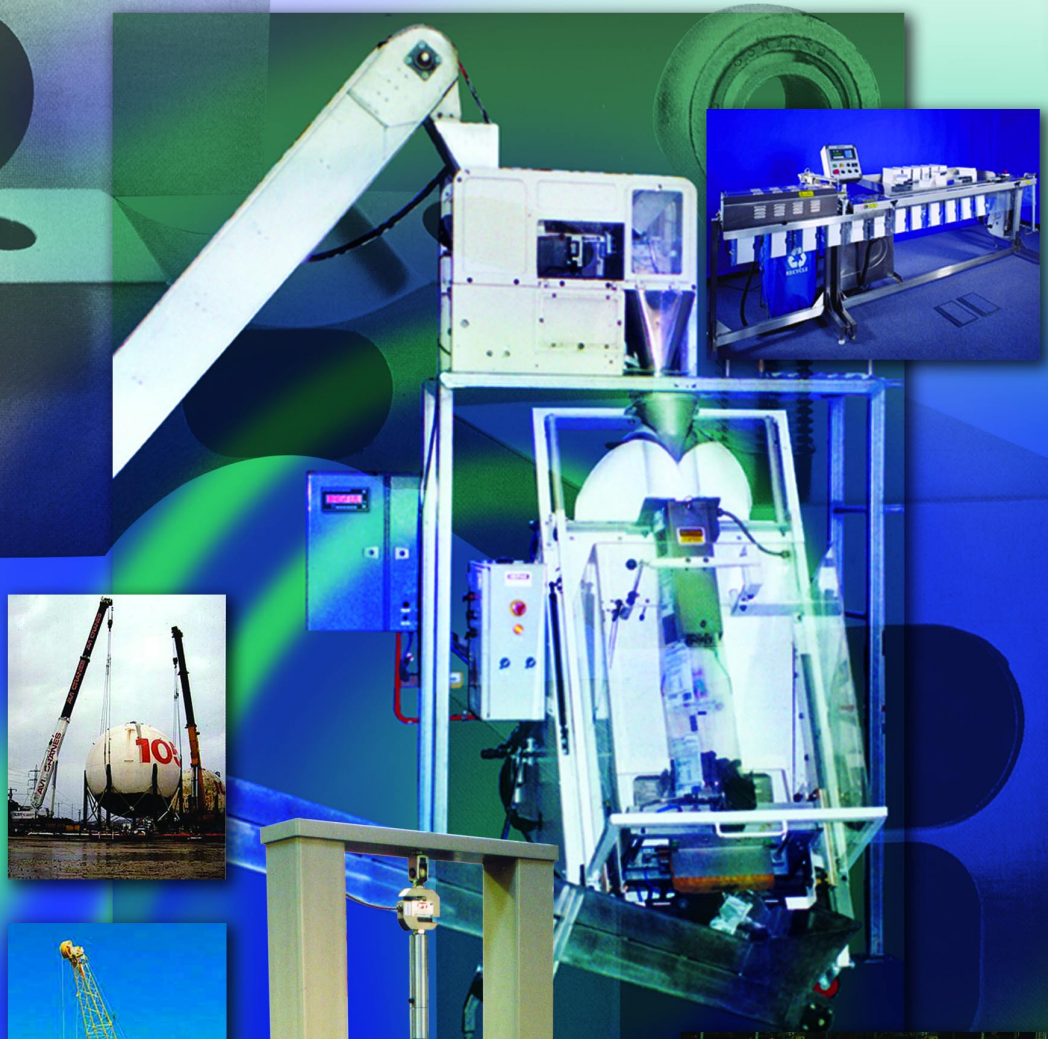
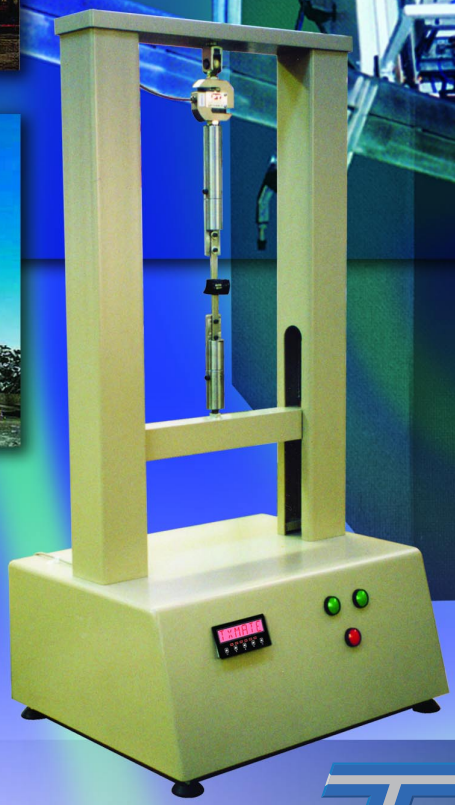
Controllers for Load Cells





