

SPECIFICATIONS

Mechanical

Shaft: 3/8" or 1/2" dia. with flat

Weight: 19 oz. max
22 oz. max (sealed housing)

Maximum speed: 6,000 rpm

Shaft Loading:

Shaft Diameter	Radial Lbs (kg)	Axial Lbs (kg)	Factor (BL)
3/8"	25 (11.3)	15 (6.8)	36
1/2"	45 (20.4)	35 (15.9)	37

Bearing Life: BL x 1,000,000/rpm = hours
A flexible shaft coupling is recommended

Materials: Case: Aluminum, anodized
— Shaft: 303 Stainless steel

Construction: Standard is fully enclosed, dust-tight. Environmentally sealed construction is available.

Connector: Standard: DB25P (25 pin)
Optional: MS3102E20-29P (17 pin)
(standard with sealed housing)

Electrical

Power Input: 5 VDC ± 5% or 8-28 VDC

Current: 100 ma. max

Operating temperature:

- R30: 0° to 70°C
- SR30/SR31: -40° to 70°C

Output codes: GC = Gray Code
NB = Natural Binary
Others are available.

Interrogation rate: The rate at which the code disk is sampled. Regardless of rotational speed, this determines the maximum rate the outputs change.

Model	Rate
R30 with GC	Continuous
R30 with NB	40K Hz
SR30	1K Hz
SR31	3K Hz

Counts per Revolution:

Resolution	R30	SR30/SR31
8-bit	256	256
9-bit	360,512	512
10-bit	1000,1024	1024

Logic: Positive logic is standard

Logic	"0" value	"1" value
Positive	0 vdc	Supply vdc
Negative	Supply vdc	0 vdc

DataReady Signal: Normally high, goes low momentarily (7 μsec) while the outputs are changing. Available on all models except R30 with GC output. Optional low data ready is available, and is required for PNP output.

Rotation: Counts increase with clockwise rotation as viewed from shaft end. Decreasing counts are available. Selectable direction is available.

Accuracy: ±1/2 bit

Output Circuit Ratings:

5 vdc R30 with GC output:
— NPN with 10K pull-up resistor
(5 ma max sink current)

5 vdc R30 with NB, or any 5 vdc SR30:
— Totem-pole output
(5 ma max source or sink current)

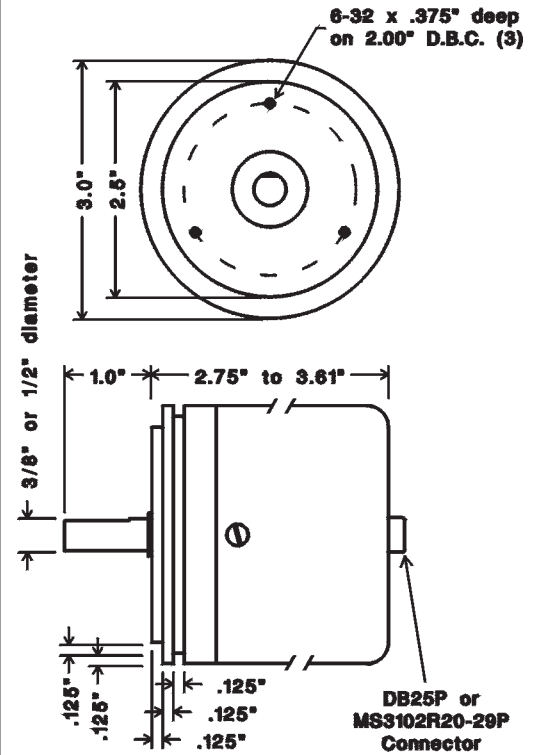
Any 8-28 vdc R30 or SR30 model, or optional with any 5 vdc model:

- NPN with 3.3K pull-up resistor (50 ma max sink current);
- NPN open collector (50 ma, 30 vdc max); or
- PNP with 3.3K pull-down resistor (50 ma max source current)

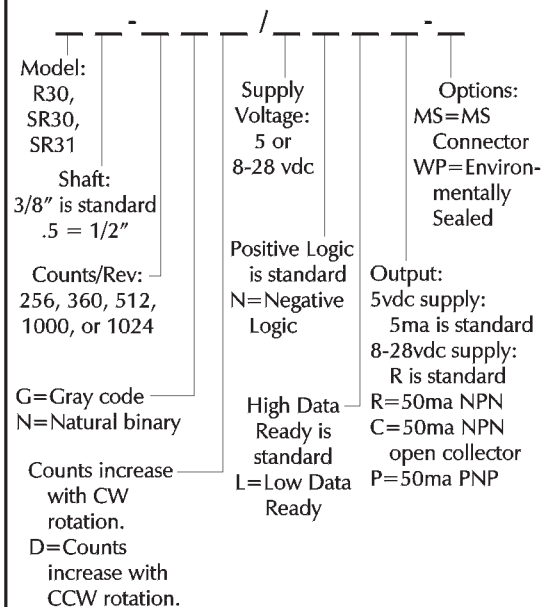
Electrical Connections

DB25 Pin No.	MS Pin No.	R30	SR30 SR31
1	M	2 ⁹	2 ⁹
2	L	2 ⁸	2 ⁸
3	K	2 ⁷	2 ⁷
4	J	2 ⁶	2 ⁶
5	H	2 ⁵	2 ⁵
6	G	2 ⁴	2 ⁴
7	F	2 ³	2 ³
8	E	2 ²	2 ²
9	D	2 ¹	2 ¹
10	C	2 ⁰	2 ⁰
14	N	—	—
15	S	—	—
16	P	—	—
19	R	DataReady	DataReady
21	A	Common	Common
22	B	Supply	Supply
—	T	Case Gnd	Case Gnd

DIMENSIONS



ORDERING INFORMATION



Example Output:

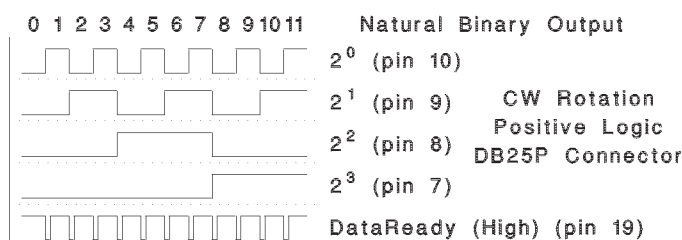


Figure 1

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