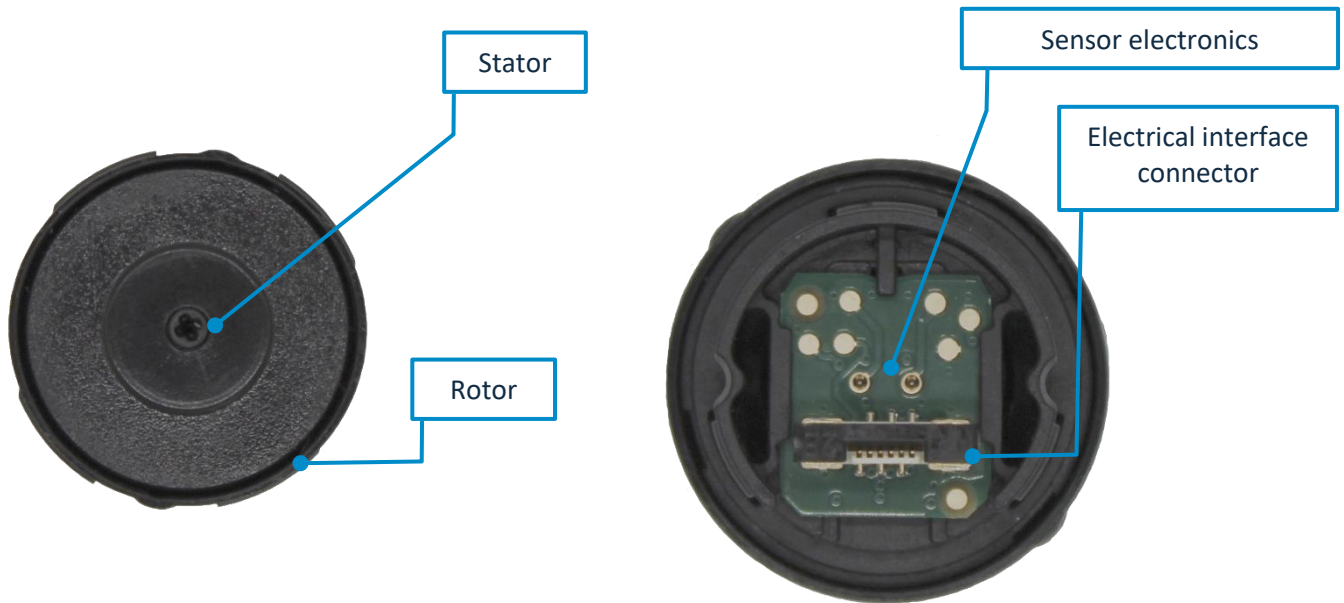


HAPTICORE Two

Datasheet

HAPTICORE Two



Diameter	21.6 mm
Width	20 mm
Weight	12 g

Material

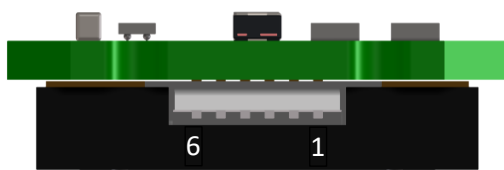
Stator	Plastic
Rotor	Plastic

Mechanical specification

Mounting points	Single mounting point
Mounting mechanism	Clipped interface: $\varnothing$ 16.5 mm Lock nut fixation interface: $\varnothing$ 20.5 mm
Cover mounting mechanism	plugged in
Recommended cover diameter	24 to 27 mm

Electronic specification

Sensor resolution	0.1°
Senor placement	Integrated in the product on-axis
PCBA	Only sensor FFC/FPC 6POS 0.5mm PITCH 180° SMT TYPE, ZIF
Electronical interface - connector	2 types available, depending on the arrangement of the connector: - CORE 01-X008: Connector vertically - CORE 01-X011: Connector horizontally
Electronical interface - sensor	I ² C (400kHz) internal pull-up resistor 3.3k Ω on SCL/SDA
ESD protection	IEC61000-4-2 Level 4 Contact Discharge $\pm$ 8kV Air Discharge $\pm$ 15kV



Pin	Signal
1	SDA
2	SCL
3	+3V3
4	GND
5	Coil_A
6	Coil_B

Note regarding customer hardware design To ensure electrical safety, the ground of the coil driver (H-bridge or similar) and the hall sensor must be connected to the same potential (common ground).