TEXMATE

Tiger 320 Series Programmable Meter Controllers

Use the Texmate Tiger 320 Series for your

- Load Controllers
- Pressure Controllers
- Tension Controllers
- Torque Controllers
- Tank Level Controllers
- Packing Machinery
- Filling Machinery
- Bagging Machinery
- Hopper Weighing
- Truck Weighing
- Tare Weight
- Ratio Mixing
- Blending
- Batching
- Crane & Overhead Crane Weight
- Forklift Weigh Load Indicators

Tiger 320 Series accepts all standard strain gauge/ inputs, single, dual & quad channel

Breakthrough performance, high resolution & ultra-low noise A/D

The input modules include pre-processing functions for high speed

The input modules sample up to 800 Hz

Multi input combinations for machinery & automation applications

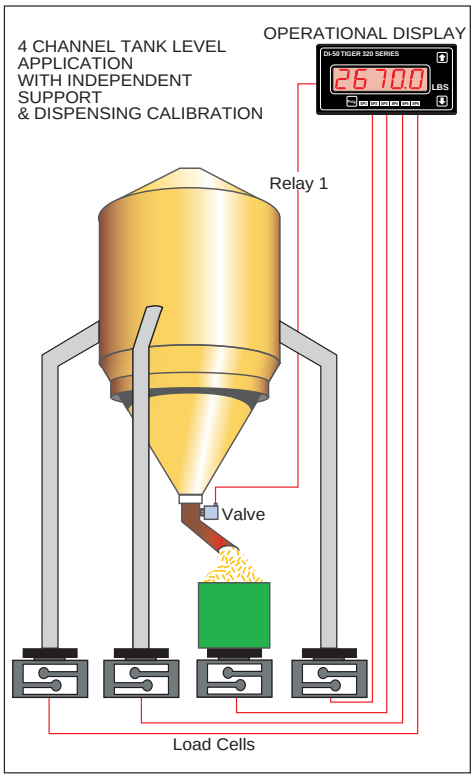
Select the signal averaging to suit your application

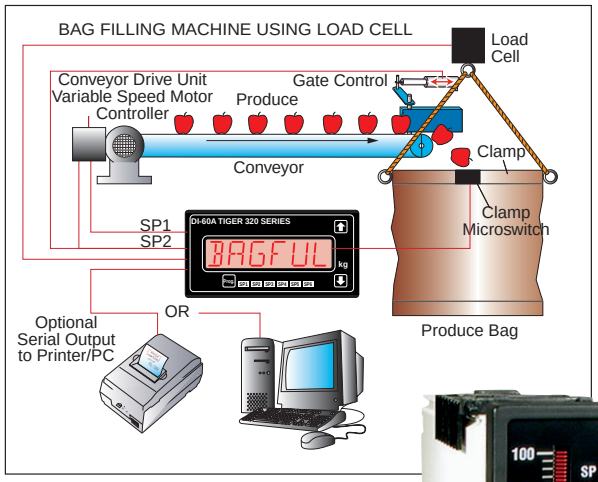
Smart tare and reset tare from external control and setpoint

Status inputs for batching and control functions

Load cell excitation provided by the Tiger 320

Auto zero maintanence





FI-B101D50. 5-digit, 7-segment, 8 mm LED display + 101-segment red, green or tri-color bargraph.

DI-60A. 6-digit, 14-segment, 13 mm alphanumeric LED display.

DI-50, DI-60A, DI-503, FI-B101D50, DI-50B51, DI-AN6, DI-802X, DI-50A5C. Powerful, intelligent, modular signal processors and controllers with advanced software features for monitoring, measurement, control, and communication applications.

DI-503. 3 x 5-digit, 7-segment, 8 mm LED display.

DI-50. 5-digit, 7-segment, 13 mm LED display.

6 Super-smart setpoints with

7 programmable timer modes

16-bit isolated analog output

Dual totalizers

Data logging

Real-time clock

Code blanking

Display editing

Scrolling text messaging

Serial communications & direct printer output

For application information, visit www.texmate.co.nz/applications

Weighing Applications

Custom Macro Programming with optional 22 Opto-isolated I/Os

Now a complete automated weighing, bagging, and batching control system with text messaging can be economically assembled using a single controller package.

GI-50.
5-digit, 7-segment, 25 mm LED display with or without 101-segment red, green or tri-color bargraph.
LARGE DISPLAY.
3,4,5, or 6-digit, 7-segment, 100 mm remote LED display.

