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KISTLER
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Piezoresistive Pressure Sensors

Type 4260A...
4262A...

for Automotive R&D, Test Applications

A versatile high performance pressure sensor that will operate in harsh test environments where temperature extremes, high vibration and shock levels are present.

- Pressure ranges from –1 … 350 bar
- 0,05 % FS accuracy
- 0,1 % FS stability per year
- Temperature compensated –40 … 120 °C
- 300 % proof pressure
- Fast response time
- mV, V and mA electrical output options
- Many voltage output options, 1 … 5, 0,5 … 4,5, 0 … 10 etc.. (3 and 4-wire)
- Intrinsically Safe

Applications

Type 4260/62A… series from Kistler is well suited for demanding pressure applications in the R&D, engine test, road test, component test and other test applications supporting the automotive, aerospace and industrial markets.

Engine and powertrain test
- Engine oil and coolant pressures
- Engine fuel
- Inlet and exhaust pressures
- Barometric pressure
- Transmission pressures

On vehicle test
- Engine oil and coolant pressures
- Engine fuel
- Air conditioning
- Brakes and hydraulics
- Inlet and exhaust pressures

Component and sub-system testing
- Auxiliary power units
- Air conditioning systems
- Fuel, water and oil pumps
- Suspension systems
- ABS test stands
- High pressure fuel control systems
- Flight test
- Leak testing

CE Compliant Information

EMC compliant to EN61326-1:2001/A1/A2 industrial locations compliant with Pressure Equipment Directive (PED) 97/23/EC a Category 1 Pressure Accessory.

Note: “Pressure Range” is equivalent to max. working pressure (PS) as referred to in the PED.

4260A_000-685e-06.11

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Description

Type 4260/62A… series sensor is based upon proven Kistler piezoresistive sensing technology that has been continually developed and refined since the early 1970's. A silicon sensing element is mounted within a high integrity seal assembly that is fully isolated from the pressure media by a welded 316L stainless steel or Hastelloy™ diaphragm. The silicon sensing element exhibits high performance for stability and repeatability, extremely important parameters for the Test Engineer.

The pressure sensing assembly features a unique sealing method (US Patent 7, 373, 827) that enables the sensor to withstand multiple cycles without fatigue that is especially useful in cyclic applications. This design also enables flexibility in choice of pressure connections without the use of adaptors or 'O' rings.

Surface mount electronics condition the output from the silicon sensing element and provide temperature compensation. Additional electronic circuit boards can then be added to configure the electrical output for a wide choice of voltage and mA outputs. As a result, Type 4260/62A… series can be quickly configured at the factory to the customer's choice of electrical output to suit a variety of data acquisition systems. Additionally, non-interactive zero and span calibration adjustments can be provided.

EMC protection, reverse polarity, power supply regulation, over voltage and short circuit protection is provided, ensuring Type 4260/62A… series is well suited for the harsh test environments that are commonplace in the automotive and aerospace test markets.

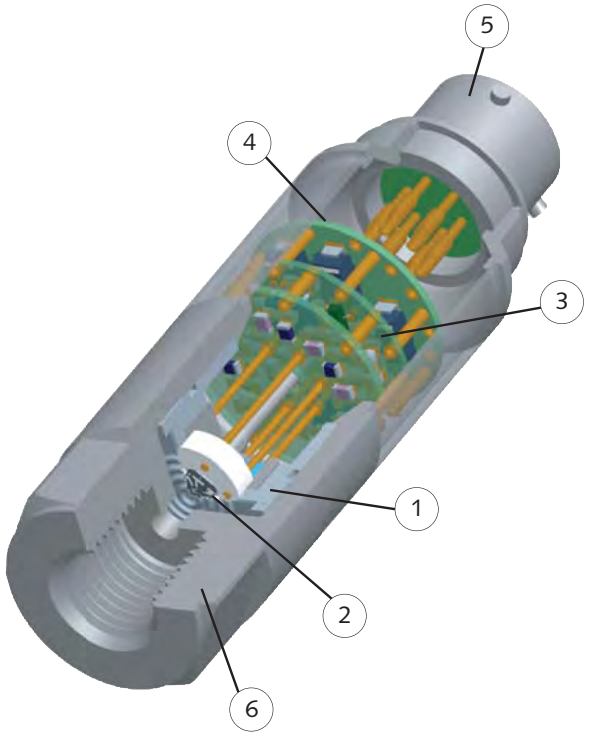
Type 4260/62A… series is available with options for use in ATEX zoned hazardous area: Zone 0, intrinsically safe CE Ex II 1G and Zone 2, non-incendive Ex II 3G. CSA certified 2009 2053869 single seal.

Type 4260/62A… series is stocked in popular types and pressure ranges. Prior to shipping the sensor is adjusted to suit the required pressure range and engineering units, the zero and span checked and the sensor finally completed with a choice of electrical and pressure connections.

