

NEW

CYBER SECURITY SAFE

**100% ANALOG METER REPLACEMENT
FOR SIGNAL & EXTERNALLY POWERED:
Current Loops, AC (V, A, W, Hz) and DC (V, A & W)
NQA1, APP. B & MIL/AEROSPACE GRADES AVAILABLE**

SSAM-N
(Patent Pending)

FEATURES:

- * Cyber Security Safe (No Digital Components)
- * 101 Bars and Numerical Display
- * Unlimited Custom Colors with pure white LEDs (See P. 6)
- * Custom "Colored" Displays
- * Post Mortem Signal Fail Alarm
- * Customs Welcome
- * Lifetime Warranty

NOW WITH ALARMS & 4-20mA OUT



**REPLACES DB40 F.F.&F.
ANSI 4" SWITCHBOARD**

SPECIFICATIONS (@25° C)

(Preliminary)

- * Accuracy: Digits: $\pm 0.5\%$ of F.S., ± 1 LSD
- * Accuracy: Bar: $\pm 1\%$ of Full Scale
- * Conversion Rate: 3/second
- * Display Brightness: Adjustable 50-100%
- * Signal Power Required: 10-100mW
- * Input Signal Range: Current Loops: 3.6-26 or 9-55 mA; VDC: 7-130V; VAC: 30-140V; AAC: 1-4A; WAC: 100-400W; Hertz: 30-450 Hz
- * **Note:** You must use C.T. & P.T. with all A.C. Signal Powered options.
- * **Note:** If your signal can produce >10 mW, you can use the **SSAM** or contact Otek.
- * Temperature Coefficient: ± 200 PPM/ $^{\circ}$ C
- * Operating Temperature: -10 to +60; Storage: -20 to +70 $^{\circ}$ C
- * CCMR: >90 dB@50-60Hz
- * Humidity: 5-95% RH non-condensing
- * Front Panel: NEMA 3. NEMA 4X optional
- * Failed Signal Detect: ~ 20 second duration after > 1 minute "On" @ $>50\%$ of F.S.
- * Calibration Check: 2 years recommended.

Note 1: Electrical specifications for E and M grades are the same as Industrial, unless otherwise specified and accepted.

Powerless™ Controller:

Yes! You can replace 1:1 analog meters powered by the signal and have it control your process all in one. The **SSAM** offers optional 4-20mA current loop output, open collector NPN transistors (up to 2) and a 1 Amp S.P.D.T relay (up to 2) while it's signal powered and its controlling outputs are externally powered. See page 5.

HIGHLIGHTS:

- * No Microprocessors, just CMOS Logic \therefore Not **cyber security** vulnerable.
- * 100% Signal Powered (like analog meters) for 4-20 & 10-50mA current loops, AC Volts, Amps, Hertz and Watts and DC V, mA & Watts
- * Our patented Signal Failure Alarm blanks its display and leaves the middle dashes (G) on.
- * 100% Form, Fit & Function (wire-by-wire) plug & play replaces analog meters
- * 101 LED segment bar for 1% resolution with custom colors for alarm zones (bar)
- * 4 1/2 digit (1.9.9.9.9) bright 0.6" LED display; 0.1% accuracy
- * Optional Isolated Alarms & 4-20mA Outputs. USB on request.

**Otek Maintains a
10CFR50
Appendix B Quality
Assurance Program**

How do we do it? We replaced any and all "digital assets," (microprocessors, etc.,) with old fashioned CMOS Logic (as defined by NEI 08-09), replaced them with the latest hardware and added our patented (and patent pending) technology. We married this to the most advanced LED technology (approaching organic LED) to give you super bright bargraph and numerical displays. These displays are visible across the room when viewed in a typical Instrument & Control Room (I&C) because we incorporate "pure white" LEDs only, with the option for custom tinted scale plates to meet your needs. Conclusion: The only analog portion of the **SSAM** is the input signal!

Why WHITE LEDs? The Power of the Powerless™! To design an automatic tricolor LED bargraph (as on our **NTM** series) it would require a microprocessor or excessive hardware. Our customer base, nuclear, MIL and aerospace, depends on our reliability for 100% operation 24/7, and access to spare units is not always an option. That's why we have designed the **SSAM** with identical hardware on all models and white LEDs. So if you need a spare for any function, location or input, all you do is change the scale plate (containing your custom color bands such as **red** for alarm, **yellow** for caution and **green** for normal), change the plug-in jumpers and recalibrate (if needed) the Zero & Span. That's all. One (1) model does it all, as long as its housing mechanical is the same! That's why we call it **SSAM**.

