



# AM-30, AM-30R1 & AM-30R2

31 Segment Bargraph
7 Header Selectable Input Ranges
in a 1/16 DIN Case

5V DC Powered LED Bargraph with Optional Single or Dual Setpoints.

## General Features

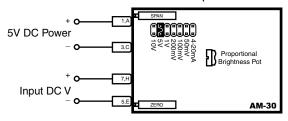
The AM-30 is a 31-segment 5VDC powered red, green, or amber LED bargraph in a compact DIN case (96x24mm) with a short depth (56.5mm/2.23"). It can be ordered in either a horizontal or vertical format. Single or dual setpoints are available as options. The setpoints are easily adjustable by the user from the front of the meter.

There are seven header selectable input ranges of 50mV, 100mV, 200mV, 1V, 5V, 10V and 4-20mA. The meter comes standard with a scale of 0-100%, but any required scale and unit of readout can be specially ordered. The meter may also be ordered with a dot mode display option.

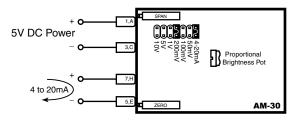
The AM-30 uses a 30-pin PCB edge card connector or optionally a Push-On<sup>™</sup> screw terminal connector may be used (see ordering information on page 8). This bargraph is designed especially for use in process applications where a low cost visual analog indication is required.

### Typical Application Connections

AM-30/AM-30R1/AM-30R2 with DC Volt Input.



AM-30/AM-30R1/AM-30R2 with 4 to 20mA Input.



### Compatibility

The AM-Series have a matching DIN case style that is complementary to the Lynx, Leopard and Tiger family of meters. AM-Meters are the OEM's choice for economical switchboard and process indication. For economy, each model is dedicated to a specific application and designed for quick and easy installation.



### **Specifications**

Input Configuration: ......Single ended

Full Scale Ranges: ......50mV/100mV/200mV/1V/5V/10V/4-20mA

Input Impedance:....> 500k $\Omega$  for voltage inputs

 $13\Omega$  for 4 to 20mA inputs

A/D Converter: .....Flash converter

Accuracy: ......1% of full scale

Temperature Coefficient:...200ppm/°C (typical)

Warm Up Time:.....Instantly reads to specified accuracy

Conversion Rate: .....Instantaneous flash conversion

**Display:** .......Thirty-one 0.20" X 0.06" (5.08mm X

1.52mm) bar segments

Polarity: .....Operates with positive polarity signals only

Power Supply:......5VDC @ 300mA, 1.5 watt

Operating Temperature: ..-10°C to 60°C

Storage Temperature: .....-20°C to +70°C

Relative Humidity: ......95% (non condensing)

Case Dimensions: ......Bezel: 24X96 mm (0.95" X 3.78")

Depth behind bezel: 56.5 mm (2.23")
Plus 27 mm (1.06") for Push-on connector
or plus 17.5 mm (0.69") for Edge connector

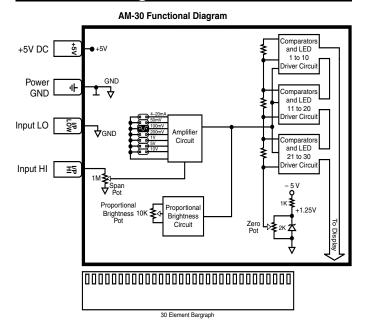
Weight:.....90.72 gms (3.2 oz)

136.1 gms (4.8 oz) when packed

### AM-Series, the choice for easy user adjustability

AM-30R2 . . . . . . . . . . . . . Red 31 Seg. Bargraph, 1 VDC std w/two 2 A/120 VAC relays

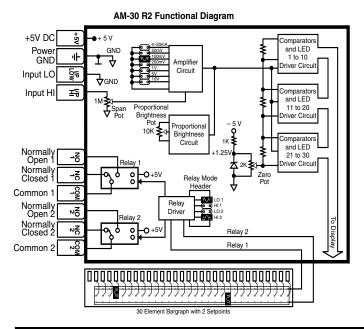
### **Functional Diagram**



#### Proportiona +5V DO Brightness Pot \_\_\_\_ Proportional Comparators 10K and LED 1 to 10 业 Comparators and LED 11 to 20 Input LO Şξ Priver Circui mplifie Circuit Input HI ∓₹ and LED 21 to 30 Normally Relay Mode ٦ĕ Open : Heade Normally ٦̈ Closed 3 Common 1

