

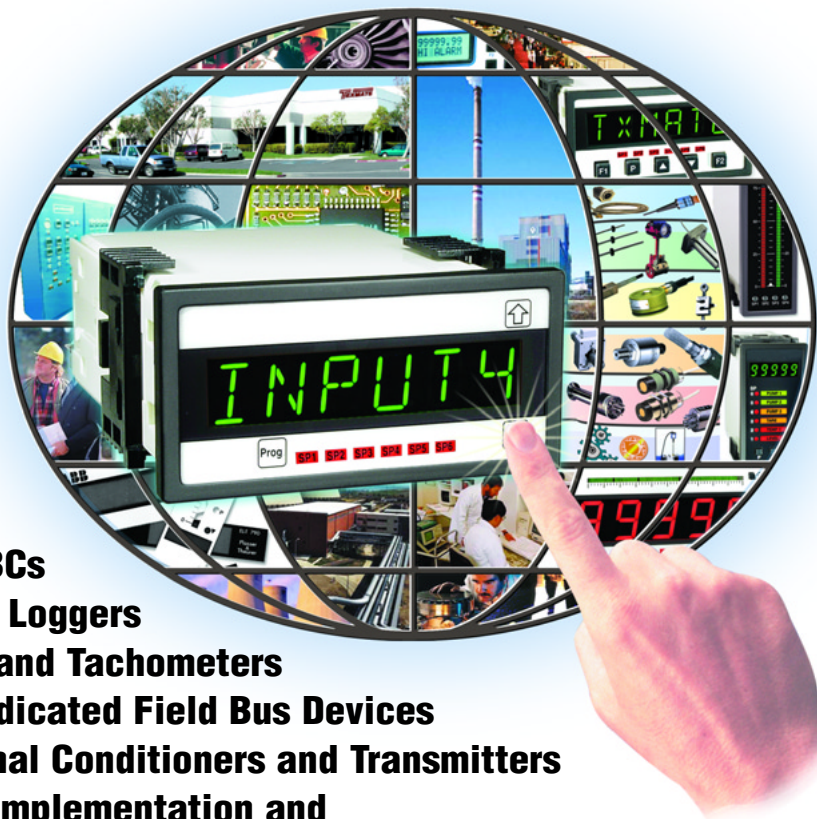


# Programmable Meter Controllers

*The Just-Right-For-The-Job Solution*

**Texmate PMCs  
are Compact  
Powerful and  
Versatile**

- ✓ Easier to Program than a PLC
- ✓ Faster than a Process Controller
- ✓ Smarter than Modular or Remote I/O
- ✓ Better reliability than Micro PCs or SBCs
- ✓ Outperforms most Recorders and Data Loggers
- ✓ Eliminates external Counters, Timers and Tachometers
- ✓ More Communication Options than Dedicated Field Bus Devices
- ✓ Greater Integration than Racks of Signal Conditioners and Transmitters
- ✓ Delivers all of the above, with faster implementation and for a much lower cost



### The complete package in one instrument

- ▶ Reduce the cost of your automation projects with the most powerful, yet inexpensive family of stand-alone or distributed control solutions ever developed.
- ▶ Plug-in hardware options provide the specific functions you actually require for each job.
- ▶ Input signal conditioning modules are available for every type of sensor output that could ever be used in any process control application.
- ▶ Operator friendly multi-display options and multi-control input/output options support full stand-alone operation, and enable easy integration with large scale PC, PLC or Scada systems.
- ▶ Serial communication outputs include Modbus, DeviceNet, Ethernet TCP/IP, ASCII and a smart Epson compatible serial printer driver.

**The Dawn of a Better Way**



# An Overview of the Awesome Power of the Tiger 320 Series

The Tiger 320 Series of 32-bit Programmable Meter Controllers incorporates, in one instrument, all the different functions required by today's automation and process control applications.

## 1 Tiger 320 32-Bit Operating System

A virtual toolbox of selectable and programmable application software functions are embedded in the Tiger 320 Operating System. They integrate seamlessly with a truly vast array of modular input and output hardware options.

