FORM AND FIT REPLACEMENT FOR THE PRIME TECHNOLOGY 9224 MIL-SPEC BARGRAPH METER

- Anodized Aluminum Machined Housing
- 51 or 101 Segment Bargraph
- 4 (0.3"H) Digits with Decimal Points
- DC Analog Input with support for Strain-Gage, RTD, Potentiometer, Volts and Amps
- Programmable Excitation
- Communications of RS232C, RS422, or RS485
- High Density, D-SUB 15 Pin Gold Plated Male Connector
- Annealed Glass Front Lens
- EMI/RFI Front Panel Gasket
- Conformal Coated Boards

MODEL P9224

ORDERING INFORMATION

- **A** Display Style
  101 Segment Bar and 4 Digit Numeric ...0
  51 Segment Bar and 4 Digit Numeric.......1

- **B** Temperature Range
  Standard 0-60°C.................................0
  Extended -40 to +85°C............................E

- **C** Power Input
  9-36VDC.........................................0

- **D** Serial Interface (See note 1)
  RS232C Communications.......................232
  RS422 Half Duplex Communications.........422
  RS485 Half Duplex Communications.........485

- **E** Analog Input (See note 2)
  Not required....................................0
  DC Volts and Amps, 1 Channel.............DC1

- **F** External Intensity Control
  Not required....................................0
  PWM, TTL Level Signal.......................P
  Voltage Input Intensity Control..........V

**P9224-** **A B C - D - E F**

**Part Number Example**
P9224-000-485-00 calls for a single 101 segment tri-color bargraph display with a 4 digit numeric, standard 0-60 deg C operating temperature range, 9-36VDC power input and RS485 half duplex communications. Analog input and external intensity control are not included.

**Note 1:**
RS422 serial input version is receive only. Unit will not echo commands.

**Note 2:**
DC analog inputs support ranges from mVDC to 300VDC and from 0.01mA to 1 AMP DC (including 1-5VDC, 4-20mA) as well as RTD and Strain-Gage, Excitation is standard.
POWER INPUT
• 9-36VDC, Isolated to 500VDC, 3 Watts Maximum
• External fuse should be installed, Rated 4 Amps

ENVIRONMENTAL
• Operating Temp 0 to 60 Degrees C Standard
• Operating Temp -40 to 85 Degrees C Optional
• Storage Temp -55 to 95 Degrees C
• Humidity to 95% Non-Condensing

DISPLAY
• 4 Red LED Digits with Decimal Point 8.8.8.8.
• Display Range: -1999 to 9999
• Superb Visibility 7 Segment 0.30" High LEDs
• 51 or 101 Segment Tri-Color LED Bargraph

EMI CHARACTERISTICS (Pending qualification)
• Radiated Emissions EN55022 Class B
• Radiated Susceptibility EN61000-4-3 Criteria A; 10V/m
• Conducted Emissions EN55022 class B
• Conducted Susceptibility EN61000-4-6 Criteria A; 3VRMS
• EFT ; EN61000-4-4 +/- 4KV
• Surge ; EN61000-4-5 to +/- 2KV
• ESD ; EN61000-4-2 Criteria B +/- 4KV

SPECIFICATIONS
ANALOG INPUT (Typical at 25C)
• 24 BIT Low Noise Delta-Sigma A/D converter
• ANSI C39.1 standard Field selectable inputs support mADC, mVDC, VDC, RTD, Strain-Gage and Thermocouples. Input impedance is 1 Meg ohm minimum for voltage inputs
• Field selectable Excitation of 5V, 10V, 12V or 24VDC with 50mA source current as well as a constant current source up to 1.5mAADC with 2VDC of maximum compliance voltage
• Isolation 500 VDC to all other I/O
• Accuracy 0.05% +/- 2 counts for DC voltage or current
• Accuracy 0.2 deg C for RTD (10 ohm copper 0.00427, pt100 0.00385 and 0.00392, pt1000 0.00385, 120 ohm nickel 0.00672)
• Accuracy 0.8 deg C for Thermocouple inputs
• Linearity 0.01%
• Drift Approximately +/- 100 ppm per degree C from -40 to +85C
• Concurrent 50Hz and 60Hz noise rejection
• Programmable gain up to 128 for those really small signals
• Programmable sampling rate and smart filtering
• User programmable 9th order Polynomial and 25 point X-Y table Linearization
• Thermocouple Cold Junction Compensation accuracy +/- 0.5C
• Protected from external Transients to ANSI/IEEE C37.90.1
Power on

Perform lamp test (all segments on) and read eeprom data/checksum, compare. If good then use stored settings. If not good, retry read up to 3 times to insure corruption.

After 4 unsuccessful reads force unit to default mode CA=001, CB=9600, CI=100, mode PI bus, CR=OFF, CT=0 then display Err1 on numeric LED’s. For the Bargraph settings, DT=1, DP=3, BM=E, BS=0, BE=0.1, BC=A, BC=N, BA=OFF, BO=D, AC=N, ACn=A for all four alarms and A1-A4 values are all set to 0.

If checksum match is successful, turn on all DP’s to indicate a power on state. Note this will be affected by the CT command if no data is received within the timeout period.

### D15 PIN DESCRIPTION

Unit is shipped with the male connector installed CONEC P/N 15-002193 or equal

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<td>2. NC</td>
<td>7. TXD / DO-</td>
<td>12. Intensity Ctrl (PWM or VDC) + Input</td>
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<td>3. Intensity Ctrl GND</td>
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Note: Add terminating resistors to last unit if applicable.