Melltronics Industrial, Inc.™

SPEED METER KIT
222-9074

INSTRUCTION SHEET

NOTE

The instructions which follow cover both the *MELLTRUM* and *2300* Drives.

SPEED METER KIT

The speed meter indicates motor/line speed on a scale of 0—100%. It must be used with the speed meter interface board (222-9003).

PROCEDURE:

1) The speed meter interface board (222-9003) must be mounted to the modification panel before proceeding.
2) The main purpose of this kit is to provide a remote indication of percent speed. However, the meter face can be removed from the enclosure box for panel mounting.

NOTE

The old Spectrum (Emerson) & 2300 cabinet kits do not have pre-drilled holes for this kit.
Both installation methods are described as follows:

a) To mount kit as supplied: Remove enclosure backing by removing the screw on either side of the case and drill four holes on the enclosure's 2-3/4" x 3" centers as pictured in Figure 1. (Side mounting holes may also be used depending on mounting location). Also, remove appropiate wiring knockout. After making appropriate wiring connections described below, re-attach enclosure.

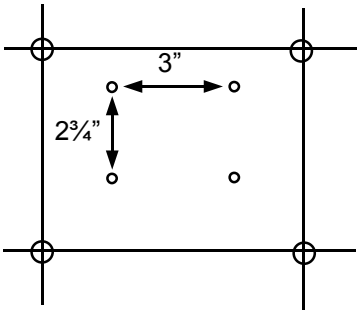

Figure 1
Speed Meter Kit Enclosure Front View
with Meter Panel Removed

b) To mount without enclosure: Remove meter from enclosure by removing the screw on either side of the case and panel mount according to the cutout dimensions shown in Figure 2.

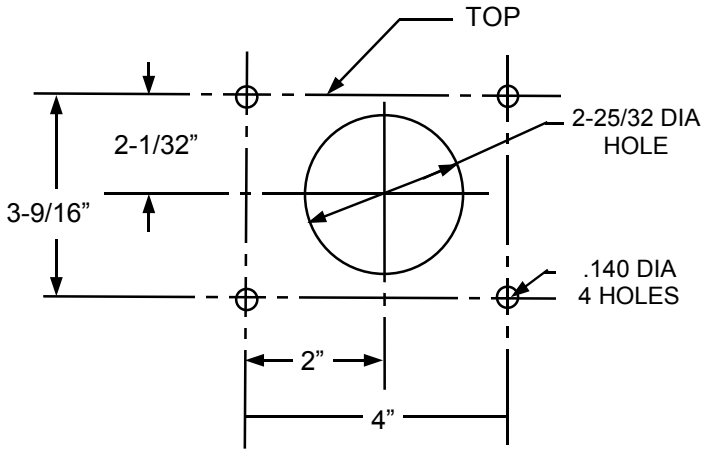

Figure 2

3) Determine whether armature of tachometer voltage signals will be used to indicate motor/line speed. Then connect speed meter interface to speed meter board as follows:

NOTE

Use shielded cable to connect speed meter interface and speed meter board. Belden # 83394 (2 condustor) and Belden # 83395 (3 conductor) shielded wire (or equivilent) is recommended. Connect shielded wire to either TB3-M- or TB4-M- on the speed meter interface and tape off both ends to avoid accidental contact. Do not ground shield at the meter end. Additional considerations are recommended to route this wiring away from high current lines, such as AC lines and armature wiring.

Connection to Speed Meter Interface Board 2200-9003

a) Connect TB3-M- on Speed Meter Interface Board to — (Common) on Speed Meter Board.

b) Connect TB3-M+ on Speed Meter Interface Board to + (Positive) on the Speed Meter Board

c) See page 2 for meter setup and calibration.

