PRODUCT GUIDE

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ABOUT US

From modest beginnings in 1995, Matrix Orbital has grown into a world-renowned communication interface display solution provider. After recognizing the need for an advanced and easy-to-use display, Matrix Orbital designed a revolutionary intelligent interface for OLEDs, TFTs, LCDs, and VFDs that has been used in defence, aerospace, and advanced technology industries. Since then, through creativity, imagination, and determination, our product line has grown dramatically to accommodate the needs of you, our customer.

Our dependable, flexible and easy-to-program Serial, RS422, I²C and USB displays are highly suitable for applications ranging from short-run prototyping to large-volume production runs, fully customizable to your needs. To remain competitive in the marketplace, Matrix Orbital continues to add to its selection of high-quality displays.

At Matrix Orbital, we strive to offer the most comprehensive technical support in the industry. Through innovation and willingness to listen to our customers, Matrix Orbital can provide solutions that the competition cannot. By identifying the needs of our customers we meet and exceed expectations. From our Canadian headquarters and manufacturing facilities, our team is ready to work with you to create the perfect display.

MATRIX ORBITAL

FULL COLOR TFT DISPLAYS

Matrix Orbital's GTT series of intelligent displays combine top of the line TFTs with integrated touch screens, 2GB of on-board memory for custom fonts, animations, and graphics, a piezo buzzer and vibratory motor for audio and haptic feedback, and much more! Featuring a powerful Cortex M3 processor, these displays are the culmination of Matrix Orbital's years of experience in the communication interface and GUI fields, merged with a dazzling full color display, available with resistive or capacitive touch and utilizing an extended version of our widely used command library and industry standard communication protocols (RS232, I2C, TTL, RS422 and USB).

Crafted to become crisp, controllable canvases for creativity, and combined with our new, easy to use, GTT Designer software, the customizable GTT series will quickly become the gorgeous face of your application.

PART NUMBER	RESOLTION	INTERFACE					TOUCH			MODULE SIZE W x H x T (mm)	DISPLAY SIZE W x H (mm)
		RS232	TTL	I²C	RS422	USB	Res.	PCAP	Keypad		
GTT29A	320 x 102	•	•	•		•			•	140.00 x 38.00 x 21.95	70.08 x 22.34
GTT35A	320 x 240	•	•	•	•	•	•	•		90.00 x 78.00 x 19.53	70.08 x 52.56
GTT38A	480 x 116	•	•	•			•	•		140.00 x 38.00 x 19.55	95.04 x 22.97
GTT43A	480 x 272	•	•	•	•	•	•	•		135.10 x 80.50 x 17.10	95.04 x 53.86
GTT50A	800 x 480	•	•	•	•	•	•	•		142.00 x 90.00 x 17.00	108.00 x 64.80
GTT52A*	480 x 128	•	•	•	•	•				180.00 x 65.00 x 20.00	127.15 x 33.91
GTT70A	800 x 480	•	•	•	•	•	•	•		185.00 x 102.00 x 18.80	153.84 x 85.63

Custom sizes and designs are available upon request *Product not yet released. Specifications subject to change.

GTT50A

GTT70A

GTT43A

GTT29A

GTT35A

GTT38A

- TFT Touch Screen with bright, vivid 16-bit color
- 2 GB of on board memory for fonts, graphics and animations
- Programmable to display any language
- Voltages available: 5 Vdc or 9-35 Vdc.
- Piezo Buzzer and vibratory motor to provide audio and tactile feedback
- Simple command structure for fast and easy development
- Free GTT Designer software, with numerous tools to allow you to create screens and interfaces
- One year warranty
- Full technical support available including sample code
- 6 General Purpose Outputs
- A powerful Cortex M3 processor running at 120MHz
- 32MB of RAM, 64MB on GTT50A and GTT70A
- Wide variety of accessories available, including power and mounting solutions
- Customizable options, with low production minimums

MATRIX ORBITAL

Character LCD

Covering the most popular liquid crystal display configurations, control of the modules has been simplified to a set of commands delivered via RS232, RS422, I²C and USB. Meant to save time and money, we have worked to ensure that the tedious timing and special conditions typical of display controllers have been eliminated from our interface to help get your project to market faster.

LK204-7T-1U-TCI

LK202-25-GW
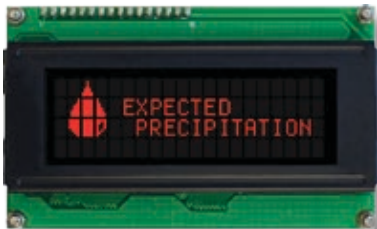
LK204-25-R

Part Number	Characters x Lines	Interface					Keypad (Max Keys)	GPOs	Module Size W x H x T (mm)	Character Size W x H (mm)	Display Size W x H (mm)
		RS232	TTL	I²C	RS422	USB					
LCD0821	8 x 2	•	•	•			N/A	1	58.00 x 32.00 x 27.32	2.96 x 5.56	27.80 x 11.50
LCD2041	20 x 4	•	•	•			N/A	1	98.00 x 60.00 x 30.50	2.95 x 4.75	70.40 x 20.80
LK162-12	16 x 2	•	•	•		•	12	7	80.00 x 36.00 x 28.82	2.95 x 5.55	56.20 x 11.50
LK162A-4T*	16 x 2	•	•	•		•	4	2	96.40 x 23.00 x 31.14	2.45 x 3.95	48.20 x 8.90
LK162B-7T*	16 x 2	•	•	•		•	7	2	125.00 x 35.00 x 33.00	2.95 x 5.55	56.20 x 11.50
LK202-25	20 x 2	•	•	•		•	25	6	116.00 x 37.00 x 29.00	3.20 x 5.55	73.50 x 11.50
LK204-25	20 x 4	•	•	•	•	•	25	6	98.00 x 60.00 x 30.50	2.95 x 4.75	70.40 x 20.80
LK204-7T-1U*	20 x 4	•	•	•		•	7	3	142.00 x 38.00 x 36.00	3.90 x 5.20	77.30 x 23.60
LK402-25	40 x 2	•	•	•		•	25	6	182.00 x 33.50 x 31.46	3.20 x 5.55	147.50 x 11.50
LK404-25	40 x 4	•	•	•			25	6	190.00 x 54.00 x 29.18	2.78 x 4.89	140.45 x 23.16

