

PHOTOELECTRIC ROTARY ENCODER

# A75M



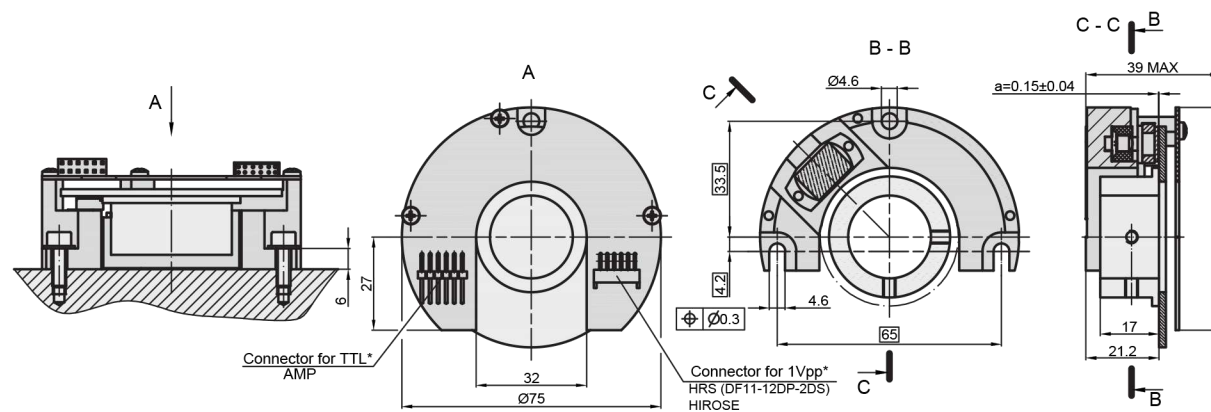
Analog output signals



Modular



Photoelectric modular rotary encoder A75M is a wider diameter incremental encoder than A42M, as it is the main difference between these two open-type encoders.



## MECHANICAL DATA

Line number on disc (z)	512; 2048; 5000 (others on request)	Protection (IEC 529)	IP00
Number of output pulses per revolution for A75M-F	Z x k, where k = 1, 2, 3, 4, 5, 8, 10	Max. weight	0.2 kg
Max. permissible mechanical rotation speed	16000 rpm	Operating temperature	0...+85 °C
Accuracy (T <sub>1</sub> period of lines on disc in arc. sec.)	±0.1T <sub>1</sub> arc. sec.	Storage temperature	-30...+85 °C
Permissible axial shaft run out	±0.05 mm	Maximum humidity (non-condensing)	98 %
Rotor moment of inertia: - with shaft Ø 20 mm - with shaft Ø 30 mm	26x10 <sup>-6</sup> kgm <sup>2</sup> 35x10 <sup>-6</sup> kgm <sup>2</sup>	Permissible vibration (55 to 2000 Hz)	≤ 100 m/s <sup>2</sup>
		Permissible shock (6 ms)	≤ 1000 m/s <sup>2</sup>

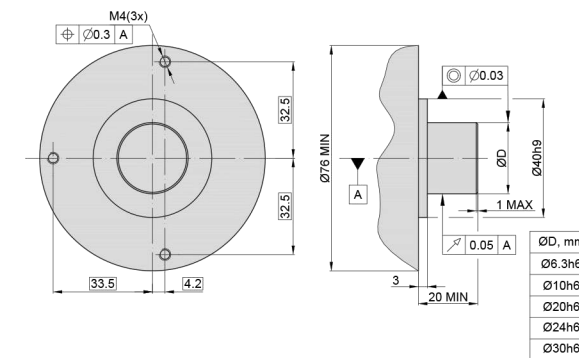
## ACCESSORIES

CONNECTORS FOR CABLE	B12 12-pin round connector	C12 12-pin round connector	D9 9-pin flat connector	D15 15-pin flat connector	RS10 10-pin round connector	ONC 10-pin round connector
CONNECTOR FOR PCB	Adapter Cable dia. 6,2 mm with PCB connector					
DIGITAL READOUT DEVICES	CS3000		CS5500			
EXTERNAL INTERPOLATOR	NK					

## ELECTRICAL DATA

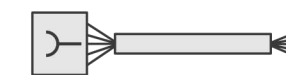
VERSION	A75M-AV ~ 1Vpp	A75M-F □ TTL
Power supply	+5 V ± 5% / < 120 mA	+5 V ± 5% / < 120 mA
Light source	LED	LED
Incremental signals	Differential sine +A/-A and +B/-B Amplitude at 120 Ω load: - A = 0.6-1.2 V - B = 0.6-1.2 V	Differential square-wave U1/U1̄ and U2/U2̄. Signal levels at 20 mA load current: - low (logic "0") ≤ 0.5 V - high (logic "1") ≥ 2.4 V
Reference signal	One quasi-triangular +R and its complimentary -R per revolution. Signal magnitude at 120 Ω load: - R = 0.2...0.8 V (usable)	One differential square-wave U0/U0̄ per revolution. Signal levels at 20 mA load current: - low (logic "0") ≤ 0.5 V - high (logic "1") ≥ 2.4 V
Maximum operating frequency	(-3 dB) ≥ 180 kHz	(160 x k) kHz, k - interpolation factor
Direction of signals	+B lags +A for clockwise rotation (viewed from shaft side)	U2 lags U1 for clockwise rotation (viewed from shaft side)
Maximum rise and fall time	-	< 0.5 μs
Recommended max. cable length to subsequent electronics	25 m	25 m
Output signals		

## MOUNTING DIMENSIONS



## PCB CONNECTOR

**AC**  
Adapter Cable dia.  
6,2 mm with PCB connector



## ORDER FORM

A75M - X1 - X2/X3 - X4 - X5/X6

Output signal Version (X1):	Pulse number Per revolution (X2):	(Optional) line number on disc (z) (X3):	Hub inside diameter (X4):	Adapter cable (X5):	Connector type for adapter cable (X6):
AV F	512 5000*	512 2048 5000	06 - Ø 6.3mm 10 - Ø 10mm 20 - Ø 20mm 24 - Ø 24mm 30 - Ø 30mm	W - without cable AC01 - 1m AC02 - 2m AC03 - 3m ...	W - without connector B12 - round, 12 pins C12 - round, 12 pins D9 - flat, 9 pins D15 - flat, 15 pins RS10 - round, 10 pins ONC - round, 10 pins

ORDER EXAMPLES: 1) A75M-F-4096-24-AC01/W  
2) A75M-F-4096/512-24-AC01/W