

TECHNICAL DATASHEET

Absolute Motor Feedback Encoder AD37 for DRIVE-CLiQ



AD37 DRIVE CLiQ - Tapered shaft

- Singleturn and Multiturn Encoder for high performance motion control
- DRIVE-CLiQ¹ interface
- Resolution 24 Bit + 12 Bit MT
- Accuracy $\pm 35''$
- Compact absolute multiturn encoder (Mounting depth: 34.7 mm)
- Wide operating temperature range, up to +105°C
- Wide speed range up to 12,000 rpm
- Motor Temperature Logging and Temperature Monitoring of Encoder
- Optical encoder with a true geared multiturn
- Connector for motor winding temperature sensor

ACURO[®]
drive



TECHNICAL DATA mechanical

Housing diameter	38.3 mm (minimum required space)		
Shaft diameter	8 mm tapered shaft 1:3, M4 screw		
Mounting depth	34.7 \pm 1 mm		
Flange (mounting of housing)	Spring Tether		
Material shaft	Stainless steel		
Material housing	Aluminum / Plastic		
Weight	approx. 70 g		
Protection class shaft input (EN 60529)	IP40 (when installed)		
Protection class housing (EN 60529)	IP30 (with cable clip)		
Axial end play of mating shaft (static)	\pm 0.5 mm		
Radial runout of mating shaft (static)	\pm 0.1 mm (measured on encoder body)		
Speed max.	\leq 12,000 rpm (see ambient temperature)		
Starting torque typ.	\leq 1 Ncm		
Moment of inertia	0.5 x 10 ⁻⁶ kgm ²		
Vibration resistance (EN 60068-2-6)	300 m/s ² (60 ... 2000 Hz)		
Shock resistance (EN 60068-2-27)	1000 m/s ² (6 ms)		
Max. angular acceleration	2.5 x 10 ⁵ rad/sec ²		
Relative humidity (EN 60068-2-78)	\leq 90 % ; without condensation		
Connection (axial)	ECU interface - 2 x PCB connector (7 pol., T1M-07-GF -S-V-K-TR)		
Motor winding temperature sensor	Type	KTY84-130	PT1000
	Temp. measurement range ²	-40 °C ... +200 °C	
	Resolution	0,2 K	0,2 K

¹ "DRIVE-CLiQ" is a registered trademark of Siemens

² calibration temperature 100 °C

Specifications subject to change without notice.

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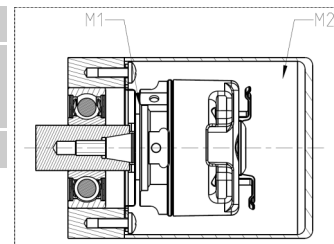
TECHNICAL DATA temperature characteristics

Operating temperature ³	-40°C ... +105°C
Ambient temperature ⁴	-40°C...+100°C @6,000 rpm -40°C...+90°C @9,000 rpm -40°C...+80°C @12,000 rpm
Storage temperature ⁵	-30°C ... +80°C

³ see measuring point M1

⁴ see measuring point M2

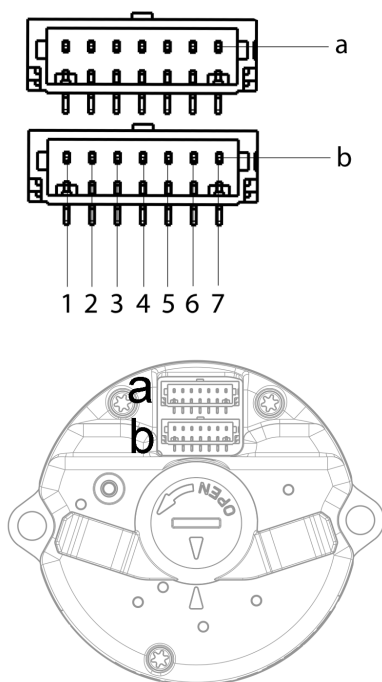
⁵ due to packaging



TECHNICAL DATA electrical

General design	as per EN IEC 61010-1, protection class III, contamination level 2, overvoltage class II
Supply Voltage	10-30 VDC
Power Consumption max.	1.8 W (at 24 V)
Current Consumption typ.	40 mA (at 24 V Singleturn) 60 mA (at 24 V Multiturn)
Interface / Protocol	DRIVE-CLiQ
Siemens-Software (Version: 12.2.2014)	Sinamics Simotion: ≥ V4.4 HF4
Resolution Singleturn	24 Bit
Resolution Multiturn	12 Bit
Absolute Accuracy	± 35" (typ.)
Cable Length	≤ 100 m

