DRIVE SYSTEMS *FOR INTRALOGIS-TICS*

MTA
innovation is our drive

Solutions for mobile robotics and stationary material flow



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COMPANY / OVERVIEW

- ***INNOVATIVE DRIVE SOLUTIONS*** *for stationary and mobile intralogistics*
- *Outstanding* ***TECHNOLOGY***
- *Comprehensive* ***INDUSTRY EXPERTISE***
- *Trustworthy* ***PARTNERSHIP***

Since it was founded in 2010, MTA has established itself as a reliable partner for innovations in stationary conveyor technology and mobile robotics.

The focus is on the development of powerful, compact and energy-efficient drive components with a high degree of integration. Easy handling with maximum reliability and a long service life ensure optimal processes in customer applications.

Modular design and extreme flexibility in product development as well as open interfaces ensure an optimal, consistent drive concept.

Internationally operating companies and world market leaders in this area now rely on our consistent product portfolio for internal material transport.

This brochure guides you through our product portfolio and informs you about the system components of the individual product groups.

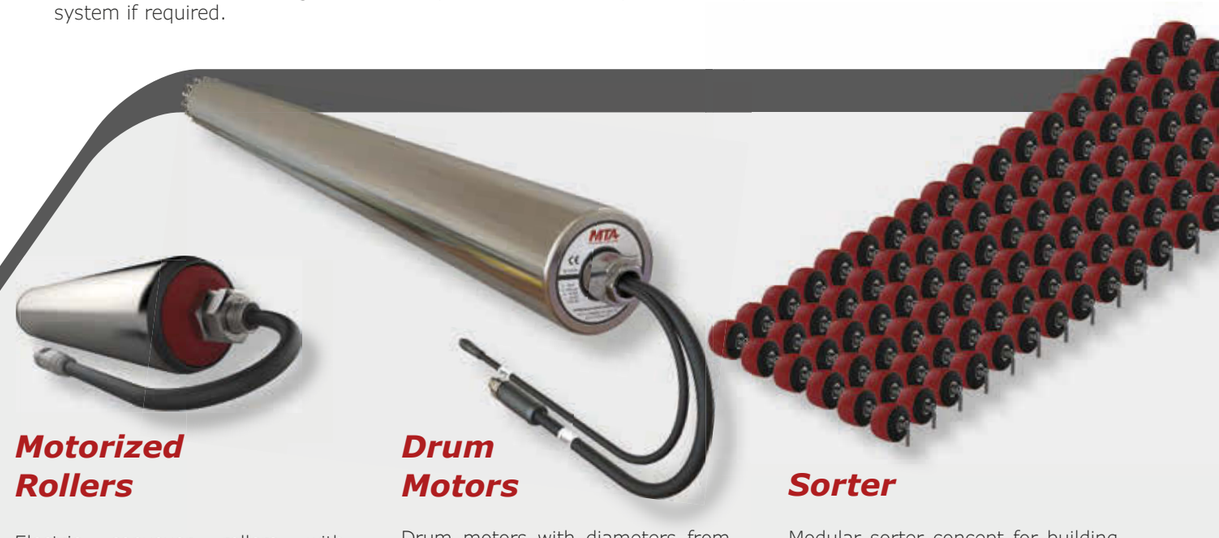
Convince yourself of our innovative solutions for your requirements. We look forward to hearing from you!



OUR PORTFOLIO
AT A GLANCE

With our consistent and scalable portfolio, we cover all drive technology requirements in stationary and mobile intralogistics.

In addition to the wide range of standard products, we develop customer-specific solutions based on our modular system if required.



Motorized Rollers

Electric conveyor rollers with gearless motor, integrated Motor Controller, bus interface or I/O interface. Also available with gearbox for applications with high torque requirements.

Drum Motors

Drum motors with diameters from 50 mm to 89 mm, clamping lengths from 350 mm to 1,500 mm and standardized encoder and motor interfaces.

Sorter

Modular sorter concept for building highly dynamic, high-speed applications for sorting, redirecting, filtering and separating.



Servo Drives

The combination of motor, gearbox and Motor Controller tailored to customer requirements for applications with limited installation space and customer-specific drive systems.



Wheel Drives

Powerful and compact solutions for all driving and steering applications, robust construction, high power density and flexible integration into AGVs or AMRs.



Motor Controllers

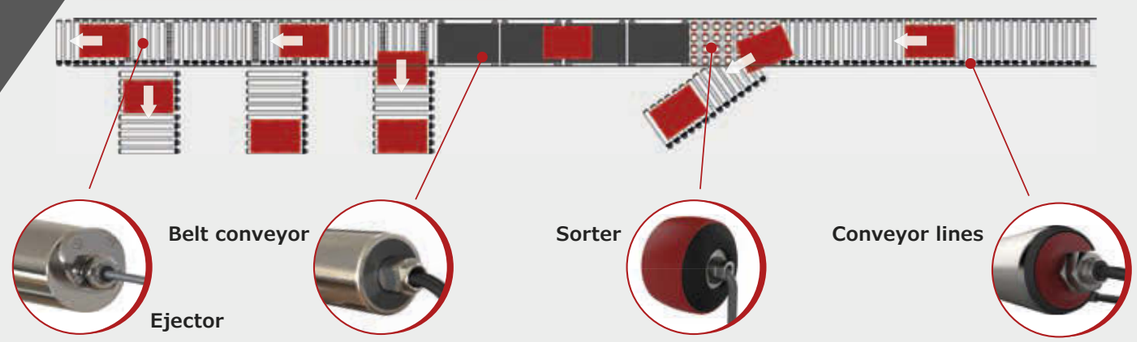
Scalable Motor Controllers for a consistent portfolio of travel and steering drives as well as power electronics for drum and geared motors and mechatronic units.

AREAS OF APPLICATION
STATIONARY CONVEYOR TECHNOLOGY



When precision and efficiency in detail are important, our highly integrated drives ensure a smooth material flow. They move containers reliably, quietly and energy-efficiently – even at high cycle times and complex conveyor routes.

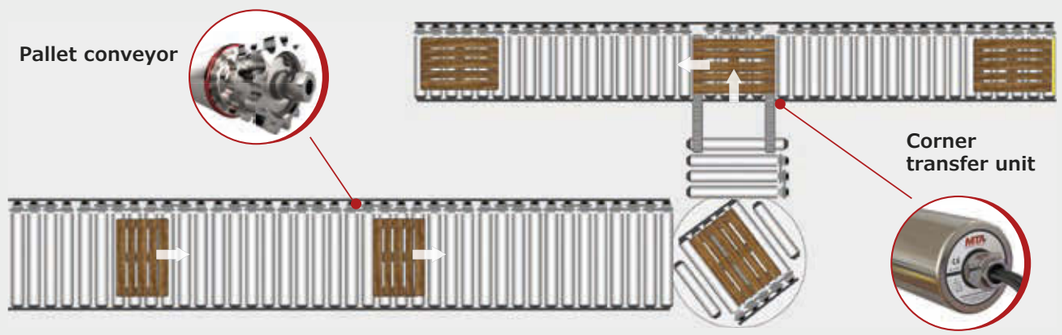
CONTAINER CONVEYOR TECHNOLOGY



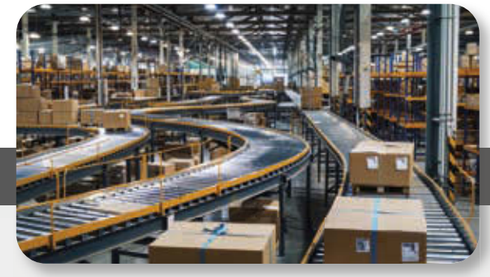


Where heavy loads have to be moved safely and permanently, our drives show their full strength. Robust, powerful and durable, they ensure maximum availability – even under the most demanding industrial conditions.