### Embedded Application Software Includes:

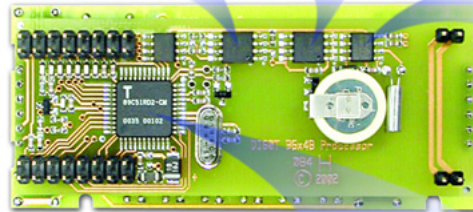
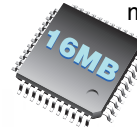
- Multi-channel Inputs In Many Combinations
- Full Floating-point Maths
- Cross Channel Math (A+B, A-B, AxB, A/B)
- Square Root, Inverse and Log of Input
- 4 x 32 Point Or 1 x 125 Point Linearization Table
- Smart Auto Zero with Programmable Capture Band, Rate of Change and Aperture Window for Weighing Applications
- Set Tare, Reset Tare for Batching
- Smart Quick Response Averaging
- Smart Timer and Time Integration Functions
- Time and Event-based Sequencing
- Polynomial Calculations
- Remote Reset of Any Function
- Dual Totalizers
- Dual PID

## 2 Data Logging and Memory Options

Up to 512 k of non-volatile on-board memory can be installed for (Black Box) endless loop recording. Up to 4000 data records can be continuously stored to memory before and after analysis of any process fault condition.

- Data log from 4 channels.
- Data log from 2 channels with date and time stamp.
- Log / print from setpoint or timer.

Plug-in memory modules can be provided for high-capacity or long-term data logging.



## 3 Real-time Clock



Optional Real-time clock with date and time stamp.

15 year lithium battery.

## 4 Powerful Custom Macro Programming Capability

Texmate's BASIC to Tiger 320 Macro-language Compiler can quickly Convert your special metering, control and automation ideas into reality.

This powerful easy to use development system enables programs to be written in BASIC utilizing any combination of the hundreds of functions and thousands of registers embedded in the Tiger 320 Operating System. When your BASIC program is compiled into the Tiger 320 Macro-language it is error checked and optimized. There are also numerous off-the-shelf application specific programs available. Many only need the blanks to be filled in to use them and this does not require any knowledge of BASIC.

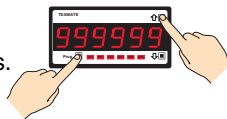


Scrolling annunciator messages can be programmed to appear with any setpoint activation, selected events or logic inputs.

## 5 Programmable Front Panel Controls

### Programmable Front Panel Controls

The front panel buttons can be used to control or program any standard functions.

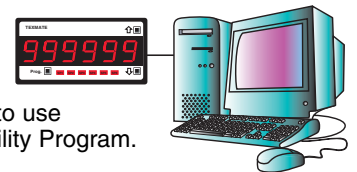


They can also be programmed to only access and display specifically designated functions, such as Tare, Auto-Cal or Print on Demand.

## 6 Configuration & Programming from a PC

### PC Programming

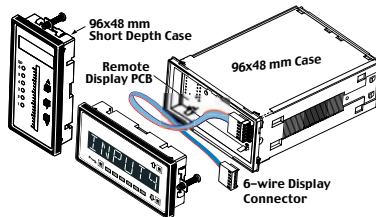
Program the meter from a PC with Texmate's easy to use Tiger 320 Configuration Utility Program.



## 7 A Wide Selection of Display Formats & 8 Case Sizes to Suit any Application

Single or multiple LED or LCD displays  
Numeric, Alpha Numeric and Bargraph

144x72mm 9/32 DIN



96x48 mm Short Depth Case

96x48 mm Case

96x48mm 1/8 DIN



36x144mm  
9/64 DIN

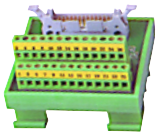
648x144mm 4"LED  
Remote Display  
5 or 6 digit  
Driven by RS485  
from any Tiger 320

48x96mm 1/8 DIN

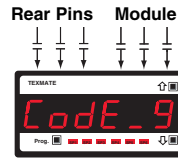
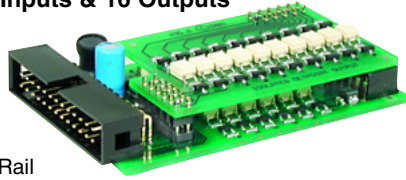