ELECTRICAL CONNECTIONS PCB Connectors, 2 x 7 pole, 2 x T1M-07-GF-S-V-K-TR



PIN	Signals
1a	UB+
2a	UB-
3a	RX-N
4a	RX-P
5a	TX-P
6a	TX-N
7a	Do not use ⁶
1b	Do not use ⁶
2b	Do not use ⁶
3b	Do not use ⁶
4b	Do not use ⁶
5b	Do not use ⁶
6b	T+
7b	T-

⁶ These pins are for manufacturer's internal diagnostics only

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ACCESSORIES Connection Cables

Connection cable	Part Nr.
Cable Assy 1mm 7pos, 6 loaded, 127mm	E3561201
Cable Assy 1mm 7pos, 2 loaded, 127mm	E3561202

Plug Options

Plug	Part Nr.
Plug to close the cap	E2545059
Plug with wire guides to close the cap	E2545052



E2545059



E2545052

Tools

Tool	Part Nr.
Zero Setting Tool, AD37DQ	tbd

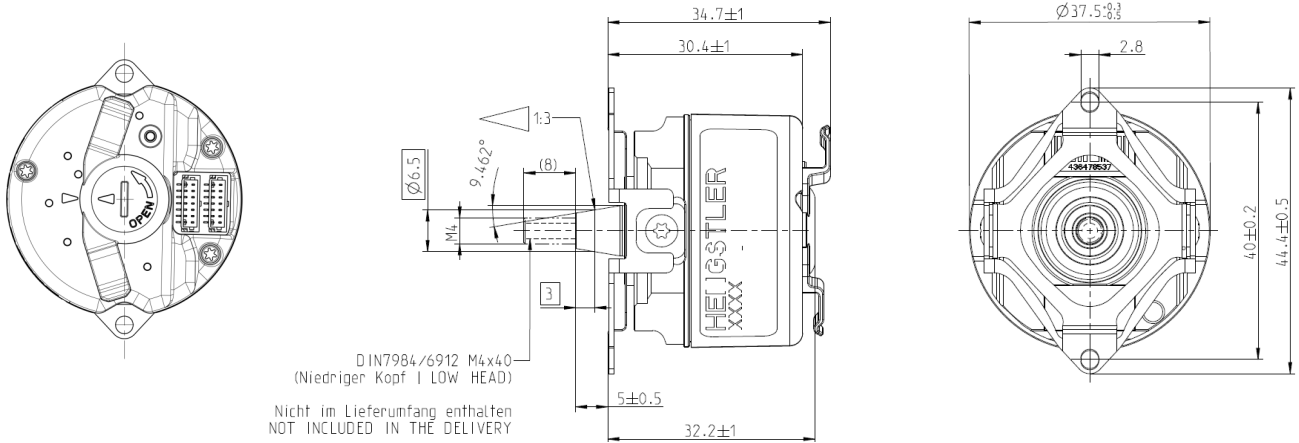
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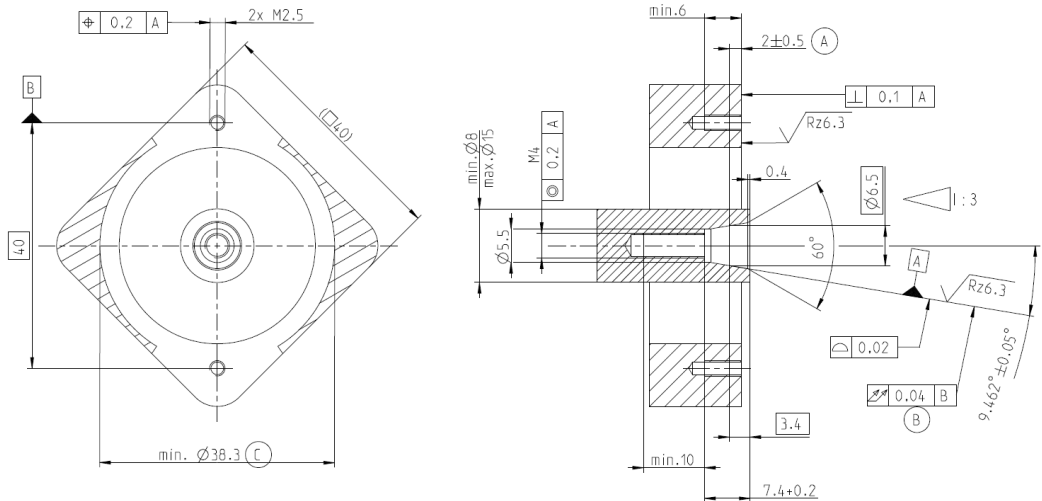
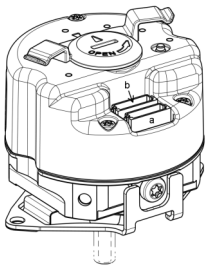
Absolute Motor Feedback Encoder AD37 for DRIVE-CLiQ