Finally, every Type 4260/62A… series sensor is fully tested over both pressure and temperature to ensure compliance to the specifications. This data is available for each sensor and is traceable to ISO 17025 and NIST.

Construction

1 Pressure capsule: high integrity 316L stainless steel glass to metal seal with Hastelloy™ or 316L stainless steel isolation diaphragm.
2 Sensing element: etched cavity, micro-machined silicon with ion implanted strain gauges.
3 Conditioning electronics: surface mount electronics that are fully encapsulated for high vibration and shock environments.
4 Protection: circuit board includes RFI/EMI protection, reverse polarity, over voltage and short circuit protection.
5 Electrical connection: choices can be specified by the customer.
6 Pressure connection: wide choice of welded pressure fittings.



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General Technical Data

Type	Unit	4260A…	4262A…
Pressure range	bar	1, 2, 3, 4, 5, 7, 10, 15, 20, 35, 50, 70, 100, 140, 200, 350 (barA)	0,10, 0,17, 0,2, 0,35, 0,5, 0,7, 2, 4, 5, 7, 10, 15, 20, 35 (barG)
	barS	N/A	50, 70, 100, 140, 200, 350
	options	intermediate ranges available baro-metric: 0,8 … 1,2 (barA)	compound ranges: –1 … 1, –1 … 2, –1 … 4, –1 … 7, –1 … 9 bi-directional ranges ±0,17, ±0,2, ±0,70
Proof pressure	bar	>3 x FS pressure	
Burst pressure	bar	>4 x FS pressure	
Output		mV, V or mA	
Operating temperature	°C	–55 … 120 (mV or V)	
	°C	–55 … 80 (mA)	
Compensated temperatures	°C	–40 … 120 (mV or V)	
	°C	–40 … 80 (mA)	
Accuracy at T_{ref} (non-linearity, hysteresis, repeatability) [1]	± %BFSL	0,2 (≤1 barg) 0,1 (>1 barg)	
Thermal effects (reference 20 °C)			
–10 … 50 °C	%Span	1,0	
–40 … 120 °C (80 °C for mA version) Pro rate for pressures below 1 bar	%Span	1,5	
–20 … 80 °C for barometric	%FS	2,0	
0 … 50 °C for barometric	%FS	1,0	
Long term stability (12 months)	%Span	±0,1	

Note: For special calibration, please call Kistler

1) Premium accuracy available, contact Kistler

General electrical specifications

Supply voltage			
mV versions		V	5 … 15
Voltage versions		V	refer to table voltage versions; electrical specs
mA versions		V	9 … 28
DC output impedance		ohms	<200 (V output)
Minimum load resistance		ohms	2 500 (V output), 5 000 (–5 … 5 V output, 4 wire), 20 000 (–5 … 5 V, 3 wire)
Supply voltage effects max. (regulated units)		%Span/V	0,005
Warm up time		msec	<1 (V output) <3 (mA output)
Output noise typical		mVrms	<1 (V output), <0,1 (mA output)
Zero setting	mV versions	%FS	±3
	V and mA versions	%FS	±1
Span setting	mV versions	%FS	±3
	V and mA versions	%FS	±1
Frequency response, max.		Hz	2 000
Options	non-interactive zero and span adjust	%FS	±5
	Shunt calibration (Rcal), ±20 % (V only)	%FS	80

Voltage versions; electrical specifications

V output (VDC)	Supply Voltage (VDC)	Current Drain (mA)
0 … 10 / 3-wire active offset	13 … 42	<7 … 16
0 … 10 / 4-wire	13 … 42	<3 … 6
0 … 5 / 3-wire active offset	7 … 42	<7 … 16
0 … 5 / 4-wire	8 … 42	<3 … 6
0,5 … 4,5 / Ratiometric / 3-wire	5 ±0,5	<2
1 … 6 / 0,5 … 4,5 / 0,1 … 5 VDC / 3-wire	max. output + 0,5 (low power, limited protection)	<2,5
	8 … 42	<3 … 6
–5 … 5 / 3-wire active offset	13 … 42	<7 … 16
–5 … 5 / 4-wire	13 … 42	<6 … 8,5

