chatlos Addressable Flow Transducer, 0–9.5 SCFH
<i>AF/C5/9.5</i>	
<i>AF/C10/9.5</i>	
<i>AF/C19.0</i>	Chatlos Addressable Flow Transducer, 0–19.0 SCFH
<i>AF/C5/19.0</i>	
<i>AF/C10/19.0</i>	
<i>AF/C47.5</i>	Chatlos Addressable Flow Transducer, 0–47.5 SCFH
<i>AF/C5/47.5</i>	
<i>AF/C10/47.5</i>	
<i>AF/C50.0</i>	Chatlos Addressable Flow Transducer, 0–50.0 SCFH
<i>AF/C5/50.0</i>	
<i>AF/C10/50.0</i>	
<i>AF/C95.0</i>	Chatlos Addressable Flow Transducer, 0–95.0 SCFH
<i>AF/C5/95.0</i>	
<i>AF/C10/95.0</i>	
<i>AF/C100.0</i>	Chatlos Addressable Flow Transducer, 0–100.0 SCFH
<i>AF/C5/100.0</i>	
<i>AF/C10/100.0</i>	
<b>Flow—LPH</b>	
<i>AF/C270</i>	Chatlos Addressable Flow Transducer, 0–270 LPH
<i>AF/C5/270</i>	
<i>AF/C10/270</i>	
<i>AF/C540</i>	Chatlos Addressable Flow Transducer, 0–540 LPH
<i>AF/C5/540</i>	
<i>AF/C10/540</i>	
<i>AF/C1350</i>	Chatlos Addressable Flow Transducer, 0–1350 LPH
<i>AF/C5/1350</i>	
<i>AF/C10/1350</i>	
<i>AF/C1420</i>	Chatlos Addressable Flow Transducer 0–1420 LPH
<i>AF/C5/1420</i>	
<i>AF/C10/1420</i>	
<i>AF/C2700</i>	Chatlos Addressable Flow Transducer, 0–2700 LPH
<i>AF/C5/2700</i>	
<i>AF/C10/2700</i>	

## DATA ENTRY

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*AF/C2830* Chatlos Addressable Flow Transducer, 0–2830 LPH  
*AF/C5/2830*  
*AF/C10/2830*

### **Pressure—PSI**

*AP/C* Chatlos Addressable PSI Pressure Transducer  
*AP/C5*  
*AP/C10*

*AP/CH-PSI* Chatlos Addressable PSI High Pressure Transducer  
*AP/C5/H-PSI*

### **Pressure—KPA**

*AP/C-KPA* Chatlos Addressable KPA Pressure Transducer  
*AP/C5/KPA*

*AP/CH-KPA* Chatlos Addressable KPA High Pressure Transducer  
*AP/C5/H-KPA*

## **UAMC Addressable Transducer Types**

Effective with Version 23, PressureMAP—working with a UAMC-equipped 289H monitor—supports addressable pressure transducers manufactured by Lancier, Nicotra, Inelcom, and Microsol, and Sparton pressure and flow transducers. In the **TD Type** coding for these devices, the first character (*A*) indicates that the device is addressable. The next character (*P* or *F*) specifies whether pressure or flow is being monitored. The letter code following the forward slash (/) further identifies the type of device by its manufacturer. Sparton TD types also specify the measurement range of the device.

The pressure transducers' counts in mbars are converted to PSI or KPA, according to the units specified in PressureMAP's Office Information.

## **Sparton Addressable Transducer Types**

### **Pressure—PSI**

*AP/S730* Sparton Addressable mbar Pressure Transducer, 0–10 PSI

*AP/S734* Sparton Addressable mbar Pressure Transducer, 0–14.5 PSI

### **Flow—SCFH**

The Sparton flow transducers' counts are converted to the appropriate SCFH reading, according to the measurement range entered in PressureMAP device data.

*AF/S9.5* Sparton Addressable SCFH Flow Transducer, 0–9.5 SCFH

*AF/S10* Sparton Addressable SCFH Flow Transducer, 0–10 SCFH

*AF/S19* Sparton Addressable SCFH Flow Transducer, 0–19 SCFH

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<i>AF/S20</i>	Sparton Addressable SCFH Flow Transducer, 0–20 SCFH
<i>AF/S47.5</i>	Sparton Addressable SCFH Flow Transducer, 0–47.5 SCFH
<i>AF/S50</i>	Sparton Addressable SCFH Flow Transducer, 0–50 SCFH
<i>AF/S95</i>	Sparton Addressable SCFH Flow Transducer, 0–95 SCFH
<i>AF/S100</i>	Sparton Addressable SCFH Flow Transducer, 0–100 SCFH
<i>AF/S500</i>	Sparton Addressable SCFH Flow Transducer, 0–500 SCFH

### **Flow—LPH**

<i>AF/S270</i>	Sparton Addressable LPH Flow Transducer, 0–270 LPH
<i>AF/S280</i>	Sparton Addressable LPH Flow Transducer, 0–280 LPH
<i>AF/S540</i>	Sparton Addressable LPH Flow Transducer, 0–540 LPH
<i>AF/S570</i>	Sparton Addressable LPH Flow Transducer, 0–570 LPH
<i>AF/S1350</i>	Sparton Addressable LPH Flow Transducer, 0–1350 LPH
<i>AF/S1420</i>	Sparton Addressable LPH Flow Transducer, 0–1420 LPH
<i>AF/S2700</i>	Sparton Addressable LPH Flow Transducer, 0–2700 LPH
<i>AF/S2830</i>	Sparton Addressable LPH Flow Transducer, 0–2830 LPH
<i>AF/S14200</i>	Sparton Addressable LPH Flow Transducer, 0–14200 LPH

### **Addressable Transducer Types (Other Vendors)**

<i>AP/I</i>	Inelcom Addressable mbar Pressure Transducer
<i>AP/L</i>	Lancier Addressable mbar Pressure Transducer
<i>AP/M</i>	Microsol Addressable mbar Pressure Transducer
<i>AP/N</i>	Nicotra Addressable mbar Pressure Transducer

### **Dial-a-Ducer Transducer Types**

The Dial-a-Ducer's internal sensors output in loop current, with the default TD Type being DF/9.5. Listed below are the Transducer Type codes for the Dial-a-Ducer and an explanation of their usage. These codes are entered into the **TD Type** field of the data entry screen.