DIMENSIONAL DRAWINGS

Dargestellte Variante W.0T
Shown type W.0T



Anbauvorgaben für W.0T
Installation Requirements W.0T



A Drehmomentstützen-Ausgleichsmaß von Montage/- und Betriebstoleranzen axial inkl. thermischen Ausdehnungen
- Max. zulässige Motor Wellenbewegung: statisch
Tether dimension compensation of mounting/- and operating-tolerances axial inclusive thermal expansions
- max. permissible motor shaft movement: static

B Drehmomentstützen-Ausgleichsmaß von Montage/- und Betriebstoleranzen radial inkl. thermischen Ausdehnungen
- Max. zulässige Motor Wellenbewegung: dynamisch
Tether dimension compensation of mounting/- and operating-tolerances radial inclusive thermal expansions
- max. permissible motor shaft movement: dynamic

C Einbauraum
installation space

Dimensions in mm

Specifications subject to change without notice.

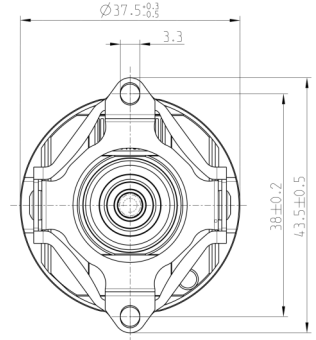
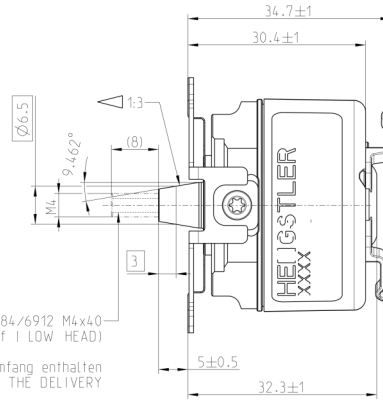
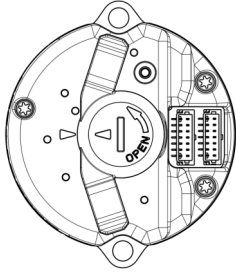
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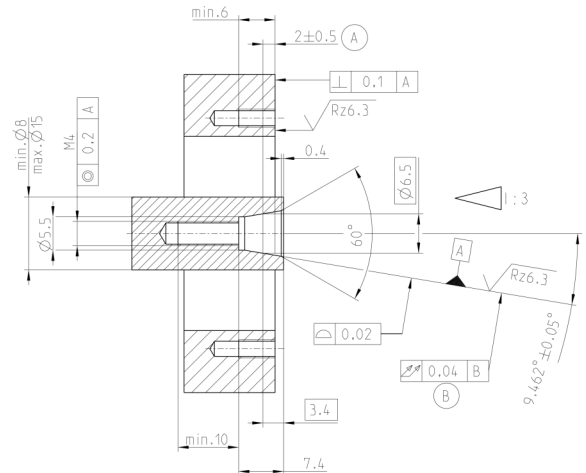
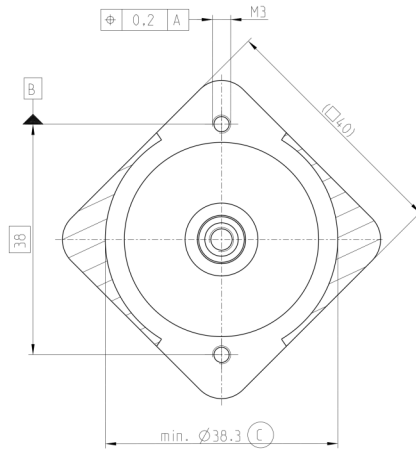
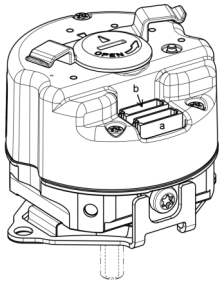
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DIMENSIONAL DRAWINGS

Dargestellte Variante V.0T
Shown type V.0T



Anbauvorgaben für V.0T
Installation Requirements V.0T



- A** Drehmomentstützen-Ausgleichsmaß von Montage/- und Betriebstoleranzen axial inkl. thermischen Ausdehnungen
- Max. zulässige Motor Wellenbewegung: statisch
Tether dimension compensation of mounting/- and operating-tolerances axial inclusive thermal expansions
- max. permissible motor shaft movement: static
- B** Drehmomentstützen-Ausgleichsmaß von Montage/- und Betriebstoleranzen radial inkl. thermischen Ausdehnungen
- Max. zulässige Motor Wellenbewegung: dynamisch
Tether dimension compensation of mounting/- and operating-tolerances radial inclusive thermal expansions
- max. permissible motor shaft movement: dynamic

