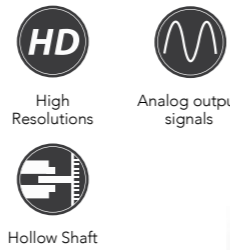


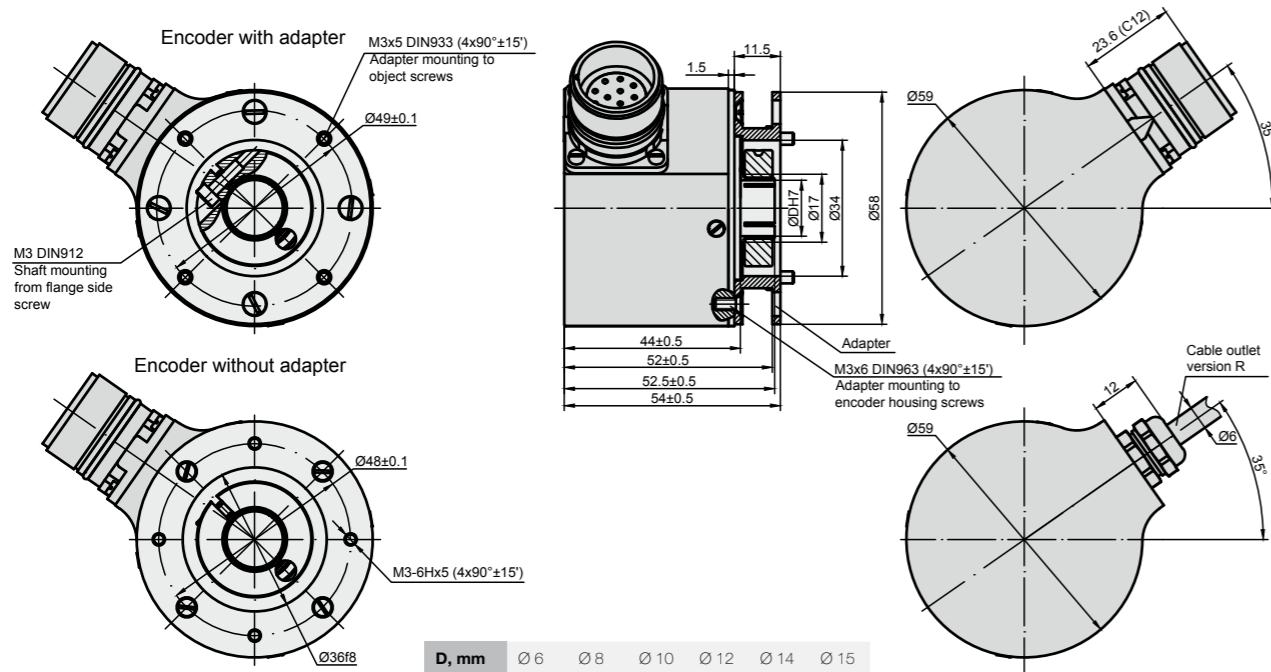
# A58HME

## PHOTOELECTRIC ROTARY ENCODER



Photoelectric encoder A58HME can produce up to 108.000 output pulses per revolution and is a very similar encoder to the A58HE series.

The main difference between the two is that A58HME has a 6-15 mm blind hollow shaft.



### MECHANICAL DATA

Line number on disc (z)	100; 250; 500; 600; 800; 1000; 1024; 1125; 1250; 1500; 2000; 2048; 2500; 3000; 3600; 4000; 5000; 9000; 10800	Starting torque at 20°C	≤ 0.025 Nm
Number of output pulses per revolution for A58HME-F	Z x k, where k=1,2,3,4,5,8,10 (k - interpolation factor)	Rotor moment of inertia	< 1.5x10 <sup>-4</sup> kgm <sup>2</sup>
Maximum shaft speed	10000 rpm	Protection (housing) ( IEC 529)	IP64
Permissible motion of shaft:	±0.03 mm - axial 0.05 mm - radial (at shaft end)	Protection (shaft side) ( IEC 529)	IP64
Accuracy (T <sub>1</sub> -period of lines on disc in arc. sec)	±0.1T <sub>1</sub> arc. sec - on option for z < 5000 ±0.05T <sub>1</sub> arc. sec - on option for z > 5000 ±12.0 arc. sec	Maximum weight without cable	0.35 kg
		Operating temperature	0...+70 °C
		Storage temperature	-30...+80 °C
		Maximum humidity (non-condensing)	98 %
		Permissible vibration (55 to 2000 Hz)	≤ 100 m/s <sup>2</sup>
		Permissible shock (11 ms)	≤ 300 m/s <sup>2</sup>

### ACCESSORIES

CONNECTORS FOR CABLE	C12 12-pin flange socket	C9 9-pin flange socket
DIGITAL READOUT DEVICES	CS3000	CS5500
EXTERNAL INTERPOLATOR		NK

