

CUI INC Modular 16 Resolutions Programmable AMT Encoder

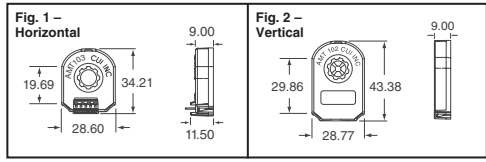


The code generation technology of the AMT modular encoder represents a breakthrough in cost versus resolution with benefits such as low current consumption, broad operating temperature range and a low profile, lightweight mechanical design. Benefits the AMT encoder offers over competitors include 16 selectable resolutions, index pulse included, more mounting options, and 9 bore size options all included in one package. **Features:** • Current Consumption: <10mA • Operating temperature range: -40°C – 100°C

• Resolution: 16 dip switch selectable resolutions 48ppr – 2048ppr **Specifications:** • Index pulse • Straight or right angle header • Assembled in USA • 5 Year unconditional warranty • TTL voltage output • 2500+ options in 1 encoder (AMT102-V) or 1700+ options in AMT103-V • Avago HEDS5500 and US Digital E2 or E5 replacement. *Includes sleeve size to fit these diameter shafts: 2mm, 3mm, 3.175mm, 4mm, 4.76mm, 5mm, 6mm, 6.35mm and 8mm*

Dimensions in mm

Fig.	Description	Digi-Key Part No.	Price Each				CUI Part No.
			1	10	100	500	
1	Modular Encoder Horizontal Version	102-1308-ND	19.52	18.87	16.92	16.27	AMT103-V KIT
	Line Driver Cable for AMT-103 1M	102-1788-ND	6.98	5.91	4.57	3.76	CUI-103E-10
	Shielded Interface Cable Horizontal 1ft	102-1504-ND	3.59	2.98	2.24	1.86	CUI-435-1FT
	Shielded Interface Cable Horizontal 6ft	102-1310-ND	7.60	6.94	5.29	4.47	CUI-3934-6FT
	Modular Encoder Vertical Version	102-1307-ND	19.52	18.87	16.92	16.27	AMT102-V KIT
2	Line Driver Cable for AMT-102 1M	102-1787-ND	6.98	5.91	4.57	3.76	CUI-102E-10
	Shielded Interface Cable Vertical 1ft	102-1503-ND	3.59	2.98	2.24	1.86	CUI-3132-1FT
	Shielded Interface Cable Vertical 6ft	102-1309-ND	6.87	5.82	4.50	3.71	CUI-3131-6FT



AMT203 Absolute Encoder and AMT303 Commutation Encoder

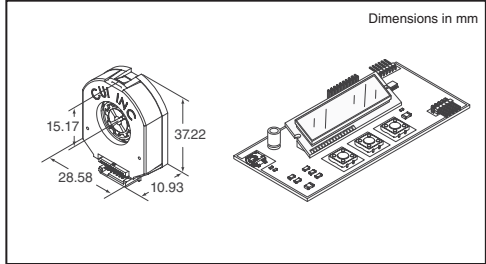


The **AMT203** is a 12 bit absolute rotary encoder with SPI serial bus for working as a slave to an external microprocessor. Direct, incremental A, B, and Index signals are included as an option for high speed operation. The Index occurs once per rotation. The SPI serial bus outputs a position reading that is absolute over a full turn with 12 bit (4,096) resolution.

The **AMT303** is a commutation encoder with standard U, V, W signals and up to 1,024ppr (4,096 counts) of incremental A/B position feedback and Index position signals. These are direct outputs compatible with any device requiring encoder or commutation input. The AMT303-DMK can accommodate brushless motors with 2, 4, 5, 8, 10 or 12 poles. The SPI serial bus allows programming of commutation settings, resolution, BLDC motor pole count and other encoder features. The incremental Index channel is aligned to the codewheel pattern which is one pulse per 360 degrees. Commutation zero position is programmable by grounding a pin, eliminating a time-consuming and tedious mechanical alignment.