*Has 3 red/green bi-color LEDs ** Standard temperature range is 0° to +50°C, voltage is +5Vdc ±0.25V
Custom sizes and designs are available upon request
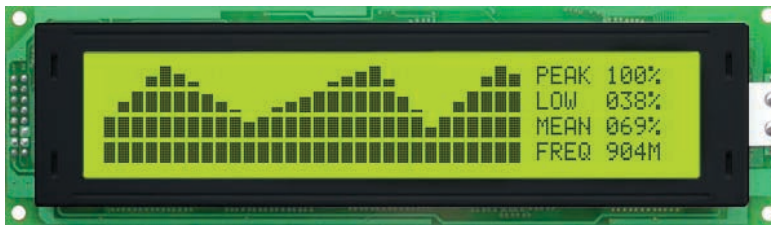
LK404-25

Part Number	Color Options											Options			
	XX	WB	GW	IY	R	FGW	TCI	FA	FB	FG	YG	-E	-LV	-V	-VPT
LCD0821	•	•	•	•	•							•		•	
LCD2041	•	•	•	•	•							•		•	•
LK162-12	•	•	•	•	•							•		•	
LK162A-4T	•	•				•	•					•			
LK162B-7T	•	•				•						•		•	
LK202-25	•	•	•	•	•			•	•	•		•		•	
LK204-25	•	•	•	•	•							•		•	•
LK204-25-422	•	•	•	•	•							•			•
LK204-7T-1U		•	•				•				•	•	•	•	
LK402-25	•											•			•
LK404-25	•											•			•

Available Options

- **-E** - Extended Temperature
  - -20° to +70°C
- **-LV** - Low Voltage
  - 3.3Vdc
- **-V** - Wide Voltage
  - 9-15Vdc
- **-VPT** Efficient Wide Voltage
  - 9-35Vdc

Color Extensions

Extension	Text	Background
XX*	Black	Yellow/Green
WB	White	Blue
GW	Grey	Grey/White
IY	Yellow	Black
R	Red	Black
FGW**	Dark Grey	Grey/White
TCI	Tri-Color	Black
FA	Amber	Black
FB	Blue	Black
FG	Green	Black

* No Extension
** FFSTN

LK162A-4T-USB-WB

GRAPHIC LCD

The most versatile of our displays can be programmed to display any font, in any size, and in any language. With graphic displays you can easily add multi-language support to any application that uses a display. Allow your creativity to flourish with icons and graphics! We also have -1U displays which conveniently fit into any 1U application, allowing you to add graphics to even a limited space.
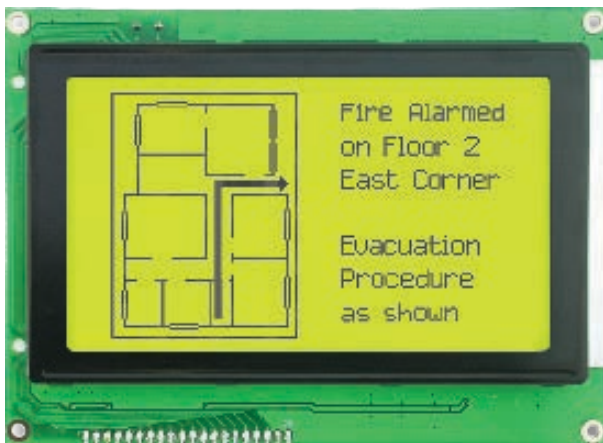

GLK19264A-7T-1U-WB

GLK12232-25-WB

Part Number	Resolution	Interface					Keypad (Max Keys)	GPOs	Module Size W x H x T (mm)	Display Size W x H (mm)	Color Options						Options				
		RS232	TTL	I²C	RS422	USB					XX	WB	FGW	YG	TCI	GW	-E	-LV	-V	-VPT	-VS
GLK12232A-25-SM	122 x 32	•	•	•		•	25	2	86.10 x 35.10 x 20.67	53.64 x 15.64		•		•	•		•	•			•
GLK12232-25	122 x 32	•	•	•		•	25	2	98.00 x 60.00 x 20.10	69.50 x 20.50		•	•				•				
GLK19264A-7T-1U	192 x 64	•	•	•	•	•	7	6	142.00 x 38.00 x 34.40	74.85 x 24.93		•	•	•	•		•	•		•	
GLK240128-25	240 x 128	•	•	•	•	•	25	6	144.00 x 104.00 x 29.70	107.95 x 57.55	•	•	•				•		•	•	
GLK24064-25	240 x 64	•	•	•	•	•	25	6	180.00 x 65.00 x 30.90	127.16 x 33.88	•	•	•				•			•	
GLK24064R-25-1U	240 x 64	•	•	•	•	•	25	6	138.00 x 38.00 x 28.21	93.57 x 24.93		•	•		•		•	•		•	

Custom sizes and designs are available upon request
*Not all voltage options available with all interfaces ** Standard temperature range is 0° to +50°C, voltage is +5Vdc ±0.25V

GLK240128-25

GLK24064-25-FGW

AVAILABLE OPTIONS

-E - EXTENDED TEMPERATURE
-20˚ TO +70˚C
-LV - LOW VOLTAGE
3.3VDC
-VS - SUPER WIDE VOLTAGE
5-15VDC
-V - WIDE VOLTAGE
9-15VDC
-VPT - EFFICIENT WIDE VOLTAGE
9-35VDC