Operating ratings

Abbreviation	Parameter	Min	Typ	Max	Unit
V_L	Supply Voltage Logic	2.8	3.3	3.5	V
I_L	Supply Current Logic	-	1	20	mA
V_{IL}	Input Voltage Logic (low, SDA/SCL)	-	-	$V_L \times 0.3$	V
V_{IH}	Input Voltage Logic (high, SDA/SCL)	$V_L \times 0.7$	-	-	V
$V_{OL} I_{OL}=3\text{mA}$	Output Voltage (low, SDA/SCL)	-	-	0.4	V
P_C	Power Coil	-	-	1.2	W
R_C	Resistance Coil	8.5 ⁽⁴⁾	9.75 ⁽⁴⁾	11 ⁽⁴⁾	Ω
I_C	Current Coil	-	-	340 ⁽¹⁾	mA
V_C	Voltage Coil	3.5 ⁽²⁾	-	15 ⁽³⁾	V

⁽¹⁾ for a maximum of 120 sec. by starting from a thermal equilibrium with the environment

⁽²⁾ Min. voltage to drive max. coil current

⁽³⁾ Rated insulation voltage

⁽⁴⁾ Resistance to batch mean value = $\pm 0.4 \Omega$

Absolute maximum ratings

Abbreviation	Parameter	Min	Typ	Max	Unit
V_L	Supply Voltage Logic	-0.3	-	3.5	V
V_I	Input Voltage Logic (low/high, SDA/SCL)	-0.1	-	3.5	V

