

The MIMCT-7A Series
Transmitter & Transducer for
Industrial High Pressure
4-20mA, Regulated, Ratiometric Outputs



DESCRIPTION

Advanced Sensors Media Isolated Multi Chip Technology (MIMCT) 7A Series incorporates the latest mixed signal ASIC (Application Specific Integrated Circuit) with an oil isolated silicon gage to provide the standard for Industrial Transducers & Transmitters. The MIMCT 7A Series offers current, regulated and ratiometric outputs types along with a wide range of process fittings. The rugged design is compatible with a wide range of harsh media including refrigerants, compressed air, and hydraulic fluids. The design's superior performance provides 1% Total Error across a wide temperature range of -10 to 85°C. The flexible design incorporates many connector types making it the ideal choice for OEM customers.

APPLICATIONS

- Hydraulic and Pneumatic
- Rooftop Chillers
- Pumps and Compressors
- Refrigeration Systems
- Energy and Water Management

FEATURES

- Media (Oil) Isolated Silicon Gage
- Low to Medium Pressure
- Flexible Electrical Outputs
- ASIC Compensation
- Wide Temperature Range
- Stainless Steel Process Ports
- High Accuracy
- Low Overall Errors, 1%TEB
- All Welded Design
- Custom Outputs and Ranges Available

SPECIFICATIONS

	Symbol	Min	Typical	Max	Unit	Note
Performance Specifications						
Pressure Accuracy		-0.25		0.25	mA	2
Total Error Band	TEB	-1.0		1.0	%FSS	3
Long Term Stability			±0.4		%FSS	
Output DAC				12	bits	
Conversion Time			1.0		mS	4
Power On to Valid Data				<10	mS	5
Life		1kk			cycles	
Weight				120	grams	
Compensated Temperature		-10 to 85			°C	6
Operating Temperature		-40 to 125			°C	

SPECIFICATIONS	Symbol	Min	Typical	Max	Unit	Note
Absolute Maximum Conditions						
Supply Voltage		-16		35	V	
Storage Temperature		-50		150	°C	
Burst Pressure				3x	Range	
Insulation Resistance		10			MΩ	500Vdc
Wetted Materials		316L				

Reference Conditions: Vsupply: Table Below, Ta=25° C.

1. All specification at reference conditions unless otherwise noted.
2. Maximum deviation from a Best Fit Straight Line through Pmin and Pmax measured at 25°C. Errors included Pressure Non Linearity, Pressure Hysteresis and Repeatability.
3. Maximum deviation from the Ideal Transfer Function expressed as a percentage of the %FSS over the compensated temperature range. Includes calibration errors (Offset & Span), temperature errors (Offset & Span), pressure non-linearity, pressure and thermal hysteresis.
4. The time for the output DAC to be updated with new data.
5. The time for the output DAC to have valid data after a power on reset.
6. Exceeding Absolute Maximum Specification may damage the device. Extended exposure beyond the operating conditions may affect device reliability.

	Current	Regulated				Ratiometric			
Electrical Output Type	4-20mA	0-5V	1-5V	1-6V	0-10V	.50-4.5 V 10-90% Vdd	.25-4.75V 5-95% Vdd	.30-3.00V 10-90% Vdd	.15-3.175V 5-95% Vdd
Supply Voltage (Vsupply)	24	15	15	15	15	5.0	5.0	3.3	3.3
Operating Voltage	10-28	10-28	10-28	10-28	15-30	2.7-5.5	2.7-5.5	2.7-5.5	2.7-5.5
Current Consumption	--	<10	<10	<10	<10	<5	<5	<5	mA
Span (FSS)	16.0	5.0	4.0	11.0	9.0	4.0	4.50	2.70	2.97
Output Load	-	5k	5k	5k	5k	5k	5k	5k	5k
Reverse/Overvoltage Protection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

CONSTRUCTION	Material
Wetted	
Port & Diaphragm	316L Stainless Steel
External	
MEMS Sense Element	Glass, Silicon
Sensor Die Bond	Silicone RTV
Housing Tube	303 Stainless Steel
Connector	PBT Glass Filled
Cable Jacket	TPE
Transfer Fluid, Media Isolation	Silicon Oil

MECHANICAL DIMENSIONS in [mm]

M12x1 IEC 61076-2-101, Binder 09 0439 387 04 Protection Class (IEC 60529): IP67

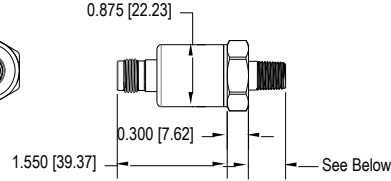
Mating M12x1 Connector 4 Position Female Type D