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General Technical Data

Type		Unit	4260A…	4262A…
Pressure range		bar	1, 2, 3, 4, 5, 7, 10, 15, 20, 3, 50, 70, 100, 140, 200, 350 (barA)	0,10, 0,17, 0,20, 0,35, 0,5, 0,70, 1, 3, 2, 5, 7, 10, 15, 20, 35 (barG)
		barS	N/A	50, 70, 100, 140, 200, 350
		options	intermediate range available barometric: 0,80 … 1,2 (barA)	compound ranges: –1 … 1, –1 … 2, –1 … 4, –1 … 7, –1 … 9 bi-directional ranges ±0,17, ±0,2 ±0,70
Temperature limits				
Operating	mV and V	°C	–55 … 125	
	mA	°C	–55 … 80	
Storage	mV and V	°C	–55 … 125	
	mA	°C	–55 … 100	
Design life		FS cycles	50 million at 2Hz	
Vibration, 50 g peak, 10 Hz to 2 kHz per		%FS/g	response <0.05	
Shock			MIL-STD-202G Method 204D, condition E	
			1 000g, 0,5 msec half sine pulse in 3 mutually perpendicular axes will not affect performance MIL-STD-202G, Method 213B-1, condition E	
			100g, 6 msec half sine pulse in 3 mutually perpendicular axes will not affect performance MIL-STD-202G, Method 213B-1, condition C	
Acceleration sensitivity		%FS/g	<0,05 (reducing with increasing pressure range)	
Insulation resistance, at 500 VDC		Mohm	100	
Approvals			CE compliant to EN61326:1998+A1 + A2:2001 (IEC 61326:2002)	
			Pressure equipment directive 97/23/EC (PED), category 1, pressure accessory	
Hazardous area certification			IS Zone 0 Ex ia IIC T4 (–40 °C ≤ Ta ≤ 80 °C) CE Ex II 1G	
			Non-incendive Zone 2 Ex nL IIC T4 (–40 °C ≤ Ta ≤ 80 °C) Ex II3G	
			CSA certified 2009 2053869 single seal	

Physical Technical Data

Type	Unit	4260A…	4262A…
Pressure range	bar	1, 2, 3, 4, 5, 7, 10, 15, 20, 35, 50, 70, 100, 140, 200, 350 (barA)	0,10, 0,17, 0,20, 0,50, 0,70, 1, 2, 3, 5, 7, 10, 15, 20, 35 (barG)
	barS	N/A	50, 70, 100, 140, 200, 350
	options	intermediate range available barometric: 0,80 … 1,2 (barA)	compound ranges: ±1, –1 … 2, –1 … 4, –1 … 7, –1 … 9 bi-directional ranges ±0,17, ±0,20, ±0,70
Electrical connections		see ordering information	
Pressure connections		see ordering information	
Installation torque	Nm	15	
Environmental protection			
Cable, DIN versions	protection	IP65	
Connector versions	protection	IP65	
Weight	grams	<226	
Media compatibility	material	Stainless Steel 316L	

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Ordering Key

Absolute Pressure

Type 4260A □ □ □ □ □ □ □ □

Range (barA)

0,80 … 1,2 (BAROMETRIC ONLY)	**6D0**
1	**15**
2	**30**
3,1	**45**
3,4	**50**
4	**60**
5	**75**
7	**100**
10	**150**
15	**200**
20	**300**
35	**500**
50	**750**
70	**1K0**
100	**1K5**
140	**2K0**
200	**3K0**
350	**5K0**
See table 3 (pg, 12) for nom, ranges in other units	

Pressure Units

PSI	**A**
BAR	**B**
KPA	**C**
TORR	**D**
INHg (0 °C)	**E**
MMHg (0 °C)	**F**
INH_20 (4 °C)	**G**
MH_20 (4 °C)	**H**

Output Type

See table 1 (pg. 7)	**[A-Z] [1-8]**

Pressure Connector

7/16-20 UNF female, SAE J1926	**A**
1/4-18 NPT male	**B**
1/4-18 NPT female	**C**
1/4 AN 7/16-20 UNF male, Class 2A, male to SAE J514	**D**
G1/4 BSP female	**E**
G1/4B BSP male	**F**
1/8-27 NPT male	**G**
7/16-20 UNF male bulkhead (1/4 pipe)	**H**
1/8-27 NPT male bulkhead G1/4B	**I**
1/4 AN bulkhead (7/16-20 UNF Class 2A, male to SAE J514)	**J**
7/16-20 UNJF, Class 3A, male to AS 4395 (formerly MS 33656-04)	**K**
M10x1 male	**L**
7/16-20 UNF male, SAE J1926	**M**
1/8-27 NPT female	**N**
G1/4B BSP male, 60° Internal cone	**P**
G 1/2 B BSP MALE	**R**
1/2-20 UNJF-3B, FEMALE	**S**

Electrical Connector

Integral cable	**A**
MIL-C-26482	**B**
MIL-DTL-38999	**C**
DIN 43650A	**D**
LUMBERG M12	**E**

Cable Length

None	**00**
Specify length in feet (integer 1-9 nom.)	

Wiring Options

See table 2 (pg. 9-11)	**[A-W}**

Certification (Optional)

none	**0**
Calibration certificate (supplied with premium)	**1**
Premium accuracy with cert	**2**
IS Zone 0	**A**
nL Zone 2	**B**
IS Zone 0 Premium	**C**
nL Zone 2 Premium	**D**

Pressure Adaptors: Optional Accessories for Type 4260A…

- 7/16-20 UNF male to 1/4 NPT male 6570
- 7/16-20 UNF male to 7/16-20 UNF male 6572
- 7/16-20 UNF male to 1/8-27 NPT male 6574

Electrical Connector: Optional Accessories for Type 4260A…

- Din 43650A Hirschman, mating connector 1500A89
- MIL-C26482 Amphenol, mating connector 1500A90

Absolute Premium Accuracy

Premium accuracy: ±0,05% FS to ±0,125% FS (availability based on selected pressure sensor, contact Kistler).

