Model PAC
Frequency Scaler & Pulse Isolator

The PAC series signal conditioners are two wire frequency to analog converters that convert a pulse rate input into a 4-20 mA output signal proportional to frequency or rate.

PAC-L (Low Range):
The PAC-L is intended for use with lower full scale input frequencies. Full scale frequencies of 15 Hz to 2000 Hz are possible. The unit includes both a contact closure input and an opto-isolated input. Output response time is selectable 1 or 10 seconds.

PAC-H (High Range):
The PAC-H is intended for high full scale frequencies. Full scale frequencies of 75 to 10,000 Hz are possible. This version includes a magnetic pickup compatible input and an opto-isolated input. Output response time is selectable 0.1 to 1 seconds.

The amplified frequency signal is then converted to an analog signal using a precision frequency to analog converter.

The output stage derives its power from the output current loop. The output stage converts the input signal into the desired output range. Multi-turn potentiometers provide for the necessary trimming of span and zero.

Specifications

Operating Temperature:
• 32°F (0°C) to 158°F (70°C)

Contact Closure Input (Low Range Models Only):
• Sensor Compatibility - Requires an isolated, contact closure
• Maximum Contact Voltage - 5 V
• Maximum Contact Current- 0.12 mA
• Nominal Pullup Resistance - 47 Kohm to 5 Vdc
• Frequency Range - 0-100 Hz

High Level Pulse Input (Low & High Range Models):
• Type: Opto-Isolated
• Logic 1: 4-30 VDC
• Logic 0: 0-1 VDC
• Frequency Range: 0-10 kHz
• Fault Protection:
  • Reverse Polarity Protection
  • Over Voltage Protection
• Isolation Voltage: 500 V
• Fast Transient Immunity: 500 V
• Maximum Rise Time: No Limit
• Maximum Fall Time: No Limit

Frequency to Current Conversion:
PAC-L:
• Range Selection: DIP Switch Selectable
• Available Ranges: 30 Hz, 60 Hz, 120 Hz, 240 Hz, 480 Hz, 960 Hz, 1920 Hz

Analog Output:
• Accuracy: ± 0.1% Span (@ 20°C)
• Output Type: Two Wire, Loop Powered
• Range: 4-20 mA (10 - 50 mA optional)
• Compliance Voltage: 10 to 40 VDC
• Loop Burden: < 10 VDC (less than 500 Ω)
• Trim Controls: Zero & Span, non-interacting
  • Span (20 mA) Trim Range: 50% to 100% of full scale
• Linearity: < ±0.1% Span
• Output Voltage Effect: < ± 0.002% Span/Volt
• Temperature Effect: < 200 PPM/C°
• Reverse Polarity Protected
• Noise Content: < 0.2% Span
• Response Time: 0.1, 1, 10 seconds (switch selectable)
• Over-current Limiting: 35 mA
• Output Loop Indicator:
  • LED illuminates when output loop is powered by proper polarity and blinks proportionally to the input frequency.

Mounting Styles:
• DIN Rail Mount:
  Plastic enclosure with a snap fastener for fitting to DIN 46 277 and DIN EN 50 022 assembly rails.
• NEMA 4X: 4.92" x 4.92" NEMA 4X Enclosure for wall mounting.
• Explosion Proof:
  Aluminum enclosure for:
  Class I, Division 1, Groups B, C & D
  Class II, Division I, Groups E, F & G.
### Options

**Example:** PAC L D ET DR-4

**Series**
- PAC = Pulse to Analog

**Range**
- L = Low Range
- H = High Range

**Mounting**
- B = Nema 4X
- C = Explosion Proof
- D = DIN Rail

**Options**
- ET = Extended Temp (-20° to 85° C)
- 50 = 10-50 mA output

**Accessories:** (add to end of part number)
- DR-4 = 4" DIN Rail