

TECHNICAL DATASHEET

Absolute encoder AD38 for High performance SM



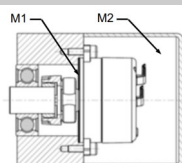
TECHNICAL DATA mechanical

- Mechanical MT absolute encoder for high performance motion control
- Standard mounting depth 36.6 mm with 55/40mm tether
- 1:10 9mm cone hollow shaft design, compatible with mainstream market solutions
- ST solution up to 24 bits and MT up to 12 bits
- Integrated motor temperature sensor input interface PT1000/KTY
- Wide operating temperature
- Maximum continuous speed up to 10,000 rpm
- Provide OEM data areas for storing motor parameters and encoder electronic nameplate (EDS)

ACURO®
drive



Outside diameter	37.5 mm
Bore size	9 mm 1:10 cone hollow shaft
Mounting depth	35.6 ± 1mm for tether 40mm 36.6 ± 1mm for tether 55mm
Mounting of housing	Tether 55mm/40mm
Shaft end/housing IP	IP40/IP40
Axial endplay of mounting shaft	± 0.5 mm
Radial runout of mating shaft	TIR 0.05 mm
Max. speed	10,000 rpm
Starting torque typ.	≤ 1 Ncm
Moment of inertia	1.05 x 10 ⁻⁶ kgm ²
Vibration resistance (DIN EN 60068-2-6)	300 m/s ² (10 ... 2000 Hz)
Shock resistance (DIN EN 60068-2-27)	2,000 m/s ² (6 ms)
Maximum angular acceleration	2.5 x 10 ⁵ rad/sec ²
Shaft/housing material	Stainless steel/engineering plastics
Weight	approx. 70 g (MT)
Connection	8 pole PCB connector with 0.5m cable
Storage temperature	-30° C ... +80° C (due to packaging)
Operating temperature(M1)	-40° C ... +115° C
Environment temperature(M2)	-40° C ... +105° C @ 6,000 rpm -40° C ... +100° C @ 8,000 rpm -40° C ... + 95° C @ 10,000 rpm

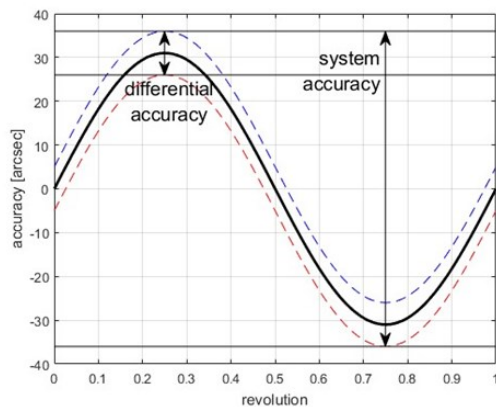


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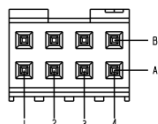
TECHNICAL DATA electrical

General design	as per EN IEC 61010-1, protection class III, contamination level 2, overvoltage class II
Supply voltage	5VDC $\pm$ 10%
Power consumption	< 1 W
ST resolution	24 bits (Number of pulses 2048)
MT resolution	12 bits mechanical gearbox (lifetime maintenance free)
EMC	As per IEC 61326-1 industrial application environment
electrostatic (ESD)	Refer to IEC61000-4-2 for test levels and methods
Fast Transient Pulse (Burst)	Refer to IEC61000-4-4 for test levels and methods
Surge (Surge)	Refer to IEC61000-4-5 for test levels and methods
Output interface	RS422 compatible
Communication protocol	Pure Digital BISS-C (optional temperature data expansion)
Temperature sensor	PT 1000 ($\pm$ 3K) , KTY ($\pm$ 5K)
Electronic nameplate (EDS)	512 Bytes Data storage space
OEM Storage area	7 k Bytes Used to store OEM motor data
Absolute accuracy typ.	$\pm$ 27"
Repositioning Accuracy	Max. $\pm$ 5"