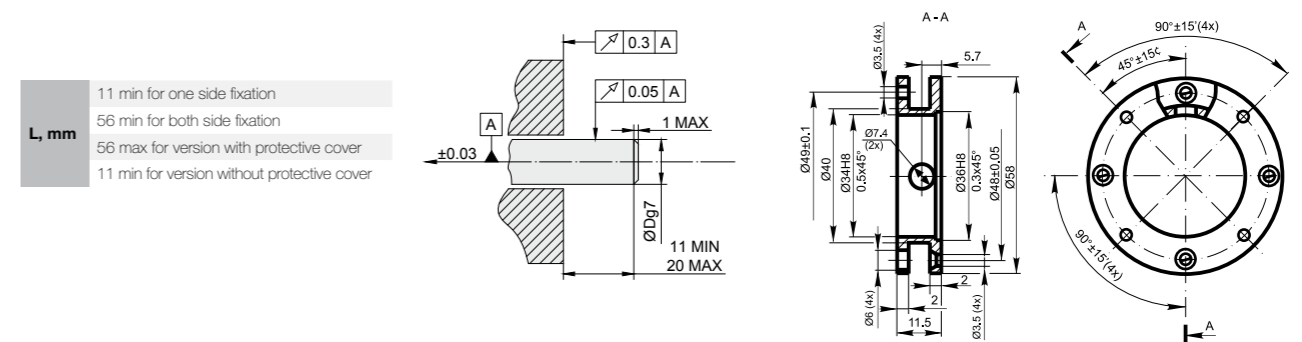
### ELECTRICAL DATA

VERSION	A58HME-A ~ 11 µApp	A58HME-AV ~ 1 Vpp	A58HME-F TTL; HTL
Supply voltage (U <sub>p</sub> )	+5 V ± 5%	+5 V ± 5%	+5 V ± 5%; +(10 to 30) V
Max. supply current (without load)	80 mA	120 mA	120 mA
Light source	LED	LED	LED
Incremental signals	Two sinusoidal I <sub>1</sub> and I <sub>2</sub> Amplitude at 1 kΩ load: - I <sub>1</sub> = 7-16 µA - I <sub>2</sub> = 7-16 µA	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 at U <sub>p</sub> =+5 V - low (logic "0") ≤ 1.5 V at U <sub>p</sub> =10 to 30 V - high (logic "1") ≥ 2.4 V at U <sub>p</sub> =+5 V - high (logic "1") ≥ (U <sub>p</sub> -2) V at U <sub>p</sub> =10 to 30 V
Reference signal	One quasi-triangular I <sub>0</sub> peak per revolution. Signal magnitude at 1 kΩ load: - I <sub>0</sub> = 2-8 µA (usable component)	One quasi-triangular +R and its complementary -R per revolution. Signals magnitude at 120Ω load - R = 0.2-0.8 V (usable component)	One differential square-wave U0/U0̄ per revolution. Signal levels at 20 mA load current: - low (logic "0") < 0.5 V at U <sub>p</sub> =+5 V - low (logic "0") < 1.5 V at U <sub>p</sub> =10 to 30 V - high (logic "1") > 2.4 V at U <sub>p</sub> =+5 V - high (logic "1") > (U <sub>p</sub> -2) V at U <sub>p</sub> =10 to 30 V
Maximum operating frequency	(-3 dB) ≥ 160 kHz	(-3 dB) ≥ 180 kHz	(160 x k) kHz, k-interpolation factor
Direction of signals	I <sub>2</sub> lags I <sub>1</sub> for clockwise rotation	+B lags +A for clockwise rotation	U2 lags U1 with clockwise rotation
Maximum rise and fall time	-	-	< 0.5 µs
Standard cable length	1 m, without connector	1 m, without connector	1 m, without connector
Maximum cable length	5 m	25 m	25 m
Output signals			

- Note:
- Maximum working rotation speed (with proper encoder counting) is limited by maximum operating frequency and maximum mechanical rotation speed.
  - If cable extension is used, power supply conductor cross-section should not be smaller than 0.5 mm<sup>2</sup>.

### MOUNTING REQUIREMENTS

### ADAPTER



### ORDER FORM

A58HME	- XX -	XXXX/XXXX	- XX -	XX -	XX -	XX -	X
OUTPUT SIGNAL VERSION:	PULSE NUMBER PER REVOLUTION:	OPTIONAL LINE NUMBER ON DISC (Z):	SHAFT HOLE DIAMETER:	SUPPLY VOLTAGE:	CABLE LENGTH:	CONNECTOR TYPE:	ADAPTER:
A	1...100	100	6, 8, 10, 12, 14*, 15 mm	05V - +5V 30V - +(10 to 30) V*	AR01 - 1m AR02 - 2m AR03 - 3m ...	W - without connector C9 - round, 9 pins C12 - round, 12 pins D9 - flat, 9 pins	W - without adapter S - with adapter
AV	...	...	*with additional hub for shaft mounting, for one side fixation from flange side	*only for A58HME-F with HTL output			
F	1...108000	10800					
ORDER EXAMPLES:		1) A58HME-AV-1024-6-05V-W; 2) A58HME-F-4000-8-30V-S; 3) A58HME-F-4000/500-8-30V-S					