Pullup Resistor I2C R_{PU}

Abbreviation	Resistance	Tolerance	Rated Power
R_{PU}	3.3 k Ω	1 %	1/16 W

Performance

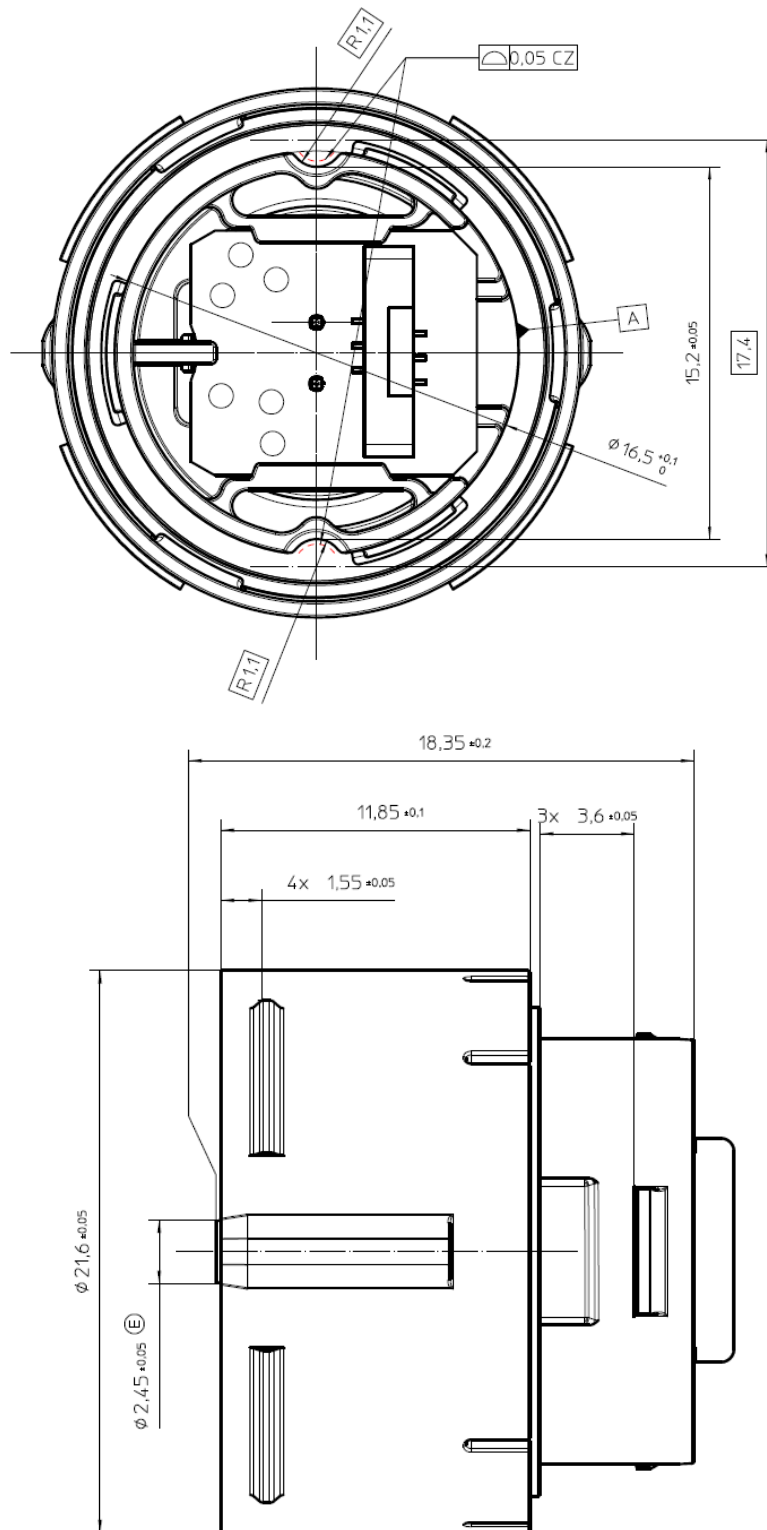
Rotational endurance	$\geq 500\text{k cycles}$ (1 cycle = 1 turn cw + 1 turn ccw)
Operating temperature and humidity range	0 °C to + 40 °C and 15%RH to 90%RH
Operating temperature range	-10 °C to + 40 °C
Storage & Transport temperature range	- 20 °C to + 65 °C
Storage & Transport temperature shock	- 30 °C to + 65 °C
Max. barrier torque	$\geq 20 \text{ mNm}$ at 340 mA coil current
Max. off state torque	$< 2.5 \text{ mNm}$