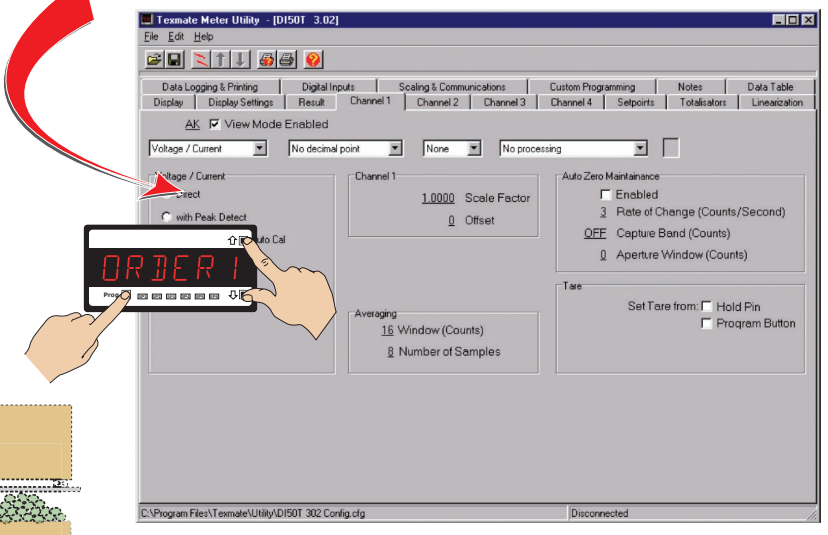
DI-50B51.
5-digit, 7-segment, 8 mm LED display + 50-segment LED bargraph.

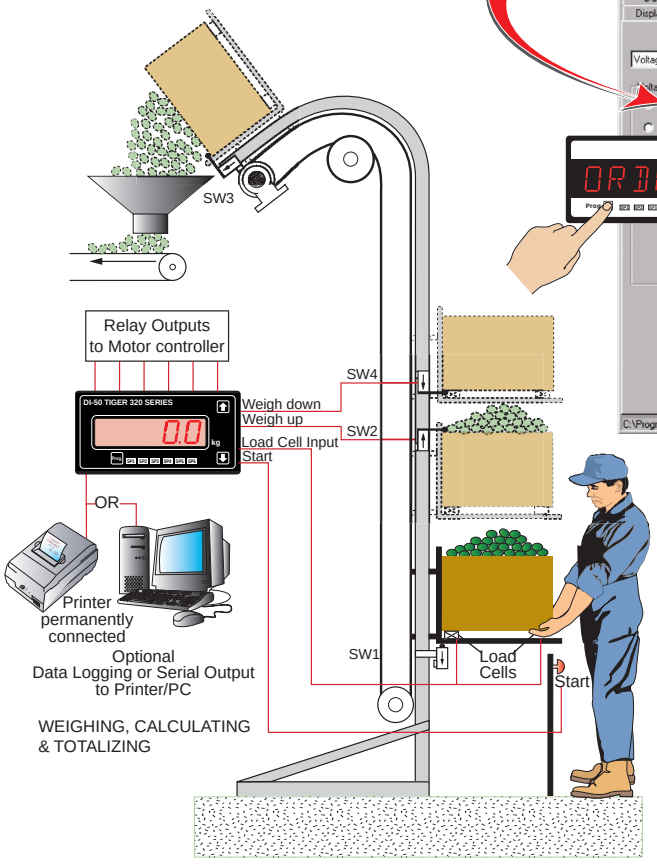
DI-50AN6.
5-digit, 7-segment, 13 mm LED display + 101-segment red, green or tri-color bargraph display.

DI-802X.
2 x 8-digit, 7 x 5-dot, 5.5 mm, high positive, reflective, LCD display.

DI-60A5C.
5-digit, 14-segment, 13 mm alphanumeric LED display.

Configuration & Programming from the front buttons or from a PC





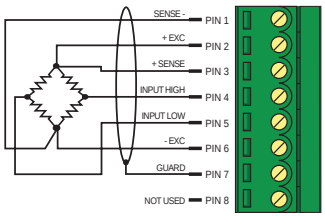
Reduce your costs
Reduce your development time
Reduce your manufacturing time
Reduce your inventory
Modular construction allows you to:

- Purchase only the hardware required for your application
- Purchase a controller with function expansion slots

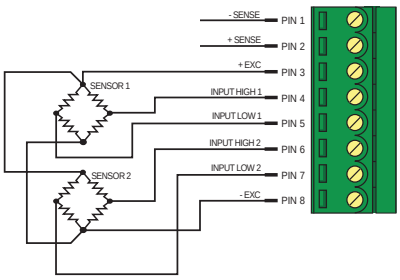
Load Cell Inputs

Single,dual and quad channel. 4 or 6-wire.

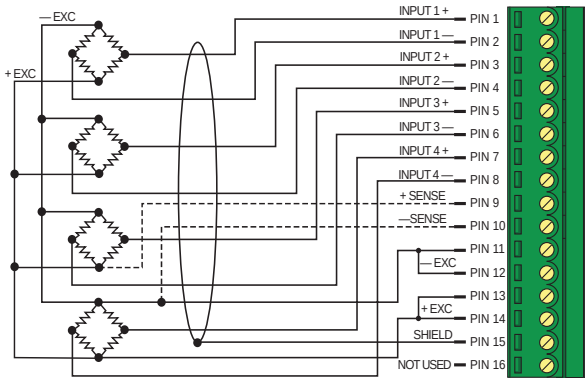
Input range 1 mV/V to 20 mV/V. Sensitivity 0.08 µ V/ count maximum. Zero drift ± 40 nV/°C. Span drift ± 5 ppm/°C of full scale maximum. Input noise 160 nVpp typical at 1 Hz output rate.
Signal processing rate single and dual 50 Hz maximum.
Signal processing rate quad 10 Hz maximum.



