



- 1/8 DIN Case (96x48mm)
- 3-button Front Panel Operation
- 5-digit, 7-segment 0.56" (14.2 mm) LED Display

# DI-50-FLOW

## Flow Rate & Two Totalizers

### Introduction

The DI-50-FLOW and Totalizer is a member of the TIGER series of 1/8 DIN digital panel meter controllers. Its user-selectable software function converts an input rate to an input total over time from an analog output (4-20mA, 0-5V, 1-5V, etc.) of a flowmeter. Its Cutoff function prevents counts from being subtracted from the total. If the Rollover is set to ON, when the total is exceeded by more than one count, the amount over the maximum is added to the new total.

Flow rate is typically displayed on the primary display, and by pressing UP or DOWN buttons, the cumulative total is displayed on Total 1 or Total 2. The total overflow feature allows up to a 5-digit total and a grand total to be displayed.

The standard display is Red LEDs with optional Green or sunlight-visible Blue LEDs.

DI-50-FLOW is designed and manufactured in the USA. UL-listed, RoHS and CE compliant, with a NEMA 4X front.

DI-50-FLOW meters can be equipped with up to four internal relays, a 4-20 mA output, and Modbus® RTU serial communications. The DI-50-FLOW includes a 24 VDC power supply to drive the flowmeter and can be programmed via the front panel pushbuttons or free Texmate Utility Configuration software.

The resident Tiger 320 operating system also provides a range of built-in measurement and control functions providing a reliable and precise industrial quality weighing solution. These include:

- **Relays.** Two 9A Form C, or up to Six 4A Form A.
- **Setpoints.** Six programmable setpoints with advanced multiple timer modes, hysteresis, deviation, PID, and setpoint tracking.
- **Analog Output.** Fully scalable from 4 to 20 mA (or reverse) as standard, or optional 0 to 10 V DC and Dual 4-20mA/0-10V DC.
- **Linearization.** Up to four 32-point flexible linearization tables or a single 125-point flexible table.
- **Serial Communications.** Ethernet, Modbus Protocol, RS-232, RS-485, USB
- **Data Logging.** Optional data Acquisition module with Removable 2GB SDs with real-time clock (OR91).
- **Power Supplies.**
  - Standard high voltage** AC/DC power supply 85-265VAC / 95-300 V DC.
  - Optional low voltage** AC/DC power supply 15-48 VAC / 15-72 VDC.

### Specifications

#### General

- Digital Display:** 7-segment, 0.56" (14.2 mm) LEDs.
- Display Color:** Red
- Display Range:** -19999 to 99999.
- Display Update Rate:** 10 times per second.
- Display Dimming:** 8 brightness levels. Front panel selectable.
- Polarity:** Assumed positive. Displays – negative.
- Annunciators:** 6 red LEDs on front panel.
- Overrange Indication:** **oUeR**
- Underrange Indication:** **undEr**
- Front Panel Controls:** PROGRAM, UP, and DOWN buttons.

#### Power Supplies

- Standard** high voltage AC / DC power supply 85-265 V AC / 95-370 V DC.
- Optional** low voltage AC / DC power supply 18-48 V AC / 10-72 V DC.

#### Environmental

- Operating Temperature:** 0 °C to 50 °C (32 °F to 122 °F).
- Storage Temperature:** -20 °C to 70 °C (-4 °F to 158 °F).
- Relative Humidity:** 95% (non-condensing) at 40 °C (104 °F).

#### Mechanical

- Case Dimensions:** 1/8 DIN, 96x48 mm (3.78" x 1.89").
- Case Depth:** 137 mm maximum (5.39").
- Case Material:** 94V-0 UL rated self-extinguishing polycarbonate.
- Weight:** 11.5 oz (0.79 lbs), 14 oz (0.96 lbs) when packed.

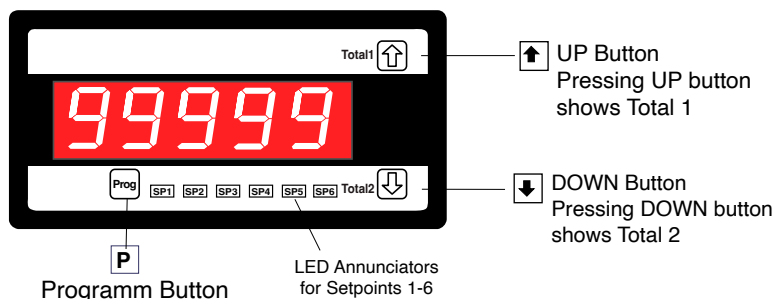
#### Approvals

- CE:** As per EN-61000-3/4/6 and EN-61010-1.
- Analog to Digital:** Single channel  $\Sigma\Delta$  A/D convertor approaching 19-bit resolution. Ratiometric operation relative to excitation voltage magnitude.
- Output Rate:** 10 Hz averaged response output.
- Line Frequency Rejection:** 50 / 60 Hz noise rejection.

#### Relays

- Plugs into carrier board from rear:
- Four 5 A Form A Relays or Two 9A Form C Relays.
- \*Form C Relay Specifications:** 9A 240VAC~1/2 HP, 8A 24VDC. Isolation 3000V. UL and CSA listed.
- \*\*Form A Relay Specifications:** 5A 240VAC, 4A 24VDC. Isolation 3000V. UL and CSA listed.

### Front Panel Controls and Indicators

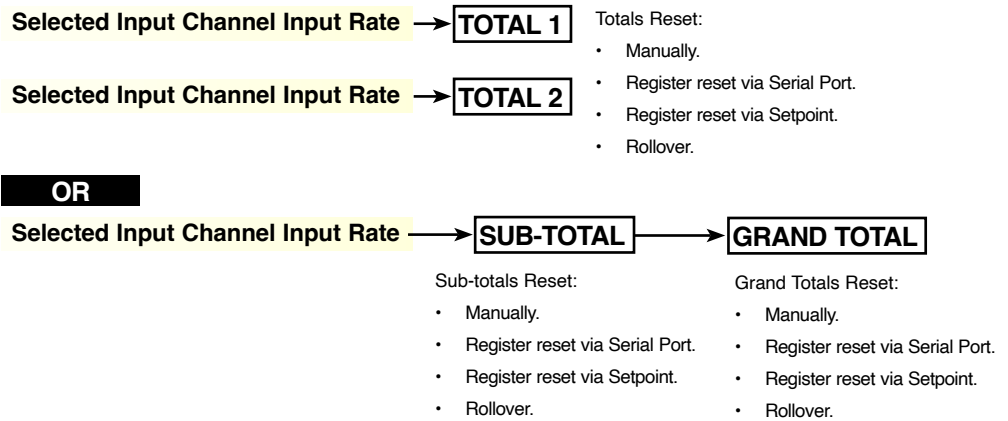


## Technical Description

A totalizer is a user selectable software function of the meter that converts an input rate to an input total over time. For example:

A customer has a settling tank being filled with water. The flow rate is metered and input to a Tiger 320 Series meter. The flow rate indicates the speed at which the volume of water travels past a set point, but not the total volume accumulated in the tank. The meter's totalizer performs this function and provides the customer with the total amount of water currently in the tank. This then allows the customer to make control decisions, such as when to turn the tap off before the tank overflows.

