# **Encoders: RLS Magnetic Shaft Encoder**



#### **Product description**

#### **Characteristics**

- Supplies high resolution signals to an external decoder and control unit
- Embedded in the rotor bearing
- Cannot be combined with an electromagnetic brake

#### **Applications**

• For applications which require control of speed, direction, and position of the Motorized Pulley belt or load



Technical data				
Power supply	$V_{dd} = 5 V \pm 5\%$			
Power consumption	35 mA			
Output signals	A, B, Z, A-, B-, Z- (RS422A)			
Max cable length	16.40 ft			
Operating temperature	-13 °F to +185 °F			
Ext. operat. temp.	-40 °F to +257 °F (IP64)			
Edge separation	1 µs minimum			

### The INC resolution

The INC resolution (number of increments per pulley revolution) depends on encoder type and can be calculated as follows:

### INC = Z x i

- i Gear ratio of the Motorized Pulley (except for model 80LS). Gear ratio of 80LS equals one because encoder is mounted on end housing and not on motor rotor.
- Z Number of encoder increments per rotor revolution

Product range						
Motorized Pulley	Encoder type	Rated voltage VDC	Max. operating current mA	Increments per rotor revolution p	Max.cable length ft	Precision °
80LS - 165LS	RS422A 5V	5	50	1024	16.4	0.5

Note: Other resolutions are available on request.



## Timing diagram

(complementary signals not shown)



#### **Recommended signal termination**



B leads A for clockwise rotation of magnetic actuator.

# Data sheet RM44D01\_04 RM44IC - Incremental, RS422A, 5V

Resolution options (increments per rev)	Maximum speed (rpm)	Accuracy	Hysteresis
1024	20000	±0.5°	0.18°
4096	5000	±0.5°	0.18°

\* Worst case within operational parameters including magnet position and temperature.

Connections					
Pin Nr.	Function	Wire color			
1	Shield	-			
2	Z	White			
3	В	Green			
4	А	Grey			
5	V <sub>dd</sub>	Red			
6	Z-	Brown			
7	B-	Yellow			
8	A-	Pink			
9	GND	Blue			