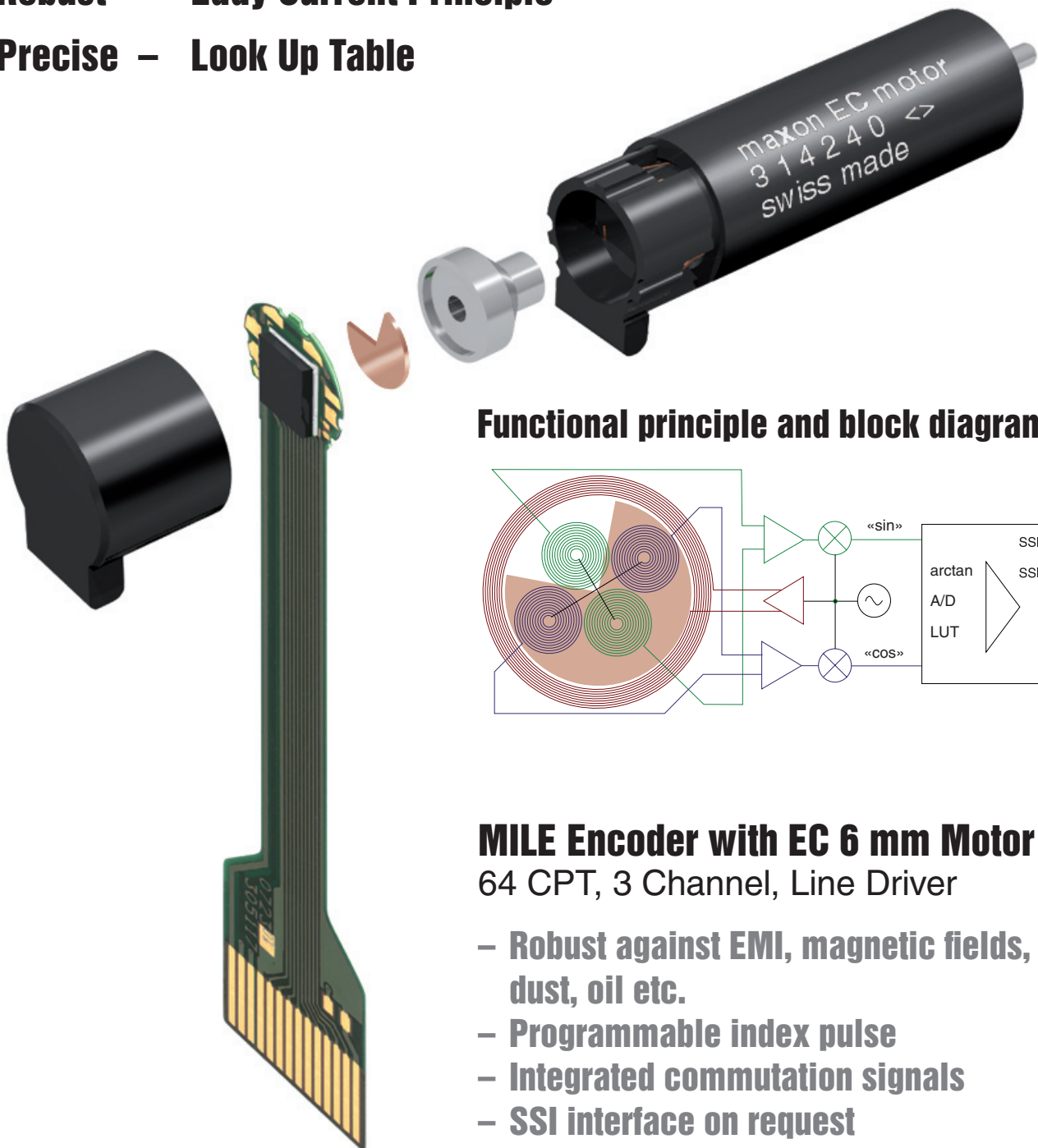
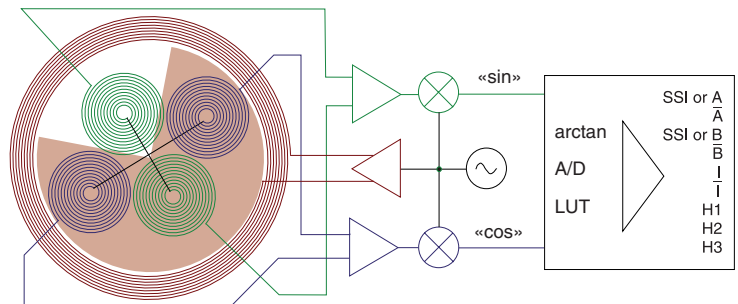


Milestone: Inductive Micro Encoder

- Small** – MEMS Technology
Robust – Eddy Current Principle
Precise – Look Up Table



