NEW

NEW TECHNOLOGY™ METER

Current Loop, Signal or External Powered

Replaces: Any 2"x 3"x .5" Flat Pack

NTM-F
Pat. Pend.

NO PANEL CUT OUT.
JUST DRILL
⅜" Ø HOLE, PASS
WIRES THROUGH
AND CONNECT

FEATURES:

*Automatic Tricolor Bar with Intensity Control
*4 Digits at 0.3" (9.9.9.9 or -1.9.9.9)
* InPt FAIL Alarm with Run Time Stamp
*Self Diagnostics
*Configurable Bar Direction (Up/Down/\ Center Zero)/Pointer
*Only 100mW@5VDC!
*Intensity Control
* Math functions (+, -, x, √, ÷, X-Y tables, polynomials)
*Averaging: None to 255
*Addressable: 8 Characters
*Many Power Input Options
(External Powered Models Only)
* >30 Isolated Input Signals

ALL MODELS:

*Lifetime Warranty

Build Your Own Part Number/Receive a Quote at:
http://www.otekcorp.com/configurator/nts/

DESCRIPTION: The **New Technology Meter** (**NTM**) 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 **NTM** external power series features over 30 signal conditioners (1" square) which are house in many industry standard packages to replace form, fit and function any analog or digital panel meter. If not, we'll make it!

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

The **NTM-F** is available in a loop (4-20mA), A.C. signal or external power version. The external power versions include >30 signal conditioners and isolated input power options. Standard factory set color changes are: red: <10, >90%, yellow: <20, >80%, green: >20, <80% of F.S. Use digit 14, option 9 for custom configuration (you can change it with simple commands).

NOW 10CFR50 APP. B & 10CFR21 & NEI 08-09 (Cyber Security) Compliant

*Buy Direct From OTEK
*Free N.R.E. For Customs (Rules Apply)

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THE PRODUCTS

All New Technology products share the same innovative electronic circuit design. The difference between the models is their mechanical features (see Block Diagram and mechanical drawings). Some are displays only, some are single or multi channel, some can have relays, DACs, ethernet and flash memory, and some require an external power source. But all products contain the New Technology, which consumes less than 1% of comparable digitals (20-100mW for loop/signal powered versions) and approaches the power consumption of analog meters.

WHAT CAN YOU DO WITH OTEK'S NEW TECHNOLOGY?

Note on Otek's Powerless™ Technology: If your signal cannot supply ≥15mW (~ 5V/3mA), contact us or use external power models.

1. One Channel Models: -0, -4, -B, -D, -F, -H, -L, -M, -N, -P, -S & -X: Implement any math function, X-Y table (25 point), polynomials (9th order), offset, tare, zero, scale, log & anti-logarithmic to affect the unit's display at will. Some examples are: change the display & data using any combination as commanded by your algorithm, such as +/-/X/÷/√ or set a variable or linearize the display using X-Y tables or polynomials. This works well for odd shape containers. You can also change the reading from ◦F to ◦C or ◦K or compress/expand the display (and data out) using the log and antilog functions. In addition, you can change the factory default alarm pointers and colors or delete them. Zero & Span potentiometers **are included** for manual adjustment. **Note:** Models -D and -F have internal USB serial I/O that is not accessible to the customer. Contact Otek for access.

OTEK's New Technology series is only limited by your needs and imagination. Just give us a call at 520-748-7900 or email us at sales@otekcorp.com and give us the challenge to develop the best algorithm for your process.

2. Two Channel Models: -1, -2, -3 and -5 through -9 & -A: Note: Also available in models with 3 or 4 channels. Features include all those of the single channel models and each channel is 100% isolated from each other. In addition, you can add, subtract, multiply, divide, find the square root between channels. You can also use one channel to monitor/control the input signal and the second channel to indicate deviation, differential such as PID, alarm override or one channel setpoint can be used to control another channel function. You can also use one channel as a backup if the other channel becomes disabled or use them as volume & flow (√) monitors/controllers. The **New Technology** two channel models are also perfect as REM/RAD indicators/controllers (also see our RPM series with log-antilog functions for radiation monitoring).

Contact OTEK for algorithms and formulas or any idea you wish to share with our audiences via our Youtube or Facebook page posts.

