| DWG NO. | SH |
|---|---|
| 12496923 | 1 |

| REVISIONS | | | | |
|---|---|---|---|---|
| ZONE | LTR | DESCRIPTION | DATE | APPROVED |
| | | | | |

CAD MAINTAINED DRAWING. CHANGES SHALL BE INCORPORATED BY THE DESIGN ACTIVITY. DO NOT REVISE DRAWING MANUALLY.

NOTES: (Unless Otherwise Specified)

1. INTERPRET DRAWING IN ACCORDANCE WITH DOD-STD-100 AND ANSI Y14.5M-1994

2. THE TRANSDUCER SHALL BE COMPATIBLE WITH MIL-PRF-2104G (10W) HYDRAULIC FLUID

3.0 ELECTRICAL REQUIREMENTS:

3.1. EXCITATION VOLTAGE: 15.0, +/- 0.50 VOLTS DC, REVERSE POLARITY PROTECTED, RIPPLE AND NOISE: 200 MILLIVOLTS PEAK TO PEAK MAX

3.2 OUTPUT VOLTAGE: 0.5 VDC =0 PSIG
9.5 VDC = 4000 PSIG

3.2.1 TOTAL TEMPERATURE COMPENSATED ERROR: +/- 0.50 % FULL SCALE MAXIMUM

3.2.2 TOTAL ERROR: +/- 1.5 % FULL SCALE MAXIMUM

3.2.3 RESPONSE TIME: <20 MILLISECONDS

3.2.4 EXCITATION (-) AND SIGNAL OUT RETURN SHALL BE ISOLATED (PREFER GREATER THAN 10 MEGOHMS) FROM THE UNIT CASE

3.3 MAXIMUM CURRENT DRAW: 100 MILLIAMPERES

3.4 ELECTROMAGNETIC INTERFERENCE AND RADIO FREQUENCY INTERFERENCE (EMI/RFI) - THE EMISSION OF ELECTROMAGNETIC ENERGY BY THE UNIT AND THE SUSCEPTIBILITY OF THE UNIT TO ELECTROMAGNETIC INTERFERENCE SHALL BE CONTROLLED WITHIN THE REQUIREMENTS OF MIL-STD-461A, NOTICE 4 FOR ARMY GROUND PLATFORMS OR INSTALLATIONS. THE UNIT SHALL BE CAPABLE OF OPERATING WITHIN THE SPECIFIED ELECTROMAGNETIC ENVIRONMENT WITHOUT PERCEPTIBLE INTERFERENCE AS DEFINED IN MIL-STD-461A, NOTICE 4 AND AS SHOWN BELOW:

| | | |
|---|---|---|
| RE05 | 150 KHZ-1000 MHZ | VEHICLES AND ENGINE DRIVEN EQUIPMENT |
| CE07 | 1.5-65 MHZ | POWER SOURCE - TACTICAL VEHICLES |

ELECTROMAGNETIC ANALYSIS SHALL BE USED TO DETERMINE COMPLIANCE WITH THE ABOVE. PERFORMING TESTS IN ONE ELECTROMAGNETIC DISCIPLINE MAY BE SUFFICIENT TO SATISFY REQUIREMENTS IN ANOTHER.

3.5 WORKMANSHIP: ALL DETAILS OF WORKMANSHIP SHALL BE OF THE HIGHEST GRADE CONSISTENT WITH THE INTENTION OF THIS PRODUCT SPECIFICATION. IN ADDITION TO THE ADHERENCE TO THE PHYSICAL AND PERFORMANCE REQUIREMENTS OF THIS SPECIFICATION, THE TRANSDUCER SHALL HAVE NO EVIDENCE OF CRACKS, DENTS, SCRATCHES, BURRS, SHARP EDGES, LOOSE PARTS, FOREIGN MATTER, OR ANY OTHER EVIDENCE OF POOR WORKMANSHIP THAT RENDER THE TRANSDUCER UNSUITABLE FOR THE PURPOSE INTENDED. IN ADDITION, ELECTRONIC COMPONENTS SHALL COMPLY WITH THE GUIDELINES OF MIL-HDBK-454. CIRCUIT CARD DESIGN SHALL FOLLOW THE STANDARD GENERAL GUIDELINES FOR ELECTRONIC EQUIPMENT USING THE FOLLOWING INDIVIDUAL GUIDELINES FROM MIL-HDBK-454: GUIDELINE 9 - WORKMANSHIP; GUIDELINE 15 - METALS, CORROSION RESISTANCE; GUIDELINE 16 - DISSIMILAR METALS; AND GUIDELINE 17 - PRINTED WIRING AND SOLDERING WORKMANSHIP FROM INDUSTRY STANDARD IPC-A-610

4.0 MECHANICAL/PHYSICAL INPUT REQUIREMENTS :

4.1 OPERATING PRESSURE RANGE: 0 PSIG TO 4000 PSIG (0 BAR TO 276 BAR)

4.2 PRESSURE MEDIA: HYDRAULIC FLUID, 10W PER MIL-PRF-2104G

4.3 PROOF PRESSURE: 8000 PSIG (552 BAR)

4.4 BURST PRESSURE: 12,000 PSIG (828 BAR)

4.5 MOUNTING: TRANSDUCER EXTERNAL 37° FLARE STUD END PER SAE J514: 7/16-20 THREAD WITH THE EXCEPTION OF THE DETAIL SHOWN.