## 8 22 Opto-Isolated I/Os on Plug-in Module & 6 Onboard Programmable I/O Logic Ports

- 6 Inputs & 6 Outputs or 6 Inputs & 16 Outputs
- Fully Programmable

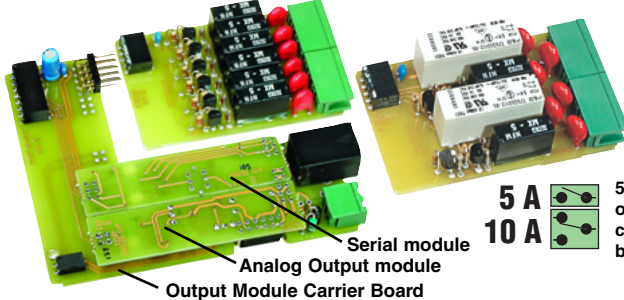


Connects to DIN Rail terminal block module with 3M IDC cable

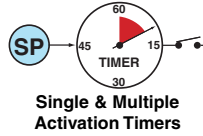


Three logic level inputs are provided on the module input header and three rear input pins are provided that can be programmed to STOP/START/RESET almost any function including: set tare, reset tare, relays, totalizers, print output, data logging, peak, valley, or any register from an external contact closure.

## 9 6 Super Smart Setpoints - 8 Selectable Functions - 7 Programmable Timer Modes

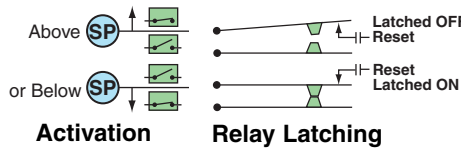


Serial module  
Analog Output module  
Output Module Carrier Board



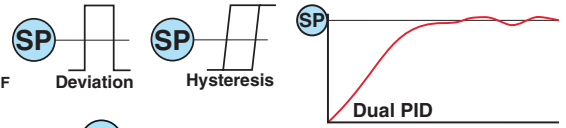
Single & Multiple Activation Timers

5 A  
10 A  
5 Amp and 10 Amp Relays or optional SSR Outputs can be energized above or below setpoints.



Activation

Relay Latching



### 7 Multi Function Interval Timers on all 6 setpoints

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



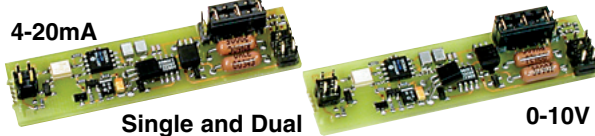
## 10 Scrolling Annunciator

Scrolling Annunciator up to 99 Characters long is available on all 6 setpoints for Alphanumeric Displays with Fill-in-the-blanks Macro.



## 12 16-bit Isolated Analog Outputs

4-20mA



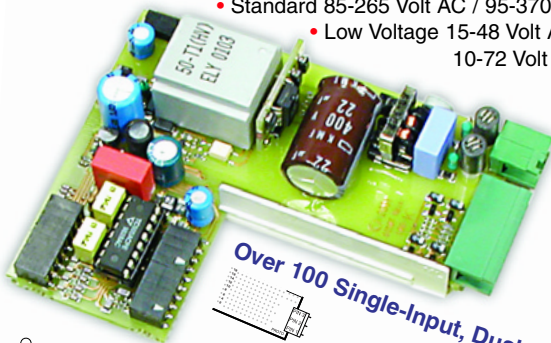
Single and Dual

0-10V

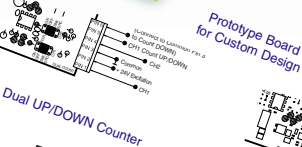
Programmable 0/4 to 20 mA or 0 to 10 V for retransmission, 4-20 mA loops, drive valve actuators, remote controllers & displays, multi-loop feedback and PID output.

## 13 Auto-sensing AC/DC Power Supply

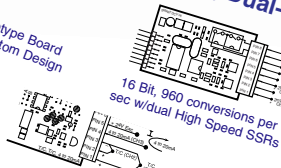
- High Efficiency CE tested Auto Sensing AC/DC power supplies
  - Standard 85-265 Volt AC / 95-370 Volt DC
  - Low Voltage 15-48 Volt AC / 10-72 Volt DC



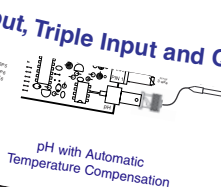
Over 100 Single-Input, Dual-Input, Triple Input and Quad-Input signal conditioners work with the Tiger 320 series