Voltage Regulated, Ratiometric

Pin 1: Supply +
Pin 4: Output+
Pin 3: Common

4-20mA Transmitter

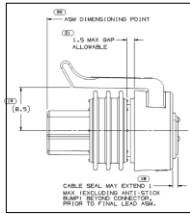
Pin 1: Supply+
Pin 4: Not Connected
Pin 3: Supply-



PACKARD CONNECTOR Type A

Protection Class (IEC 60529): IP66

Mating Packard Connector Housing Part Number: 12078590 Socket Part Number: 12103881

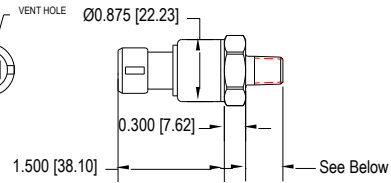


Voltage Regulated, Ratiometric

Pin A: Supply +
Pin B: Common
Pin C: Output +

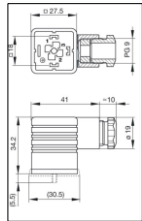
4-20mA Transmitter

Pin A: Supply+
Pin B: Supply+
Pin C: Not Connected



HIRSCHMANN CONNECTOR DIN 43650 FORM A, Part Number 933 376-100 Protection Class (IEC 60529): IP65

Mating Hirschmann Connector Part Number: 931 969-100 Gasket (NBR) Part Number: 730 801-002 Knurled Screw Part Number: 732 574-001

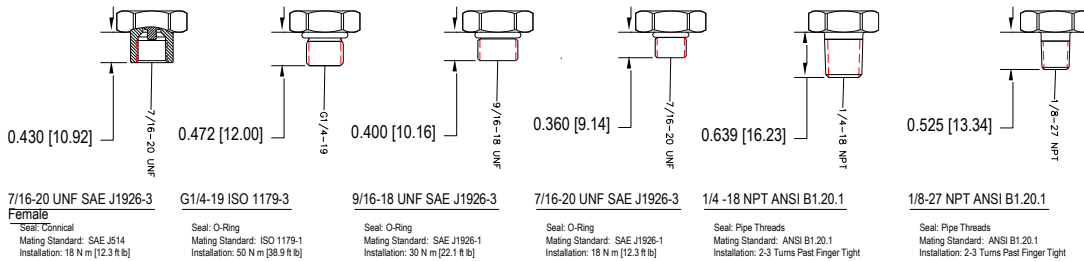
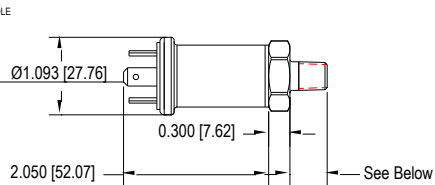


Voltage Regulated, Ratiometric

Pin 1: Supply+
Pin 2: Common
Pin 3: Output+
Pin 4: Case

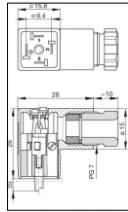
4-20mA Transmitter

Pin 1: +Supply
Pin 2: -Supply
Pin 3: Not Connected
Pin 4: Case



HIRSCHMANN CONNECTOR
DIN 43650 FORM C, Part Number 933 114-100
Protection Class (IEC 60529): IP65

Mating Hirschmann Connector
Part Number: 333 024-100
Gasket (NBR) Part Number: Supplied

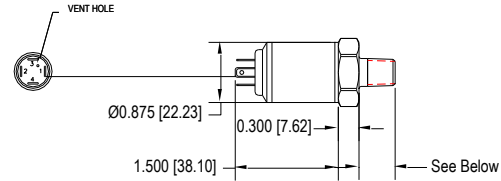


Voltage Regulated, Ratiometric

Pin 1: Supply+
Pin 2: Common
Pin 3: Output+
Pin 4: Case

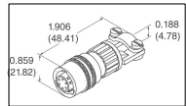
4-20mA Transmitter

Pin 1: -Supply
Pin 2: -Supply
Pin 3: Not Connected
Pin 4: Case



BENDIX CONNECTOR
MIL-C-26482, Part Number PT02A-10
Protection Class (IEC 60529): IP65

