

K15 Incremental Modular Encoder

Features

Modular encoder with
1.5" outer diameter

Easy installation

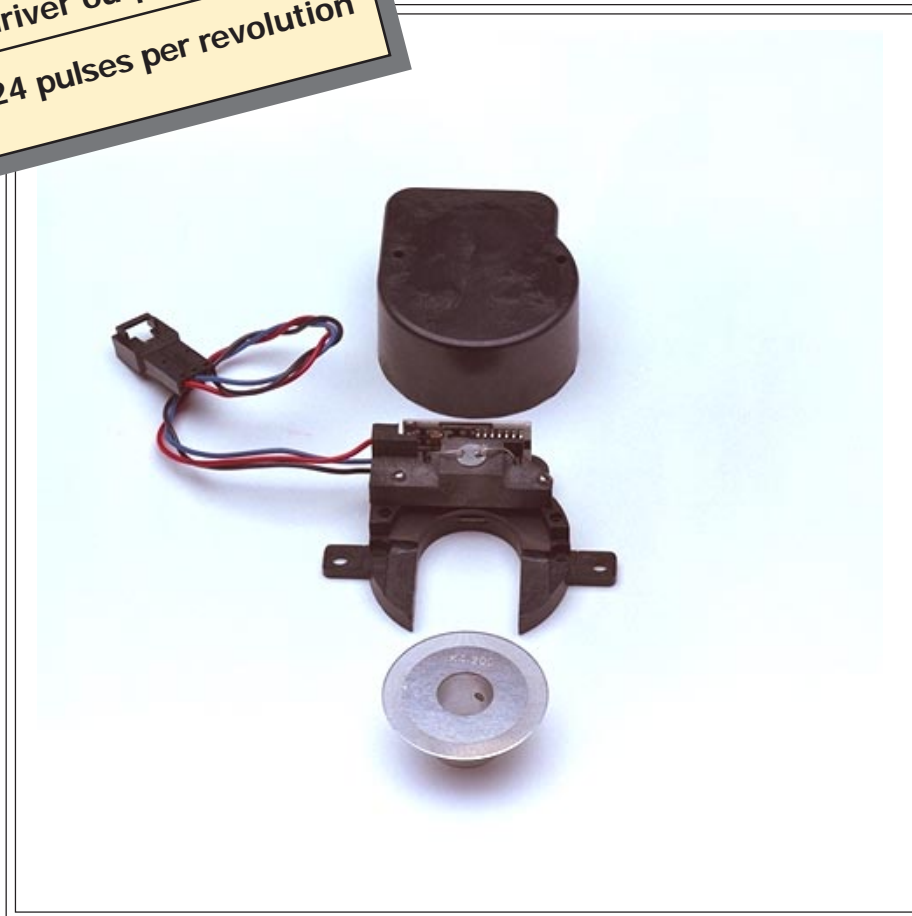
Low cost

Quadrature output with
reference marker

5 V single-ended output

5 V Line driver output

32 to 1024 pulses per revolution



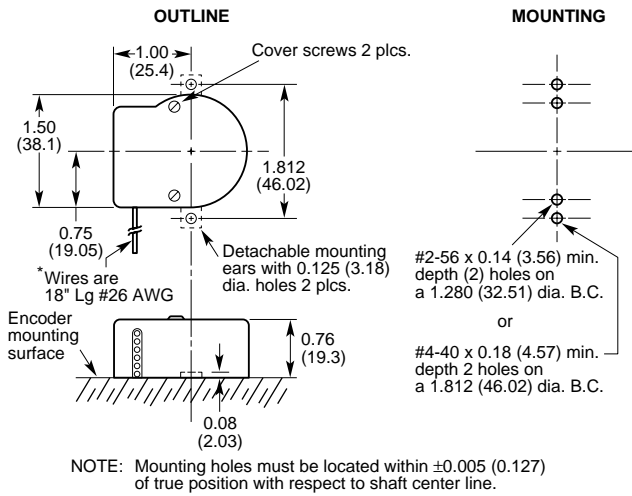
Technical Data/Features

Number of pulses per revolution (Z)	32, 50, 80, 96, 100, 125, 144, 155, 200, 202, 240, 250, 300, 360, 400, 500, 512, 533, 590, 625, 635, 720, 768, 800, 900, 1000, 1024				
Interfaces	Single-ended (LM339-open collector with 3.6K Ω pull-up resistor) RS-422 (3487 Line driver)				
Dimensions	See drawing				
Mass	1.0 oz (28 g)				
Moment of inertia of rotor	0.35 x 10 ⁻⁴ oz-in-sec ² (2.5 gcm ²)				
Measurement step	90/Z $^{\circ}$				
Reference (marker) signal	Number: 1 Position: Non-gated 180 $^{\circ}$ \pm 90 $^{\circ}$ electrical				
Error limits	45/Z $^{\circ}$				
Measurement step deviation	45/Z $^{\circ}$				
Max output frequency	100 kHz				
Working temp. range	0....+70 $^{\circ}$ C				
Storage temp. range	-20....+85 $^{\circ}$ C				
Permissible relative humidity	95 % (condensation not permitted)				
Working voltage range	4.75 to 5.25 V				
Working current at no load	Single ended	80 mA			
	Line driver	120 mA			
Signal cable length	Single ended: #26 AWG flying leads	18"	(46 cm)		
	Line driver: Ribbon cable with 10 pin connector	24"	(61 cm)		
Mechanical tolerances	Resolution (Z)	Air Gap	Shaft end play	Shaft runout	Shaft perpendicularity
