



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



PART NUMBER: BME

DESCRIPTION: modular incremental encoder

The BME Series are high performance, low cost, 2 or 3 channel optical incremental encoders. Each encoder contains a LED source, an integrated circuit with detectors and circuitry, and an optical disc which rotates between the emitter and detector IC. These encoders can be quickly and easily mounted to a motor.



ELECTRICAL SPECIFICATIONS

output waveform	Square wave
output signals	A, B phase or A, B, Z phase
output voltage	H: $\geq 85\% V_{cc}$ L: $\leq 0.3 V$
current consumption	$\leq 40 \text{ mA}$
output phase difference	$90^\circ \pm 45^\circ$
supply voltage	5 V dc
output resolution (ppr)	100, 200, 256, 360, 400, 500, 512, 1000, 1024
frequency response	100 kHz
output current	0~5 mA

MECHANICAL SPECIFICATIONS

rotor inertia of code-wheel	$6.0 \times 10^{-8} \text{ kgm}^2$
hollow shaft diameter	$\leq \varnothing 8 \text{ mm}$
shock resistance	980 m/s^2 , 6ms, 2 times each on XYZ
vibration proof	50 m/s^2 , 10~200 Hz, 2 hours each on XYZ
working life	MTBF $\geq 5000\text{h}$ (+25°C, 2000rpm)
weight	20g (with 0.5 meter cable)

ENVIRONMENTAL SPECIFICATIONS

operating temp	-25° to +85° C
storage temp	-40° to +85° C
humidity	30~85% no condensation
protection	IP50

ORDERING INSTRUCTIONS

BMEX - XXXXX - XXXXX

Mounting base:
"blank" = standard
W = wide (46mm)

Resolution:
100 = 100 PPR 200 = 200 PPR
256 = 256 PPR 360 = 360 PPR
400 = 400 PPR 500 = 500 PPR
512 = 512 PPR 1000 = 1000 PPR †
1024 = 1024 PPR †
AB plus index pulse for all resolution

Output type:
D = line driver 26LS31
V = voltage

Bore type:
"blank" = standard
T = thru bore*

Bore size:
300 = 3mm
400 = 4mm
500 = 5mm
600 = 6mm
635 = 6.35mm (1/4")
800 = 8mm

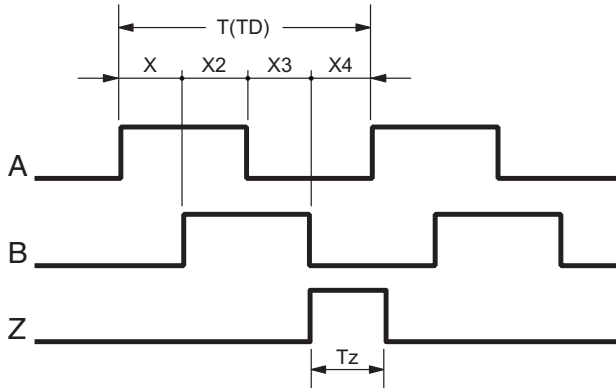
"blank" = no kit
K = kit (Digi-Key only):
contains encoder,
centering tool, and
Allen wrench

* Removing the cap which covers the bore will turn the Standard style into a Thru Bore style

† index pulse not offered with this resolution

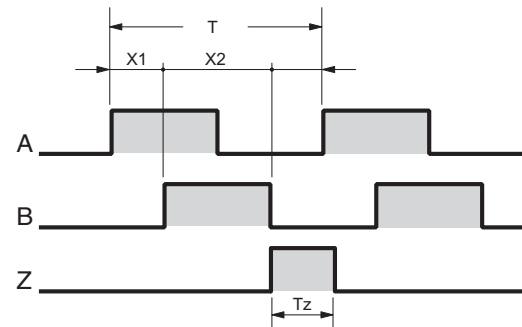
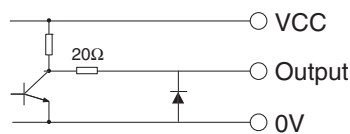
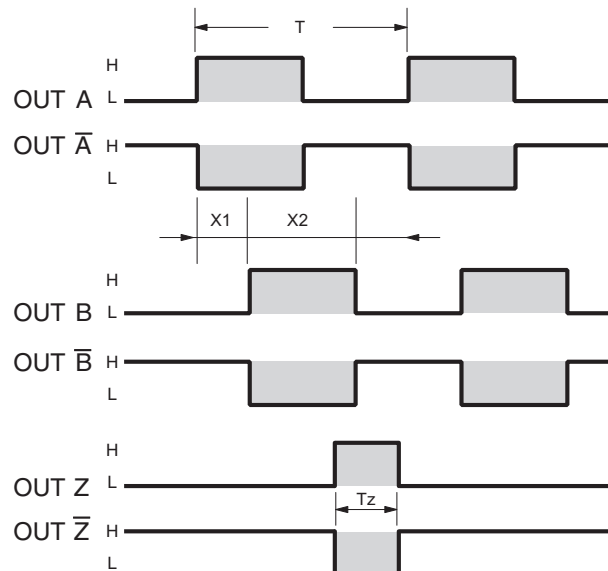
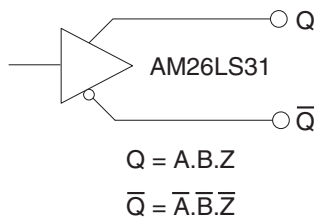
PART NUMBER: BME

