SPECIFICATIONS

- **Type:** Spring suspended dual coil bobbin in permanent magnetic field, no sliding parts, zero friction.
- **Axis Orientation:** Any
- **Sensitivity:** See Table A (+/- 5% at 100 Hz)
- **Cross Axis Sensitivity:** Less than 10%
- **External Field Sensitivity:** < .005 IPS/Gauss at 60Hz
- **Coil Resistance:** (25°C) - See Table A
- **Temperature Limits:**
  - Continuous: -54°C to 375°C
  - Intermittent: -54°C to 400°C
- **Frequency Range:** 15 Hz to 2000 Hz
- **Displacement Limit:** 0.07 (1.8) PK - PK
- **Sensitivity Shift vs Position:** 5% Max.
- **Sensitivity vs Temperature:** -0.02%/°C, Max.
- **Acceleration Limits:** 0 to 50 G's
- **Damping (Electro-Magnetic):**
  - At 20°C: 0.8
  - At 200°C: 0.55
  - At 375°C: 0.4
- **Case to Coil Isolation:**
  - At 20°C: 100 Megohms, Min.
  - At 375°C: 10 Megohms Min.
- **Case Material:** Stainless steel, hermetic seal
- **Weight:** 7.5 oz. (214 g)
- **Hazard Rating:** See Sheet 3
- **See Sheets 2 and 3 for Wiring.**

**TABLE A**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SENSITIVITY</th>
<th>COIL RESISTANCE</th>
<th>TERMINATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>5485C-001-XXX*</td>
<td>105Mv/IPS</td>
<td>102 OHMS</td>
<td>CONNECTOR</td>
</tr>
<tr>
<td>5485C-002</td>
<td>105Mv/IPS</td>
<td>73 OHMS</td>
<td>FIXED CABLE</td>
</tr>
<tr>
<td>5485C-003-XXX*</td>
<td>145Mv/IPS</td>
<td>102 OHMS</td>
<td>CONNECTOR</td>
</tr>
<tr>
<td>5485C-004</td>
<td>145Mv/IPS</td>
<td>135 OHMS</td>
<td>FIXED CABLE</td>
</tr>
<tr>
<td>5485C-005-XXX*</td>
<td>500Mv/IPS</td>
<td>135 OHMS</td>
<td>CONNECTOR</td>
</tr>
<tr>
<td>5485C-006</td>
<td>150Mv/IPS</td>
<td>103 OHMS</td>
<td>FIXED CABLE</td>
</tr>
<tr>
<td>5485C-007-XXX*</td>
<td>150Mv/IPS</td>
<td>105 OHMS</td>
<td>CONNECTOR</td>
</tr>
<tr>
<td>5485C-008</td>
<td>150Mv/IPS</td>
<td>135 OHMS</td>
<td>FIXED CABLE</td>
</tr>
</tbody>
</table>

* = -XXX indicates cable length in feet

(Ex: -010 = 10 feet)
HAZARDOUS AREA

SAFE AREA

548SC

TRANSUDER

CABLE (NOTE 5)

ARMOR

INTRINSICALLY

SAFE

TERMINALS

SINGLE ENDED INPUT

RECEIVER

COIL

SHIELD

CASE

WHT/BLK

NHT

BLX

EARTH GROUND BUS
LESS THAN 1 OHM

SIG.

COM

NOTE 4

(SEE NOTES 1, 2 & 3)

548SC

TRANSUDER

CABLE (NOTE 5)

ARMOR

INTRINSICALLY

SAFE

TERMINALS

DIFFERENTIAL INPUT

RECEIVER

COIL

SHIELD

CASE

WHT/BLK

NHT

BLX

EARTH GROUND BUS
LESS THAN 1 OHM

SIG.

