

SPECIFICATIONS

Mechanical

Weight: 1lb. 2 oz. (510 grams)

Maximum speed: 6,000 rpm

Shaft Loading: Radial: 25 lb. (11.3 kg.) max.
Axial: 15 lb. (6.8 kg.) max.

Bearing Life (L_{10}): $36 \times 10^6 / \text{RPM} = \text{hours}$

Materials:

- Case: 1/4" Aluminum, anodized
- Shaft: 303 Stainless steel

Connector:

- Single output (3 pin connector): MS3102A-10SL-3P
- Multi output (6 pin connector): MS3102A-14S-6P

Mating Connector:

- Single output: MS3106A-10SL-3S
- Multi output: MS3106A-14S-6S
- Case Ground: The cable shield is connected via the connector shell to the encoder housing.

Note: 10' (3m) cable supplied at no extra charge. CE marking requires the surge protection option if the cable exceeds 100' (30m) or leaves the building.

Electrical

Power Input (specify voltage when ordering):

Supply ¹ (Vdc)	R Values ^{2,3} (Kohms)
5	1
12 or 15	2.2
24	3.3
7 to 20 ("5R" supply voltage)	2.2
12 to 27 ("12R" supply voltage)	3.3
8 to 30 ("8-30" supply voltage)	3.3

(1) Others available on special order

(2) See output circuit figure 1 below

(3) R is removed for open collector

— **Current:** 50 ma max (no load)
100 ma max (line driver)

— **Ripple:** 2% max

— **Regulation:** $\pm 5\%$

— Reverse polarity protected (except for 5vdc)

Operating temperature: 0° to 70° C

Pulse Rate: 0 - 30 kHz

Pulses per Revolution: 1 to 600
(specify when ordering)

Output Circuit (Figure 1, specify when ordering):

- Current sinking NPN transistor with pull-up resistor (50 ma. max.)
- Current sinking NPN open collector (50 ma., 30 vdc max.)
- Current sourcing PNP with pull-down resistor (50 ma. max.)
- RS422 differential line driver (MC3487 device; must be ordered with 5, 5R or 8-30 Supply Voltage)

Output Waveshape: (See Figure 2; does not apply to dual/triple output models)

Square wave; outputs A and B are 50/50 duty cycle nominal; output Z (index output) is approximately the width of one cycle on outputs A or B.

- Pulse symmetry(A): $180^\circ \pm 30\%$
- Pulse interval jitter(B): 30% max
- Quadrature(C): $90^\circ \pm 30\%$ max
- Phase jitter (D): 30% max
- Index pulse (E)

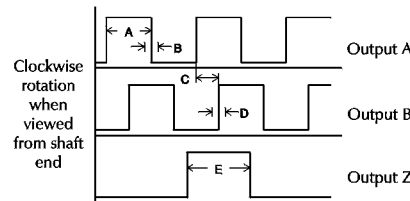


Figure 2

Electrical Connections

NPN or PNP Transistor Outputs:

Connector			Wire
3-Pin	6-Pin	Function	Color
C	A	Common	Black
A	B	+vdc	Red
—	C	Output Z or C	Brown*
B	D	Output A	White
—	E	Output B	Green
—	F	no connection	

* Output Z is green if Output B is not used.

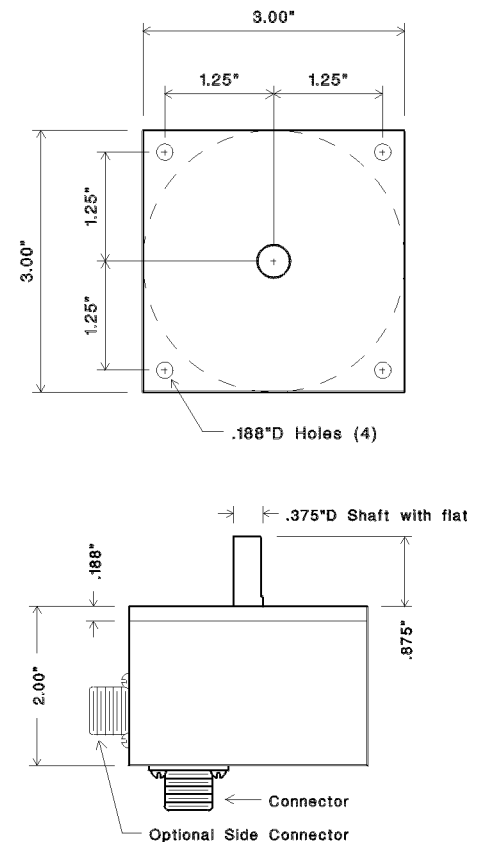
Line Driver Outputs (not CE certified):

Connector		Wire
6-Pin	Function	Color
A	Common	Black
B	+vdc	Red
C	Output A	White
D	Output A	Blue ¹
E	Output B ²	Green
F	Output B ²	Brown

¹ Output A is green if Output B is not used.

² These are Outputs Z/Z if B/B are not used.

DIMENSIONS



ORDERING INFORMATION

RBX - - - - - / - - - - -

Model

Unidirectional output on A is standard;
Q= Bidirectional with Quadrature outputs on A and B

Pulses per revolution.
Enter dual and triple output values separated by a "/>

DC Supply voltage:
5, 12, 15, or 24;
or 5R (7-20);
or 12R (12-27);
or 8-30

No index is standard:
Z = Index output
NZ = inverted index

Output circuit:
NPN is standard
C = NPN open collector
P = PNP
D = Differential line driver

S = Side Connector

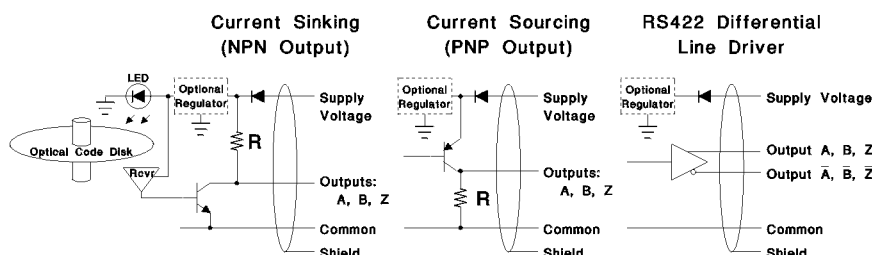


Figure 1 - Output Circuits

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