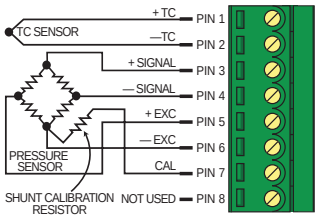
Single Channel Input Module



Dual Channel Input Module
2 independently scalable channels.

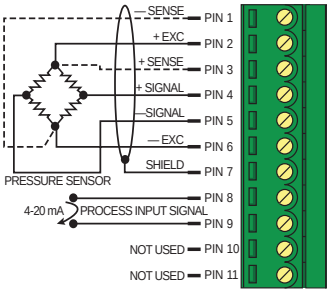


Quad Channel Input Module
4 independently scalable channels.



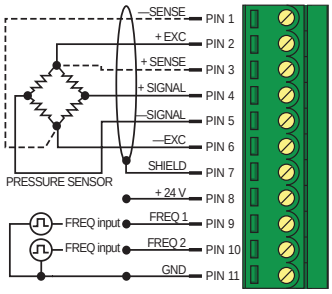
Load Cell + Thermocouple Input Module

Designed for the hot melt plastics industry. Thermocouple temperature sensor, pressure sensor with calibration register shunted across strain gage bridge under Tiger 320 Series control.



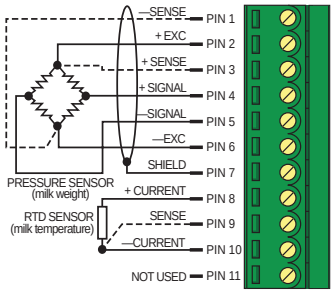
Load Cell + Process Input Module

Smart input module similar to the ISS1, 16-bit smart pressure but including provision for measuring 4-20 mA current input or 0-2 volt.



Load Cell + Dual Frequency Input Module

A smart input module similar to the ISS1, 16-bit smart pressure but including two frequency inputs with excitation 24 V, and 50 mA available to power frequency sensors.



Load Cell + RTD Input Module

A smart input module similar to the ISS1, 16-bit smart pressure but including provision for a 3-wire RTD temperature sensor. Designed for the dairy industry. i.e.milk fat volume with temperature compensation.

Excitation

5 V,130 mA (maximum) excitation output is provided by the controller. Power up 8 x 350 ohm load cells. *Texmate recommends 5 V excitation to reduce the excitation voltage heating effect leading to unnecessary errors.*

Power Supply

PS1.....85-265 VAC/ 95-370 VDC

PS2.....15-48 VAC/ 10-72 VDC

Signal Averaging

Programmable input signal 'windowed' averaging for fast display response time.

Smart load cell input modules sample up to 800 Hz. The signal is then averaged for ultra-low noise.

Multi-scaled Display Options

From a single channel input, the controller can be calibrated for other scaled ranges using Channel 2, Channel 3, or Channel 4.

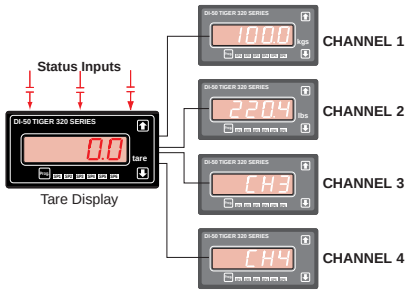
The operator can select the other ranges using the UP or DOWN buttons on the front panel, or from a remote switched input.

Tare Weight Gross Weight

The display can be tared from the front panel.

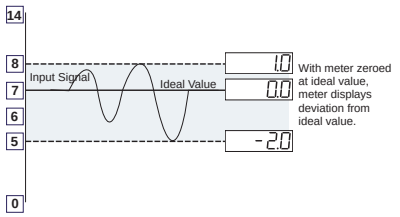
The remote switched inputs can be assigned for tare and tare reset (gross weight) control for batching applications.

The operational display can be tared leaving Channel 1 input in gross weight mode for tare control in crane applications, and for batching applications.



Null Offset

The display can be zeroed from the front panel to set the position of the ideal input signal value. This is known as the null offset. From the null offset any positive or negative deviation to the ideal signal value is indicated on the display.



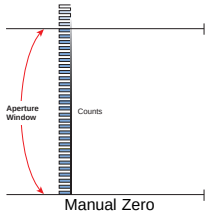
Zero Maintenance

Manual zero with window limit.

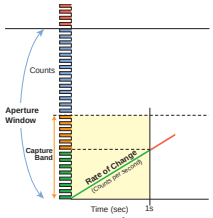
The aperture window limits the amount of zero offset. This avoids overload of the load cell and support, and should be used in lifting applications requiring zero reset. Manual zero can be initiated from a remote switch.