Mating Bendix Connector
Part Number: PT06A-10-6S

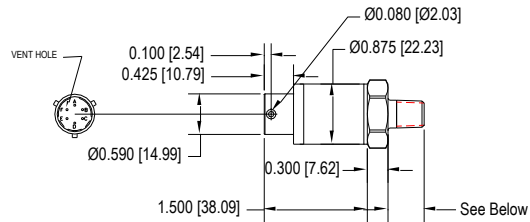


Voltage Regulated, Ratiometric

Pin A: Supply+
Pin B: Output+
Pin C: Common
Pin D: Common
Pin E: Not Connected
Pin F: Vent

4-20mA Transmitter

Pin A: Supply+
Pin B: SDAMISO
Pin C: Supply+
Pin D: SCK/SCLK
Pin E: SS/INT
Pin F: Vent



FLYING LEADS
300 V Overall Foil Shield
Multiconductor, PVC, PVC
Protection Class (IEC 60529): IP65

Voltage Regulated, Ratiometric

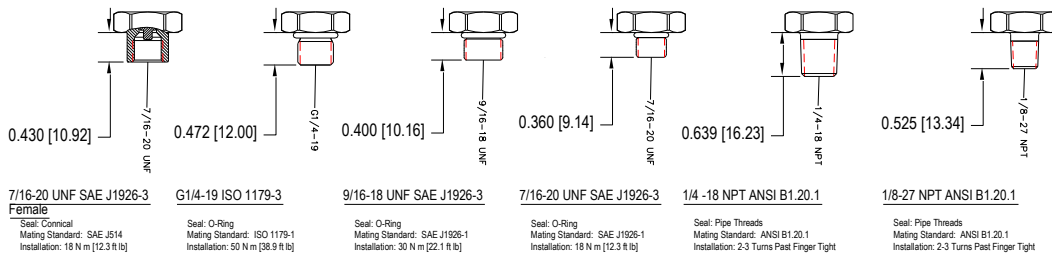
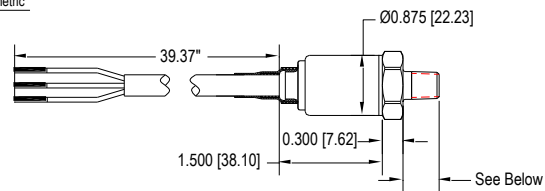
RED: Supply+
GRN: Output+
WHT: No Connection
BLK: Common

Digital I2C / SPI

RED: Supply+
WHITE: SDAMISO
BLACK: Supply-
BLUE: SCK/SCLK
GREEN: SS/INT

4-20mA Transmitter

RED: Supply+
BLK: Supply-



AV Sensors

AdVanced Sensor Design and
Manufacture

MIMCT-7ASERIES



Options

-ZSP Zero & Span Potentiometer

R5= Span Adjustment
R4= Zero Adjustment
R6= Factory (Do Not
Adjust)



-MHC Mating Hirschman Connector

Product is shipped with
GDM 3009 Mating
Connector



PART NUMBERING FOR ORDERS

Series	Port Type	Pressure range (psi)	Pressure Units	Pressure Type (Range Availability) [Package Availability]	Output Type	Electrical Connection	Options
MIMCT-7A	N1 = 1/8 -27 NPT N2 = 1/4-18NPT S1 = 7/16-20UNF S2 = 9/16-18UNF G1 = G1/8 G2 = G1/4 G4 = G1/2 G8 = G1B F1 =Female, 7/16-20UNF	005 010 015 030 050 100 150 300 0.3 0.7 001 002 003 005 007 010 020	P=PSI B=Bar	G= Gage (All Ranges) [All Port Types] A=Absolute (All Ranges) [All Port Types]	1=0-5 Vdc 2=1-5 Vdc 3=1-6 Vdc 4=1-10 Vdc 5=4-20 mA 6=10-90%, 3.3 Vdc 7= 5-95%, 3.3 Vdc 8=10-90%, 5.0 Vdc 9= 5-95%, 5.0 Vdc	M1=Micro M12 P2=Packard, Power B HA=Hirschmann Form A HC=Hirschmann Form C B1=Bendix F1=Flying leads, 1 Meter Fx=Flying leads, x=#of Meter	-L Low Power Option -CL Output Clipping -ZSP Zero & Span Potentiometer (4-20mA only) -MHC Mating Hirschman Connector

Part Number Example: **MIMCT-7A N116.0BG4F10**

**1/8NPT, 0-16Bar , Gage, 1-10Vdc,10M Flying Leads
Pmin=0, Pmax=16Bar**

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 buyer's 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.