## PANEL METERS & LCD DISPLAYS

ALPHANUMERIC DOT MATRIX "LCD MODULES"

These compact LCD module have inbuilt ASCII characters as well as special letters and custom characters which can be displayed on either a 16 character by 2 line or 20 character by 2 line screen. The module will hold the current input on the display using its own built in memory, making it easy to drive.

SPECIFICATIONS:
Contrast Ratio -   10
Supply Voltage -   5V DC
Power Supply Current—   1mA Typical
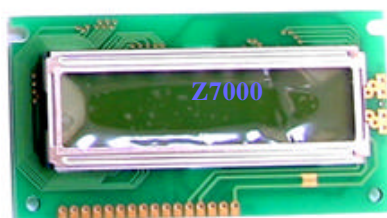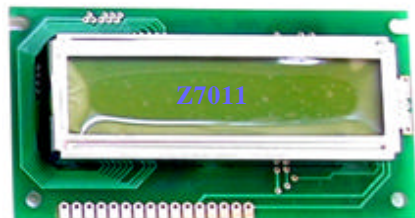Viewing Angle -   Between 50°-80° Longitudinal & 60° - 120° Lateral
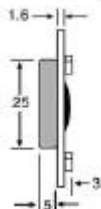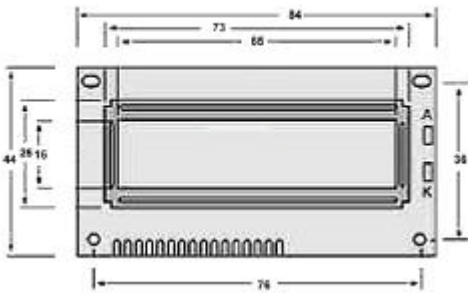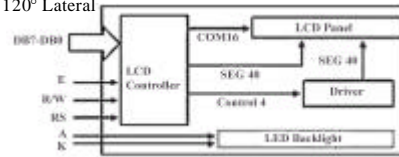
ITM-2002

TLC-501

Z7011

Z7000

Part Number	Type	Manufacturer
Z7000	16 x 2 Standard Version	POWERTIP
Z7011	16 x 2 Backlit Version	POWERTIP
ITM-2002	20 x 2 Backlit Version	ITM
TLC-501	20 x 2 Backlit Version	TOSHIBA

Interface Pinouts					
Pin	Symbol	Function	Pin	Symbol	Function
1	Vss	0V	9	DB2	Data Bit 2
2	Vdd	5V	10	DB3	Data Bit 3
3	Vo	Contrast Adjust	11	DB4	Data Bit 4
4	RS	Register Select	12	DB5	Data Bit 5
5	R/W	Read/Write	13	DB6	Data Bit 6
6	E	Enable Signal	14	DB7	Data Bit 7
7	DB0	Data Bit 0	15	A	LED Anode
8	DB1	Data Bit 1	16	K	LED Cathode

DIGITAL LCD PANEL MOUNT VOLT METER

This compact LCD module is ideal for applications requiring a professional finish and a digital accuracy. The range and decimalplace options are easily configured by PCB links. It is small, compact, reliable and comes complete with a plastic surround to give a professional finish.

SPECIFICATIONS:
Digits: 3.5, 13mm Height
Range: 200mV DC
Input impedance: 10m?
Power supply: 5V DC
Over-range indicator: "1"
Decimal place: Variable
Accuracy: ?0.1% (1 digit)
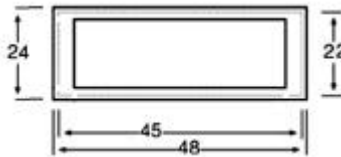
Part Number	Type
Q0571	3.5 Digit LCD

DIGITAL LED PANEL MOUNT VOLT METER

This stylish LED module is ideal for applications requiring a professional finish and a digital accuracy. The decimal place can easily be configured as desired. It is small, compact, reliable and comes complete with a plastic surround to give a professional finish.

SPECIFICATIONS:
Digits: 3.5, 13mm Height
Range: 200mV DC
Input impedance: 10m?
Power supply: 5V DC
Over-range indicator: Blank
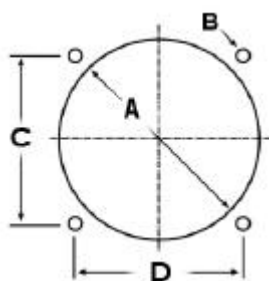Decimal place: Variable
Accuracy: ?0.1% (2 digit)
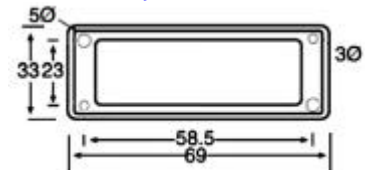
Part Number	Type
Q0580	3.5 Digit LED

PANEL METERS

PANEL METERMOVING COIL TYPE

Dimension Guide mm				
Style	A	B	C	D
MU45	45	4	37.5	37.5
MU52E	52	4	48	64
MU65	63	4	63.5	79

PANEL METERS MU45 / MU65

Quality Class 2.5

MU45 Overall dimensions 58W x 52H. Bolt mounting centres 37.5mm x 37.5mm. 45mm hole required.
MU65 Overall dimensions 100W x 82H. Bolt mounting centres 79W x 63.5H. 63mm hole required
MU52E Overall dimensions 80W x 66H. Bolt mounting centres 64W x 48H. 52mm hole required

Connections are via threaded studs. Nuts and washers provided

Part Number	FSD	Style	Resistance
Q0500	1mA	MU45	58? ?
Q0505	50?A	MU45	1.5k? ?
Q0508	1A	MU45	0.058? ?
Q0510	5A	MU45	0.03? ?
Q0515	10A	MU45	0.012? ?
Q0520	20A	MU45	0.004? ?
Q0523	20V	MU45	20k? ?
Q0525	30V	MU45	30k? ?
Q0530	1mA	MU52E	210? ?
Q0533	?A	MU52E	3.2? ?
Q0535	30V	MU52E	29.4? ?
Q0538	50V	MU52E	49.5? ?
Q0540	1mA	MU65	210? ?
Q0550	100? A	MU65	3.9? ?