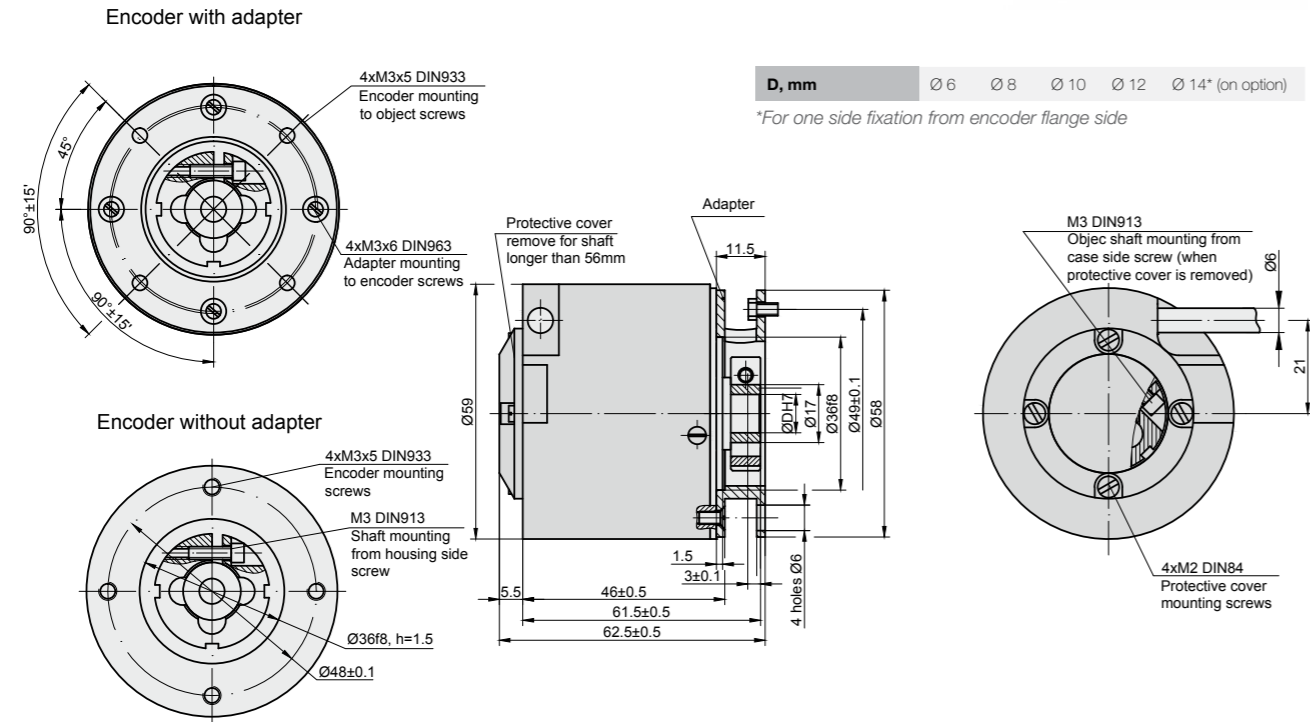
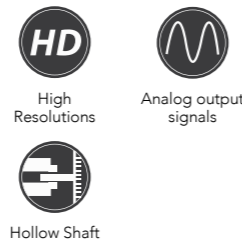


A58HE

PHOTOELECTRIC ROTARY ENCODER

Photoelectric rotary encoder A58HE can produce up to 108.000 output pulses per revolution and has different signal options: 11 μApp, 1Vpp, TTL or HTL.