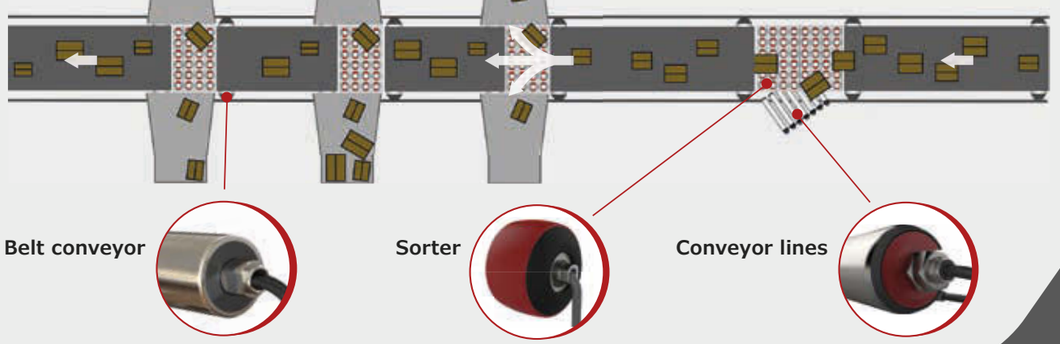
PALLET CONVEYOR TECHNOLOGY



In a world where every second counts, our drives provide the dynamics for maximum sorting performance. They enable fast accelerations, precise control and maximum energy efficiency – for consistently optimal throughput.



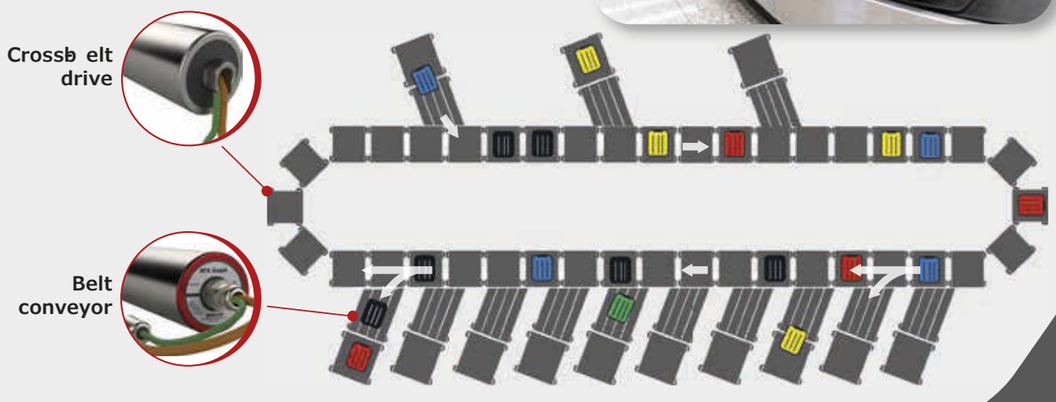
POST and PARCEL LOGISTICS



For the sensitive baggage flow at the airport, our drives offer maximum reliability and smooth running. Compactly integrated and designed for continuous operation, they ensure a trouble-free process - from check-in to baggage claim.

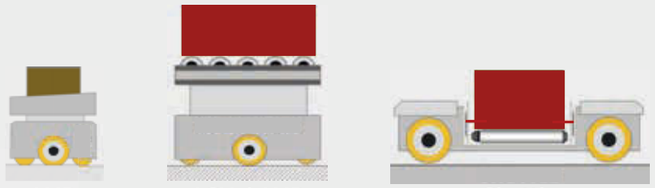


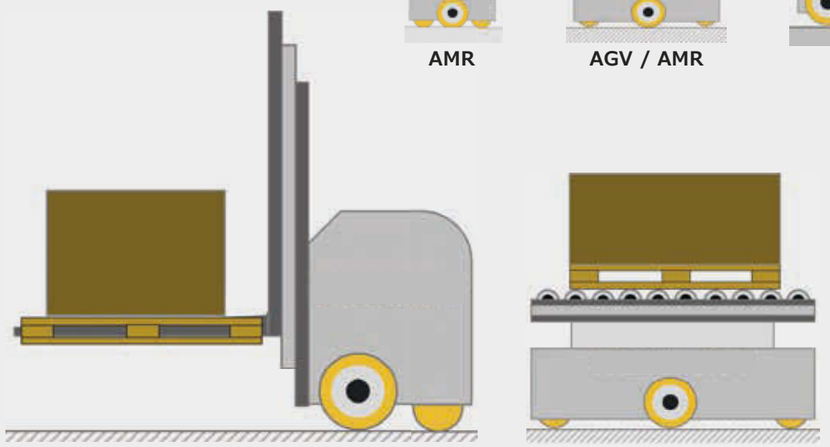
AIRPORT LOGISTICS



AREAS OF APPLICATION
MOBILE ROBOTICS

Intralogistics
(Storage and picking vehicles)







Automotive
(Assembly line supply)



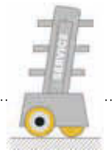


Medical technology
(Hospital vehicles)





Hotel industry & Tourism
(Service and courier service)





Building technology
(Cleaning robot)





Security
(Surveillance robot)





Art & Culture
(Stage technology)





PRODUCT PORTFOLIO

AT A GLANCE

MOTORIZED ROLLERS

Conveyor drives with integrated Motor Controller

							
Type			**MRD50**	**MRG50**	**MRG60**	**MRG80**	**MRG89**
	Rated power	W	27 - 77	58 - 70	181 **	200/370 *	200/370 *
	Rated voltage	VDC	24 - 48	24 - 48	48	48	48
	Rated torque	Nm	0.5 - 1.0	0.7 - 6.9	2.5 - 13.8	8.1 - 26.7 16.2 - 53.5 *	8.1 - 26.7 16.2 - 53.5 *
	Maximum torque	Nm	1.7 - 3.6	2.0 - 17.3	10.5 - 52 0	27.1 - 70.0	27.1 - 70.0
	Speed	m/s	0 - 2.0	0 - 2.0	0 - 2.1	0 - 1.0	0 - 1.1
	Diameter	mm	50	50	60	80	89
	Clamping length	mm	160 - 1300	275 - 1300	338 - 1300	400 - 1300	400 - 1300
Encoder systems							
	none (sensorless operation)		●	-	-	-	-
	Magnetic encoder		-	●	●	●	●
Motor Controller							
	integrated		●	●	●	●	●
Interface							
	I/O		●	●	●	●	●
	CAN		●	●	●	●	●
Gearbox							
	gearless		●	-	-	-	-
	Gearbox		-	●	●	●	●
Brake							
	Brake		-	-	□	□	□
Plain tube							
	smooth, no plain tube		●	●	●	●	●
	Poly V		●	●	-	-	-
	Round belt		◇	◇	-	-	-
	Single groove		◇	◇	-	-	-
	Double groove		◇	◇	-	-	-
	Single sprocket		□	□	-	◇	◇
	Double sprocket		◇	◇	◇	●	●
	Timing belt profile		-	-	-	◇	◇
	Convex design		-	-	◇	◇	◇
	Groove for belt guide		-	-	◇	◇	◇

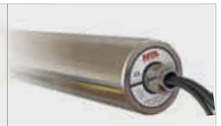
* S3 operation with 50% duty cycle
** higher, when used in belt conveyor technology

- not relevant
- ● Standard, refers to products that can be obtained at normal market delivery times
- □ Optional
- ◇ on request, describes product variants that can be explicitly requested for project needs

Subject to technical changes.