3. Three Channel Models: -3, -5, -7, -8 and -A: Note: Also available on 4 channel models -5, -7 & -8. Otek's New Technology three channel models perform all the functions outlined in #1 and #2. Further, one channel can indicate the input variable and the other two channels can be setpoint indicators/controllers (Hi, Hi-Hi, Low and Low-Low limits), or subject the input/output to any mathematical function or algorithm such as **PID** or display the input vs. output and derivative, or switch scales when the input reaches a limit/band such as for flow-volume-pressure or temperature. Monitor Volts, Amps and Watts AC or DC or any of 3 variables, including Hertz, lead/lag, power factor, peak/valley or for synchronizing of power lines with the bipolar (center zero) tricolor bargraph.

The **New Technology** series brings **Process Automation Control** (PAC) within your reach and affordability. These models are compatible with any DCS/SCADA system using their USB/RS485/Ethernet I/O options and allow for ease of interface with wireless systems.

4. Four Channel Models: -5, -7 and -8: The four channel models offer all of the functions outlined in #1, #2 and #3. However, with the additional channel available, the New Technology barmeters rival flatscreens with superior HMI/MMI functionality and ease of viewing/analysis of any combination of 4 variables. For example, Volts/Amps/Watts/Hertz or temperature/pressure/pH/humidity. The four channel models can also be used to monitor/control the product of the other 3 variables, making them ideal for the petrochemical industry.

Data Logging? Some models offer optional µSD memory to record 24/7 anything available via the serial I/O. Maximum capacity (and growing) is 32 GB!

REDUNDANT CONTROL: Because all channels are 100% isolated from each other, you can use any multi-channels model as a redundant controller. If you need the "Democratic vote," algorithm, contact OTEK or see our Model **TRC** (Triple Redundant Controller).

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Industrial Grade Common Electrical Specifications

Input & Display:

*A/D: Accuracy, Linearity & Resolution: ± 0.5% of F.S. ±1 L.S.D. over entire temperature range of 0-60° C. 12 Bits, Conversion Rate: 40/sec, Averaging: 0-255, zero, span, offset, tare, math functions, 25 point X-Y tables and polynomials (9th).
*Bargraph: 51 Automatic Tricolor (R/Y/G) Segments
*Digits: Four Full Digits (9.9.9.9 & -1.9.9.9).
*Typical Power Consumption of Dis play: 10-100mW@3.3V-5V
*Temperature Coefficient: +/-50PPM/°C
*Operating Temperature: -10 to +60; Storage Temperature: -20 to +70°C
*CCMR: >90dB@50-60Hz
*Isolation: >500VDC to any other I/O & P.S.
*Humidity: 5-95% RH non-condensing
*Front Panel: NEMA 3. NEMA 4x on request.
*Failed Signal Detect: ~ 20 seconds after > 1 minute "On" @50% of F.S.
*Calibration Check: Two years recommended.

Note 1: See page 12 of the master catalog for environmental specs vs. housing, bar length and digit size.

Digit 5, Serial I/O & Memory:

Not available on the **NTM-F**.

Digit 6, Grade:

Option 0, Industrial & Plastic:

Option 0 is 94VO plastic.

NTM-F Description, Notes & Order

Other Important Data:

Math Functions: +, -, x, ÷, √, Polynomials to 9th order, 25 Point X-Y table, zero, offset, span and tare. You can add, subtract, multiply, divide (etc.) one channel to/from another channel and display the result in the other channel (i.e. V (Ch.1) xA(Ch.2)=W(Ch.3).

Signal Failure Alarm: Requires approximately 1 minute of normal (mid-scale) operation for it to alarm the display and output the serial data after the signal (Powerless™) has ceased.

High Quality: No matter their size or number of channels all use the same (SV & V) firmware, hardware and commands. No matter their grade (Industrial, Mil-Spec, Nuclear) they all carry a **lifetime warranty.**

Outputs:

Not available on model **NTM-F**.

Note: All ±1 LSD and % full scale range unless noted.

Option 00 & 17 For Loop Power Only:

Option 00, 4-20mA Loop Powered: Burden: >3V@4mA, ≤5V@ 20mA; Range: 3-26mA; Accuracy & Linearity: ±0.5% of F.S.
Option 17: 10-50mA Loop Powered: Burden: >3V@10mA, ≤5V@ 50mA; Range: 3-50mA; Accuracy & Linearity: ±0.5% of F.S.