- C** Einbauraum
installation space

Dimensions in mm

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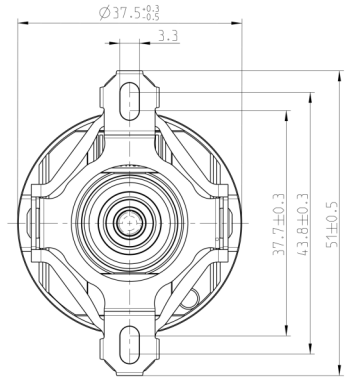
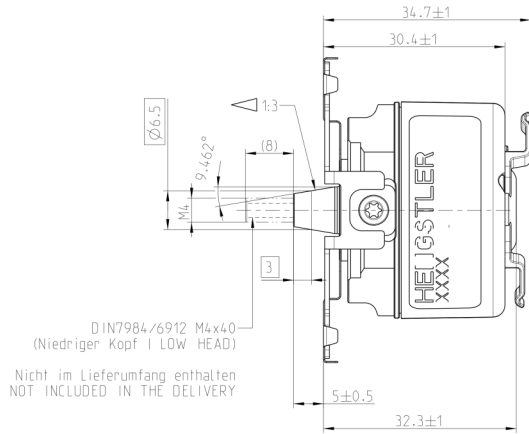
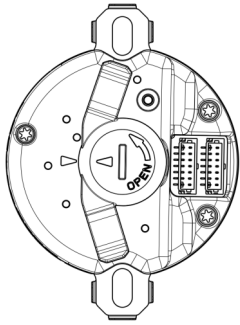
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Edition: 3 040826 SG		

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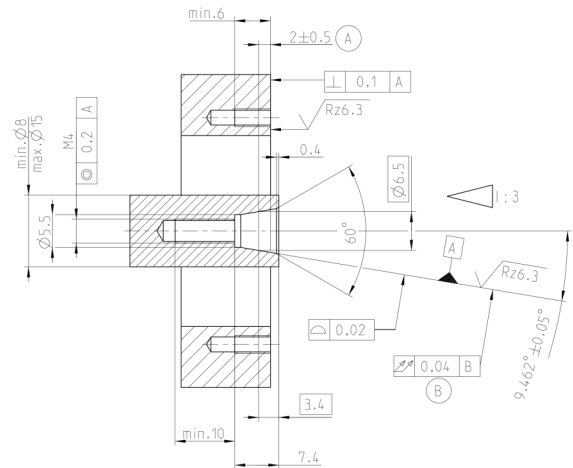
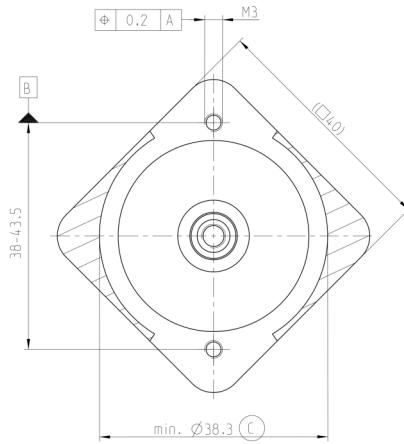
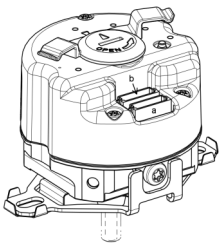
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DIMENSIONAL DRAWINGS

Dargestellte Variante C.0T
Shown type C.0T



Anbauvorgaben für C.0T
Installation Requirements C.0T



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- Max. zulässige Motor Wellenbewegung: dynamisch
Tether dimension compensation of mounting/- and operating-tolerances radial inclusive thermal expansions
- max. permissible motor shaft movement: dynamic

C Einbauraum
installation space

Dimensions in mm

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ORDERING INFORMATION
AD37 DRIVE-CLiQ

Type	Resolution	Supply voltage	Flange, Protection, Shaft	Interface	Connection
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AD37/	0020 20 Bit ST 0024 24 Bit ST 1220 12 Bit MT + 20 Bit ST 1224 12 Bit MT + 24 Bit ST	E DC 10 - 30 V	W.0T Spring tether 40 mm, IP30, 8 mm cone 1:3, M4 V.0T Spring tether 38 mm, IP30, 8 mm cone 1:3, M4 C.0T Spring tether 38-43.5 mm, IP30, 8 mm cone 1:3, M4	DQ DRIVE-CLiQ	U Data & power supply connector, axial (2 x 7 pol.)

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Edition: 3 040826 SG		7/7