6-Digit Frequency Meter, Tachometer, Rate Meter, Timer, Pulse Totalizer, Process Meter & Totalizer with RS-232
PENTA P6000A

- Every 50 ms + 1 signal period
- Slower read rates for frequency averaging

PROGRAMMING FEATURES

- Scale factor from 99,999 to 999,999 (any decimal point, multiply or divide)
- Offset from 99,999 to 999,999 (any decimal point)
- HI and LO setpoints for control or alarm
- Programming via front-panel or RS-232
- Program stored in non-volatile memory
- Four levels of program lockout for security
- Fixed decimal point or autoranging

SIGNAL CONDITIONER CHOICES

- Dual-channel TTL with protection to 25 V
- Single-channel, isolated, with excitation
- Dual-channel, isolated, with excitation
- Single-channel, non-isolated, with excitation
- Analog input, isolated, 4-20 mA, 0-2 V, 0-10 V

COMMUNICATIONS & CONTROL

- RS-232 or 20 mA serial ASCII output (std)
- HI, LO, GO 150 mA open-collectors (std)
- Dual 8A Form C relays (opt)
- Parallel BCD output, isolated (opt)
- Analog output, isolated and scalable, 4-20 mA, 0-20 mA, 0-10 V (opt)

DISPLAY & MECHANICAL

- Six 0.56 in (14.2 mm) 7-segment LED characters
- Five-key programming front panel (std)
- Plain front panel (opt)
- Screw-clamp connectors for signal and power

1/8 DIN case

In its base configuration, the **P6000A** is a microprocessor-based, 6-digit, 1/8 DIN counter which can be configured by front-panel keys or by a personal computer as a frequency meter/tachometer, frequency-ratio meter, period/period- average meter, time-interval/time-interval-average meter or totalizer. It combines these five operating modes with ease of setup, wide dynamic range, six-figure crystal-based accuracy, and software scaling.

With the addition of an optional analog-to-frequency signal conditioner, the **P6000A** can become a software-scalable process meter with two setpoints and exceptionally wide zero offset capability. It can also become a 6-digit analog integrating totalizer.

The **P6000A** provides a five-key front panel, which can be used to select mode of operation, scale factor, zero offset and two setpoints for ON/OFF control or alarm. Setup parameters can be saved in non-volatile memory with four levels of front-panel lockout for program security. In addition, the **P6000A** can be programmed via RS-232. It can also report its own setup data and transmit ongoing readings and alarm status via RS-232 or 20 mA ASCII current loop. Modem support is built in for remote operation.

FLEXIBLE SIGNAL CONDITIONING

0. TTL-LEVEL PULSE INPUTS

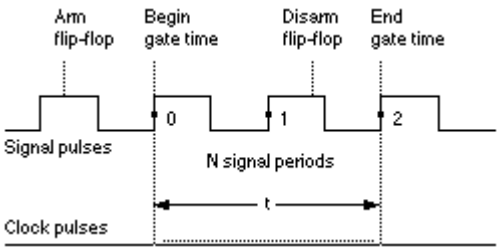
Dual non-isolated TTL/5 V CMOS-level input channels with protection to 25 V dc are standard and can accommodate frequencies up to 7 MHz. The inputs can be tied to contact closures by using a spare flip-flop available at the connector for debounce. They can also be tied to sensors with an open-collector NPN or PNP output if these are powered externally. Contact closures require an external 20 kOhm pull-up resistor. PNP sensors require an external 1 kOhm pull-down resistor.

1 & 2. ISOLATED SIGNAL CONDITIONER WITH EXCITATION OUTPUT

This almost universal signal conditioner is available in single- or dual-channel versions. It provides sensor excitation output plus AC or DC coupling, signal isolation to 350 Vp, and jumper-selectable low-pass filtering, debounce time and hysteresis. It allows the **P6000A** to be tied directly to passive magnetic pickups with output down to ±10 mV, to AC line voltages up to 240 V rms, and to NPN, PNP, NAMUR or contact-closure sensors all with a high degree of input protection.

3. NON-ISOLATED SIGNAL CONDITIONER WITH EXCITATION OUTPUT

This is an economical single-channel non-isolated signal conditioner which supplies power up to 16 V at 25 mA for direct 3-wire connection to NPN sensors, or 2-wire connection to NAMUR sensors (<1 mA ON, >3 mA OFF) and contact closures. It can also be used with magnetic pickups and other active voltage sources from 0 to 200 mV up to 60 V rms.



The **P6000A** measures frequency or period by counting the number of 11.059 MHz clock pulses during an actual gate time t, which corresponds to an intergral number of signal periods N. This technique allows high-accuracy low-frequency measurements. Frequency is calculated from N/t, period from t/N.

4. ISOLATED ANALOG-TO-FREQUENCY SIGNAL CONDITIONER

This signal conditioner accepts 4-20 mA, 0-5 V or 0-10 V analog signals and turns the **P6000A** into a process meter with isolated input, 6-digit scale and offset capability, two setpoints and RS-232. It also allows the **P6000A** to serve as an analog integrating totalizer, for instance to display volume based on the 4-20 mA signal from a flowmeter.

Part Number Builder

	(1)	(2)	(3)	
P6	**4**	**0**	**0**	**A**

Option Descriptions

(1) **Power**

Select

0 for 115 Vac, 49/440 Hz
1 for 230 Vac, 49/440 Hz
4 for 9.5 to 32 Vdc

(2) **Control Output Option**

Select

0 for None
1 for Isolated, tri-state parallel BCD output
2 for Dual 8 A form "C" SPDT relays
3 for isolated and scalable analog output

(3) **Signal Conditioner**

Select

0 for TTL/5 Vcmos. Single input for frequency and totalize modes
1 for Isolated signal conditioner single-channel with sensor excitation output
2 for Isolated signal conditioner dual-channel with sensor excitation output
3 for Non-isolated signal conditioner single-channel with sensor excitation output
4 for isolated analog to frequency converter with 24 Vdc excitation output