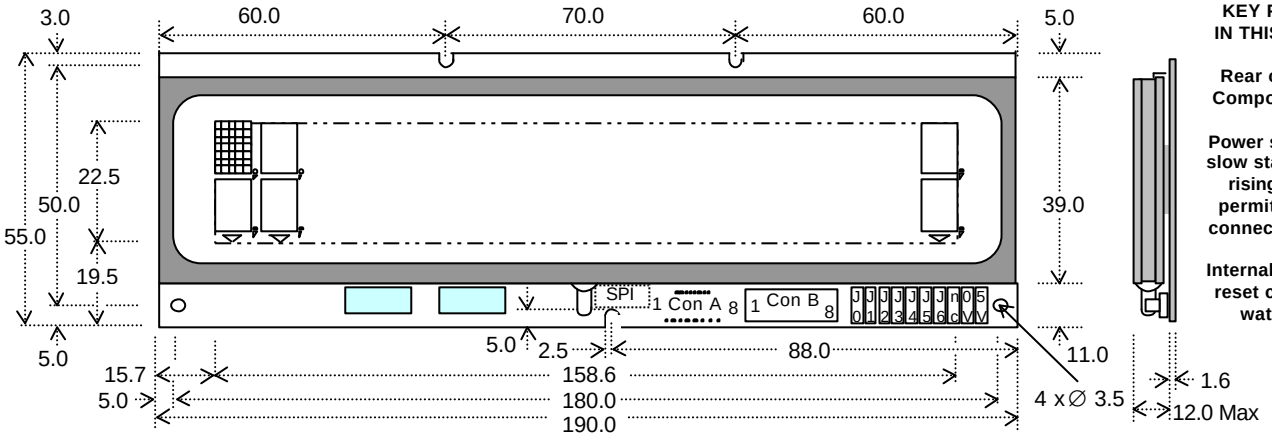
VACUUM FLUORESCENT DISPLAY MODULE CU20029SCPB-KV90B

- 2 Lines of 20 Characters
- 9mm High 5 x 7 Dot Matrix Font
- Single 12V DC Supply
- High Brightness Blue Green Display
- ASCII + Extended Character Font
- Low Profile Construction
- 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.



KEY FACTORS IN THIS DESIGN

Rear of PCB is Component Free

Power supply can slow start from 0V rising to 12V, permitting long connecting cable.

Internal brown out reset circuit and watchdog.

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%	G_{ND}=0V
Power Supply Current	I_{DD}	260 mA DC Typ.	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 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)

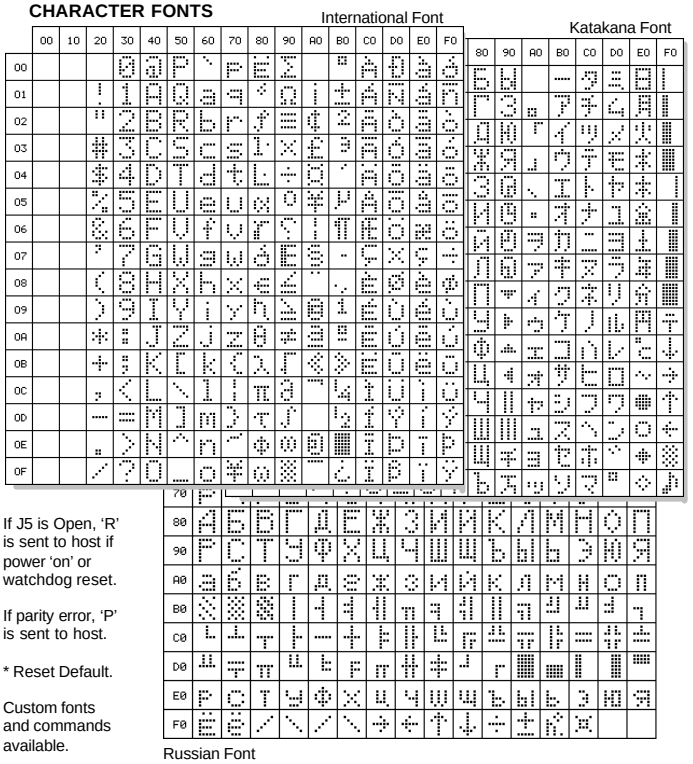
ENVIRONMENTAL SPECIFICATION

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
Back Space	08
Horizontal Tab	09
Line Feed	0A
Cursor Home*	0C
Carriage Return	0D
Clear Display*	0E
XON (software handshaking)	11
Display Line Scroll	12
XOFF(software handshaking)	13
Cursor Increment +CR*	14
5x7 Block Cursor On	15
Cursor Off*	16
Set Decimal Point On	17
Set Comma Tail On	18
Set Arrow On	19
Arrow, Point & Comma Off	1A
Escape	1B
➢ Report STATUS	+41
➢ Report RAM Check Sum	+43
➢ Position Cursor + 00-27	+48 +
➢ Software Reset	+49
➢ Set Luminance to 50%	+4C
➢ Power Down (40mA typ)	+4D
➢ Report Version (01-FF)	+53
➢ Cursor Blink On	+54
Send 5 Font Bytes to RAM	1C +
Set to International Font*	1D
Set to Katakana Font	1E
Set to Russian Font	1F
Selected Font Characters Mixing Fonts is Permitted	20 – FF

CHARACTER FONTS



If J5 is Open, 'R' is sent to host if power 'on' or watchdog reset.

If parity error, 'P' is sent to host.

* Reset Default.

Custom fonts and commands available.

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 array

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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Subject to change without notice.

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