Options 01 Through 18, A. C. Signal Powered Only:

FUSE IT! Use external 1/2 ASB for Volts and 7 ASB for Amps.
Important Notes:

1) C.T. are sensitive and limited to the secondary (output) impedance. OTEK A.C. signal powered products present and input impedance of ~0.2 Ohms(~1V@5A). Use a 100:5 C.T. or greater and at <3.5 Amps secondary output.

Options 01 Through 18, A. C. Signal Powered Only:

Make sure your C.T. can drive a >0.3 Ohm load without saturating or losing linearity. Contact Otek for assistance. Best C.T. to use: >100:5 ratio.

2) All inputs for 50-60 Hz lines. Contact Otek for 400 Hz lines.

Option 01, VAC (P.T.): Burden: 0.2 Ohm & <100mW; Range: 30-140V/40-100Hz; Accuracy & Linearity: ±0.5% of F.S. Best operating range: 90-140VAC to specifications.

Option 02, 5 AMP A.C. (C.T.): Not available in **"-F"** case. See Note 1.
Option 03, Watts A.C. (C.T. & P.T.): Not available on **case -F**. See Note 1.
Option 04, Hertz VAC: Not available on case -F. Range: >30V<140V & >30<100Hz; Accuracy & Linearity: ±0.5% of F.S.
For 400 Hz lines, use option 04 and specify (04=400 Hz line) after the complete part number.

Option 05-14: Same as options **01** through **04**.

VAC/AC Signal Power Only:

Option 16, 7-140 VDC Signal Power: Now you can monitor and control your UPS, battery bank or power supply from 7-140VDC/VAC, with only power from the signal. The NTM requires >10<80mW (~3mA-20mA). Imagine the possibilities! Almost like analog (only signal wires), but with 21st century digital technology ready for your PAC/DCS/SCADA system. Scaling: 7-140VDC in =7.0-140.0 Digital Display & 5-100% bargraph with alarm pointers. See Digits 13 & 14 for custom calibration and scale.

Accuracy & Linearity: ±0.5% of full scale.

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INPUT SIGNAL SPECIFICATIONS (Digits 8 & 9)

VAC/AC Signal Power Only:
(Continued)

Option 17: 10-50mA Loop Powered: See Loop Power options in previous column.

Option 18: 10-500mADC Signal Power: Calibration: 10-500m ADC=10-500 & 5-100%. For other calibrations, use digit 14 and specify.

PROPORTIONAL CONTROL?
For proportional control, use a two (or more) channel model. Channel 1 is powered by your signal and the display signal (using a 4-20mA out) to drive the Channel 2 input. Channel 2's 4-20mA output allows you to control your generator. The result: Channel 1 display your AC signal and Channel 2 display it's 4-20mA output. Only Channel 2 needs power for its analog output and/or relays. Use part number NTM-(1, 2, 3, 5, 6,7, 8, 9 or A)??-269-?21-99). Note: "?"= any available option on Digits 5, 6 & 10 and specify (9=Ch 1 signal power, Ch 2 external power). Also see the new model **NTI**.

VAC/DC Signal Power Only:

Option 16, 7-140VAC/DC: Now you can
monitor and control your AC line, UPS, battery bank or power supply from 7-140VDC/VAC, with only power from the signal. The **NTM** requires >10<80mW (~3mA-20mA). Imagine the possibilities!

Almost like analog (only signal wires), but with 21st century digital technology ready for your PAC/DCS/SCADA system.

VAC/DC Signal Power Only:
(Continued)

Scaling: 7-140VDC in =7.0-140.0 Digital Display & 5-100% bargraph with alarm pointers. See Digits 13 & 14 for custom calibration and scale.

Accuracy & Linearity: ±0.5% of full scale.

Alarm Outputs (Signal Power): Open collector transistors (4) optional. See the ordering information on pages 7-8, digit 11, option 1. For relays, contact Otek (custom).

4-20mA Analog Output: Custom, contact Otek (requires >1 watt from input signal).

Option 17: 10-50mA Loop Power: See option 00 & 17 on page 3 (middle column).

Option 18: 10-500mADC Signal Power: Calibration: 10-500mADC=10-500 & 5-100%. For other calibrations, use digit 14 and specify.