Each Tiger 320 Series meter has two independent totalizers suitable for a wide variety of totalizing and batching applications. Each totalizer can operate independently or combine to generate a sub-total and grand total. Totals can be reset using one of a number of methods. Setpoints can be used to reset a sub-total and increment a grand total.



## Before You Start Setting the Totalizer

Configuring the meter for a totalizer application requires some basic settings to be decided beforehand. These settings are the **unit input rate**, the **resolution of the unit input rate**, and the **resolution of the totalizer**. When the settings are known, enter the calibration mode and calibrate the selected input channel to be totalized.

### Unit Input Rate

This is the term for the unit amount of the input signal to be totalized in relation to time. For example, the unit input rate of a flow rate of 100 liters per second is **liters per second**. Some other examples of the unit input rate would be revolutions per minute or joules per hour.

### Input Signal Resolution

This uses the position of the decimal point to determine how coarse or how fine the units of an input signal are displayed on the meter. Input signal resolution must be set correctly for the selected input channel.

### Input Signal Calibration

The input signal must be calibrated to suit the **unit input rate**, taking into consideration the required **input signal resolution**. For example:

If we wanted to display an input flow rate of 350 gallons per minute (GPM) in tenths (0.1) of a gallon, the meter could be scaled to read 0 counts for 0 GPM and 3500 counts for 350 GPM. With the input signal resolution set to tenths, the meter would then display 350.0 counts for 350 GPM, or 276.9 counts for 276.9 GPM.

### Totalizer Resolution

This also uses the position of the decimal point to determine resolution. In this case it is how coarse or how fine the units of the totaled amount are displayed on the meter. For example:

Using our 350 GPM flow rate again, we want to display 1 kilogallon for every 1,000 gallons totaled. With the display resolution configured with no decimal point, we would add 1 to the totalizer after 1,000 gallons. But, if we wanted the totalizer to display to the nearest 100 gallons, we would then place the decimal point between the last two digits. Therefore, 1,000 gallons would display as 1.0 on the totalizer, but 1652 gallons would display as 1.6.

## Totalizer Settings

The totalizer settings are configured in the calibration mode. To enter the totalizer settings mode, enter the calibration mode and select [23X].

Selecting **2** in the 1st digit selects **related calibration functions**, selecting **3** in the 2nd digit selects the **totalizer settings mode**. Select **1** in the 3rd digit to select **totalizer 1** or **2** to select **totalizer 2**.

Entering the totalizer settings mode allows you to configure the following settings for the selected totalizer:

- **Input Rate.** Displayed as: .....
- **Running Time.** Displayed as: .....
- **Required Total.** Displayed as: .....
- **Cutoff.** Displayed as: .....
- **Rollover.** Displayed as: .....

### Input Rate

The input rate has a default setting of 10,000 counts. This can be adjusted to suit the known input rate of an application.

So, using our 350 GPM flow rate example, to display in units of 1 gallon we can adjust the input rate from 10,000 counts to 350 counts. Or, if we wanted to display the total in tenths of a gallon, we can adjust the input rate to 3500 counts, making sure the totalizer resolution is set for tenths (0.1). This gives us a display of 350.0 for 350 GPM.

### Running Time

The running time is the period over which the input rate is accumulated in the totalizer. The following running times are selectable in the meter:

Running Times				
Seconds	Minutes	Hours	Days	Weeks
1	1	1	1	1
10	10	10	-	-

### Total Required

This is the total you wish to see after a selected running time. The time unit of the input rate is normally selected as the running time. For example, if gallons per minute is the rate unit, then you would use **1 minute** as the running time. Or, if liters per hour is the rate unit, then you would use **1 hour** as the running time.

So once again, using our 350 GPM flow rate, the running time is **1 minute**. This means that when we set the required **total**, it is with the understanding that the total is expressed as a unit of gallons per minute. For example:

If we wish to display 1 kilogallon for every 1,000 gallons totalled, we would set the required **total** to **1**.

But, if we wanted the totalizer to display to the nearest 100 gallons, we would have to move the decimal point to add an extra unit. Therefore, instead of setting the required **total** as **1**, we would set it to **10**. The 1,000 gallons would then display as 1.0 on the totalizer as long as the input signal resolution is set to 0.1 (tenths).

### Cutoff

This is normally set to 0 to prevent counts being subtracted from the total, but it can be set anywhere from -19999 to 32767 counts, depending on the application.

For example, if the meter is scaled from 0 to 100 counts for a 4-20 mA input and the input power goes off, -25 counts would be subtracted from the total for the 0 mA signal. With cutoff set to 0.0, the totalizer ignores any counts below this setting (i.e. -25 counts).

### Rollover

When set to ON, rollover automatically resets the total to 0 when the total value exceeds the maximum count possible on the display by one count (99,999 for 5-digit, 999,999 for 6-digit, and 99,999,999 for 8-digit meters). If the total is exceeded by more than one count, the amount over the maximum display is added to the new total.

Note, the totalizer does not increment any other register to record the rollover.

Current Total		New Total
<input type="text" value="99999"/> + 1	Rollover resets to	<input type="text" value="0"/>
<input type="text" value="99999"/> + 2	Rollover resets to	<input type="text" value="1"/>
	0 and 1 is added to	
	new total	
<input type="text" value="99999"/> + 9	Rollover resets to	<input type="text" value="8"/>
	0 and 8 is added to	
	new total	



#### Programming Tip

Alternatively, you can use Texmate's free Tiger Meter/ Controller Configuration Utility software. Please note that a serial output module is required.

To download this utility, please visit [texmate.com](http://texmate.com) and navigate to Downloads > Software.



#### Note:

The rollover feature should not be used with the setpoint reset feature as this could cause inaccurate results. See *Resetting the Total from a Setpoint*.

## Example 1:

In Example, a 4-20 mA input represents a flow rate of 500 gallons per minute (GPM) with:

- 4 mA representing zero flow, and
- 20 mA representing 500 GPM.

Our customer requires:

- The flow rate displayed in units of 0.1 GPM on the operational display.
- The total volume up to 10,000 gallons calculated and displayed in units of 0.1 of a gallon on the recall display of Totalizer 1 in the View Mode.
- A second total incremented by 1 count every 10,000 gallons on the recall display of Totalizer 2 in the View Mode.



### Programming Tip

Alternatively, you can use Texmate's free Tiger Meter Controller Configuration Utility software. Please note that a serial output module is required.

To download this utility, please visit [texmate.com](http://texmate.com) and navigate to Downloads > Software.

### Configuration Settings

For Example 1, we perform the following configurations:

- Two Point Rate Calibration
- Set Display Resolution Format
- Configure Display Input Data Source
- Configure Totalizer 1 and Totalizer 2 settings

#### Two Point (Low and High) Rate Input Signal Calibration p.5

Calibrate Channel 1 (CH1) using the two-point calibration method. Set the calibration mode display to [111].