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Ordering Key

Gauge Pressure

Type 4262A ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Range (barG)

0,1	**1D5**
0,17	**2D5**
0,20	**3D0**
0,35	**5D0**
0,50	**7D5**
0,70	**010**
1	**015**
±0,70	**B01**
±0,20	**B02**
±0,17	**B03**
–1 … 1	**C01**
–1 … 2	**C02**
–1 … 7	**C03**
–1 … 4	**C04**
–1 … 9	**C05**
2	**030**
3	**050**
5	**075**
7	**100**
10	**150**
15	**200**
20	**300**
35	**500**
50	**750**
70	**1K0**
100	**1K5**
140	**2K0**
200	**3K0**
350	**5K0**
See table 3 (pg, 12) for nom, ranges in other units	

Pressure Units

PSI	**A**
BAR	**B**
KPA	**C**
TORR	**D**
INHg (0 °C)	**E**
MMHg (0 °C)	**F**
INH_20 (4 °C)	**G**
MH_20 (4 °C)	**H**

Output Type

See table 1 (pg. 7)	**[A-Z] [1-8]**

Pressure Connector

7/16-20 UNF female. SAE J1926	**A**
1/4-18 NPT male	**B**
1/4-18 NPT female	**C**
1/4 AN 7/16-20 UNF male, Class 2A, to SAE J514	**D**
G1/4 BSP female	**E**
G1/4B BSP male	**F**
1/8-27 NPT male	**G**
7/16-20 UNF male bulkhead (1/4 pipe)	**H**
1/8-27 NPT male bulkhead G1/4B	**I**
1/4 AN bulkhead (7/16-20 UNF Class 2A, male to SAE J514)	**J**
7/16-20 UNJF, Class 3A, male to AS 4395 (formerly MS 33656-04)	**K**
M10x1 male	**L**
7/16-20 UNF male, SAE J1926	**M**
1/8-27 NPT female	**N**
G1/4B BSP male, 60° Internal	**P**
G 1/2 B BSP MALE	**R**
1/2-20 UNJF-3B, FEMALE	**S**

Electrical Connector

Integral cable	**A**
MIL-C-26482	**B**
MIL-DTL-38999	**C**
DIN 43650A	**D**
LUMBERG M12	**E**

Cable Length

None	**00**
Specify length in feet (integer 1-9 nom.)	

Wiring Options

See table 2 (pg. 9-11)	**[A-W}**

Certification (Optional)

none	**0**
Calibration certificate (supplied with premium)	**1**
Premium accuracy cert [3]	**2**
IS Zone 0	**A**
nL Zone 2	**B**
IS Zone 0 Premium [3]	**C**
nL Zone 2 Premium [3]	**D**

Gauge Premium Accuracy

Premium accuracy: ±0,05% FS to ±0,15% FS (availability based on selected pressure sensor, contact Kistler).

Pressure Adaptors: Optional Accessories for Type 4262A…

- 7/16-20 UNF male to 1/4 NPT male 6570
- 7/16-20 UNF male to 7/16-20 UNF male 6572
- 7/16-20 UNF male to 1/8-27 NPT male 6574

Electrical Connector: Optional Accessories for Type 4262A…

- Din 43650A Hirschman, mating connector 1500A89
- MIL-C26482 Amphenol, mating connector 1500A90

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Table 1

Output Accuracy and Electrical Output Configuration

Code	Output
A	mV (10 mV/V)
C	4-20 mA
E	4-20 mA, adjustable cal-adjust
F	1 … 6 VDC (3-wire)
H	1 … 6 VDC (3-wire) cal-adjust
I	0,5 … 4,5 VDC (3-wire)
K	0,5 … 4,5 VDC (3-wire) cal-adjust
L	0,1 … 5 VDC (3-wire)
N	0,1 … 5 VDC (3-wire), cal-adjust
O	0,5 … 4,5 VDC (3-wire) low power, 5 V supply
Q	0,5 … 4,5 VDC (3-wire) low power, 5 V supply, cal-adjust
R	0 … 10 VDC (4-wire)
T	0 … 10 VDC (4-wire), cal-adjust
U	–5 … 5 VDC (4-wire)
W	–5 … 5 VDC (4-wire), cal-adjust
X	0 … 5 VDC (4-wire)
Z	0 … 5 VDC (4-wire), cal-adjust
1	0 … 5 VDC (3-wire) active offset, cal. adjust
2	0 … 10 VDC (3-wire) active offset, cal. adjust
3	0,5 … 4,5 VDC (3-wire) low power ratiometric
4	–5 … 5 VDC (3-wire) active offset, cal. adjust
5	0,5 … 4,5 VDC (3-wire) low power ratiometric, cal-adjust
6	0 … 5 VDC (3-wire) active offset
7	0 … 10 VDC (3-wire) active offset
8	–5 … 5 VDC (3-wire) active offset

