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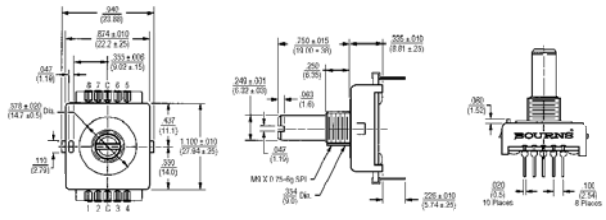
Absolute Contacting Encoder (ACE)

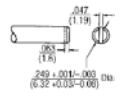
- ► Elimination of the A/D Converter That Is Required with a Potentiometer
- ► Compact, Robust Design in 22 mm Package
- ► Simplified Design — Single-Track Gray Code
- ► Detented Lower Resolutions Could Be Used As Function Control Switches
- ► Ability of the Component to Retain Position If a Power Failure Occurs

The new absolute contacting encoder is an absolute position input device. It is an absolute encoder implemented in a contacting technology. It offers 128 unique angular positions that are directly converted to an 8-bit binary output housed in a low cost, low profile package. The special feature is that they assign a unique, digitally encoded signal to each measured increment which prevents erroneous readings. For example, if a power failure or transient malfunction occurs, the position can be read when the power is restored without moving back to a reference position, as would be required with an incremental encoder. The absolute digital output simplifies the electronic circuit by allowing the microprocessor to be directly linked to the ACE encoder. Because the ACE encoder offers a unique absolute output from a single track, the resulting lower sample rate requires much less microprocessor time, resulting in lower overall power consumption. **Specifications. Output:** 8-bit gray code with 128 absolute states. **Closed Circuit Resistance:** 5 ohms max. **Open Circuit Resistance:** 100 K ohms minimum. **Electrical Travel:** Continuous. **Contact Bounce (60 RPM):** 2.7 milliseconds max. **RPM (Operating):** 120 max. **Rotational Life:** 50,000 shaft revolutions. **Mechanical Angle:** Continuous. **Weight:** Approx. 0.5 oz.

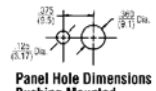
Stock No.	Mfr.'s Type	EACH				
		1-9	10-24	25-49	50-99	100-249
754-0140	EAW0J-B24-AE0128	8.88	8.01	7.20	6.60	5.71



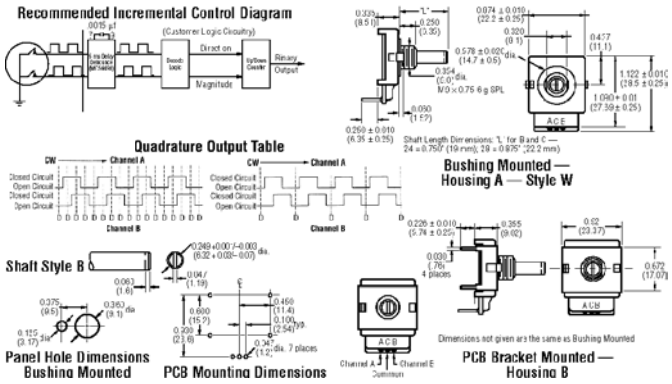
Bushing Mounted — Housing A



Shaft Style B



Panel Hole Dimensions Bushing Mounted

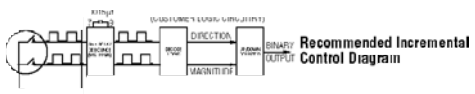


EC Encoders — Incremental Digital Contacting Encoder

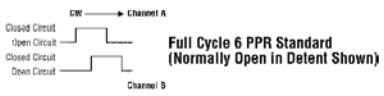
The sturdy construction and exceptionally long life of the digital contacting encoder make it a good choice where reliability and dependability are required. The EC encoder produces a 2-channel, 2-bit gray code quadrature signal which is suitable for digital systems where both magnitude and direction of adjustment must be provided. Channel A leads Channel B by 90° (electrical) with clockwise rotation. The output of this device is a digital gray code signal, rather than a conventional potentiometric voltage ration output. The advantage of the digital contacting encoder is that it permits the direct entry of digitized analog data into a digital circuit without A/D conversion. The 2 channel gray coded signal of this incremental encoder allows the user's decode circuit to sense analog direction of rotation as well as up-down counter capabilities. This is done without the time and cost of A/D conversion. This approach can reduce memory overhead, wiring and wiring interconnects, and can provide greater MPU program speed. Electrical travel and mechanical angle are continuous. **Weight:** 0.75 oz. Additional configurations available as special order. Call for pricing, delivery and ordering conditions. Manufacturer literature available upon request.

