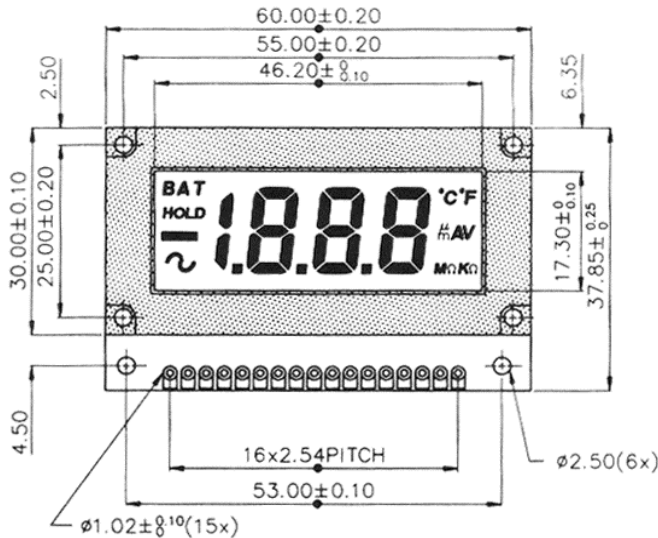
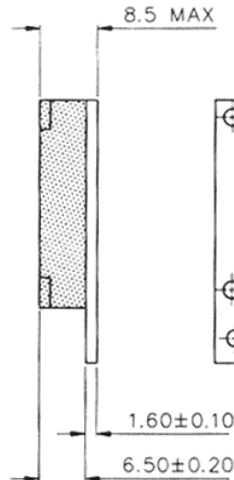


MODULE DIMENSIONS VK1760, VK1760H

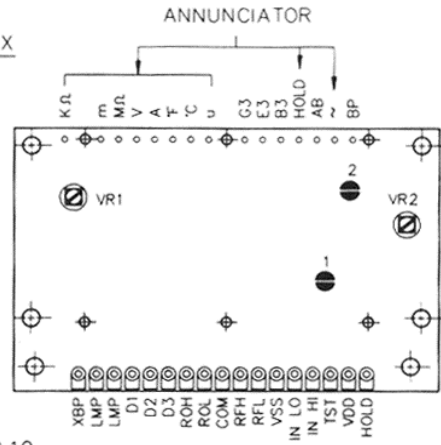
DIMENSIONS IN MM



FRONT VIEW



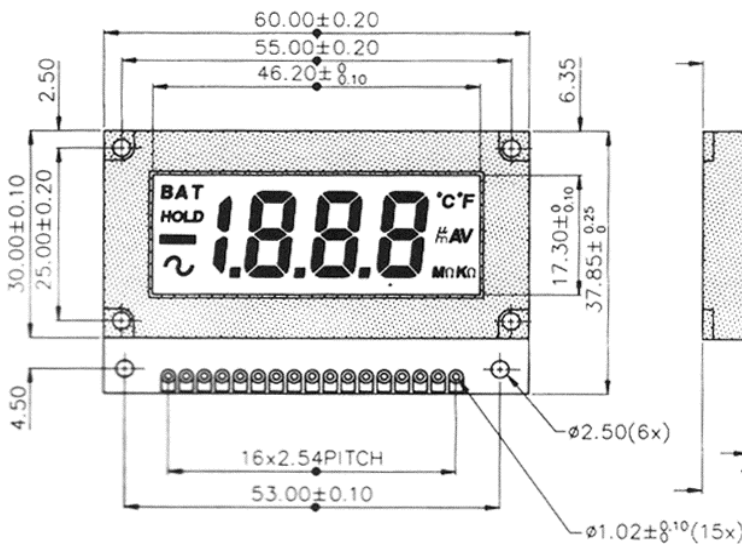
SIDE VIEW



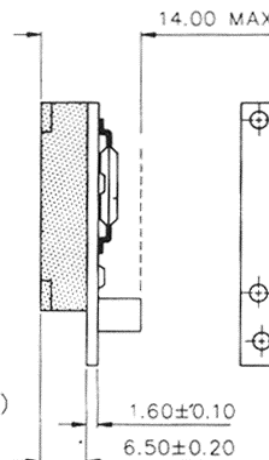
BOTTOM VIEW

VK1763, VK1763H

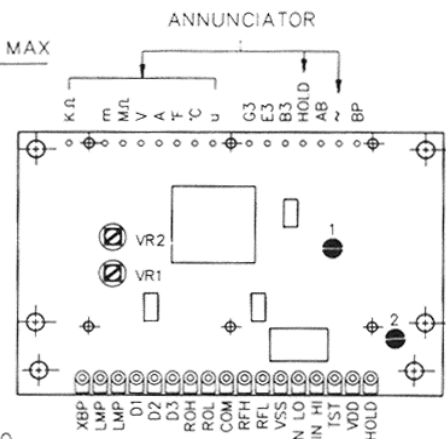
" DVM WITH BUILT-IN LED BACKLIGHT "



FRONT VIEW



SIDE VIEW



BOTTOM VIEW

FEATURES

- 3 1/2-digit 12.7mm character height display
- Display On-Hold option (VK1760H, VK1763H)
- 200 mA full scale input sensitivity
- 10 pA input current typical
- Automatic polarity
- Automatic zero
- Low battery indication (for 9V option only)
- Easy to use decimal point and annunciators
- 9V or 5V operation
- Reflective Mode
- LED BACKLIGHT (VK1763, VK1763H)

ORDERING INFORMATION

MODEL

VK1760 without } Built-in display hold
VK1760H with } (9V version only)

