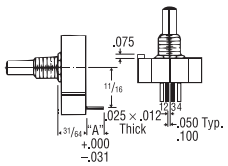
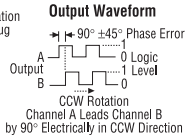
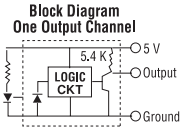
600 Encoders

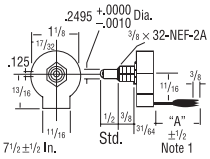


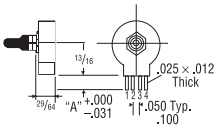
"A" Dim.: Standard — .160; Special — .475 Max.

CABLE CODE		
COLOR	PIN NUMBER	FUNCTION
RED	1	5VDC ±5% @ 30ma MAX.
ORANGE	3	B CHANNEL
YELLOW	4	A CHANNEL
GREEN	5	GROUND









Note 1: "A" Cable Length Standard 7½±½ In.

Specifications. Input Power: 5 volts DC ±5% @ 30 MA max. plus external requirements. **Output Rate** 128 pulses/revolution per channel-standard; Other pulses/revolution between 60 and 128 are available. **Channels:** Two separate output channels in quadrature, 90° ±45°. **Output Voltage:** High level voltage — 2.4 volts min. with 10 KΩ load to ground; Low level voltage — .4 volt max. **Operating Temp:** –20°C to +65°. **Vibration:** 10 to 2000 Hz, 15 G peck; MIL-STD-202 method 204 test C. **Shock:** 100 G @ 6 ms MIL-STD-202 method 213 condition 1.

The series 600 controls are manually operated, rotary, optical encoders that output two square waves in quadrature at a rate of 128 pulses per channel per revolution as a standard with other resolutions down to 60 pulses available. The outputs are TTL compatible. The variation in this series is in the terminal configuration: either pin leads or cable leads.

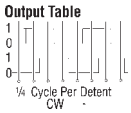
Mechanical Characteristics. Shaft Rotation: Continuous in either direction. **Operating Speed:** 300 rpm max. **Rotational Life:** 10 million revolutions. **Rotational Torque:** 1.5 ozs. in max. **Shaft:** 1/4 diameter standard, stainless steel. **Bushing:** 3/8 diameter standard, brass, nickel plated. **Terminals:** P/C Type — 0.25 by 0.12 thick brass, gold plated to facilitate soldering. Cable Type — Four lead ribbon cables, color-coded, with .050 spacing, 28 AWG stranded copper wire, 0.39 diameter. **Strength:** Terminals withstand 2 Lbs. push and pull and a 90° bend. **Mounting Hardware (not supplied):** For 3/8 bushing, use hex mounting nut 3/8 × 32 thread, 1/2 across flats, 3/32 thick; internal tooth lockwasher 11/16 O.D. by .022 thick. **Seals:** Mounting seal and shaft seal available. Controls are not sealed for board washing. **Weight:** P/C type or cable type. 1 in. FMS shaft and 3/8 bushing-0.046 Lb. (21 G). **Loc. Pin (Not Standard):** Single pin located 17/32 from center can be supplied.

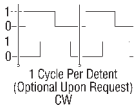
- Optical Incremental Encoders
- Analog to Digital Converters
- TTL Compatible All Models
- Only 1.125" Diameter × .484" Deep

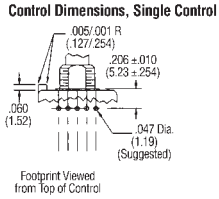
Stock No.	Mfr.'s Type	Description	EACH
753-0060	600-128-CBL	(Cable style) a four lead ribbon cable ± color coded with 0.050 spacing, 28 AWG stranded copper wire. 0.039 diameter. Length 7.5"	48.62
753-0059	600-128-CN1	Same as 600-128-CBL except wire leads have connector	63.40
753-0061	600-128-B66	Employs PC terminals. 160" long horizontal mount. Terminals are gold plated on 0.025 by 0.012 brass to facilitate soldering	48.64
753-0062	600-128-C24	Employs PC terminals 0.160" long vertical mount. Terminals are gold plated on 0.025 by .012 brass to facilitate soldering	47.54

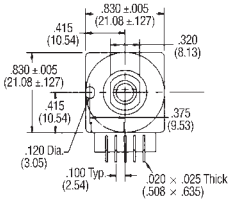
510 Mechanical Rotary Encoder

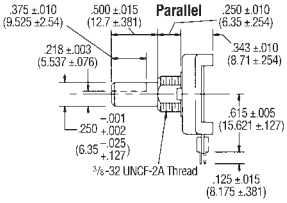
The series 510 controls are manually operated, rotary, mechanical encoders that provide a two-bit gray code for relative reference applications and a four-bit gray code for absolute electrical reference applications. In bit-bit gray code, the L channel leads the R channel by 90° electrically in the CW position. It features continuous electrical travel and has a rotational life of more that 100,000 shaft revolutions with a positive detent feel. This series is small-sized (0.83" sq. × 0.343" deep) and commonly used in limited-space, panel-mounted applications where the need for costly front-panel displays can be completely eliminated. Direct digital output, which eliminates A/D converts. Up to 36 electrical and mechanical detented positions. **Operating Temperature:** –40°C to +105°C. **Terminals:** PC type on 0.100" grid lines. **Terminal Mounting:** 0.615" from center. Molding compound used for molded housing/bushing and shaft has a UL94V-2 rating. Program code board is glass epoxy, copper clad with nickel plating. Horizontal or vertical mountings relative to the PC board are available as a special order.