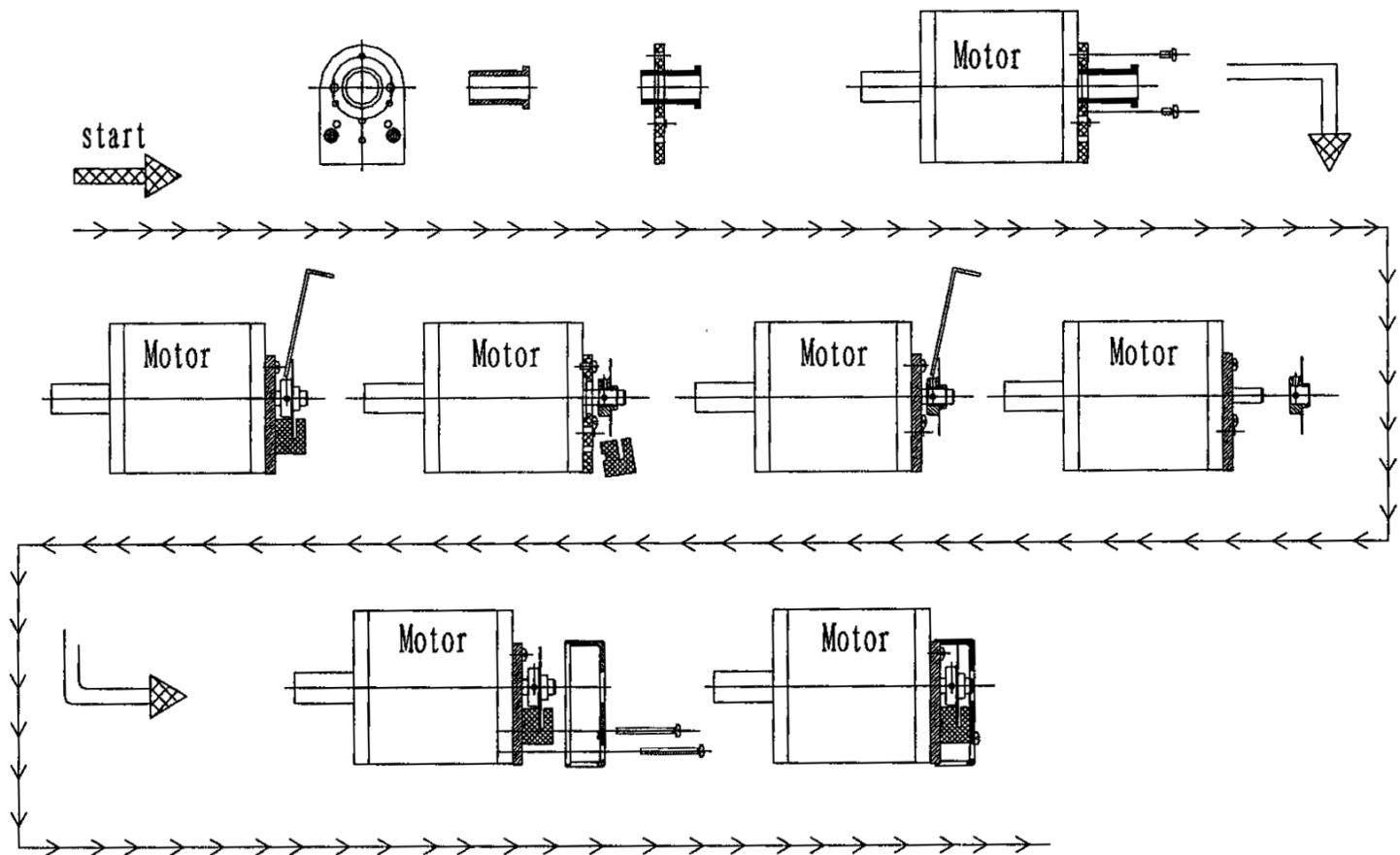
DESCRIPTION: modular incremental encoder