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
Pulse number per shaft revolution for A58-F	Z x k, where k=1,2,3,4,5,8,10 (k - interpolation factor)	Rotor moment of inertia	< 1.5x10 ⁻⁴ kgm ²
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 ₁ -period of lines on disc in arc. sec)	±0.1T ₁ arc. sec - on option for z < 5000 ±0.05T ₁ 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 ²
		Permissible shock (11 ms)	≤ 300 m/s ²

ACCESSORIES

CONNECTORS FOR CABLE	B12 12-pin round connector	C9 9-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
DIGITAL READOUT DEVICES	CS3000			CS5500			
EXTERNAL INTERPOLATOR	NK						

ELECTRICAL DATA

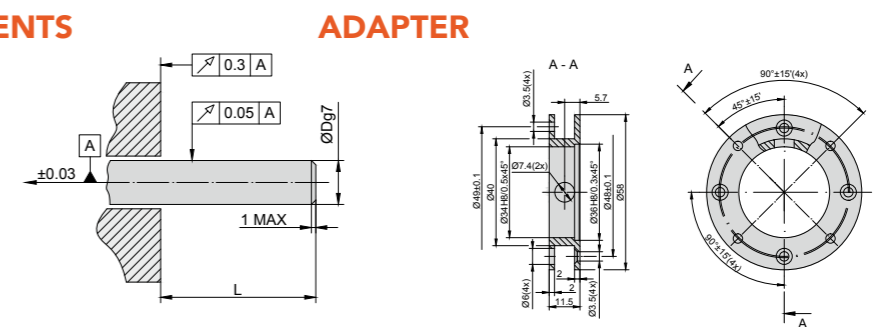
VERSION	A58HE-A ~ 11 μApp	A58HE-AV ~ 1 Vpp	A58HE-F □□ TTL; □□ HTL
Supply voltage (U _p)	+5 V ± 5%	+5 V ± 5%	+5 V ± 5%; +(10 to 30) V
Max. supply current (without load)	80 mA	120 mA	120 mA
Light source	LED	LED	LED
Incremental signals	Two sinusoidal I ₁ and I ₂ Amplitude at 1 kΩ load: - I ₁ = 7-16 μA - I ₂ = 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/Ū1 and U2/Ū2. Signal levels at 20 mA load current: - low (logic "0") ≤ 0.5 V at U _p =+5 V - low (logic "0") ≤ 1.5 V at U _p =10 to 30 V - high (logic "1") ≥ 2.4 V at U _p =+5 V - high (logic "1") ≥ (U _p -2) V at U _p =10 to 30 V
Reference signal	One quasi-triangular I ₀ peak per revolution. Signal magnitude at 1 kΩ load: - I ₀ = 2-8 μA (usable component)	One quasi-triangular +R and its complementary -R per revolution. Signals magnitude at 120 Ω load - R = 0.2-0.8 V (usable component)	One differential square-wave U0/Ū0 per revolution. Signal levels at 20 mA load current: - low (logic "0") < 0.5 V at U _p =+5 V - low (logic "0") < 1.5 V at U _p =10 to 30 V - high (logic "1") > 2.4 V at U _p =+5 V - high (logic "1") > (U _p -2) V at U _p =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 ₂ lags I ₁ 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 mm².

MOUNTING REQUIREMENTS

L, mm	11 min for one side fixation 56 min for both side fixation 56 max for version with protective cover 11 min for version without protective cover
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ORDER FORM

A58HE - XX - XXXX/XXXX - XX - XX - XXX - X	AP58X - XXXX - XXX - XXXX - 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 AV F	1...100 ... 1...108000	100 ... 10800 *only for A58HE-F	6, 8, 10, 12, 14* mm *with additional hub for shaft mounting, for one side fixation from flange side	05V - +5V 30V - +(10 to 30) V* *only for A58HE-F with HTL output	AR01 - 1m AR02 - 2m AR03 - 3m ...	W - without connector B12 - round, 12 pins C9 - round, 9 pins C12 - round, 12 pins D9 - flat, 9 pins D15 - flat, 15 pins RS10 - round, 10 pins ONC - round, 10 pins	W - without adapter S - with adapter
ORDER EXAMPLES:		1) A58HE-AV-1024-6-05V-AR01/W-W 2) A58HE-F-4000-8-30V-AR06/C12-S 3) A58HE-F-4000/500-8-30V-AR06/C12-S					