

**METRIC**

MIL-C-24733/1 (NAVY)

31 August 1989

# MILITARY SPECIFICATION SHEET

## CONTROLLER INTERFACE UNIT, FIBER OPTIC, 2 FIBER CHANNELS, MULTIMODE FIBER (METRIC)

This specification is approved for use by the Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product 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) specified in the solicitation: MIL-C-24733.

### CLASSIFICATION

Fiber style: MM (multimode).  
Fiber quantity: 2.  
Wavelength class: A (1.31  $\mu\text{m}$ ).  
Electrical signal type: 2 (Digital).

AMSC N/A

FSC 6030

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

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RELIABILITY:  $\geq 10,000$  hours MTBF.

CONSTRUCTION:

Degree of enclosure: Watertight.

Fiber optic pigtail: In accordance with MIL-C-85045 and MIL-C-85045/14.

Dimensions: See figure 1.

Weight:

Local unit:  $\leq 13.6$  kg.

Remote unit:  $\leq 13.6$  kg.

Fiber optic transmitters: In accordance with MIL-T-24721.

Fiber optic receivers: In accordance with MIL-R-24720.

Fiber optic couplers: N/A.

Fiber optic connectors: N/A.

Fiber optic splices: N/A.

Multiplexers and demultiplexers: N/A.

Switches and indication lights: The unit shall have as minimum the following switches and indicator lights for both the remote and local units:

- (a) Main input power on/off switch and indicator light.
- (b) Unit reset button.
- (c) Fiber optic transmission "ok" indicator light.
- (d) Indicator lights that show the status of all input and output signals to remote and local units.

PERFORMANCE

Prime power: 115 volts, 50 to 70 hertz (Hz).

Prime power variation - dc: N/A.

Current load: 2 amperes, maximum.

Interface characteristics:

Remote control panel interface:

Analog channels: N/A.

Digital channels: 28 volt direct current (Vdc) control signals, relay control and indicator light.

Local control interface:

Analog channels: N/A.

Digital channels: 28 Vdc control signals, relay control and indicator light. Outputs capable of driving a minimum of 3 parallel latching relay coils with current ratings of 100 milliamperes (mA) and pulse width of 1.5 seconds.

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Optical performance parameters:

Power margin: 10 decibels (dB).  
Dynamic range: 20 dB, maximum path configuration of 2 kilometers (km).  
Data rate: 62.5 kilobaud.

ENVIRONMENTAL REQUIREMENTS

Temperature range: 2 (operating: minus 28 to plus 65°C;  
storage: minus 62 to plus 71°C).  
Nuclear radiation resistance: N/A.

ELECTROMAGNETIC INTERFERENCE SUPPRESSION

Electromagnetic: Below-deck application, in accordance with MIL-STD-461,  
part 5.

Conducted susceptibility: CS01, CS02, CS06, CS09.  
Conducted emission: CE01, CE03, CE06.  
Radiated emission: RE01, RE02, RE03.  
Radiated susceptibility: RS01, RS02, RS03.

MAINTAINABILITY

Quantitative maintainability requirements: MTTR  $\leq$  30 minutes.

SAFETY:

Laser safety: N/A.

SECURITY: N/A.

QUALITY ASSURANCE PROVISIONS

Performance:

Interface characteristics: A local unit controller shall be connected to a complimentary remote control unit by the applicable fiber optic cable. Proper operation shall be verified by 28-volt control signals input at the remote control panel and verifying proper control signals at the output of the local unit (28-Vdc control signals output from the local unit).

Environmental tests:

Explosive atmosphere: The values for the test conditions shall be as follows:

Fuel - n-hexane (reagent grade or 95 percent).  
Fuel amount - 3.8 percent by volume of the test chamber.  
Test altitude - sea level.  
Test temperature - plus 85°C.

Nuclear radiation: N/A.

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Electromagnetic interference suppression: Tests shall be conducted in accordance with MIL-STD-462, over a frequency range of 14 to 500 kilohertz (kHz). The RS03 limit shall be 200 volts per meter. Tests shall be conducted at ambient conditions. Verification of operation shall be performed after the test.

