

128 x 64 DOT MATRIX, GAS-PLASMA DISPLAY WITH CONTROLLER AND DC - DC CONVERTER

PLASMADOT™ full field dot matrix DC plasma display systems include driver electronics, on-board power supply, and a dedicated microprocessor to perform display refresh and user interface operations. Bi-directional communication with the display system is accomplished via an 8-bit ASCII interface in either parallel or RS-232C formats. Text inputs can be displayed in a choice of standard fonts and styles, or users can program custom characters to accommodate special requirements. Graphic input commands may also be used to display overlays to further enhance the displayed information.

FEATURES

Display Format:	64 rows x 128 columns
Overall Size:	8.00" x 5.00" x 1.50"
Overall Viewing Area:	5.10" x 2.54"
Pixel Size:	.020" x .020"
Row Pitch:	.040"
Column Pitch:	.040"
Luminance	50 fL
Viewing Angle	130°

ELECTRICAL SPECIFICATIONS**Absolute Maximum Ratings**

Item	Symbol	Value	Unit
Converter Input Voltage	V _p	-0.3 to +35.0	V
Operating Temperature	T _{opr}	0 to +60	°C
Storage Temperature	T _{stg}	-40 to +85	°C
Logic Input Voltage	V _{in}	-0.3 to +7.0	V

Recommended Operating Conditions (Measured with all pixels lit.)

Item	Symbol	Min	Typ	Max	Unit
Converter Input Voltage	V _p	10.8	12	26	V
Converter Input Power	P _{in}			15	Watts
Operating Temperature	T _{opr}	0	25	60	°C

RS232 Interface Signals (T_{opr} = +25°C)

Item	Symbol	Min	Typ	Max	Unit
Input Threshold Voltage - Low	V _{tl}	0.8	1.2		V
Input Threshold Voltage - High	V _{th}		1.5	2.4	V
Output Voltage Swing	V _{out}	±5	±8		V

128 x 64 DOT MATRIX, GAS-PLASMA DISPLAY WITH CONTROLLER AND DC – DC CONVERTER**Parallel Interface Signals** (Topr = +25°C)

Item	Symbol	Min	Max	Unit
Input High Voltage	Vih	3.5	Vcc	V
Input Low Voltage	Vil	-0.5	0.8	V
Input Leakage Current	Iin	-10	+10	UA
Output High Voltage	Voh	3.5		V
Output Low Voltage	Vol		0.5	V

SERIAL INTERFACE PORT

Data Bits:	8
Parity:	None
Start Bits:	1
Stop Bits:	1
Baud Rate:	4800, 9600, 19.2K, 38.4K

BAUD RATE	JUMPER 1	JUMPER 2
4800	X	X
9600		X
19.2K	X	
38.4K		

‘X’ indicates an installed shunt.

Environmental Specifications

Item	Min	Max	Unit
Operating Temperature	0	+60	°C
Storage Temperature	-40	+ 85	°C
Humidity (Non-Condensing)	0	95	%
Vibration (10-55 Hz, .06” P-P)		3	G
Shock P (acceleration, 11 Msec)		30	G
Altitude (Operating)		20,000	ft.
Altitude (Non-Operating)		70,000	ft.

128 x 64 DOT MATRIX, GAS-PLASMA DISPLAY WITH CONTROLLER AND DC - DC CONVERTER**CUSTOMER INTERFACE****Parallel Communication Interface Connector J2**

Mating Connector: AMP Part No. 746285-6 (or equivalent)

J2 Pin No.	Description	Computer Port	J2 Pin No.	Description	Computer Port
1	DATA 0	2	2	GND	18
3	DATA 1	3	4	GND	19
5	DATA 2	4	6	GND	20
7	DATA 3	5	8	GND	21
9	DATA 4	6	10	GND	22
11	DATA 5	7	12	TEST*	14
13	DATA 6	8	14	GND	23
15	DATA 7	9	16	GND	24
17	WR*	1	18	GND	25
19	SEL*	17	20	GND	12
21	RD*	16	22	GND	13
23	RESET*	-	24	BUSY	11
25	BLANK*	15	26	GND	10

* = Negative true logic

PARALLEL COMMUNICATIONS PORT CABLE CONNECTOR

All interface signals for the 8-bit I/O port are supplied to the display by a 26-pin ribbon cable header. It is recommended to use a receptacle with the center polarization.

Power Supply Connector J3

Mating Connector: Amp Part No. 1-480424-0

J3 Pin No.	Description
1	+12 Volts Input
2	GND
3	GND
4	+5 Vdc @ 150 mAmps

Serial Communications Interface Connector J1

Mating Connector: Amp Part No. 747321-4 (or equivalent)

J1 Pin No.	Name	Description
2	TxD	Transmit Data (Output) - Output sent by the display back to the host.
3	RxD	Receive Data (Input) - Data sent by the host to the display system.
4	CTS	Clear to Send (Input) - Input indicates if the host is ready to accept data from The display system.
8	DTR	Data Terminal Ready (Output) - Output indicates to the host if the display system is Ready to accept data.
5	GND	Signal Ground - Logic return for all serial interface signals.