Otek specializes in customization and the reverse engineering of obsolete meters. Send us your challenge!

520-748-7900

FAX: 520-790-2808

E-MAIL: sales@otekcorp.com

<http://www.otekcorp.com>



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

As of 2/20/18

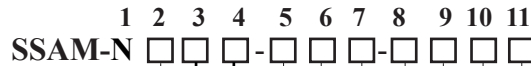
MADE
IN
USA



SSAM-N SPECIFICALLY DESIGNED FOR THE NUCLEAR PROMISE

2-20-18

ORDERING INFORMATION



Reserved For Future Control Functions

GRADE & CASE (1, 2)

- 0.....Industrial & Plastic
- 1.....Industrial & Metal
- 2.....Industrial & Plastic NEMA 4X
- 3.....Industrial & Metal NEMA 4X
- M.....To Mil-Spec & Metal (Contact OTEK)
- E.....To EPRI-Nuclear & Metal (Contact OTEK)
- 9.....Custom (Contact OTEK)

RANGE/CALIBRATION

- 0...Standard (0-F.S. & 0.0-100.0)
- 9.....Custom (Contact OTEK)

SCALE PLATE & COLORS (3, 5)

- 0.....Standard (Percent & All Green)...See Fig. 1 on Page 5
- 1...Tricolor (Percent & Red/Yellow/Green)...See Fig. 2 on Page 6
- 9.....Custom (Contact OTEK)

BAR & DIGIT (3)

- 0.....Digits Only
- 1.....Bargraph Only
- 2.....Bargraph & Digits
- 9.....Custom Colors (Contact OTEK)

4-20mA RETRANSMISSION (4)

- 0.....None
- 1.....Included
- 9.....Custom (Contact OTEK)

Note: Digit 7, Option 1 (4-20mA Out) requires 7-32VDC@25mA.

INPUT SIGNAL (ALL SIGNAL POWERED)

- 00.....4-20mA Current Loop (Powerless™)
- 01.....Range: 50-140.....Volts A.C.
- 02.....Range: 1.3-4.....5 Amps A.C.
- 03.....Range 80-600.....Watts A.C.
- 04.....Range: 50-140V/30-70.....Hertz A.C.
- 09.....Custom (Contact OTEK)
- 16.....7-90 Volts A.C./D.C., Signal Power
- 17.....10-50mA, Current Loop (Powerless™)
- 18.....70-130 Volts A.C./D.C., Signal Power

EXTERNAL POWER INPUT SIGNAL (4)

- 20.....4-20mADC External Power
- 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 (10KHz/5V Logic) F.S.
- 41.....Frequency (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.....2, 3 or 4 Wire.....RTD (PT100)
- 48.....2, 3 or 4 Wire.....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.

ALARM (HI-LO) OUTPUT (4)

- 0.....None
- 1.....30V/30mA O.C.T. (1 Each)
- 2.....30V/30mA O.C.T. (2 Each)
- 3.....1A S.P.D.T. Relay (1 Each)
- 4.....1A S.P.D.T. Relay (2 Each)
- 5.....1 O.C.T. and 1 Relay
- 9.....Custom (Contact OTEK)

Note: Digit 6, Option 2 (Relay) requires 5VDC@50mA each.

POWER INPUT

- 0.....Signal Power (For Digits 3 & 4, options 00-17 only)
- 1.....Non-Isolated 5VDC Power (For Digits 3 & 4, options 20- 57)
- 2.....Isolated 5VDC Power (For Digits 3 & 4, options 20- 57)
- 3.....Isolated 7-32VDC Power (For Digits 3 & 4, options 20- 57)
- 4.....Isolated 90-265 VAC Power (For Digits 3 & 4, options 20- 57)
- 9.....Custom (Contact OTEK)

Notes:

1. Grade 0: Plastic Case; 1. Metal case; M: To agreed-to MIL-Stds (Contact Otek); E: To agreed-to EPRI standards (Contact Otek); 9. Custom (Contact OTEK).
2. Otek will build to certain Nuclear or MIL-Standards but testing and confirmation of compliance, if required, will be quoted as a separate line item.
3. For custom colored translucent scale plates for the bargraph and digit section, use Digit 9, option 9 and contact Otek.
4. Digit 6 options 1, 2 & 5 for NPN Open Collector Transistors (OCT) require external VCC <30VDC <30mA sink or source. Options 3, 4 & 5 require external 5VDC@50mA/relay.
5. The display is available as digits only (option 0), bar only (option 1), or both bar & digits (option 2). The standard color for bar & digits are all green. Use Option 9 on Digit 9 for custom colors; specify and provide colored drawings. See photos on pages 5 & 6.