Set the [ZEro] input to [0.0] and the [SPAN] input to [500.0].

#### Configure Display Resolution Format Procedure p.6

Configure the display format for channel 1 with **no rounding, decimal** display units, and the **decimal point** placed between display digits 4 and 5 (0.1 resolution) by setting Code 1 to [X61].

#### Configure Display Input Data Source p.7

- Select: **Primary Display**
- Set source of primary display to: **CH1**
- Calibrate input signal over 0 to 5000 counts
- Set resolution of CH1 to: **Tenths**  
Positions the decimal point to display flow rate at **0.1 GPM** resolution

#### Configure Totalizer 1 p.8-9

- Set **source** of totalizer 1 to: **CH1**
- Set **resolution** of totalizer 1 to: **Tenths**  
Positions the decimal point to display total at **0.1 GPM** resolution
- Set **input rate** to: **5000** counts
- Set running time to: **1 minute**
- Set the required **total** to: **500.0**
- Totalize **CH1** flow rate up to **10,000** gallons and activate pulse output from SP1 to increment **totalizer 2** by 1 count
- Reset to **0** at **10,000** gallons activated from SP1
- Cut Off: **0**
- Rollover: **OFF**

#### Configure Totalizer 2 p.8-9

- Set **source** of totalizer 2 to: **CH1**
- Set **resolution** of totalizer 2 to: **Ones**  
Positions the decimal point to display totalizer 2 resolution in units of **1** per 10,000 gallons
- Set **input rate** to: **5000** counts
- Set running time to: **1 hour**  
At input rate of 500 GPM x 20 min totalizer 2 displays **1** (10,000 gal). So after 1 hour, totalizer 2 displays **3** (30,000 gal).
- Set the required **total** to: **3**  
Totalizer 2 displays **1** every 10,000 gallons recorded by totalizer 1
- Cut Off: **0**
- Rollover = **ON**

# Two Point Rate Calibration



## Programming Tip

To enter the **main programming mode** press the [P] and [1] buttons at the same time. To exit and return to the operational display, press the [P] and [1] buttons again at the same time.

### Example 1 Procedure:

Calibrate Channel 1 (CH1) using the two-point calibration method. Set the calibration mode display to [111].

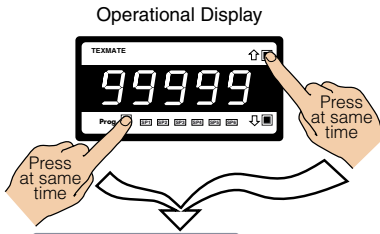
Set the [ZErO] input to [0.0] and the [SPAn] input to [500.0].

## START HERE

### TWO-POINT CALIBRATION

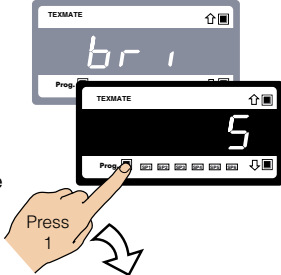
#### Step 1

Enter brightness mode



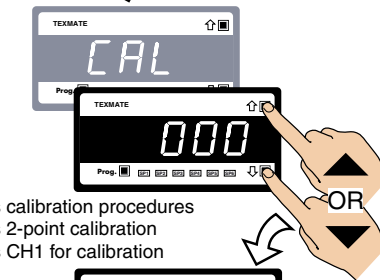
#### Step 2

Pass brightness mode and enter calibration mode



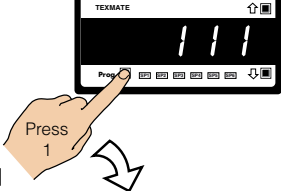
#### Step 3

Set CAL to [111]:  
 1st Digit = 1 Selects calibration procedures  
 2nd Digit = 1 Selects 2-point calibration  
 3rd Digit = 1 Selects CH1 for calibration



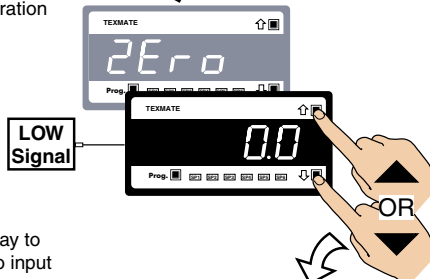
#### Step 4

Enter CAL mode [111]  
 For 2-point calibration of CH1



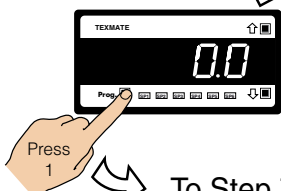
#### Step 5

5.1. Adjust display to read 0.0 for zero input  
 5.2. Apply the LOW input signal



#### Step 6

Set reading for zero load into meter and enter span mode



The LOW input source is applied to the meter when setting the zero value.



The HIGH input source is applied to the meter when setting the span value.

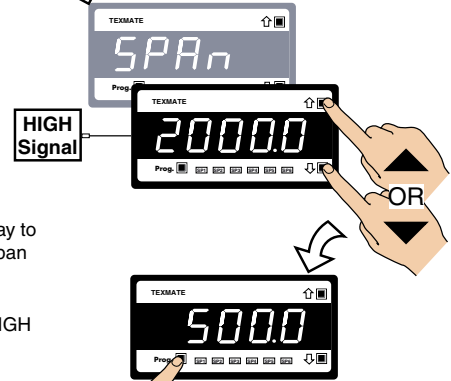


From Step 6

#### Step 7

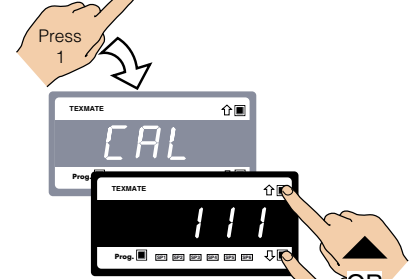
7.1. Adjust display to read 500.0 for span input

7.2. Apply the HIGH input signal



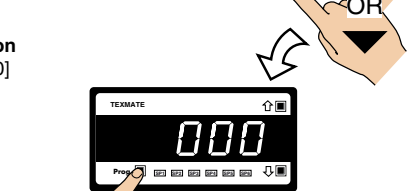
#### Step 8

Save zero and span settings and re-enter calibration mode



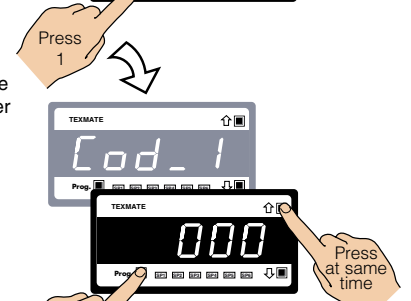
#### Step 9

Select the no function calibration mode [000]