The AMT203 and AMT303 encoders contain two capacitive channels: a Fine channel and a Coarse channel. The Fine channel has 16 wavelengths of a periodic capacitive pattern, while the Coarse channel has 5 wavelengths. Each channel has its own ASIC that interpolates the channels to a resolution of 256 increments per wavelength. A microprocessor on the encoder PCB combines the two channels to achieve the absolute, incremental and commutation outputs depending on the model.

The AMT203-DMK and AMT303-DMK are easy to use demo kits designed for the AMT203 absolute and AMT303 commutation modular encoders. The kits allow for stand alone demonstration or direct access to programmable features in production. They are outstanding tools for experimentation and familiarization with AMT203 and AMT202 features



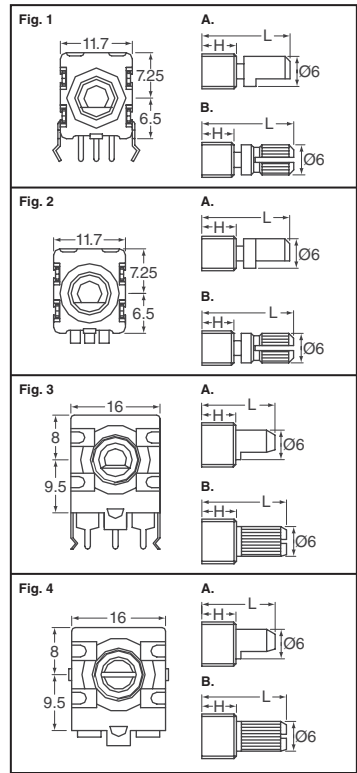
Description	Voltage Supply (VDC)	Resolution (ppr)	Channels	Operating Temperature	Digi-Key Part No.	Price Each	CUI Part No.
AMT203 12 bit SPI ABS Encoder Kit	4.5 – 5.5	2 ¹² (4,096)	ABS, A, B, Z	-40°C – 115°C	102-2050-ND	40.19 38.76 35.89	AMT203-V
AMT303 Commutation SPI Encoder Kit	4.5 – 5.5	1,024	A, A, B, B, Z, Z, U, V, W	-40°C – 115°C	102-2051-ND	29.52 28.47 26.36	AMT303-V
Demo Kits							
Kit Contents: AMT203-V modular encoder kit, Demo Board, AMT203 to demo board cable, USB cable, Flash drive, and power adapter	4.5 – 5.5	2 ¹² (4,096)	—	—	102-2052-ND	130.75 — —	AMT203-DMK
Kit Contents: AMT303-V modular encoder kit, Demo Board, AMT303 to demo board cable, USB cable, Flash drive, and power adapter	4.5 – 5.5	1,024	—	—	102-2053-ND	120.86 — —	AMT303-DMK

Mechanical Rotary Encoders



CUI's mechanical rotary encoders provide high versatility at a very low cost. The functionality is similar to optical encoders but without the high price tag. With options in shaft length, shaft style, mounting orientation, and push button function, these items are ideal for consumer electronics, appliance, automotive, and many other applications. **Features:** • Current Consumption: 0.05 – 10mA • Operating temperature range: -10°C – 65°C • Resolution: selectable resolutions 12ppr – 24ppr

