AV Sensors
AdVanced Sensor Design and Manufacture

MIOF-85CV SERIES

MIOF-85CV Series
Process Fittings, 0.500 Diameter, Snubber Option
mV Output, Temperature Compensated
Constant Voltage, Normalized Output

DESCRIPTION

Advanced Sensor MIOF-85CV Series sensor is a media isolated pressure sensor designed for corrosive gases and liquids compatible with stainless 316L. The sensor design utilizes silicon oil to transfer pressure from the 316L diaphragm to the sensing element. The rugged design is compatible with a wide range of harsh media including refrigerants, compressed air, and hydraulic fluids. The series is powered using a constant voltage and provides a normalized fixed output. The design's superior performance provides low thermal errors across a wide temperature range of -20 to 85°C.
Available in gage and absolutes pressures with a flexible O-ring pressure port these sensors are ideal for OEM customer with ranges up to 500PSI.

APPLICATIONS

- Process Controls
- Waste Water Measurements
- Medical Equipment/Instrumentation
- Pressure Transmitters
- Environmental Controls
- Hydraulic Controls

FEATURES

- Normalized Output
- Constant Voltage (CV)
- Wide Availability Process Fittings/Customer Weldable
- Low Thermal Errors
- Absolute or Gage pressures
- Temperature Compensated
- 0.2% Pressure Non Linearity (Typical)
- Ribbon & Cable Electrical Connections

SPECIFICATIONS	Symbol	Min	Typical	Max	Unit	Note
Performance Characteristic						
Full Scale Span	FSS	99		101	mV	
Full Scale Span (1 & 5 PSI Range)	FSS	98		102	mV	
Zero Pressure Offset		-1.0	±0.1	+1.0	mV	1
Zero Pressure Offset (1 & 5 PSI Range)		-2.0	±0.1	+2.0	mV	1
Pressure Non Linearity		-0.1		+0.1	%FSS	2
Pressure Non Linearity (5 PSI)		-0.2		+0.2	%FSS	2
Pressure Non Linearity (1 PSI)		-0.3		+0.3	%FSS	2
Pressure Hysteresis		-0.05	±0.02	+0.05	%FSS	
Pressure Hysteresis (1 & 5 PSI Range)		-0.1	±0.02	+0.1	%FSS	
Bridge Resistance, Input		5500		12,500	Ω	
Bridge Resistance, Output		4000		7000	Ω	
Thermal Error of Span		-1.0		+1.0	%FSS	3
Thermal Error of Span (1 & 5 PSI Range)		-1.5		+1.5	%FSS	3
Thermal Error of Offset		-1.0		+1.0	%FSS	3
Thermal Error of Offset (1 & 5 PSI Range)		-2.5		+2.5	%FSS	3
Temperature Hysteresis, Span		-0.25		+0.25	%FSS	3
Temperature Hysteresis, Offset		-0.25		+0.25	%FSS	3
Long Term Stability, Offset			±0.25		%FSS	
Long Term Stability, Span			±0.25		%FSS	

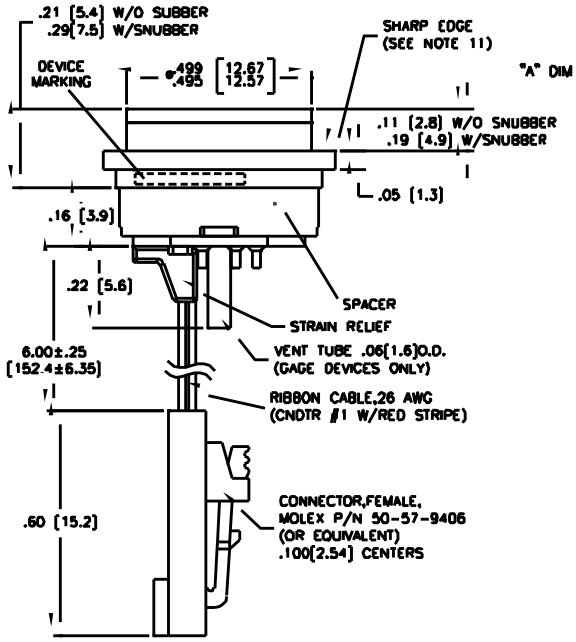
Supply Voltage		8.0	10.0	12.0	mA	4
Output Load Resistance		5M			Ω	5
Insulation Resistance (50Vdc), Pins to Case		50			M Ω	6
Output Noise (10Hz to 1kHz)			1.0		uVp-p	
Rise Time			100		µS	
Compensated Temperature		-20 to 85			˚C	8
Compensated Temperature (1& 5 PSI Range)		0 to 50			˚C	8
Operating Temperatures		-40 to 125			˚C	8
Operating Temperatures (1& 5 PSI Range)		-20 to 70			˚C	8

