NEW

UNIVERSAL PANEL METER

Current Loop, Signal or External Powered

DPM, Counter Timer, Controller with Auto-Tricolor Alphanumeric Display

UPM-L
Pat. Pend.

PRELIMINARY ONLY

PANEL CUT OUT: 2.75″x 1.30″

FEATURES:

*Loop/Signal/External Power
*Signal Fail Detect & Alarm (Post Mortem)
*6 Automatic Tricolor Alphanumeric Display Characters
*Input Fail Alarm with Run Time Stamp
*Self Diagnostics
*Isolated Serial I/O: USB, RS485, Ethernet
*100mW@5VDC!
*Intensity Control
*Math functions (+, -, x, √, ÷, X-Y tables, polynomials, log,anti-log)
*Averaging: None to 255
*Power Input: 5-32VDC & 90-265VAC (External Powered Models Only)
* >90 Isolated Input Signals
*µSD Flash Memory: 32 GB (On Request)
*Lifetime Warranty

NOTE: This is an abbreviated data sheet. See the complete catalog with specifications at:
http://www.otekcorp.com/sites/default/files/upm.pdf

DESCRIPTION: The **Universal Panel Meter** (**UPM**) series combines over 40 years of experience with the latest ASIC uC and ultra-efficient multicolor LED technology to bring you into the 21st century. The **UPM** external power series features over 30 signal conditioners and are installed via plug-in for ease of interchange in the field. The UPM offers Form, Fit and Function replacement for any analog or digital panel meter. If not, we'll make it!

Our patented hardware and firmware gives you the highest reliability (lifetime warranty) at the lowest cost, with features such as: automatic (programmable) tricolor display (like a traffic light); automatic signal fail detect (open or short) & indication and serial transmission with isolated retransmission (4-20mA), and universal power inputs (5-32VDC or 90-265VAC). The **UPM** offers several math functions such as +, -, x, √, ÷, X-Y tables, polynomials and log-anti-log functions.

520-748-7900
FAX: 520-790-2808
E-MAIL:sales@otekcorp.com
http://www.otekcorp.com

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TUCSON, AZ. 85714 U.S.A.
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A) THE UPM-DPM:

D. P. M.:

1. It can function as a **Digital Panel Meter (D.P.M.)**: It measures and displays data from over 30 analog input signals (see full specifications/applications on pages 3-21 of the master catalog and the ordering information on the following pages) just like a DPM. The Powerless™ input signals include A. C. and current loop and it uses the patent pending Powerless™ new technology of our **NTM Series bar-digital meters/controllers**. It features input signal failure detect/alarm and isolated serial I/O, all powered by the signal it measures, just like an **analog panel meter (APM)**. Powered models can have relays/O.C.T. & analog outputs to control your process, as well as ethernet & µSD for data logging.

B) THE UPM-COUNTER:

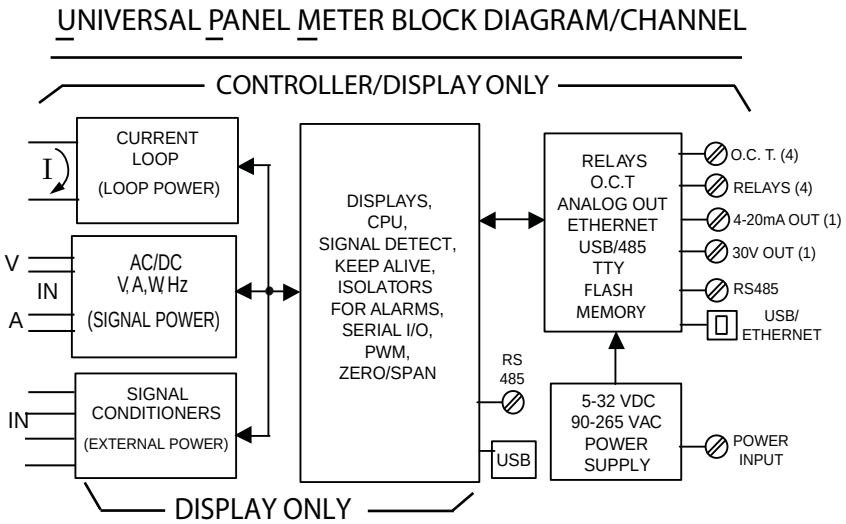
Counter-Timer-Clock-Frequency, etc:

1. All 32 functions are included and selectable via serial commands.
2. Input levels (TTL/CMOS/open collector/dry contact/high voltage) are per option number selected see full specifications/applications on pages 3-21 of the master catalog).
3. All models allow you to perform all math functions between them and/or between their data stream and your serial input data. Examples: CHA + CHB/CHC – CHD; CHA – CHB + CHC +/-; OFCO/GACO or polynomial or √ or compare to your own X-Y table. Since we use floating point math, the possibilities are limited by your needs.

ADDITIONAL INFORMATION:

For additional information and technical specifications, please visit the UPM Master Catalog at:

http://www.otekcorp.com/sites/default/files/upm.pdf



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UPM-L LOOP POWER VERSION ORDERING INFORMATION 4-18-16

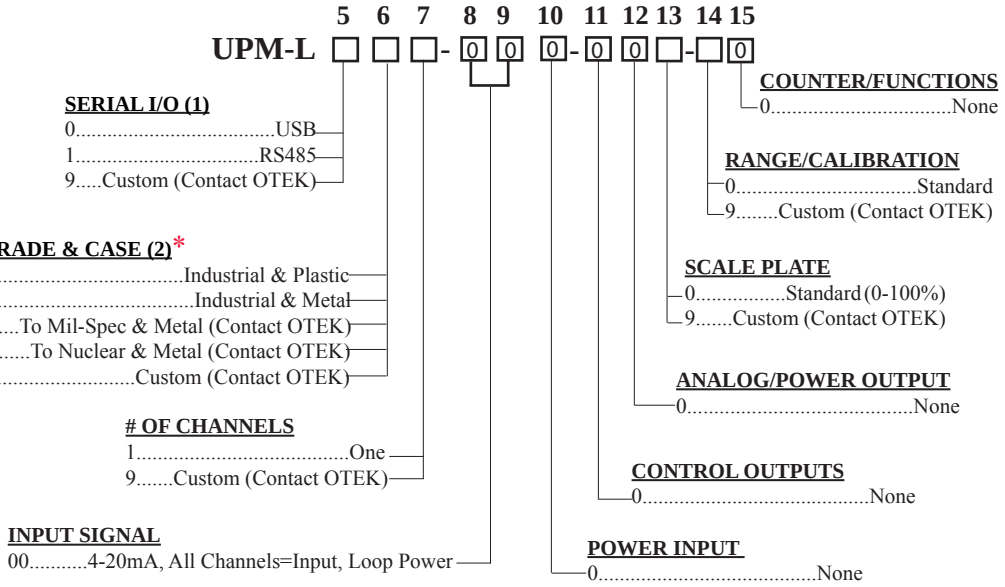
NOTE:
1. USB I/O is powered by VUSB. RS485 requires 5V@~3mA.
2. Otek will build to certain nuclear or MIL-Standards but testing and confirmation of compliance, if required, will need to be done by a third party and at customer's expense.

*Grades E, M & 9 might require an N.R.E. fee.

