

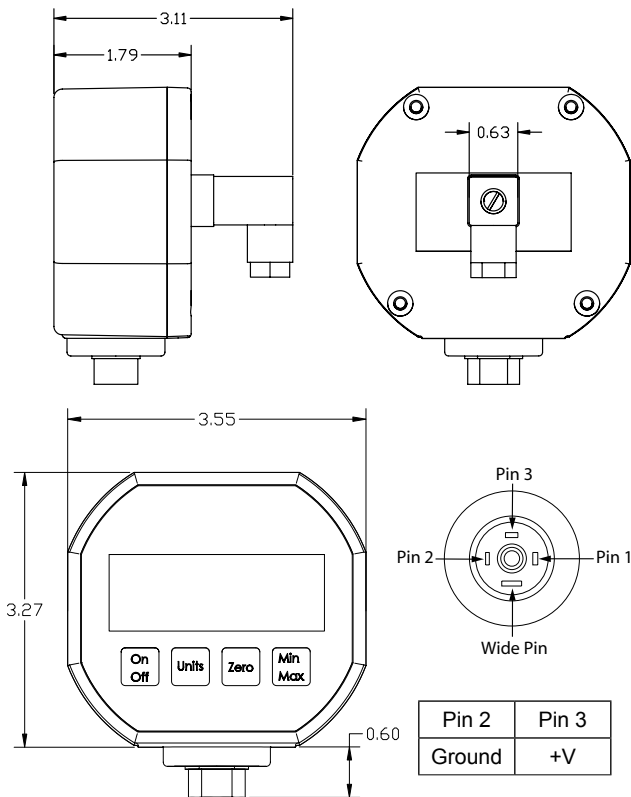
AccuGauge AG200



Media Isolated 4-20mA Loop-Powered Digital Pressure Gauge



The **AG200** is a media-isolated, digital pressure gauge that offers a 4-20mA output signal with a large LCD display. Utilizing **Krystal Bond™ Technology**, the **AG200** provides the same quality and performance as AST's sensors, with a local readout. The **AG200** also has the option of zero and span calibration, allowing the user to reset the gauge, or adjust the calibration points to their exact needs.



Performance @ 25°C (77°F)

Pressure Range	A number of preset ranges are available
Measurement Units*	PSI, BAR, kg/cm, ATM, InH2O, InHg, mAmps
Accuracy**	<±0.5% BFSL (includes Non-linearity, Hysteresis and Non-repeatability)
Stability (1 year)	±0.25% FS (typical)
Over Range Protection	2X Rated Pressure
Burst Pressure	5X or 20,000 PSI whichever is less
Pressure Cycles	>100 Million

Environmental Data

Temperature

Media	-55 to 125°C (-67 to 257°F)
Operating (Ambient)	-10°C to 70°C (14°F to 158°F)
Storage	-40°C to 65°C (-40°F to 149°F)

Thermal Limits

Compensated Range	0°C to 55°C (32°F to 131°F)
TC Zero	<±1.5% of FS (<+/- 3.0% for 0-25 PSI)
TC Span	<±1.5% of FS

Specifications

Loop Current Update	32 times per Second
Display Update Rate	3 times per second
Power	7.5 to 32VDC
Output	4-20mA loop powered
Reverse Polarity	Yes

Ordering Information

AG200 A 00100 P 4 E 0 000

Series Type

A=1/4" NPT Male
J= 1/8" NPT Female

Pressure range

Insert 5-digit pressure range code

Pressure Unit

P=PSI

Outputs

4=4-20mA (loop powered)

Electrical

E=Mini DIN 43650 (mate included)

Wetted Material

0=17-4

Options

Pressure Ranges

Gage PSIG	Pressure Range Code
0-50	00050
0-100	00100
0-250	00250
0-500	00500
0-1000	01000



AG200 Operating Instructions

Loop Voltage

Select a loop power supply voltage and total loop resistance so that when the loop current is 20 mA, the gauge will have at least 7.5 VDC at its terminals. Too large a loop resistance will cause the gauge output to "limit" or saturate before reaching its full 20 mA output.

The minimum loop supply voltage may be calculated from the formula:

$$V_{min} = 7.5V + (20mA \times \text{Total loop resistance}).$$

If the loop voltage drops too low, the AG200 will display the **LOW LOOP** icon. When the **LOW LOOP** icon is displayed, all calibration functions, described below, are disabled.