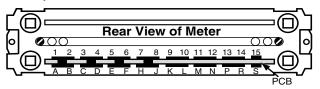
30 Element Bargraph with 1 Setpoin

AM-30 R1 Functional Diagram

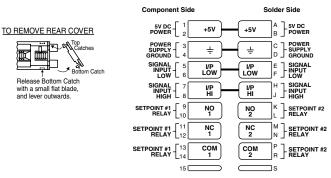


### **Connector Pinouts**

The Texmate model AM-30 interconnects by means of a standard PC board edge connector having two rows of 15 pins on 0.156" centers. Connectors are available from Texmate or from almost any connector manufacturer.



### **REAR VIEW OF CASE AND CONNECTOR**



Pins A, B, 1 and 2 - These pins are internally connected together. The 5VDC @ 300mA is connected here to power the AM-30.

**Pins C, D, 3 and 4** - These pins are internally connected together. They are the Power Supply Ground pins.

**Pins E, F, 5 and 6** - These are the Signal Ground (Input Lo) Pins. They are internally connected to the Power Supply Ground Pins.

Pins H, J, 7 and 8 - These are the signal input (Input Hi) pins.

Pins 9 and 10 - Normally open contact of Setpoint #1 relay.

Pins 11 and 12 - Normally closed contact of Setpoint #1 relay.

Pins 13 and 14 - Contact Common of Setpoint #1 relay.

Pins K and L - Normally open contact of Setpoint #2 relay.

Pins M and N - Normally closed contact of Setpoint #2 relay.

Pins P and R - Contact Common of Setpoint #2 relay.

Pins S and 15 - No connection is made to these pins.

# Signal Conditioning Components



### SPAN Potentiometer (Pot)

The 15 turn SPAN Pot is on the left side (as viewed from the back of the meter). Typical adjustment is 100% of the input signal range.



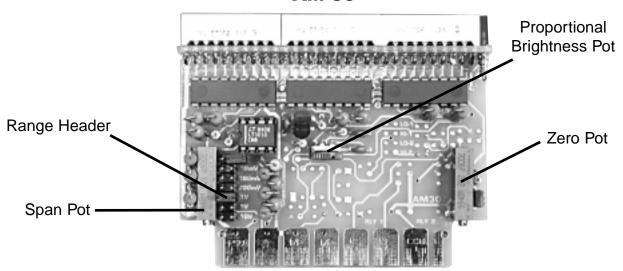
### ZERO Potentiometer (Pot)

The ZERO Pot is to the right side (as viewed from the back of the meter). It enables the Digital Display Span to be offset 50% of the input signal range.

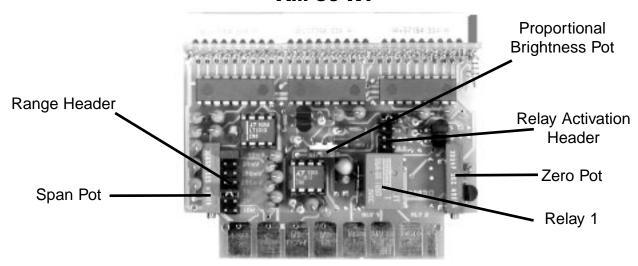
# Proportional Brightness Band Potentiometer

The Proportional Brightness Potentiometer superimposes a proportional brightness band to the leading edge of the bargraph which creates the optical appearance of a pointed arrow  $\square^{p_p}$ . This feature produces a display of infinite resolution. The position of the signal in relation to any two adjacent segments and the scale on the faceplate can be accurately ascertained to within 1%. When the amplitude of the proportional band is adjusted counterclockwise to zero, the smooth proportional advance of the display will be replaced by a step by step movement as each bar is either turned full on or full off.

