RATE / TOTAL / BATCH METERS

INF7

- **Rate and Total Simultaneously**
- **Batch Controller**
- **Real-Time Clock**
- **Square Root Programmable**
- **Isolated BCD Option**
- **Isolated analog input Option**
- **5 Open Collector Outputs Standard**

NEWPORT PRODUCT INFO
• MANUAL (HTML) - PDF Version
• QUICK START
• MECHANICAL
• PRICE
REQUIRES ADOBE ACROBAT - HELP

MADE IN THE U.S.A. Designed & Manufactured SANTA ANA California

CE UL Y2K YEAR 2000 COMPLIANT

The **INF7** is the ultimate 6-digit multi-functional process indicator/ controller. Each unit can be easily configured via the front-panel pushbuttons or optional serial communication boards, to be used as a ratemeter/totalizer, batch controller, or real-time clock.

Rate may be displayed in engineering units. In addition, average rate, which is a running average that works like a filter, is selectable to help eliminate noise, yet does not introduce a long delay for a step change in the input frequency response. With the optional analog input board, the INF7 can be configured to accept a signal, such as 4-20 mA dc, from any typical differential flow transmitter and extract the square root of this signal, providing a linear display in any engineering units desired. The INF7 can also be programmed as a single input batch controller. It can simultaneously count the batch, number of batches completed, and the grand total of pulses received. In addition, it has an internal timer for process time measurement displayed in HH MM SS format.

SPECIFICATIONS

Accuracy: ±0.1% @ 15-35°C
Step Response: 10 to 90% full-scale, 50 msec
Turndown Ratio: max. offset divided by minimum span, 1000 with 0.1% resolution; 100 with 0.01% resolution
Power: 115 or 230 Vac, 49-400 Hz; 10 to 32 Vdc
Power Consumption: 6 W nominal, 10 W max.

SIGNAL CONDITIONERS (Non-isolated TTL-level pulse input standard)

Threshold: 0.7 to 2.0 V
Frequency Ranges: 0.2 Hz to 20 kHz
Protection Level: 24 V
Trigger Slope: Positive
Connection (TTL): Plug-in screw terminal
Contact Closure Connection: plug-in screw terminal
NPN Open Collector Connection: plug-in screw terminal
Sensor Excitation (NPN): 16-30 V @ 70 mA non-regulated

ISOLATED PULSE INPUT WITH EXCITATION (Voltage input and passive magnetic pickup most popular)
Connection: plug-in screw terminal
Maximum Signal: 60 V rms with protection to 240 V
Sensitivity: 20 mV rms
Input Impedance: 75 K min
Hysteresis: 50 mV

NPN OPEN-COLLECTOR INPUT
Connection: plug-in screw terminal
Sensor Excitation: 12 V regulated

NAMUR INPUT
Connection: plug-in screw terminal
Sensor Excitation: 8.2 V
Internal Load/Source Impedance: 1 kOhm
Activated: <1 mA
Deactivated: >3 mA

CONTACT-CLOSURE INPUT
Connection: plug-in screw terminal
Sensor Excitation: 12 V regulated
Frequency Range: 10 on/off per second

ISOLATED ANALOG INPUT (optional)
Connection: plug-in screw terminal
Signal Range(s): 0-5 Vdc, 1-5 Vdc, 0-10 Vdc, 0-1 mA dc, 4-20 mA dc
Isolation, SIG GND to DIG GND: 354 Vp
Low-Level Shutoff: programmable
Non-Linearity Max.: 0.3% FS
Accuracy at 25°C: 0.05% FS
Temperature Coefficient: 50 ppm/°C

To Order (Specify Model No.) *Prices Shown in U.S. Dollars*

Model No.	Control Output	Analog Output	Serial Output	Input	Price
INF7-01000-R	No	No	No	Rate	**$470**
INF7-01010-R	No	Yes	No	Rate	**$580**
INF7-01200-R	7 A Relays	No	No	Rate	**$545**
INF7-01210-R	7 A Relays	Yes	No	Rate	**$655**
INF7-01211-R	7 A Relays	Yes	RS-232	Rate	**$765**

MICROPROCESSOR-BASED DIGITAL COUNTER

INF8

- **Quadrature, Up-Down and Angular Counting Models**
- **Grey and Binary Absolute Counters Also Available Upon Request**
- **4 Open Collector Outputs, Standard**
- **Optional Four 5A Relays**
- **±10 V and 0/4-20 mA Analog Outputs, Standard**
- **6-Digit Display**
- **RS-232 and RS-485 Communications Available**

MADE IN THE U.S.A.