OUTPUT WAVEFORM


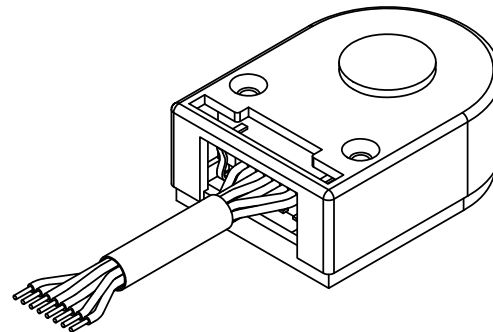
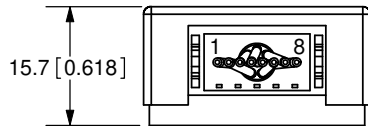
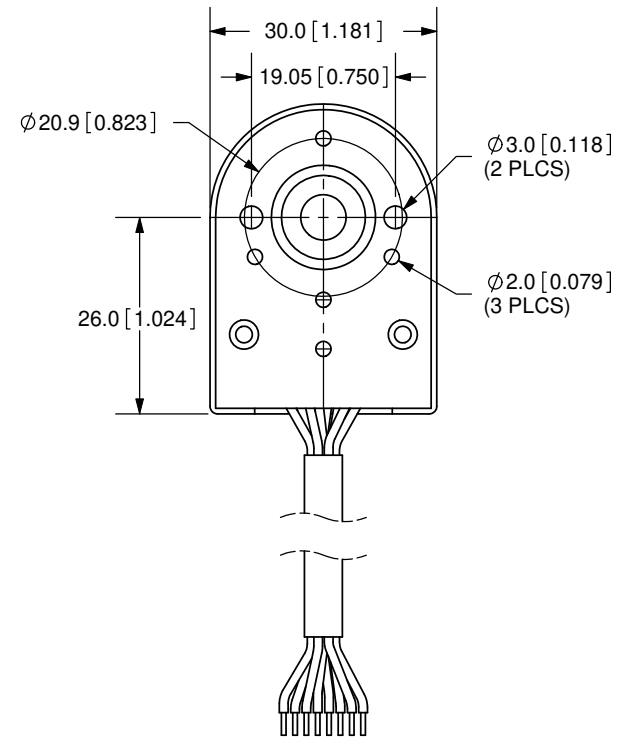
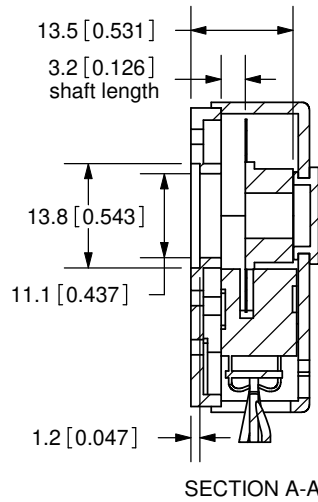
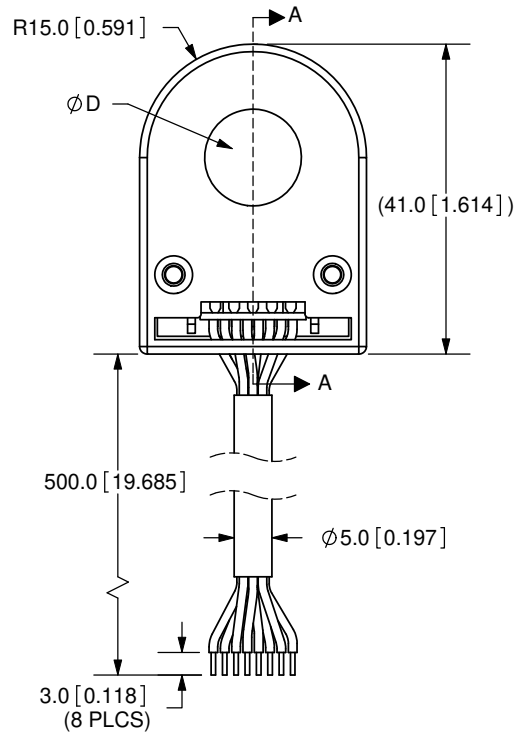
- Square-wave accuracy: $X_1 + X_2 = 1/2T \pm 1/12T$
 $X_3 + X_4 = 1/2T \pm 1/12T$
- Pitch error of period: $\pm 0.01T$
- Pitch error of phase position: $\leq 1/18T$
- Z phase: $T_z = 1/4T$ (1T, 1/2T, 1/4T...)
- Period of pulses: $T = 360^\circ / N$ (N: output pulses)
- Signal accuracy: $X_n = 1/4T \pm 1/12T$ (n=1, 2, 3, 4)

A leads B clockwise when viewing the encoder shaft end.
 The position of Z phase against A, B phase is not specified.