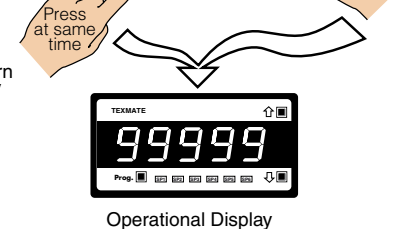
#### Step 10

Save calibration mode [000] setting and enter Code 1



#### Step 11

Exit Code 1 and return to operational display



# Configure Display Resolution Format Procedure

## Display Format Mode

**P** **d i s p** **000** Program the three digits to the required display format mode

FIRST DIGIT
<b>LAST DIGIT ROUNDING</b>
<b>0 No rounding</b>
1 Rounding by 2's
2 Rounding by 5's
3 Rounding by 10's

SECOND DIGIT
<b>DISPLAY UNITS</b>
<b>0 Decimal</b>
1 24-hour clock mode Hours: Minutes: Seconds (6-digit version only)
2 12-hour clock mode (12:30 am is displayed as 12:30A. 12:30 pm is displayed as 12:30P)
3 24-hour clock mode Days: Hours:Minutes (6-digit version only)
4 -
5 -
6 -
7 Octal

THIRD DIGIT
<b>DECIMAL POINT PLACEMENT</b>
<b>0 No decimal point</b>
1 -
2 -
3 X.XXXXX
4 X.XXXX
5 X.XX
<b>6 X.X</b>
7 Decimal Point set from the rear (X.XXXXX to XXXXX)

*Note:*  
Selecting 1, 2, or 3 in the second digit of the Display Format Mode configures the display of the selected channel as a clock.

### Example 1 Procedure:

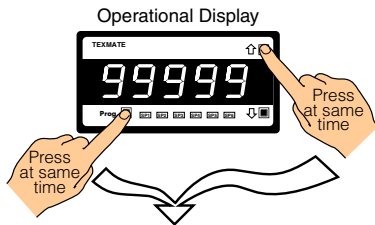
Configure the display format mode for channel 1 with **no rounding**, **decimal** display units, and the **decimal point** placed between display digits 4 and 5 (0.1 resolution) by setting Code 1 to **[X61]**.

### START HERE

#### CONFIGURE DISPLAY FORMAT MODE

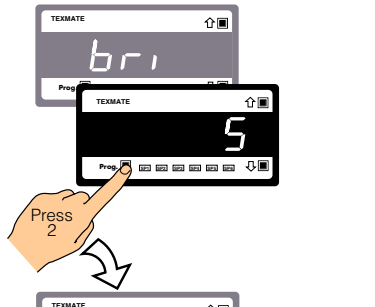
#### Step 1

Enter brightness mode



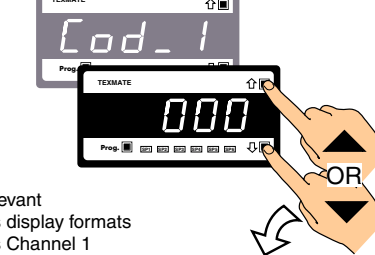
#### Step 2

Pass brightness and calibration modes and enter Code 1



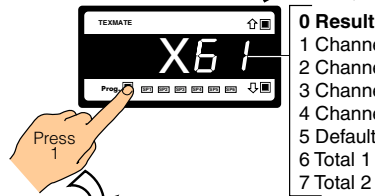
#### Step 3

Set Code 1 to [X61]:  
1st Digit = X Not relevant  
2nd Digit = 6 Selects display formats  
3rd Digit = 1 Selects Channel 1



#### Step 4

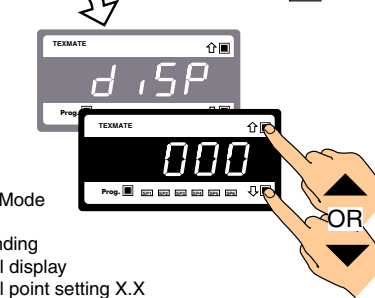
Enter the display format mode



#### Step 5

Select the following display format from the three digits listed in the Display Format Mode diagram above:

1st Digit = 0 No rounding  
2nd Digit = 0 Decimal display  
3rd Digit = 6 Decimal point setting X.X



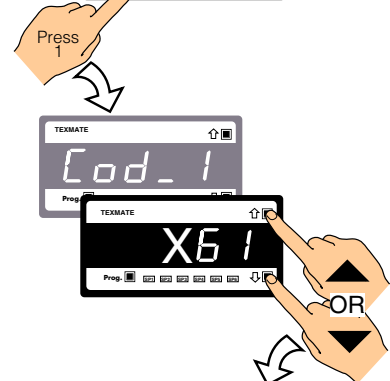
From Step 5

#### Step 6



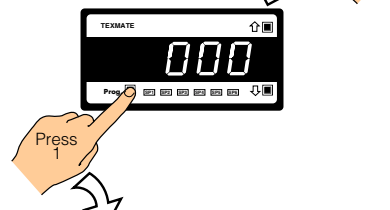
#### Step 7

Select [000] to leave Code 1



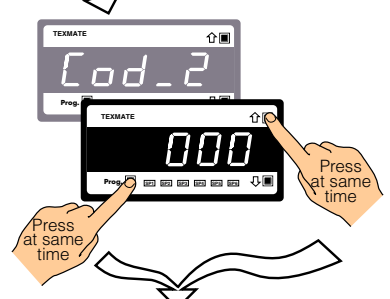
#### Step 8

Save display format setting



#### Step 9

Exit Code 2. Return to operational display



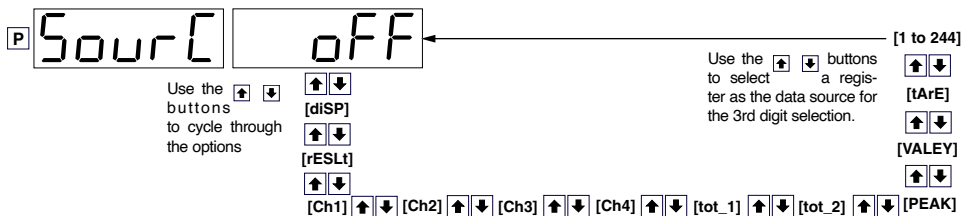
Operational Display

# Configure Display Input Data Source Procedure Example Procedure:

## Example 1 Procedure:

Configure the **primary** display (selected in 3rd digit) with channel 1 [Ch1] as the data source by setting Code 1 to [X50]. See diagram opposite for data source selection options.

### Select Data Source



### Programming Tip

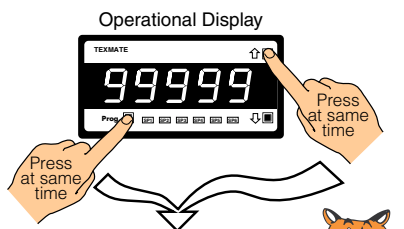
To enter the **main programming mode** press the **[P]** and **[up]** buttons at the same time. To exit and return to the operational display, press the **[P]** and **[down]** buttons again at the same time.

At the end of any procedure (Step 8 in this procedure) the **[P]** button must be pressed before the **[P]** and **[down]** buttons are pressed, otherwise the meter returns to the operational display without saving the new settings.

