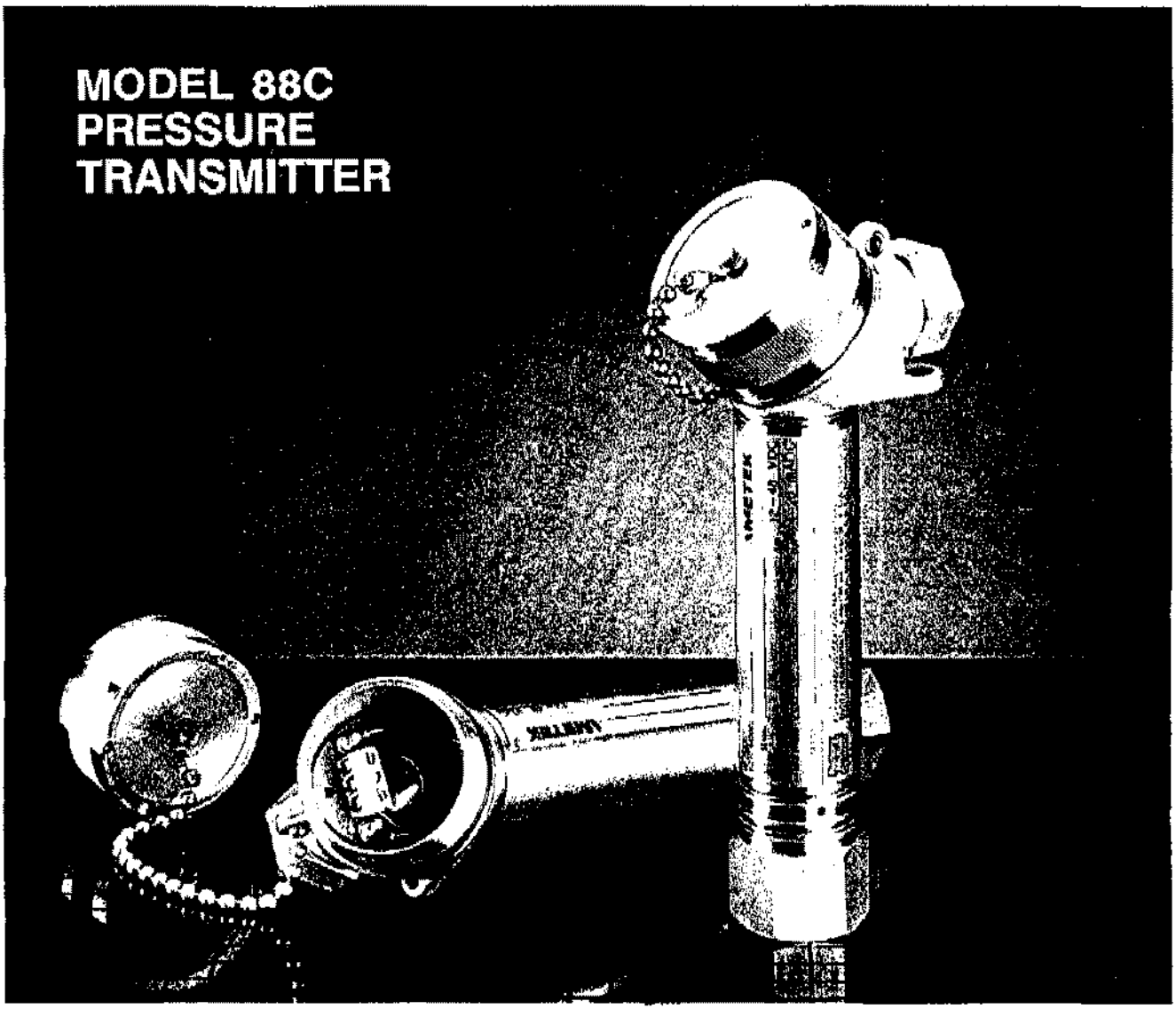
AMETEK

PMT PRODUCTS

PRODUCT DATA

BULLETIN: DB-88C | EFFECTIVE: 6/1/89 | SUPERSEDES: New

MODEL 88C PRESSURE TRANSMITTER



FEATURES

- A miniature, low-priced, full-featured transmitter—just 1.67 lb.
- All welded 316 stainless steel construction and wetted parts (no aluminum)
- Ranges from 0-3 to 0-5000 psig
- ±0.25% accuracy
- Zero and span adjustability
- Full 5:1 range turndown
- Integral junction box
- FM & CSA Explosion-proof and intrinsically safe
- 4-20 mA output at 12-48 VDC
- 5-year warranty

