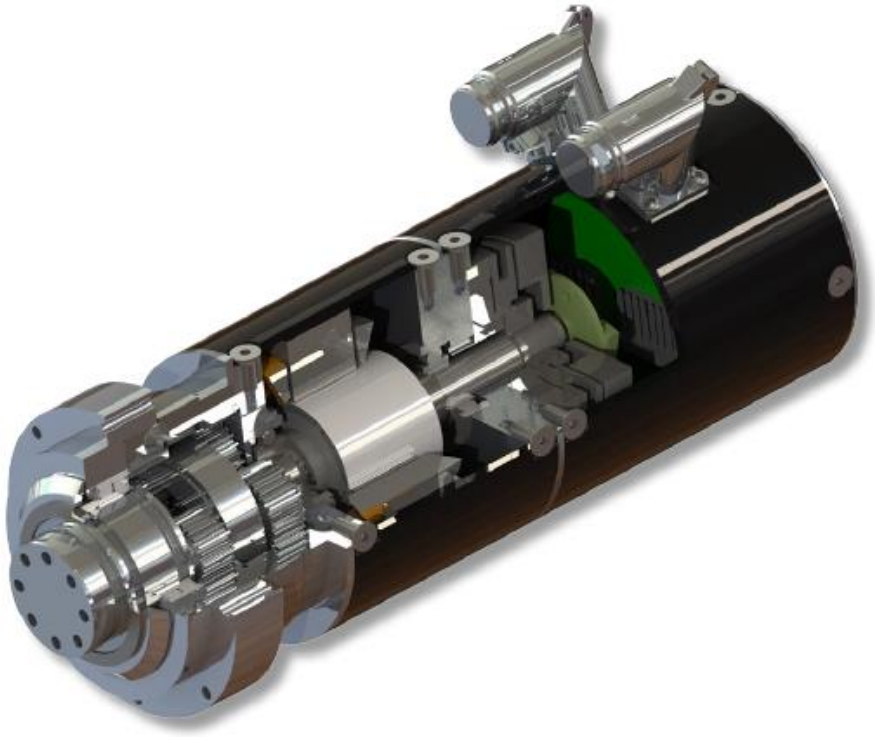
Wheel hub drive

KRONOS



The Kronos wheel hub drives are complete systems that include the two-stage gearbox, the synchronous machine, the spring brake, the encoder system and the motor controller in their compact housing.
The synchronous machines are very powerful and efficient at the same time. They have been designed according to the latest calculation methods for the respective operating areas. The drives are equipped with planetary gear stages, which, in turn, are sized for the greatest 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. The integrated controller is optimally adapted to the machine and the encoder system in order to perform the most accurate controls and to be able to keep the efficiency as high as possible.

Technical data

General

Technical data		
Motor type		Pegasos E75E20B
Gearbox		PM64
Nominal voltage	VDC	48
Nominal speed	rpm	200
Nominal torque	Nm	12
Maximum torque	Nm	52
Rated capacity	W	250
Brake		Spring loaded brake SB503
Noise level	dB	< 60 (depending on the application)
Temperature sensor		PTC
Ambient temperature	°C	-30 to +50
Protection class		IP67
Design of housing and connecting parts		Aluminium
Version Shaft		Steel C45E
Sealing:		Ball bearing with cover panel 2RZ + V ring seal (MVR buffer seal)
Dimensions (LxWxH):	mm	225x120x95

Motor

Technical data		
Type		Pegasos E75E20B
Nominal voltage	VDC	48
Nominal current	A	7.2
Nominal torque	Nm	0.6
Maximum torque	Nm	2.8
Nominal speed	rpm	4000
Permissible peak current	A	40.6
Holding torque	Nm	0.65
Torque constant	Nm/A	0.083333333
Phase resistance (at 120°C)	Ω	0.165
Connection inductance Iq	mH	3.34
Connection inductance Id	mH	2.85
Winding connection		Star
Number of pole pairs		3

Gearbox

Technical data		PM64
Type		Planetary gear stage
Gear ratios		20
Lubrication		Grease

Angle encoder

Technical data		AS5047D
Type		magnetic encoder
Supply voltage	VDC	5
Signals		A, A/, B, B/, I, I/
Increments per revolution		512
Resolution	Bit	11