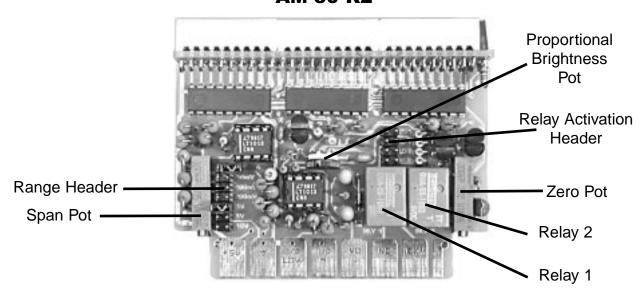
# **AM-30**



# **AM-30 R1**

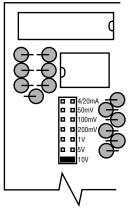


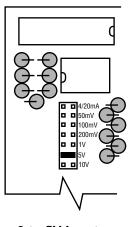
# **AM-30 R2**

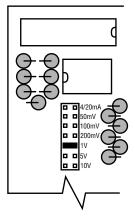


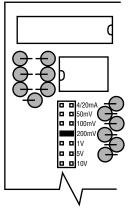
# Selecting the Input Full Scale Range

The AM-30 has seven header selectable ranges. The standard AM-30 is shipped from the factory as a 1V full scale meter. To select any other input range (4 to 20mA, 50mV, 100mV, 200mV, 5V, or 10V), use needlenose pliers to remove the jumper clip and replace it on the appropriate header pins as shown in the diagrams below.







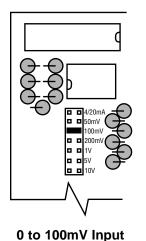


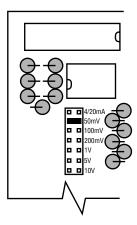
0 to 10V Input

0 to 5V Input

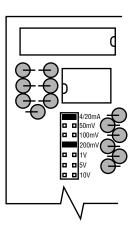
0 to 1V Input

0 to 200mV Input

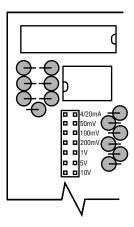




0 to 50mV Input



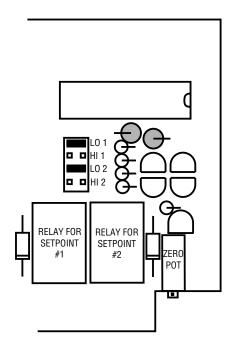
4 to 20mA Input
For 4 to 20mA inputs, jumper clips must be put in both the 4 to 20mA and 200mV positions. A second jumper clip is provided for this purpose.



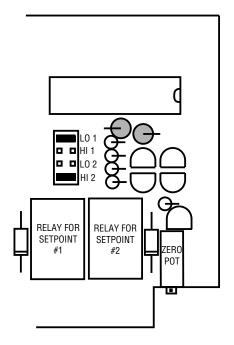
If there is no jumper clip inserted on the input header pin when the power is turned on, the AM-30 goes into the display test mode and all segments of the display come on.

### Selecting the Relay Activation Modes

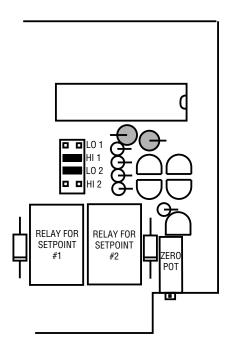
There are four activation modes available for the AM-30R2 with relay options. To change the activation mode, use needlenose pliers to remove and replace the shorting clips on the relay activation header, as shown below.



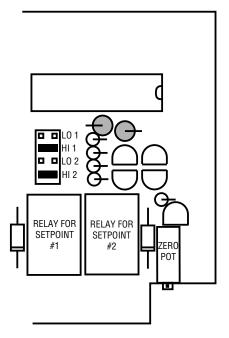
Setpoint #1 will activate whenever the input is LESS THAN setpoint #1. Setpoint #2 will activate whenever the input is LESS THAN setpoint #2.



Setpoint #1 will activate whenever the input is LESS THAN setpoint #1. Setpoint #2 will activate whenever the input is GREATER THAN setpoint #2. The standard AM-30 with dual relay option is shipped from the factory, with this setting.



Setpoint #1 will activate whenever the input is GREATER THAN setpoint #1. Setpoint #2 will activate whenever the input is LESS THAN setpoint #2.

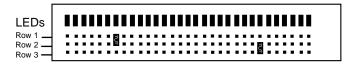


Setpoint #1 will activate whenever the input is GREATER THAN setpoint #1. Setpoint #2 will activate whenever the input is GREATER THAN setpoint #2.