Auto zero maintenance automatically maintains a zero display reading during warm up and low frequency drift of load cells using programmable capture band, rate of change, and aperture window settings.

If the inputs are within the rate of change and capture band settings, (shaded area) and within the aperture window, the meter will auto zero.



Manual Zero



Auto Zero Maintenance

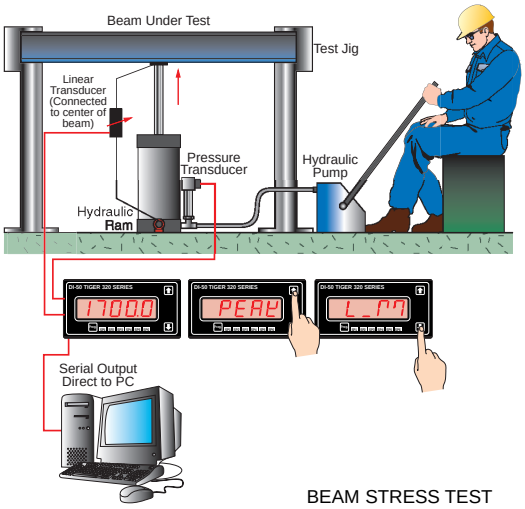
Linearization

The Tiger 320 Operating System has up to four user programmable linearization tables available. Standard 4 kilobit E meters have one linearization table that can be increased to four with a memory upgrade to 32 kilobits. Standard 32 kilobit T meters have four linearization tables available.

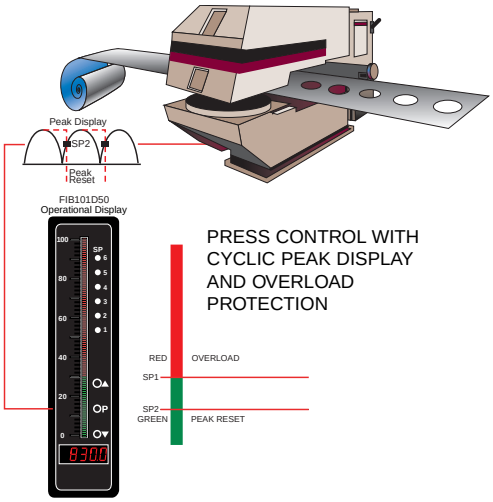
Peak and Valley Hold

Peak and valley readings are retained in the meter. They can be viewed on the normal display or by pressing the UP or DOWN buttons. Peak and valley can be reset from the front panel or from a remote switch.

Smart input modules can capture and display peak and valley at 50, or 800 Hz.



BEAM STRESS TEST



PRESS CONTROL WITH CYCLIC PEAK DISPLAY AND OVERLOAD PROTECTION

Rate of Change

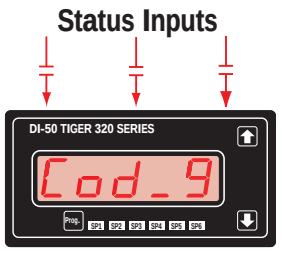
The pre-processing functionality of smart input modules allows you to display the rate of change of the input signal. The rate of change in counts can be displayed at 1, 10, or 50 Hz. This is useful for fine tuning reaction times.

Rate of change measurement provides a forecast to anticipate setpoint control activation, decreasing slowdown times and, therefore, increasing efficiency.

Status Inputs

With the standard Tiger 320 Series controller, three status inputs are available from remote switched inputs for set tare, reset tare, reset peak and valley, channel viewing and register reset functions.

See also Texmate Development Software on Page 8 for additional status input options.



Six Setpoints for Advanced Control and Relay Output Options

All Tiger 320 Series meters have six LED setpoint status indicators on the front panel. Setpoints can be activated for advanced control functions from any channel or register, for relay control and register reset. *Note: a 22 I/O option card is available for macro controlled applications. See Texmate development software on Page 8.*

Relay Outputs

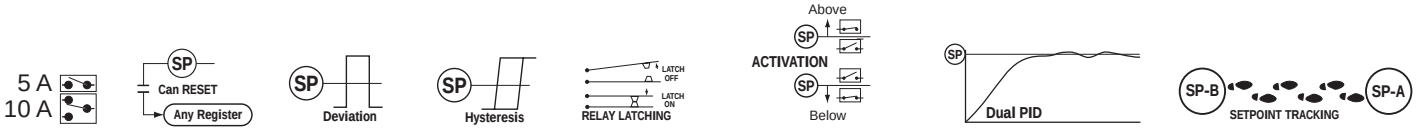
Six optional relay outputs are available. Order only the number of relays or 5 V SSR outputs you require for your application.

The relays can be individually programmed to operate from any channel or register, above or below a setpoint value, with or without start up inhibit, programmable hysteresis or deviation or as a timer. Dual PID control is available.