DRUM MOTORS

Conveyor drives for control with decentralized Motor Controllers

								
Type			**DMD50**	**DMG60**	**DMG80B**	**DMG89B**	**DMG80Đ**	**DMG89Đ**
	Rated power	W	27 - 77	181 **	200/370*	200/370*	235 - 311	235 - 311
	Rated voltage	VDC / VAC	24 - 48	48	48	48	400 VAC	400 VAC
	Rated torque	Nm	0.5 - 1.1	2.5 - 13.8	8.1 - 26.7 16.2 - 53.4*	8.1 - 26.7 16.2 - 53.4*	9.4 - 51.6	9.4 - 51.6
	Maximum torque	Nm	1.7 - 3.6	10.5 - 52 0	27.1 - 70.0	27.1 - 70.0	44.0 - 125.0	44.0 - 125.0
	Speed	m/s	0 - 2.0	0 - 2.1	0 - 1.0	0 - 1.1	0 - 2.39	0 - 2.39
	Diameter	mm	50	60	80	89	80	89
	Clamping length	mm	160 - 1300	338 - 1300	400 - 1300	400 - 1300	400 - 1300	400 - 1300
Encoder systems								
	none (sensorless operation)		◇	◇	◇	◇	●	●
	Magnetic encoder		-	●	●	●	◇	◇
	Hall sensor board		□	◇	◇	◇	-	-
	Resolver		-	-	-	-	□	□
Motor Controller								
	external		●	●	●	●	●	●
Gearbox								
	gearless		●	-	-	-	-	-
	Gearbox		-	●	●	●	●	●
Brake								
	Brake		-	□	□	□	□	□
Plain tube								
	smooth, no plain tube		●	●	●	●	●	●
	Poly V		●	-	-	-	-	-
	Round belt		◇	-	-	-	-	-
	Single groove		◇	-	-	-	-	-
	Double groove		◇	-	-	-	-	-
	Single sprocket		□	-	◇	◇	◇	◇
	Double sprocket		◇	◇	●	●	●	●
	Timing belt profile		-	-	◇	◇	◇	◇
	Convex design		-	◇	◇	◇	◇	◇
	Groove for belt guide		-	◇	◇	◇	◇	◇

* S3 operation with 50% duty cycle
** higher, when used in belt conveyor technology

- not relevant
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□ Optional
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Subject to technical changes.

APPLICATION-SPECIFIC ROLLERS

Individually developed motor rollers for the highest requirements in conveyor technology and material flow

				
Type			**SMD125**	**MRG50 - Eccentric**
	Rated power	W	507	58 - 70
	Rated voltage	VDC	48	24 - 48
	Rated torque	Nm	8.5	3.9 - 4.8
	Maximum torque	Nm	31.1	10.0 - 10.9
	Speed	m/s	0 - 4.4	0 - 0.37
	Diameter	mm	149	50
	Clamping length	mm	128	345 - 1300
Encoder systems				
	none (sensorless operation)		◇	-
	Magnetic encoder		●	●
Motor Controller				
	External		●	-
	Integrated		-	●
Gearbox				
	gearless		●	-
	Gearbox		-	●
Brake				
	Brake		-	-
Plain tube				
	smooth, no plain tube		-	-
	V-belt profile for belt		●	-

* S3 operation with 50% duty cycle

- not relevant
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- □ Optional
- ◇ on request, describes product variants that can be explicitly requested for project needs

Subject to technical changes.

SORTER COMPONENTS

Drives for sorter applications

Type			SUD53-A	SUD53B	SMG50
	Rated power	W	15 - 41	28 - 40	100 - 118
	Rated voltage	VDC	24	48	24 - 48
	Rated torque	Nm	0.16 - 0.43	0.16 - 0.43	3.7 - 4.4
	Maximum torque	Nm	0.39 - 0.85	0.4 - 1.3	14.0
	Speed	m/s	0 - 2.5	0 - 2.5	-
	Swivel time 90°	ms	-	-	100
	Diameter	mm	53	53	45 (hex)
	Clamping length	mm	52	69	-
	Translation	i	-	-	25
Encoder systems					
	None (sensorless operation)		●	●	-
	Magnetic encoder		-	-	●
Motor Controller					
	MMAC-xx-xx (decentralized)		●	●	-
	integrated		-	-	●
Interface					
	I/O		●	●	●
	CAN		●	●	●
Gearbox					
	gearless		●	●	-
	Gearbox		-	-	●
Brake					
	Brake		-	-	-
Rolling body					
	Crowned coating		●	●	-
	Customer-specific coating		◇	◇	-

Motor Controller for sorter motors

Type			MMAC2 4-xx	MMAC4 8-xx
	Rated power per motor output	W	40	40
	Power supply	VDC	24	48
	Control voltage	VDC	24	24
	Rated current per motor (RMS)	A	3.0	1.5
	Maximum current per motor (RMS)	A	8	8
	Number of motor outputs		4, 8, 12	4, 8, 12
	Brake chopper		●	●
	galvanic isolation		●	●
Encoder systems				
	none, sensorless operation		●	●
Communication				
	I/O interface		●	●
	CANopen		●	●
Operating modes				
	Speed control		●	●
	Torque control		-	-
	Position control		-	-

- not relevant
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- □ Optional
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Subject to technical changes.

WHEEL DRIVES

Drives for driverless transport systems

Type		VDC	WDD115	WDD140	WDG135	WDG225
			bidirectional	bidirectional	bidirectional	bidirectional
	Rated power driving	W	84 - 143	185 - 270	700	630 - 1020
	Rated power steering	W	-	-	-	-
	Rated voltage	VDC	48	48	48	24 - 48
	Nominal driving torque	Nm	1.6 - 2.7	4.3 - 6.2	23.6	34.1 - 91.0
	Maximum torque driving	Nm	5.4 - 12.0	16.4 - 25.0	75.0	125.0 - 180.0
	Rated speed	rpm	500	410	283	70 - 286
	Speed driving	m/s	0 - 3.0	0 - 3.0	0 - 2.0	0.8 - 3.4
	Swivel angle	°	-	-	-	-
	Wheel diameter	mm	115	140	135	225
	Wheel load	kg	100	150	500	500
Integrated electronics						
	Motor Controller		●	●	●	-
	Magnetic encoder	number	2	2	2	1
	Redundant encoder system		-	-	-	-
	Safe Motion integrated		□	□	□	-
	FSoE		□	□	□	-
External Motor Controller						
	MTA Dual-Axis Motor Controller (STO)		□	□	□	●
	Third party Motor Controller		◇	◇	◇	◇
Gearbox wheel drive						
	gearless		●	●	-	-
	Planetary gearbox		-	-	●	●
Gearbox steering drive						
	Worm gearbox		-	-	-	-
	Strain-wave gearbox		-	-	-	-
Brake						
	Brake		●	●	●	●

WDG110	WOG11 25	WOG11 50	WOG11 87	WOG2
bidirectional	omnidirectional	omnidirectional	omnidirectional	omnidirectional
378	197	225	346	594
-	80	80	120	121
48	48	48	48	48
11.5	4.52	5.89	13.2 - 16.5	20.0
33.9 - 52.0	12.5	22.0	52.0	70.0
333	420	375	200 - 250	283
0 - 1.9	0 - 2.0	0 - 2.0	1.3 - 1.7	0 - 2.0
-	270	270	270	endless
110	90	100	130	135
200	150	250	500	500
●	-	-	-	●
1	1	1	1	2
-	□	□	□	-
-	-	-	-	□
-	-	-	-	□
●	●	●	●	-
◇	◇	◇	◇	-
-	-	-	-	-
●	●	●	●	●
-	●	●	●	
-	-	-	-	●
●	●	●	●	●

- not relevant
- ● Standard, refers to products that can be obtained at normal market delivery times
- □ Optional
- ◇ on request, describes product variants that can be explicitly requested for project needs

Subject to technical changes.

SERVO DRIVES

Intelligent servo drives for highly dynamic and precise motion.