4.6 BY DESIGN, THE TRANSDUCER SHALL PREVENT DAMAGE FROM A VACUUM CONDITION OF TRANSIENT PULSE INGRESSION WITHIN THE TRANSDUCER FLUID MEDIA INPUT STUD

4.7 O-RING; NITRILE (BUNA-N) PER MS28778, TYPE CH, 90 SHORE HARDNESS

5.0 ENVIRONMENTAL REQUIREMENTS:

5.1 WATER RESISTANCE: THE TRANSDUCER AND THE ELECTRICAL CONNECTOR WHEN MATED WITH THE HARNESS ELECTRICAL PLUG SHALL BE WATER RESISTANT PER IP67. I.E., SUBMERSED TO A DEPTH OF 1.0 METERS OF WATER FOR A PERIOD OF 30 MINUTES

5.2 DISSIMILAR METALS AS DEFINED IN MIL-STD-889 SHALL BE ELECTRICALLY INSULATED FROM ONE ANOTHER TO PREVENT GALVANIC CORROSION. NO ACTIONS BEYOND NORMAL WASHING AND REPLACEMENT OF DAMAGED PAINT SHALL BE NECESSARY TO KEEP CORROSION PREVENTION IN EFFECT.

5.3 OPERATING FLUID TEMPERATURE RANGE:
-32°C to +121°C (-25°F TO +250°F)

5.4 AMBIENT OPERATING TEMPERATURE RANGE:
-32°C to +71°C (-25°F TO +160°F)

5.5 VIBRATION:
SINE SWEEP: 2.1 G'S PK, APPLIED FROM 5HZ TO 500HZ, FOR A PERIOD OF 1 HOUR TO EACH OF THE THREE MUTUALLY PERPENDICULAR AXES.

RANDOM VIBRATION: 2.0 G'S RMS APPLIED FOR A PERIOD OF 15 MINUTES TO EACH OF THE THREE MUTUALLY PERPENDICULAR AXES.

5.6 SHOCK: 20 g PK , 11 MILLISECONDS, HALF SINE PULSE, PER MIL-STD 810E METHOD 514.6, PROCEDURE I

6 ITEM IDENTIFICATION :

APPLY THE FOLLOWING MARKINGS IN ACCORDANCE WITH MIL-STD-130

19207-12496923 REV

MFR- [ ] - [ ]

CURRENT REVISION

MANUFACTURE'S PART NUMBER

MANUFACTURER'S CAGE CODE

7 APPLY TO MARKER THE FOLLOWING MARKING IN ACCORDANCE WITH MIL-STD-130 AND SAE AS81531: 12496923 J1

8. THE TRANSDUCER SHALL HAVE A MEAN TIME BETWEEN FAILURE (MTBF) OF 13821 HRS MINIMUM

9 IDENTIFICATION OF THE SUGGESTED SOURCE(S) OF SUPPLY IS NOT TO BE CONSTRUED AS A GUARANTEE OF PRESENT OR CONTINUED AVAILABILITY

VENDOR ITEM DRAWING

PART NO. 12496923

| NEXT ASSY | USED ON |
|---|---|
| M9 ACE HDC | |

APPLICATION

| REV | REV STATUS |
|---|---|
| SH | |

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON: 2 PLACE ± 3 PLACE ± ANGLES ±
MATERIAL
THIRD ANGLE PROJECTION
MATL ENGRG

CONTRACT NUMBER
CONTRACTOR
United Defense L.P.
Ground Systems Division
Arlington, Virginia 22209
DRAWN BY H.N. DATE 03/05/06
CHECKER ENGINEER STB
DRAWING APPROVAL
DESIGN APPROVAL

U.S. Army Tank-automotive and Armaments Command
WARREN, MICH. 48397-5000

TRANSDUCER, PRESSURE

| SIZE | CODE IDENT NO. | DRAWING NO. |
|---|---|---|
| D | 19207 | 12496923 |

SCALE UNIT WT SHEET 1 OF 4

PRO/E

ASME Y14.1-1995
19207-A.dwg