

Model 5 Position Encoder/Totalizer Conditioner for Series 700 Instruments

- **position encoder mode counts each input cycle 1X, 2X or 4X**
- **enables a position encoder to acquire, display and classify displacement, angle, turns, runout, diameter¹ concentricity², thickness¹, taper² and perpendicularity²**
- **performs batch-in, batch-out or counting in totalizer mode**
- **48 bit internal counter and 400kHz input bandwidth**
- **includes selectable data filters and protected excitation supplies**
- **retains all Series 700 Instrument system features including:**
engineering unit display, legends and 0.01% resolution
2000 samples/sec./channel, user assignable logic I/O's
fast max/min capture, limits, real time calculations
serial communication, auto-scaled $\pm 5V$ and/or $\pm 10V$ analog outputs

Notes: 1. Requires a reference fixture or, you must use two Model 5's. 2. Requires two Model 5's. 3. See page 4 of Bulletin 375, for application details.

One or two Model 5 conditioners can be installed in a 700 Series Instrument. If one is used, then any other conditioner can be used in the second channel. Whatever the configuration, the Instruments built-in processing functions and real-time digital calculations make the combination a powerful test analyzer with easily configured characteristics.

TORQUE vs ANGLE or FORCE vs DISPLACEMENT can be measured when a Model 5 is added to a Model 701 Instrument (see Bulletin 370). The resultant Model 751 will also compute their ratio in real time as well as: display and classify 3 parameters with engineering units, capture their maximum and minima, output digital and analog data, etc.

Specifications

Signal Source	Rotary and linear quadrature encoders, or TTL events.
Maximum Cable Length	500ft.
Excitation Supplies	+ 12V@125mA ⁴ or + 5V@250mA ⁴ . Short circuit (current limit) and overvoltage (fuses: 375mA for 12V, 1A for 5V) protected.
Inputs	Signal A, Signal B, Reset, Reset Arm.
Type	Single ended, TTL.
Impedance	50k Ω .
Maximum Voltage	130VDC or 130Vrms.
Bandwidth	400kHz.
Operating Modes	
Quadrature Encoder Mode	Counts input cycles once or doubles (2X) or quadruples (4X) the number of input pulses. Choose <i>A leads B</i> or <i>B leads A</i> for incrementing direction of counter.
Totalizer Mode	Counts edges of Signal A. Choose <i>Rising Edge</i> or <i>Falling Edge</i> .
Counter Reset	Via the RESET key, the Logic I/O or, the transducer connector.
Reset Via The Transducer Connector:	Choose <i>TTL Low</i> , <i>TTL High</i> , or <i>Ignore</i> .
Reset Mode	Choose <i>Level</i> , <i>Leading Edge</i> , <i>/A AND /B</i> , <i>/A AND B</i> , <i>A AND /B</i> , or <i>A AND B</i> .
Reset Arm Signal	Enables Reset signal (choose <i>TTL Low</i> , <i>TTL High</i> , or <i>Ignore</i>).
Internal Counter	48 bits.
Display Range and Resolution	Displays 0 to 999,900 units of measure with legend; resolution is 0.01% of Full Scale.
Response Time	0.5ms.
Data Filter	Unfiltered or 4 pole Bessel response low pass digital filter. 10 cutoff frequencies from 0.1 to 100Hz (in 1-2-5 steps).

4. Both excitation voltages can be used simultaneously with the following restrictions:
 A) 4.8 x (12V current) + (5V current) \leq 700mA B) 12V current \leq 125mA C) 5V current \leq 250mA
 Examples of acceptable loads: 12V @ 125mA and 5V @ 100mA and 12V@90mA and 5V@250mA
5. Specifications are subject to change without notice.

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