Type	VDC	SMD50	SMD75	SMG50	SMG75
Rated power	W	100 - 120	335 - 550	100 - 120	310
Rated voltage	VDC	24 - 48	48	24 -48	48
Rated torque	Nm	0.16	0.8 - 1.31	2.4 - 6.19	11.9 - 14.9
Maximum torque	Nm	0.63	2.72 - 3.14	9.2 - 14.0	41.0 - 51.0
Rated speed	rpm	6900	4000	171 - 375	0 - 250
Encoder systems					
Magnetic encoder		●	●	●	●
Hall sensor		-	-	-	-
Motor Controller					
integrated		●	●	●	●
external		◇	◇	◇	◇
Interface					
I/O		●	●	●	●
CAN		●	●	●	●
Gearbox					
Planetary gearbox		-	-	●	●
Right-angle gearbox		-	-	◇	◇
Bevel gear with planetary gearbox prestage		-	-	-	-
Brake					
Brake		□	□	□	□

APPLICATION-SPECIFIC SERVO DRIVES

Individually designed servo drives for maximum performance and optimal system integration



SMG75E2 5V	SMG75E1 6W
210	380
48	48
10.6	14.7
45.0	66.2
0 - 160	4000
◇	●
●	-
◇	◇
●	●
◇	◇
◇	◇
-	-
-	●
●	-
●	□

- not relevant
- ● Standard, refers to products that can be obtained at normal market delivery times
- □ Optional
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Subject to technical changes.

MOTOR CONTROLLER

					
		MCS	**MCR25 0**	**MCR28 0**	**MCR29 0**
	Supply power	24 - 48 VDC	24 - 48 VDC	24 - 48 VDC	24 - 48 VDC
	Supply Logic	-	24 VDC	24 VDC	24 VDC
	Galvanic isolation	-	●	●	-
	Motor Controller integrated	●	●	●	●
	Decentralized Motor Controller	-	-	-	-
	Number of drive axes	1	1	1	1
	I/O interface	●	●	●	-
	CAN interface	●	●	●	-
	EtherCAT	-	-	-	●
	Safety over EtherCAT	-	-	-	●
	Safety integrated	-	-	-	STO, SBC, SLS, ...
	Number of encoders	-	1	1	2
	Motor commutation	sensorless	magn. Encoder	magn. Encoder	magn. Encoder
	Brake control	-	●	●	●
	Control	Speed	Speed Position	Speed Position	Speed Position Torque
	Drive	MRD50 	MRG50  MRG50 Eccentric  MRG60  SMD50 SMG50 	MRG80 MRG89  SMD75 SMG75  SMG75E 	WDD115I WDD140I  WDD135I  WOG2 

					
	MMAC	**Single-Axis Motor Controller**	**Dual-Axis Motor Controller**	**Decentralized Motor Controller Third Party Provider 244 8 VDC**	**Decentralized Drive controller Third Party Provider 400 VAC**
	24 - 48 VDC	24 - 48 VDC	24 - 48 VDC	24 - 48 VDC	400 VAC
	24 VDC	24 VDC	24 VDC	depending on the manufacturer	depending on the manufacturer
	●	●	-		
	-	-	-	-	-
	●	●	●	●	●
	4, 8,12	1	2	depending on the manufacturer	depending on the manufacturer
	●	●	●		
	●	●	●		
	-	-	-		
	-	-	-		
	-	-	-		
	1	1	1 per axis		
	sensorless	magn. Encoder	magn. Encoder		
	-	●	●		
	Speed	Speed Position	Speed Position Torque		
	SUD53-A SUD53-B 	DMG60 DMG80-B DMG89-B  SMD125  WDD115E WDD140E WDD135E WDG225E WDG110E 	DMG60 DMG80-B DMG89-B  SMD125  WDD115E WDD140E WDD135E WDG225E WDG110E  WOG1-125 WOG1-150 WOG1-187 	DMD50  DMG60  DMG80-B DMG89-B  SMD125  WDD115E WDD140E WDG135E WDG225E WDG110E 	DMG80-D DMG89-D 

STATIONARY CONVEYOR TECHNOLOGY



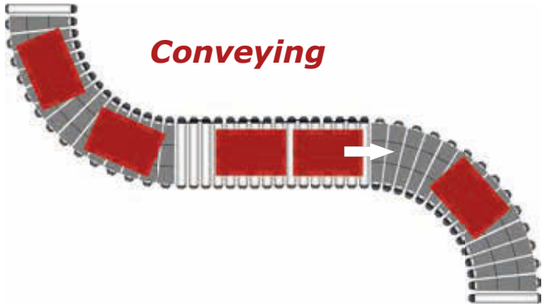
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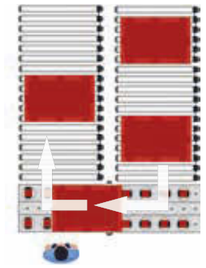
AREAS OF APPLICATION / USE CASES
Stationary conveyor technology

MTA drive components enable **reliable** and **efficient movement sequences** in stationary conveyor technology, regardless of the type of transport movement.

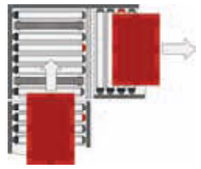
Conveying



Storing, retrieving, picking



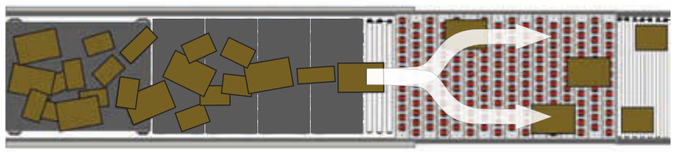
Diverting, Corner transfer



Smooth and **reliable conveying** is ensured in zero-pressure accumulation conveyor systems for containers. **Efficient storage** and **retrieval** from high-bay warehouses is also ensured.

Our drive components also enable fast and accurate preparation of goods for **shipping, supporting efficient order picking**.

Singulating and pre-sorting

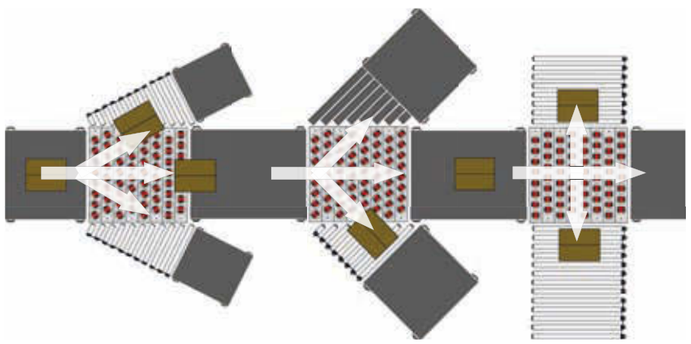


Our drive components ensure highly dynamic **separation, sorting** and **distribution** of parcel flows.

Our groundbreaking technology allows large quantities of parcels to be processed quickly and reliably in sorting and distribution centers.

Our solutions are designed to maximize throughput rates and optimize the handling of parcel flows to ensure seamless logistics processing.

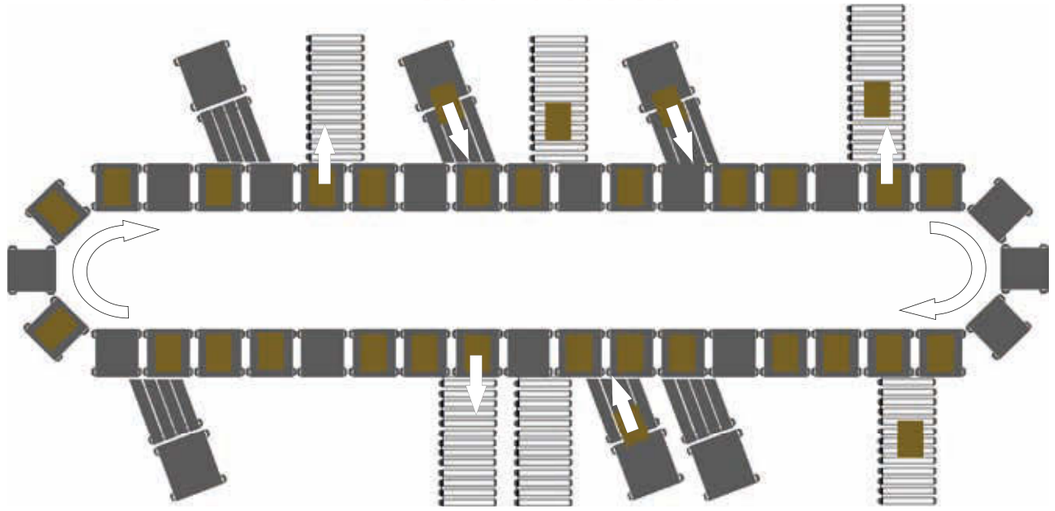
Filtering, sorting and distributing



MTA
innovation is our drive

Thanks to their versatility and performance, MTA drives make a significant contribution to optimizing material flow processes and increasing overall efficiency. The versatility of MTA drive technology allows for a tailor-made solution for every intralogistics requirement.