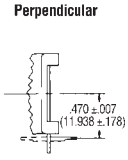










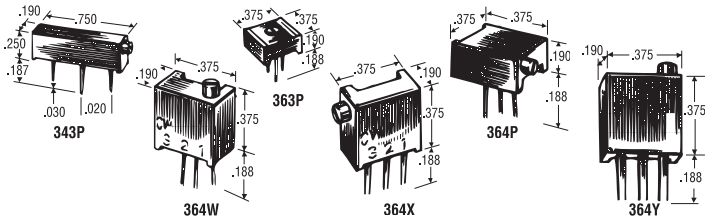


Stock No.	Mfr.'s Type	No. of Bits	Cycles Per Revolution	Detents Per Revolution	Terminal Extends	EACH 1-24	25-49	50-99	100-249	250-Up
753-0101	510E1A48F204PB	2	4	16	Down	3.58	3.28	3.02	2.80	2.57
753-0105	510E1A48F206PB	2	6	24	Down	3.58	3.28	3.02	2.80	2.57
753-0107	510E1A48F206PC	2	6	24	Back	3.72	3.41	3.15	2.92	2.73
753-0109	510E1A48F209PB	2	9	36	Down	3.58	3.28	3.02	2.80	2.57
753-0111	510E1A48F209PC	2	9	36	Back	3.79	3.49	3.21	2.98	2.73
753-0115	510E1A48F416PC	4	16	16	Back	4.07	3.74	3.44	3.20	2.93
753-0116	Bracket,Vertical	—	—	—	—	.42	.39	.35	.33	.28

Clarotrim Trimmers

Specifications. Per MIL-R-22097 where (para.) is noted. **Series 343P.** Low profile, 0.5 Watt. Rectangular cermet. **Effective Travel:** 20 turns nominal. **Resistance Tolerance:** ±10%. **Power Rating:** 0.75 Watt at 70°C. **Stops:** Wiper idles against stops. **Weight:** 0.04 oz. (1.2 g) maximum. **Series 363.** 3/8", 0.5 Watt Cermet. Effective Travel: 270 nominal. **Resistance Tolerance:** 20% (±10% available). **Power Rating:** 0.5 Watt at 70°C. **Stops:** Solid. **Weight:** 0.03 oz. (0.85 g) maximum. **Series 364.** 3/8" square, 0.5 Watt. Multiturn cermet. **Effective Travel:** 25 turns nominal. **Resistance Tolerance:** 10%. **Power Rating:** 0.5 Watt at 85°C. **Stops:** Contact idles at stops. **Weight:** 0.04 oz. (1.13 g) maximum.

- Superior Setability and Stability
- Temp. Coeff. of ±100% PPM/°C
- CRV of 3% or 3 Ω
- Sealed for Cleaning in Common Solvents



Stock No.	Mfr.'s Type	Ohms	EACH 1-24	25-49	50-99	100-249	250-Up
753-4030	343P202	2K	1.82	1.66	1.52	1.40	1.24
753-4035	343P502	5K	1.82	1.66	1.52	1.40	1.24
753-4040	343P103	10K	1.82	1.66	1.52	1.40	1.24
753-4045	343P203	20K	1.82	1.66	1.52	1.40	1.24
753-4055	343P104	100K	1.82	1.66	1.52	1.40	1.24
753-4065	343P504	500K	1.82	1.66	1.52	1.40	1.24
753-4225	363P102	1K	1.82	1.66	1.52	1.40	1.24
753-4240	363P103	10K	1.82	1.66	1.52	1.40	1.24
753-4250	363P503	50K	1.82	1.66	1.52	1.40	1.24
753-4255	363P104	100K	1.82	1.66	1.52	1.40	1.24
753-4445	364P203	20K	2.71	2.47	2.26	2.09	1.90
753-4510	364W101	100	2.71	2.47	2.26	2.09	1.90
753-4520	364W500	500	2.71	2.47	2.26	2.09	1.90
753-4525	364W102	1K	2.71	2.47	2.26	2.09	1.90
753-4535	364W502	5K	2.71	2.47	2.26	2.09	1.90
753-4540	364W103	10K	2.71	2.47	2.26	2.09	1.90
753-4545	364W203	20K	2.71	2.47	2.26	2.09	1.90
753-4550	364W503	50K	2.71	2.47	2.26	2.09	1.90

Stock No.	Mfr.'s Type	Ohms	EACH 1-24	25-49	50-99	100-249	250-Up
753-4555	364W104	100K	2.71	2.47	2.26	2.09	1.90
753-4565	364W504	500K	2.71	2.47	2.26	2.09	1.90
753-4570	364W105	1M	2.71	2.47	2.26	2.09	1.90
753-4620	364X501	500	2.71	2.47	2.26	2.09	1.90
753-4635	364X502	5K	2.71	2.47	2.26	2.09	1.90
753-4640	364X103	10K	2.71	2.47	2.26	2.09	1.90
753-4645	364X203	20K	2.71	2.47	2.26	2.09	1.90
753-4650	364X503	50K	2.71	2.47	2.26	2.09	1.90
753-4655	364X104	100K	2.71	2.47	2.26	2.09	1.90
753-4670	364X105	1M	2.71	2.47	2.26	2.09	1.90
753-4725	364Y102	1K	2.71	2.47	2.26	2.09	1.90
753-4730	364Y202	2K	2.71	2.47	2.26	2.09	1.90
753-4735	364Y502	5K	2.71	2.47	2.26	2.09	1.90
753-4740	364Y103	10K	2.71	2.47	2.26	2.09	1.90
753-4745	364Y203	20K	2.71	2.47	2.26	2.09	1.90
753-4750	364Y503	50K	2.71	2.47	2.26	2.09	1.90
753-4755	364Y104	100K	2.71	2.47	2.26	2.09	1.90
753-4770	364Y105	1M	2.71	2.47	2.26	2.09	1.90