VK1763 without } Built-in display hold
VK1763H with } for 9V version

Optional mounting bezel for VK1760 series,
Part No, MB-10, is available.
Please refer to brochure on MOUNTING BEZEL

DEFINITION OF TERMINALS

PIN	DESCRIPTION	PIN	DESCRIPTION
VDD	Positive supply terminal	TST	TEST pin. Connect to VDD for lamp (LCD will be degraded if left at VDD for several minutes) This pin is also negative supply terminal for 5 volts operation
VSS	Negative supply terminal for 9V option		
INHI INLO	Positive input terminal Negative input terminal	XBP	For driving annunciators
RFH RFL ROH ROL	Reference input High terminal Reference input Low terminal Reference output High terminal Reference output Low terminal	BP	LCD Back Plane. All annunciators are tied to this pin on PC board
HOLD	Connect to VDD for display freeze and to TST pin for continuous updating	D1,D2,D3	Decimal Point. D1=0.00, D2=0.00, D3=00.0 The decimal point will energize when these pins are tied to VDD
COM	Analog common	AB,B3,E3,G3	Segment for developing Over and Under range signal
		BAT,C,F,-,m,μ, Mn,Kn,VA,HOLD2	Annunciators. BAT is auto turn on for these module

OPERATING SPECIFICATIONS

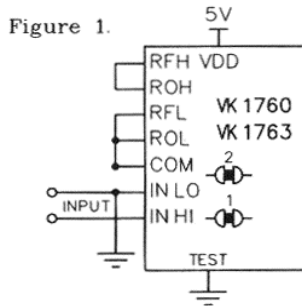
Operating Temperature	0°C to +50°C
Storage Temperature	-40°C to +70°C
Operating Relative Humidity	90% Max.

ELECTRICAL CHARACTERISTICS (Ta = +25°C)

PARAMETER	CONDITION	MIN	TYP	MAX	UNIT
Supply Voltage (VDD)	9 Volts Option	7.0	9.0	10.0	V
	5 Volts Option (VK1760/H)	4.8	5.0	6.0	V
Supply Current (IDD)	9 Volts Option	-	300	500	μA
	5 Volts Option (VK1760/H)	-	5	-	mA
Leakage Input Current (ILI)		-	1	10	pA
Reference Voltage (Factory Adjusted)	For 9 Volts Option Only	-	100.0	-	mV
Full Scale		-	-	200	mV
Zero Input Reading		-	±0.000	-	Count
Accuracy (input at 199.5mV)	9 Volts Option	-	±1	±2	Count
	5 Volts Option	-	±1	±4	Count
Linearity (Max Deviation From Best Straight Line)	9 Volts Option	-	±1	-	Count
	5 Volts Option (VK1760/H)	-	±1	-	Count
Resolution		-	100	-	μV
Sampling Rate		-	3	4	Read/Sec
CMRR		-	70	-	dB
Temperature Coefficient		-	100	150	ppm/°C
Low Battery Indicator	For 9 Volts Option Only	6.75	7.25	7.75	V
Backlight Current	Supply 5V	-	40	60	mA

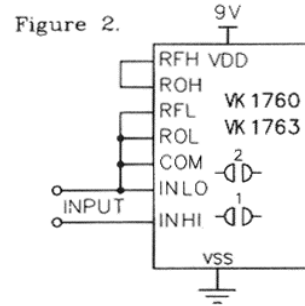
5 VOLTS / 9 VOLTS OPERATING VOLTAGE CONFIGURATION

5V OPERATION



Jumper pad 1 and 2 must be shorted.

9V OPERATION



Jumper pad 1 and 2 leave open.

NOTE : VK1760/H, VK1763/H is calibrated for 9 volts operation, for 5 volts operation, it has to be recalibrated.
With 100 millivolts on input, adjust VR1 to read 1000 on display.

USERS' INSTRUCTIONS

The module is ready for general use when connected according to figures above. The input range is set for 200mV full scale. If the input signal exceeds 200mV the module will go into an over-range condition blanking the three least significant digits. The number "1" will be displayed in the most significant digit. In cases of high input impedance, this condition could occur without an applied signal. To avoid this condition, place a 10M resistor across the input terminals. With the resistor in place, the display will indicate 000 as long as no input signal is applied. The module has automatic zero adjustment, therefore, manual zero adjustment is unnecessary. If the input voltage polarity is correct with respect to INHI and INLO the display will indicate the correct polarity. With reverse polarity, a minus sign will be displayed. The input terminals must not be connected directly to either VDD or VSS to avoid latch-up of IC.

VK1760/H and VK1763/H are designed to operate with either 5 or 9 volts. For 9 volts operation, it is recommended to power the module with 9 volts battery. The inputs float with respect to the 9 volts supply. In general, if the inputs do not float with respect to the supply, the inputs must be no closer than 1.5 volt from either VDD or VSS ($VDD-1.5/VSS+1.5$).

These models are calibrated for 9 volts version. To operate at 5 volts the module may have to be recalibrated before use. This can be easily done by connecting the module as in figure 1 above, then with 199.0 mV applied to the inputs, adjust the trimmer resistor, VR1, until the display shows 1990. With 5 volts supply the module can have either floating or non-floating inputs. Low BAT annunciator can be turned off by adjusting VR2 until it disappears from display.

Module (VK1760H/VK1763H) with hold feature must have the terminal HOLD connected to TST for a continuous updated display. With HOLD terminal at VDD level the display will be put on-hold.

All annunciators are tied to BP for suppression purpose. To light up, the trace between the annunciator and BP has to be cut, and use solder to jumper the selected annunciator terminal to XBP pad next to it.