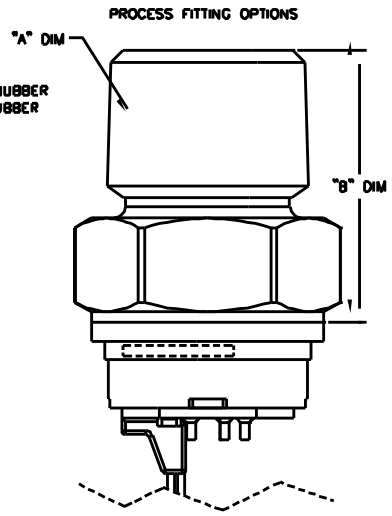
SPECIFICATIONS	Symbol	Min	Typical	Max	Unit	Note
Absolute Maximum Conditions						13
Supply Voltage				14	mA	
Storage Temperature		-50		125	˚C	8
Overage Pressure				3x	Range	7
Proof Pressure				4x	Range	
Media Compatibility		Liquids & Gases Compatible with 316/316L Stainless Steel				
Wetted Materials		316L Stainless Steel				

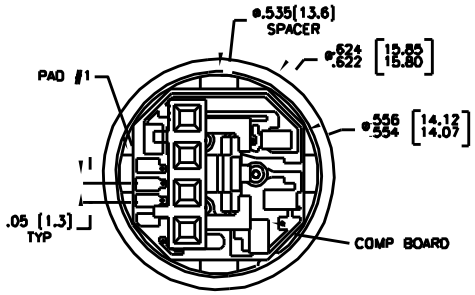
Reference Conditions: Vsupply: 10.00, Ta=25˚C.

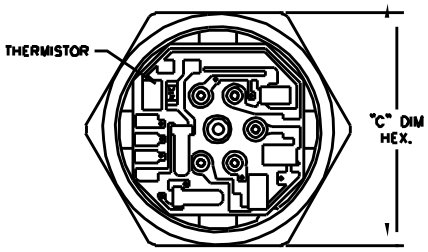
1. Measured at vacuum for absolute (A), ambient for gage (G).
2. Best fit straight line.
3. Over the compensated temperature range with respect to 25°C.
4. Guarantees output/input ratiometricity.
5. Load resistance to reduce measurement errors due to output loading.
6. Between case and sensing element.
7. The maximum pressure that can be applied to a transducer without rupture of either the sensing element or transducer.
8. Maximum temperature range for product with standard cable and connector is -20°C to +105°C.
9. Standard gage units are not recommended for vacuum applications. For vacuum applications below 1/2 atmosphere, consult factory.
10. Device Marking: Each part shall be identified with Model Number, Pressure Range, Type, Lot Number, Serial Number and Date Code.
11. Shipping/Packaging requirements: The stainless steel diaphragm is protected by a plastic CAP. Each unit will be packaged individually in a plastic vial with anti-static foam.
12. Direct mechanical Contact with diaphragm is prohibited. Diaphragm surface must remain free of defects (scratches, punctures, dents, fingerprints, etc) for device to operate properly. Caution is advised when handling parts with exposed diaphragms. Use protective cap whenever devices are not in use.
13. Exceeding Absolute Maximum Specification may damage the device. Extended exposure beyond the operating conditions may affect device reliability.

MECHANICAL DIMENSIONS in [mm]









PAD/CNDTR	FUNCTION
1	+OUT
2	-EX
3	+EX
4	-OUT

FITTING DIMENSIONS

FITTING TYPE	"A" DIM	"B" DIM	"C" DIM
1	1/4-18 NPT	.99[25.1]	7/8[22.2]
2	1/8-27 NPT	.96[24.4]	7/8[22.2]
3	7/16-20 UNF	.81[20.6]	7/8[22.2]
4	1/4-18 NPT	.73[18.5]	5/8[15.9]
5	1/4-19 BSP	.76[19.3]	3/4[19.0]
6	1/8-27 NPT	.60[15.2]	5/8[15.9]
7	1/4-19 BSP	.94[23.9]	7/8[22.2]

NOTE: FTG TYPE "4" ASSEMBLY SHOWN
ALL DIMS FOR REFERENCE

PART NUMBERING FOR ORDERS

Series	Port Style	Snubber	Pressure Range	Pressure Units	Pressure Type (Range Availability) [Package Availability]	Connection	Vent
MIOF-85CV	P0= P0= No Fitting/ Weldable P1=1/4-18 NPT P2=1/8-27 NPT P3=7/6-20 UNF P4=1/4-18 NPT P5=O 1/4-18 NPT P6=O 1/4-18 NPT P7=O 1/4-18 NPT	0= No Snubber 1=With Snubber	001 005 015 030 050 100 300 500	P=PSI	A=Absolute (15,30,50,100,300,500) [ALL] G=Gauge (All Ranges) [ALL]	P= Solder Pads R= Ribbon Cable C= Cable with Connector	VT= Vent Tube NT= No Tube

Part Number Example: MIOF-85CV P01 005PG CNT MIOF-85CV Series, No Fitting/Weldable, 0-5PSI Gage with Snubber, Cable Termination with No Vent Tube

WARRANTY

Pressure sensors have a limited one-year warranty to the original purchaser. AVSensors will repair or replace, at its option, without charge those items it finds defective. This is the buyers sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall AVSensors be liable for consequential, special, or indirect damages. This warranty does not apply to units that have been modified, misused, neglected or installed where the application exceeds published ratings. Specifications may change without notice. The information supplied is believed to be accurate and reliable as of this printing, however, we assume no responsibility for its use.