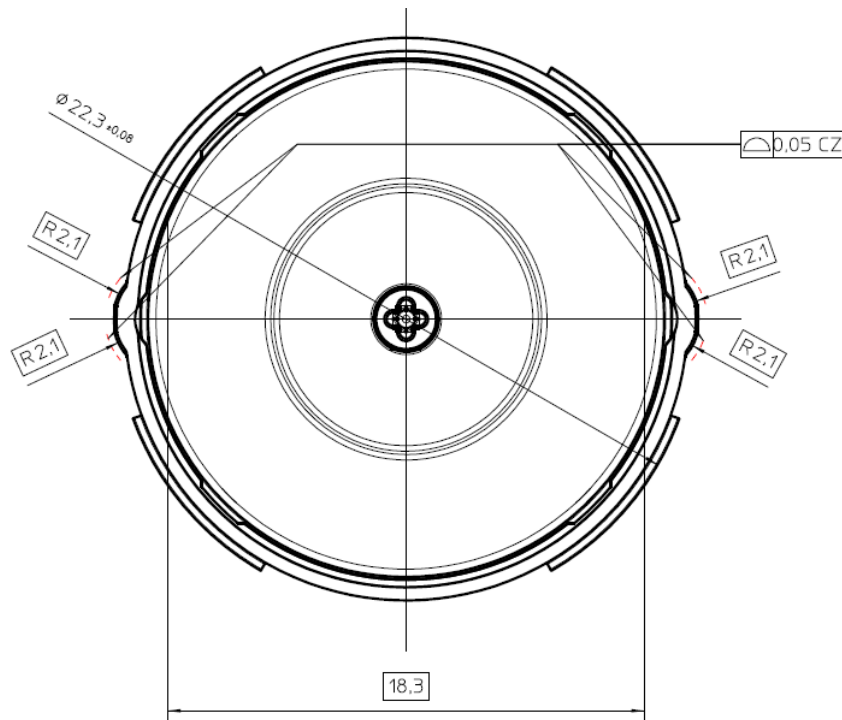
Compliance

ROHS & REACH

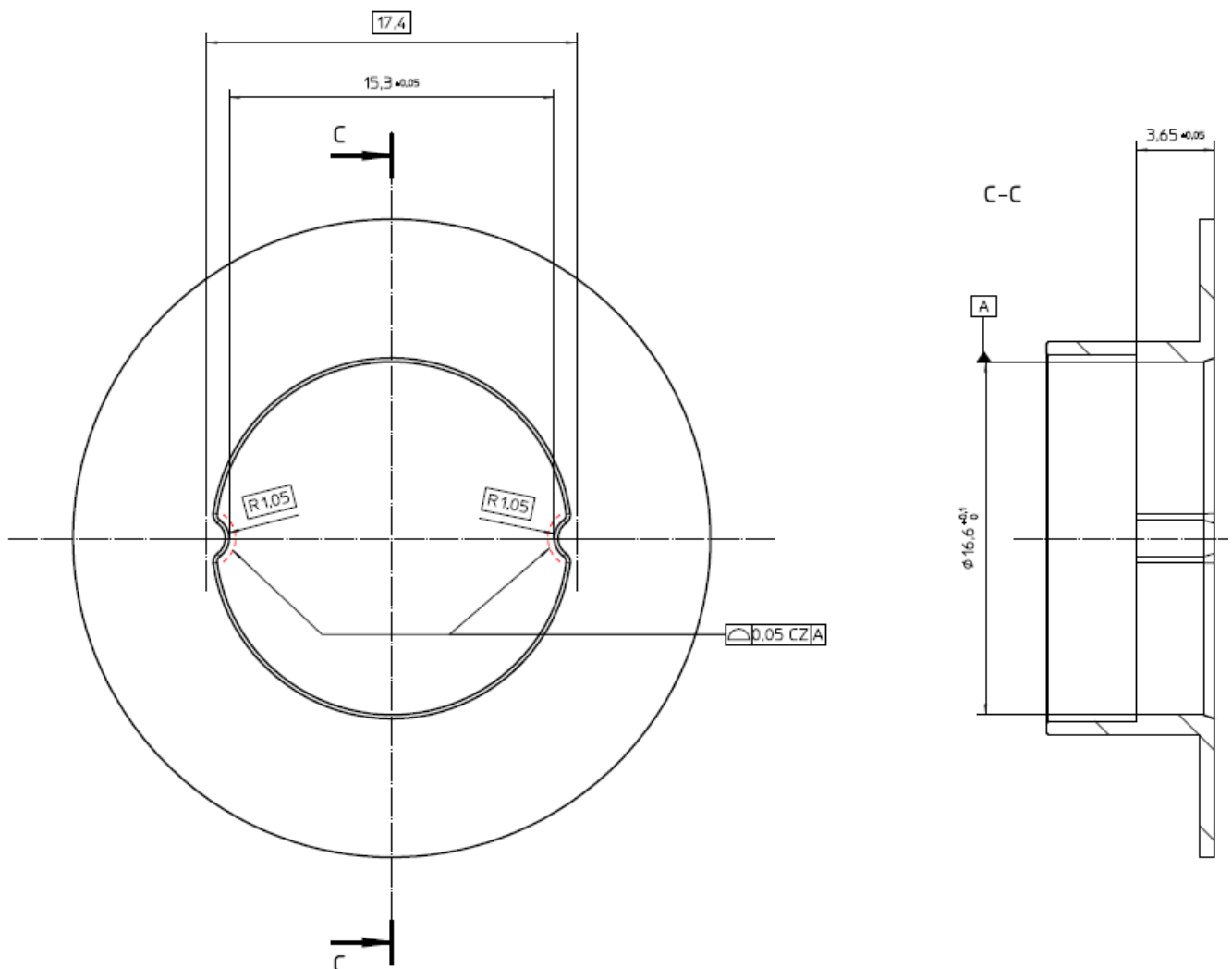
Yes

Dimensions in mm

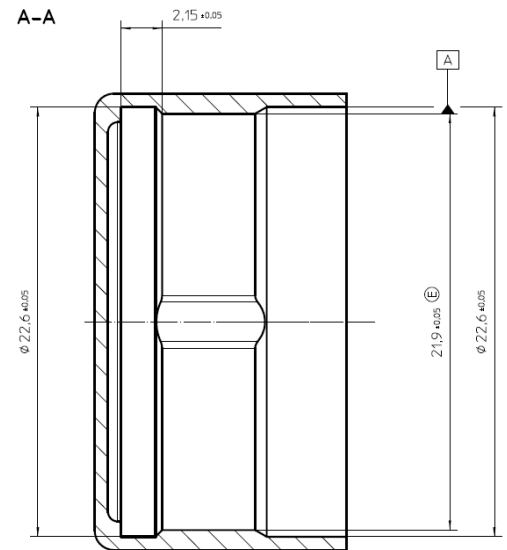
