

## Data Sheet



LR056 Pressure  
Transducer Display

# Model LR056 Transducer Display

Pressure

## Accurate, Miniature Displays for Point-of-Use Pressure Monitoring

### Overview

Local display of process pressure improves safety and quality control of gas delivery systems. The LR056 allows a sensor to digitally display its pressure and send its signal to a final destination. The sensor, such as the Brooks® SolidSense II® pressure transducer, connects to the back of the LR056 with a 4-pin Bendix® connector. The LR056 connects to the loop through a pigtail cable and offers a real-time reading. The LR056 has two user-programmable setpoints that define a window; if the window is entered or left, an output signal is generated.

### Product Features

- Local indication of process pressure measurement
- 4-digit LED display in durable metal enclosure
- Available to display pressure measurement in psia, psig, bar, kg/cm<sup>2</sup>, or Mpa
- Setpoint indication and contact switching available
- Password protected
- CE (EN 61326) compliant
- Programmable via up and down switches
- Point-of-use monitoring
- Extremely accurate reading with outstanding noise immunity
- Low-power electronics
- Ease of use and installation

### Applications

Gas delivery systems and tools including:

- Gas cabinets
- Gas panels
- Bulk gas

## Product Specifications

|                      |               |
|----------------------|---------------|
| <b>Analog Signal</b> | <b>LR056</b>  |
| 2-Wire System        | 4 - 20 mA     |
| 3-Wire System        | 0.05 - 5.05 V |

### Supply

|               |                                                                                                                                                                            |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2-Wire System | Supplied by current loop; voltage drop $\leq 6$ V; $V_S = (V_{Tmin} \dots V_{Tmax}) + 6V_{DC}$ with $V_T$ = supply of the used transmitter                                 |
| 3-Wire System | Display is supplied parallel with transmitter $V_{Smin} = 12 V_{DC} \dots V_{Tmin}$ ;<br>$V_{Smax} = V_{Tmax} \dots 30 V_{DC}$ with $V_T$ = supply of the used transmitter |

### Contact

|                            |                                                                         |
|----------------------------|-------------------------------------------------------------------------|
| Number, Type               | Two independent optocoupler outputs                                     |
| Max. Switching Type        | $I_{max} = 50$ mA ( $R_{min} = 450 \Omega @ 24 V_{DC}$ ) resistive load |
| Max. Switching Performance | $P_{max} = 200$ mW                                                      |
| Repeatability              | $\leq \pm 0.1\%$ FSO                                                    |
| Switching Frequency        | Max. 5 Hz                                                               |
| Switching Cycles           | $> 100 \times 10^6$                                                     |
| Delay Time                 | 0 - 100 sec                                                             |

### Electrical Protection

|                               |                                             |
|-------------------------------|---------------------------------------------|
| Short-circuit Protection      | Permanent                                   |
| Reverse Polarity Protection   | No damage, but also no function             |
| Electromagnetic Compatibility | Emission and immunity according to EN 61326 |

### Mechanical Stability

|           |                         |
|-----------|-------------------------|
| Vibration | 10 g RMS (20 - 2000 Hz) |
| Shock     | 100 g/11 msec           |

### Materials

|                 |                          |
|-----------------|--------------------------|
| Display Housing | Aluminum, black anodized |
|-----------------|--------------------------|

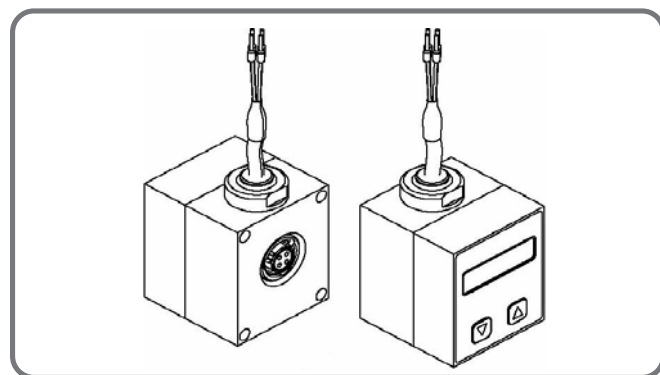
### Display

|                             |                                                                              |
|-----------------------------|------------------------------------------------------------------------------|
| Type                        | 4-digit, red LED display, digit height 7 mm, digit width 4.85 mm (angle 10°) |
| Range                       | -1999 to +9999 (Automatic indication of minus for negative values)           |
| Accuracy                    | $0.1\% \pm 1$ digit                                                          |
| Temperature and Coefficient | 0.01% FS/°C                                                                  |
| Digital Damping             | 0.4 - 30 sec (programmable)                                                  |
| Measured Value Update       | 0.2 - 10 sec (programmable)                                                  |

