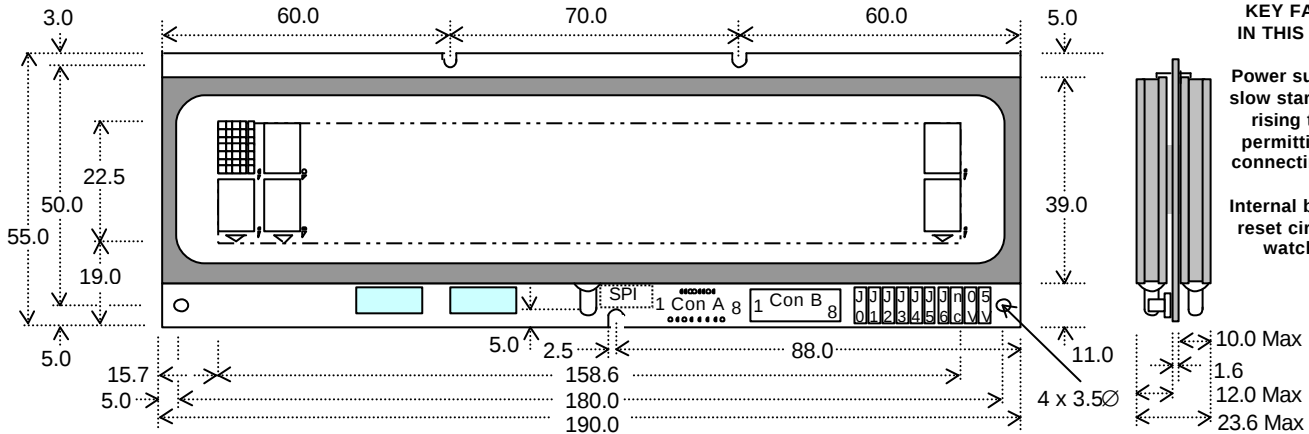


VACUUM FLUORESCENT DISPLAY MODULE CU2X20029SCP-B-KV91B

- ❑ Double Sided 2 Lines of 20 Characters
- ❑ 9mm High 5 x 7 Dot Matrix Font
- ❑ Single 12V DC Supply
- ❑ High Brightness Blue Green Displays
- ❑ ASCII + Extended Character Font
- ❑ Low Profile Construction
- ❑ RS232 Asynchronous Serial Interface
- ❑ User Defined Display Pixels

The module includes the VFD glass, VF drivers and micro-controller with refresh RAM, character generation and interface logic. The RS232 serial interface is suitable for connection to a host PC serial port and accepts baud rates up to 19,200 with or without parity. Optional user SPI & I/O interfaces. User defined characters can be down loaded to the display RAM allowing any character pattern to be shown. The module features a low profile design with numerous custom options available including special fonts, application specific commands and key scanning. Please send us your request.



Con B is Molex 90814-0008 which mates with Molex 90327-0308. The 5V outputs on the jumper pads are for 15mA slave logic connection.

Dimensions in mm

ELECTRICAL SPECIFICATION

Parameter	Symbol	Value	Condition
Power Supply Voltage	V _{DD}	12.0VDC +/- 10%	GND=0V
Power Supply Current	I _{DD}	520mA Typ 600mA max	V _{DD} =12V
RS232 Serial High Input	V _{IH}	3.0VDC min.	
RS232 Serial Low Input	V _{IL}	0.8VDC max.	
RS232 Serial High Output	V _{OH}	8.0VDC min.	
RS232 Serial Low Output	V _{OL}	-4.0VDC max.	

Optical filters can provide violet, red, yellow, blue and green output.

OPTICAL & ENVIRONMENTAL CHARACTERISTICS

Character Size/Pitch (XxY mm)	5.25 x 9.0 / 8.0 x 10.5
Dot Size/Pitch (XxY mm)	0.85 x 1.05 / 1.1 x 1.33
Luminance	700 cd/m ² (200 fL) Typ.
Colour of Illumination	Blue-Green (505nm)
Operating Temperature	-30°C to +80°C
Storage Temperature	-40°C to +85°C
Operating Humidity	20 to 85% RH @ 25°C

SOFTWARE COMMANDS

Command Name	Hex
Move Cursor Left	08
Move Cursor Right	09
Move Cursor Up	1F 0A
Move Cursor Down	0A
Move Cursor to Right Most Position	1F 0D
Move Cursor to Left Most Position	0D
Move Cursor to Home Position	0B
Move Cursor to Bottom Position	1F 42
Move Cursor to Specified Position	1F 24 +
Clear Display Screen	0C
Clear Cursor Line	18
Brightness Adjustment	1F 58 +
Blink Display Screen	1F 45
Initialize Display	1B 40
Select Character Code Table	1B 74 +
Select International Character Set	1B 52 +
Specify Overwrite Mode	1F 01
Specify Vertical Scroll Mode	1F 02
Specify Horizontal Scroll Mode	1F 03
Define Download Characters	1B 26 +
Delete Download Characters	1B 3F
Select/Cancel Download Characters	1B 25 +
Select Peripheral Device/Display Side	1B 3D +
Execute Self Test	1F 40
Store Define Character to EEPROM	1B 73 01
Restore Define Character from EEPROM	1B 64 01

If J5 is Open, 'R' is sent to host at power 'on' or watchdog reset. If parity error, 'P' is sent to host.

Additional custom fonts and commands available.

ASCII & PC858 Font



	23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E	
0	#	0	1	2	3	4	5	6	7	8	9	A	USA
1	#	0	1	2	3	4	5	6	7	8	9	A	France
2	#	0	1	2	3	4	5	6	7	8	9	A	Germany
3	#	0	1	2	3	4	5	6	7	8	9	A	U.K
4	#	0	1	2	3	4	5	6	7	8	9	A	Denmark 1
5	#	0	1	2	3	4	5	6	7	8	9	A	Sweden
6	#	0	1	2	3	4	5	6	7	8	9	A	Italy
7	#	0	1	2	3	4	5	6	7	8	9	A	Spain
8	#	0	1	2	3	4	5	6	7	8	9	A	Japan
9	#	0	1	2	3	4	5	6	7	8	9	A	Norway
10	#	0	1	2	3	4	5	6	7	8	9	A	Denmark 2
11	#	0	1	2	3	4	5	6	7	8	9	A	Slavonic
12	#	0	1	2	3	4	5	6	7	8	9	A	Russia

International Selection

SPI INTERFACE

Pin	Signal
1	5V
2	GND
3	SCK
4	MISO
5	MOSI
6	/RESET

SPI allows user programmability.

INTERFACE CONNECTORS

A	B	Signal	Function
5	1	DIN	Receive
1	2	EIN	Host Busy
3	3	DOUT	Transmit
2	4	EOUT	Module Busy
4	5	GND	0V
7	6	GND	0V
6	7	VDD	+12V
8	8	VDD	+12V

Link EIN and EOUT for XON/XOFF CONA is a dual hole 2mm/2.54mm pitch arav.

PCB JUMPERS (O)pen (L)ink

Baud	J2	J1	J0
19200	O	O	O
9600	O	O	L
4800	O	L	O
2400	O	L	L
1200	L	O	O

Parity	J4	J3
EVEN	O	O
ODD	O	L
NONE	L	L

Test	J6
ON	L

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