### **Calibration Procedure**

- Select the required input range. (See "Selecting the Input Full Scale Range" above for details).
- 2. Input the minimum signal to the AM-30. Adjust the ZERO pot so that only one segment stays on.
- Input the maximum signal to the AM-30. Adjust the SPAN pot so that all the segments just light up.
- In the case of the AM-30R1 and AM-30R2, select the relay activation mode (details on page 6) and setpoints (details on page 2).
- 5. The meter is now calibrated and ready for use.

# CHANGING THE SETPOINTS FROM THE FRONT OF THE METER



### FRONT OF METER WITH BEZEL AND FILTER REMOVED

In the case of the AM-30R1 and AM-30R2, which have relays, remove the front bezel and faceplates. Use needlenose pliers to remove and reposition the setpoint jumper clips.

**For Setpoint #1:** Insert the jumper clip between Row #1 and Row #2, directly below the LED that you wish to activate.

**For Setpoint #2**: Insert the jumper clip between Row #2 and Row #3, directly below the LED that you wish to activate.

**AM-30 WITH DOT MODE OPTION:** The AM-30 may be ordered with the dot mode option. Please note that NO SET POINTS are available in this mode. For a 4-20mA input (or virtually any positive input), the dot mode AM-30 is easily user scaled to be a center zero meter.

### Power Supply

The AM-30, AM-30R1 & AM-30R2 ship from the factory with an isolated 5VDC power supply.

### **Push-On Screw Terminals**

### They provide the greatest convenience and ease of use

Texmate's exclusive optional Push-On Connectors combine an edge card connector and a 10 position screw terminal block. Push-On Connectors are ordered preconfigured for each specific power supply voltage and each optional power supply available for the AM-Series.



CN-PUSH/AM CN-PUSH/AMR CN-PUSH/A24 CN-PUSH/AR24

## Optional PCB Edge Connector

### **PCB Edge Connector**

A standard 30-pin edge connector (two rows of 15 pins on 0.156" centers) may be used to connect the AM-30, AM-30R1 & AM-30R2 meters. Order part no. CN-L15.



### **Custom Face Plates and Scales**



### Texmate Produces Thousands of Custom OEM Face Plates

Have Texmate Design and Build a Custom Face Plate to Suit your Next project!

- Custom face plates have a non-recurring artwork charge. A serial number is then assigned to each artwork, to facilitate re-ordering. We prefer custom logos and special artwork to be supplied in an Illustrator or Photoshop file format.
- The non-recurring artwork charge is less if you choose elements from our library. The standard scales and numbers in the library are shown below. The standard library captions are shown on the caption sheet. (page 18)
- Small Run or One-Off custom face plates incur an installation charge, and are generally printed on a special plastic film, which is then laminated to custom faceplate blanks as required.

- Large Run (250 pieces min): custom face plates are production silk screened, issued a part number, and held in stock for free installation as required by customer orders.
- OEMs may also order Custom Meter Labels, Box Labels Custom Data Sheets and Instruction Manuals.

Part Number	Description	List
Small Run Custom	Face plates for Bargraphs	
ART-FB-S/L	.NRC for artwork & set-up Faceplate/Library	
ART-FB-S/N	.NRC for artwork & set-up Faceplate/Non-Library	
ART-FB-S/L/C	.NRC for artwork & set-up Faceplate/Library/Co.Logo	
ART-FB-S/N/C	.NRC for artwork & set-up Faceplate/Non-Library/Co.Logo	
ART-FB-001	Install Faceplate per meter - 1 color	
ART-FB-002	Install Faceplate per meter - 2 color	
ART-FB-003	Install Faceplate per meter - 3 color	
Specify artwork serial	number when ordering face plate installation. ie: AFB-XXXXX	

### Large Run Custom Face plates for Bargraphs

ART-FL-001	Minimum order \$250 (\$250x\$1) - 1 color	
ART-FL-002	Minimum order \$350 (\$250x\$1.40) - 2 color	
ART-FL-003	Minimum order \$450 (\$250x\$1.80) - 3 color	
When orderi	g Large Run Face plates to be installed specify the custom part number	
issued for ea	ch different artwork. ie: 77-FLXXXXX	