	32 to 250	0.015	\pm 0.003	0.006 TIR	0.006 TIR
	251 to 799	0.010	\pm 0.002	0.004 TIR	0.004 TIR
	800 to 1024	0.007	\pm 0.001	0.002 TIR	0.002 TIR

K15



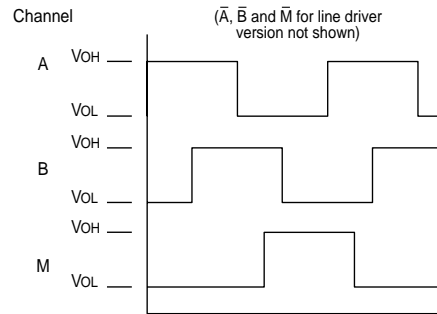
Dimensions in. (mm)



Output Waveforms

Notes

1. Channel A leads Channel B for counter clockwise rotation when viewed from top.
2. Channel A is omitted on single channel units.
3. Marker (zero index) pulse width $180^\circ \pm 90^\circ$ (random position).



How To Order

Type	3/16" Bore	1/4" Bore	3/8" Bore	1/2" Bore	6 mm Bore	8 mm Bore
Closed cover 5V Single-ended	K15 3A 5E	K15 4A 5E	K15 6A 5E	K15 8A 5E	K15 M6A 5E	K15 M8A 5E
Closed cover 5V RS-422	K15 3A 5	K15 4A 5	K15 6A 5	K15 8A 5	K15 M6A 5	K15 M8A 5
Cover hole 5V Single-ended	K15 3B 5E	K15 4B 5E	K15 6B 5E	K15 8B 5E	K15 M6B 5E	K15 M8B 5E
Cover Hole 5V RS-422	K15 3B 5	K15 4B 5	K15 6B 5	K15 8B 5	K15 M6B 5	K15 M8B 5

Electrical Connections: Single-ended

Wire Color	Function
Yellow	Output A
Blue	Output B
Orange	Output M
Red	+Vs
Black	Ground

Single-ended version has #26 AWG leads 18" long

Electrical Connections: Line Driver

Wire Color	Pin	Function
Brown	1	+5 VDC
Red	2	Ground
Orange	3	A
Yellow	4	A-bar
Green	5	M
Blue	6	M-bar
Violet	7	B
Grey	8	B-bar
White	9	Ground
Black	10	+5 VDC

Line driver version has 24" ribbon cable and 10 pin connector, AMP #499505-1.



Example for ordering

K15, 5V RS422, closed cover, shaft 6 mm,
1024 pulses per revolution
=> **K15 M6A 5, 1024**