### Miscellaneous

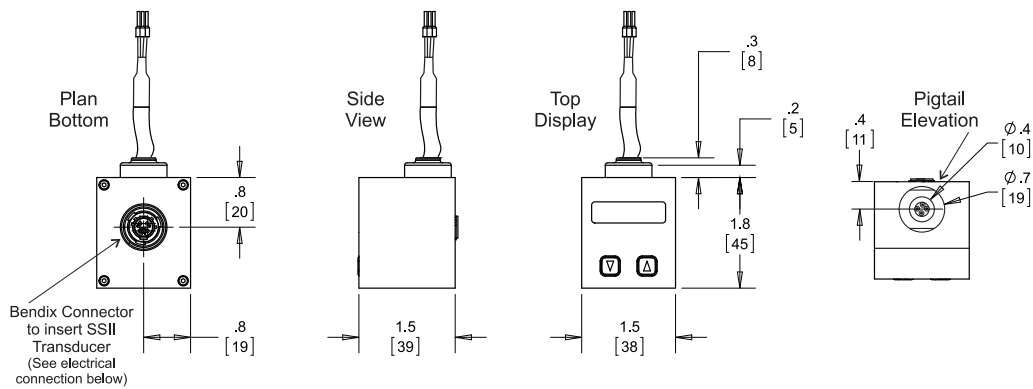
|                         |                                                                                       |
|-------------------------|---------------------------------------------------------------------------------------|
| Permissible Temperature | Electronics: Environment: -25 - 85°C (-13 - 185°F); Storage: -40 - 85°C (-40 - 185°F) |
| Cable Length            | Standard: 2 m                                                                         |
| Weight                  | Approx. 200 g / .44 lbs                                                               |
| Data Memory             | Non-volatile EEPROM                                                                   |

## Product Design

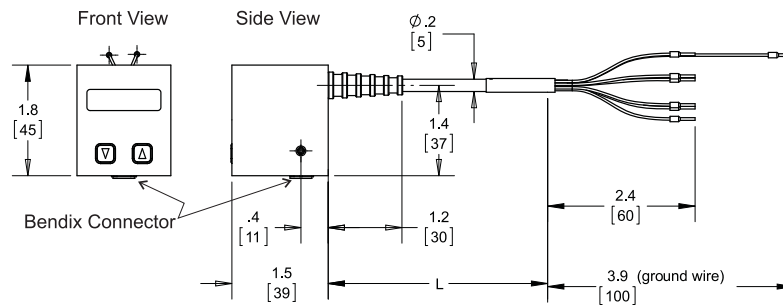


## Product Dimensions

### Top Display Orientation Versions

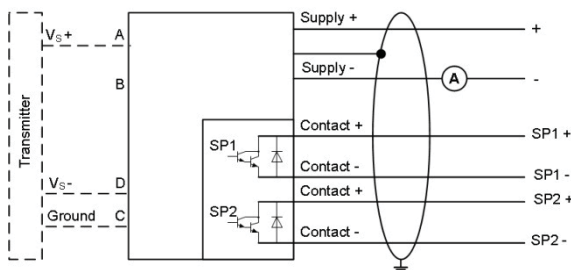


### Side Display Orientation Versions

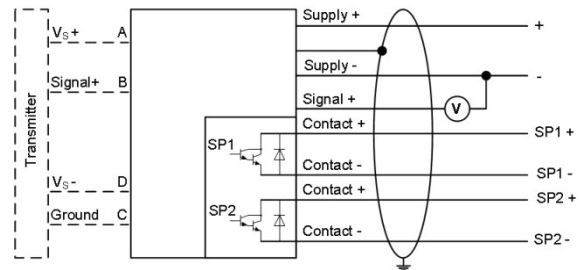


## Wiring Diagrams

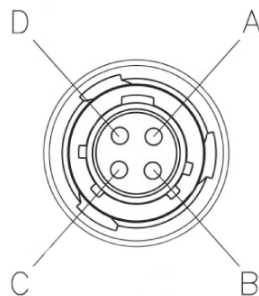
### 2-Wire System (Current)



### 3-Wire System (Voltage)



## Electrical Connections



MIL- / Bendix - plug  
PT06A8-4S

## Pin Configurations

### Sensor-Sided Input: MIL-/Bendix Connection (4-Pin)

|                       |   |
|-----------------------|---|
| Supply +              | A |
| Supply -              | D |
| Signal + (for 3-wire) | B |
| Ground                | C |

### Cable-Sided Output: 6-Wire Cable (2-wire system), 7-wire cable (3-wire system), top mounted (cable colors DIN 47100)

|                       |                       |
|-----------------------|-----------------------|
| Supply +              | Red                   |
| Supply -              | Black                 |
| Signal + (for 3-wire) | Green                 |
| SP 1 +                | Blue                  |
| SP 2 +                | Yellow                |
| SP 1 -                | White                 |
| SP 2 -                | Brown                 |
| Ground                | Yellow/Green (shield) |

## Model Code

| Code Description           | Code Option  | Option Description                  |
|----------------------------|--------------|-------------------------------------|
| I. Base Model Number       | <b>LR056</b> | Pressure Transducer Digital Display |
| II. Setpoint Configuration | <b>0</b>     | None                                |
|                            | <b>1</b>     | 1                                   |
|                            | <b>2</b>     | 2                                   |
| III. Configuration         | <b>Z</b>     | By Customer                         |
| IV. Display Orientation    | <b>1</b>     | Top                                 |
|                            | <b>2</b>     | Side                                |
| V. External Connector      | <b>1</b>     | 2 m pigtail                         |
| VI. Input                  | <b>1</b>     | 4 -20 mA                            |
|                            | <b>2</b>     | 0.05 - 5.0 V                        |

### Sample Standard Model Code

| I            | II       | III      | IV       | V        | VI       |
|--------------|----------|----------|----------|----------|----------|
| <b>LR056</b> | <b>1</b> | <b>Z</b> | <b>1</b> | <b>1</b> | <b>1</b> |

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