Programmable LATCH ON or LATCH OFF (for fail-safe applications) on all relays with latch reset from a setpoint or a remote switched input.

Setpoint tracking is available for fast / slow speed filling applications.

Relay outputs are activated within 10 milliseconds from setpoint activation.

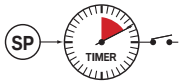


Timer Functions

The Tiger 320 series controller has super smart resident timers for process / time control applications.

The resident timers are programmable in 7 modes.

The timer functions are a standard feature on all six setpoints.



Single & Multiple Activation Timers

Normal .....Delay On Make / Delay On Break
1-Shot ON .....Delay On Make / Min ON-Time
1-Shot OFF .....Delay On Break / Min OFF-Time
Pulse ON .....Delay On Make / Max ON-Time
Pulse OFF .....Delay On Break / Max OFF-Time
Repeat ON.....ON-Time / OFF-Time
Repeat OFF .....OFF-Time / ON-Time

Dual Scalable Totalizers for Total and Sub-total

The controller stores totals and sub-totals in separate non-volatile registers.

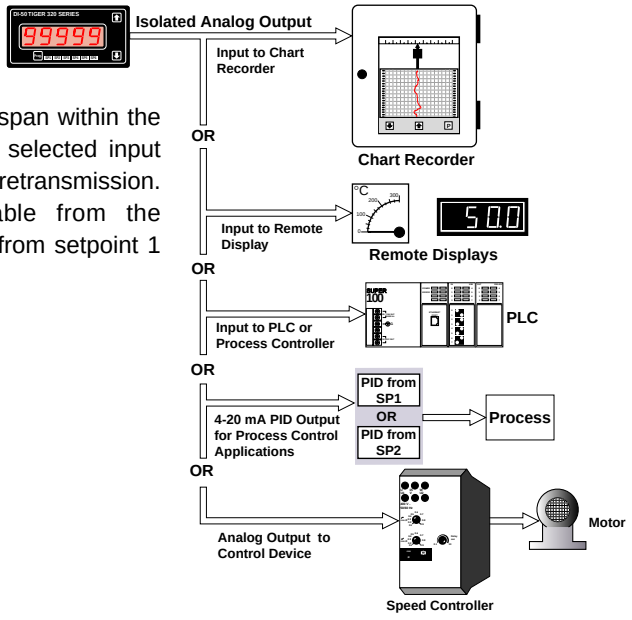
Totalizers are used to accumulate total weights and for batching applications.

The totals can be displayed and independently reset.

Isolated Analog Output

Optional isolated 16-bit, single 0-10 V or 0/4-20 mA, or dual 0-10 V is available.

The output is scalable to any desired span within the full scale range of the controller and selected input module in repeat or inverted mode for retransmission. 4-20 mA analog output is available from the proportional band of the PID register from setpoint 1 and 2.



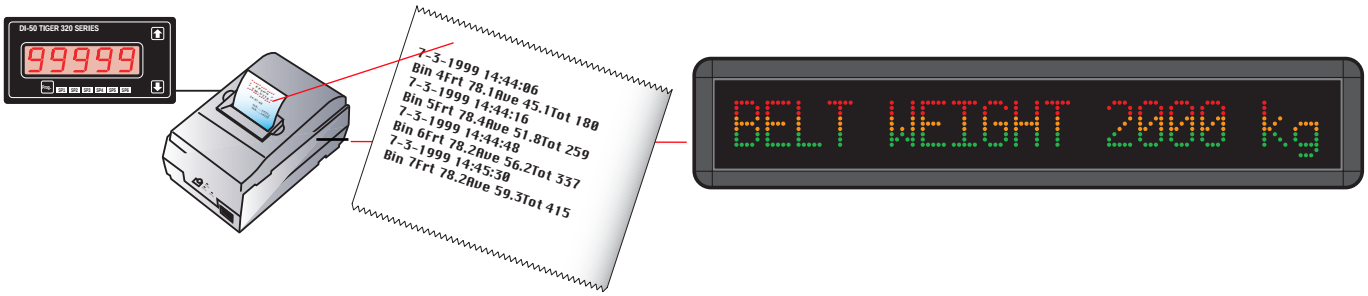
Serial Communication

Isolated RS-232, RS-485 in ASCII code format, Modbus (RTU) external Ethernet available, or DeviceNet™ with an optional card. Meter to meter communication is available using an RS-485 serial connection.

DeviceNet is a registered Trade Mark of ODVA.

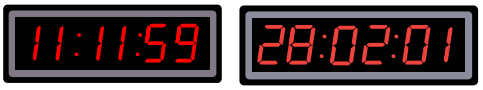
Direct Serial Printer or Large Display Driver Output

The Tiger 320 Series controller can be connected directly to most serial printers. Activated from a setpoint, the program button, or from an external switch, the meter can print directly from selected registers, the date / time, number, weight, peak, valley, average, total, differential, or result of a calculation, etc.