Designed & Manufactured SANTA ANA California

Y2K YEAR 2000 COMPLIANT

The new **INF8** counter is programmable for use as a quadrature counter, up-down counter, or angular counter (absolute code counter models are also available, consult sales for details). This instrument is designed for use with digital encoders, inductive, capacitive or optical pick-ups and ultrasonic sensors. In quadrature counting mode, the INF8 can be used with linear or rotational encoders. Counting direction is automatically selected by the momentary phase angle of the input.

The up-down counting mode is designed for fast bi-directional counting applications, while the angular counting mode uses an incremental encoder and counts quadrature pulses bi-directionally between 0 and 360°. The unit can be configured for either 1° or 0.1° resolution. Absolute code counter models can be used with Grey or Binary code resolvers. Models are available for single or multi-turn serial or parallel inputs. Parallel input models are available with 9 to 14-bit resolution, while serial input models are available with 8 to 19-bit resolution.

SPECIFICATIONS

INF8Q–Quadrature Counter: counting direction selected automatically by phase position of input signals A and B
INF8U–Up-Down Counter: input A represents input pulses,input B represents direction
INF8A–Angular Counter: counting direction automatically by phase position of input signals A and B; zero pulse from the external encoder sets the display to zero
Display: 6-digit, 0 to ±999,999, 7-segment, 14.7 mm
Inputs: 5 V CMOS, protected to 24 V max.
Absolute Code Counter, Parallel: grey or binary code, direct connection from absolute code resolvers; compatible with 9 to 14-bit resolvers with parallel outputs; single turn or multi-turn counter mode
Absolute Code Counter, Serial: grey or binary synchronized serial absolute counter mode, direct connection from absolute code resolvers; compatible with 8 to 19-bit resolvers with serial outputs; single turn or multi-turn counter mode
Keypad: five front panel keys to adjust all operating parameters
Scaling: 6-digit multiplication with sign and decimal point.
Optional Digital Communications: Either RS-232 or RS-485 is selectable from the front panel; baud rates from 1200 to 9600
Analog Output: -10 to 10 V and 0/4 to 20 mA; assignable to any display value from 0 to ±999,999
Setpoints: adjustable from 0 to ±999,999 with decimal point and sign; 4 open collector outputs rated 60 V at 100 mA Standard or 4 mechanical relays with contacts rated 5 A at 230 Vac optional
User Lockout: three levels of security; prohibit setpoint adjustments, entering into setup menu, or use of preset/reset function; optional for absolute counters
Excitation: 20-25 Vdc, 40 mA, unregulated
Connections: screw terminals and flat cable connector
Power: 115/230 Vac ±10%, 50-60 Hz; 10 W power consumption

Dimensions: 1/8 DIN, 48 H x 96 W x 159 mm D
Panel Cutout: 1.8" x 3.7" (45 x 93 mm)
Depth Behind Bezel: 100 mm (3.94")

To Order (* Complete Model No.) *Prices Shown in U.S. Dollars*

INF8-	(*)	(*)	(*)	(*)	(*)	Description	Price
						Input Configuration	
	Q					Quadrature	**$460**
	U					Up-Down	**$460**
	A					Angular	**$460**
						Power	
		0				115 Vac power	**N/C**
		1				230 Vac power	**N/C**
						Control Outputs	
			0			Without relays	**N/C**
			1			Two 7A Relays	**$75**
			2			Two 7 A and 2 1A relays	**$175**
						Serial Outputs	
				0		No serial output	**N/C**
				1		RS-232/485	**$110**
						Math Functions	
					FR	Firm decimal point	**N/C**
					FL	Floating decimal point	**N/C**

6-DIGIT RATE METER / TOTALIZER

INFCTRA

- Measures Rate from 0.5 Hz to 30 kHz
- Totalizes Up or Down from -99,999 to 999,999 or Acts as Accumulating Stopwatch
- Optional HI and LO Setpoints for Control or Alarm
- 1/8 DIN Case with 5 Programming Keys
- 6-Digit, 7-Segment LED, 14.2 mm (0.56") High

MADE IN THE U.S.A. | Designed & Manufactured SANTA ANA California | CE | Y2K YEAR 2000 COMPLIANT

NEWPORT PRODUCT INFO
• MANUAL (HTML)
• QUICK START
• MECHANICAL
• PRICE
REQUIRES ADOBE ACROBAT - HELP

SIGNAL INPUT CHOICES (Selectable by DIP switch)