## START HERE CONFIGURE DATA SOURCE

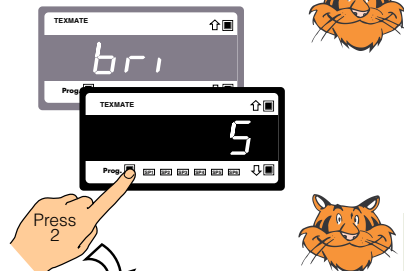
### Step 1

Enter brightness mode



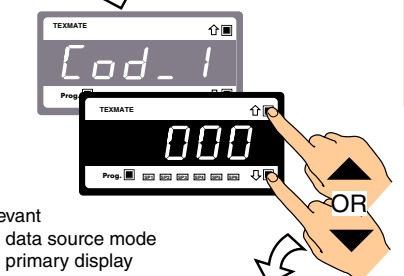
### Step 2

Pass brightness and calibration modes and enter Code 1



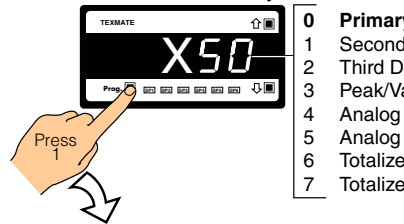
### Step 3

Set Code 1 to [X50]:  
1st Digit = X Not relevant  
2nd Digit = 5 Selects data source mode  
3rd Digit = 0 Selects primary display



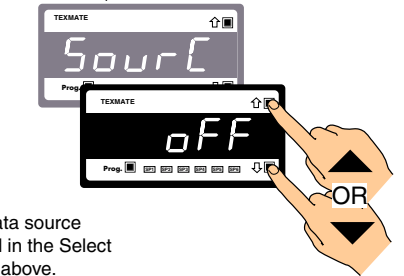
### Step 4

Enter the select data source mode.



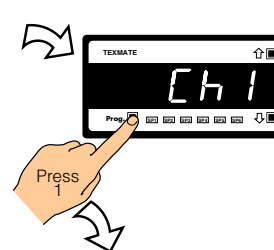
### Step 5

Select [Ch1] as the data source from the options listed in the Select Data Source diagram above.



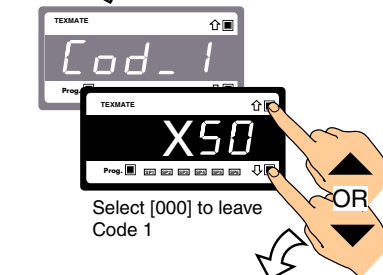
### Step 6

Pressing the [down] button reaches [000] faster.



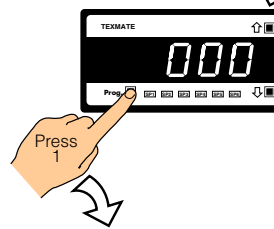
### Step 7

Pressing the [up] and [down] buttons at the same time increases the displayed parameter in increments of 100 counts.



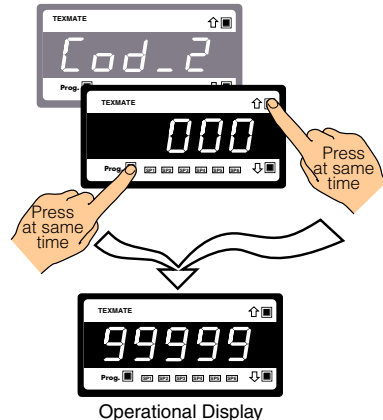
### Step 8

Save CH1 as the data source for the primary display



### Step 9

Exit Code 2. Return to operational display



### Note:

Options 1 and 2 listed for the third digit in Step 3 above are only for use with meters that have more than one display. With bargraph meters the **PRIMARY** display is the digital display, and the **SECONDARY** display is the bargraph display.

# Configure Totalizer Settings Procedure

## Example 1 Procedure:

Enter the calibration mode and configure the totalizer settings for **totalizer 1**.

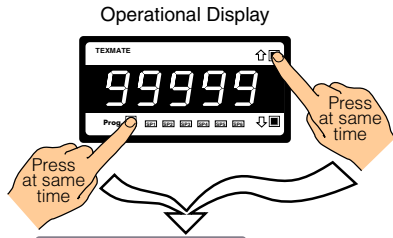
## Example 1 Procedure:

Carry out the same procedure described for totalizer 1 but change the settings to those listed for **totalizer 2**.

**START HERE**  
**CONFIGURE TOTALIZER SETTINGS**

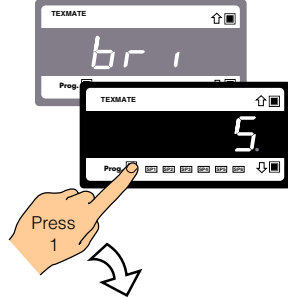
### Step 1

Enter brightness mode



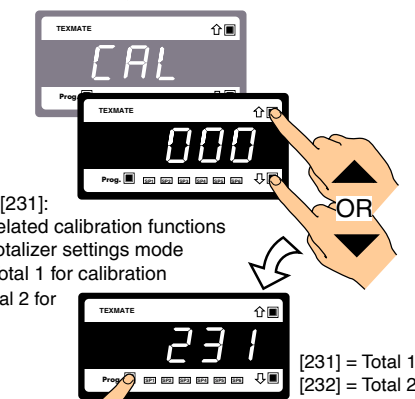
### Step 2

Pass brightness mode and enter calibration mode



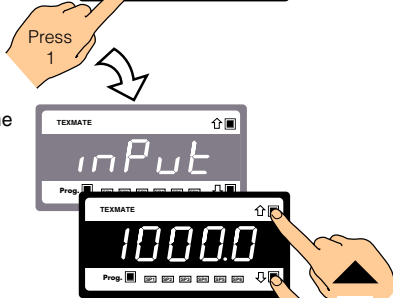
### Step 3

Set calibration mode to [231]:  
 1st Digit = 2 Selects related calibration functions  
 2nd Digit = 3 Selects totalizer settings mode  
 3rd Digit = 1 Selects Total 1 for calibration  
 \*(3rd Digit = 2 Select Total 2 for calibration)



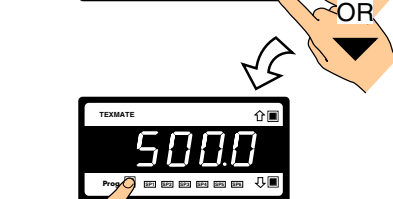
### Step 4

Enter the **input rate setting** mode. The default setting is 10,000 counts. Reset the display to 500.0