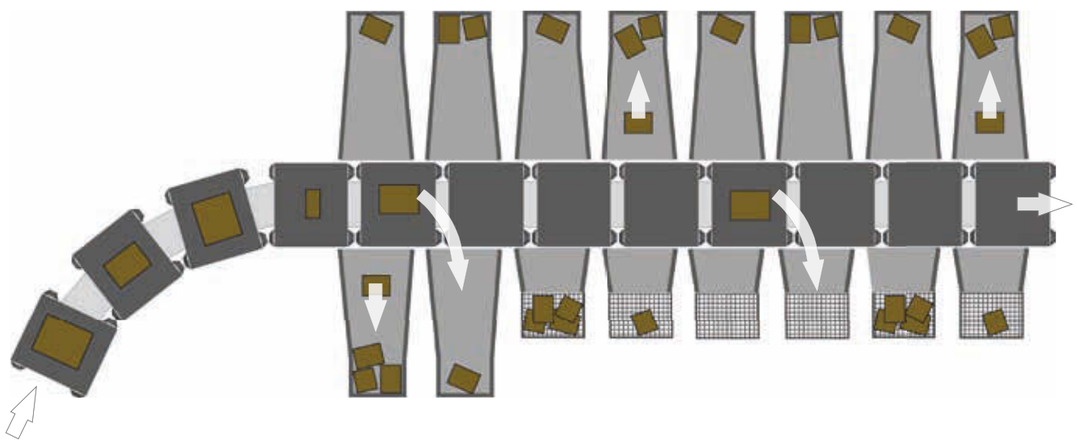
Infeed and outfeed



Thanks to our **spaces aving drives in cross-belt sorters**, conveyed goods can be fed in and discharged precisely.

Accurate parcel discharge and collection are enabled throughout the delivery process. Precise control and optimized motion sequences ensure accurate positioning and handling of parcels during discharge and collection. This supports efficient and reliable parcel delivery, increasing productivity and customer satisfaction.

Drop and collect



APPLICATIONS
Pallet conveyor technology

Conveying and indexing

Our drum motors ensure reliable and energy-efficient transport of pallets in automated conveyor systems. The direct integration of the drive into the conveyor roller creates a compact and low-maintenance solution for a wide range of applications.

The precise control enables both a continuous flow of material and precise timing and positioning of the pallets. This allows individual process steps to be optimally linked with one another and high throughputs to be achieved.



Rotate pallets

For applications where the orientation of pallets needs to be changed, our drum motors offer powerful and precise drive solutions.

The controlled rotational movement enables gentle handling of the conveyed goods and ensures exact positioning for downstream processes.

Thanks to their compact design and high control accuracy, turning stations can be flexibly integrated into existing conveyor systems and individually adapted to the respective requirements.

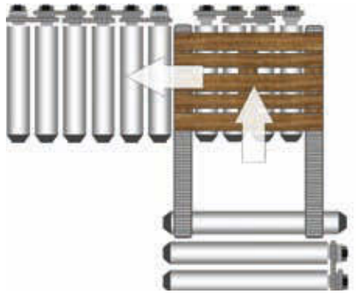


Corner transfer

A safe and efficient change of direction is an essential part of modern pallet conveyor systems.

Our drum motors enable the precise transfer of pallets at corner transfer units and ensure a smooth material flow even in complex system structures.

The compact design, high reliability and easy integration make them the ideal solution for space-saving conveyor concepts and demanding intralogistics applications.

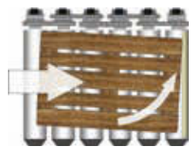


Stop and align

In many automated processes, the exact positioning of pallets is crucial for quality and process reliability.

Our drum motors enable precise stopping and reproducible alignment of the pallets at defined transfer or processing points.

The high positioning accuracy reliably supports subsequent processes, such as picking up by handling systems or transferring to further conveyor lines, and increases the efficiency of the entire system.



Cross belts in crossbelt sorters for airport logistics

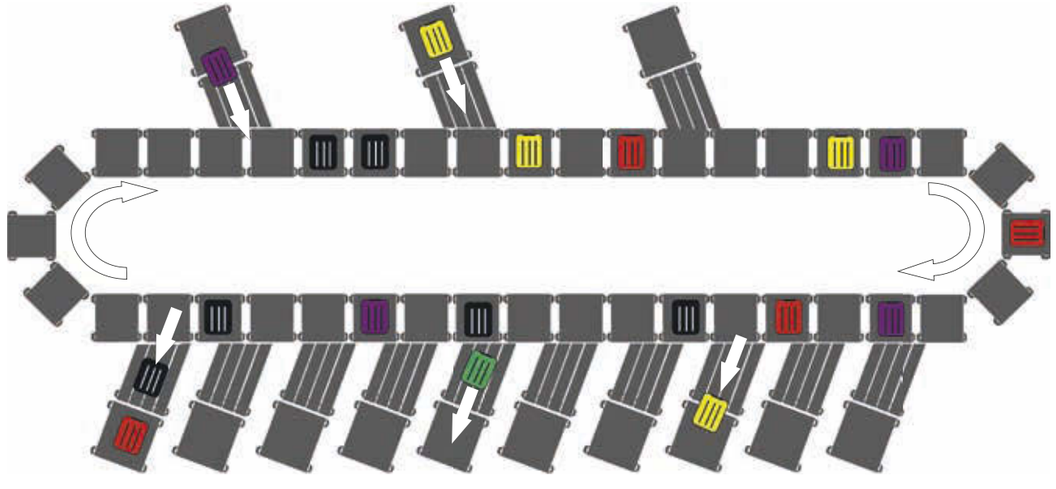
For use in crossbelt sorters in airport logistics, we develop drive solutions for crossbelts that enable the targeted and reliable removal of luggage.

The focus is on the particularly flat design of the cross belts, which can be achieved by using our compact drum motors.

By integrating the drive directly into the conveyor roller, additional installation space in the belt body is eliminated, which means that very slim and space-saving cross belt constructions are possible.

This is a decisive advantage, especially in crossbelt sorters, as high packing density, short cycle times and maximum system efficiency are required.

Our drum motor solutions make a significant contribution to creating high-performance, long-lasting and low-maintenance cross-belt systems that reliably meet the high requirements of modern baggage sorting systems.



APPLICATIONS
Stationary conveyor technology



Robust, conical MOTORIZED ROLLERS for conveying operations in roller curves.



Gearless and wear-free DRUM MOTORS for separation systems and parcel diverting in parcel processing.



Energy-efficient DRUM MOTORS for belt conveyors in all applications in container and box conveyor technology, e.g. infeed areas in goods receipt, inclined belt conveyors, etc.



DRUM MOTORS for quick and safe load pickup and delivery in container and box storage technology (e.g. shuttles, storage and retrieval machines,...).

Maintenance-free, compact MOTORIZED ROLLERS for highly dynamic load handling devices in storage and handling technology for containers and boxes.



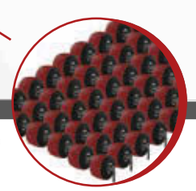
High-torque DRUM MOTORS for belt conveyors in transfer stations (rejectors).



Highly dynamic DRUM MOTORS for crossbelt sorters in distribution and sorting technology.