1 CHANNEL LOOP POWERED DISPLAY

PRELIMINARY ONLY

UPM-L



UPM-L SIGNAL POWER VERSION ORDERING INFORMATION 4-18-16

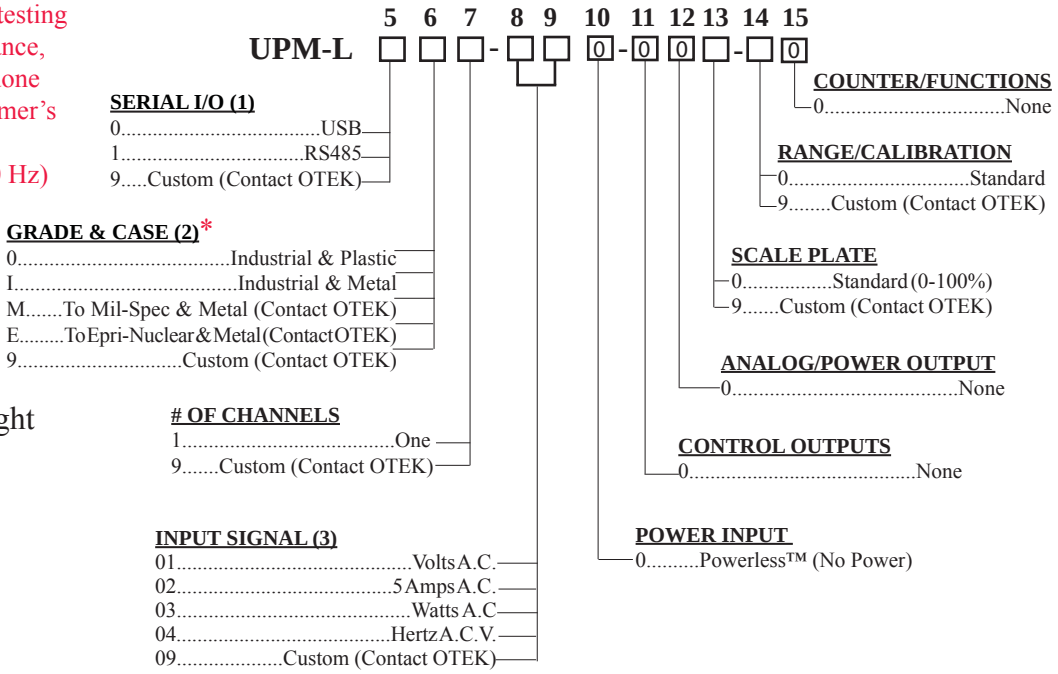
NOTE:
1. USB I/O is powered by VUSB. RS485 requires 5V@~3mA.
2. Otek will build to certain nuclear or MIL-Standards but testing and confirmation of compliance, if required, will need to be done by a third party and at customer's expense.
3. For other ranges (i.e. 400 Hz) use option 9 and specify.

*Grades E, M & 9 might require an N.R.E. fee.

1 CHANNEL SIGNAL POWERED DISPLAY

PRELIMINARY ONLY

UPM-L



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UPM-L EXTERNAL POWER ORDERING INFORMATION 4-18-16

NOTE: Please READ BEFORE building part number:

1. If digit 10 is option 1, then digit 5 must be option 0. USB I/O is powered by VBUS (3mA). RS485 requires 5V@~3mA.

1 CHANNEL EXTERNAL POWERED DISPLAY

PRELIMINARY ONLY

UPM-L

****Contact Otek For Availability for Digit 15 options 1-L.**

	5	6	7	8	9	10	11	12	13	14	15
UPM-L	□	□	□	-	□	□	-	0	0	□	-	□	□

SERIAL I/O (1)
- 0.....USB
- 1.....RS485
- 9.....Custom (Contact OTEK)

GRADE (2)*
- 0.....Industrial & Plastic
- I.....Industrial & Metal
- M....To Mil-Spec & Metal (Contact OTEK)
- E.....To EPRI-Nuclear & Metal (Contact OTEK)
- 9.....Custom (Contact OTEK)

*Grades E, M & 9 might require an N.R.E. fee.