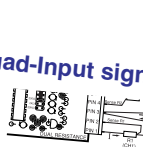
Dual UP/DOWN Counter



16 Bit, 960 conversions per sec w/dual High Speed SSRs



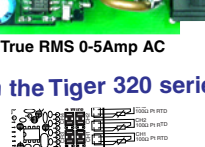
pH with Automatic Temperature Compensation



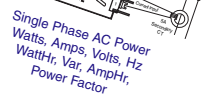
Dual Resistance Input, 0.2/2/20KΩ



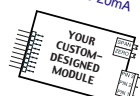
Dual Pressure Input, 4 wire 2mV/V, 20mV/V



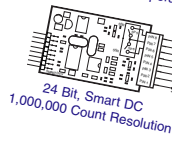
Quad RTD Platinum 100Ω RTD, 4 wire connection



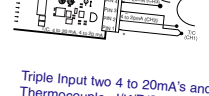
Single Phase AC Power Watts, Amps, Volts, Hz, WattHr, Var, AmpHr, Power Factor



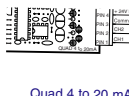
Triple Input T/C, T/C and 4 to 20mA



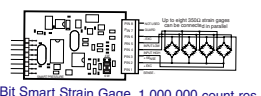
24 Bit, Smart DC, 1,000,000 Count Resolution



Triple Input two 4 to 20mA's and Thermocouple, J/K/R/S/T/B or N



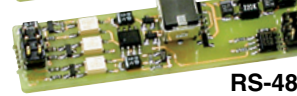
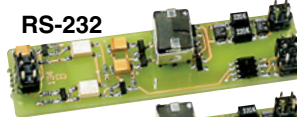
Quad 4 to 20 mA



24 Bit Smart Strain Gage, 1,000,000 count res.

## 11 Serial Communications and Printer Output

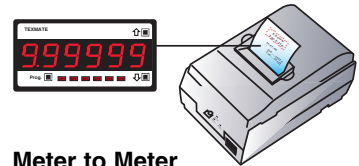
RS-232



RS-485

### Serial Printer Output

Smart printer driver makes simple serial printers look intelligent.



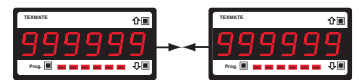
### Selectable Communication Modes include:

- ASCII • Modbus
- Ethernet (TCP/IP)
- DeviceNet (provided on special DeviceNet output module carrier board)

Interface directly with PCs (using Window's terminal program), PLCs, or any Epson compatible serial printer.

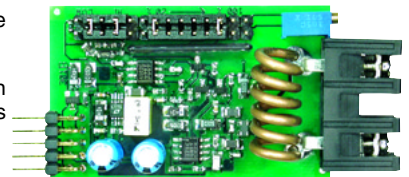
### Meter to Meter Communication

Direct meter to meter communication enables two meters to share data and resources.



## 14 Over 100 Different Input Signal Conditioning Modules

- Choose from over 100 different single, dual, triple and quad input signal conditioners.
- Mixed function and smart modules with their own A/D's, co-processors, SSR's and I<sup>2</sup>C Bus outputs are available to suit almost any application.



AC-Amps True RMS 0-5Amp AC

# Super-Intelligent Tiger 320 Programmable Meter Controllers

## Enable All Types of Sensors to Accurately Outperform Themselves

Large batches of sensors can be simultaneously profiled and calibrated from one input source by connecting the sensors to Tiger 320s programmed to measure all the multiple variables applied during calibration. Digital linearizing tables and multi-variable compensating factors for each individual sensor, can then be automatically calculated and downloaded into each Tiger 320's memory, along with a date and the sensor's serial number. The performance of many sensors can be greatly enhanced just with individual linearity and temperature compensation. However, the

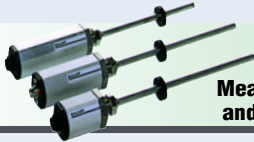
multiple input modules of the Tiger 320 series enable compensation of many other variables such as frequency, opacity, pressure, pH and viscosity. The Tiger 320 Macro-language software supports complex three dimensional linearizing, and can even provide compensation for long term aging. Time-for-calibration messages can be programmed to display from a setpoint connected to the real-time clock. Sensors can be precalibrated in the factory for installation in the field and their updated compensation factors can then be downloaded into the Tiger 320 by PC or even directly over the web.