Voltage output

Line driver output


PART NUMBER: BME**DESCRIPTION:** modular incremental encoder**INSTALLATION DRAWING**

REV.	DESCRIPTION	DATE
A	NEW DRAWING	4/22/2008



TOLERANCE:
±0.3mm UNLESS OTHERWISE
SPECIFIED



ØD (bore size)
3mm
4mm
5mm
6mm
6.35mm
8mm

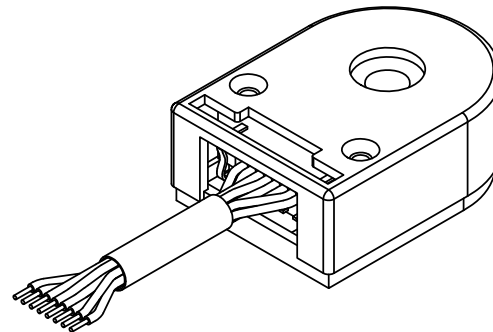
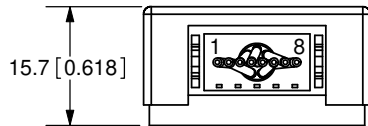
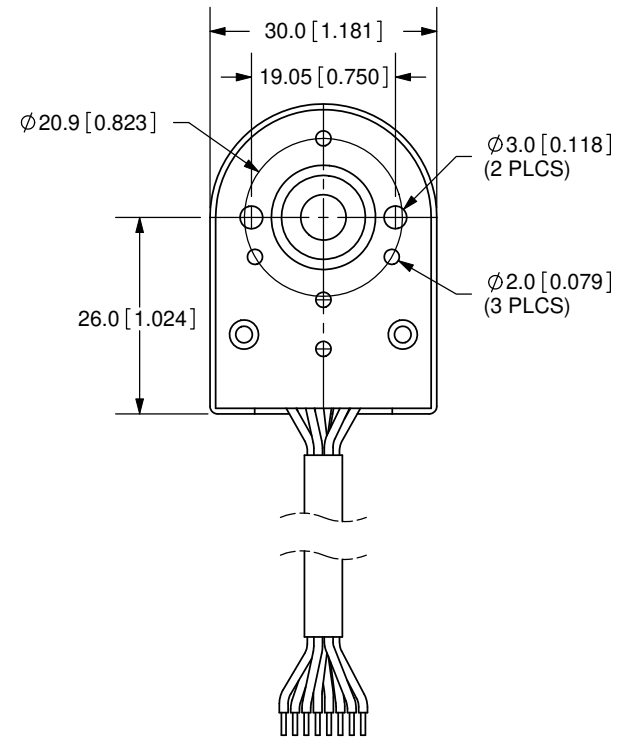
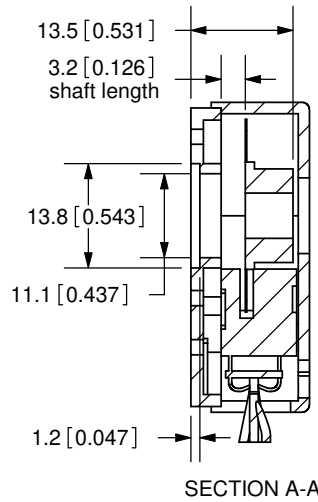
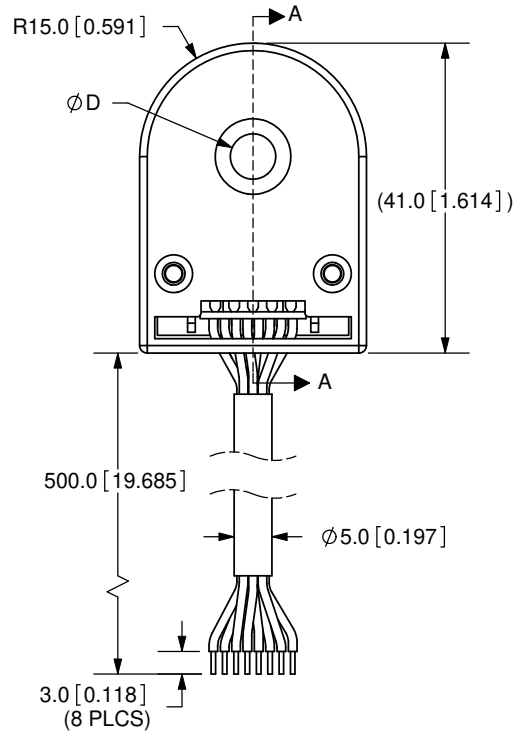
Cable Code	1	2	3	4	5	6	7	8
Cable Color	Black	Red	Green	Brown	White	Grey	Yellow	Orange
Line Driver Output	0V	Vcc	A	\bar{A}	B	\bar{B}	Z	\bar{Z}
Cable Code	1	2	3	4	5	-	-	-
Cable Color	Black	Yellow	Green	Red	White	-	-	-
Voltage Output	0V	Z	A	Vcc	B	-	-	-



