8620

Technical Manual
and
Parts Catalog

INTRODUCTION

This publication is provided solely as a guide for individuals who have received METTLER TOLEDO Technical Training in servicing the METTLER TOLEDO product.

Information regarding METTLER TOLEDO Technical Training may be obtained by writing to:

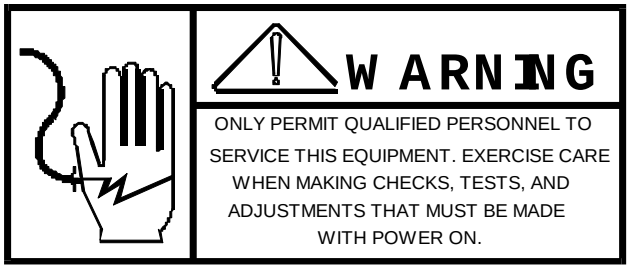
METTLER TOLEDO
Training Center
P.O. Box 1705
Columbus, Ohio 43216
(614) 438-4400

PRECAUTIONS

- **READ** this manual before operating or servicing this equipment.

- **ALWAYS REMOVE POWER** and wait at least 30 seconds **BEFORE** connecting or disconnecting any internal harnesses. Failure to observe these precautions may result in damage to, or destruction of the equipment.

- **ALWAYS** take proper precautions when handling static sensitive devices.



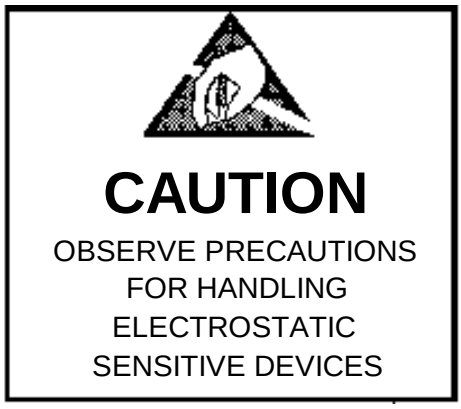
- **DO NOT** connect or disconnect a load cell scale base to the equipment with power connected or damage will result.

- **SAVE** this manual for future reference.

- **DO NOT** allow untrained personnel to operate, clean, inspect, maintain, service, or tamper with this equipment.

- **ALWAYS DISCONNECT** this equipment from the power source before servicing.

- **CALL** METTLER TOLEDO for parts, information, and service.



1. GENERAL DESCRIPTION/SPECIFICATIONS

The 4800 baud remote display is a small self-contained, 6 digit display for use with standard indicators like the models 8139, 8136, and 8132. In the main mode of operation, the display receives data at 4800 baud, formatted in the Toledo standard continuous output, and maintains a continuous display. A 300/1200/2400 baud receive mode is also available to display indicated weight data which is updated each time a ''print'' is initiated at the indicator.

1.1 SPECIFICATIONS:

1. Enclosure

   The enclosure is vacuum formed plastic with a metal base, 5'' wide, 6'' deep, and 2.3'' high. Front and back sides will be sloped inward at a 10 degree angle. Standard color is black. The metal base will permit cable routing out of the bottom of the enclosure.

2. Environment

   The display will operate over a range of -10 to 40 degrees C with a 0 to 95% relative humidity, non-condensing.

3. Electromagnetic Interference

   The display meets or exceeds the FCC conducted and radiated emissions requirements. The display is not affected by 10v/m field strength RFI from 20khz to 500mhz.

4. AC Power

   Display power is supplied by an external AC adapter which plugs into a standard AC outlet. The standard adapter for 120 VAC nominal input voltage and UL listed.

   Input power to the display PCB shall be 8 watts maximum, at a nominal 12 VAC input voltage.

5. Power Source Interruptions

   The display will not be affected by AC power interruptions within the following limits:

   0% of nominal line voltage for 10 ms.
   50% of nominal line voltage for 20 ms.
   80% of nominal line voltage for 50 ms.

6. Display Characteristics

   The display is a green-blue vacuum fluorescent type. It consists of six 0.4'' digits with lighted decimal point. Six fluorescent descriptors are located underneath the digit display to indicate a zero, lb, kg, and net. The remaining two descriptors are not used. A single decimal point or a jumper selected semicolon may be illuminated.

7. Signal Input

Input data may be sent in either 20mA current loop format or at RS-232c voltage levels.

8. Baud Rate

Baud rate and data format are program switch selectable. The 4800 baud continuous output may be selected, or demand mode printer output format may be selected at 300, 1200, or 2400 baud.

9. 300, 1200, 2400 Baud Demand Input

The display is capable of receiving data via current loop or RS232 levels. The display will illuminate appropriate lb, kg, or net descriptors. The zero descriptor will not be illuminated.

10. 4800 Baud Continuous Input

The display will indicate zero, lb, kg, and net contingent upon the state of the above flags. Decimal point position and overcapacity blanking are also accomplished via the status flags.

2. INSTALLATION INSTRUCTIONS

2.1 SET-UP PROCEDURE

1. Remove the four screws that hold the top cover to the chassis and remove the cover. If the remote display is to be mounted to some type of support, refer to Part B of this section for the mounting procedure at this time. If it will not be mounted, proceed to the next step.

2. Bring the proper ends of the power cord and data cable up through the circular hole in the chassis. Loosen the plastic cable clamp and pass both cables through the clip. Be sure to allow enough slack in the cables to connect to their respective pins. The power cord attaches to J2 and the data cable connects to J3. Retighten the nut on the plastic cable clamp. See Figure 1.