Energy-efficient MOTORIZED ROLLERS with an exceptionally long service life for zero-pressure accumulation conveying of totes, trays and cartons. Also designed for plug-and-play installation in retrofit projects.



Modular SORTER for sorting, redirecting, filtering and separating postal and parcel streams.



Energy-efficient DRUM MOTORS in pallet conveyor technology with and without accumulation functions.

MOTORIZED ROLLERS

MRx50
for container conveyor technology

With integrated Motor Controller for efficient, compact and powerful conveying solutions

Application / area of application

Reliable drive solutions for applications in general cargo conveying technology under normal environmental conditions. Designed for the safe and efficient transport of boxes, containers and workpiece carriers, the drives impress with their versatile application options in different conveying concepts.

They are particularly suitable for line conveyors and compact belt conveyors as well as for zero-pressure accumulation conveyor technology systems where a consistent material flow is crucial.

In addition, the drives can be easily integrated into shuttle systems, as load-carrying devices in AGVs, alignment conveyor segments and transfer routes and flexibly support the implementation of branches and distribution structures within complex conveyor systems.

Thanks to their robust design and high adaptability, they represent an economical and powerful solution for modern intralogistics processes.

Features

- Available as a direct drive (without gearbox) and in a version with gearbox
- Brushless Drive technology
- Integrated Motor Controller for compact and efficient system solutions
- Voltage ranges for 24 VDC and 48 VDC
- Easy system integration via standardized I/O and CAN interfaces
- Low wear and designed to be maintenance-free



MRD50 *Gearless direct drive*

The gearless design enables particularly direct and efficient power transmission while simultaneously reducing energy loss. By eliminating mechanical transmission components, noise, wear and maintenance are significantly minimized. It is designed for applications with a **throughput of up to 1400 parcels per hour**, an average parcel weight of 30 kg and a maximum **parcel weight of 50 kg**.

Technical data

		MRD50-AA	MRD50-AB	MRD50-AC	MRD50-AD	MRD50-BA	MRD50-BB	MRD50-BC	MRD50-BD
Rated voltage	VDC	24	24	24	24	48	48	48	48
Rated power (S1)	W	27	40	42	55	28	40	44	77
Speed	m/s	0 - 1.0	0 - 1.0	0 - 2.0	0 - 2.0	0 - 1.0	0 - 1.0	0 - 2.0	0 - 2.0
Nominal torque (S1)	Nm	0.68	1.00	0.52	0.68	0.70	1.01	0.55	0.96
Maximum torque	Nm	1.70	3.40	2.00	2.40	1.80	3.60	1.85	2.90
Rated current	ADC	2.0	2.7	2.4	3.1	1.0	1.4	1.6	2.1
Maximum current *	ADC	5.8	9.3	11.6	9.9	4.6	4.9	6.0	7.7

* Current limitation possible when operating with motor module

MRG50 *Drives with gears*

The geared design enables a powerful design for higher load requirements and dynamic conveying processes. It is designed for applications with a **throughput of up to 2,100 parcels per hour**, an average weight of 35 kg and a maximum parcel weight of **70 kg**.

		MRG50-AB09	MRG50-AB13	MRG50-AB18	MRG50-AB30	MRG50-AB49	MRG50-AB78
Rated voltage	VDC	24	24	24	24	24	24
Rated power (S1)	W	58	58	58	58	58	58
Speed	m/s	0 - 2.0	0 - 1.38	0 - 1.0	0 - 0.6	0 - 0.37	0 - 0.23
Nominal torque (S1)	Nm	0.72	1.04	1.44	2.4	3.92	6.24
Maximum torque	Nm	2.0	2.89	4.0	6.67	10.89	17.33
Rated current	ADC	3.3	3.3	3.3	3.3	3.3	3.3
Maximum current *	ADC	10	10	10	10	10	10

		MRG50-BB09	MRG50-BB13	MRG50-BB18	MRG50-BB30	MRG50-BB49	MRG50-BB78
Rated voltage	VDC	48	48	48	48	48	48
Rated power (S1)	W	70	70	70	70	70	70
Speed	m/s	0 - 2.0	0 - 1.38	0 - 1.0	0 - 0.6	0 - 0.37	0 - 0.23
Nominal torque (S1)	Nm	0.88	1.26	1.75	2.92	4.76	6.86
Maximum torque	Nm	2.00	2.89	4.00	6.67	10.89	17.33
Rated current	ADC	1.87	1.87	1.87	1.87	1.87	1.87
Maximum current *	ADC	5.1	5.1	5.1	5.1	5.1	5.1

* Current limitation possible when operating with motor module

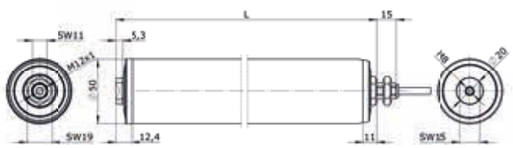
	Configuration
Interfaces	I/O or CAN
Maximum noise level - gearless	< 49 dB(A), application dependent
Maximum noise level - with gearbox	< 54 dB(A), application dependent
Length of motor cable	500 mm
Tube dimensions	Ø 50 x 1.5 mm
Tube material *	Galvanized steel or stainless steel
Tube options*	PVC sleeve / PU sleeve
Ambient temperature *	0 °C ... 40 °C
Protection class *	IP54

* other versions on request

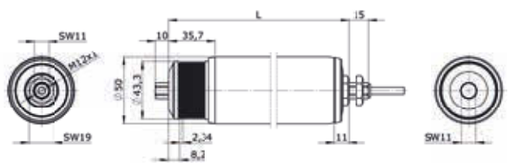
Electrical interfaces

Pin	I/O version	CAN version	Presentation
1	Supply voltage (24 V/48 V)	Supply voltage (24 V/48 V)	 M8 B-coded 5-pin/male
2	Direction of rotation	CAN-HIGH	
3	Ground	Ground	
4	Error output / start-stop	CAN-LOW	
5	Speed setpoint	n.c.	

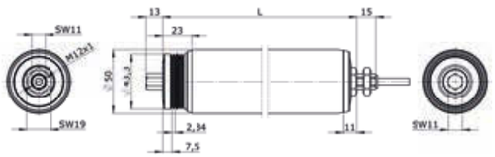
Mechanical versions



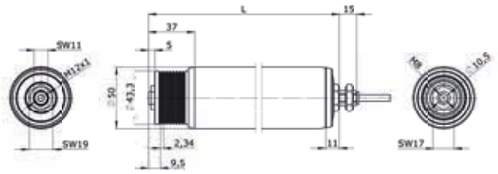
Smooth with M8 internal thread



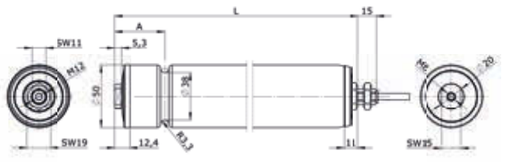
Poly-V, 9-ribbed with spring-loaded axle



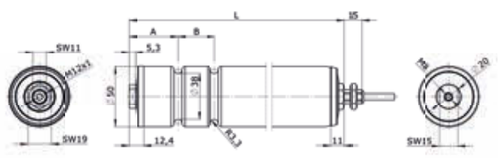
Poly-V, 2x2 with hexagonal axle



Poly-V, 9-ribbed with through axle

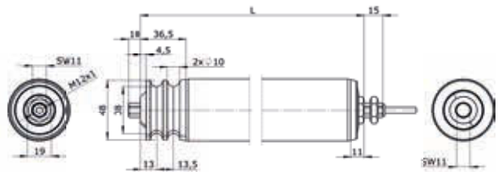


Single groove with M8 internal thread

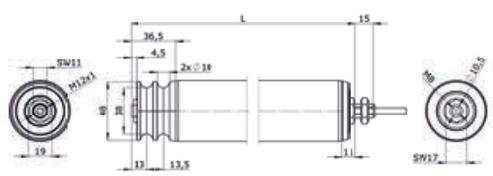


Double groove with M8 internal thread

Variable	Single groove [mm]	Double groove [mm]
A	40.5	40.5
B	-	30
L	clamping length	