AVAILABLE ON EXTERNAL POWER ONLY

Option 20: 4-20mA: The burden on the loop is only 0.5V@20mA (25 Ohm) and you can use the math functions for converting to flow, instantaneous or totalizer.
Accuracy: ±0.5% of F.S. ± 1 digit

Options 21-24: VDC: Input impedance is 1 Mega Ohms on all VDC ranges.
Input impedance 1M Ω
Range: Per Option
Accuracy & Linearity: ±0.5% of F.S. ± 1 digit

Options 25 & 26, mADC: Since the **NTM** is 2V full scale (2,000 Counts) the "Shunt" resistors used are 100 Ohms for 10mA and 10 Ohms for 100mADC.
Input impedance **25**: 50Ω; **26**: 5Ω;
Accuracy & Linearity: ±0.5% of F.S. ± 1 digit

Option 27, Watts DC:
VZin: 10M Ω/AZin: 1.0Ω, 5W
Range: 1W
Accuracy & Linearity: ±0.5% of F.S. ± 1 digit

Option 28, Watts DC (1Vx1V): VZin: 1M for both inputs
Range: 0-1V
Accuracy & Linearity: ±0.5% of F.S. ± 1 digit

Option 29: Custom: Use this option to describe any custom input, scale or modification to the **NTM** and contact us for feasibility and cost.

Options 30-34, Volts RMS: Here we use a **True RMS-DC** Converter for accurate (± 0.1%) measurement of sine waves up to 10KHz. For 10-20KHz and SCR accuracy is ± 1%.

VRMS: Zin: 1MΩ
Range; per options;
Accuracy & Linearity: ±0.5% of F.S. ± 1 digit

Options 35-37, Amps RMS: We use a **True RMS-DC** Converter for accurate (± 0.1%) measurement of sine waves up to 10KHz. For 10-20KHz and SCR accuracy is ± 1%.

Zin: **35 (0.1A)**: 2Ω; **36 (1A)**: 0.2Ω; **37 (5A)**: 0.04Ω; Range: Per option
Accuracy & Linearity: ±0.5% of F. S. ± 1 digit

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INPUT SIGNAL SPECIFICATIONS (Digits 8 & 9)

AVAILABLE ON EXTERNAL POWER MODELS ONLY

Options 38 & 40, Watts RMS:
Here we use a **True RMS-DC** Converter for accurate (± 0.1%) measurement of sine waves up to 10KHz. For 10-20KHz and SCR accuracy is ± 1%. Input impedances vs. range are the same as for VDC & mADC ranges.

Option 38 (1Vx1VAC):
Zin: 1MΩ for both inputs Range: 1V RMS
Accuracy & Linearity: ±0.5% of F.S. ± 1 digit

Note: Always use P.T. & C.T. for options 33, 34, 40, 42, 43 & 44.

Option 40 (120VACx5AAC C.T.):
Zin: 1M for V & 0.04Ω for I
Range: 0-750W
Accuracy & Linearity: ±0.5% of F.S. ± 1 digit.

Note: Option 40 (120V/5A) includes the shunt (0.04 Ohms/20W) on connector only for 5A C.T.

Options 41-44, Hertz: We use an **F-V** to accept frequencies up to 20KHz and amplitudes from 1-400V peak or dry contact or open collector transistor (O.C.T.). For 50 to 440 Hz power line frequency measurement, use Option # "44."

Option 41 (10KHz/5V Logic):
Zin: 1M
Range: 30-10KHz
Accuracy & Linearity: ±0.5% of F.S. ± 1 digit

Option 42 (120V, 40-100Hz):
Zin: 1M
Range: 50-150VC/30-100Hz
Accuracy & Linearity: ±0.5% of F.S. ± 1 digit

Option 43 (240V, 30-100Hz):
Zin 1 M; Range: 100-260V/30-100Hz
Accuracy & Linearity: ±0.5% of F.S. ± 1 digit.

Option 44 (120V, 500 Hz):
Zin: 1 M
Range: 50-150V/300-500Hz
Accuracy & Linearity: ±0.5% of F.S. ± 1 digit

Option 45: Strain-Gage (≥300 < 4K Ohm): These are typically "Monolithic" **S-G** that require constant voltage (preferably) excitation. We use 4.096V for high stability and accuracy. Use option 29 and **specify** your S-G sensitivity and the **NTM** display at Zero and Full Scale.