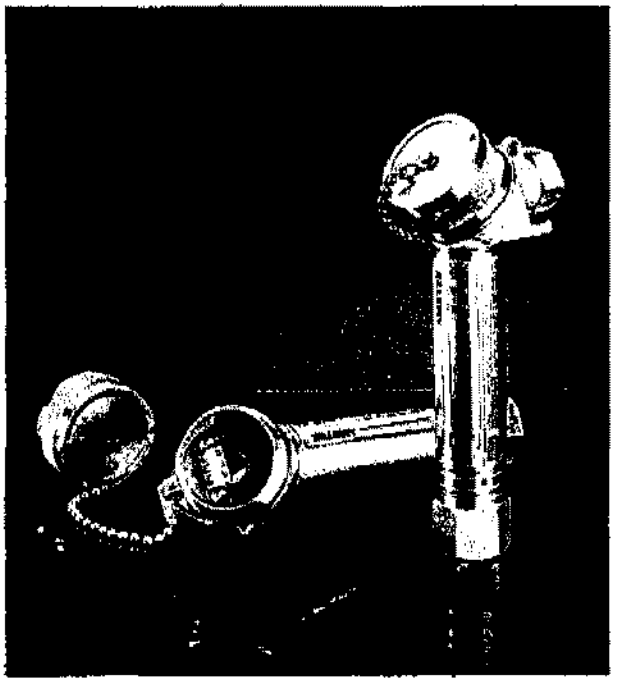
MODEL 88C PRESSURE TRANSMITTER

DESCRIPTION

The Model 88C is the most durable, accurate and cost-effective pressure transmitter presently available. A full featured all stainless steel transmitter, it is designed for years of stable performance in even the toughest environmental and media conditions. Approvals include FM and CSA for both intrinsic safety and explosion-proof ratings. The Model 88C also meets NACE standards for offshore applications. A five year warranty is standard with every unit.

The small size and light weight of the Model 88C transmitter eliminates the need for complicated mounting hardware and mechanical supports, thereby reducing installation time substantially. The integral junction box permits simple field wiring without the need for additional hardware, adding to the speed and ease of installation.

A 4-20 mA output is standard with a 12-48 VDC power supply. With all 316 stainless steel welded construction, the Model 88C is compatible with corrosive media and hazardous environments. With the cover retained by a stainless steel chain and no internal jumpers for span turndown, losses due to misplaced or dropped parts are eliminated.



OPERATION

The heart of the Model 88C pressure transmitter is a silicon piezoresistive sensing chip. This miniature microetched semiconductor gives a voltage output proportional to the applied pressure. The chip is isolated from the process media by a stainless steel diaphragm. A silicone oil or other specified fill fluid is used to transmit the process pressure to the sensor.

An amplifier PCB enclosed in a sealed chamber is used to convert the millivolt signal from the sensor to a calibrated 4-20 mA transmitter output. Feed-throughs for EMI and RF protection are used between the amplifier board and the terminal housing.

Each transmitter is tested over both pressure and temperature ranges. A compensator circuit is used to bring the output of the sensor into specification. After compensation, every transmitter is tested a second time for pressure and temperature effects to ensure that it meets performance specifications.

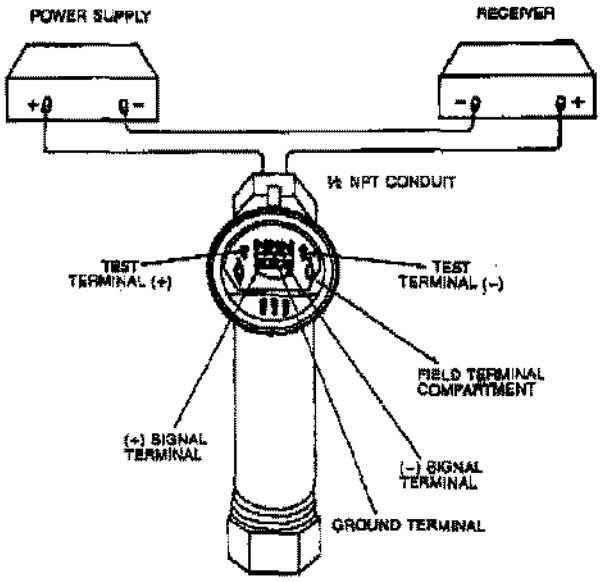
PMT QUALITY COMMITMENT

AMETEK's commitment to quality in Pressure Measurement Technology is unequalled in the industry. Behind every Model 88C transmitter is 8 years of piezoresistive sensor chip and stainless steel isolation technology. Over these eight years AMETEK has developed and perfected test methods and quality checks to ensure that every transmitter will operate within specification in tough environments for years of service. The most advanced Automated Test Systems in the industry are used to characterize and final test every transmitter.