**Infrared Emissivity Compensation and Linearization**



**Conductance and pH with Chemical and Biological Linearization and Compensation**



**LVDT, LDT & MDT Position & Displacement Measurement with Linearization and Temperature Compensation**



**Flow Calculation and Compensation BTU, Viscosity, and Mass**



**Torsion Load Measurement with Linearization**



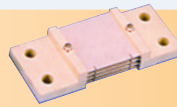
**Strain and Weight with Linearization, Autotare, and Smart AutoZero Maintenance**



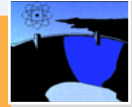
**LOAD CELL Temperature and Non-Linearity Compensation**



**CT or Shunt Linearization and Temperature Compensation with patented True RMS Conversion for Precision AC or DC Watts**

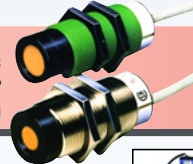


**Pressure Transducer Compensation and Linearization for Complex Volume Measurement**



**Semiconductor Near-Vacuum Precision Sensor Compensation**

**Ultrasonic Sensor Compensation**



**Hygrometer 3D Linearization for Precision Dew Point**

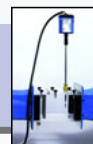


**Pulse Inputs for Frequency RPM Batch Count and Linearization**



**Quadrature Inputs from Encoders for Up/Down and Position**

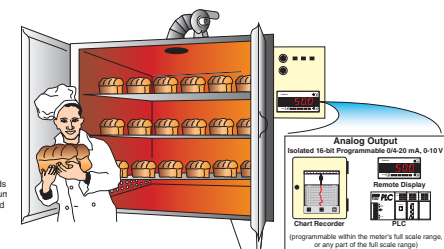
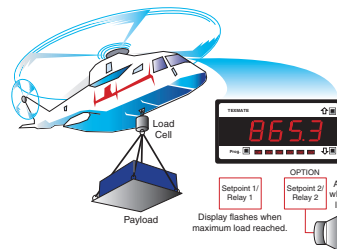
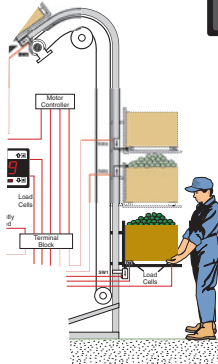
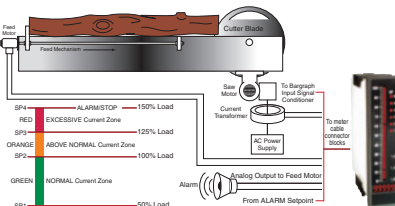
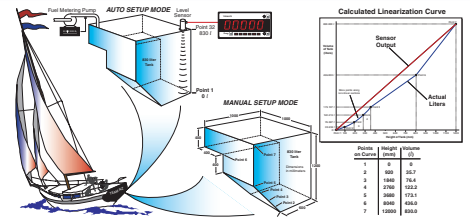
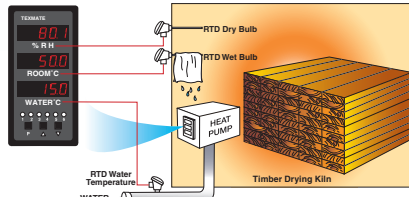
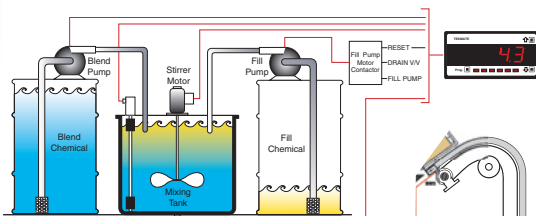
**Mass Air Flow and Velocity**



**Environmental Emission Gas Sensor Linearization**



Measure, count, time, digitize, linearize, compensate, calculate, compare, accumulate, integrate, annunciate, display, control, record, report and automate any process, in any industry, from any sensor, with the fantastic Texmate Tiger 320 Series of Programmable Meter Controllers.



# TEXMATE INC

995 Park Center Drive, Vista, California, U.S.A. 92083-8397



Local Distributor Address

- For ordering info call:.....1-800-TEXMATE (1-800-839-6283)
- 24 Hours Fax: .....(760) 598-9828 • Email:sales@texmate.com
- For tech assistance call: .....(760) 598-9899 • Email:techsupport@texmate.com
- Pricing and detailed data sheets are available online at www.texmate.com