Excitation: 4.096V, 50 PPM/°C
Range: ±300-4K Ω
Accuracy & Linearity: ±0.5% of F.S. ± 1 digit.
Note on S-G: Some S-G offer +/- 1VDC or 4-20mA condition output. Use Option 29 and specify.

Option 47: RTD (PT100): Note: For options 47 & 48 you can change °C to °F and RTD type via serial port.

We excite your 2 , 3 or 4 wire RTD with 200µA to avoid the "self heating" effect. The range of the **NTM** is the same as your **RTD** typically -200°C to +800°C (-328 + 1562°F).

Option 47: RTD (PT100): (Continued)

You can place the decimal point at will (typically -200.0 to 800.0. The **PT100** has a temperature coefficient of 0.00385 Ohms/Ohm/°C. (For legacy 0.00392 TC (known as ANSI 392) contact **OTEK** and use Option "29".
Accuracy: ±0.5% of F.S. ± 1 digit, plus sensor's error.
Note: For 2 wire, jump - S to -E and +S to +E. For 3 wire only jump -S to -E.

Option 48: RTD (PT1000): Same as PT100 except it is 1000 Ohms at 0°C instead of 100 Ohms @ 0°C. The same technique is used for copper **RTD** (10 Ohm), contact **OTEK**. Same connection as Option 47 apply.

Accuracy: ±0.5% of F.S. ± 1 digit, plus sensor's error.

Note: For long distances (> 300')use a 4-20mA transmitter such as our model **NTY** from our **N**ew **T**echnology series.

Option 50: Thermocouple (Type J):
This **TC** has a range of -210 to + 760°C (-350 + 1390°F). Its color is white (+) and Red (-), cold junction (CJ) is at the connector. Make sure the connections from the **NTM** and your **TC** are as close to the **NTM** entrance as possible to avoid errors. If you short out the **NTM's** +**TC** & -**TC** together, the **NTM** will read the ambient temperature at the junction due to its built-in C.J.C.
Note: You can change °C to F and TC type via serial port.

Accuracy: ± 2° F.S. of signal input.

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INPUT SIGNAL SPECIFICATIONS (Digits 8 & 9)

AVAILABLE ON EXTERNAL POWER MODELS ONLY

Option 51: TC (Type K): This is yellow (+) and red (-) and has a range of -270 + 1370°C (-440 + 2500°F). The same notes as Option 50 apply.
Accuracy: ± 1° F.S. of signal input

Option 52: TC (Type T): This blue (+) and red (-) **TC** has the range of -270° + 400°C (-440 + 750°F). Same notes as Option 50 apply.

Accuracy: ± 2° F.S. of signal input.

Option 53: pH (Acidity): We use a FET input (10^{15}) amplifier and calibrate the **NTM** for 0-14.00 pH using the Industry's standard ± 413 mV = ± 7pH co-efficient.
Note: Not temperature compensated, contact OTEK for auto temperature compensation.
Accuracy: ±0.5% of F.S. ± 1 digit

Option 54: ORP (Oxygen Reduction Potential): Our FET amplifier (10^{9}) accepts the industry standard 2000mV F.S. of the probe and the **NTM** displays it in % (0-100.0%).

Accuracy: ±0.5% of F.S. ± 1 digit

Option 55: %RH: This conditioner is designed to interface to a typical (capacitance type) 2-3 pF/% of **RH** made by several manufacturers. Use Option "29" and contact **OTEK** to specify your sensor's specifications.
Accuracy: ± 0.5% RH of signal input.

Option 56 Resistance (0-10K Ohm): Want a simple 4-20mA transmitter? Just connect a 10K Ohm (others on request) potentiometer to the **NTM** and control any 4-20mA input valve, motor, transducer, etc. Accuracy & Linearity is ±0.5% of F. S. ± 1 digit; Standard Calibration: 0-10K Ohms=4-20mA. Use option #29 and specify your calibration. Ideal for linear transducers.

Option 57, 10-50mA Range: 10 Ohms input resistance
Accuracy & Linearity: ±0.5% of F.S. ±1 Digit

Option 58: Serial Input Remote Display/Controller:
Not available on the **NTM-F.** Contact Otek for customs.