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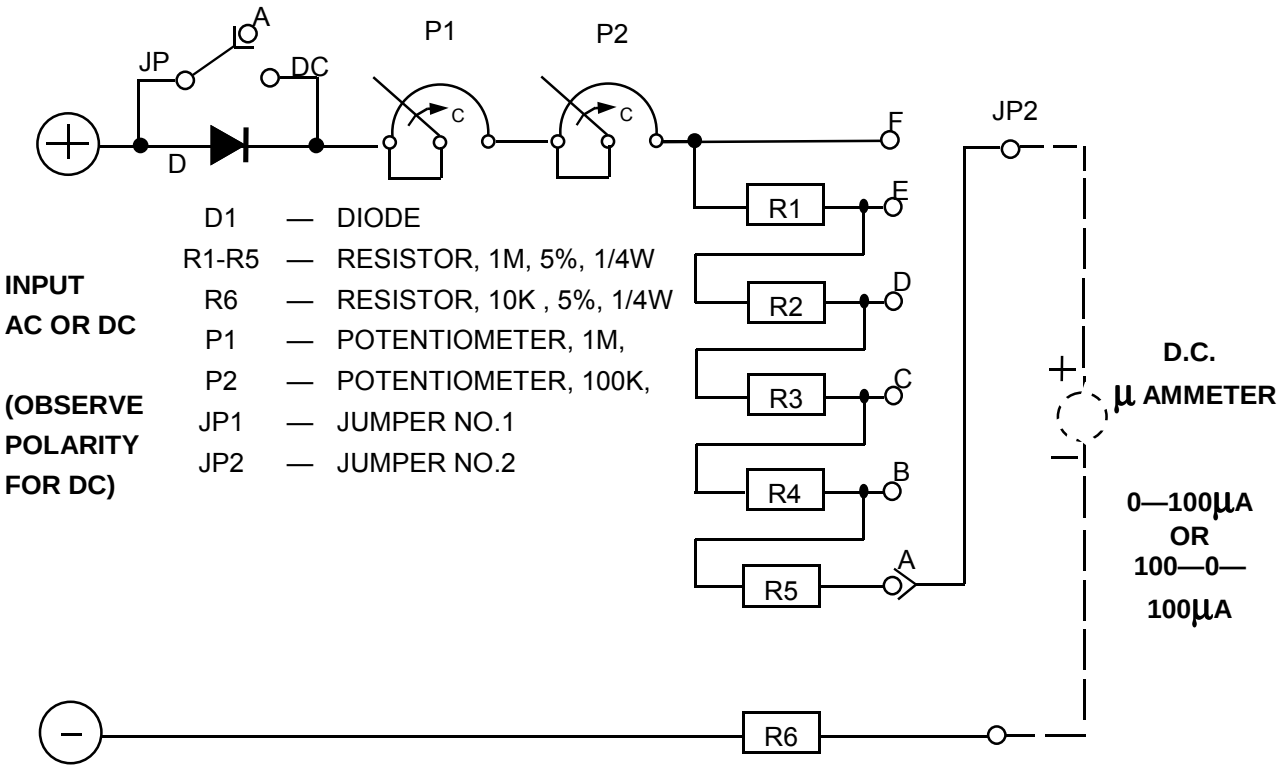

GENERAL

This meter is designed to operate with either an A.C. or D.C. voltage input. It can be calibrated so that a full scale meter reading is obtained with A.C. input voltages ranging from .66 VAC to 287VAC or D.C. input voltages ranging form 1.4 VDC to 638 VDC.

CONNECTING THE METER

Remove all power from the system before wiring to the meter calibration board or changing jumper positions on the meter calibration board. If the meter will be used with a motor mounted tachometer, make sure the motor is not rotating and the tachometer output voltage is zero.

Determine whether your input signal is an A.C. signal or a D.C. signal. For D. C. inputs, jumper JP-1 should be connected to the metal turret marked D.C. for A.C inputs, jumper JP-1 shoud be connected to the metal turret marked A. C.

Determine the "maximum" input voltage (the voltage you will have present when the meter should read full scale). Consult the table below to determine the correct jumper position for jumper JP-2. You should select a jumper position that allows you to accommodate the "maximum" voltage value you expect and one that allows some adjustment above and below the expected "maximum" value.

—VOLTAGE RANGE—

JUMPER POSITION	D.C. SOURCE	A.C. SOURCE
A	501VDC—638VDC	225VAC—287VAC
B	401VDC—511VDC	180VAC—230VAC
C	301VDC—411VDC	135VAC—185VAC
D	201VDC—311VDC	90VAC—140VAC
E	101VDC—211VDC	45VAC—95VAC
F	1.4VDC—111VDC	.66VAC—50VAC

Connect your input signal between the two screw type terminals located on the meter calibration board marked (+) and (-). If your input signal is a D.C. signal, you must connect your positive input to the plus terminal and your negative input to the minus terminal. If your input signal is an A.C. signal, there is no need to concern yourself with polarity.

There may be a metal jumper (wire) installed between the meter terminals to protect the meter from damage during shipment. If there is, **you must remove it before applying power to the meter.**

ADJUSTMENT

Set potentiometer P2 (fine) to approximately the center of its travel (P2 is an 18 turn potentiometer so counter is approximately 9 turns from clockwise or counterclockwise).

Energize the meter circuit and adjust potentiometer P1 (course) and potentiometer P2 (fine) until the meter reads correctly.

☐ **FACTORY CAL.**_____ **VDC VAC =**_____