



THM5 SERIES

ETHERCAT ABSOLUTE MULTI-TURN ENCODER



Features

- Robust and compact design
- Solid shaft version Ø 10mm
- Magnetic technology
- High temperature performance -40° to +85°C
- Resolution: 13 bits = 8192 steps/turn
- Number of turns: 14 bits = 16384



SPECIFICATIONS

Mechanical

Housing Diameter	Housing Diameter: 58mm
	Shaft Diameter: 10mm standard
	Flat on shaft: 20mm long
Max. Shaft Loading	Axial: 40 N
	Radial: 110 N
Starting Torque	≤ 3 N•cm
Material	Shaft Material: Stainless Steel
	Housing: Steel
Bearing Life @ Load (Axial/Radial)	40 N / 60 N = 150 X 10 ⁸
	40 N / 80 N = 100 X 10 ⁸
	40 N / 110 N = 55 X 10 ⁸
Maximum RPM (Continuous)	12,000 RPM
Moment of Inertia	< 30 g•cm ²
Weight	430 g

Electrical

Code	Binary
Output Profile	EtherCAT
Counts per Revolution	13 Bits
Revolution Counter	14 Bits
Accuracy	$\pm 0.0878^\circ$ (≤ 12 bit)
Supply Voltage	10 – 30 Vdc (for power supplies that comply with EN 50178)
Current consumption	≤ 230 mA @ 10Vdc, ≤ 100 mA @ 24 Vdc
Power Consumption	≤ 2.5 W
Protection Level	Reverse Polarity and Short Circuit Protection
Transmission Rate	10 / 100 Mbits
EMC: Emitted Interference	DIN EN61000-6-4
EMC: Noise Immunity	DIN EN 61000-6-2

Environmental

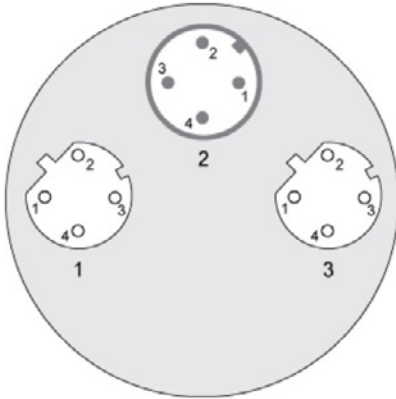
Protection Class	IP65 (EN 60529)
Temperature Range (Operation and Storage)	-40 to +85°C
Mechanical Resistance	Shock: ≤ 100 g half-sine, 6ms (EN 60068-2-27); ≤ 10 g half-sine, 16ms (EN 60068-2-29) Vibration: ≤ 10 g (10 Hz to 1 kHz) (EN 60068-2-6)
Humidity	98% Non-Condensing

Technology and Interface

Sensor	Magnetic
Turns Counting	Self powered magnetic pulse counter (no battery, no gear)
Diagnostics	Memory
Programming Functions	Resolution, time base, velocity filter, preset, count direction, IP address
Features	Boot loader, Round axis
Interface Cycle Time	≥ 80 μ s
Start-up time	< 1 sec