- TTL Compatible with Protection to 25 V
- Low Level (25 mV rms)
- High Level Signals Protected to 115 V
- NAMUR
- Open Collector PNP or NPN

SENSOR EXCITATION OUTPUT

- 12.5 V to 100 mA
- 8.2 V to 70 mA
- 5.0 V to 50 mA

COMMUNICATIONS & CONTROL

- RS-232 or RS-485 Output Optional
- Optional Dual 6A Form C Relays
- Analog Output, Scalable, 4-20 mA, 0-20 mA, 0-10 V (Optional)

The **INFCTRA Series** ratemeter/totalizer offers user programming via the 5 front-panel keys. Scale factor may be programmed from -99,999 to 999,999 (any decimal point, multiply or divide), while offset may be programmed from -99,999 to 999,999 (any decimal point). Programs are stored in non-volatile memory, with three levels of program lockout for security. Optional features include Hi or Lo setpoints for control or alarm, plus RS-232 communication. Fixed decimal point or autoranging is standard.

SPECIFICATIONS

Functions: rate and totalize selected by menu

Display: 6-digit, 7-segment red LED display

INPUTS

Type: single input. TTL, CMOS, NPN open collector, contact closure and magnetic pickup compatible; selected by dip switch. Non-isolated.
Level: max. 60 V; min. 25 mV rms
Frequency: 30 kHz max.
Excitation: regulated, 5.0, 8.2, or 12.5 V selected by DIP switch, 100 mA max
Accuracy: ±1/2 LSD of total; 0.01% of the rate ±1/2 LSD
Setpoints: Two, optional
Alarm Outputs: optional
Communication: RS-232, analog output, optional
Rate Measurement Technique: 1/x
Gate Time: 0.30 sec
Decimal Point: programmable or autoranging
Trigger Slope: selectable by DIP switch
Leading Zeros: blank
Power: 230 ±15% Vac
Dimensions: 1.9" H x 3.8" W x 6" D (48 x 96 x 152 mm)
Panel Cutout: 1.8" H x 3.6" W (45 x 92 mm)
Weight: 16 oz (454 g)

To Order (* Complete Model No.) *Prices Shown in U.S. Dollars*

Model	Power	Relay	Analog	Serial	Config.	Description	Price
INFCTRA	(*)	(*)	(*)	(*)	(*)		
	0					115 Vac power and red LED	$260
	1					230 Vac power and red LED	$260
	2					115 Vac power and green LED	$260
	3					230 Vac power and green LED	$260
						Control Output	
		0				No Output	N/C
		1				Dual 6 amp	$75
						Analog	
			0			No Output	N/C
			1			Analog Output	$100
						Serial Outputs	
				0		No Output	N/C
				1		RS-232 output	$60
						Function	
					R	Ratemeter	N/C
					T		N/C

Ordering Example: **INFCTRA-0011-R** is a ratemeter/totalizer version ($260) with 115 Vac power, analog output ($100) and RS-232 output ($60), $260 + 100 + 60 = **$420.**

6-DIGIT POSITION INDICATOR

INFLDTA

- **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**

NEWPORT PRODUCT INFO
• MANUAL
• QUICK START
• MECHANICAL
• PRICE
REQUIRES ADOBE ACROBAT - HELP

The **INFLDTA** 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 P6000 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.

The **INFLDTA** is a high accuracy indicator/controller for use with Newport's line of linear displacement transducers. A bright, readable display gives you quick and accurate measurement information. Three open collector outputs let you preset high, low and go setpoints so that you get the right measurement time after time. This highly accurate product is easily scaled in virtually any units of measure right from the front-panel. Hardware lockouts allow you to prevent unauthorized adjustment of the meter. A standard NEMA 4 (IP65) front bezel will stand up to tough industrial environments. The full 6-digit display lets you measure accurately down to 1/1000th of an inch!

Leading Technology
The linear displacement display (INFLDTA) launches a current pulse along a wire inside the **LDT** probe. When the magnetic field of the current pulse interacts with the magnetic field of the rare-earth magnet a torsional strain pulse is sent back to the INFLDTA. The lapsed time between the current pulse and the returning strain pulse is measured and scaled to read in engineering units (i.e., inches, millimeters, etc.).

SPECIFICATIONS

Accuracy at: 25°C
Maximum Error: ±0.001 inches
Warmup to Rated Accuracy: 115 min.