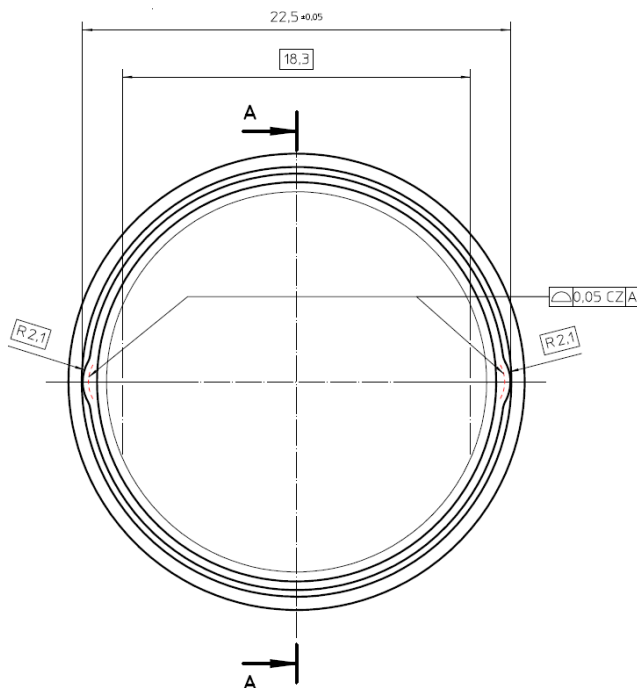




Mounting adapter (suggestion) in mm



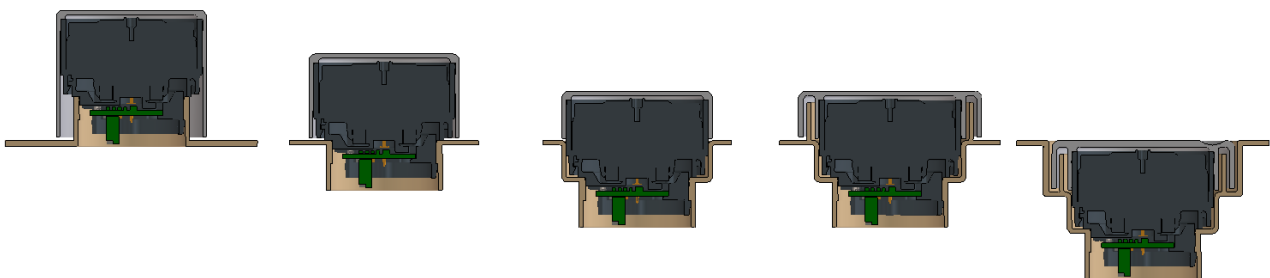
Interface for the cover (suggestion) in mm



