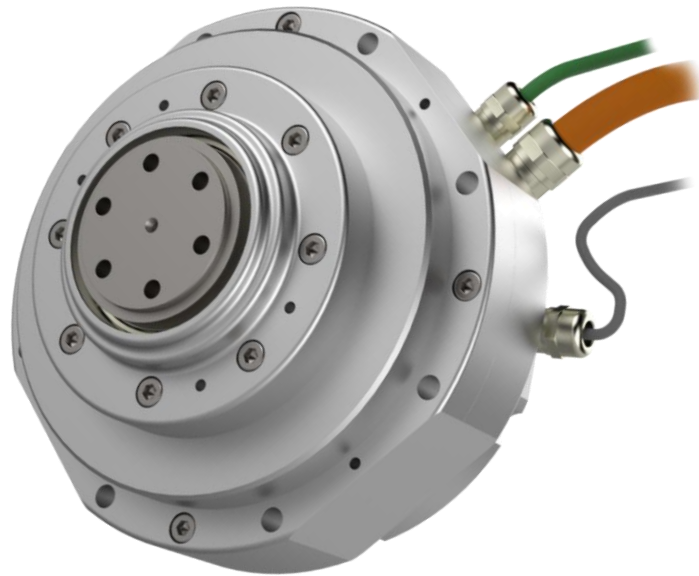


Wheel hub drive **THESEUS**



The wheel hub motors come with very powerful, yet efficient, synchronous motors, which have been designed using the very latest calculation methods for the application in question.

The motors are equipped with planetary gear stages, which, in turn, are sized for compactness and output density.

The gears come with lifetime lubrication, and the planetary wheels of each gearing stage are fitted with their own bearing.

This guarantees the highest level of quiet operation and a long working life.

Technical data

General

Technical data		
Motor type		Thesus 200E20K
Gearbox		Planetary gear stage PM118
Nominal voltage	VDC	24
Nominal speed	rpm	160
Nominal torque	Nm	60
Maximum torque	Nm	180
Rated capacity	W	1000
Angle encoder		Magnetic encoder AS5047P
Brake		Spring loaded brake BXR06
Noise level	dB	
Temperature sensor		PT1000
Ambient temperature	°C	-30 to +80°C
Protection class		IP54
Design of housing and connecting parts		Aluminium
Version Shaft		Steel (C45E)
Sealing:		Ball bearing with cover disc 2RS
Dimensions (LxWxH):	mm	188x188x123

Motor

Technical data		
Type		Thesus 200E20K
Nominal voltage	VDC	24
Nominal current	A	37.7
Nominal torque	Nm	6
Maximum torque	Nm	19.9
Nominal speed	rpm	1600
Permissible peak current	A	145
Standstill torque	Nm	6.2
Torque constant	Nm/A	0.159151194
Phase resistance (at 120°C)	Ω	0.00986
Connection inductance L_q	mH	0.054877
Connection inductance L_d	mH	0.068825
Winding connection		Star
Number of pole pairs		10

Gearbox

Technical data		
Type		Planetary gear stage PM118
Gear ratios		10
Lubrication		Grease

Angle encoder

Technical data		
Type		magnetic encoder
Supply voltage	VDC	5
Signals		A, A/, B, B/, I, I/, PWM, PWM/
Increments per revolution		1024
Resolution	Bit	12

Brake

Technical data		
Type		Spring loaded brake BXR06
Supply voltage	VDC	24
Coil capacity	W	17.6
Holding torque	Nm	5



Terminal configuration



The delivery of the connecting cables is with open ends. On request, the delivery can be made with pre-assembled connectors. Cable lengths can be adapted according to the customer.

Motor cable

Signal	Pin	Description	Wire colour
U	1	Motor phase U	Black 1
V	2	Motor phase V	Black 2
W	3	Motor phase W	Black 3
PE	4	not connected	Yellow/green

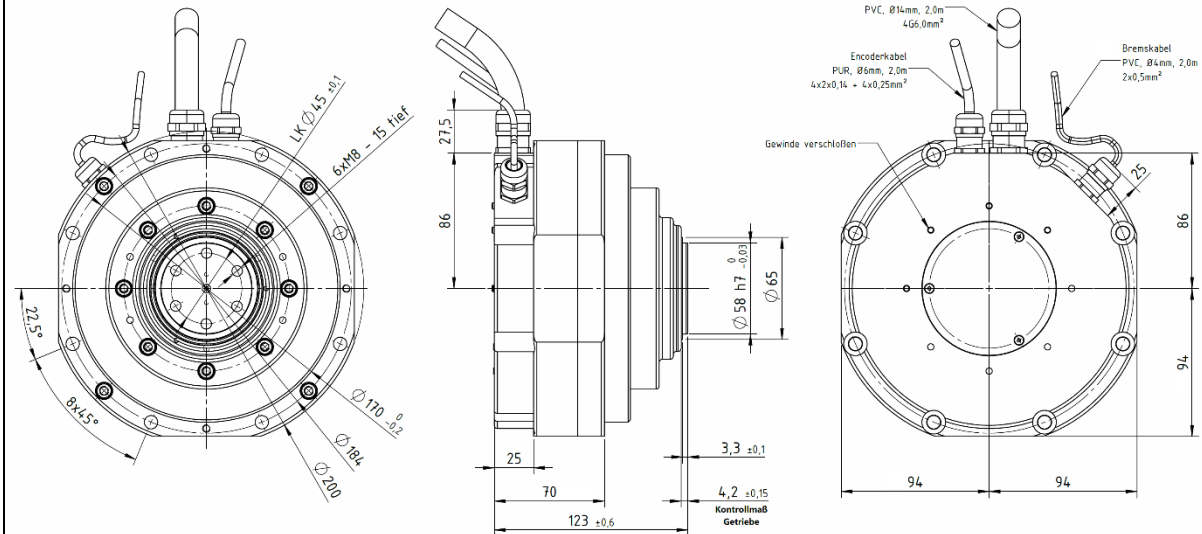
Encoder cable

Signal	Pin	Description	Wire colour
5 VDC	2	Supply +	Green / white
GND	1	Ground	Green / brown
A	8	Track A	Red
B	6	Track B	Grey
I	4	Track I	Yellow
/A	7	inv. Track A	Black
/B	5	inv. Track B	Pink
/I	3	inv. Track I	Purple
PWM	10	Track PWM	Brown
/PWM	9	inv. Track PWM	Green

Brake cable

Signal	Pin	Description	Wire colour
24 V	1	Supply +	Black 1
GND	2	Ground	Black 2

Dimensions



Drive controller PROMETHEUS, one controller for two drives

The two-axis controller PROMETHEUS is available as the optimum drive controller for the wheel hub motor. With this controller, two motors can be controlled at the same time.

Communication takes place via CAN. Optionally, communication can take place via ProfiNET or EtherCAT (Q3/2019). With the integrated STO function, the functional safety "safe torque off" is also available directly on the drive controller for both axes. Detailed information can be found in the documentation PROMETHEUS-40-2 Two-axis controller.