optical encoder - low cost

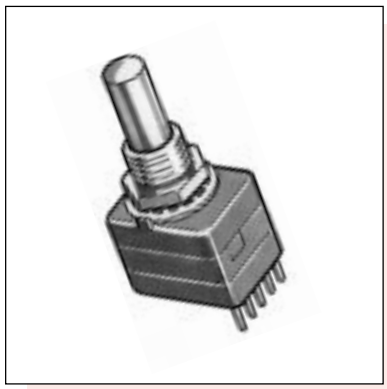
type DP21 series

The DP21 may be used as a manual input device for digitally controlled equipment such as CAD / CAM systems, electronic test equipment, medical electronics, instrumentation, computer peripherals and machine tools. Typically, the encoder drives an up / down counter and it is used to control one or more functions. Common applications include motor speed control, cursor control, frequency setting, amplifier gain adjustment and table positioning.

Encoders

Key features

- two channel quadrature
- square wave signal
- high reliability
- bushing and servo mount styles
- small size
- CMOS and TTL compatible
- long life (10,000,000 revolutions)
- attractively priced



Specification

Electrical

Output:	2 bit grey code, channel A leads channel B by 90° (clockwise)
Supply Voltage:	5V DC
Supply Current:	26mA maximum
Insulation Resistance:	1000 M Ohm
Rise / Fall Time:	200 nano seconds
Shaft RPM (Ball Bearing):	5000 rpm maximum
Pulse Width (Electrical):	180° ± 45° typical each channel
Pulse Width (Index Channel):	360° ± 90°

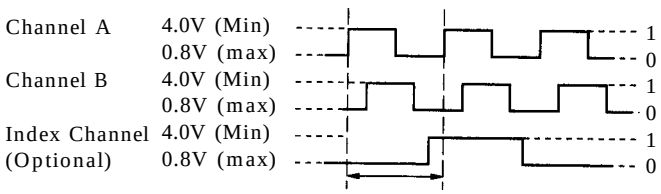
Mechanical

Rotation Angle:	360° continuous
Torque (Starting & Running):	
A & C Bushings:	10.5mNm maximum
W, S, T Bushings:	0.7mNm maximum
Rotational Life.	
A & C Bushings:	10,000,000 revolutions (300 rpm maximum)
W, S, T Bushings:	200,000,000 revolutions (3000 rpm maximum)

Environmental

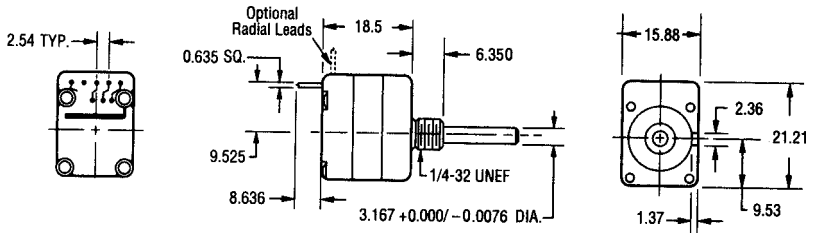
Operating Temperature:	-40°C to +85°C (256 PPR -20°C)

Quadrature Output Table

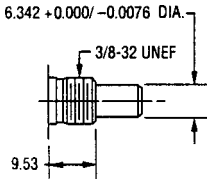


sales action desk (01793) 611666
sales fax line (01793) 511513

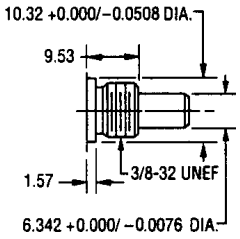
Dimensions



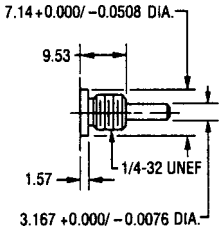
Bush Style C



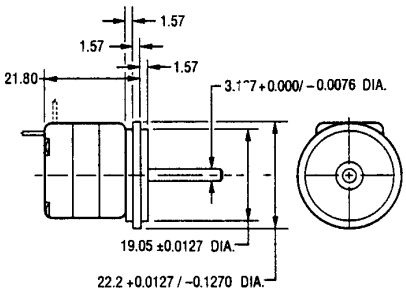
Bush Style A



Bush Style S
(Ball Bearing)



Bush Style T
(Ball Bearing)



Servo Mount Style W
(Ball Bearing)

type DP21 series

The DP21 can also be used for position sensing applications. A gear can be placed on the encoder shaft allowing it to be interfaced with a moving table, rotating shaft, stepping motor, etc... Movement of the encoder shaft is translated into a 24-bit quadrature signal, which (when fed through a logic circuit), allows the microprocessor to determine changes in position. As a position feedback device, the DP21 applications include machine tools, plotters and robotics.

Encoders

How To Order

DP21EN	C	I	J
Common Part	**Bushing Configuration**	**Switch Configuration**	**Lug Position**
DP21EN	A - 3/8"D x 3/8"L Threaded C - 1/4"D x 1/4"L Threaded S - 3/8"D x 3/8"L Threaded (Ball Bearing) T - 1/4"D x 3/8"L Threaded (Ball Bearing) W - Servo Mount 7/8"D (Ball Bearing)	I - Leads Channel B By 90° (Clockwise)	D - None J - 9:00 Position

B	20	L	00128
Shaft Style	**Shaft Length**	**Terminal Configuration**	**Resolution**
Bush Code B - 1/4" Dia. Plain End (A,S) D - 1/8" Dia. Plain End (C,T,W)	16 - 1/2" Long 20 - 5/8" Long 28 - 7/8" Long	L - Axial, Multi-Purpose Pin	00064 - 64ppr 00100 - 100ppr 00128 - 128ppr 00256 - 256ppr