SIG

COM

NOTE 4

(SEE NOTES 1, 2 & 3)

WARNING: TO PREVENT IGNITION OF FLAMMABLE OR COMBUSTIBLE ATMOSPHERE, DISCONNECT POWER BEFORE SERVICING

NOTES:

1. UL LISTED AND CSA CERTIFIED AS INTRINSICALLY SAFE CLASS 1 GROUPS A, B, C, & D WHEN USED WITH ZENER DIODE BARRIER HAVING A MAXIMUM OPERATING DISSIPATION OF 28 VA OR A MAXIMUM SHORTCIRCUIT CURRENT OF 0.25 A ACROSS THE INTRINSICALLY SAFE TERMINALS.

2. ENTITY PARAMETERS OF TRANSUDER:

   MAX. VOLTAGE (Vmax) = 28 Vdc
   MAX. CURRENT (Imax) = 0.25 A
   UNPROTECTED INTERNAL CAPACITANCE (C0) = 0 uF
   UNPROTECTED INTERNAL INDUCTANCE (L0) = 600 uH
   MAX. POWER (Pmax) = 28 W (UL ONLY)

   SUCH THAT THE FOLLOWING CONDITIONS ARE SATISFIED:

   Voc ≤ 2V max
   Is ≤ 2I max + I cable
   Pmax ≤ 2P cable

3. IF Po is the associated apparatus is not known, it may be calculated using the formula:

   Po = (Voc + Imax/I cable) / 4

   4. THE REceiver MUST NOT BE SUPPLIED FROM a POWER SOURCE WHICH IS SUBJECT TO GROUND UNDER NORMAL OR FAULT CONDITIONS EXCEEDING 250 V RMS.

5. CABLE LENGTH BETWEEN TRANSUDER AND ZENER DIODE BARRIER SHALL NOT EXCEED 1000 FT. (300 M).

6. ASSOCIATED AND INTRINSICALLY SAFE APPARATUS MUST BE INSTALLED IN ACCORDANCE WITH ITS MANUFACTURER'S CONTROL DRAWING AND ARTICLE 504 OF THE NATIONAL ELECTRICAL CODE (ANSI/NFPA 70) FOR INSTALLATION IN THE UNITED STATES, OR SECTION 18 OF THE CANADIAN ELECTRICAL CODE FOR INSTALLATIONS IN CANADA.

7. WHEN REQUIRED BY THE MANUFACTURER'S CONTROL DRAWING, THE ASSOCIATED APPARATUS MUST BE CONNECTED TO A SUITABLE GROUND Electrode PER THE NATIONAL ELECTRICAL CODE (ANSI/NFPA 70), THE CANADIAN ELECTRICAL CODE, OR OTHER LOCAL INSTALLATION CODES, AS APPLICABLE. THE RESISTANCE OF THE GROUND PATH MUST BE LESS THAN 1 OHM.

8. WHERE MULTIPLE CIRCUITS EXTEND FROM THE SAME PIECE OF INTRINSICALLY SAFE EQUIPMENT TO ASSOCIATED APPARATUS, THEY MUST BE INSTALLED IN SEPARATE CABLINGS OR IN ONE CABLING HAVING SUITABLE INSULATION. REFER TO ARTICLE 503.50(D) OF THE NATIONAL ELECTRICAL CODE (ANSI/NFPA 70) AND INSTRUMENT SOCIETY OF AMERICA RECOMMENDED PRACTICE ISA R81.2 FOR INSTALLING INTRINSICALLY SAFE EQUIPMENT.

9. ASSOCIATED APPARATUS MUST NOT BE USED IN COMBINATION UNLESS PERMITTED BY THE ASSOCIATED APPARATUS CERTIFICATION.

AGENCY APPROVED PRODUCT

DO NOT DEViate FROM DOCUMENTED CONSTRUCTION OR LISTED PARTS.

METRIX SPECIFICATION, MODEL 548SC,
HIGH TEMPERATURE VELOCITY TRANSUDER
WIRING (HAZARDOUS LOCATIONS)

PAGE 6 OF 8

7623 3