### Step 5

Save the input rate setting



### Step 6

Enter the **running time** mode



From Step 6

### Step 7

Set the running time to 1 minute

**Note:**  
 The default running time is 1 hour

### Step 8

Enter the **required total** mode

### Step 9

Set the total to 500.0

### Step 10

Enter the **cutoff** mode

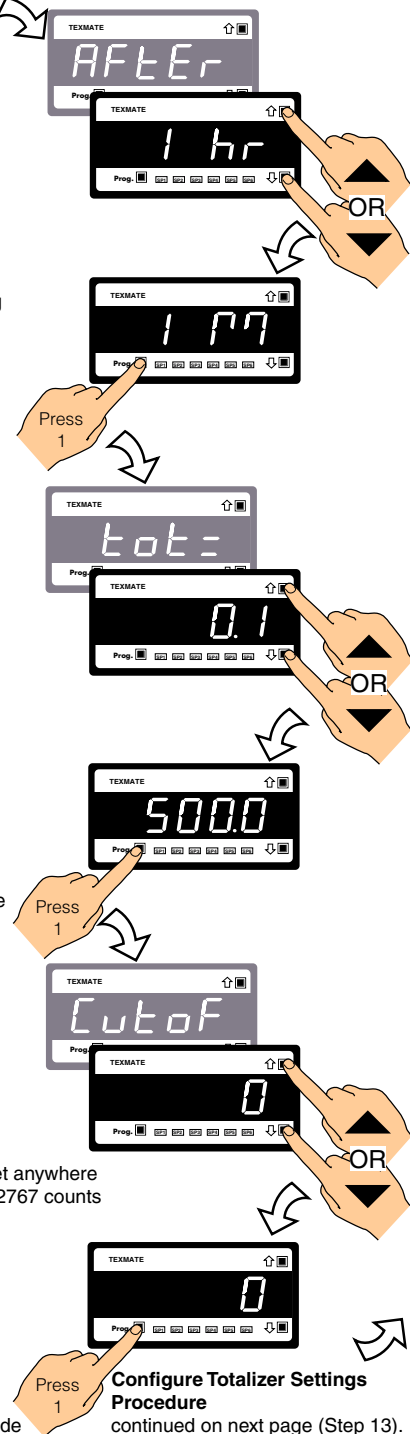
### Step 11

Set cutoff to 0

**Note:** cutoff can be set anywhere between -19999 to 32767 counts

### Step 12

Enter the **rollover** mode



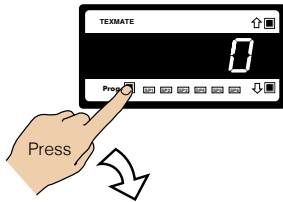
To Step 7

**Configure Totalizer Settings Procedure**

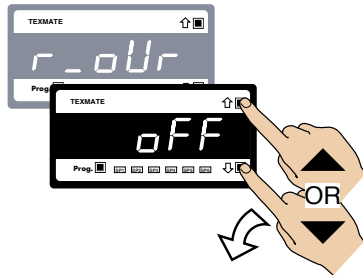
continued on next page (Step 13).

➤ **Configure Totalizer Settings Procedure**  
continued from bottom of previous page

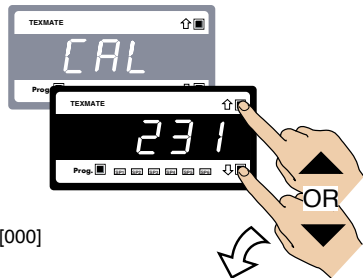
**Step 13**  
Enter the Rollover Mode



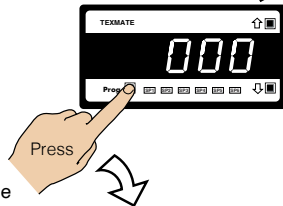
**Step 14**  
Set the Rollover Mode to OFF



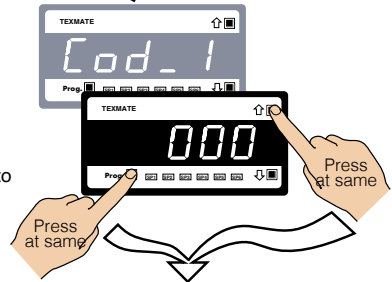
**Step 15**  
Reset Calibration Mode to [000]



**Step 16**  
Exit the Calibration Mode and enter Code 1



**Step 17**  
Exit Code 1 and return to the Operational Display



Operational Display

# Configure Totalizer Settings Using Tiger Meter/Controller Configuration Utility software

## Example 1 configurations:

If you are using Texmate's free Tiger Meter/Controller Configuration Utility software, please find the reference screenshots below.

### Two Point (Low and High) Rate Input Signal Calibration

**1.** Apply minimum input signal and enter the desired display value, then click Capture.

**2.** Apply maximum input signal and enter the desired display value, then click Capture.

**3.** After doing steps 1 and 2, click Calibrate. The New scale factor and offset value will be displayed.

**4.** Select the check box on each channel to view the updated calibration value.

To test the accuracy of the calibration, apply both minimum and maximum signals to verify that the meter's readings are correct.

### Configure Display Resolution Format Procedure p.6

Text	Measurement	Type	Scale factor	Off
Result	Disabled		1	
Channel 1	rate	Voltage, Current	No function	1
Channel 2	CH2	Voltage, Current, Smart	Channel 2 Disabled	1
Channel 3	CH3	No Function		1
Channel 4	CH4	No Function		1

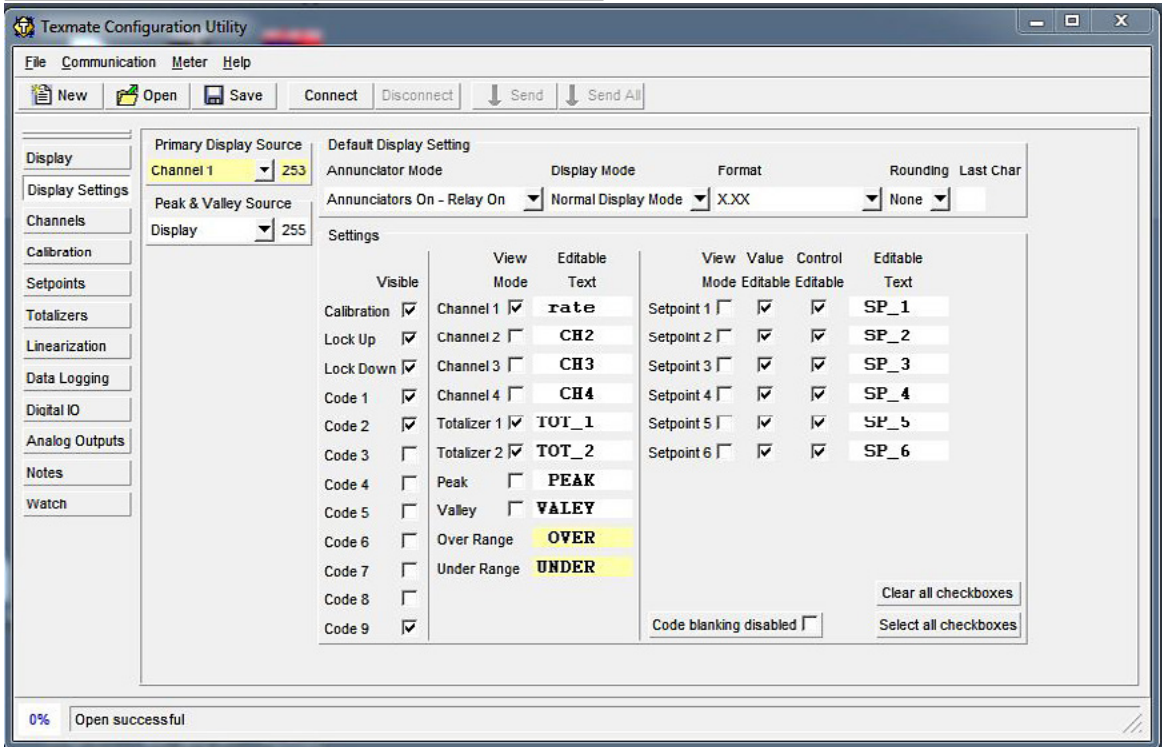
Format	Rounding	Postprocessing	Linearization	Last Char
Result	XXX	None	No processing	set in Postprocessing
Channel 1	XXX	None	No processing	No Linearization
Channel 2	XXX	None	set in Type	No Linearization
Channel 3	XXX	None	No processing	set in Postprocessing
Channel 4	XXX	None	No processing	set in Postprocessing