Round belt with hexagonal spring axle

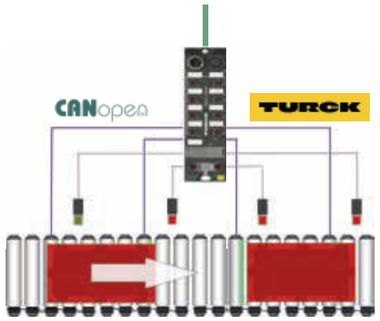


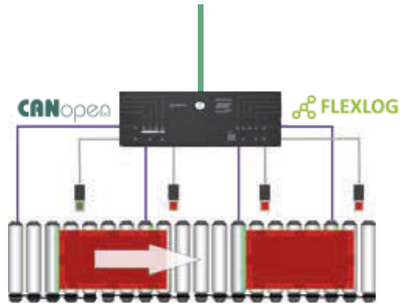
Round belt with M8 internal thread can be plugged in

Easy system integration

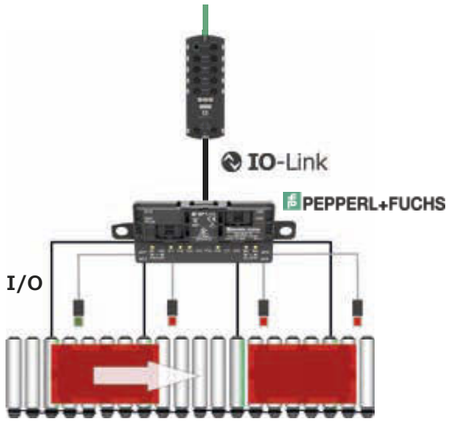
Our motorized rollers can be seamlessly integrated into common industry standards (Profinet, Ethernet/IP, ...) via standardized interfaces. The integration is quick, flexible and without much effort.

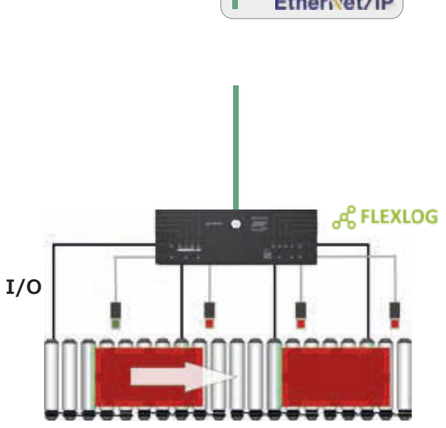
Easy integration into automation solutions via the **CAN interface integrated directly into the motor roller**.

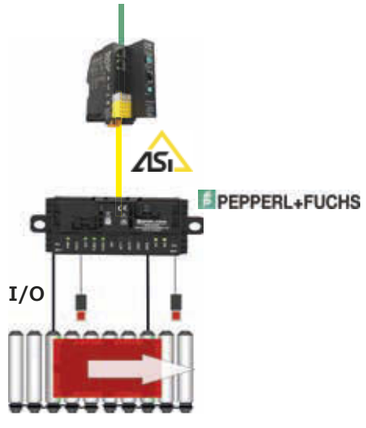


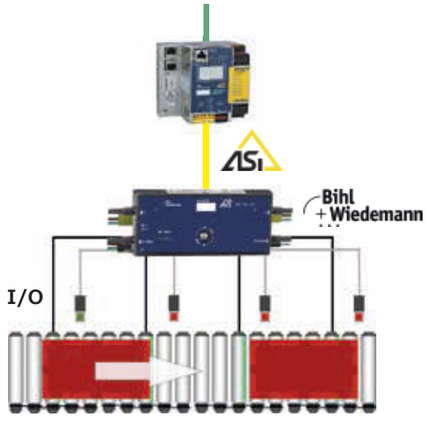


Easy integration into automation solutions via the **I/O interface integrated directly into the motor roller.**









MRG60
for belt conveyor technology

Intelligent motorized roller with integrated control for efficient belt conveyor technology

Applications

Drive systems for belt conveyors are specifically designed to meet the requirements of continuous conveying processes and are therefore particularly suitable for this area of application.

They offer high power density, reliable operation and are characterized by strong overload capacity.

They also ensure a robust and long-lasting solution for material flow in applications such as belt drives and cross-belt sorters.

With a diameter of only 60 mm, the motorized roller is also suitable for use in pallet conveyor technology, especially in cramped conditions and with limited installation space.



Features & Benefits

- **Integrated Motor Controller**: Compact design thanks to directly integrated motor control, reduces cabling effort and simplifies commissioning.
- **High overload capacity**: Reliable operation even during peak loads and demanding conveying conditions.
- **Optional with integrated holding brake**: Ensures safe positioning and holding of the conveyed goods at a standstill.
- **Communication via I/O or CANopen interface**: Flexible integration into existing control systems and easy integration into different automation concepts.

Technical data

		MRG60B C09	MRG60B C12	MRG60B C49
Rated voltage	VDC	48	48	48
Rated Power (S1)	W	181 *	181 *	181 *
Speed	m/s	0 - 2.1	0 - 1.6	0 - 0.4
Nominal torque (S1)	Nm	2.5	3.4	13.8
Maximum torque	Nm	10.5	14.0	52.0
Rated current	ADC	4.9	4.9	4.9
Maximum current	ADC	18.8	18.8	18.8

* measured as motorized roller - higher, when used in belt conveyor technology

	Configuration
Interfaces	I/O or CAN
Maximum noise level	< 52 dB(A), application dependent
Length of connecting cable	500 mm
Tube dimensions	Ø 60 x 3.0 mm
Tube material *	Galvanized steel
Tube options*	convex / belt guide groove / PVC hose
Ambient temperature *	0 °C ... 40 °C
Protection class *	IP54

* other versions on request

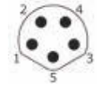
Connections supply voltage

Pin	Description	Presentation
1	n.c.	 M12 L-coded 5-pin/male
2	Supply GND	
3	n.c.	
4	Supply 48 VDC	

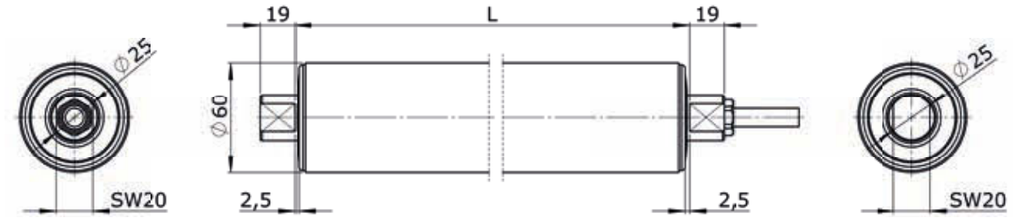
Connections CAN version

Pin	Description	Presentation
1	Supply 24 VDC	 M8 B-coded 5-pin/male
2	CAN high	
3	Supply GND	
4	CAN Low	
5	manufacturer-specific	

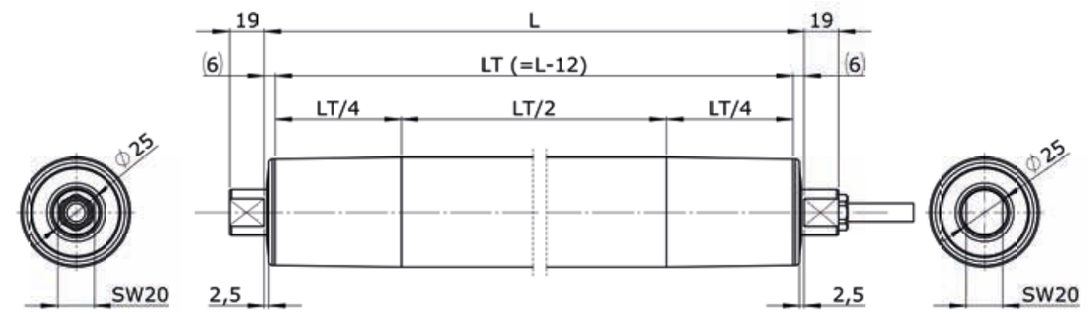
Connections version I/O

Pin	Description	Presentation
1	Supply 24 VDC	 M8 B-coded 5-pin/male
2	Direction of rotation	
3	Supply GND	
4	Error output	
5	speed	