COLOR EXTENSIONS

EXTENSION	XX*	WB	FGW	YG	TCI	GW
TEXT	Black	White	Dark Grey	Black	Tri Color	Grey
BACKGROUND	Yellow/Green	Blue	Grey/White	Yellow/Green	Black	Grey/White

*No Extension

GRAPHIC TOUCH LCD

Touch screen graphic LCDs display graphics and text in any font, style, justification and language, all with the convenience of a touch screen. Beautiful, easy and fun to use interfaces, all without the need of a keypad. When the touch screen is pressed, you can have the X and Y location sent through the serial port. A great looking user interface in no time at all!
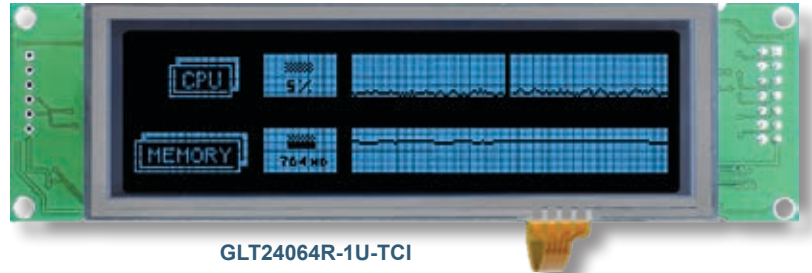
GLT24064R-1U-TCI

Part Number	Columns x Rows	Interface					Keypad	GPOs	Module Size W x H x T (mm)	Display Size W x H (mm)	Color Options					Options		
		RS232	TTL	I²C	RS422	USB					*XX	WB	GW	TCI	FGW	VPT	VS	LV
GLT12232A-SM	122 x 32	●	●	●		●	Touch	2	86.10 x 35.10 x 23.02	53.64 x 15.64		●	●	●			●	●
GLT24064	240 x 64	●	●	●	●	●	Touch	6	180.00 x 65.00 x 30.90	127.16 x 33.88	●	●				●	●	
GLT24064R-1U	240 x 64	●	●	●	●	●	Touch	6	138.00 x 38.00 x 26.91	93.57 x 24.93		●		●	●	●		
GLT240128	240 x 128	●	●	●	●	●	Touch	6	144.00 x 104.00 x 27.80	107.95 x 57.55	●	●				●	●	

Custom sizes and designs are available upon request
*Not all voltage options available with all interfaces **Standard temperature range is 0° to +50°C, voltage is +5Vdc ±0.25V
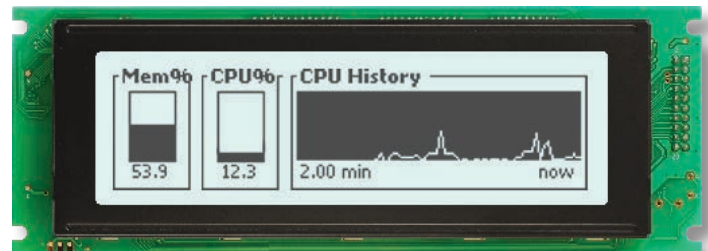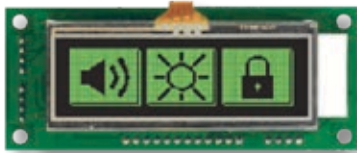
AVAILABLE OPTIONS

-LV - LOW VOLTAGE - 3.3VDC   **-VS -** SUPER WIDE VOLTAGE 5-15VDC   **-VPT -** EFFICIENT WIDE VOLTAGE - 9-35VDC

GLT12232-SM-USB

COLOR EXTENSIONS

| EXTENSION	*XX	WB	GW	TCI	FGW
TEXT	Black	White	Grey	Tri Color	Dark Grey
BACKGROUND	Yellow/Green	Blue	Grey/White	Black	Grey/White

*No Extension

GLT240128-FGW

GLT240128-WB

CHARACTER OLED DISPLAYS

OK162-12-OW

WIth OLED technology displays, control of the modules has been simplified to a set of commands delivered via RS232, RS422, I²C and USB. OLED technology gives deeper blacks, greater contrast, faster response time, lower power consupmtion, and higher viewing angles than LCDs. Fully customizable, vivid text for your application!
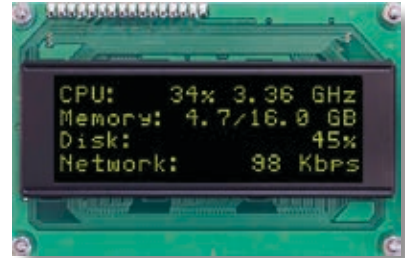
OK204-25-OY

PART NUMBER	CHARACTERS x LINES	INTERFACE					KEYPAD (MAX KEYS)	GPOs	MODULE SIZE W x H x T (mm)	CHARACTER SIZE W x H (mm)	DISPLAY SIZE W x H (mm)	COLOR OPTIONS					OPTIONS		
		RS232	TTL	I²C	USB	RS422						OB	OG	OR	OW	OY	-E	-V	-VPT
OLED0821	8 x 2	•	•	•			N/A	1	58.00 x 32.00 x 22.40	2.96 x 5.56	38.00 x 16.00	•	•	•	•	•	•	•	
OK162-12	16 x 2	•	•	•	•		12	7	80.00 x 36.00 x 25.10	2.95 x 5.55	66.00 x 16.00	•	•	•	•	•	•	•	
OK202-25	20 x 2	•	•	•	•		25	6	116.00 x 37.00 x 25.00	3.20 x 5.55	85.00 x 18.60	•	•	•	•	•	•	•	
OK204-25	20 X 4	•	•	•	•	•	25	6	98.00 x 60.00 x 26.10	2.90 x 4.75	77.00 x 25.20	•	•	•	•	•	•	•	