**BUY CLASS 1E
DIRECT
FROM OTEK AND
SAVE ~50%!**



GRADE (DIGIT 2):

Options 0 & 2 are 94VO black plastic. Options 1 & 3 are 6061 aluminum nickel plated and black powder coated bezel only, which allows you to make electrical contact with your grounded panel via its case. Option **M** is to customer specified MIL-Stds and uses the metal case of option I. Option **E** is to **EPRI 102323 (Rev C)**, plus your specified and accepted nuclear standards. See notes #1 & #2 of the ordering information on page 2.

Class 1E; 10CFR50, Appendix B: Otek has been approved by major nuclear power plants as a trusted supplier of Class 1E as per 10CFR50, Appendix B and 10CFR21. Please contact us for more information.

SIGNAL POWERED (SIGNAL INPUT) OPTIONS**INPUT SIGNAL SPECIFICATIONS (DIGITS 3 & 4)**

Note: All ± 1 LSD and 100% full scale range unless noted and refers to numerical display, bar is ± 1 bar (1%).

OPTION 00 & 17 FOR LOOP POWER ONLY:

Option 00, 4-20mA Loop Powered: Burden: $>3V@4mA, \leq 5V@20mA$; Range: 3-26mA; Accuracy & Linearity: $\pm 0.5\%$ of F.S.

Option 17: 10-50mA Loop Powered: Burden: $>3V@10mA, \leq 5V@50mA$; Range: 5-50mA; Accuracy & Linearity: $\pm 0.5\%$ of F.S.

Options 01 Through 04, A. C. Signal Powered Only:

FUSE IT! Use external 1/2 ASB for Volts and 6 ASB for Amps. The SSAM has internal 1 Amp and 5 Amp fuses.

Important Notes:

1) **C.T.** are sensitive and limited to the secondary (output) impedance. OTEK A.C. signal powered products present an input impedance of ~ 0.2 Ohms. 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: $<100mW$; Range: 30-140V/40-70Hz; Accuracy & Linearity: $\pm 0.5\%$ of F.S. Best operating range: 90-140VAC to specifications.

Option 02, 5 AMP A.C. (C.T.): Burden: $<100mW$; Range: 0.5-4A Full Scale; Accuracy & Linearity: $\pm 0.5\%$ of F.S. Best range: 2-4 Amps. Maximum input: 5 Amps AC for 10 seconds.

Options 01 Through 04 & 16, A. C. Signal Powered Only: (Continued)

Option 03, Watts A.C. (C.T. & P.T.): Range: $>100<600W/50-60Hz$; Accuracy & Linearity: $\pm 0.5\%$ of F.S. at 90-140VAC & 1-4AAC. Best operating range: 100-500 Watts. For 400 Hz lines, use option 09 and specify (i.e. Option 09=400 Hz line) after the complete part number.

Option 04, Hertz VAC: Range: $>30V<140V$ & $>30<70Hz$; Accuracy & Linearity: $\pm 0.5\%$ of F.S. For 400 Hz lines, use option 09 and specify (i.e. option 09=400 Hz line) after the complete part number.

OPTIONS 16 & 18, VAC/DC SIGNAL POWER ONLY:

Option 16, 7-90VAC/DC: Now you can monitor and control your AC line, UPS, battery bank or power supply with only power from the signal. The SSAM requires $>10<80mW$ ($\sim 3mA-20mA$). Imagine the possibilities!

Scaling: 7-90 Volts in = 7.00-90.00 Numerical Display & 5-100% bargraph. See Digits 9 & 10 for custom calibration and scale.

Accuracy & Linearity: $\pm 0.5\%$ of full scale over temp. range.

Option 18: 70-130 VAC/VDC: Ideal for power line generators & battery banks up to 130 V.

Scaling: 70-130V=70.0-130.0

EXTERNAL POWER INPUT SIGNALS:

NOTE: Digits 3 & 4, Options 20-57 are available on the SSAM, but must be externally powered (at present). Select input option (20-57), then power input Digit 5, options 1-4 or 9.