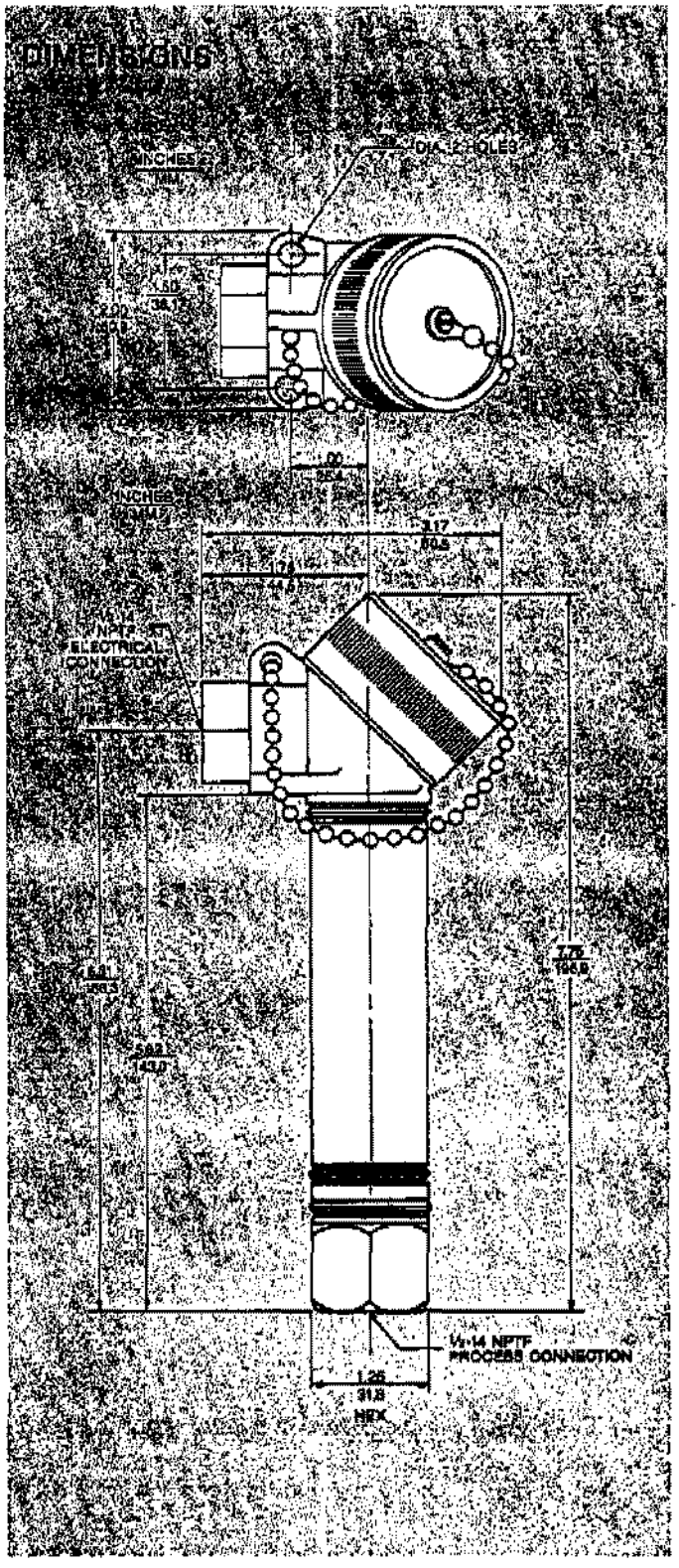
In addition, every transmitter goes through numerous quality checks which verify secure assembly methods all the way through the production process. Nothing less than a 100% quality level is accepted. With this PMT quality commitment and our zero-defect philosophy, the AMETEK five year warranty is backed with confidence.