*Pins 1,6,7, and 9 are not connected.

Technical drawing of the LCD module showing top, side, and detail views with dimensions and labels.

Top View Dimensions:

- Overall Width: 8.00
- Overall Height: 5.00
- Internal Width: 7.700
- Internal Height: 4.700
- Display Area: 6.000 ± .030
- Display Area Height: 3.490 ± .030
- Display Area Width: 128 PIXELS @ .040 OVERALL = 5.100
- Display Area Height: 64 PIXELS @ .040 = 2.540 OVERALL
- Mounting Hole Diameter: .150 THRU HOLE
- Mounting Hole Clearance: .300 CLEARANCE 4X BOTH SIDES
- Mounting Hole Position: ROW 1, COLUMN 1
- Mounting Hole Spacing: .15
- Mounting Hole Diameter: .062 REF.
- Mounting Hole Position: J2, J1, J3
- Mounting Hole Spacing: .395 ± .025
- Mounting Hole Diameter: .062 REF.
- Mounting Hole Position: J2, J1, J3
- Mounting Hole Spacing: .395 ± .025
- Mounting Hole Diameter: .062 REF.
- Mounting Hole Position: J2, J1, J3
- Mounting Hole Spacing: .395 ± .025

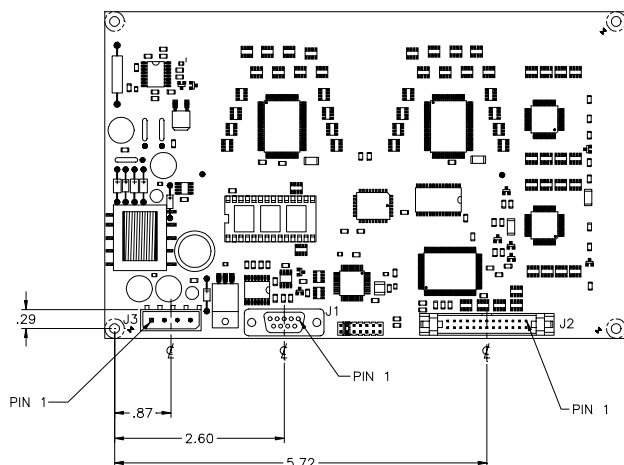
Side View Dimensions:

- Overall Thickness: 1.570 MAX. PANEL THICKNESS
- Mounting Hole Diameter: .150 THRU HOLE
- Mounting Hole Clearance: .300 CLEARANCE 4X BOTH SIDES
- Mounting Hole Position: ROW 1, COLUMN 1
- Mounting Hole Spacing: .15
- Mounting Hole Diameter: .062 REF.
- Mounting Hole Position: J2, J1, J3
- Mounting Hole Spacing: .395 ± .025
- Mounting Hole Diameter: .062 REF.
- Mounting Hole Position: J2, J1, J3
- Mounting Hole Spacing: .395 ± .025
- Mounting Hole Diameter: .062 REF.
- Mounting Hole Position: J2, J1, J3
- Mounting Hole Spacing: .395 ± .025

Detail A:

- Mounting Hole Diameter: .150 THRU HOLE
- Mounting Hole Clearance: .300 CLEARANCE 4X BOTH SIDES
- Mounting Hole Position: ROW 1, COLUMN 1
- Mounting Hole Spacing: .15
- Mounting Hole Diameter: .062 REF.
- Mounting Hole Position: J2, J1, J3
- Mounting Hole Spacing: .395 ± .025
- Mounting Hole Diameter: .062 REF.
- Mounting Hole Position: J2, J1, J3
- Mounting Hole Spacing: .395 ± .025
- Mounting Hole Diameter: .062 REF.
- Mounting Hole Position: J2, J1, J3
- Mounting Hole Spacing: .395 ± .025

PIN ASSIGNMENTS



J3 POWER	
PIN	NAME
1	+12 (Vin)
2	GND
3	GND
4	+5V (OUT)

J1	
PIN	NAME
1	N/C
2	TxD
3	RxD
4	CTS
5	GND
6	N/C
7	N/C
8	DTR
9	N/C

J2			
PIN	NAME	PIN	NAME
1	DATA 0	2	GND
3	DATA 1	4	GND
5	DATA 2	6	GND
7	DATA 3	8	GND
9	DATA 4	10	GND
11	DATA 5	12	TEST ¹
13	DATA 6	14	GND ¹
15	DATA 7	16	GND
17	WR ¹	18	GND
19	SEL ¹	20	GND
21	RD ¹	22	GND
23	RESET ¹	24	BUSY
25	BLANK ¹	26	GND