Custom sizes and designs are available upon request
*Not all voltage options available with all interfaces **Standard temperature range is -20°C to +70°C, voltage is +5Vdc ±0.25V

OK202-25-USB-OG

OLED0821-OB

AVAILABLE OPTIONS

-E - EXTENDED TEMPERATURE
-40˚ TO +80˚C

-LV - LOW VOLTAGE
3.3VDC

-V - WIDE VOLTAGE
9-15VDC

-VPT - EFFICIENT WIDE VOLTAGE
9-35VDC

COLOR EXTENSIONS

EXTENSION	OB	OG	OR	OW	OY
TEXT	Blue	Green	Red	White	Yellow
BACKGROUND	Black	Black	Black	Black	Black

GRAPHIC OLED DISPLAYS

The most versatile of our displays can be programmed to display any font, in any size, and in any language and is now available with OLED technology. With graphic displays you can easily add multi-language support to any application that uses a display. Allow your creativity to flourish with photos and graphics! Custom colors are available upon request.

AVAILABLE OPTIONS

-LV - LOW VOLTAGE
3.3VDC

-VS - SUPER WIDE VOLTAGE
5-15VDC

-E - EXTENDED TEMPERATURE
-40˚ TO +80˚C

GOK12832A-25-SM-OY

Part Number	Columns x Rows	Interface					Keypad (MAX KEYS)	GPOs	Module Size W x H x T (mm)	Pixel Size W x H (mm)	Display Size W x H (mm)	Options		
		RS232	TTL	I2C	USB	RS422						-E	-VS	-LV
GOK12832A-25-SM-OY	128 x 32	•	•	•			25	2	86.10 x 35.10 x 17.70	0.41 x 0.39	62.00 x 24.00	•	•	•

*Standard temperature range is -20°C to +70°C, voltage is 5-15Vdc

micromax technology

MATRIX ORBITAL

CHARACTER VFD

Our vacuum fluorescent displays (VFDs) have a longer life and are the brightest of displays, allowing for readability even in direct sunligh. Compared to LCDs and OLEDs, they do not suffer from perfomance effects due to varying temperature and they deliver a higher viewing angle. Control of modules has been simplified to a set of commands delivered via RS232, RS422, I²C or USB communication. Optional VFD Filters available to customize your display to coordinate with your application.

VK202-25

PART NUMBER	CHARACTERS x LINES	INTERFACE					KEYPAD (Max Keys)	GPOs	MODULE SIZE W x H x T (mm)	CHARACTER SIZE W x H (mm)	DISPLAY SIZE W x H (mm)	OPTIONS			
		RS232	TTL	I²C	RS422	USB						-E	-LV	-V	-VPT
VFD2041	20 x 4	•	•	•			N/A	3	98.00 x 60.00 x 24.40	2.40 x 4.70	70.80 x 20.90	•			•
VK162-12	16 x 2	•	•	•		•	12	7	80.00 x 36.00 x 27.67	2.28 x 4.76	51.40 x 11.40	•		•	
VK202-25	20 x 2	•	•	•		•	25	6	116.00 x 37.00 x 29.48	2.40 x 4.70	70.80 x 11.50	•		•	
VK204-25	20 x 4	•	•	•	•	•	25	6	98.00 x 60.00 x 28.98	2.40 x 4.70	70.80 x 20.90	•			•

*Not all voltage option available with all interfaces. **Standard temperature range is -20° to +70°C, voltage is +5Vdc ±0.25V

AVAILABLE OPTIONS
-E - EXTENDED TEMPERATURE
-40˚ TO +85˚C
-LV - LOW VOLTAGE
3.3VDC
-V - WIDE VOLTAGE
9-15VDC
-VPT - EFFICIENT WIDE VOLTAGE
9-35VDC

VFD ACCESSORIES

Matrix Orbital offers a series of accessories to compliment our line of VFD displays. Available accessories include fliters to change the color of the display, mounting bezels and drive bay inserts and communication and power cables. Custom accessories are always available on request
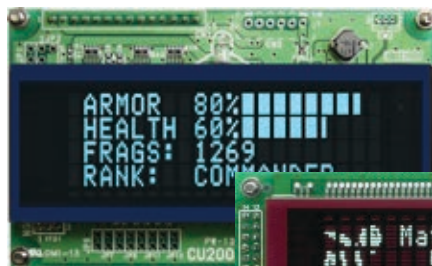
BLU204 Filter

RED202A Filter

BEZ-204A-V1-W-KIT

VFD FILTERS

PART NUMBER	DESCRIPTION	DISPLAY SIZE		TEXT COLOR	BACKGROUND COLOR
		20 x 2	20 x 4		
BLU202A/204	Blue VFD Filter	•	•	Blue	Dark Blue
GRN204	Green VFD Filter		•	Green	Dark Green
GRY202A/204	Grey VFD Filter	•	•	Blue/Green	Dark Grey
RED202A/204	Red VFD Filter	•	•	White	Dark Red

MOUNTING BEZEL

PART NUMBER	DESCRIPTION	OEM	KIT
BEZ-202C-V1	Black 20 x 2 Mounting Bezel	•	•
BEZ-204A-V1	Black 20 x 4 Mounting Bezel	•	•

MATRIX ORBITAL

CHARACTER LCD

Matrix Orbital's economy line of Liquid Crystal (LCD) allow the ease of RS232 / TTL, I^{2}C or USB Communication designed for high volume projects requiring a low cost, high value display. Features include software controlled backlight and contrast, 3 GPOs and the Martrix Orbital intelligence and ease of use we are famous for.