Digit 10 (Power Input):

LOOP & SIGNAL POWER ONLY:

Digit 10, Option 0, Powerless, No Power Required: The **Input Fail** detect/Alarm (patent pending) flashes the display "INPT FAIL (InPt FAIL)" and transmits this serial message for ~20 seconds, after which it will cease. This feature is available in all models. If desired on powered models, use option **9** on Digit **14** and specify "input fail detection." Signal Fail Requirement: Unit must be "On" for at least 1 minutes at >50% of full scale for it to operate.

EXTERNAL POWER ONLY:

Digit 10, Options 2, 3, 4; Not available on the **NTM-F**.

Digit 10, Option 5, Non-Isolated-5VDC: 5VDC is used to drive the relays (<50mA/relay) and/or the DAC via internal isolated 5-30VDC-DC (<200mA). If you order relays and analog out, you will need ~300mA/channel. This option is also isolated from the input signal.

Digit 10, Option 6, Non-Isolated 7-32VDC: Same as option **2** but with wide input range of 7-32VDC. Efficiency: >75%.

Digit 11 (Control Outputs): Not available on model **NTM-F.**

Digit 12 (Analog /Power Output): Not available on model **NTM-F.**

Important Note on A.C. Powerless

The **NTM, UPM** & **NT** Series can extract energy from your A.C. signal to power itself and opto isolated serial, optional O.C.T. (Digit 11, options 1, 3, 5 or 7), and to power the optional 4-20mA output (Not 20-4mA out) from a wide input range. External power is required to power the optional relays (Digit 11, options 2, 4, 6 & 8) (200mW each). If you need relays, either use the external powered options on Digits 8 & 9 (33, 37, 40 or 42) and the Digit 10 power input options (1-4) or use Powerless™ options 01-04 on Digits 8 & 9 and Power Input option 09 (custom) on Digit 10 and specify (09=Power for relays and DAC). Result: The signal will power the instrument and will include our patented **Signal Fail Detection & Alarm**. The relays and analog output are powered by the external power option (all 100% isolated).

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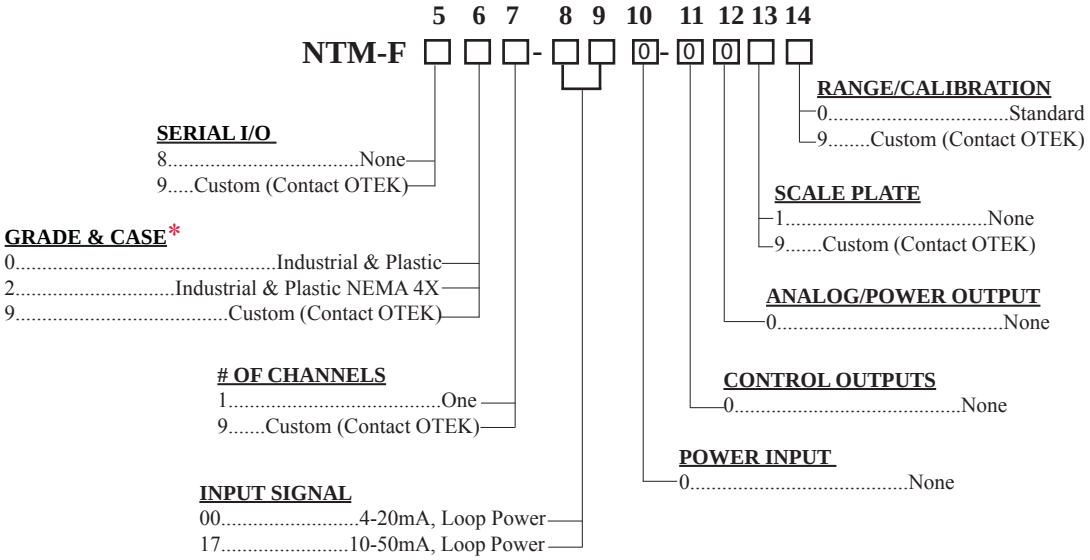
NTM-F LOOP POWER VERSION ORDERING INFORMATION 5-1-17