Calibration Data

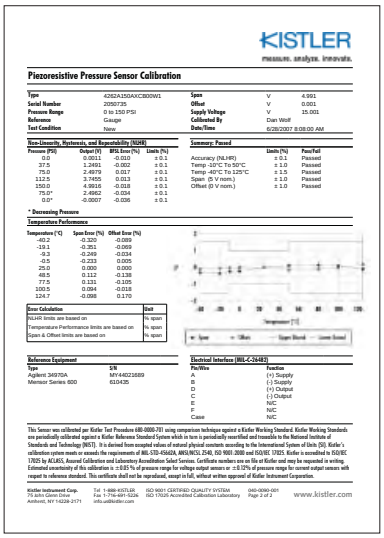
Calibration data is available for all Type 4260/62A… series sensors and is supplied as standard with all premium accuracy sensors.

The following information is provided on the calibration sheet and provides a comprehensive summary of the actual performance of the sensor compared to specification:

- Non-linearity, hysteresis & repeatability at room temperature
- Zero setting and span setting at room temperature
- Thermal zero shift and thermal span shift through the compensated temperature range
- Pass/fail summary
- Electrical connection details

All data is traceable to the National Institute of Standards and Technology (NIST) and is ISO17025 certified.

Type 4260/62A… series can be provided with custom calibrations for specific applications.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Piezoresistive Pressure Sensor Calibration

Type 4262A350AXCB00W1
Serial Number 2050735
Pressure Range 0 to 350 PSI
Reference Gauge
Test Condition New

Span V 4.991
Offset V 0.001
Supply Voltage V 15.001
Calibrated By Dan Wolff
Date/Time 8/28/2007 8:08:00 AM

Non-Linearity, Hysteresis, and Repeatability (NLHR)

Pressure (PSI)	Output (V)	BFSL Error (%)	Limits (%)
0.0	0.0011	-0.010	± 0.1
37.5	1.2491	-0.002	± 0.1
75.0	2.4979	0.017	± 0.1
112.5	3.7455	0.013	± 0.1
150.0	4.9916	-0.018	± 0.1
75.0*	2.4962	-0.034	± 0.1
0.0*	-0.0007	-0.036	± 0.1

Summary: Passed

	Limits (%)	Pass/Fail
Accuracy (NLHR)	± 0.1	Passed
Temp -10°C To 50°C	± 1.0	Passed
Temp -40°C To 125°C	± 1.5	Passed
Span (5 V nom.)	± 1.0	Passed
Offset (0 V nom.)	± 1.0	Passed

* Decreasing Pressure

Temperature Performance

Temperature (°C)	Span Error (%)	Offset Error (%)
-40.2	-0.320	-0.089
-19.1	-0.351	-0.069
-9.3	-0.249	-0.034
-0.5	-0.233	0.005
25.0	0.000	0.000
48.5	0.112	-0.138
77.5	0.131	-0.105
100.5	0.094	-0.018
124.7	-0.098	0.170

Error Calculation	Unit
NLHR limits are based on	% span
Temperature Performance limits are based on	% span
Span & Offset limits are based on	% span

Reference Equipment

Type	S/N
Agilent 34970A	MY44023689
Memser Series 600	610435

Electrical Interface (MIL-C-26482)

Pin/Wire	Function
A	(+) Supply
B	(-) Supply
D	(+) Output
C	(-) Output
E	N/C
F	N/C
Case	N/C

This Sensor was calibrated per Kistler Test Procedure 680-0000-791 using comparison techniques against a Kistler Working Standard. Kistler Working Standards are periodically calibrated against a Kistler Reference Standard System which in turn is periodically recertified and traceable to the National Institute of Standards and Technology (NIST). It is derived from accepted values of natural physical constants according to the International System of Units (SI). Kistler's calibration system meets or exceeds the requirements of MIL-STD-45662A, ANSI/NCSL Z540, ISO 9001:2000 and ISO/IEC 17025. Kistler is accredited to ISO/IEC 17025 by ACLASS, Accredited Calibration and Laboratory Accreditation Select Services. Certificate numbers are on file at Kistler and may be requested in writing. Estimated uncertainty of this calibration is ±0.05 % of pressure range for voltage output sensors or ±0.12% of pressure range for current output sensors with respect to reference standard. This certificate shall not be reproduced, except in full, without written approval of Kistler Instrument Corporation.