MOU-AL202C-WB3SE

Ext.	**Text**	**Background**			
YX	Black	Yellow/Green			
BW	White	Blue			
WB	Light Blue	Grey/White			
XY	Yellow	Black			
XR	Red	Black			
FA	Amber	Black			
FB	Blue	Black			
FG	Green	Black			
FW	White	Black			

Color Extensions

Part Number	Characters x Lines	Interface RS232	TTL	I²C	USB	GPOs	Module Size W x H x T (mm)	Character Size W x H (mm)	Display Size W x H (mm)	YX	BW	WB	XY	XR	FA	FB	FG	FW
MOS-AL162A	16 x 2	●	●			3	80.00 x 36.00 x 25.60	2.95 x 5.55	56.20 x 11.50	●	●	●	●	●				
MOS-AL162F	16 x 2	●	●			3	69.00 x 21.50 x 23.00	2.56 x 4.90	47.56 x 11.00	●								
MOS-AL202C	20 x 2	●	●			3	116.00 x 37.00 x 26.10	3.20 x 5.55	73.50 x 11.50	●	●	●	●	●	●	●	●	●
MOS-AL204B	20 x 4	●	●			3	146.00 x 62.50 x 26.60	4.84 x 9.22	118.84 x 38.47	●								
MOS-AL242A	24 x 2	●	●			3	118.00 x 36.00 x 27.50	3.20 x 5.55	88.30 x 11.50	●								
MOI-AL162A	16 x 2			●		3	80.00 x 36.00 x 25.60	2.95 x 5.55	56.2 x 11.50	●	●	●	●	●				
MOI-AL202C	20 x 2			●		3	116.00 x 37.00 x 26.10	3.20 x 5.55	73.50 x 11.50	●	●	●	●	●	●	●	●	●
MOI-AL204B	20 x 4			●		3	146.00 x 62.50 x 26.60	4.84 x 9.22	118.84 x 38.47	●								
MOI-AL242A	24 x 2			●		3	118.00 x 36.00 x 27.50	3.20 x 5.55	88.30 x 11.50	●								
MOU-AL162A	16 x 2				●	3	80.00 x 36.00 x 25.60	2.95 x 5.55	56.20 x 11.50	●	●	●	●	●				
MOU-AL202C	20 x 2				●	3	116.00 x 37.00 x 26.10	3.20 x 5.55	73.50 x 11.50	●	●	●	●	●	●	●	●	●
MOU-AL204B	20 x 4				●	3	146.00 x 62.50 x 26.60	4.84 x 9.22	118.84 x 38.47	●								
MOU-AL242A	24 x 2				●	3	118.00 x 36.00 x 27.50	3.20 x 5.55	88.30 x 11.50	●								

CHARACTER VFD

Part Number	Characters x Lines	Interface RS232	TTL	I²C	USB	GPOs	Module Size W x H x T (mm)	Character Size W x H (mm)	Display Size W x H (mm)
MOS-AV162A-NT3SE	16 x 2	●	●			3	116.00 x 37.00 x 20.10	2.28 x 4.76	51.40 x 11.40
MOS-AV202C-NT3SE*	20 x 2	●	●			3	116.00 x 37.00 x 22.00	2.40 x 4.70	70.80 x 11.50
MOI-AV162A-NT3IE	16 x 2			●		3	116.00 x 37.00 x 20.10	2.28 x 4.76	51.40 x 11.40
MOI-AV202C-NT3IE*	20 x 2			●		3	116.00 x 37.00 x 22.00	2.40 x 4.70	70.80 x 11.50
MOU-AV162C-NT3SJ	16 x 2				●	3	116.00 x 37.00 x 20.10	2.28 x 4.76	51.40 x 11.40
MOU-AV202C-NT3SJ*	20 x 2				●	3	116.00 x 37.00 x 22.00	2.40 x 4.70	70.80 x 11.50

MOS-AV162A-NT3SE

Vacuum Fluorescent Displays (VFD's) can be easily configured to display a wide variety of customized messages. VFDs also have the advantage of being very robust, and are able to function normally in a variety of environments. Optional VFD Filters available to customize your display to coordinate with your application.

*VFD Filters are available in Blue, Grey and Red (Custom filters are available upon request)

micromax technology

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MATRIX ORBITAL

CHARACTER LCD

Matrix Orbital MOP-Series consists of a multitude of parallel display options to enhance your product. With our large variety of colors and our ability to produce custom displays we are committed to helping you succeed to get your product noticed. We offer competitive pricing on all our parallel modules and have the lowest lead times in the industry to save you time and money!

MOP-AL242A-BYFY

Our high quality alphanumeric parallel displays feature industry compatible HD44780 4/8 bit controller.

MOP-AL162A-BYFY

PART NUMBER	CHARACTERS x LINES	MODULE SIZE W x H x T (mm)	CHARACTER SIZE W x H (mm)	DISPLAY SIZE W x H (mm)	Color Options									
					BYFY	BBTW	BGFW	BTTY	BBTR	BFTA	BFTB	BFTG	BFTW	BYRN
MOP-AL082B	8 x 2	58.00 x 32.00 x 14.00	2.96 x 5.56	27.81 x 11.50	●	●	●	●	●					
MOP-AL162A	16 x 2	80.00 x 36.00 x 14.00	2.95 x 5.55	56.20 x 11.50	●	●	●	●	●					●
MOP-AL202C	20 x 2	116.00 x 37.00 x 14.50	3.20 x 5.55	73.50 x 11.50	●	●	●		●	●	●	●	●	
MOP-AL204A	20 x 4	98.00 x 60.00 x 15.00	2.95 x 4.75	70.40 x 20.80	●	●	●	●	●					
MOP-AL204B	20 x 4	146.00 x 62.50 x 13.00	4.84 x 9.22	118.84 x 38.47	●									
MOP-AL242A	20 x 4	118.00 x 36.00 x 14.00	3.20 x 5.55	88.30 x 11.50	●									
MOP-AL402A	40 x 2	182.00 x 33.50 x 13.00	3.20 x 5.55	147.50 x 11.50	●									
MOP-AL404C	40 x 4	190.00 x 54.00 x 14.00	2.78 x 4.89	140.45 x 23.16	●									