Option 20, 4-20mA: Burden: <10 Ohm (0.2V); Range: 3-26mA; Accuracy & Linearity: $\pm 0.5\%$ of F.S. ± 1 Digit.

Options 21 through 24, VDC: Input impedance 1M Ω ; Range: Per Option; Accuracy & Linearity: $\pm 0.5\%$ of F.S. ± 1 Digit.

Options 25 & 26, mADC: Input impedance Option 25: 20 Ω ; Option 26: 2 Ω ; Accuracy & Linearity: $\pm 0.5\%$ of F.S. ± 1 Digit.

Option 27, Watts DC (1Vx1A DC): V_{Zin} : 1M Ω / A_{Zin} : 1.0 Ω , 5W; Range: 1W; Accuracy & Linearity: $\pm 0.5\%$ of F.S. ± 1 Digit.



NOTES AND DESCRIPTIONS (Continued)

INPUT SIGNAL SPECIFICATIONS (DIGITS 3 & 4)

Options 20 through 58, For Externally Powered Only: (Continued)

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

Options 30 through 34: VRMS: Zin: 1M Ω ; Range; per options; Accuracy & Linearity: $\pm 0.5\%$ of F.S. ± 1 Digit.

Options 35-37, Amps RMS: Zin: Option 35 (0.1A): 2 Ω ; Option 36 (1 A): 0.2 Ω ; Option 37 (5A): 0.02 Ω ; Range: Per option; Accuracy & Linearity: $\pm 0.5\%$ of F.S. ± 1 Digit.

Option 38: Watts RMS (1Vx1V AC/DC): Zin: 1M Ω for both inputs; Range: 1V RMS; Accuracy & Linearity: $\pm 0.5\%$ of F.S. ± 1 Digit.

NOTE: Always use P.T. or C.T. with H.V. high current lines.

Option 40, Watts RMS (120VAC P.T. x 5AAC C.T.): Zin: 1M for V & 0.02 Ω for I; Range: 0-600W; Accuracy & Linearity: $\pm 0.5\%$ of F.S. ± 1 Digit Note: Shunt resistor (0.02 Ω) supplied.

Option 41, Frequency (10KHz/5V Logic): Zin: 1M; Range: 30-10KHz; Accuracy & Linearity: $\pm 0.5\%$ of F.S. ± 1 Digit

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

Option 43, Hertz (240V, 30-100Hz): Zin 1 M; Range: 100-260V/30-100Hz; Accuracy & Linearity: $\pm 0.5\%$ of F.S. ± 1 Digit. Use P.T.

Option 44, Hertz (120V, 500 Hz): Zin: 1 M; Range: 50-150V/300-500Hz; Accuracy & Linearity: $\pm 0.5\%$ of F.S. ± 1 Digit. Use P.T. for 240V/400 Hz line. To order, use Option 09 and specify: 9=240V/400 Hz input.

Note on Strain Gage: Specify S-G, sensitivity, range (cal. resistor value) and calibration. Example: 350 Ohms, 2mV/V, 20mV=0-100%.

Options 45, Strain Gage ($\geq 300K < 4K$ Ohm) : Excitation: 4.096V, 50 PPM/ $^{\circ}$ C Range: $\pm 300-4K$ Ω ; Accuracy & Linearity: $\pm 0.5\%$ of F.S. ± 1 Digit.

Options 20 through 58: For Externally Powered Only: (Continued):

Option 47 & 48, RTD: 47: 100 Ω (PT100); 48: 1K Ω (PT1000); Range: same as RTD; Accuracy & Linearity: $\pm 0.5\%$ of F.S. ± 1 Digit; 2, 3 or 4 wire RTD. For 3 wire, connect -E to -S. For 2 wire, also connect +E to +S. Warning: Max distance to sensor: \sim 300 Feet (100M) or use our NTY or NTT transmitters.

Note for Options 47-52: Specify $^{\circ}$ F or $^{\circ}$ C calibration after part number. Default: $^{\circ}$ F (not field selectable).

Option 50, Type "J" TC: Range: -210 to 760 $^{\circ}$ C; Colors: red and white; CJC: Included; Accuracy & Linearity: $\pm 2^{\circ}$ C of F.S.