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

1 CHANNEL LOOP POWERED DISPLAY

OTEKS FPM/516 (2" x 3") Case

NTM-F



NTM-F SIGNAL POWER VERSION ORDERING INFORMATION 5-1-17

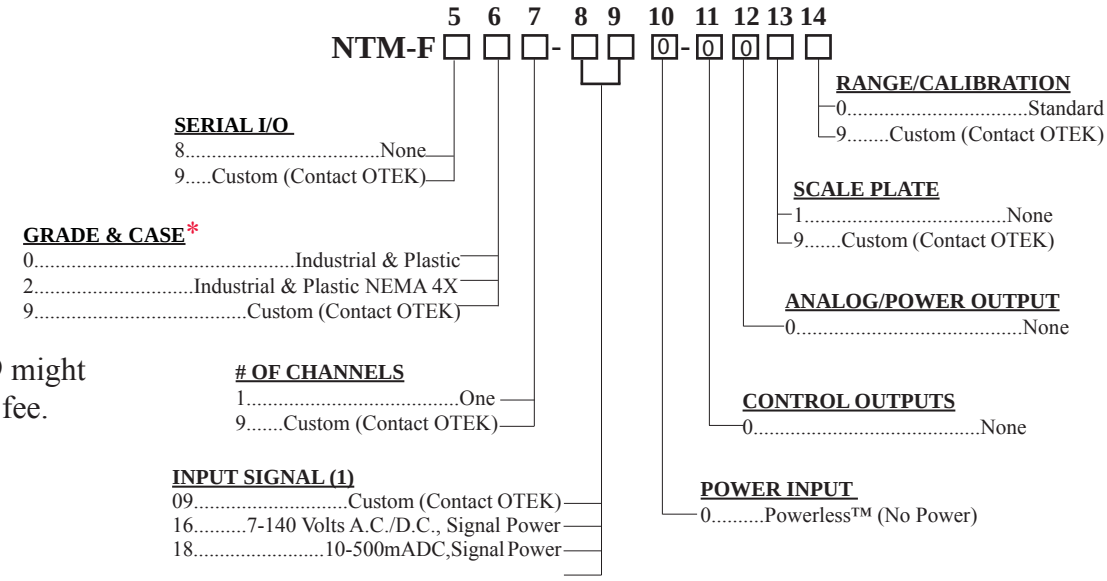
NOTE:

1. For other ranges (i.e. 400 Hz) use option 9 and specify.

1 CHANNEL SIGNAL POWERED DISPLAY

OTEKS FPM/516 (2" x 3") Case

NTM-F



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

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NTM-F EXTERNAL POWER ORDERING INFORMATION 5-1-17

NOTE:

1. Options 02 through 14 on Digits 8 & 9 are not available on the NTM-F (Digit 4, option -F).

1 CHANNEL EXTERNAL POWERED DISPLAY

OTEKS FPM/516 (2" x 3") Case

NTM-F

NTM-F 5 6 7 - 8 9 10 - 11 12 13 14

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

SERIAL I/O (1)
- 8.....None
- 9.....Custom (Contact OTEK)

SCALE PLATE
- 1.....None
- 9.....Custom (Contact OTEK)

GRADE & CASE*
- 0.....Industrial & Plastic
- 2.....Industrial & Plastic NEMA 4X
- 9.....Custom (Contact OTEK)

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

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

CONTROL OUTPUTS
- 0.....None

POWER INPUT (1)
- 5.....Non-Isolated 5VDC
- 6.....Non-Isolated 7-32VDC
- 9.....Custom (Contact OTEK)

INPUT SIGNAL (1, 2)
- 20.....4–20mA F.S.
- 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) F.S.
- 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)
- 57.....10-50mA F.S.
- 58.....None (Serial Input Remote Meter)

NOTES (Continued):

2. For 400 Hz line, use option 29 and specify input. Peak & Hold to 50KHz function on request.

Build Your Own Part Number/User's Manual or Receive a Quote at: **http://www.otekcorp.com/configurator/nts/**