ENVIRONMENTAL

Operating Temperature: 0 to 60°C (32 to 140°F)
Storage Temperature: -40°C to 85°C (-40 to 184°F)
Relative Humidity: 90% to 40°C (104°F) (non-condensing)

POWER

AC Voltage: 115 V or 230 V ±10%, 48 to 440 Hz
Consumption: 10 watts max.

MECHANICAL

Dimensions: 1.89" H x 3.78" W x 6.02" D (48 x 96 x 153 mm)
Panel Cutout: 1.78 H x 3.62" W
Weight: 1.27 lb. (574 g)

APPLICATIONS

- Hydraulic cylinders
- Material handling
- Forest product processing
- Blow molding
- Robotics
- Process control
- Metal and plastics pressing
- Metal extrusion
- Metal stamping
- Printing machinery
- Packaging machinery
- Wind power generation
- Biomedical use

To Order (* Complete Model No.) *Prices Shown in U.S. Dollars*

INFLDTA			
(*)	**(*)**	**Description**	**Price**
0		115 Vac power	**$475**
1		230 Vac power	**$475**
	0	No output options	**N/C**
	1	BCD 5 V logic	**$110**
	2	Dual 8 A form 'C' relays	**$80**
	3	Analog Output	**$155**

Ordering Example: **INFLDTAO3** position indicator with analog output, $475 + 155 = **$630.**

Linear Displacement Transducer Probes

Available from NEWPORT

6-DIGIT RATE METER / TOTALIZER

INFPT

- **6-Digit Alphanumeric Display**
- **Configurable Via Front Panel Pushbuttons and/or Via RS-232 of RS-485**
- **8 Built-In Time Bases**
- **Resolution to 0.01 Sec**
- **Count Up or Down Modes**
- **Four Isolated Open Collector Outputs**
- **Five Controller Output Modes**
- **Time of Day Clock**
- **Battery Backup–Optional**

NEWPORT PRODUCT INFO
• MANUAL (HTML) - PDF Version
• QUICK START
• MECHANICAL
• PRICE
REQUIRES ADOBE ACROBAT - HELP

The **INFPT** multifunctional panel meter is designed to be set up as a clock/timer controller or stopwatch. The unit contains eight different time bases and has a built-in date function. The meter employs five controller output modes, which enable the user to set up the unit to virtually any timer control application.

The **INFPT** is perfectly suited for life cycle testing, turning four loads on and off based on timing cycle. The clock time base is derived from the 50 or 60 Hz power line and from the internal crystal oscillator. Front-panel pushbuttons provide a convenient means of configuration and access to the meter's many features. These features can also be accessed through RS-232 or RS-485 serial communications. The front-panel displays values and messages with six, 14-segment LEDs.

SPECIFICATIONS

Accuracy: max. error ±50 ppm over full temp range; Warmup to rated accuracy: 55 min
Display: 6-digit, 14 segment LED; 14.2 mm (0.56" H): 4 LED outputs to indicate ON or ACTIVE mode
Display Modes: 12-hour clock, 24-hour clock, 99-day, 99-hour, 99-minute, 999999-hour, 9999.99-hour, 9999.99-minute, 9999.99-sec
TTL Outputs: 4, standard; rated 150 mA at 1 V sink: 30 V open
Relay Outputs (optional): Dual relays, form C, 5 A at 30 Vdc or 230 Vac
Four-Relay Board: Dual 7 amp plus Dual 1 amp form C relays
Power: 115 or 230 Vac ± 10%, 49-440 Hz (to 440 Hz with 110 or 220 V min)
Power Consumption: 3 to 10 Watts max.

GENERAL

Input Threshold: 1 V to 3.5 V
Protection Level: 24 Vdc
Connection: Two 3-Socket input plugs
Input Resistance: 30 kohm pull-up resistor to +5 V
Operating Ambient Range: 0 to 50°C (32 to 122°F)
Relative Humidity: 90% at 40°C (non-condensing)
Dimensions: 48 H x 96 W x 156 D mm (1.89" x 3.78" x 6.13")

Panel Cutout: 45 H x 96 W mm (1.772" x3.622"); 1/8 DIN
Weight: 574 g (1.27 lb)