### **Flow—SCFH**

<i>DF/9.5</i>	Flow transducer using a Flow Finder with the range of 0-9.5 SCFH.
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## DATA ENTRY

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*DF/19.0* Flow transducer using a Flow Finder with the range of 0-19.0 SCFH.  
*DF/47.5* Flow transducer using a Flow Finder with the range of 0-47.5 SCFH.  
*DF/95.0* Flow transducer using a Flow Finder with the range of 0-95.0 SCFH.  
*DF/475.0* Flow transducer using a Flow Finder with the range of 0-475.0 SCFH.  
*DF/950.0* Flow transducer using a Flow Finder with the range of 0-950.0 SCFH.

### **Flow—LPH**

*DF/270* Flow transducer using a Flow Finder with the range of 0-270 LPH.  
*DF/540* Flow transducer using a Flow Finder with the range of 0-540 LPH.  
*DF/1350* Flow transducer using a Flow Finder with the range of 0-1350 LPH.  
*DF/2700* Flow transducer using a Flow Finder with the range of 0-2700 LPH.  
*DF/13500* Flow transducer using a Flow Finder with the range of 0-13500 LPH.  
*DF/27000* Flow transducer using a Flow Finder with the range of 0-27000 LPH.

### **Pressure—PSI**

*DP/15.0* A 0-15.0 PSI gauge pressure transducer; it does not require barometric compensation.

### **Pressure—KPA**

*DP/100.0* A 0-100.0 KPA gauge pressure transducer; it does not require barometric compensation.

### **Other Applications**

*DT/167* Temperature transducer. Please note that temperature readings cannot be accessed via digital pagers due to inconsistencies in the number of characters displayed.

*DI* Digital input; supports the following values:  
0x0 -> Logical 0 (Contact Alarm reading: OK)  
0xF -> Logical 1 (Contact Alarm reading: ALRM)

### **uM260 Micro Monitor Transducer Types**

Most of the Transducer Types that can be programmed into the uM260 Micro Monitor are also used with other monitor types. They include resistive pressure and flow devices, current loop pressure and flow devices, and some special-application contact alarms.

### **Flow- SCFH**

*CF/9.5* Current loop flow transducer, 0-9.5 SCFH  
*CF/19.0* Current loop flow transducer, 0-19.0 SCFH

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CF/47.5	Current loop flow transducer, 0-47.5 SCFH
CF/95.0	Current loop flow transducer, 0-95.0 SCFH
CF/190	Current loop flow transducer, 0-190 SCFH (supports System Studies' digital panels)
CF/475.0	Current loop flow transducer, 0-475.0 SCFH; two dispatch alarm conditions: an increase of 100 SCFH or 200 SCFH in a 24-hour period generates a four star alarm
CF/950.0	Current loop flow transducer, 0-950.0 SCFH; two dispatch alarm conditions: an increase of 100 SCFH or 200 SCFH in a 24-hour period generates a four star alarm
RF/9.5	Resistive flow transducer, 0-9.5 SCFH
RF/19	Resistive flow transducer, 0-19.0 SCFH
RF/47.5	Resistive flow transducer, 0-47.5 SCFH
RF/95	Resistive flow transducer, 0-95.0 SCFH
RF/190	Resistive flow transducer, 0-190 SCFH
RF/20	Resistive flow transducer, 0-20 SCFH
RF/50	Resistive flow transducer, 0-50 SCFH
RF/100	Resistive flow transducer, 0-100 SCFH
RF/200	Resistive flow transducer, 0-200 SCFH
<b>Pressure- PSI</b>	
BARO	Barometric pressure transducer, range 20.6 to 91.1 inches of Hg
CPA/30.0	Current loop pressure transducer, 0-30.0 PSI (absolute)
RP(9.5)	Resistive pressure transducer, 0-9.5 PSI
RP/HP-PSI	High range pressure transducer with a reading output of 5 to 14.5 PSI. This Transducer Type does not require a PSI offset to be entered in the device data screen.
<b>Contact Alarms</b>	
540/270	Contact Alarm (540 / 270k ohms)
AC/115	Contact alarm for measuring 115V AC—540k ohm reading: OK; 270k ohm reading: Alarm
CL/THEFT	Loop Current Device—for use in the Cable Theft Monitoring application. Designation

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for each Cable Section Locator (CSL) device installed on a dedicated monitoring pair. For the CableWATCH application each monitored cable sheath requires a Detection Pair and a Verification Pair. The Detection Pair has multiple (up to seven) CSL devices installed in parallel at spaced intervals. The Verification Pair includes one CSL at the end of the monitored cable.

If someone cuts the cable, both pairs will go into alarm. The current loop reading on the Detection Pair will indicate an approximate location of the cut (between two CSL locations). The Verification Pair reading will confirm that a cut has occurred.

CPAMS_TD	Standard resistive contact alarm
DRYER	Contact alarm for measuring 115V AC—540k ohm reading: OK; 270k ohm reading: Alarm
RR/540K	Contact alarm—540K ohms: OK; short reading: Alarm