 # OF CHANNELS
- 1.....One
- 9.....Custom (Contact OTEK)

INPUT SIGNAL (3)
- 20.....4–20mA (All Channels Same Input)
- 21.....100mV DC F.S.
- 22.....1VDC F.S.
- 23.....10VDC F.S.
- 24.....100VDC F. S.
- 25.....10mADC F. S.
- 26.....100mADC F.S.
- 27.....Watts DC (1Vx1A) F.S.
- 28.....Watts DC (1Vx1V) F.S.
- 29.....Custom (Contact OTEK)
- 30.....0.1V RMS F. S.
- 31.....1V RMS F.S.
- 32.....10V RMS F.S.
- 33.....150V RMS F.S.
- 34.....250 V RMS F.S.
- 35.....0.1A RMS F.S.
- 36.....1A RMS F.S.
- 37.....5A RMS F.S.
- 38.....W RMS (1Vx1VAC) F.S.
- 40.....W RMS (120Vx5A AC) F. S.
- 41.....Hertz (10KHz/5V Logic) F.S.
- 42.....Hertz (120VAC/40-100 Hz) F.S.
- 43.....Hertz (240VAC/30-100 Hz)
- 44.....Hertz (120VAC/500 Hz) F.S.
- 45.....Strain-Gage (≥300<4K Ohm)
- 47.....RTD (PT100)
- 48.....RTD (PT1000)
- 50.....TC (Type J)
- 51.....TC (Type K)
- 52.....TC (Type T)
- 53.....pH (0-14.00)
- 54.....ORP (0-2000mVDC)
- 55.....% RH (Specify Sensor)
- 56.....Resistance (0-10KΩ)
- 58.....None (Serial Input Remote Meter)

POWER INPUT (1)
- 1.....Non-Isolated USB
- 2.....Isolated 5VDC
- 3.....Isolated 7-32VDC
- 4.....Isolated 90-265VAC
- 9.....Custom (Contact OTEK)

CONTROL OUTPUTS
- 0.....None

ANALOG/POWER OUTPUT
- 0.....None

SCALE PLATE
- 0.....Standard (0-100%)
- 9.....Custom (Contact OTEK)

RANGE/CALIBRATION
- 0.....Standard
- 9.....Custom (Contact OTEK)

COUNTER/FUNCTIONS (4, 5)**
- 0.....None (Use Digits 8 & 9)
- 1.....Up/Down Counter
- 2.....Totalizer
- 3.....Quadrature
- 4.....Batch
- 5.....Frequency
- 6.....Period
- 7.....RADS
- 8.....REM
- 9.....Custom
- A.....Up/Down Timer
- B.....Time Interval
- C.....Elapsed Time
- D.....Range
- E.....Julian Clock
- F.....Rate
- G.....Ratio
- H.....Phase Angle
- J.....Draw
- K.....V-F (Voltage to Frequency)
- L.....Integration

NOTES (Continued):

2. Otek will build to certain nuclear or MIL-Standards but testing and confirmation of compliance, if required, will need to be done by a third party and at customer's expense.
3. For 400 Hz line, use option 29 and specify input. Peak & Hold to 50KHz function on request.
4. Options A accept 5V TTl/CMOS inputs or dry contacts (10KΩ pull ups). Options B accept dry contacts to 150V DC/AC pulses. See "Debouncer/Filter" definitions. Options C accept 0-1V DC & 4-20mA. See "V-F" definition. Conditions: If digit 15="0," then digits 8 & 9 must be options 00-89 and vice-versa. If digit 15="1" thru "L" then digits 8 & 9 must be 1A-4C and digit 10 (power) must be option 1-9. Option H (Phase angle) requires 2 inputs.
5. In multi-channel models, all channels have the same input function. For mixed inputs, use options 69, 79 or 89 and specify. Consult OTEK for availability.