Window (Counts)	Number of Samples	Capture Band (Counts)	Rate of Change (Counts/sec)	Aperture Window (Counts)	Enable Update
Result	0.16	0	0.03	0.00	OVER Res
Channel 1	0.16	8	0.03	0.00	0.00 Cha
Channel 2	0.16	8	0.03	0.00	0.00 Cha
Channel 3	0.16	8	0.03	0.00	0.00 Cha
Channel 4	0.16	8	0.03	0.00	0.00 Cha

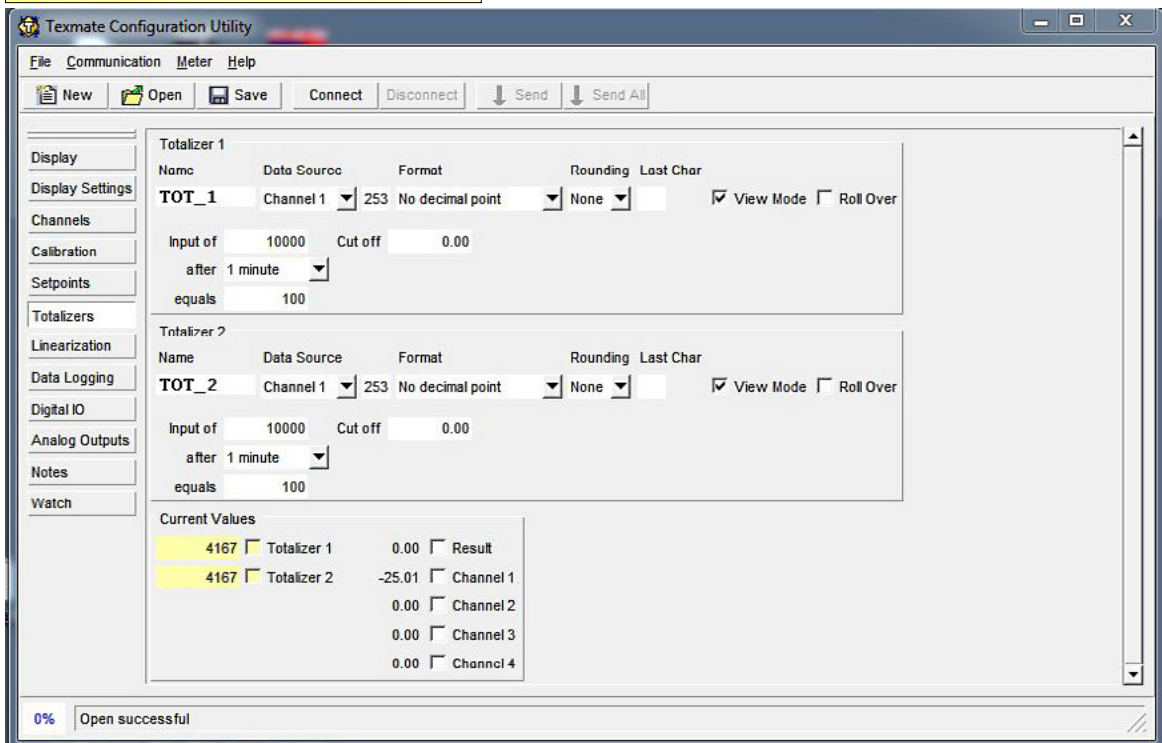
# Configure Totalizer Settings Using Tiger Meter/Controller Configuration Utility software

To download this free Tiger Meter/Controller Configuration Utility software, please visit [texmate.com](http://texmate.com) and navigate to Downloads > Software.

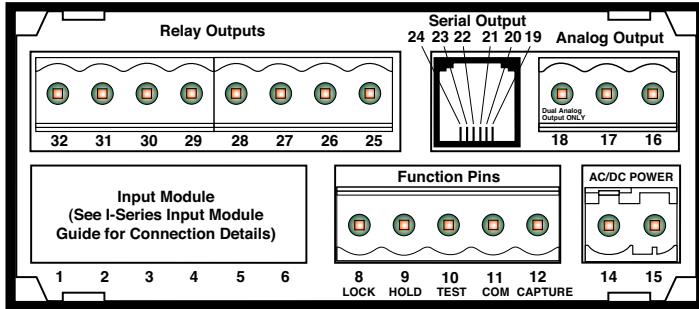
## Configure Display Input Data Source



## Configure Totalizer 1 and Totalizer 2



## Rear Panel Pinout Diagram



**WARNING:** AC and DC input signals and power supply voltages can be hazardous. Do not connect live wires to screw terminal plugs, and do not insert, remove or handle screw terminal plugs with live wires connected.

### Input Signal – Pins 1 to 6

See the *I-Series Input Modules Guide (Z87)* for connection details of all input modules. On most single input signal conditioners, usually Pin 1 is the signal high pin (Hi +) and Pin 3 is the signal low pin (Lo –).

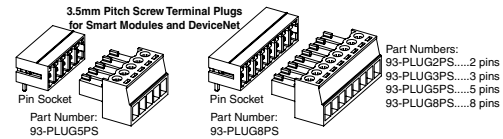
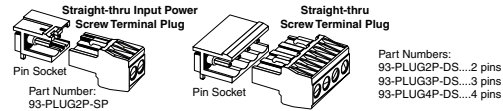
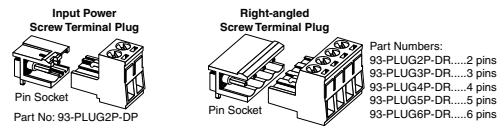
### Function Pins – Pins 8 to 15

**Pin 8 – Program Lock.** By connecting the PROGRAM LOCK pin to the COMMON pin (pin 11 on the main PCB), the PROGRAM LOCK pin allows the meter's programmed parameters to be viewed but not changed.

**Pin 9 – Hold Reading.** By connecting the HOLD READING pin to the COMMON pin (pin 11), the HOLD READING pin allows the meter's display to be frozen. However, A/D conversions continue and as soon as pin 9 is disconnected from pin 11 the updated reading is instantly displayed.

