# APD-016M040

Vishay Dale

**VISHAY**

# Plasma Panel Display Modules
## 16 Character Display
## with Drive Electronics and Controller

## FEATURES

- 16 (1 x 16) alphanumeric characters (5 x 7 dot matrix).
- Bezel and filter included.
- Parallel and serial interfaces.
- High brightness.
- Wide viewing angle (150°).
- Low input voltage.
- Compact size.
- Enhanced replacement for Burroughs SSD1000-0061 (optionally-0041).

The APD-016M040 has two modes of operation, parallel or serial input. The parallel interface consists of a 6 bit data bus plus 3 hand-shaking and 3 control lines. New characters are entered from right to left by presenting the appropriate 6 bit code to the data bus and latching it into memory with a DATA PRESENT pulse. A WRITE CYCLE output signal is provided during the time in which data can be written to the display, and a DATA TAKEN pulse occurs after data has been accepted, or when BACK SPACE occurs. BACK SPACE allows the displayed message to be shifted to the right, recalling the last character shifted off the left end of the display. Up to 16 characters may be recalled, after which blanks are entered in the left position of the display. The display may be cleared at any time by bringing the CLEAR line low. A BLANK DISABLE line is provided to blank the display without altering the refresh memory contents.

The serial interface is RS-232-C compatible and has 3 selectable baud rates (300, 1200, 9600). This mode assumes 1 start bit, 8 data bits, 1 stop bit, no parity and half duplex. No handshaking is provided. Mode settings and baud rates are selected as follows. (Both lines are internally pulled to Vcc with 6.8 kilohm pull-up resistors.)

| SS0 | SS1 | BAUD RATE |
|-----|-----|-----------|
| 0 | 0 | 300 |
| 0 | 1 | 1200 |
| 1 | 0 | 9600 |
| 1 | 1 | Parallel |

## PIN DESCRIPTION

| PIN | DESCRIPTION | PIN | DESCRIPTION |
|-----|-------------|-----|-------------|
| 1 | DATA BIT 5 | A | DATA BIT 4 |
| 2 | DATA BIT 3 | B | DATA BIT 2 |
| 3 | DATA BIT 1 | C | DATA BIT 0 |
| 4 | N/C | D | DATA PRESENT |
| 5 | CLEAR | E | BACK SPACE |
| 6 | SPEED SELECT 1 | F | DATA TAKEN |
| 7 | WRITE CYCLE | H | RECEIVED DATA |
| 8 | BLANK DISABLE | J | + 5 V |
| 9 | SPEED SELECT 0 | K | N/C |
| 10 | N/C | L | GND |

Keyway between pins 4 (D) and 5 (E).

## OPTICAL SPECIFICATIONS

**Viewing Area:** 0.40" [10.2mm] W x 6.69" [169.9mm] L.

**Number of Characters:** 16.

**Character Size:** 0.28" [7.1mm] W x 0.40" [10.2mm] H.

**Pixel Size:** 0.036" [0.914mm] diameter.

**Pixel Pitch:** 0.061" [1.55mm].

**Character Spacing:** 2 blank columns between successive characters - 0.147" [3.73mm].

**Luminance:** 80 foot lamberts.

## STANDARD ELECTRICAL SPECIFICATIONS

| | SYMBOL | MIN. | TYP. | MAX. | UNITS |
|---|--------|------|------|------|-------|
| Supply Voltage | VCC | 4.75 | 5 | 5.25 | V |
| Supply Current (1) | ICC | — | 1.25 | 1.75 | A |
| Logic One Voltage | VIH | 2 | — | — | V |
| Logic Ø Voltage | VIL | — | — | 0.8 | V |

*Vcc is the input to a DC-DC converter.
There may be peak in rush currents higher than shown.

## DIMENSIONS in inches [millimeters]

8.50 [215.9]

7.15 [181.6]

0.680 [17.27]

**DISPLAY AREA**

0.820 [20.8]   2.25 [57.2]

0.185 [4.70]

0.156 [3.96]
¢ - ¢

0.720 [18.3]

**Mates with DALE EB81-A10GX-D or equivalent**

1.70 [43.2]

1.96 [49.8] Max

1.81 [46.0] Max.

2.40 [61.0] Ref.

¢ of Pad #1
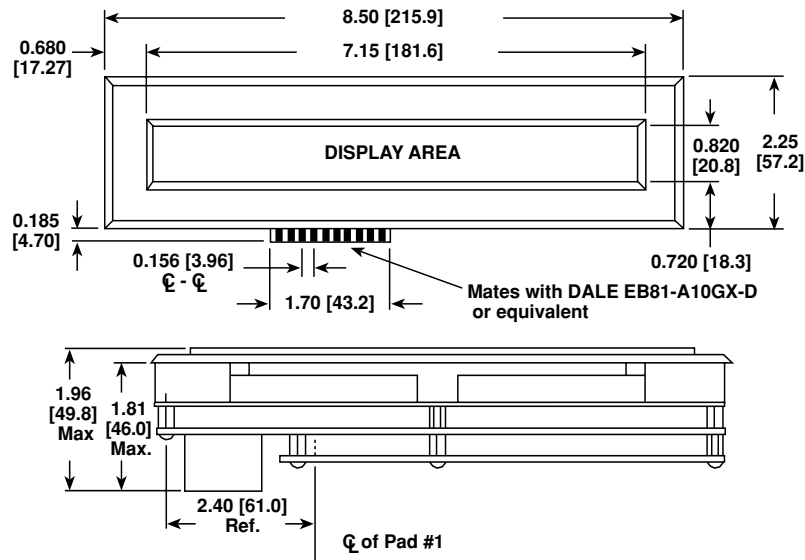
## ORDERING INFORMATION

| DESCRIPTION | PART NO. |
|---|---|
| Display and Electronics (includes Bezel) (Equivalent to Burroughs SSD1000-0061) | APD-016M040 |
| Display and Electronics (includes Bezel) Data Entry is Left to Right (Equivalent to Burroughs SSD1000-0041) | APD-016M040-1 |
| Mating Connector | 280498-01 |

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