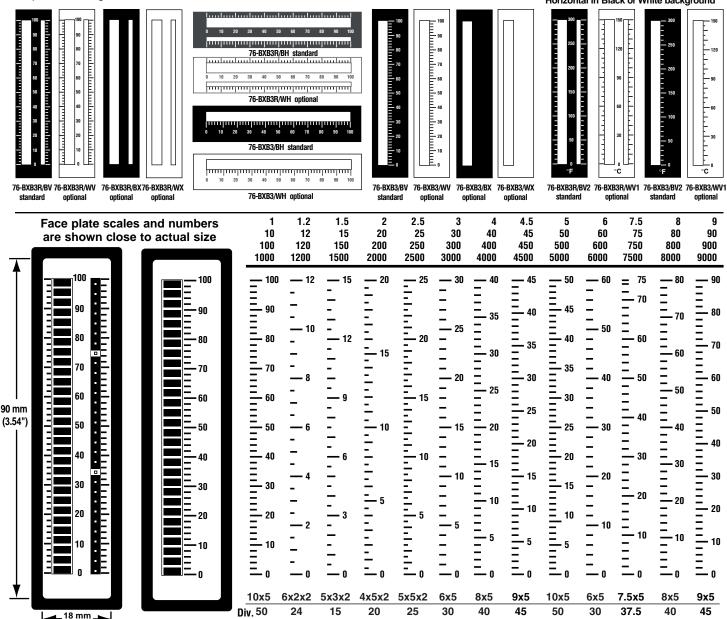
### Standard Face Plates and Scales

- Unless otherwise specified, a standard 0-100 scaled face plate with white letters on a black background is provided with each meter. In those cases where a temperature modules is ordered, a 0-300 °F (white on black) face plate will be provided as standard.
- Alternatively a face plate with black letters on a white background or a blank, white or black face plate, may be ordered as a no charge substitute. For temperature applications there are also several different optional face plates that may be ordered as a no charge substitute. (See below). Customized face plates with

  Optional no charge substitute faceplates for Temperature may be ordered scaled

special scaling can also be ordered.

optional no charge substitute raceptates for Temperature may be ordered scaled 0 to 300°F or 0 to 150°C, Vertical or Horizontal in Black or White background



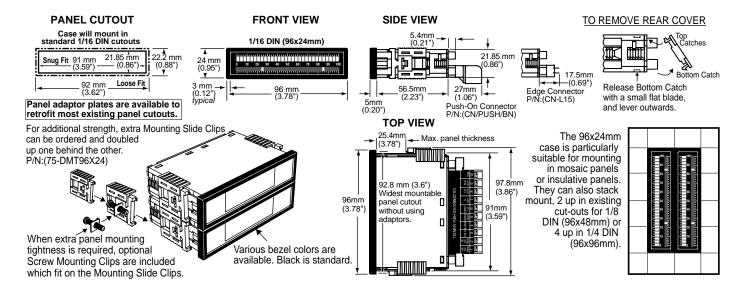
### Standard Caption Sheets (white or black lettering for do-it-yourself customizing)

Clear self-adhesive caption sheets with white or black lettering are provided for each meter shipped with a standard or optional faceplate.