**Pin 10 – Display Test and Reset.** The DISPLAY TEST and

**NOTE:** The meter uses plug-in type screw terminal connectors for most input and output connections and an RJ-6 phone connector for the optional RS-232 or RS-485 serial outputs.



RESET pin provides a test of the meter's display and resets the microprocessor when the DISPLAY TEST and RESET pin is connected to the COMMON pin (pin 11).

**Pin 12 – Capture.** The CAPTURE pin (pin 12) can be activated by a very short logic low input or by connecting to the COMMON pin (pin 11). The CAPTURE pin can be programmed as a setpoint/relay activation source for any selected setpoint to trigger any designed setpoint function or for macro control applications. See Setpoint Control Settings on page 42 in the Setpoint Programming Mode second digit [X2X].

**Pin 11 – Common.** To activate the HOLD, TEST and RESET, or LOCKOUT pins from the rear of the meter, the respective pins have to be connected to the COMMON pin.

**Pins 14/15 – AC/DC Power Input.** These are the pins that supply power to the meter. See Power Supply for details of the standard and optional low voltage power supply.

**Chassis Ground Tab.** Only on versions with metal sheath casing.

## Installation Guidelines

### Installation



1. Install and wire meter per local applicable codes/regulations, the particular application, and good installation practices.

2. Install meter in a location that does not exceed the maximum operating temperature and that provides good air circulation.

3. Separate input/output leads from power lines to protect the meter from external noise. Input/output leads should be routed as far away as possible from contactors, control relays, transformers and other noisy components. Shielding cables for input/output leads is recommended with shield connection to earth ground near the meter preferred.

4. A circuit breaker or disconnect switch is required to disconnect power to the meter. The breaker/switch should be in close proximity to the meter and marked as the disconnecting device for the meter or meter circuit. The circuit breaker or wall switch must be rated for the applied voltage (e.g., 120VAC or 240VAC) and current appropriate for the electrical application (e.g., 15A or 20A).

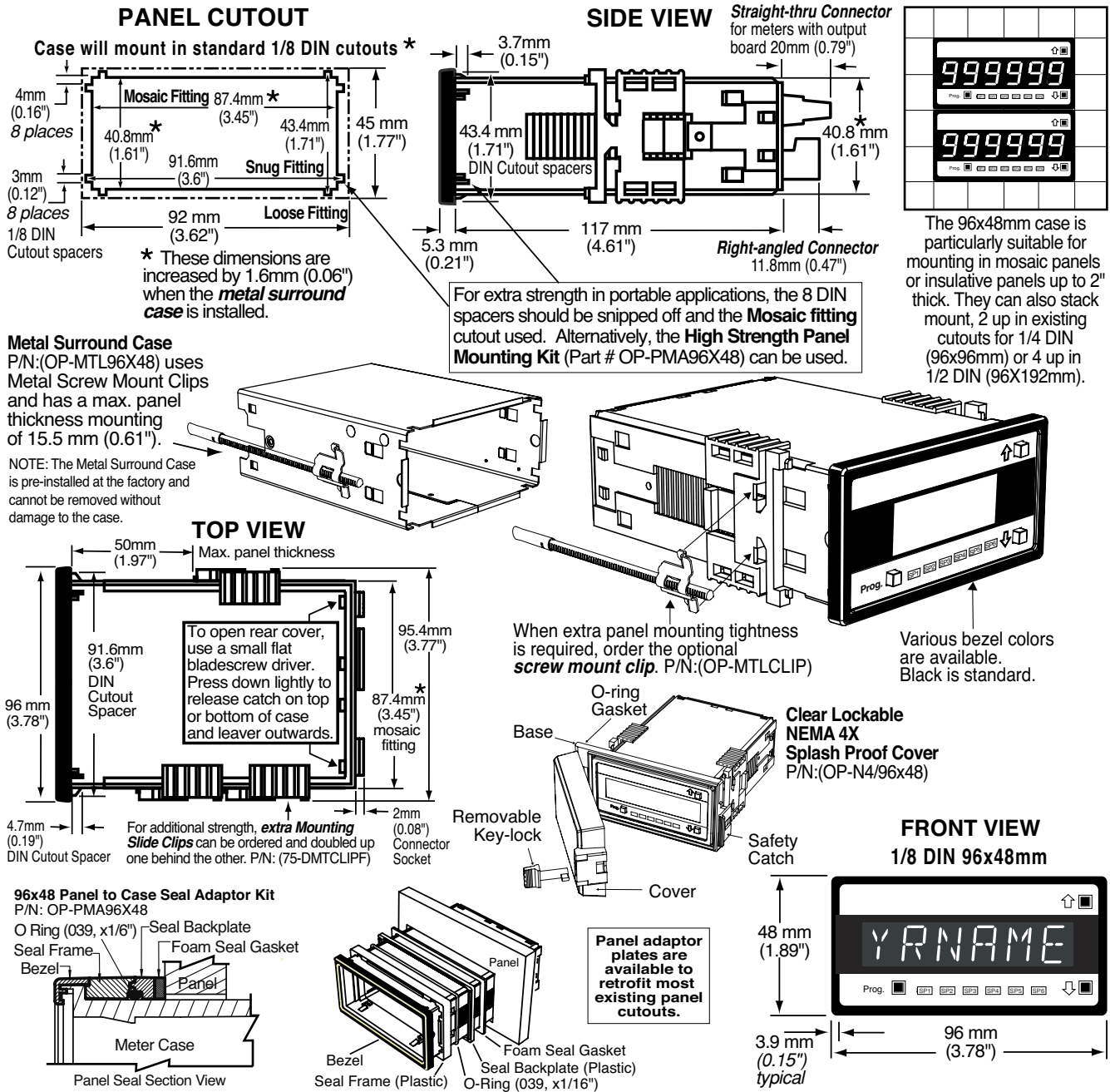
5. See *Case Dimensions* section for panel cutout information.

6. See *Connector Pinouts* section for wiring.

7. Use 28-12 AWG wiring, minimum 90°C (HH) temperature rating. Strip wire approximately 0.3 in. (7-8 mm).

8. Recommended torque on all terminal plug screws is 4.5 lb-in (0.51 N-m).

# Case Dimensions



## Supplements to Data Sheet / User Manual are Generic to all Tiger 320 I-Series Models



Generic to all Tiger 320 Series models, each supplement provides in-depth technical and procedural information on all individual meter modules, functions, or applications. Listed are the supplements which are currently available:

Please visit our website's User Manual Supplements to download supplements.

<https://www.texmate.com/manuals>

- [Advanced Calibration and On DEMAND Mode \(NZ203\)](#)
- [Analog Output Modules \(NZ200\)](#)
- [Linearizing Functions \(NZ207\)](#)
- [Serial Communications Output Modules \(NZ202\)](#)
- [Setpoints & Relays \(NZ201\)](#)
- [Totalizing & Batching Functions \(NZ208\)](#)
- [Meter Registers \(for Macro Programming\) \(CA101\)](#)
- [Configuration Utility Program \(Runs on PC\)](#)

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