MODEL 88C PRESSURE TRANSMITTER

WIRING DIAGRAM



DIMENSIONS



ORDERING INFORMATION

MODEL

88C ELECTRONIC PRESSURE TRANSMITTER

Range
001 = 3 to 15 psi (21 to 104 kPa)
002 = 0/3 to 0/15 psi (0/21 to 0/104 kPa)
003 = 0/6 to 0/30 psi (0/41 to 0/207 kPa)
004 = 0/20 to 0/100 psi (0/138 to 0/690 kPa)
005 = 0/60 to 0/300 psi (0/414 to 0/2070 kPa)
006 = 0/200 to 0/1000 psi (0/1380 to 0/6900 kPa)
007 = 0/600 to 0/3000 psi (0/4140 to 0/20700 kPa)
008 = 0/1000 to 0/5000 psi (0/6900 to 0/34500 kPa)

Material	*Base*	*Diaph.*	*Fill*
A =	316 SS	316 SS	Silicone

Others = Consult factory for availability.

Output
2 = 4-20 mADC

Calibration Range (specify)
will be calibrated at maximum range in psi if not specified.

Ex: 88C 004 A 2 (0 to 50 psi)

Model 88C Pressure Transmitter, 100 psi max. range, 316SS base and diaph., silicone oil fill, output at 4-20 mADC and calibrated to 0 to 50 psi.

AMETEK
CONTROLS DIVISION • 820 PENNSYLVANIA BLVD., FEASTERVILLE, PA 19047
TELEPHONE: (215) 355-6900 TELEX: 29-1769 FAX: (215) 355-2937

BM588A

Printed in U.S.A.

SPECIFICATIONS

FUNCTIONAL SPECIFICATIONS

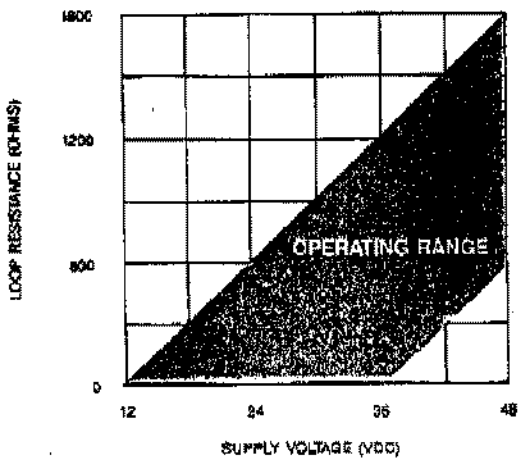
Service: Liquid, Gas or Vapor

Range Limits:
0/3 to 0/15 psi (0/21 to 0/104 kPA)
0/6 to 0/30 psi (0/41 to 0/207 kPA)
0/20 to 0/100 psi (0/138 to 0/690 kPA)
0/60 to 0/300 psi (0/414 to 0/2070 kPA)
0/200 to 0/1000 psi (0/1380 to 0/6900 kPA)
0/600 to 0/3000 psi (0/4140 to 0/20700 kPA)
0/1000 to 0/5000 psi (0/6900 to 0/34500 kPA)

Output: 4-20 mADC, limited to 47 mADC

Power Supply: 12 to 48 VDC with reverse polarity protection

Loop Resistance: 1800 ohms max @ 48 volts



Turndown: 5:1

Temperature Limits:
Compensated −20° to 180°F (−29° to 82°C)
Operating −40°F to 212°F (−40°C to 100°C)
Storage −40° to 212°F (−40°C to 100°C)

Overrange: 200% upper range limit

Humidity Limits: 0-100% RH

PERFORMANCE SPECIFICATIONS

Accuracy: ±0.25% of calibrated span including linearity, hysteresis and repeatability.

Response Time: Time constant of 20 milliseconds.

Stability: ±0.5% of upper range limit for six months

Temperature Effect:
(includes zero and span)
Between 30°F and 130°F (−1°C and 54°C): ±1% of URL per 50°F (28°C)
Between −20°F and 180°F (−29°C and 82°C): ±1.6% of URL per 50°F (28°C)

Power Supply Effect: ±0.005% F.S. per volt

Vibration Effect: ±0.1% of upper range limit for 3 g to 200 Hz

Position Effect: .05%/90° Tilt

Overrange Effect: ±0.15% F.S. per 200% of max. range

PHYSICAL SPECIFICATIONS

Materials of Construction
Process Wetted Parts: 316 SS
Non Wetted Parts: 316 SS
Cast Head: CF-8M (316 Cast SS)
"O" Ring: Buna N
Fill Fluid: DC 200 Silicone (Standard)
Process Connection: ½ NPTF
Electrical Connection: ½ NPTF
Weight: 1.67 lbs.

IN-SYSTEM CALIBRATION