Installation variants in the customer application:

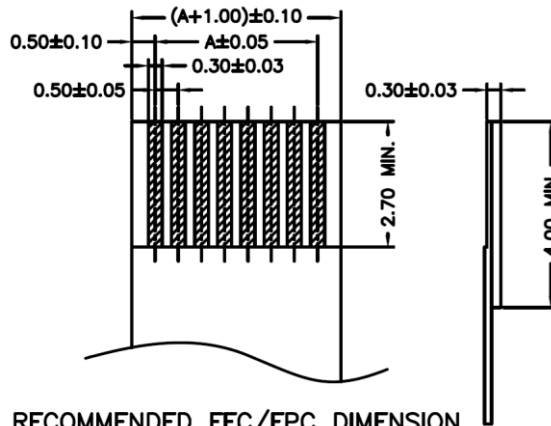
There are different installation variants that can be implemented by the customer, see the following illustrations.

The scope of delivery, regarding the actuator HAPTICORE Two, always remains the same for us. The installation situation in the customer application differs:



Cable type recommendation

Part type: Flexcable, 6 contacts, 0.5 mm pitch, min. 4 mm stiffener, 30 mm length up to a length about 152 mm

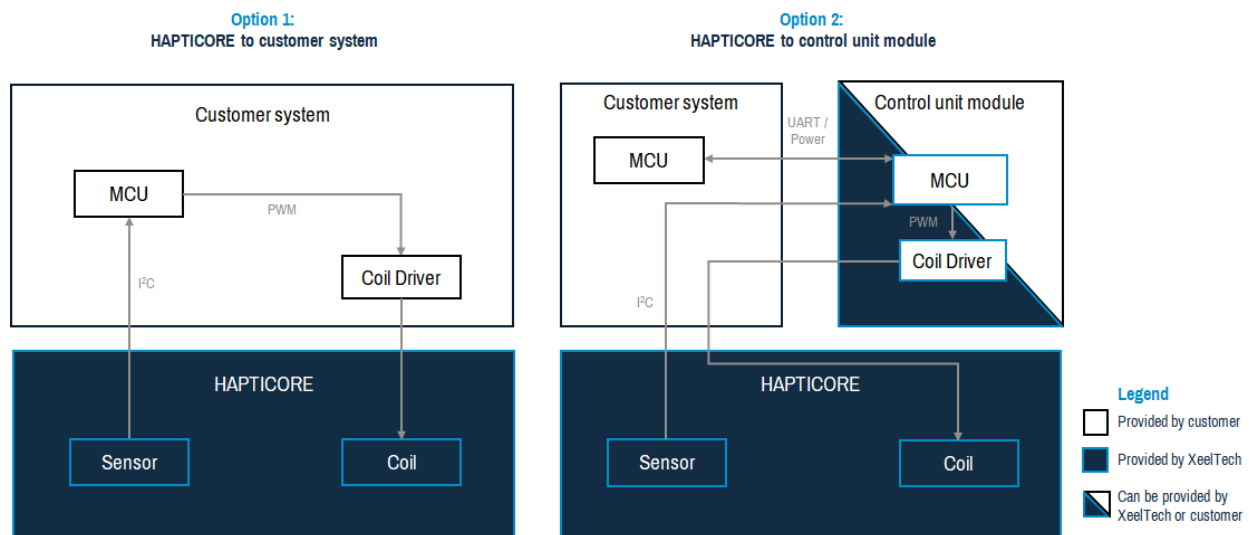


RECOMMENDED FFC/FPC DIMENSION

A = 2.5 mm

Part number as example for the 30 mm variant with 8 mm stiffener: [0151660052](#)

System integration options



All specifications and dimensions are subject to change

Contact XeelTech

Do you have questions regarding the HAPTICORE technology, need support during the installation, or are interested in our serial products?

Contact our support team. We are at your disposal at any time.



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