*Custom sizes and designs are available upon request
**Please contact sales for complete part numbers

COLOR EXTENSIONS	EXTENSIONS	BYFY	BBTW	BGFW	BTTY	BBTR	BFTA	BFTB	BFTG	BFTW	BYRN
	TEXT	Black	White	Light Blue	Yellow/Green	Red	Amber	Blue	Green	White	Black
	BACKGROUND	Yellow/Green	Blue	Grey/White	Black	Black	Black	Black	Black	Black	Yellow/Green No Backlight

CHARACTER VFD

Our high quality alphanumeric parallel displays feature industry compatible HD44780 4/8 bit controller. Combine it with our X-board S-series to get your project off the ground faster.

PART NUMBER	CHARACTERS x LINES	MODULE SIZE W x H x T (mm)	CHARACTER SIZE W x H (mm)	DISPLAY SIZE W x H (mm)
MOP-AV162A-BNNN	16 x 2	80.00 x 36.00 x 8.50	2.28 x 4.76	51.40 x 11.40
MOP-AV202C-BNNN	20 x 2	116.00 x 37.00 x 10.40	2.40 x 4.70	70.80 x 11.50
MOP-AV204A-BNNN	20 x 4	98.00 x 60.00 x 12.70	2.40 x 4.70	70.80 x 20.90

MOP-AV204A-BNNN

*VFD Filters are available for the 20x2 and 20x4
**Custom sizes and designs are available upon request
**Please contact sales for complete part numbers

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MATRIX ORBITAL

GRAPHIC LCD

Matrix Orbital MOP-Series consists of a multitude of parallel display options to enhance your product. With our large variety of colors and our ability to produce custom displays we are committed to helping you succeed to get your product noticed. We offer competitive pricing on all our parallel modules and have the lowest lead times in the industry to save you time and money!

MOP-GL24064A-BBTW

PART NUMBER	RESOLUTION	MODULE SIZE W x H x T (mm)	DISPLAY SIZE W x H (mm)	Color Options				
				BYFY	BBTW	BGFW	BWFW	BSSX
MOP-GL12232B	122 x 32	80.00 x 36.00 x 9.00	60.50 x 18.50			•		
MOP-GL12232D	122 x 32	65.00 x 27.00 x 12.00	60.20 x 18.00		•	•		
MOP-GL12864F	128 x 64	75.00 x 52.70 x 9.00	60.00 x 32.00		•			
MOP-GL240128D	240 x 128	144.00 x 104.00 x 15.00	114.00 x 64.00	•	•		•	
MOP-GL24064A	240 x 64	180.00 x 65.00 x 16.00	132.20 x 39.20	•	•		•	
MOP-GL24064R	240 x 64	112.00 x 38.00 x 31.00	98.00 x 28.40			•	•	•

*Custom sizes and designs are available upon request
**Please contact sales for complete part numbers

COLOR EXTENSIONS	EXTENSION	TEXT	BACKGROUND
	BYFY	Black	Yellow/Green
	BBTW	White	Blue
	BGFW	Grey	Grey/White
	BWFW	Blue	Grey
	BSSX	Tri-Color	Black

GRAPHIC TOUCHSCREEN

MOP-GLT240128D-BGFW

Touch screen graphic LCDs can display graphics and text in any font, style, justification and language, all with the convenience of a touch screen. Beautiful, easy and fun to use interfaces, all without the need of a keypad. When the touch screen is pressed, you can have the X and Y location sent, or have the on-screen keyboard displayed and touched keys are sent through the serial port. A great looking user interface in no time at all!

• Our Graphic LCD Touch Panel provides you with a cost effective user interface solution for that great product/project you are developing.

• Our high quality graphic parallel displays feature industry compatible T6963 8 bit controller.

• Full touch screen, no keypad needed

• On board memory for Fonts and Bitmaps

• RS232, RS422, I^2C or USB interface available

PART NUMBER	RESOLUTION	MODULE SIZE W x H x T (mm)	DISPLAY SIZE W x H (mm)	DISPLAY COLOR	
				TEXT	BACKGROUND
MOP-GLT240128D-BBTW	240 x 128	144.00 x 104.00 x 16.53	114.00 x 64.00	White	Blue
MOP-GLT240128D-BGFW	240 x 128	144.00 x 104.00 x 16.53	114.00 x 64.00	Grey	White
MOP-GLT240128D-BYFY	240 x 128	144.00 x 104.00 x 16.53	114.00 x 64.00	Grey	Yellow/Green

*Custom sizes and designs are available upon request
**Please contact sales for complete part numbers

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MATRIX ORBITAL

COMMUNICATION | POWER CABLES

Take your project to the next level with Matrix Orbital's easy to use accessories. Complete your display package quickly and effectively with a wide range of accessory options. Custom cables available to order on demand. We are happy to help create a custom cable to help you overcome any design obstacles you may encounter during your project development.