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Special Calibration

Custom calibrations include improved Static Error Band, improved temperature effects over custom temperature limits and improved zero and span setting tolerances. Examples of improved temperature errors (thermal zero and thermal span shift) include:

- 0,5 % FS over –10 … 50 °C
- 1,0 % FS over –10 … 125 °C
- 1,0 % FS over –40 … 50 °C

Contact Kistler to discuss special calibration requirements.

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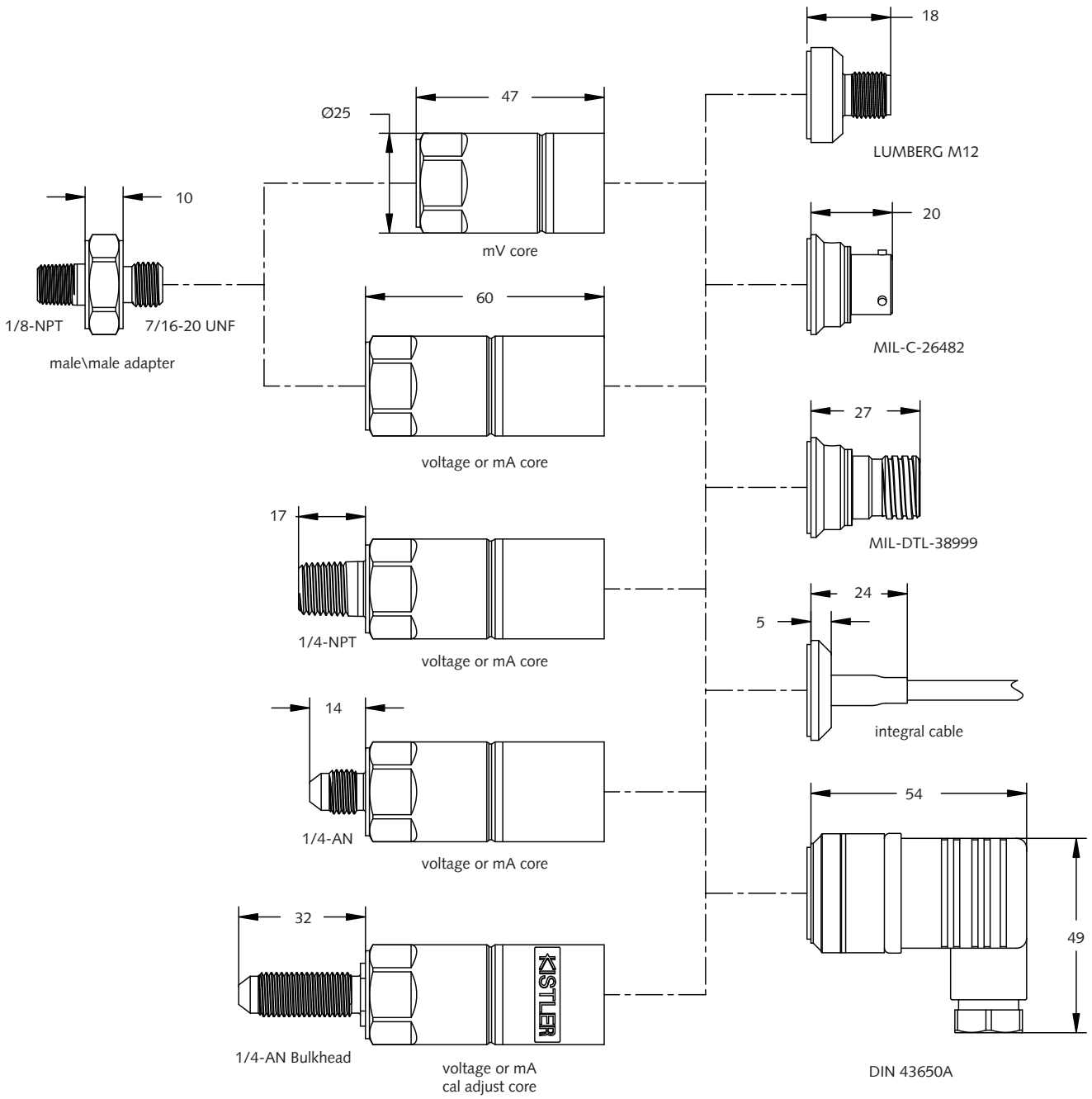
Dimensional Information



Note: Common pressure and electrical connections shown, other options are available

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Table 2

Wiring Option, Voltage Output

Option A: Cable, 4-Wire with Shunt Rcal.

Wire Color	Connection
Red	(+) Supply
Blue	(–) Supply
Yellow	(+) Output
Green	(–) Output
Brown	Shunt
Black	Not connected
Shield	Not connected

Option B: Cable, 4-Wire

Wire Color	Connection
Red	(+) Supply
Blue	(–) Supply
Yellow	(+) Output
Green	(–) Output
Black/Brown	Not connected
Shield & Drain	Not connected

Option C: Cable, 3-Wire with Shunt Rcal.