Option 51, Type "K" TC: Range: - 270 to 1370 $^{\circ}$ C; Colors: Yellow and red; CJC: Included; Accuracy & Linearity: $\pm 2^{\circ}$ C of F.S.

Option 52, Type "T" TC: Range: -270 to 400 $^{\circ}$ C; Colors: blue and red; CJC: Included; Accuracy & Linearity: $\pm 2^{\circ}$ C of F.S.

Note for Thermocouples (TC): Shorting out the +/-TC terminals will display the ambient temperature of the C.J.C. at the terminals.

Option 53, pH: Range: 0-14.00; Zin: $>10^{15}\Omega$; Temperature compensation: None; Accuracy & Linearity: $\pm 0.5\%$ of F.S. ± 1 Digit. Contact Otek for customs.

Option 54, ORP: Range: 0-2000mV; Zin: $>10^9 \Omega$; Accuracy & Linearity: $\pm 0.5\%$ of F.S. ± 1 Digit.

Option 55, % RH: Range: Per sensor; Input Type: 2-3 pF/% Capacitors; Accuracy & Linearity: $\pm 0.5\%$ of F.S. ± 1 Digit. State sensor's specifications. Contact Otek for customs.

Option 56, Resistance Range: 0-10K Ω =0-100%=0-100.0; Accuracy & Linearity: $\pm 0.5\%$ of F.S. ± 1 Digit. Ideal for linear transducers. Contact Otek for customs.

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



POWER SUPPLY (DIGIT 5):

Option 0 only for Powerless™ signal input options 00-17. **Option 1** for non-isolated 5VDC power; **Option 2** for isolated 5 VDC power; **Option 3** for isolated 7-32 VDC power; **Option 4** for isolation 90-265VAC, 50-60 Hertz. All options are $\pm 10\%$ input range.

Note: When ordering input options 20-57, power input options 1-4 or 9 must be selected (max power required is 200mW).

ALARM OUTPUT (DIGIT 6):

Important Note: The SSAM has provision for up to any 2 alarm outputs (if not used by other options).

Digit 6, Options 1, 2 & 5: Alarm Outputs (Signal Power): Open collector transistors (alarms). See the ordering information on page 2.

Alarms are opto-isolated NPN open collector transistors. One for **LOW** limit (LL) and one for **HIGH** limit (HL). They **sink** the load (max 30mA/30VDC) and are factory set for:

LL: $\leq 10\%$ of full scale (F.S.) and HL: $\geq 90\%$ of F.S., unless otherwise specified with order. If a custom setting is required, use option 9 and specify. **Example:** LL: $\leq 50\%$; HL: $\geq 90\%$. **Note:** Alarm settings are **NOT** field programmable (only as specified as ordered).

Digit 6, Options 3, 4 & 5 (Relays): SPDT 1A@120VAC/30VDC rated contact. Option 3: 1 each and factory set to turn **on** $\geq 90\%$ (HL) of full scale (F.S.). If option 4 is ordered, the extra relay is factory set to turn **on** $< 10\%$ of F.S. (LL). All other settings must be specified when ordering. They are not field configurable. Action (HI or LO) and set point value are factory set.

RETRANSMISSION (DIGIT 7): Must be externally powered (see Digit 5).

IMPORTANT NOTE FOR ISOLATED RETRANSMISSION: When used with Powerless™ (Digits 3 & 4, Options 00-17): Total 4-20mA input burden is increased to $< 10V$ and 4-20mA output must be externally powered. See Digit 5 for power input choices.

The SSAM can convert its input signal to isolated 4-20mA current loop output (patent #7,684,768) and it is factory set for :

Input Signal Option 00: 4mA out at 4mA input & 20mA out at 20mA input (retransmission).

RETRANSMISSION (DIGIT 7): (Continued)

Input Signal Options 01-04: 4mA out at 20% of input signal and 20mA out at 100% of input signal, per stated range on Digits 3 & 4.

Input Signal Options 16 & 17: It follows the input signal range (4-20mA out=7-140VDC or at 10-50mA signal input).

For Powered Input Signal Options 20-57: 4-20mA output = 0-Full scale input signal, as published (see ordering information digits 3 & 4). For custom outputs, use options 9 on Digit 7 and specify.

CALIBRATION: The SSAM has internal (behind the rear cover) zero & span 10-turn potentiometers to set the 4 & 20mA output range. By default (unless specified otherwise when ordering using Digit 10, option 9) the 4-20mA output is: Zero to Full Scale Input=4-20mA output.