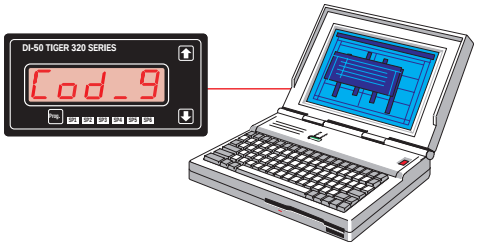
Real-time Clock Option

An optional resident real-time clock is available for time stamping in data logging and printing applications.



Data Logging

4000 samples can be logged within the meter. The data can be downloaded with date / time records to a computer using Windows Hyper-terminal program.

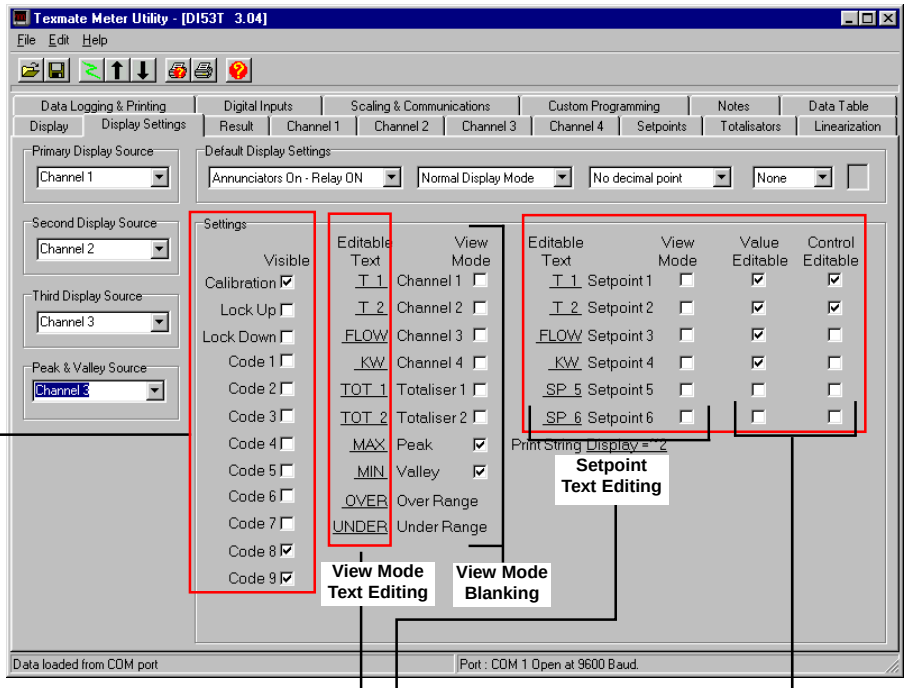


Texmate Configuration

The Tiger 320 Series controller is programmable from the front panel buttons or using the Texmate developed meter configuration utility software. The configuration utility program provides access to added features such as code blanking and display editing.

Code Blanking & Display Editing
Through the serial port, the controller can be programmed to blank out all or selected or non-required codes, as well as providing descriptive text messaging to suit a specific application. These features enable the controller to be easily configured and safely operated.

Code Blanking
Select only the codes you want to see.
In the example screen, Calibration, Code 8, and Code 9 are checked, meaning they are not blanked and still open for reconfiguration.



View Mode Text Editing
Edit display text to suit your application. Double-click underlined text to edit.
In the example screen, the text in the Editable Text column has been modified to suit a particular application. Only the peak (MAX) and valley (MIN) readings are viewable in the View Mode.

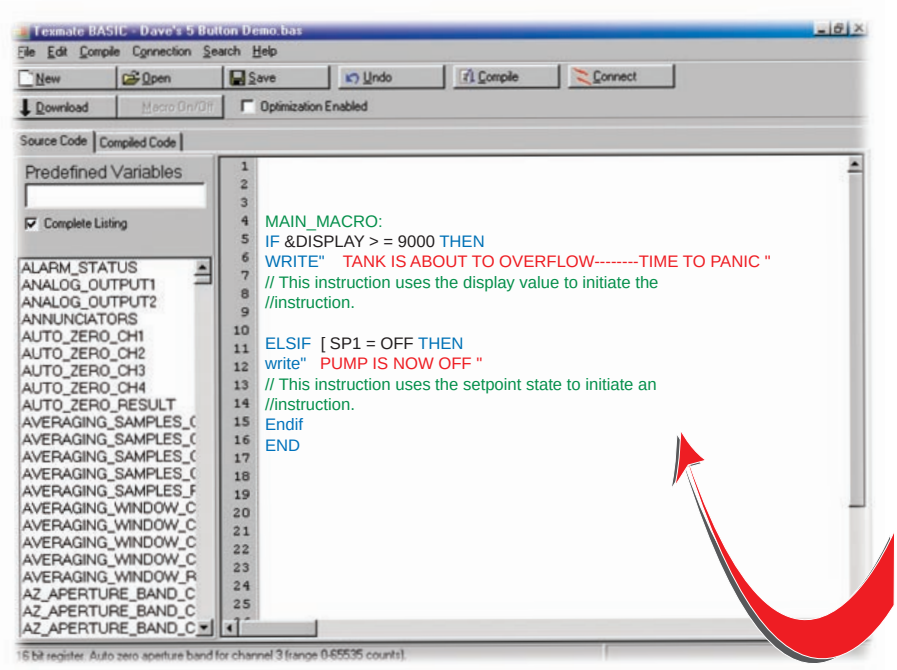
Setpoint Text Editing
Setpoints 1-4 have been edited to read T1, T2, flow, and KW.