Wire Color	Connection
Red	(+) Supply
Blue	(–) Supply (–) Output
Yellow	(+) Output
Brown	Shunt
Green/Black	Not connected
Shield	Not connected

Option D: Cable, 3-Wire

Wire Color	Connection
Red	(+) Supply
Blue	(–) Supply (–) Output
Yellow	(+) Output
Green/Black/Brown	Not connected
Shield	Not connected

Option E: Cable, 3-Wire with Shunt Rcal.

Wire Color	Connection
Red	(+) Supply
Black/Green	(–) Supply (–) Output
Yellow	(+) Output
Blue	Shunt
Brown	Not connected
Shield	Not connected

Option F: Connector, 4-Wire with Shunt Rcal.

Pin (connector B)	Pin (connector C)	Connection
A	1	(+) Supply
D	4	(–) Supply
B	2	(+) Output
C	3	(–) Output
E	5	Shunt
F	6	Not connected
Case	Case	Not connected

Option G: Connector, 4-Wire

Pin (connector B)	Pin (connector C)	Connection
A	1	(+) Supply
D	4	(–) Supply
B	2	(+) Output
C	3	(–) Output
E/F	5/6	Not connected
Case	Case	Not connected

Option H: Connector, 4-Wire with Shunt Rcal.

Pin (connector B)	Pin (connector C)	Connection
A	1	(+) Supply
B	2	(–) Supply
C	3	(+) Output
D	4	(–) Output
E	5	Shunt
F	6	Not connected
Case	Case	Not connected

Connections
A … F MIL-C-26482
1 … 6 MIL-DTL-38999

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Table 2 (continued)

Wiring Option Voltage Output

Option I: Connector, 4-Wire

Pin (connector B)	Pin (connector C)	Connection
A	1	(+) Supply
B	2	(–) Supply
C	3	(+) Output
D	4	(–) Output
E/F	5/6	Not connected
Case	Case	Not connected

Option J: Connector, 4-Wire with Shunt Rcal.

Pin (connector B)	Pin (connector C)	Connection
A	1	(+) Supply
C	3	(–) Supply
D	4	(+) Output
B	2	(–) Output
E	5	Shunt
F	6	Not connected
Case	Case	Not connected

Option K: Connector, 4-Wire

Pin (connector B)	Pin (connector C)	Connection
A	1	(+) Supply
C	3	(–) Supply
D	4	(+) Output
B	2	(–) Output
E/F	5/6	Not connected
Case	Case	Not connected

Option W: Connector, 4-Wire

Pin (connector B)	Pin (connector C)	Connection
A	1	(+) Supply
B	2	(–) Supply
C	3	(–) Output
D	4	(+) Output
E/F	5/6	Not connected
Case	Case	Not connected

Option L: Connector, 3-Wire with Shunt Rcal.

Pin (connector B)	Pin (connector C)	Connection
A	1	(+) Supply
D, C	4, 3	(–) Supply (–) Output
B	2	(+) Output
E	5	Shunt
F	6	Not connected
Case	Case	Not connected

Option M: Connector, 3-Wire

Pin (connector B)	Pin (connector C)	Connection
A	1	(+) Supply
D, C	4, 3	(–) Supply (–) Output
B	2	(+) Output
E/F	5/6	Not connected
Case	Case	Not connected

Option N: Connector, 3-Wire with Shunt Rcal.

Pin (connector B)	Pin (connector C)	Connection
A	1	(+) Supply
B, C	2, 3	(–) Supply (–) Output
D	4	(+) Output
E	5	Shunt
F	6	Not connected
Case	Case	Not connected

Option U: Connector, 3-Wire

Pin (connector B)	Pin (connector C)	Connection
A	1	(+) Supply
B, C	2, 3	(–) Supply (–) Output
D	4	(+) Output
E, F	5, 6	Not connected
Case	Case	Not connected

Option X: Connector, 3-Wire

Pin (connector D and E)	1	2	3	4
Connection	(+) Supply	(–) Supply/ Output	(+) Output	Case ground

Option Y: Connector, 3-Wire

Pin (connector D and E)	1	2	3	4
Connection	(–) Supply/ Output	(+) Output	(+) Supply	Case ground

Connections
A … F MIL-C-26482
1 … 6 MIL-DTL-38999
1 … 4 DIN 43650A

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Table 2 (continued)

Wiring Option mV Output

Option Q: Cable

Wire Color	Connection
Red	(+) Supply
Blue	(–) Supply
Green	(–) Output
Yellow	(+) Output
Shield	Not connected
Black/Brown	Not connected

Option S: Cable

Wire Color	Connection
Red/ Brown	(+) Supply
Blue/ Black	(–) Supply
Green	(–) Output
Yellow	(+) Output
Shield	Not connected

Option T: Connector

Pin (connector B)	Pin (connector C)	Connection
A	1	(+) Supply
D	4	(–) Supply
B	2	(+) Output
C	3	(–) Output
F	6	Not connected
E	5	Case