To Order (* Complete Model No.) *Prices Shown in U.S. Dollars*

MODEL INFPT					
(*)	(*)	(*)	(*)	**INFINITY™ Process Timer/Controller**	**Price**
				Power & LED Color	
0				115 Vac power and red LED	**$395**
1				230 Vac power and red LED	**$395**
2				115 Vac power and green LED	**$395**
3				230 Vac power and green LED	**$395**
				BCD & Control Output(s)	
	0			4 Optically isolated open collector outputs	**Std.**
	1			Isolated parallel BCD outputs	**$110**
	2			Dual 7 amp relays	**$75**
	3			4 Relay, two 7 amp, two 1 amp	**$175**
				Serial Output(s)	
		0		No serial output	**Std.**
		1		Isolated RS-232 serial output	**$110**
		2		Isolated RS-485 serial output 110 (includes 6' cable and connectors).	**$110**
				Options and Accessories	
			BB1	Battery Back-Up	**$85**
			9SC2	9-pin serial connector for RS-232	**$30**
			9SC4	9-pin serial connector for RS-485	**$30**
			25SC2	25-pin serial connector for RS-232	**$30**
			25SC4	25-pin serial connector for RS-485	**$30**

Ordering Example: **INFPT-0-0-1** programmable timer with RS-232C communications, $395 + 110 = **$505.**

MULTI-FUNCTION METER
for BATCH CONTROL, RATE INDICATION & TOTALIZATION

P5000

- **Frequency Ratemeter**
- **Frequency Ratio**
- **Up or Down Totalizer/ Batch Controller**
- **RS-232C and HI, LO and GO Open-Collector Outputs Standard**
- **Analog Output for Rate or Total (Optional)**

Shown with FP7000 Series paddlewheel flow sensor sold separately.

NEWPORT PRODUCT INFO
• MANUAL (PDF) INPUT OPTIONS
• MANUAL (PDF) OUTPUT OPTIONS
• MANUAL (HTML)
• QUICK START
• MECHANICAL (Connections Diagram)
• MECHANICAL (1/8 & 1/16 DIN Case)
• PRICE
REQUIRES ADOBE ACROBAT - HELP

The **P5000** microprocessor-based, 6-digit, 1/8 DIN panel instrument 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, reset stopwatch, and cumulative timer or totalizer/1-stage batch controller. However, the P5000 display cannot toggle between rate and total. Two signal inputs can be used to provide frequency ratio or time-interval measurements.

Five Operating Modes
In the frequency meter, the minimum display update rate is equal to 1 period of the frequency input. Thus, very low frequency measurements are displayed and updated faster than most conventional frequency meters. Only two sensors are required to measure the rate of a moving object. The P5000 can be set up as frequency-ratio meter, ideal for monitoring flow ratios.

The P5000 can be set up as an up or down totalizer/1-stage batch controller at rates up to 7 MHz. The display capacity is –99,999 to 999,999 counts with exponential format up to 9.99 E9. Upon ac power loss, the latest reading is automatically saved in non-volatile RAM and is restored upon return of power.

SPECIFICATIONS

TTL INPUT
Speed and Protection Levels (jumper selectable): 7 MHz, 0-5 V; 100 kHz, -20 to +25 V; 3 kHz, -20 to +25 V
Isolated Input Sensitivity (square-wave input): ±10 mV, 0 to 1 kHz; ±25 mV, 0 to 1 kHz; ±50 mV at 100 kHz Requires PGA1
NPN or PNP Open-Collector Sensor Excitation Output: 12.4 V at 20 mA

COMMON SPECIFICATIONS (All Input Types)
Number of Inputs: 1 or 2 (2 inputs for frequency ratio and time interval only)
Update Rate: 60 msec to 99.99 sec, field programmable

OPERATION MODES

Frequency/Tachometer Mode– Frequency Range: 10-6 Hz to 7 MHz
Accuracy at 25°C (square wave): ±0.0002% (+2 ppm)
Totalizer Display–Offset (preset): –99,999 to 999,999

ISOLATED ANALOG INPUT

Accuracy: better than 99.9%
Non-Linearity: 0.05% FS
Isolation: 350 Vdc between output and input
Power: 230 Vac, 10-32 Vdc
AC Frequency: 49-440 Hz
Power Consumption, Typical: 3 W
Battery Backup: user-supplied 6-12 Vdc, 60 mA to maintain operation, 400 mA with display
Dimensions: 1.9" H x 3.8" W x 5.9" D (48 x 96 x 150 mm); 1.8" x 3.6" (45 x 92 mm) cutout

ON/OFF CONTROL & ALARM OUTPUTS

Standard: three open-collector transistors, rated 150 mA sink, 30V
Optional: two form C relays rated 8 A, 30 Vdc, or 240 Vac, resistive load (for rate alarm or batch control)
Analog Output Optional: isolated, scalable, internally powered and field selectable for 0-10 V, 4-20 mA, or 0-20 mA. Rangeable over 4 left most or right most digits, suitable for rate or total display.
Min. Impedance for 10 V: 500ohm
Max. External Impedance for 20 mA: 600ohm

Input Options

'0' = Standard input, dual-channel input board, non-isolated TTL/5 V CMOS-level, frequency range of 10-6 to 7 MHz. **Default calibration:** 0 to 10 kHz = 0 to 10000.0.