CONNECTION



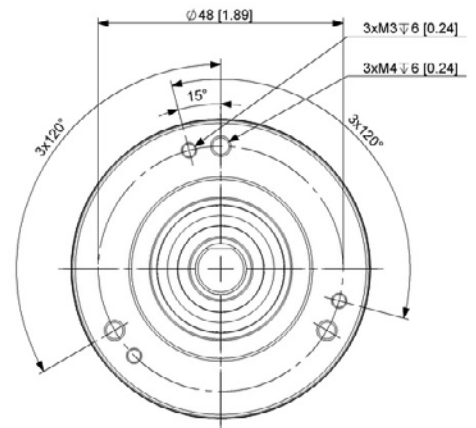
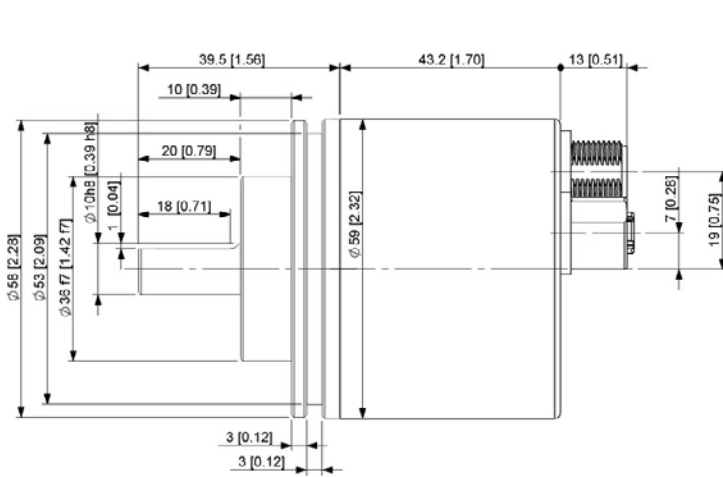
Signal	Connector	Pin Number
Tx+	Connector 1	1
Rx+	Connector 1	2
Tx-	Connector 1	3
Rx-	Connector 1	4
Power Supply	Connector 2	1
Not Connected	Connector 2	2
GND	Connector 2	3
Not Connected	Connector 2	4
Tx+	Connector 3	1
Rx+	Connector 3	2
Tx-	Connector 3	3
Rx-	Connector 3	4

Electrical Connection	
Connector 1	M12, Female, 4 pins d coded
Connector 2	M12, Male, 4 pins a coded
Connector 3	M12, Female, 4 pins d coded



DIMENSIONS

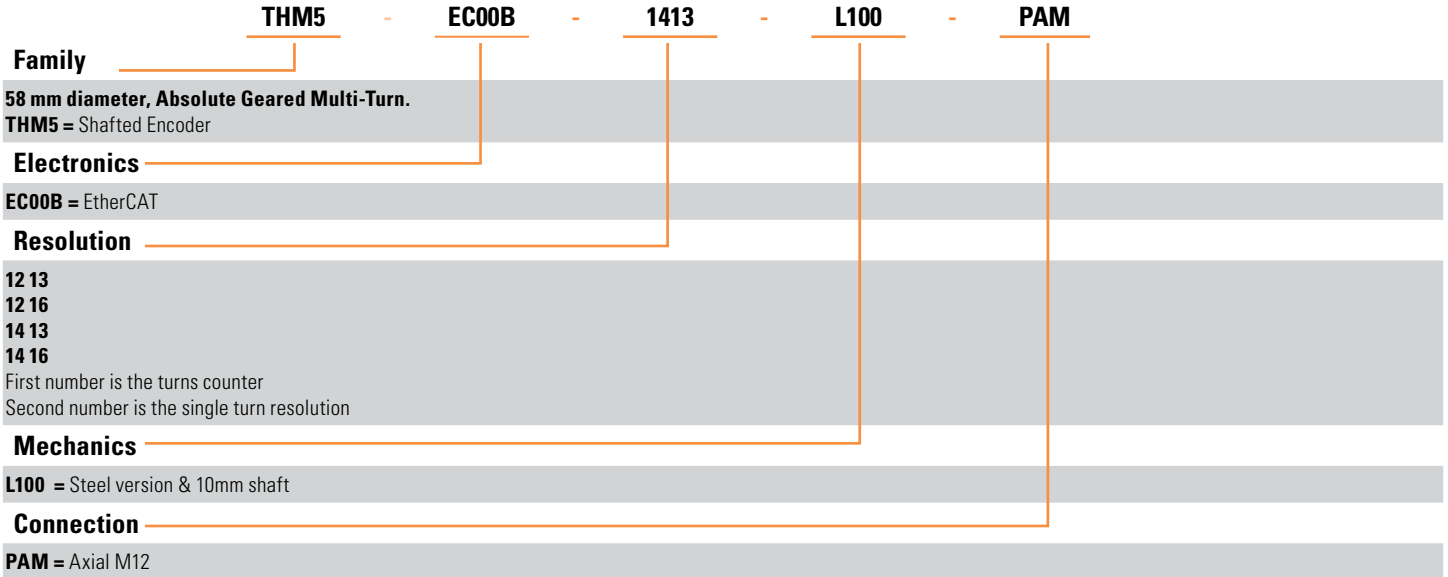
All dimensions are in millimeters





ORDERING OPTIONS

Example : THM5-EC00B-1413-L100-PAM



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