Setpoint Blanking
Select only the setpoints you want to see.
In the example screen, with setpoints 5 and 6 in the Value Editable column clear, the setpoint value of setpoints 1 to 4 are still able to be adjusted.
With setpoints 3 to 6 in the Control Editable column clear, the control settings of setpoints 1 and 2 can still be fully configured for timer modes.

Texmate Development Software

Tiger 320 Macro Overview

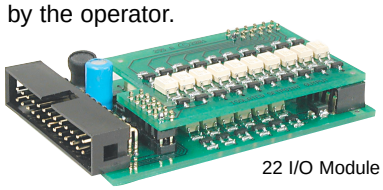
The Tiger 320 Series of programmable meter controllers have been designed to incorporate the analog and digital functionality of an intelligent controller with the logic of a PLC.
Traditionally, the PLC approach is to build a working application entirely in some form of programming language. The approach used in the Tiger 320 Series of controllers is to build an application by selecting the pre-programmed functions of the controller and then adding small amounts of programmability and logic where needed.
The operating system of the Tiger 320 controller controls all the pre-programmed functions, handling the input, averaging, scaling, linearization, totalization and much more, as well as driving the display, timers, relays, analog and serial outputs. Once configured, these functions are executed by the operating system and form the basis of a control system.



To form an advanced automation and control system you only need to write a small program that adds the extra logic required. We call this program a macro. A macro can be written specifically for your application and is used to initiate a sequence, reconfigure or disable some of the controller functions. With Texmate's 22 I/O plug-in module installed, a macro further expands the Tiger 320 operating system with additional status inputs and switched outputs.
Macro control is ideal for many OEM applications that require analog, digital, and timer functions with sophisticated mathematical and enhanced logic operations. The macro concept has major cost advantages for large or small sophisticated applications that require some degree of programmable logic control with display and front panel control.

Texmate Development System

Example showing text messaging macro from a display value and setpoint state.
Note: The SP1 value is adjustable by the operator. The IF & DISPLAY value is not adjustable by the operator.



22 I/O Module

Scrolling Text Messaging

Scrolling text messaging is another bonus from running a macro. Any number of messages for detailed operator instructions, of up to 100 characters each, can be written into the macro during compilation for detailed operator instructions, alarm and control applications.

A scrolling text message can be written for OEMs and sensor manufacturers providing informative instructions for setup and calibration procedures.

Alphanumeric Displays

14-segment alphanumeric displays are Texmate's display choice for easy to read display text and scrolling text messaging.

	7-SEGMENT		14-SEGMENT
For "kW_h" as:	kW_h	or	KW_H
or for "POWER" as:	POWEr	or	POWER

WARRANTY

Texmate warrants that its products are free from defects in material and workmanship under normal use and service for a period of one year from date of shipment. Texmate's obligations under this warranty are limited to replacement or repair, at its option, at its factory, of any of the products which shall, within the applicable period after shipment, be returned to Texmate's facility, transportation charges prepaid, and which are, after examination, disclosed to the satisfaction of Texmate to be thus defective. The warranty shall not apply to any equipment which shall have been repaired or altered, except by Texmate, or which shall have been subjected to misuse, negligence, or accident. In no case shall Texmate's liability exceed the original purchase price. The aforementioned provisions do not extend the original warranty period of any product which has been either repaired or replaced by Texmate.

USER'S RESPONSIBILITY

We are pleased to offer suggestions on the use of our various products either by way of printed matter or through direct contact with our sales/application engineering staff. However, since we have no control over the use of our products once they are shipped, NO WARRANTY WHETHER OF MERCHANTABILITY, FITNESS FOR PURPOSE, OR OTHERWISE is made beyond the repair, replacement, or refund of purchase price at the sole discretion of Texmate. Users shall determine the suitability of the product for the intended application before using, and the users assume all risk and liability whatsoever in connection therewith, regardless of any of our suggestions or statements as to application or construction. In no event shall Texmate's liability, in law or otherwise, be in excess of the purchase price of the product.

Texmate cannot assume responsibility for any circuitry described. No circuit patent or software licenses are implied. Texmate reserves the right to change circuitry, operating software, specifications, and prices without notice at any time.

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Fax: 1-760-598-9828 • Email: sales@texmate.com • Web: 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.

For product details visit www.texmate.com

Local Distributor Address