Option V: Connector, Remote Supply Monitoring

Pin (connector B)	Pin (connector C)	Connection
A, B	1, 2	(+) Supply
D, C	3, 4	(–) Supply
E	5	(+) Output
F	6	(–) Output
Case	Case	Not connected

Connections
A … F MIL-C-26482
1 … 6 MIL-DTL-38999

Loop Powered Current 4 … 20 mA:

Option O: Cable, 2-Wire

Wire Color	Connection
Red	(+) Supply
Blue	(–) Output/(–) Supply
Black	Case ground
Shield	Not connected
Green/Yellow/Brown	Not connected

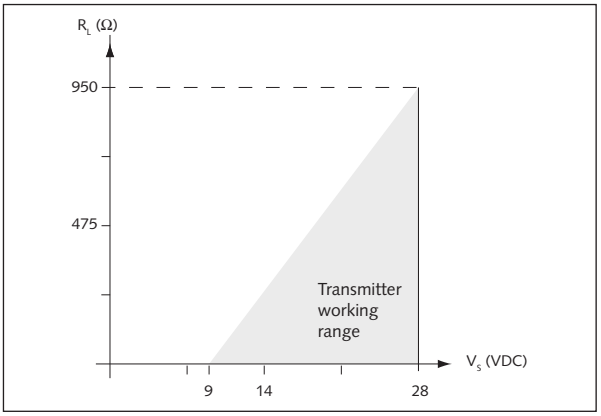
Option P: Connector, 2-Wire
(Electrical Connector Options B & C Only)

Pin (connector B)	Pin (connector C)	Connection
A	1	(+) Supply
C	3	(–) Output (–) Supply
E	5	Case ground*
B, D, F	2, 4, 6	Not connected

Option R: Din Connector, 2-Wire
(Electrical Connector Option D Only)

Pin	Connection
1	(+) Supply
3	(–) Output/(–) Supply
4	Case ground (DC)
2	Not connected

Loop Resistance Chart



Load Chart for 4 … 20 mA (loop powered current output)	
Key	Description
V_S	Voltage at the terminal of transmitter
R_L	Load resistance

Min. required working voltage is given by
Vs (0,02 x R_L) + 9V

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Table 3
Pressure Units for Ordering Codes

	B	A	C	D	E	F	G	H
Code	Bar	Psi	Kpa	Torr	INHG @ 0 °C	MMHG @ 0 °C	INH2O @ 4 °C	MH2O @ 4 °C
1D5	0,1	1,5	10	75	3	75	40	1
2D5	0,17	2,5	17	125	5	125	70	1,7
3D0	0,2	3	20	150	6	150	80	2
5D0	0,35	5	35	250	10	250	140	3,5
6D0	0,8 … 1,2	11,5 … 17,5	75 … 115		23 … 36	600 … 900		
7D5	0,5	7,5	50	375	15	375	200	5
010	0,7	10	70	525	20	525	280	7
015	1	15	100	750	30	750	400	10
030	2	30	200		60	1 500	800	20
045	45	3	300		90	2 350	1 260	30
050	3	50	350		100	2 500	1 400	35
060	60	4	400		120	3000	1600	40
075	5	75	500		150	3 750	2 000	50
100	7	100	700		200	5 000	2 750	70
150	10	150	1 000		300	7 500	4 000	100
200	14	200	1 400		400	10 000	5 500	140
300	20	300	2 000		600	15 000	8 000	200
500	35	500	3 500		1 000	25 000	14 000	350
750	50	750	5 000		1 500	37 500	20 000	500
1K0	70	1 000	7 000		2 000	50 000	27 500	700
1K5	100	1 500	10 000		3 000	75 000	40 000	1 000
2K0	140	2 000	14 000		4 000	100 000	55 000	1 400
3K0	200	3 000	20 000		6 000	150 000	80 000	2 000
5K0	350	5 000	35 000		10 000	250 000	140 000	3 500
C01	–1	–14,7	–100		–29,4	–750	–400	–10
	1	15	100		30	750	400	10
C02	–1	–14,7	–100		–29,4	–750	–400	–10
	2	30	200		60	1 500	800	20
C03	–1	–14,7	–100		–29,4	–750	–400	–10
	7	100	700		200	5 000	2 750	70
C04	–1	–14,7	–100		–29,4	–750	–400	–10
	4	60	400		120	3 000	1 600	40
C05	–1	–14,7	–100		–29,4	–750	–400	–10
	9	130	900		270	6 750	3 600	90
B01	–0,7	–10	–70		–20	–525	–280	–7
	0,7	10	70		20	525	280	7
B02	–0,2	–3	–20		–6	–150	–80	–2
	0,2	3	20		6	150	80	2
B03	–0,17	–2,5	–17		–5	–125	–70	–1,7
	0,17	2,5	17		5	125	70	1,7

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