POWER

PART NUMBER	DESCRIPTION
PC12V	Power Cable 12V
PC5V	Power Cable 5V
PCS	Power Cable Standard
PCUSB	Power Cable USB

COMMUNICATION

| PART NUMBER	DESCRIPTION
BBC	Breadboard Cable
BBPDC	Breadboard Parallel Development Cable
CCS1FT	Serial 1ft Cable
CCS4FT	Serial 4ft Cable
EXTMUSB3FT	External A - B 3ft Mini USB Cable
INTMUSB3FT	Internal Mini USB 3ft Cable
EXT4PUSB3FT	External 4pin USB 3ft Cable

ESCCPC5V

COMMUNICATION AND POWER

PART NUMBER	DESCRIPTION
SCCPC5V	Serial Communication/ Power 5V Compatible with any MOS or LK/VK Display, LCD/VFD Series, GLK12232-25/ GLK12232-25-SM, GLK19264-7T-XX Rev.1.1
ESCCPC5V	External communication and power cable with flow control, 2ft long Compatible with GTT, GLT/GLK24064, GLT/GLK240128, GLT / GLK24064R-XX-1U

INTERFACE MODULE

The X-Board is the simple solution for an economical interface board. Add Matrix Orbital's intelligence to your existing parallel character LCD or VFD for quick and easy prototyping. Features include Matrix Orbital's industry standard intelligence, 3 GPO's, software controlled back light and contrast, and supports a variety of interfaces. Use the S-Series for serial and TTL, the I-Series for I2Cor the U-Series for USB.

PART NUMBER	INTERFACE			GPOs	MODULE SIZE W x H x T (mm)
	RS232	I²C	USB		
XBI (X-Board I-Series)		●		3	55.90 x 36.00 x 20.82
XBS (X-Board S-Series)	●			3	55.90 x 36.00 x 20.82
XBU (X-Board U-Series)			●	3	55.90 x 36.00 x 20.82
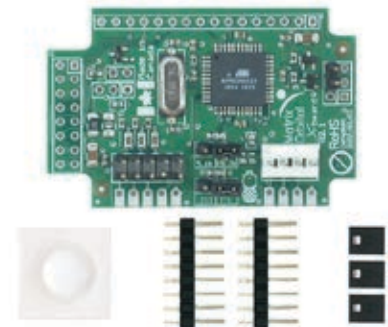
X-Board S-Series

MOUNTING BEZELS

Mounting bezels allow to mount our character displays. Made of black ABS with a clear protective window and brass threads. Available as an OEM part, or as a kit will all required hardware included.

MOUNTING BEZEL

PART NUMBER	DESCRIPTION	COMPATIBLE DISPLAYS
BEZ-202C-V1	Black 20 x 2 Mounting Bezel	OK/LK/VK202-25, MOS/MOI/MOU-AL/AV202C, MOP-AL/AV202C
BEZ-204A-V1	Black 20 x 4 Mounting Bezel	LCD/VFD2041, OK/LK/VK204-25, MOP-AL/AV204A, GLK12232-25

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MATRIX ORBITAL

CHARACTER LCD PC BAY INSERTS

Matrix Orbital has developed a 5¼" PC drive bay insert with display in response to customer demand for an effortless way to mount our intelligent displays in PCs. The inserts were designed as a light weight, high quality product. Using durable, rust resistant metal, these inserts will stand up to everyday wear-and-tear. Our PC inserts are available in two sizes, to fit single 5¼" drive bays and double 5¼" drive bays. All mounting hardware and cables are included!

PART NUMBER	CHARACTERS x LINES	INTERFACE				GPOs	MODULE SIZE W x H x T (mm)	CHARACTER SIZE W x H (mm)	DISPLAY SIZE W x H (mm)	COLOR OPTIONS										OPTIONS		
		RS232	TTL	I²C	USB					*XX	GW	WB	IY	R	FA	FB	FG	FW	TCI	-E	-V	-LV
BLC2021	20 x 2	•	•	•		6	116.00 x 37.00 x 28.98	3.20 x 5.55	83.00 x 18.60	•	•	•	•	•	•	•	•	•	•		•	
BLC2041	20 x 4	•	•	•		6	98.00 x 60.00 x 28.98	2.95 x 4.75	76.00 x 25.20	•	•	•	•	•							•	
BLK202A	20 x 2	•	•	•		6	116.00 x 37.00 x 28.98	3.20 x 5.55	83.00 x 18.60	•	•	•	•	•	•	•	•	•	•		•	
BLK204A	20 x 4	•	•	•		6	98.00 x 60.00 x 28.90	2.95 x 4.75	76.00 x 25.20	•	•	•	•	•							•	
BLK204-7T-1U	20 x 4	•	•	•		3	144.00 x 38.00 x 36.00	3.20 X 5.15	82.00 x 36.00		•	•								•	•	•

PART NUMBER	Overlay				Keypad Buttons						
					7				15		
	*XX	AL	BK	BL	*XX	BK	DR	S	*XX	BK	
BLC2021	•	•	•	•							
BLC2041	•	•	•	•							
BLK202A					•	•	•	•			
BLK204A									•	•	

BLK202A-S-WB

BLC2041-BK

AVAILABLE OPTIONS

-E - EXTENDED TEMPERATURE
-20˚ TO +70˚C
-LV - LOW VOLTAGE
3.3VDC
-V - EXTENDED VOLTAGE
9-15VDC

BRACKET FINISH EXTENSIONS	EXTENSION	FINISH
	XX	Beige Vinyl
	AL	Brushed Aliminum
	BK	Black Vinyl
	BL	Black Alluminum
	DR	Dark Red Vinyl
	S	Silver Vinyl

GRAPHIC LCD PC BAY INSERTS

BGK19264A-WB-BK

PART NUMBER	RESOLUTION	INTERFACE				GPOs	MODULE SIZE W x H x T (mm)	DISPLAY SIZE W x H (mm)	COLOR OPTIONS				OPTIONS			
		RS232	TTL	I²C	USB				YG	FGW	WB	TCI	-E	-V	-LV	-VPT
BGK19264A-BK	192 x 64	•	•	•	•	6	144.00 x 38.00 x 36.00	82.00 x 28.40	•	•	•	•	•		•	
BGK24064R-BK	240 x 64	•	•	•	•	6	138.00 x 38.00 x 28.20	98.00 x 28.40		•	•	•	•	•	•	•