Fig.	Description	Shaft	Bushing	Dimensions (mm)		Digi-Key Part No.	Price Each				CUI Part No.
				L	H		1	10	100	500	
1	Horizontal 12ppr, 10mA	B	Threaded	15	5	102-1739-ND	2.87	2.38	1.79	1.49	ACZ11BR1E-15KQA1-12C
	Horizontal 12ppr, 10mA	B	Threaded	20	5	102-1740-ND	2.87	2.38	1.79	1.49	ACZ11BR1E-20KQA1-12C
	Horizontal 12ppr, 10mA	B	Smooth	15	5	102-1741-ND	2.87	2.38	1.79	1.49	ACZ11BR4E-15KQA1-12C
	Horizontal 12ppr, 10mA	B	Smooth	20	5	102-1742-ND	2.87	2.38	1.79	1.49	ACZ11BR4E-20KQA1-12C
	Horizontal 12ppr, 10mA	A	Threaded	15	5	102-1743-ND	2.87	2.38	1.79	1.49	ACZ11BR1E-15FA1-12C
	Horizontal 12ppr, 10mA	A	Threaded	20	5	102-1744-ND	2.87	2.38	1.79	1.49	ACZ11BR1E-20FA1-12C
	Horizontal 12ppr, 10mA	A	Smooth	15	5	102-1745-ND	2.87	2.38	1.79	1.49	ACZ11BR4E-15FA1-12C
	Horizontal 12ppr, 10mA	A	Smooth	20	5	102-1746-ND	2.87	2.38	1.79	1.49	ACZ11BR4E-20FA1-12C
	Horizontal 20ppr, 10mA	B	Threaded	15	5	102-1747-ND	2.87	2.38	1.79	1.49	ACZ11BR1E-15KQA1-20C
	Horizontal 20ppr, 10mA	B	Threaded	20	5	102-1748-ND	2.87	2.38	1.79	1.49	ACZ11BR1E-20KQA1-20C
	Horizontal 20ppr, 10mA	A	Smooth	15	5	102-1749-ND	2.87	2.38	1.79	1.49	ACZ11BR4E-15KQA1-20C
	Horizontal 20ppr, 10mA	A	Smooth	20	5	102-1750-ND	2.87	2.38	1.79	1.49	ACZ11BR4E-20KQA1-20C
2	Horizontal 20ppr, 10mA	A	Threaded	15	5	102-1751-ND	2.87	2.38	1.79	1.49	ACZ11BR1E-15FA1-20C
	Horizontal 20ppr, 10mA	A	Threaded	20	5	102-1752-ND	2.87	2.38	1.79	1.49	ACZ11BR1E-20FA1-20C
	Horizontal 20ppr, 10mA	A	Smooth	15	5	102-1753-ND	2.87	2.38	1.79	1.49	ACZ11BR4E-15FA1-20C
	Horizontal 20ppr, 10mA	A	Smooth	20	5	102-1754-ND	2.87	2.38	1.79	1.49	ACZ11BR4E-20FA1-20C
	Vertical 12ppr, 10mA	B	Threaded	15	5	102-1755-ND	2.87	2.38	1.79	1.49	ACZ11BR1E-15KQD1-12C
	Vertical 12ppr, 10mA	B	Threaded	20	5	102-1756-ND	2.87	2.38	1.79	1.49	ACZ11BR1E-20KQD1-12C
	Vertical 12ppr, 10mA	B	Smooth	15	5	102-1757-ND	2.87	2.38	1.79	1.49	ACZ11BR4E-15KQD1-12C
	Vertical 12ppr, 10mA	B	Smooth	20	5	102-1758-ND	2.87	2.38	1.79	1.49	ACZ11BR4E-20KQD1-12C
	Vertical 12ppr, 10mA	A	Threaded	15	5	102-1759-ND	2.87	2.38	1.79	1.49	ACZ11BR1E-15FD1-12C
	Vertical 12ppr, 10mA	A	Threaded	20	5	102-1760-ND	2.87	2.38	1.79	1.49	ACZ11BR1E-20FD1-12C
	Vertical 12ppr, 10mA	A	Smooth	15	5	102-1761-ND	2.87	2.38	1.79	1.49	ACZ11BR4E-15FD1-12C
	Vertical 12ppr, 10mA	A	Smooth	20	5	102-1762-ND	2.87	2.38	1.79	1.49	ACZ11BR4E-20FD1-12C