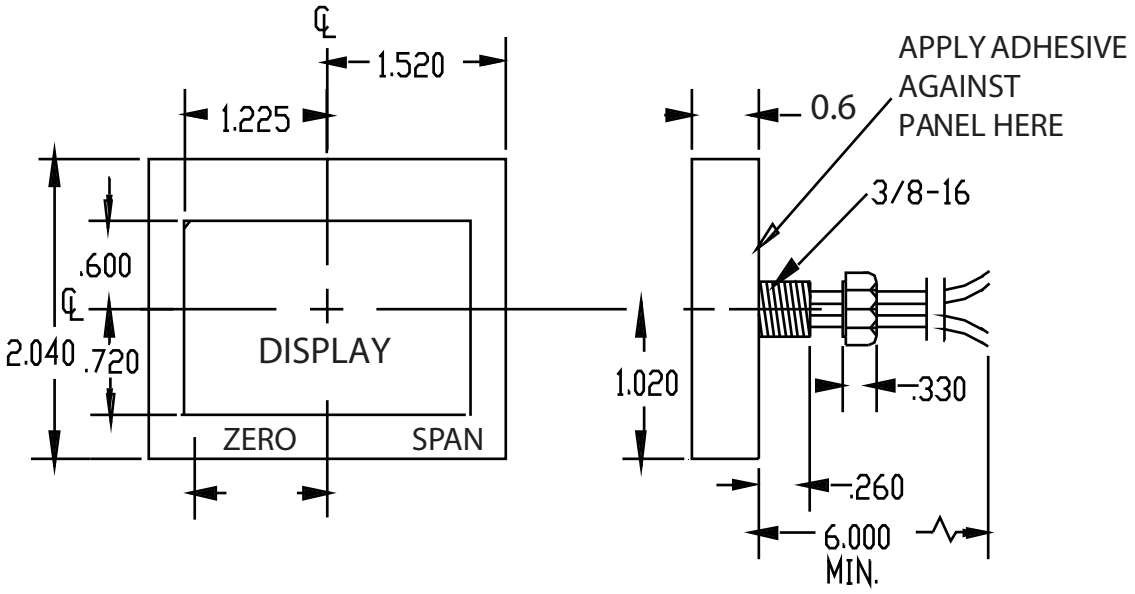
520-748-7900
FAX: 520-790-2808
E-MAIL: sales@otekcorp.com
http://www.otekcorp.com

OTEK™ CORP.
SINCE 1974

4016 E. TENNESSEE ST.
TUCSON, AZ. 85714 U.S.A.

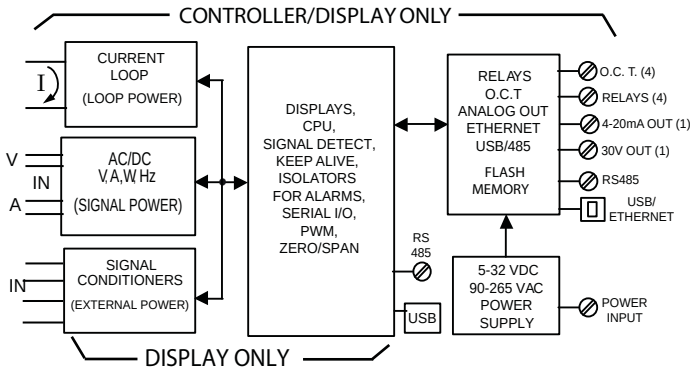
MADE IN USA

NTM-F MECHANICALS AND TYPICAL CONNECTIONS



LOOP POWER (DIGITS 8 & 9 OPTION 00)	SIGNAL POWER (DIGITS 8 & 9 OPTIONS 01 & 04)	EXTERNAL POWER (DIGIT 10, OPTIONS 2 & 3)	
		OPTION 2: 5 V D.C.	OPTION 3: 7-32 V D.C.
RED: + LOOP BLACK: - LOOP	WHITE: V A.C. HIGH BLACK: V A.C. LOW	RED: + 5 VOLT BLACK: GROUND YELLOW: + SIGNAL GREEN: - SIGNAL	BLUE: 7-32 V D.C. BLACK: GROUND YELLOW: + SIGNAL GREEN: - SIGNAL

NEW TECHNOLOGY METER BLOCK DIAGRAM/CHANNEL



Mounting Instructions:
1. Drill a 3/8 - 1/2" diameter hole.
2. Attach supplied double sided tape to back of NTM.
3. Pass wires through hole.
4. Align and Press NTM on panel (that is all!)
5. Don't pull on wires (26 ga)!

DOWNLOADS:
For manuals, user software or drivers:
www.otekcorp.com

SEE CUSTOMIZED USER'S MANUAL FOR SPECIFIC CONNECTIONS at:
http://www.otekcorp.com/configurator/nts/

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