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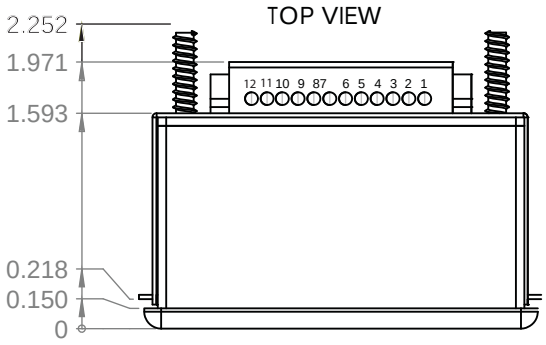
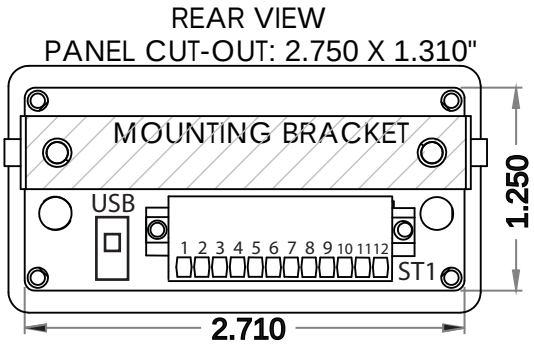
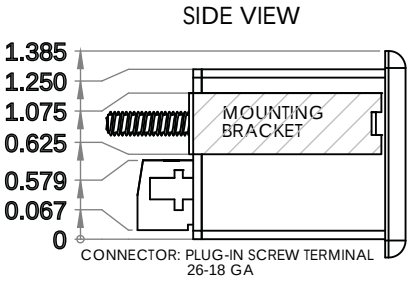
UPM-L MECHANICALS AND TYPICAL CONNECTIONS



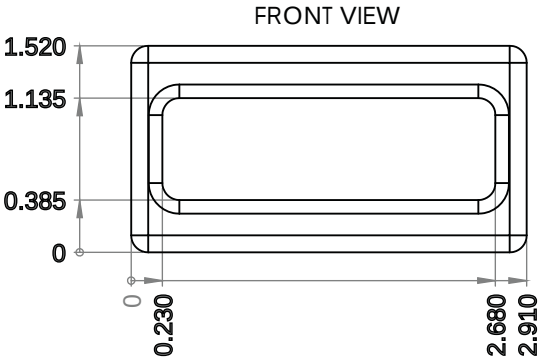
DOWNLOADS:
For manuals, user-software or drivers:

www.otekcorp.com





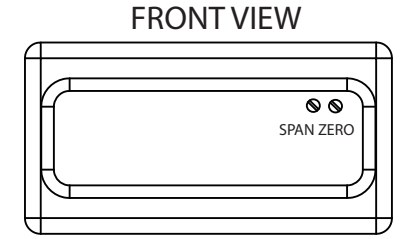
NOTES:
1. Panel Cutout: 2.750 x 1.310″
2. Connector might very with model.

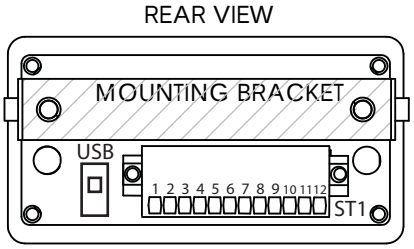


TYPICAL CONNECTION INFORMATION

LOOP POWER (DIGITS 8 & 9, OPTION 00)	SIGNAL POWER (DIGITS 8 & 9, OPTION 01-04)	EXTERNAL POWER (NO CONTROL) (DIGIT 10, OPTIONS 2-4)
ST1-1: N.C.	ST1-1: V A.C. HIGH	SIGNAL INPUT:
ST1-2: N.C.	ST1-2: V A.C. LOW	ST1-1: SEE TEXT
ST1-3: - LOOP	ST1-3: A A.C. HIGH	ST1-2: SEE TEXT
ST1-4. + LOOP	ST1-4: A A.C. LOW	ST1-3: SEE TEXT
		ST1-4: SEE TEXT
ST1-5: +5V	ST1-5: +5V	ST1-5: +5V
ST1-6: D- (B)	ST1-6: D- (B)	ST1-6: D- (B)
ST1-7: D+ (A) } RS485	ST1-7: D+ (A) } RS485	ST1-7: D+ (A) } RS485
ST1-8: GROUND	ST1-8: GROUND	ST1-8: GROUND
		POWER INPUT:
		ST1-9: V+/V A.C. HIGH
		ST1-10: V-/V A.C. LOW

EITHER USB OR RS485





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