Normal Operation

Under normal operation the AG200 displays the pressure in the selected units and outputs 4mA to 20mA current proportional to the pressure. The AG200 outputs 4mA for zero or low end pressure, and 20mA for full scale or high end pressure. If the pressure reading goes outside the specified range, the AG200 will output as low as 3.5mA or as high as 24mA loop current.

Press the **UNITS** button to change the displayed units. The AG200 displays PSI, bar, Atm, Kg/cm², InHg, InH₂O and mA loop current. The **UNITS** button does not affect the current output.

Generating a Test Current

When the **TEST** button is held depressed, the display and loop current are switched to a test level. This test mode will allow setup and testing of the current loop by switching to this test level whenever desired without having to alter the system pressure. To change the test output level, press the **CALIB** button, while the **TEST** button is depressed. Each time the **CALIB** button is pressed, the test level current increases by 2mA.

Zero Pressure Calibration

The gauge port must be open with no pressure or vacuum applied. Press the **ZERO** and **CALIB** buttons together for about 3 seconds to zero the unit. The buttons can be released when the gauge shows a zero pressure reading. Note: It is best to perform this step when pressure units (not mA) are shown on the display. The zero calibration is retained after the unit is turned off.

Span Pressure Calibration

Span calibration should only be attempted if the user has access to a pressure reference of known accuracy. The calibration equipment should be at least four times the gauge accuracy. Zero calibration must be done before span calibration. To perform span perform the following steps:

1. Choose the calibration units by using the **UNITS** button.
2. Hold the **CALIB** button for about 3 seconds.
3. The display will alternate between CAL and the required calibration pressure. For instance, if the unit needs to be calibrated at 500 PSI, the display will show:
CAL then 500
4. Connect the unit to a pressure source and apply the pressure indicated on the display.
5. Press and hold the **CALIB** button for about 3 seconds to complete the calibration. If the calibration is successful, the display will show:

DONE

If there is an error, the display will show:

ERR

An error condition will occur if the user tries to calibrate the unit beyond +/- 10% of the factory calibration.

• To cancel the calibration at any point during the procedure, press and release the **CALIB** button.

• Factory calibration can be restored by entering the calibration state, as described in step 2, then holding the **ZERO** button for about 3 seconds. The unit will display:

FAC

to indicate that factory calibration has been restored.

Current Output Calibration

The AG200 has been set at the factory to be in agreement between the displayed value and the 4-20mA loop current. These settings should not normally be adjusted. If adjustment is necessary, perform the following steps:

1. Choose the mA display units, using the **UNITS** button.
2. Connect the loop to an accurate current measurement device.
3. Hold the **CALIB** button for about 3 seconds.
4. The display will alternate between CAL and 4.00mA:
CAL then 4.00
the loop current will be set to 4.00mA.
5. Use the **TEST** button to decrease the output loop current by 0.01mA. Use the **UNITS** button to increase the output loop. Note that even though the output loop current will change, the display will not.
6. To accept the calibration at 4.00mA, press and hold the **CALIB** button for about 3 seconds, until the display changes, as described in step 7. You can also cancel any changes you made, by pressing and releasing the **CALIB** button.
7. The display will now alternate between CAL and 20.00mA:

CAL then 20.00

the loop current will be set to 20.00mA.

8. Again, use the **TEST** button to decrease the output loop current by 0.01mA. Use the **UNITS** button to increase the output loop current by 0.01mA. Note that even though the output loop current will change, the display will not.

9. To accept the calibration at 20.00mA, press and hold the **CALIB** button for about 3 seconds, until the display shows:

DONE

You can also cancel any calibration changes you made, by pressing and releasing the **CALIB** button.

Factory calibration of the loop current can be restored by entering the loop current calibration state, as described in step 3, then holding the **ZERO** button for about 3 seconds. The unit will display:

FAC

to indicate that factory calibration has been restored.

Warranty

Workmanship - AST, Inc. pressure transmitters have a limited one-year warranty to the original purchaser. AST, Inc. will replace or repair, free of charge, any defective transmitter. This warranty does not apply to any units that have been modified; misused, neglected or installed where the application exceeds published ratings. AST's sensors are made with pride in New Jersey, USA. If in the area please feel free to stop by for a visit!

Installation/Applications - The purchaser is responsible for media compatibility, functional adequacy, and correct installation of the transmitter.