'1' = Isolated single-channel input board with sensor excitation, protected for signals up to 260 Vac. (P6A1). **Default calibration:** 0 to 10 kHz = 0 to 10000.0.

'2' = Non-isolated dual-channel input board with sensor excitation. Protected for input signals up to 260 Vac RMS. (P6A2). **Default calibration:** 0 to 10 kHz = 0 to 10000.0

'3' = Non-isolated single-channel input board with sensor excitation. Protected for input signals up to 60 Vac RMS. (P6A3). **Default calibration:** 0 to 10 kHz = 0 to 10000.0

'4' = Isolated analog-to-frequency single-channel input with 24 Vdc, 0-1 mA, 4-20 mA dc, 1-5 Vdc, and 0-10 Vdc (P6A5).

To Order (* Complete Model No.) *Prices Shown in U.S. Dollars*

P5	(*)	(*)	(*)	Description	Price
				Power	
	0			115 Vac power	**$380**
	1			230 Vac power	**$380**
	4			9 to 32 Vdc power	**$460**
				Output Option	
		0		None	**N/C**
		1		Isolated BCD	**$110**
		2		Two 8 A form 'C' relays	**$80**
		3		Analog Output	**$155**
				Input Configuration	
			0	TTL/5VCMOS	**N/C**
			1	Isolated single channel	**$95**
			2	Isolated dual channel	**$110**

			3	Non-isolated single channel	**$65**
			4	Analog to frequency	**$135**

Ordering Example: **P5021**= 115 Vac power, two relays, and isolated single channel input, $380 + 80 + 95 = **$555.**

6-DIGIT FREQUENCY METER, TACHOMETER, RATE METER, TIMER, PULSE TOTALIZER, PROCESS METER & TOTALIZER WITH RS-232

PENTA P6000

NEWPORT PRODUCT INFO
• MANUAL (HTML) - (PDF Version)
P6000A/P5000 - INPUT OPTIONS
• MANUAL (HTML) - (PDF Version)
P6000A/P5000 - OUTPUT OPTIONS
• QUICK START
• MECHANICAL 1/8 DIN (1A) Case
• MECHANICAL Connections Diagram
• PRICE
REQUIRES ADOBE ACROBAT - HELP

MADE IN THE U.S.A.

CE

Y2K YEAR 2000 COMPLIANT

OPERATING MODES

1. Frequency/tachometer from 10^{-6} Hz to 7 MHz
2. Frequency ratio FB/FA from 0.02 Hz to 7 MHz
3. Totalizer up or down from -99,999 to 999,999 or accumulating stopwatch
4. Period/period average from 140 ns to 36 days
5. Time interval/time interval average/stopwatch
6. Process meter for 4-20 mA, 0-2 or 0-10 V input
7. Integrating totalizer for 4-20 mA, 0-2 V or 0-10 V input

FAST LOW-FREQUENCY MEASUREMENT

- 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 P6000 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 P6000 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.

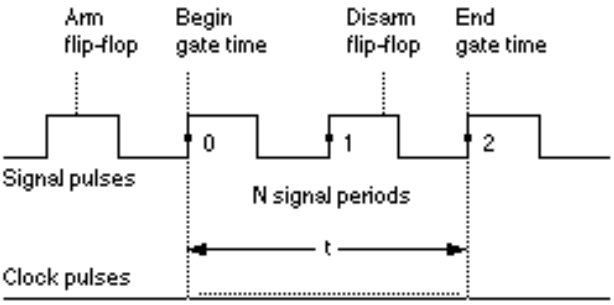
The P6000 provides a five-key front panel, which can be used to select mode of operation, scale factor, zero offset and two setpoints for ON/OFF control or alarm. Setup parameters can be saved in non-volatile memory with four levels of front-panel lockout for program security. In addition, the P6000 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 P6000 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 P6000 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 P6000 into a process meter with isolated input, 6-digit scale and offset capability, two setpoints and RS-232. It also allows the P6000 to serve as an analog integrating totalizer, for instance to display volume based on the 4-20 mA signal from a flowmeter.

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