3	Vertical 20ppr, 10mA	B	Threaded	15	5	102-1763-ND	2.87	2.38	1.79	1.49	ACZ11BR1E-15KQD1-20C
	Vertical 20ppr, 10mA	B	Threaded	20	5	102-1764-ND	2.87	2.38	1.79	1.49	ACZ11BR1E-20KQD1-20C
	Vertical 20ppr, 10mA	B	Smooth	15	5	102-1765-ND	2.87	2.38	1.79	1.49	ACZ11BR4E-15KQD1-20C
	Vertical 20ppr, 10mA	B	Smooth	20	5	102-1766-ND	2.87	2.38	1.79	1.49	ACZ11BR4E-20KQD1-20C
	Vertical 20ppr, 10mA	A	Threaded	15	5	102-1767-ND	2.87	2.38	1.79	1.49	ACZ11BR1E-15FD1-20C
	Vertical 20ppr, 10mA	A	Threaded	20	5	102-1768-ND	2.87	2.38	1.79	1.49	ACZ11BR1E-20FD1-20C
	Vertical 20ppr, 10mA	A	Smooth	15	5	102-1769-ND	2.87	2.38	1.79	1.49	ACZ11BR4E-15FD1-20C
	Vertical 20ppr, 10mA	A	Smooth	20	5	102-1770-ND	2.87	2.38	1.79	1.49	ACZ11BR4E-20FD1-20C
	Horizontal 12ppr, 0.5mA	B	Threaded	15	5	102-1771-ND	1.88	1.57	1.16	.93	ACZ16NBR1E-15KQA1-12C
	Horizontal 12ppr, 0.5mA	B	Threaded	20	5	102-1772-ND	1.88	1.57	1.16	.93	ACZ16NBR1E-20KQA1-12C
	Horizontal 12ppr, 0.5mA	A	Threaded	15	5	102-1773-ND	1.88	1.57	1.16	.93	ACZ16NBR1E-15FA1-12C
	Horizontal 12ppr, 0.5mA	A	Threaded	20	5	102-1774-ND	1.88	1.57	1.16	.93	ACZ16NBR1E-20FA1-12C
Horizontal 24ppr, 0.5mA	B	Threaded	15	5	102-1775-ND	1.88	1.57	1.16	.93	ACZ16NBR1E-15KQA1-24C	
Horizontal 24ppr, 0.5mA	B	Threaded	20	5	102-1776-ND	1.88	1.57	1.16	.93	ACZ16NBR1E-20KQA1-24C	
Horizontal 24ppr, 0.5mA	A	Threaded	15	5	102-1777-ND	1.88	1.57	1.16	.93	ACZ16NBR1E-15FA1-24C	
Horizontal 24ppr, 0.5mA	A	Threaded	20	5	102-1778-ND	1.88	1.57	1.16	.93	ACZ16NBR1E-20FA1-24C	
4	Horizontal 12ppr, 0.5mA	B	Threaded	15	5	102-1779-ND	1.88	1.57	1.16	.93	ACZ16NBR1E-15KQD1-12C
	Horizontal 12ppr, 0.5mA	B	Threaded	20	5	102-1780-ND	1.88	1.57	1.16	.93	ACZ16NBR1E-20KQD1-12C
	Horizontal 12ppr, 0.5mA	A	Threaded	15	5	102-1781-ND	1.88	1.57	1.16	.93	ACZ16NBR1E-15FD1-12C
	Horizontal 12ppr, 0.5mA	A	Threaded	20	5	102-1782-ND	1.88	1.57	1.16	.93	ACZ16NBR1E-20FD1-12C
	Horizontal 24ppr, 0.5mA	B	Threaded	15	5	102-1783-ND	1.88	1.57	1.16	.93	ACZ16NBR1E-15KQD1-24C
	Horizontal 24ppr, 0.5mA	B	Threaded	20	5	102-1784-ND	1.88	1.57	1.16	.93	ACZ16NBR1E-20KQD1-24C
	Horizontal 24ppr, 0.5mA	A	Threaded	15	5	102-1785-ND	1.88	1.57	1.16	.93	ACZ16NBR1E-15FD1-24C
	Horizontal 24ppr, 0.5mA	A	Threaded	20	5	102-1786-ND	1.88	1.57	1.16	.93	ACZ16NBR1E-20FD1-24C



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