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Website: www.cui.com

TITLE: BME - MODULAR OPTICAL ENCODER	REV: A
PART NO. BME - STANDARD BORE	UNITS: MM [INCHES]
DRAWN BY: ZRJ	APPROVED BY:
	SCALE: 1:1

REV.	DESCRIPTION	DATE
A	NEW DRAWING	4/22/2008



TOLERANCE:
±0.3mm UNLESS OTHERWISE
SPECIFIED



ØD (bore size)
3mm
4mm
5mm
6mm
6.35mm
8mm

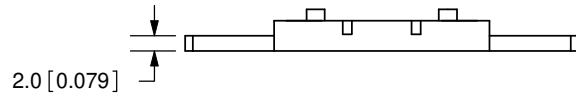
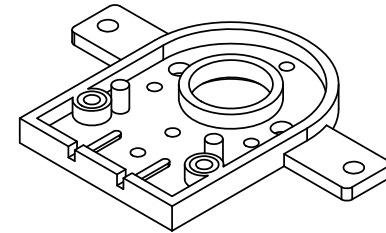
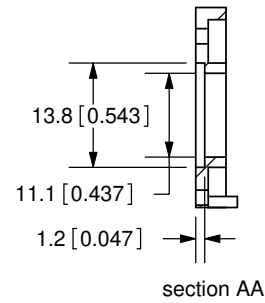
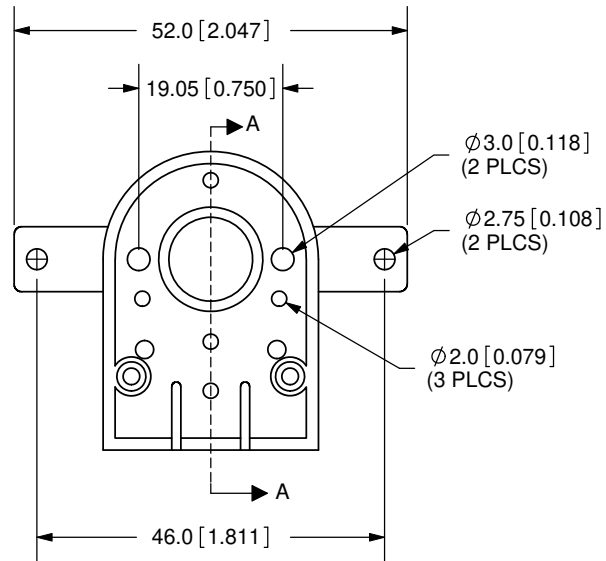
Cable Code	1	2	3	4	5	6	7	8
Cable Color	Black	Red	Green	Brown	White	Grey	Yellow	Orange
Line Driver Output	0V	Vcc	A	\bar{A}	B	\bar{B}	Z	\bar{Z}
Cable Code	1	2	3	4	5	-	-	-
Cable Color	Black	Yellow	Green	Red	White	-	-	-
Voltage Output	0V	Z	A	Vcc	B	-	-	-



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TITLE: BME - MODULAR OPTICAL ENCODER	REV: A
PART NO. BME - THROUGH BORE	UNITS: MM [INCHES]
DRAWN BY: ZRJ	APPROVED BY:
	SCALE: 1:1

REV.	DESCRIPTION	DATE
A	NEW DRAWING	4/22/2008



TOLERANCE:
 $\pm 0.3\text{mm}$ UNLESS OTHERWISE
 SPECIFIED



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TITLE: BME - OPTIONAL WIDE BASE		REV: A
PART NO. BME - WIDE BASE	UNITS: MM [INCHES]	
DRAWN BY: ZRJ	APPROVED BY:	SCALE: 1:1