*Not all voltage options available with all interfaces

DISPLAY COLOR OPTIONS	EXTENSIONS	XX*/YG	GW	WB	IY	R	FA	FB	FG	FW	TCI	FGW
	Text	Black	Light Blue	White	Yellow	Red	Amber	Blue	Green	White	Tr i-Color	Dark Grey
	Background	Yellow/Green	Grey/White	Blue	Black	Black	Black	Black	Black	Black	Black	Grey/White

MATRIX ORBITAL

CHARACTER VFD PC BAY INSERTS

| PART NUMBER	CHARACTERS x LINES	INTERFACE			GPOs	MODULE SIZE W x H x T (mm)	CHARACTER SIZE W x H (mm)	DISPLAY SIZE W x H (mm)	COLOR OPTIONS		OPTIONS			OVERLAY		KEYPAD		
		RS232	TTL	I²C					Text	Background	-E	-V	-LV	AL	BK	XX	BK	S
BVC2021	20 x 2	•	•	•	6	116.00 x 37.00 x 28.38	2.40 x 4.70	96.00 x 24.00	Blue/Green	Black		•		•	•			
BVK202A	20 x 2	•	•	•	6	116.00 x 37.00 x 28.38	2.40 x 4.70	96.00 x 24.00	Blue/Green	Black		•				•	•	•

BVK202A-BK
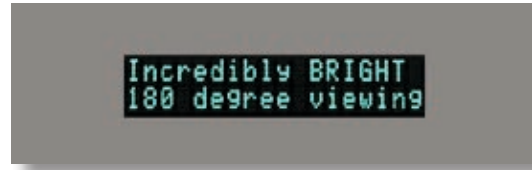
BVC2021-AL

PC Bay Inserts and Overlays

We offer sleek and durable coated rust-resistant mounting brackets to fit many of our displays. Keypads are overlays are available.

B19264-BK
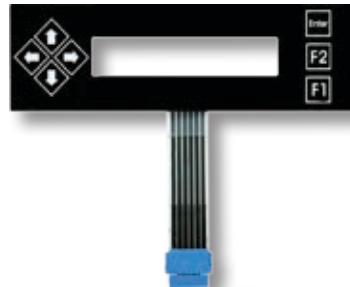
KPP202A-BK

	EXTENSION	FINISH
OVERLAY EXTENSIONS	XX	Beige Vinyl
	AL	Brushed Aliminum
	BK	Black Vinyl
	BL	Black Alluminum
	DR	Dark Red Vinyl
	S	Silver Vinyl

Mounting Bracket

PART NUMBER	DESCRIPTION	OVERLAY					
		AL	BL	*XX	BK	DR	S
B19264-BK	Mounting Bracket for use with GLK19264A-7T-1U and LK204-7T-1U						
B2021	Mounting Bracket for use with LK/VK202-25	•	•	•	•		
B202A	Mounting Bracket with 7 button keypad for use with LK/VK202-25			•	•	•	•
B2041	Mounting Bracket for use with VK204-25, LCD2041, GLK12232-25	•	•	•	•		
B204A	Mounting Bracket with 15 button keypad for use with LK/VK204-25, LK/VK204-25-USB, GLK12232-25			•	•		
B24064-BK	Mounting Bracket for use with GLK24064R-25-1U-XX						

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ENCLOSED CHARACTER DISPLAY

Two enclosures to meet your needs, a lightweight durable plastic and a rugged metal. Both feature a 20x4 display with 7 Key tactile keypad and 3 tricolor indicator LED's. Control of this LCD display has been simplified to a set of commands delivered by RS232 or USB

No more mounting guesswork! With the threaded mounting hole on the plastic enclosure and the included mounting brackets for the metal enclosure, they can mount almost anywhere to achieve the best viewing angle.

ELK204-7T-WB-PL

ELK204-7T-USB-TCI-MT

PART NUMBER	CHARACTERS x LINES	INTERFACE				KEYPAD	GPOs	MODULE SIZE W x H x T (mm)	CHARACTER SIZE W x H (mm)	DISPLAY SIZE W x H (mm)	COLOR OPTIONS		
		RS232	TTL	I²C	USB						WB	GW	TCI
ELK204A-7T-PL	20 x 4	●	●	●	●	7	3	153.50 x 49.30 x 35.10	3.20 x 5.15	82.00 x 36.00	●	●	●
ELK204A-7T-MT	20 x 4	●	●	●	●	7	3	154.00 x 48.90 x 33.30	3.20 x 5.15	82.00 x 36.00	●	●	●

* Serial enclosure requires a customer supplied communication/power cable. Please review the technical manual for the connector pinout.

ENCLOSED GRAPHIC DISPLAY

Available in two types of enclosure to meet your requirements. Lightweight durable plastic and a rugged metal both feature a 192x64, graphic LCD with a 7 key tactile keypad and 3 tri-color indicator LED's. Mounting is simplified with the plastic enclosures threaded hole, or the brackets included with the metal enclosure.

COLOR EXTENSIONS	EXTENSION	TEXT	BACKGROUND
	YG	Black	Yellow/Green
	WB	White	Blue
	FGW	Black	Grey/White
	TCI	Tri Color	Black

EGLK19264A-7T-FGW-MT

EGLK19264A-7T-USB-WB-PL

PART NUMBER	RESOLUTION	INTERFACE				KEYPAD	GPOs	MODULE SIZE W x H x T (mm)	DISPLAY SIZE W x H (mm)	COLOR OPTIONS			
		RS232	TTL	I²C	USB					YG	WB	FGW	TCI
EGLK19264A-7T-PL	192 x 64	●	●	●	●	7	6	153.50 x 49.30 x 35.10	82.00 x 28.40	●	●	●	●
EGLK19264A-7T-MT	192 x 64	●	●	●	●	7	6	154.00 x 48.90 x 33.30	82.00 x 28.40	●	●	●	●

* Serial enclosure requires a customer supplied communication/power cable. Please review the technical manual for the connector pinout.