Stock No.	Mfr.'s Type	Shaft Style	Shaft Length	Shaft Dia.	Resolution (Cycles/Revolution)	Terminal Style	EACH	
							1-9	10-24
754-3964	ECW1J-B24-AB0012	Slotted	3/4"	1/4"	12	PC Pin	5.14	4.65
754-3965	ECW1J-B28-AB0012	Slotted	7/8"	1/4"	12	PC Pin	5.14	4.65
754-3976	ECW1J-B24-AC0024	Slotted	3/4"	1/4"	24	PC Pin	5.58	5.05
754-3977	ECW1J-B28-AC0024	Slotted	7/8"	1/4"	24	PC Pin	5.14	4.65
754-3980	ECW1J-B24-BC0024	Slotted	3/4"	1/4"	24	PC Pin/Bracket	5.14	4.65
754-3981	ECW1J-B28-BC0024	Slotted	7/8"	1/4"	24	PC Pin/Bracket	5.14	4.65

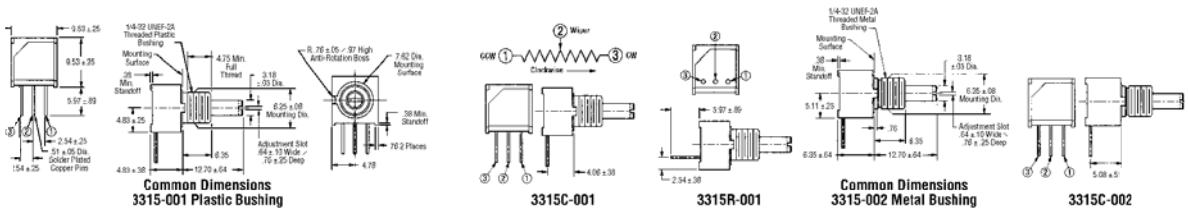
3315 Series Sealed Encoder



Recommended Incremental Control Diagram



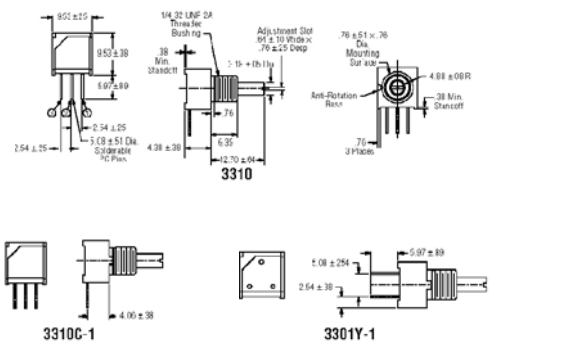
Full Cycle 6 PPR Standard (Normally Open in Detent Shown)



- ► Miniature Package for Design Flexibility
- ► Long Operating Life
- ► Conductive Plastic Element

The 9 mm square model 3315 is a sealed encoder with bushing or PO board mount. The -001 has a plastic bushing and the -002 has a metal bushing. **Electrical Output:** 2-bit gray code, channel A leading channel B turning clockwise at 6 PPR (pulses per revolution). The plastic shaft is 12.7 mm FMS. **Contact Bounce (15 RPM):** 5 ms max. **Closed Circuit Resistance:** 2 ohm max. **Open Circuit:** 100 K ohms min. Continuous electrical and mechanical travel. **Temperature Rating:** –55°C to +125°C.

Stock No.	Mfr.'s Type	EACH				
		1-9	10-24	25-49	50-99	100-249
754-0060	3315C-001-006	2.34	2.08	1.88	1.72	1.52
754-0070	3315R-001-006	2.34	2.08	1.88	1.72	1.52
754-0080	3315C-002-006	3.08	2.74	2.48	2.29	1.97



3310 Series — 9 mm Square Sealed Panel Controls

This single turn linear conductive plastic panel control uses compact size to save board and panel space. The control may be panel mounted with the threaded bushing or PC board mounted using the PC pins. Sealed to withstand typical industrial washing processes. 0.25-watt power at 70°C. **Tolerance:** ±20%. Request manufacturer's literature describing other options including mounting details and multiple functions such as switching.

Stock No.	Mfr.'s Type	Ohms	Adjustment	EACH				
				1-9	10-24	25-49	50-99	100-249
754-0150	3310C-1-102	1 K	Horizontal	1.47	1.42	1.38	1.34	1.32
754-0151	3310C-1-202	2 K	Horizontal	2.97	2.64	2.38	2.18	1.54
754-0152	3310C-1-502	5 K	Horizontal	2.34	2.08	1.88	1.72	1.22
754-0153	3310C-1-103	10 K	Horizontal	2.34	2.08	1.88	1.72	1.22
754-0154	3310C-1-203	20 K	Horizontal	2.34	2.08	1.88	1.72	1.22
754-0155	3310Y-1-102	1 K	Vertical	2.34	2.08	1.88	1.72	1.22
754-0156	3310Y-1-202	2 K	Vertical	2.34	2.08	1.88	1.72	1.22
754-0157	3310Y-1-502	5 K	Vertical	2.34	2.08	1.88	1.72	1.22
754-0158	3310Y-1-103	10 K	Vertical	2.34	2.08	1.88	1.72	1.22
754-0159	3310Y-1-203	20 K	Vertical	2.34	2.08	1.88	1.72	1.22