

INCH-POUND

MIL-E-85082/1

16 November 1992

SUPERSEDING

MIL-E-81512/1

18 December 1968

MILITARY SPECIFICATION SHEET

ENCODER, SHAFT POSITION TO DIGITAL
CONTACT TYPE, ALTITUDE REPORTING
TYPE 11KUL1267R80A

This specification is approved for use by all Departments and Agencies of the Department of Defense. The requirements for acquiring the Encoders, Shaft Angle to Digital, described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) cited in the solicitation: MIL-E-85082.

TABLE I. Requirements.

| Requirements | Value | Unit | Tolerance |
|------------------------|-------------------------------------|--------------------------------|-----------|
| Code range | ICAO | | |
| Capacity | -12 to +1267 (-1200 to +126,700) | counts/100 ft feet altitude | maximum |
| Resolution | 80 | counts/turn | |
| Full count revolutions | 16 | turns | |
| Voltage interrogation | 15 | volts DC | maximum |
| Contact current | 5.0 | mA/brush | maximum |
| Starting torque | 0.5 | oz-in | maximum |
| Running torque | 0.5 | oz-in | maximum |
| Operating speed | 20,000 | feet/minute | maximum |
| Slew speed | 80,000 | feet/minute | maximum |
| Radial play | 0.0015 | inches | maximum |
| End play | 0.0015 | inches | maximum |
| Total shaft runout | 0.0008 | inches | maximum |
| Perpendicularity | 0.0010 | inches | maximum |
| Concentricity | 0.0010 | inches | maximum |
| Operating temperature | -55° to +85° | degrees C | min-max |
| Moment of inertia | N/A | gm-cm ² | maximum |
| Weight | N/A | oz | maximum |

AMSC - N/A

FSC 5990

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

MIL-E-85082/1

TABLE II. Part identifying number variant characteristics.

| Part Identifying No. <u>1</u> / | A ±0.010 | E +0.000 -0.001 | G Maximum | Shaft Style | Terminal End | U +0.0000 -0.0001 |
|---------------------------------|-------------|-----------------------|--------------|----------------|-----------------|-------------------------|
| M85082/1-01A | .125 | .440 | 2.500 | Slotted | Wire Leads | .1248 |
| M85082/1-02A | .250 | ▲ | ▲ | Slotted | Wire Leads | ▲ |
| M85082/1-03A | .375 | ↓ | ↓ | Slotted | Wire Leads | ↓ |
| M85082/1-04A | .500 | | | Slotted | Wire Leads | |
| M85082/1-05A | .625 | ▼ | ▼ | Slotted | Wire Leads | ▼ |
| M85082/1-06A | .750 | .440 | 2.500 | Slotted | Wire Leads | .1248 |

1/ Part identifying number M85082/1-01A shall be the NATO standard.

1/ The suffix letter following the numerical dash number corresponds to the latest modification letter in the type designation.

TABLE III. Part identifying number cross-reference. 1/

| SUPERSEDED PART NUMBER | NEW PART IDENTIFYING NUMBERS |
|------------------------|------------------------------|
| MIL-E-81512/1 | |
| M81512/1-01 | M85082/1-01A |
| M81512/1-02 | M85082/1-02A |
| M81512/1-03 | M85082/1-03A |
| M81512/1-04 | M85082/1-04A |
| M81512/1-05 | M85082/1-05A |
| M81512/1-06 | M85082/1-06A |

1/ All line items shown in Table III refer to equivalent and interchangeable shaft position to digital encoders of the same type designation modification. Part number changes do not affect form, fit or function of the encoders listed therein.

MIL-E-85082/1

TABLE III. Wire termination identification.

| | ENCODER SYMBOL NO. | COLOR |
|--|---|--|
| | D2 | WHITE/YELLOW TRACER |
| | D4 | WHITE/BROWN TRACER |
| | A1 | WHITE |
| | A2 | GRAY |
| | A4 | BLUE |
| | B1 | GREEN |
| | B2 | YELLOW |
| | B4 | ORANGE |
| | C1 | RED |
| | C2 | BROWN |
| | C4 | BLACK |
| POWER SUPPLY, INTERNAL OR EXTERNAL | POSITIVE POWER LEAD POWER COMMON CASE GROUND IF NECESSARY | WHITE/GREEN TRACER WHITE/BLUE TRACER WHITE/VIOLET TRACER |

NOTE:

1. The white and blue lead (power common) shall float with respect to case ground; that is, the wire leads shall not be connected internally.
2. Dimensions H and I shall be 0.062 with a maximum tolerance.
3. Dimension K shall be 0.062 with a maximum tolerance.
4. Rotation for increasing count shall be clockwise.

Custodians:

Navy - AS

Army - AR

Air Force - 85

Preparing activity:

Navy - AS

(Project 5990-0405-1)

Review activities:

DLA - ES