

The 6200 Series

New IC Industrial Counters

In the 6200 Series, Beckman offers a complete new line of 200 kHz industrial counters. From among instruments in the 6200 Series, you can choose the model that best meets your individual needs for counting or timing measurements. The group includes seven configurations, from the Model 6210 — a basic accumulator — to the versatile 6240 — which will measure frequency, period, time interval or ratio, or count random events without accessory equipment.

If your requirements include preset counters for control of industrial processes, you will find Models 6215 and 6220 ideal for your application. For frequency measurements to 200 kHz, choose Models 6225 or 6230. Normalized rate measurements (reading directly in engineering units such as rpm, gpm, psi, etc.) are a breeze for the Model 6235. The high input sensitivities of all these counters facilitates operation with a wide range of input transducers.

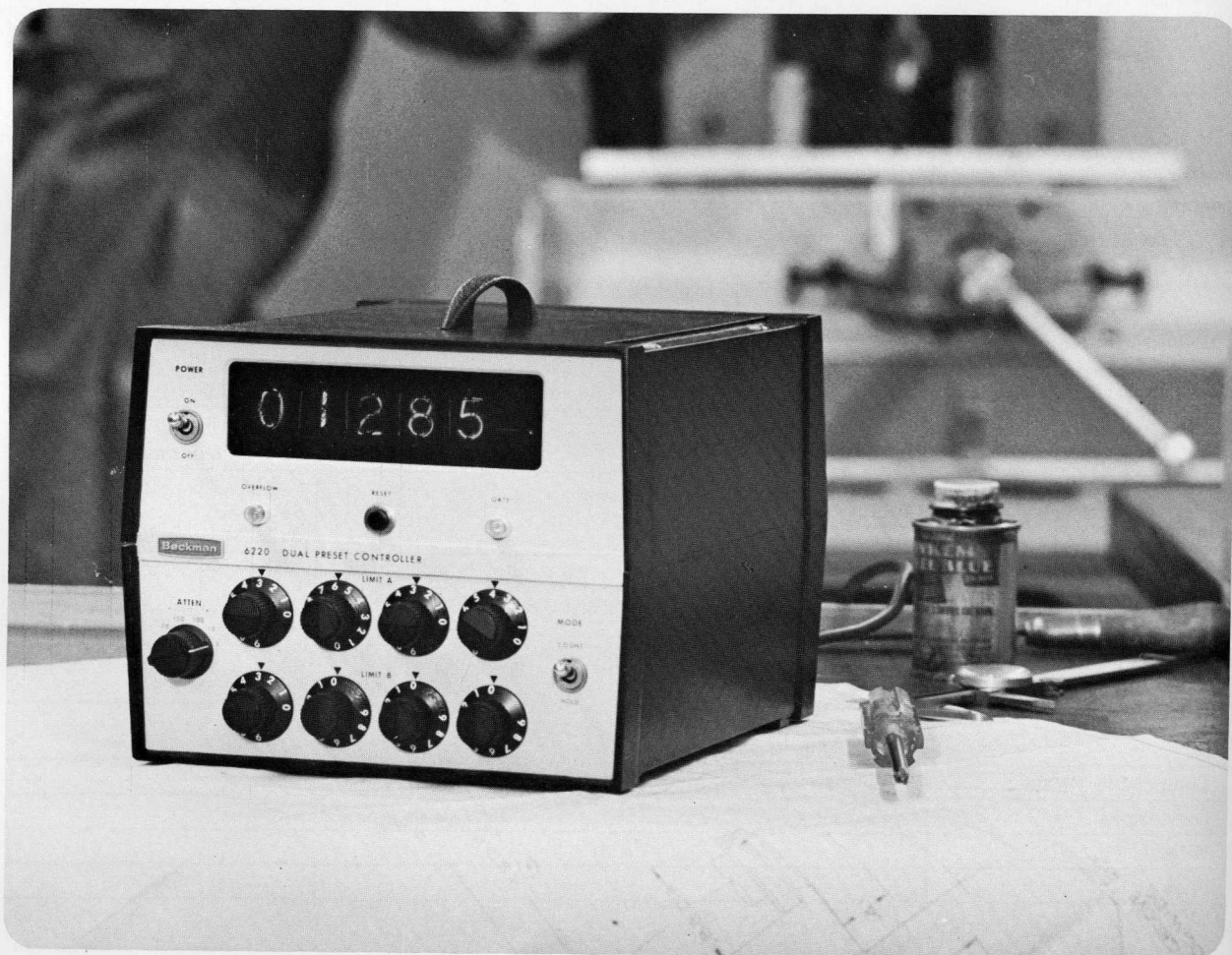
These 200 kHz counters were designed specifically for use in industrial applications where requirements dictate compact and reliable instrumentation. Their low

power requirement (25 W nominal) makes possible the use of a closed box design and eliminates the need for a cooling fan. This permits use of the 6200 Series under the severe environmental conditions often encountered in industry. Dust or other foreign material cannot impair operation, as it is excluded from the internal circuitry. Highly reliable, integrated circuits are used throughout for economy and compactness.

Simplified front panel controls and a highly legible, in-line display combine to insure reliable readings with a minimum possibility of error.

For a permanent record of readings, all models are available with data output in 1-2-4-8, binary-coded-decimal form (standard on Models 6215 and 6220). This information may be fed directly into readout equipment such as tape punch converters and digital printers.

Although these counters are primarily for industrial use, they will fit many laboratory applications equally well. With seven basic configurations and many standard options available, you will find that the 6200 Series will fill a wide variety of your counting and timing needs.