ı	AHEAD	AC Vars	AC Amperes	AC Kilowatts	AIR PRESSURE	AC Milliamperes
ı	ALARM	AC Volts	AC Kilovars	AC Millivolts	AC Kiloamperes	Battery Voltage
ı	BOILER	AC Watts	AC Kilovolts	BPH X 1000	AC Megavars	Backup Voltage
ı	Cycles	BEARING	AIR FLOW	CFH x 1000	AC Megawatts	Displacement
ı	Depth	COOLANT	BBLS/HOUR	DC Amperes	AC Watts/Vars	DC Amps to Ground
ı	HEATER	DC Volts	BFM AMPS	DC Kilovolts	CENTIMETERS	DC Microamperes
ı	Height	DC Watts	BHP x 100	DC Kilowatts	DC Kiloamperes	DC Milliamperes
ı	Hertz	Degrees	BLOWER	DC Millivolts	FD FAN AMPS	GALLONS / MINUTE
ı	Hours	ENGINE	DC Current	FPM X 100	IN. H <sub>2</sub> O PRESS	GENERATOR AMPS
ı	INCHES	EXHAUST	Dew Point	FPM X 1000	LBS/MINUTE	LBS PER GALLON
ı	Input	Humidity	Degrees C	GPM X 1000	LEVEL INCHES	LOAD LIMIT PERCENT
ı	PORT	METERS	Degrees F	HORSEPOWER	LEVEL GALLONS	MANIFOLD PRESSURE
ı	PUMP	Output	Degrees K	INCHES WC	LEVEL PERCENT	MILL LOAD AMPS
ı	Preset	Percent	Degrees R	INCHES H <sub>2</sub> O	MILLIMETERS	MOTOR LOAD AMPS
ı	Reset	Program	FPM X 10	KILOWATTS	Percent Current	Percent Horsepower
ı	SHAFT	Pounds	Frequency	LBS X 1000	Percent Load	OXYGEN PERCENT
ı	SPEED	Pulses	FUEL FLOW	MEGAWATTS	PERCENT OPEN	TEMPERATURE °C
ı	Setup	RUDDER	GALLONS	Power Factor	RATE of TURN	TEMPERATURE °F
ı	TABLE	SPINDLE	IN. WATER	Phase Angle	STEAM TEMP °F	Motor Load Percent
1	Total	SQ ROOT	LEVEL FT.	RPM X 100	TONS / HOUR	LEFT RIGHT
1	VALVE	Set Point	LBS X 100	STARBOARD	OIL PRESSURE	FRONT REAR
ı	Valley	THRUST	POSITION	TANK LEVEL	WATER LEVEL	FORWARD REVERSE
ı	WATTS	TURBINE	TONS X 10	VAC MM HG	1000 LBS/HOUR	TOP BOTTOM (L450)

Btu bars CFH BHP Low inch/ CosØ High Kcal FEET bar cal<sub>15</sub> CFM IPS GALS BBL/MIN J Ah kJ kV cal cm-1 CFS IPH MGD kg/hr Hold INHg kW cm cm2 COS Kg/h MId kVAR Km3/h m/min FT H2O cm3 CPH KPH MPH kW/s MWH m/sec In.H20 m DC ml FT3 CPM KPM MPS RPM mWs NL lbs dm<sup>3</sup> Nm³/h Kg/cm²  $\alpha$  HP Pa IN<sup>2</sup> H<sub>2</sub>O CPS KPS N/m<sup>2</sup> MPM mbar Ohms **KNOTS** β Hz PF kg/ kPa DCA kWH ORP M³/hr ml/m³ PSIA kg/sec Kg pH mA l/s FPH lb/ft PPH Upm mm/s PSID Mvars  $\Omega$  kA sin mS l/h FPM lb/in PPM VAC Peak PSIG  $mmH_2O$ t/h mV l/m FPS LPH PPS Vars PORT **PSIR** mmHg Λ  $m^3$ yd<sup>3</sup> Nm lb/h GAL LPM RPH VDC STRB SCFM VOLTS MW GMP LPS RPS w/m<sup>2</sup> W TARE TORR %LOAD μ**Α oz** °C μS RH min GPH m³/h phi YPM TONS U/min %OPEN μV 1/h mm GPM m³/m psi YPS X100 % ٥F x10kN  $\angle$  °K μ $\Omega$  μm Sm³ GPS m³/S X10 μPa %KW X1000

### **Case Dimensions and Panel Cutouts**



### **Ordering Information**

Standard Options for this Model Number Part Number .DescriptionList	Special Options and Accessories Part Number .Description
▶ BASIC MODEL NUMBER           AM-30 Red 31 Seg. Bargraph, 0.05/0.1/0.2/1/5/10VDC/4-20mA           AM-30R1 Red 31 Seg. Bargraph, 1 VDC std w/one 2 A/120 VAC relay	► SPECIAL OPTIONS (Specify Inputs & Req. Reading)  HD-CHANGE Factory Range Change from bolded ranges listed (AM-30)  CB-FS35 Non-Std Range (AM-30)  AM-30RELAYH Factory Installed 200mA/250VAC relay (AM-30R1 & R2)
AM-30R2 Red 31 Seg. Bargraph, 1 VDC std w/two 2 A/120 VAC relay	ACCESSORIES
STANDARD . Vertical Red	CN-L15

Prices subject to change without notice.

#### 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 pre-paid, 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.

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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

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