Functional principle and block diagramm



MILE Encoder with EC 6 mm Motor

64 CPT, 3 Channel, Line Driver

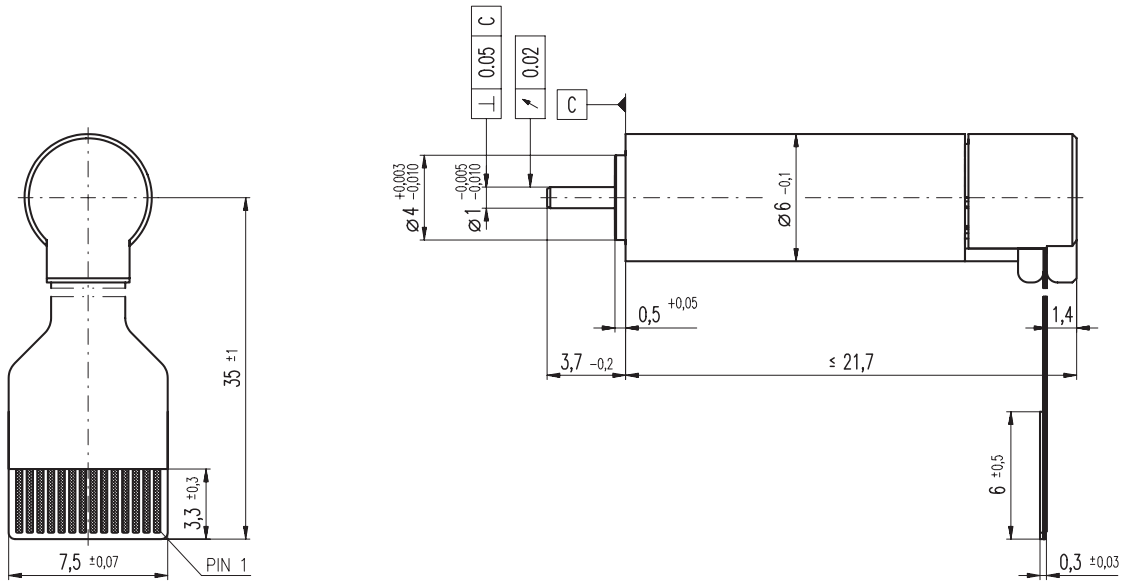
- Robust against EMI, magnetic fields, dust, oil etc.
- Programmable index pulse
- Integrated commutation signals
- SSI interface on request

EC 6 with MILE Encoder

NEW

Motor EC 6, Ø6 mm, brushless, 1.2 Watt

Encoder MILE, 64 Counts per turn, 3 Channels, with Line Driver



Pin Allocation

1	V _{DD}
2	Channel A
3	Channel \bar{A}
4	Channel B
5	Channel \bar{B}
6	Channel I
7	Channel \bar{I}
8	Commutation H1
9	Commutation H2
10	Commutation H3
11	V _{SS} /GND
12	Motor winding 1
13	Motor winding 2
14	Motor winding 3

Specifications MILE Encoder

Counts per turn	64
Max. speed	bis 100'000 min ⁻¹
Number of channels	3
Supply voltage V _{DD}	5V ±10%
Output signal levels	CMOS und TTL compatible
Output current per channel	max. 4 mA RMS
Rise / fall time	10 ns typ. @ C _L = 25pF, R _L = 1 kΩ

Recommended Drive Electronics

354418 (EPOS 24/1 with adaptor print) on request.

Note: Pull-down resistors on the encoder outputs are not permitted. Pull-up resistors are permitted, but not required.

Compatible connector: Molex 0527451496 / Tyco 1-1734839-4

Specifications

Thermal data

Thermal resistance housing-ambient	75 K/W
Thermal resistance winding-housing	5 K/W
Thermal time constant winding	0.464 s
Thermal time constant motor	80.2 s
Ambient temperature	-20 ... +100°C
Max. permissible winding temperature	+125°C

Mechanical data

Max. permissible speed	100000 rpm
Axial play at axial load <0.15 N	0 mm
>0.15 N	max. 0.06 mm
Radial play	preloaded
Max. axial load (dynamic)	0.1 N
Max. force for press fits (static)	10 N
Max. radial loading, 2 mm from flange	2 N

Other specifications

Number of pole pairs	1
Number of phases	3
Weight of Motor and Encoder	2.65 g

Motor Data (provisional)

Values at nominal voltage

		314240	359088
Nominal voltage	V	6.0	12.0
No load speed	rpm	47500	36100
No load current	mA	57.4	20.5
Nominal speed	rpm	23800	11900
Nominal torque (max. continuous torque)	mNm	0.232	0.241
Nominal current (max. continuous current)	A	0.265	0.105
Stall torque	mNm	0.509	0.402
Starting current	A	0.480	0.147
Max. efficiency	%	43	39

Characteristics

Terminal resistance phase to phase	Ω	12.5	81.5
Terminal inductance phase to phase	mH	0.0911	0.602
Torque constant	mNm / A	1.06	2.73
Speed constant	rpm / V	9010	3500
Speed/torque gradient	rpm /	106000	105000
Mechanical time constant	ms	6.67	6.67
Rotor inertia	gcm ²	0.006	0.006