DIGIT 8: BARGRAPH OR DIGITS OR BOTH?

The SSAM is available with digits only as a D.P.M. (Option 0) or with bargraph only like analog meters (Option 1) or both (Option 2). The bargraph section has a zero (0) bar that is also used as a “pilot” light to indicate “Loss of Signal” or “Below Range” input.

Power Fail Detect: the SSAM’s patented input signal failure detect/alarm uses the excess energy from the input signal to store energy and use it if/when the signal fails. The unit will remain “ON” without a signal for ~ 30 seconds. No more stuck needles.

SCALE PLATE COLORS (DIGIT 9):

Otek’s exclusive **Color-X™** technique allows you to choose specific color bands for any portions of the bargraph and digits. We use super-high efficiency **white** LEDs and we color the filter with transparent colored sections to meet your needs. See page 6 for selections. The **standard** bar and digit color is green. See the SSAM photo below. For typical customized colors, specify your custom bar and digit colors by using option 9 on Digit 9 (page 6). Digits are always green unless specified otherwise.



STANDARD COLOR
DIGIT 9, OPTION 0

Fig. 1



SCALE PLATE (DIGIT 9):

Standard scale plate printing is 0-100% (see picture on page 1). For custom scale printing, use option 9 on Digit 9 and specify.

RANGE & CALIBRATION (DIGIT 10):

Standard range and calibration is 0-100% of full scale per input signal selected on Digits 3 & 4. For custom calibration, use option 9 on Digit 10 and specify.

ISOLATED USB SERIAL OUTPUT (CUSTOM):

Contact Otek for serial **output only** via **USB** from the **SSAM**.

OTEK'S COLOR-X SYSTEM

AVAILABLE COLORS USING OTEK'S COLOR-X™ OVERLAY
(Select Digit 9, Option 9 and provide the range and color number(s).)

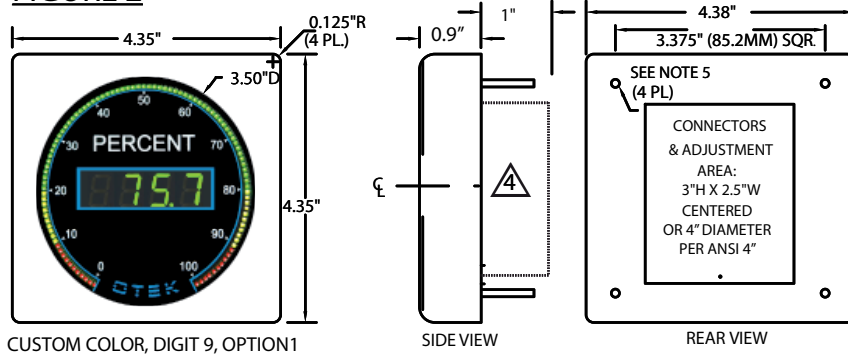
BROWN RED ORANGE YELLOW GREEN BLUE VIOLET GREY WHITE



Note: If required, specify the specific colors for the bar and the digits. Example (Digit 9, Option 9): Bar: 0-10 red, 11-20: yellow; 21-80: green; 81-90: yellow; 91-100: red. Digits: All blue.

SSAM-N MECHANICAL DRAWING

FIGURE 2



CUSTOM COLOR, DIGIT 9, OPTION 1

SIDE VIEW

REAR VIEW

PREFERRED PANEL CUTOUT: STD. NEMA 4:4.0" Ø

NOTES:

- STANDARD PANEL MOUNTING PER ANSI 4" (3.375") CASE CAN ALSO BE MOUNTED IN 1/4 DIN PANEL CUTOUT (92x92mm).
- CONNECTORS AND 3.375" STUDS SPACING MEET ANSI39.1 STANDARD FOR SWITCHBOARD METERS. CONNECTORS FALL WITHIN EXISTING "BARREL" (IF ANY) CUTOUT (4"Ø).
- WIRE: 26-16GA
- SHIELDED VERSIONS WILL EXTEND ~1.5" BEHIND THE PANEL.
- METAL VERSION HAS #8-32X 3/4" MOUNTING STUDS; PLASTIC HAS #4-40X1/2" MOUNTING STUDS.
- CLASS 1E IS 6061 ALUMINUM, NICKEL PLATED, WITH A BLACK FRONT WITH EMI/RFI FILTERED CONNECTORS PER EPRI 102323.

