SECTION N
ANALOG PRESSURE METERS

ANALOG PRESSURE METER - APM1

Analog Pressure Meter APM1 provides all the necessary logic and parameters to take the selected Analog Input's data and process it into a conditioned value scaled into psi and tenths of psi.

The 4-20mA signal from the Pressure Input (typically a Pressure Transducer) must be connected to one of the Analog Inputs on the Controller. The Analog Input must be setup so that its data is sent to Analog Pressure Meter APM1. To do this, the Analog Input selected for this task must have its Analog Input Setup parameter set for Function 6. See Parameters F.299 - F.308 in Section C. The value of the selected Analog Input in its unscaled form is displayed on Parameter Pd.11.

The logic in the Pressure Meter takes the value from Parameter Pd.11 and scales it to the Pressure Input Span (Parameter P.572). The finished value, scaled into psi and tenths of psi, is then made available to be viewed from Parameter Pd.12.

The Pressure Input Span (Parameter P.572) must be set to the Pressure Transducer's calibrated Span, which is the measured pressure in psi that corresponds to a 20mA output from the Pressure Transducer.

The Signal Conditioning Control (Parameter P.573) determines the speed at which the values displayed on Pressure Meter APM1 may change in response to a change in the analog input signal. This is used to filter out sudden changes in the analog pressure input.

Parameter	Default Value	Current Value	Register Address	Description of Parameters and SCADA Notes
User / Operator Info.			**SCADA**	
Analog Pressure Meter APM1 - Setup				
P.571	1		40571	Analog Pressure Meter APM1 - Pressure Meter Mode 0 = Pressure Meter Disabled 1 = Pressure Meter Enabled
P.572	100.0 psi		40572	Analog Pressure Meter APM1 - Pressure Input Span Range: 1.0 - 6,000.0 psi Note: This must be set for the Span (in psi) that the Pressure Transducer is calibrated for. This sets the displayed value with a 20mA input from the Pressure Transducer
P.573	240		40573	Analog Pressure Meter APM1 - Signal Conditioning Control Range: 1 - 254 100 = Slow 240 = Normal 250 = Fast Note: This parameter controls the signal conditioning of Analog Pressure Meter APM1
Analog Pressure Meter APM1 - Data				
Pd.11	-	-	42221	Analog Pressure Meter APM1 - Analog Pressure Input Notes: 1. Parameter Pd.11 shows the unscaled value from the Analog Input selected as the Analog Pressure Input for APM1. It has a range of: 819 @ 4.0mA & 4,095 @ 20mA. 2. The selected Analog Input must have its Analog Input Function parameter set for Function 6.
Pd.12	-	-	42222	Analog Pressure Meter APM1 - Scaled into psi and 1/10 psi.

ANALOG PRESSURE METER - APM2

Analog Pressure Meter APM2 provides all the necessary logic and parameters to take the selected Analog Input's data and process it into a conditioned value scaled into psi and tenths of psi.

The 4-20mA signal from the Pressure Input (typically a Pressure Transducer) must be connected to one of the Analog Inputs on the Controller. The Analog Input must be setup so that its data is sent to Analog Pressure Meter APM2. To do this, the Analog Input selected for this task must have its Analog Input Setup parameter set for Function 7. See Parameters F.299 - F.308 in Section C. The value of the selected Analog Input in its unscaled form is displayed on Parameter Pd.21.

The logic in the Pressure Meter takes the value from Parameter Pd.21 and scales it to the Pressure Input Span (Parameter P.576). The finished value, scaled into psi and tenths of psi, is then made available to be viewed from Parameter Pd.22.

The Pressure Input Span (Parameter P.576) must be set to the Pressure Transducer's calibrated Span, which is the measured pressure in psi that corresponds to a 20mA output from the Pressure Transducer.

The Signal Conditioning Control (Parameter P.577) determines the speed at which the values displayed on Pressure Meter APM2 may change in response to a change in the analog input signal. This is used to filter out sudden changes in the analog pressure input.

