PM-45XMUXBCD & PM-45XUMUXBCD MULTIPLEXED BCD OUTPUT OPTION

4 1/2 DIGIT MULTIPLEXED BCD OUTPUT OPTION FOR THE PM-45X AND PM-45XU PANEL METERS. ALSO AVAILABLE AS A FIELD RETROFIT MODULE.

DESCRIPTION

The MUX BCD Output Module for use with Texmate's Model PM-45X and PM-45XU Digital Panel Meters is designed to further increase the versatility of the meters. It consists of an additional PC board mounted in the case with the meter connected to it by a flexible ribbon cable.

The MUX BCD board brings out the multiplexed BCD outputs in a format that can be directly connected to the RD-45MUX4I remote meter.

The unit may also be used to drive digital printers, digital comparators, or to provide data for digital processor applications.

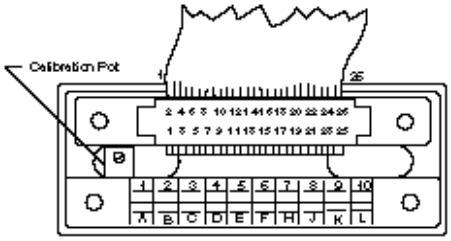
NOTE: This instruction sheet only provides information on the MUX BCD Output Module. For information on the PM-45X and PM-45XU Digital Panel Meters, see the PM-45X/PM45XU instruction sheet.

SPECIFICATIONS

System Voltage:	5VDC
Data Output:	Multiplexed Binary-Coded-Decimal (BCD) ±19999 counts maximum and polarity sign
BCD Logic Level:	Logic 1: 4.6V at 1mA Logic 0: 0.4V at 1mA 300nA max.
Polarity Output:	Logic 1 for positive Logic 0 for negative
Control Output:	Overrange output
Operating Temperature:	0 °C to + 60 °C

CONNECTOR PINOUTS

The Texmate Model PM-45XMUXBCD interconnects by means of a standard PC board edge connector having two rows of 13 pins each, on 0.1" centers. A standard 26 pin Ribbon Cable to PCB type connector as shown below is available from Texmate or from almost any connector manufacturer.



REAR VIEW OF METER CASE

BCD OUPUT CONNECTOR PINOUTS

Pin 1 -	Decimal Select Common (Sys Gnd)	Pin 14 -	No Connection
Pin 2 -	No Connection	Pin 15 -	Overrange Output
Pin 3 -	Decimal Select (1X.XXX)	Pin 16 -	$\overline{\text{Strobe}}$ Output
Pin 4 -	Decimal Select (1XXX.X)	Pin 17 -	BCD Data B1
Pin 5 -	Decimal Select (1XX.XX)	Pin 18 -	BCD Data B2
Pin 6 -	Decimal Select (1.XXXX)	Pin 19 -	BCD Data B4
Pin 7 -	+5V Output	Pin 20 -	BCD Data B8
Pin 8 -	Display Power Output	Pin 21 -	D4 Digit Select
Pin 9 -	D5 Digit Select (MSD)	Pin 22 -	D3 Digit Select
Pin 10 -	BCD Data B1	Pin 23 -	D2 Digit Select
Pin 11 -	Polarity	Pin 24 -	+5V Output
Pin 12 -	No Connection	Pin 25 -	D1 Digit Select
Pin 13 -	No Connection	Pin 26 -	System Ground

NOTE: For PM-45X and PM-45XU connection pinouts see the PM-45X/PM-

ORDERING INFORMATION

	Order Part No.
PM-45X with Multiplexed BCD Output	PM-45XMUXBCD
PM-45XU with Multiplexed BCD Output	PM-45XUMUXBCD

ACCESSORIES:	Order Part No.
Edge Connector (26 pin Ribbon Cable to PCB type)	CN-S13

PIN DESCRIPTIONS

Pin 1 - Decimal Select Common (System Ground): Same as Power Ground Input Pin L (see PM-45L Pin Descriptions).

Pins 2, 12, 13 and 14 - No Connection: No connection has been made to these pins.

Pin 3 - 1X.XXX Decimal Select For Remote Display: Decimal can be turned ON by closing jumper J4.

Pin 4 - 1XXX.X Decimal Select For Remote Display: Decimal can be turned ON by closing jumper J3.

Pin 5 - 1XX.XX Decimal Select For Remote Display: Decimal can be turned ON by closing jumper J2.

Pin 6- 1.XXXX Decimal Select For Remote Display: Decimal can be turned ON by closing jumper J1.