New, for industrial applications

These three new instruments—two controllers and an accumulator—are specialized electronic counters for industrial applications. All unnecessary controls and adjustments have been eliminated from the front panel, to create a group of attractively-designed instruments with true functional simplicity. Optional, ten-millivolt sensitivity insures operation with most transducers.

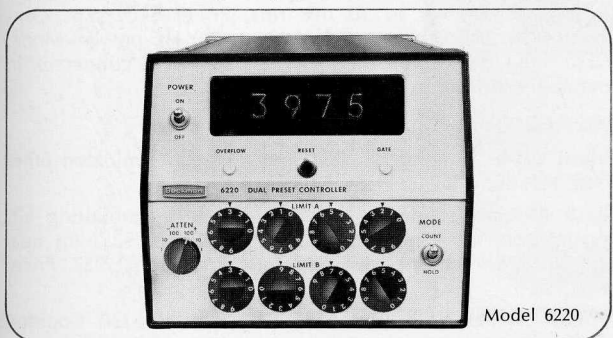
Whatever your counting or control requirements—nuclear counting, machine-tool control, position indication, process or manufacturing tabulation—one of these industrial instruments is tailored for your application. The totally enclosed, driptight cabinet is designed to conform to industrial standards.

For direct counting, where control or alarm signals are not required, select the Model 6210 Accumulator. Where one or two outputs are needed at preselected counts, you can choose between Models 6215 and 6220. Whichever you select, you will own an extremely well-built, low-cost, dependable industrial counting instrument.

The Model 6210 Accumulator counts and displays a running total of random events, counting events that occur as rapidly as 200,000 per second—or as slowly as you wish. The Model 6210 can “see” separate input pulses only 5 microseconds apart, and as short as 2.5 microseconds.

The Model 6215 Preset Controller generates an output signal and relay contact closure whenever the accumulated count coincides with the preselected number you set on the decade switches (from 1 through 9,999). At the same time that coincidence occurs, the controller will enter one of three modes of operation (internally selectable): Reset—accumulator resets to zero and continues to count (up to 200 kHz, without losing counts!); Hold—count is latched until manually reset; Limit—controller continues to count until manually reset. A BCD output of the reading is provided at a rear-panel connector.

The Model 6220 Dual Preset Controller is similar to the Model 6215, but includes a second group of four decade switches. Thus, two separate outputs are available at two different counts. Reset, hold, and limit modes may be selected for either preset number. Logic signal and relay outputs at each level of coincidence, and a BCD output of the reading are provided.



SPECIFICATIONS

Sensitivity 100 mV, 1 V and 10 V, selectable at front panel; optional sensitivity of 10 mV, 0.1 V and 1 V.

Input Impedance 100 k Ω , shunted by 50 pF.

Coupling ac.

Counting Rate (Random) To 200,000 events/s.

Counting Rate Sine wave, 3 Hz to 200 kHz; low-frequency response improves as rise time decreases.

ac Overload 150 V rms.

dc Overload 600 V.

Modes Model 6210: Accumulate; Models 6215, 6220: Reset—true logic level is produced at preset number, held for 2 μ s; relay contact closure is produced at preset number, held for 20 ms; accumulator resets automatically. Hold—true logic level and relay contact closure are produced at preset number, held until manually reset. Limit—true logic level and relay contact closure are produced at preset number, held until manually reset; accumulator continues to count.

Preset Selection Model 6215: 4 decades, 1 to 9,999; Model 6220: two sets of 4 decades, each set 1 to 9,999.

Preset Outputs Model 6215: (a) logic level; “true” = +4.5 to +5.5 V, 0-1 mA current source; “false” = 0 to +0.4 V, 0-5 mA current sink; (b) form C relay contact closure, 115 V non-inductive, 2 A maximum; Model 6220: (a) logic level for each preset channel; “true” = +4.5 to +5.5 V, 0-1 mA current source; “false” = 0 to +0.4 V, 0-5 mA current sink; (b) form C relay contact closure for each preset channel, 115 V non-inductive, 2 A maximum.

Data Output Model 6210: 1-2-4-8 BCD optionally available; Models 6215 and 6220: 1-2-4-8 BCD at rear panel connector; binary “0” = 0 to +0.4 V, 0-5 mA current sink; binary “1” = +4.5 to +5.5 V, 0-1 mA current source.

Display 4 digits in-line; overflow; gate open.

Accuracy Absolute.

Temperature Operating: 0° to 50°C; storage: -55° to +85°C.

Power 115 V rms \pm 10%, 50 to 400 Hz, 20 W.

Shipping Weight 20 lb.

Dimensions 7 in high, 8 $\frac{1}{2}$ in wide, 10 in deep.

Options

a **1** Addition of fifth digit to display. Price \$75; a **2** BCD output and remote control; standard on Models 6215 and 6220, optional on Model 6210. Price: \$25; a **3** Addition of fifth digit plus BCD output and control. Price: \$100; a **4** Increased sensitivity to 10 mV rms. Price: \$10; a **5** Conversion to 230 V rms \pm 10%, 50 to 400 Hz power. No charge; a **6** Front panel BNC connector, in parallel with rear connector. Price: \$15.

Accessories

Input Cable 6-ft length, BNC one end, unterminated other end; P/N 664-400945. Price \$4.55 ea.

Rack Mounting Adapter Kits (a) rh or lh mounting kit; mounts one counter; P/N 060-525956. Price: \$25; (b) dual mounting kit; mounts two counters; P/N 060-525957. Price: \$40.

Prices Model 6210 Accumulator, \$495; Model 6215 Preset Controller, \$695; Model 6220 Dual Preset Controller, \$795.