PART OR IDENTIFYING NUMBER: D24733/01-001.

PART DESIGNATOR: MM2A2.

Review activities:

Navy - EC, YD

Preparing activity:

Navy - SH

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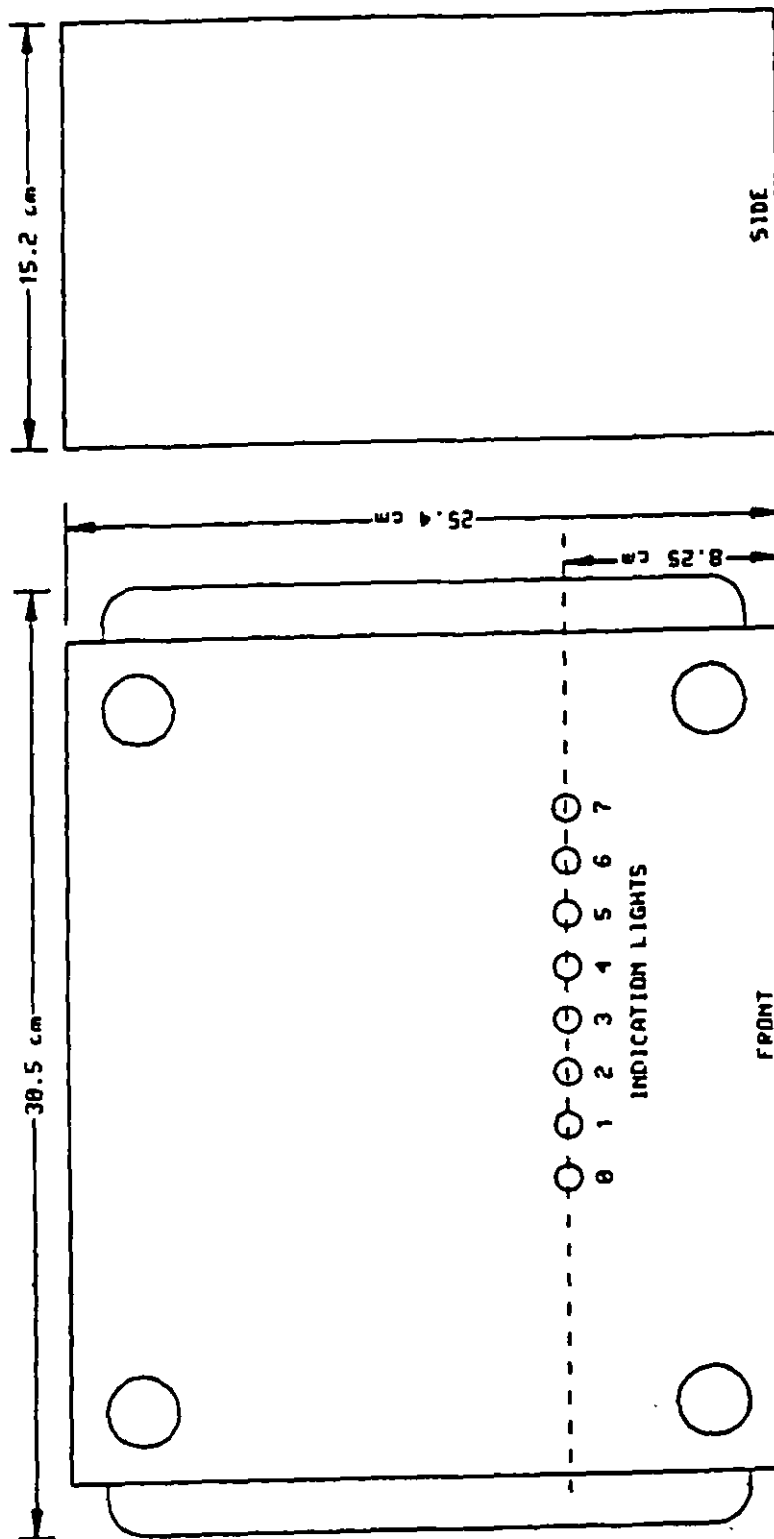


FIGURE 1. Local unit or Remote unit.