Pin 7 - +5V Output: +5VDC power output for external use. It is connected internally to Pin 8 by jumper J6. Opening the jumper turns OFF the remote display.

Pin 8 - Display Power Output: +5V for remote display.

Pin 9 - D5 Digit Select: Unlike the other digit control outputs, D5 (most significant digit) goes high (logic "1") at the end of the measurement cycle for 201 clock pulses and then goes low (logic "0") for 800 clock pulses. This scan is continuous unless overrange occurs, in which case the output for D5 is blanked from the end of the $\overline{\text{Strobe}}$ sequence until the beginning of the deintegration period when D5 will start the scan again. **NOTE:** The same output that the other digit controls have can be derived from Pad 15 (D5) by creating an AND Logic output with the inverse of $\overline{\text{Strobe}}$ output.

Pins 10, 17, 18, 19 and 20 - BCD Data: True logic BCD Data output for 8, 4, 2, 1 multiplexed synchronously with the Digit Control outputs.

Pin 11 - Polarity: This output goes high (logic "1") for a positive signal input and low (logic "0") for a negative input. The output becomes valid at the beginning of the reference integrate and remains correct until it is revalidated for the next conversion.

Pin 15 - Overrange Output: Pin 15, normally logic "0" (zero volts), goes to logic "1" (+5V) at the end of the deintegration period (end of Busy) when the reading is greater than 19999. Pin 15 is reset to logic "0" at the beginning of the next deintegrate (Reference integrate).

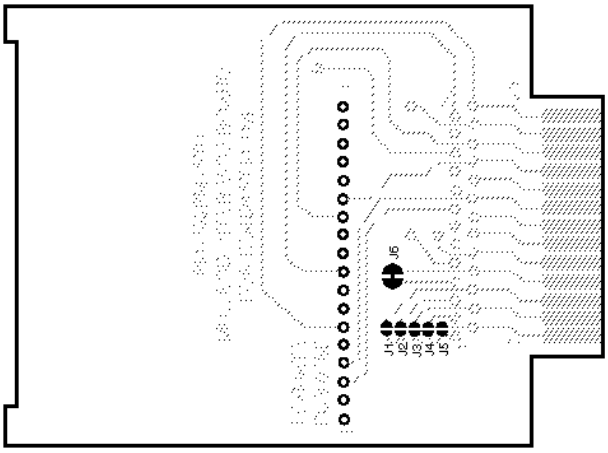
Pin 16 - $\overline{\text{Strobe}}$ Output: This is a negative going output pulse that aids in transferring the BCD data to external latches, UART's or microprocessors. There are 5 negative going $\overline{\text{Strobe}}$ pulses that occur once and only once for each measurement cycle starting 101 pulses after the end of the full measurement cycle. Digit 5 (MSD) Pin 9 goes high at the end of the measurement cycle and stays on for 201 counts. In the center of this digit pulse (to avoid race conditions between changing BCD and digit drives), the first $\overline{\text{Strobe}}$ pulse goes negative for a 1/2 clock pulse width. 200 pulses later the $\overline{\text{Strobe}}$ goes negative for the second time and at the same time Digit 4 (Pad 12) goes positive for the same 1/2 clock pulse width as the $\overline{\text{Strobe}}$. This sequence then continues through Digit 1 (LSD) when the fifth and last $\overline{\text{Strobe}}$ pulse is sent. Except for Digit 5 (MSD), which will continue to scan (unless the previous signal was overrange), no additional $\overline{\text{Strobe}}$ pulses or digit pulses will be sent until a new conversion cycle has begun.

Pins 25, 23, 21 and 23 - Digit Select: These outputs identify the Data for D1, D2, D4 and D3 respectively. They are synchronized with the 5th, 4th, 3rd and 2nd $\overline{\text{Strobe}}$ outputs. The output of these digit controls is a 1/2 clock pulse duration positive signal that occurs only once for each conversion cycle.

Pin 24 - +5V Output: +5VDC power output for external use.

Pin 26 - System Ground: Same as Power Ground Input Pin L (see PM-45L Pin Descriptions).

SOLDER SIDE COMPONENT LAYOUT



TEXMATE INC

995 Park Center Drive • Vista, CA 92083-8397
Tel: (760) 598-9899 • Fax: (760) 598-9828
URL: http://www.texmate.com

Texmate has facilities in Japan, New Zealand, Taiwan, and Thailand. We also have authorized distributors throughout the USA and in 28 other countries.

Local Distributor Address