PIN ASSIGNMENT PCB-connector, 8-pole

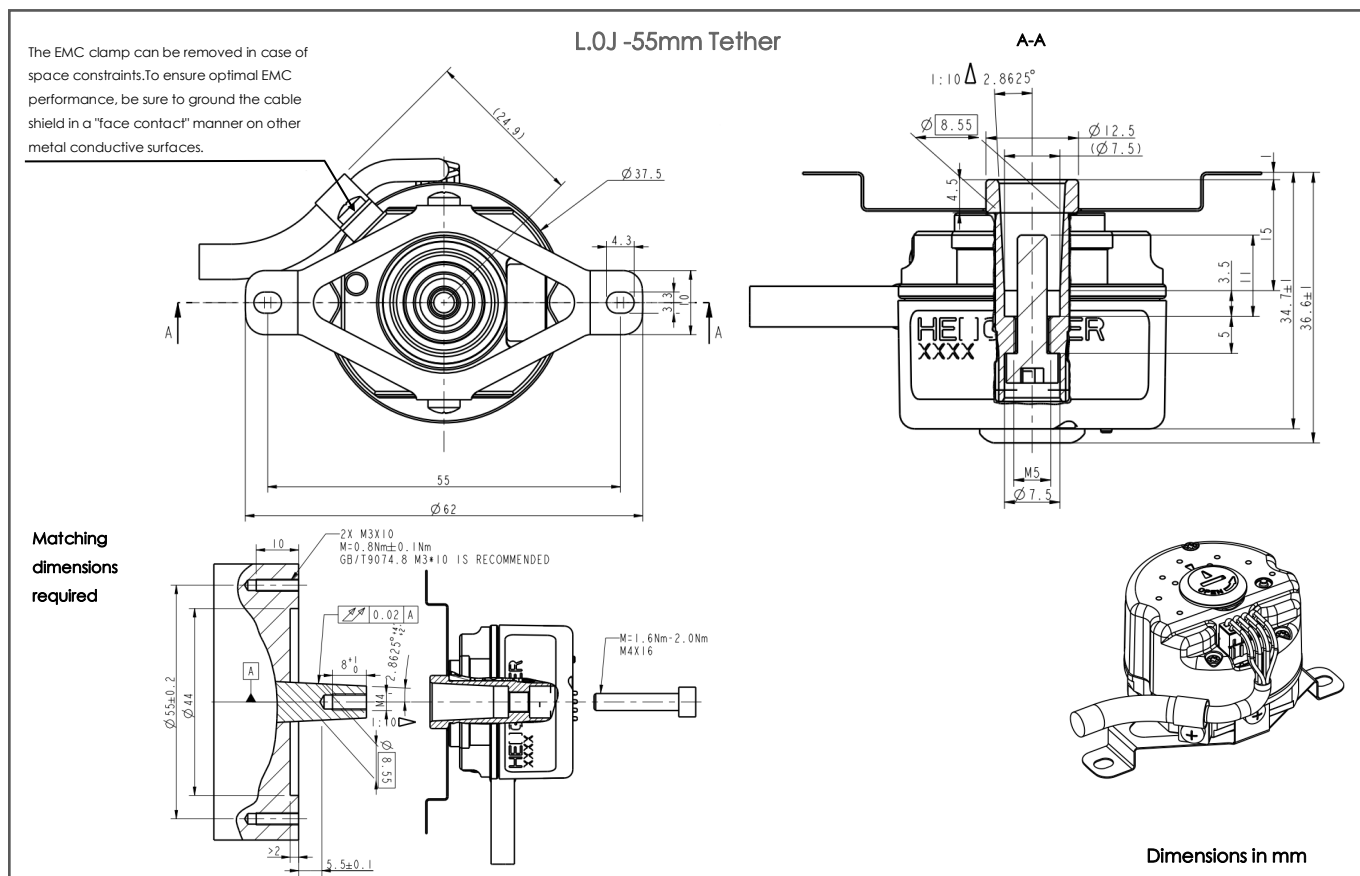
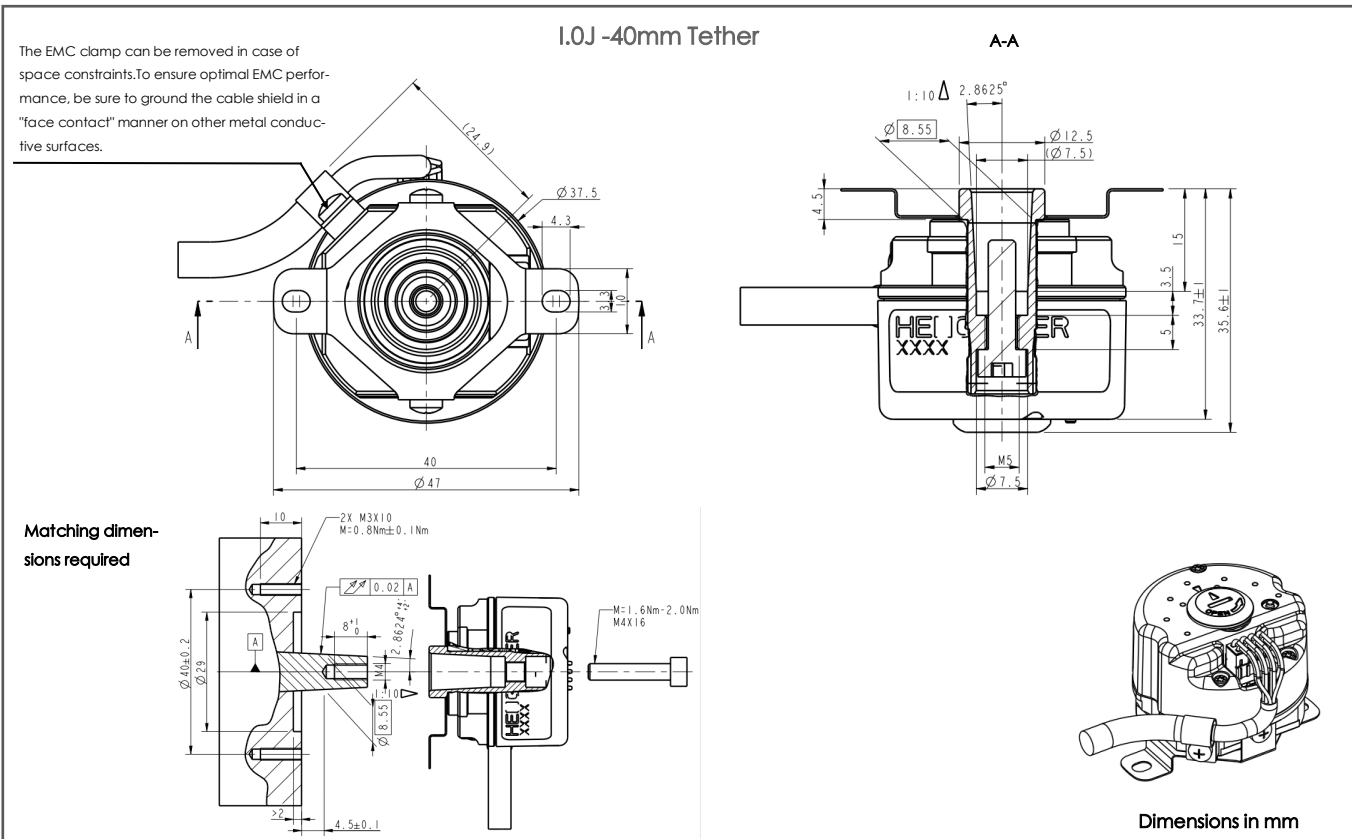
PIN	Color	Signal	PIN	Color	Signal
1A	violet	Temp+	1B	violet/black	Temp-
2A	green/black	DATA-	2B	green	DATA+
3A	blue/black	CLOCK-	3B	blue	CLOCK+
4A	red	UB+	4B	black	GND



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DIMENSIONED DRAWINGS



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ORDERING INFORMATION

Type	Resolution	Power Voltage	Flange, Protection, Shaft	Interface	Connection	Cable length
	/					
AD38	0015 15 Bit ST 0017 17 Bit ST 0020 20 Bit ST 0024 24 Bit ST 1215 12 Bit MT+15 Bit ST 1217 12 Bit MT+17 Bit ST 1220 12 Bit MT+20 Bit ST 1224 12 Bit MT+24 Bit ST	A 5 VDC	I.OJ Spring tether 40mm, IP40, 9 mm 1:10 cone hollow shaft L.OJ Spring tether 55mm, IP40, 9 mm 1:10 cone hollow shaft	BE BiSS-C BT BiSS-C + Motor winding tem- perature * BT type is required to drive protocol matching	B PCB connector with mating connector and cable, axial	00 No cable A5 0.5m cable B0 1.0m cable B5 1.5m cable C0 2.0m cable D0 3.0m cable E0 4.0m cable F0 5.0m cable