FIGURE 1

3. Program the remote display for correct operation using switch bank SW1 and jumpers W1 and W2. See Figure 2 for switch and jumper locations.

FIGURE 2

SW1-1 PARITY SELECTION
SW1-2 PARITY SELECTION

SW1-1	SW1-2	PARITY
ON	ON	NONE
OFF	ON	ODD
ON	OFF	EVEN

NOTE: Both switches OFF will initiate a display test routine.

SW1-3 BAUD RATE SELECTION
SW1-4 BAUD RATE SELECTION

SW1-3	SW1-4	BAUD RATE
ON	ON	300 (ON DEMAND)
OFF	ON	1200 (ON DEMAND)
ON	OFF	2400 (ON DEMAND)
OFF	OFF	4800 (CONTINUOUS)

W1 - DECIMAL POINT OR COMMA

With the jumper not shorting the pins, a decimal point will be illuminated in the weight display when data is sent from the indicator.

Shorting the pins with the jumper will illuminate a comma in the weight display when data is sent from the indicator.

W2 - ENABLE EXTERNAL MEMORY

This jumper MUST be in place shorting the two pins.

4. Reinstall the top cover using the four screws. The remote display is now ready to connect to an indicator and an AC power source.

5. Be sure that the indicator being used is programmed for a displayed weight output at single width when used in the demand mode at 300, 1200 or 2400 baud.

6. In the demand mode, the display will update only when the print button is pressed on the indicator being used. In the continuous mode, the display will continuously update.

2.2 MOUNTING THE REMOTE DISPLAY

1. Remove the printed circuit board by loosening and removing the four retaining nuts. See Figure 3. This allows access to the mounting holes without the chance of damaging the PCB during mounting.

2. Use the chassis of the display as a template to mark the location for the mounting holes. Be sure to include an entrance hole for the power cord and data cable.

3. Reinstall the PCB with the four retaining nuts. Return to Section 2.1, number three (3) to complete the installation of the remote display.

3. TROUBLESHOOTING

3.1 SELF TEST FEATURE

To initiate a self test of the display, turn SW1-1 and SW1-2 both OFF. The remote display will proceed through a self test and give the following displays.

000000
11111.1
2222.22
333.333
44.4444
5.55555

This routine will be repeated until the unit is powered down or SW1-1 and SW1-2 are changed. If a self test cannot be initiated, the unit or line power is defective.

NOTE: The remote display does not have to be connected to an indicator to perform a self test.

3.2 ERROR DISPLAYS

1. Checksum Error

   This can be a problem in either the remote display or the indicator. Verify checksum switch settings before replacing any PCB'S.

2. Blank Display

   This indicates an error in the data being received. check parity and baud rate programming. This can also indicate a loss of AC power.

4. INPUT/OUTPUT CONNECTIONS

4.1 SIGNAL DESCRIPTIONS

The pins on J3 (on the Remote Display PCB) have the following functions.

8142	J3 PIN	DESCRIPTION
	1	Disable Display (20mA -)
14P ┐	2	Disable Display (20mA+)
15R ┘	3	Disable Display (RS-232-C)
	4	
	5	Keyed (no pin)
19V	6	Receive (RS-232-C)
9J ┐	7	20mA Receive -
┘	8	20mA Receive +
	9	+5 volts DC

		Logic Ground

4.2 CABLE CONFIGURATIONS

1. 8139 to Remote (Part # 119647 00A)

This cable is 36 inches long and has a 9 pin connector at each end.

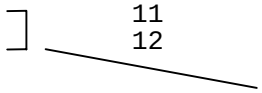
8139 PIN J3	REMOTE DISPLAY J3	DESCRIPTION
5	6	20mA Receive -
8	7	20mA Receive +
3	9	Ground (Shield)

2. 8132/8136/8139* to Remote (Part # 119652 00A)

This cable is 15 feet long and has a 25 pin male connector on the indicator end and a 9 pin connector on the remote indicator end. The 25 pin end will attach to the indicator being used.

*NOTE: Optional output pod must be used.

INDICATOR PIN	REMOTE PIN J3	DESCRIPTION
2	5	Receive (RS-232-C)
10	6	20mA Receive -
15	9	Logic Ground
25	7	20mA Receive +



Jumper is at indicator end of cable.

REF.	PART NUMBER	DESCRIPTION	QTY.
1	119650 00A*	Switch Setting Decal (N.S.)	1
2	098431 00A	Screw, #6-32 X 1/4" Black Nylon	4
3	119651 00A	Grommet	1
4	111337 00A	Feet (8620)	1
5	118495 00A	Bezel with Lens	2
6	A118481 00A	Black Cover, Dual Display (0917-0063)	1
7	A118481 00C	Gray Cover, Dual Display (0917-0064)	1
8	A118481 00B	Black Cover, Single Display (Model 8620)	1

N.S. - Not Shown

*Attached inside of top cover.

REF.	PART NUMBER	DESCRIPTION	QTY.
1	119646 00A	Transformer and harness	1
2	118482 00A	Chassis	1
3	R01611 050	Nut, 8-32	9
4	R00589 130	Lockwasher, #8	4

5	119654 00A	Main PCB Single Display (8620)	1
6	118484 00A	Main PCB Dual Display (0917-0063,	1
7	118483 00A	0064)	1
8	119652 00A	PCB Insulator	1
9	119647 00A	Interconnecting Cable (8620)	1
10	P00561 020	Interconnecting Cable (0917-0063,	1
11	118490 00A	0064)	2
		Cable Clamp	
		Chassis Strap Assembly	