Parameter	Default Value	Current Value	Register Address	Description of Parameters and SCADA Notes
User / Operator Info.			**SCADA**	
Analog Pressure Meter APM2 - Setup				
P.575	1		40575	Analog Pressure Meter APM2 - Pressure Meter Mode 0 = Pressure Meter Disabled 1 = Pressure Meter Enabled
P.576	100.0 psi		40576	Analog Pressure Meter APM2 - Pressure Input Span Range: 1.0 - 6,000.0 psi Note: This must be set for the Span (in psi) that the Pressure Transducer is calibrated for. This sets the displayed value with a 20mA input from the Pressure Transducer
P.577	240		40577	Analog Pressure Meter APM2 - Signal Conditioning Control Range: 1 - 254 100 = Slow 240 = Normal 250 = Fast Note: This parameter controls the signal conditioning of Analog Pressure Meter APM2
Analog Pressure Meter APM2 - Data				
Pd.21	-	-	42223	Analog Pressure Meter APM2 - Analog Pressure Input Notes: 1. Parameter Pd.21 shows the unscaled value from the Analog Input selected as the Analog Pressure Input for APM2. It has a range of: 819 @ 4.0mA & 4,095 @ 20mA. 2. The selected Analog Input must have its Analog Input Function parameter set for Function 7.
Pd.22	-	-	42224	Analog Pressure Meter APM2 - Scaled into psi and 1/10 psi.

ANALOG PRESSURE INPUT EXAMPLES

Non-Isolated - Using the 24 VDC Power Supply on the SC5000
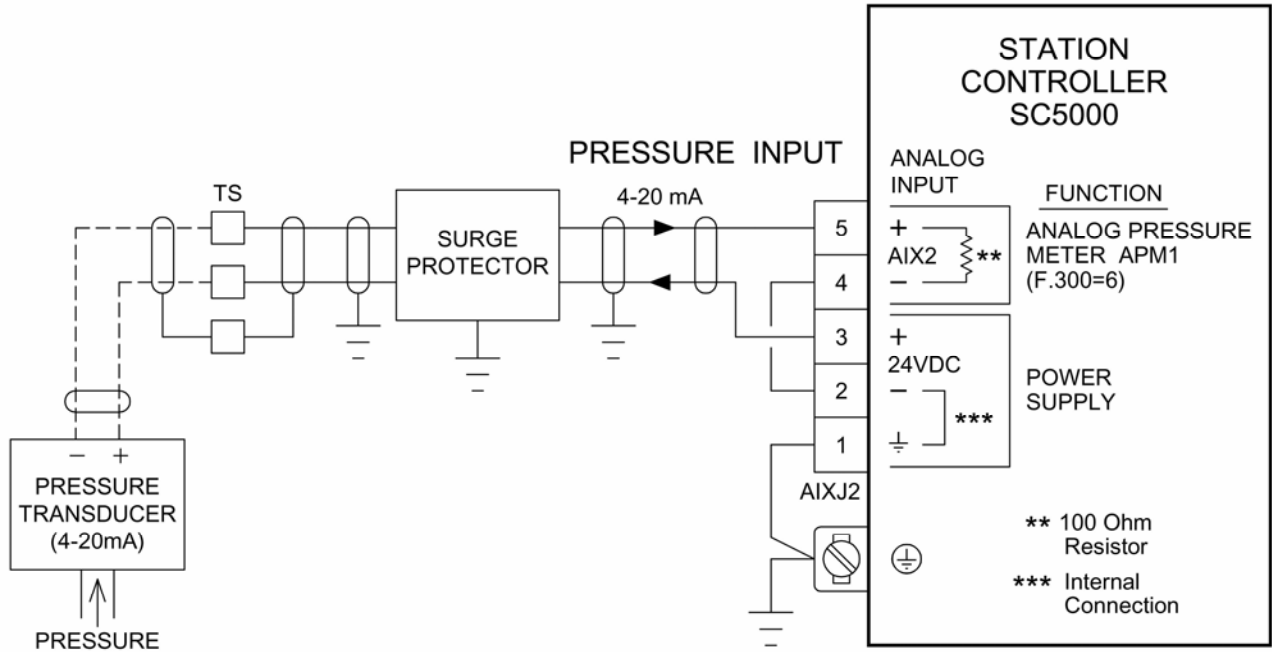
Isolated - Using an External 24 VDC Power Supply
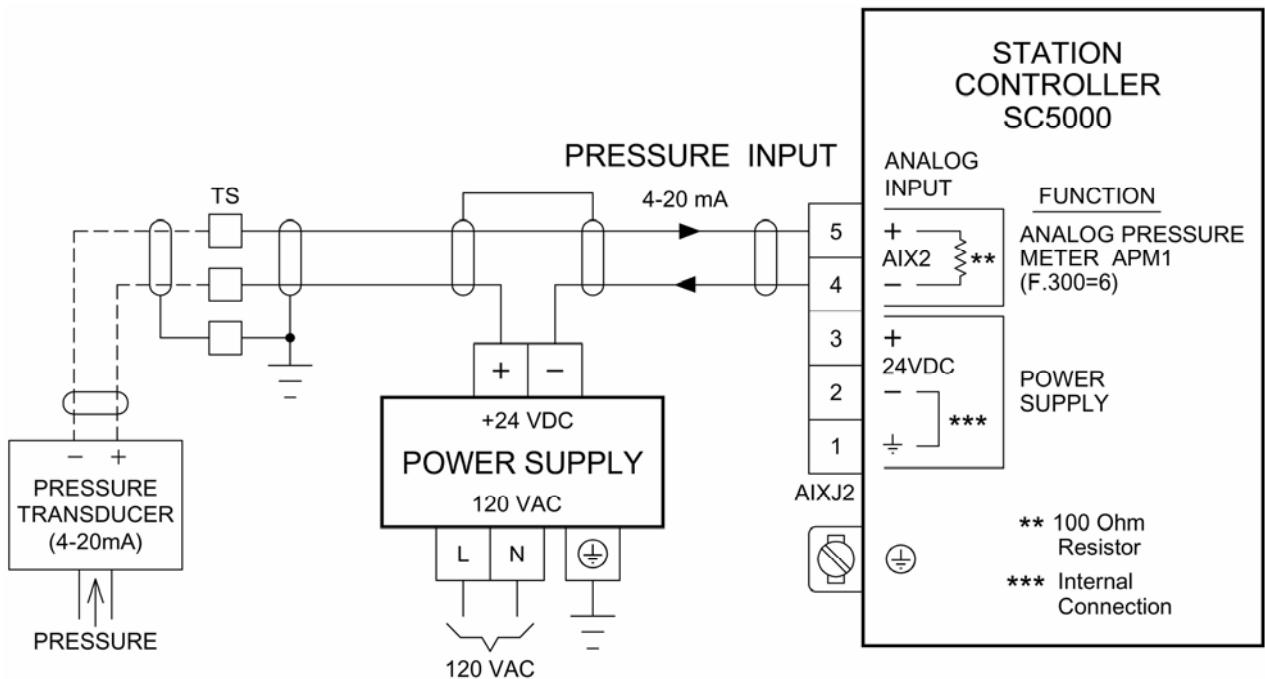
Notes:

1. All the Analog Inputs on the SC5000 are isolated from the SC5000's Power Supply ground and may be connected to remote devices that are at different ground potentials. However, if Isolation must be maintained an external Power Supply must be used.

2. The SC5000's 24 VDC Power Supply Commons (-), on AIXJ1 pin 2 and AIXJ2 pin 2, are internally connected to ground (not isolated from ground) and should not be used in cases where isolation of the 4-20mA signal must be maintained.

ANALOG PRESSURE METER SETUP - APM1

Previous Screen

Analog Pressure Meter APM1

1,234.5 psi

Parameter: Pd.12

Analog Pressure Input

Analog Input Range:
819 @ 4.0mA
4095 @ 20mA

1234

Parameter: Pd.11

Pressure Meter Mode

1   0 = Pressure Meter Disabled
1 = Pressure Meter Enabled

Parameter: P.571

Pressure Input Span

1234.5 psi

Parameter: P.572

Signal Conditioning Control

123   100 = Slow
240 = Normal
250 = Fast

Parameter: P.573

The Analog Input used to provide the Analog Pressure Input must have its Analog Input Setup parameter set for Function 6, in order to be connected to the Analog Pressure Meter APM1.

ANALOG PRESSURE METER SETUP - APM2

Previous Screen

Analog Pressure Meter APM2

1,234.5 psi

Parameter: Pd.22

Analog Pressure Input

Analog Input Range:
819 @ 4.0mA
4095 @ 20mA

1234

Parameter: Pd.21

Pressure Meter Mode

1   0 = Pressure Meter Disabled
1 = Pressure Meter Enabled

Parameter: P.575

Pressure Input Span

1234.5 psi

Parameter: P.576

Signal Conditioning Control

123   100 = Slow
240 = Normal
250 = Fast

Parameter: P.577

The Analog Input used to provide the Analog Pressure Input must have its Analog Input Setup parameter set for Function 7, in order to be connected to the Analog Pressure Meter APM2.