Regulator

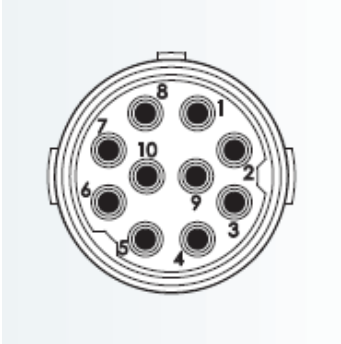
Technical data		SCD 24/48
Nominal voltage	VDC	24/48
Nominal current	A	15
Maximum current	A	
CAN field bus		yes
Brake chopper		
Connection brake resistor	Ω	

Brake

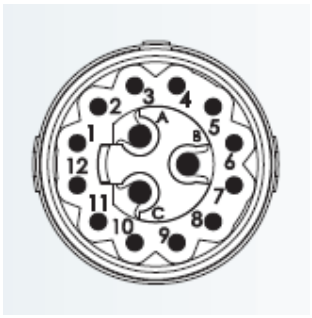
Technical data		
Type		Spring loaded brake SB503
Supply voltage	VDC	24
Coil capacity	W	26
Holding torque	Nm	1.32

Terminal configuration

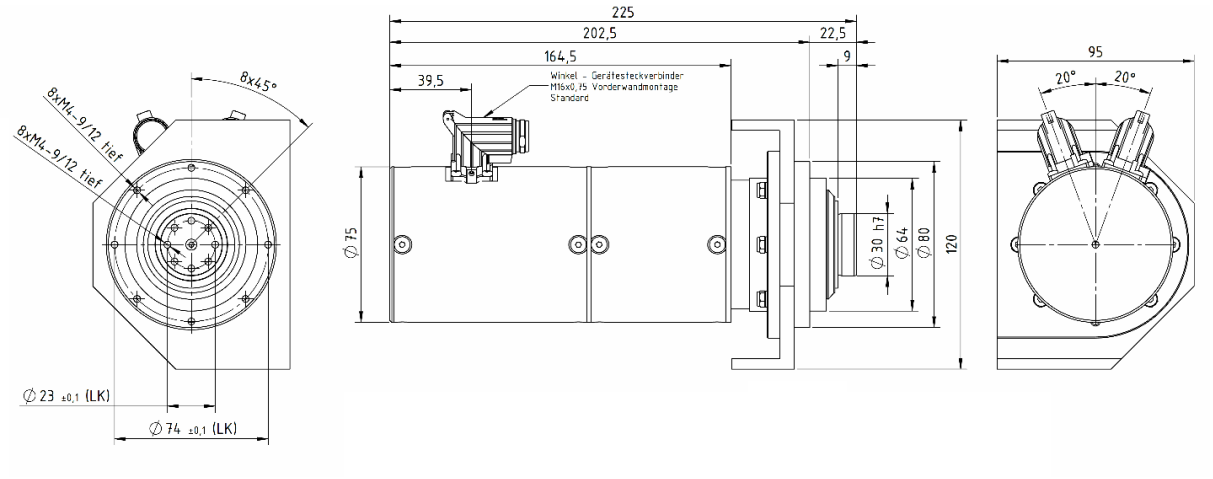
Angle connector 1

Signal	Pin	Description	
48 V	1	Supply voltage power unit	Angle connector 1 M16x0.75 10-pin (10 x AWG26…AWG18) 
GND	2	Ground power unit	
24 V	3	Supply voltage brakes	
GND	4	Ground brakes	
24 V	5	Supply voltage DC DC board	
24 V	6	Supply voltage DC DC board	
GND	7	Ground DC DC board	
NC	8	not connected	
NC	9	not connected	
NC	10	not connected	

Angle connector 2

Signal	Pin	Description	
24 V	1	Supply voltage control part	Angle connector 2 M16 x 0.75 12-pin + 3-pin (12 x AWG28…AWG22, 3 x AWG20…AWG16) 
GND	2	Ground control part	
A-track	3	Track A 24 V	
B-track	4	Track B 24 V	
CAN-H	5	CAN High	
CAN-L	6	CAN Low	
GND	7	CAN Ground	
Node ID 1	8	CAN Node ID switching	
Node ID 2	9	CAN Node ID switching	
NC	10	not connected	
NC	11	not connected	
NC	12	not connected	
NC	13	not connected	
NC	14	not connected	
NC	15	not connected	

Dimensions



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