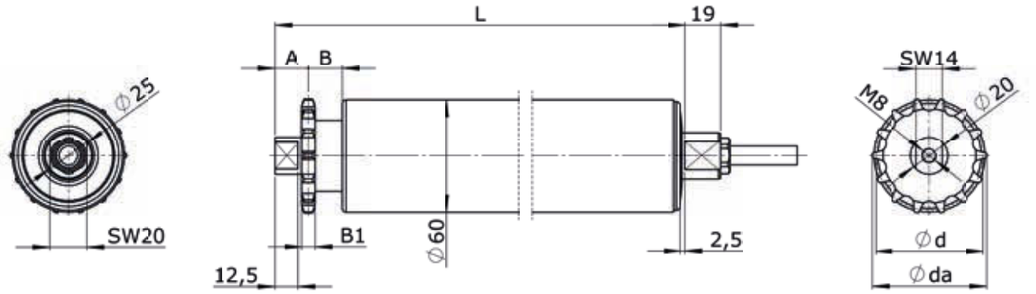
Mechanical versions



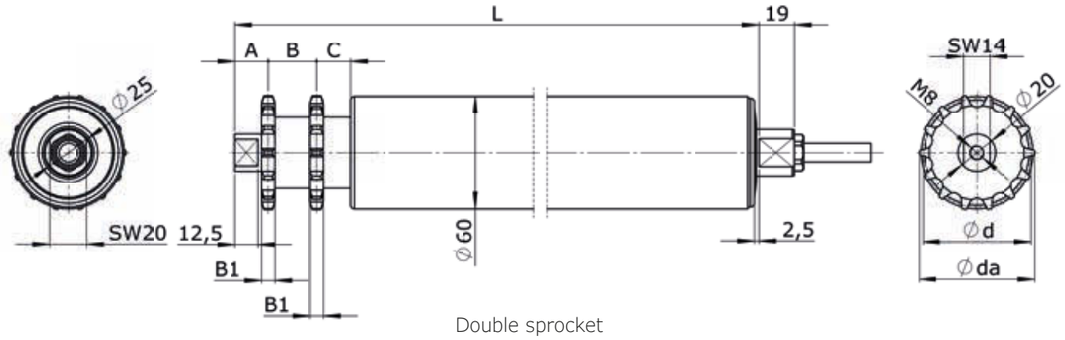
smooth



crowned



Single sprocket



Double sprocket

variable	Single sprocket [mm]	Double sprocket [mm]
A	18	
B	18	26
C	-	18
B1	7.2	
L	clamping length	
LT	Length of support tube	
Ød	57.87	
Øda	61.8	
Number of teeth	14	

MRG8x
for pallet conveyor technology

Highly integrated drive solution for reliable heavy-duty transport in pallet conveyor systems

Application / area of application

Powerful motorized roller for pallet conveyor technology, designed for the reliable transport of heavy loads.

It impresses with its robust construction, high power density and stable operation even under demanding operating conditions in heavy-duty transport.

The two-cable solution enables the use of standardized motor modules that are established on the market and thus decentralized drive technology for pallet conveyor systems. This enables pallet transport without accumulation pressure, analogous to container conveyor technology, which means that the pallet throughput can be significantly increased compared to conventional block accumulation.



Features

- **48V technology**: Efficient and safe low-voltage technology for modern conveyor systems.
- **Powerhouse for up to 1500 kg**: Designed for the reliable transport of heavy pallets in conveyor technology.
- **Integrated Motor Controller**: Compact drive solution for easy integration.
- **Up to 1.1 m/s conveying speed**: Powerful drive for dynamic and continuous material flows.

Technical data

Type		MRG80B D17 / MRG89B D17	MRG80B D30 / MRG89B D30	MRG80B D42 / MRG89B D42	MRG80B D56 / MRG89B D56
Rated voltage	VDC	48	48	48	48
Rated Power (S3)	W	370	370	370	370
Rated Power (S1)	W	200	200	200	200
Speed	m/s	0 - 1.0 / 0 - 1.1	0 - 0.56 / 0 - 0.62	0 - 0.40 / 0 - 0.45	0 - 0.30 / 0 - 0.33
Nominal torque (S3)	Nm	16.23	28.64	40.10	53.47
Nominal torque (S1)	Nm	8.12	14.32	20.05	26.73
Maximum torque	Nm	27.12	47.86	67.00	70.00
Rated current	ADC	5	5	5	5
Maximum current	ADC	21.3	21.3	21.3	16.7

	Configuration
Interfaces	I/O or CAN
Maximum noise level	< 62 dB(A), application dependent
Temperature sensor *	PTC
Length of connecting cable	500 mm
Tube dimensions	Ø 80/89 x 3.0 mm
Tube material *	Galvanized steel
Tube options	Stainless steel
Ambient temperature *	0 °C ... 40 °C
Protection class *	IP54

* other versions on request

Connections supply voltage

Pin	Description	Presentation
1	n.c.	 M12,L coded 5-pin/male
2	Supply GND	
3	n.c.	
4	Supply 48 VDC	

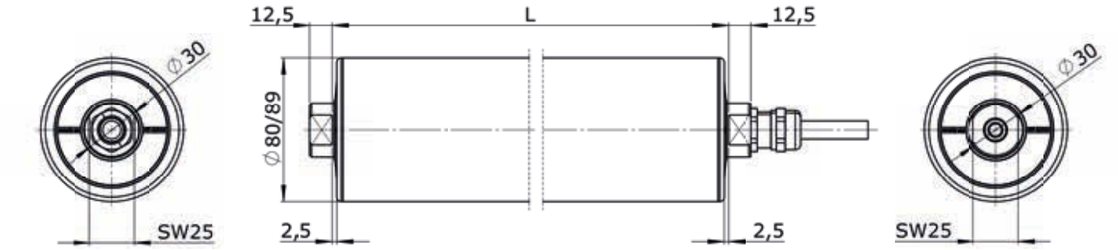
Connections CAN version

Pin	Description	Presentation
1	Supply 24 VDC	 M8 B-coded 5-pin/male
2	CAN high	
3	Supply GND	
4	CAN Low	
5	CAN GND	

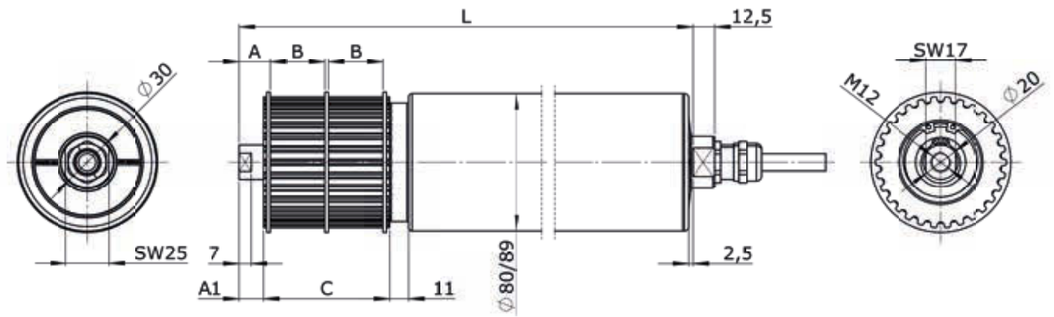
Connections version I/O

Pin	Description	Presentation
1	Supply 24 VDC	 M8 B-coded 5-pin/male
2	Direction of rotation	
3	Supply GND	
4	Error output	
5	speed	

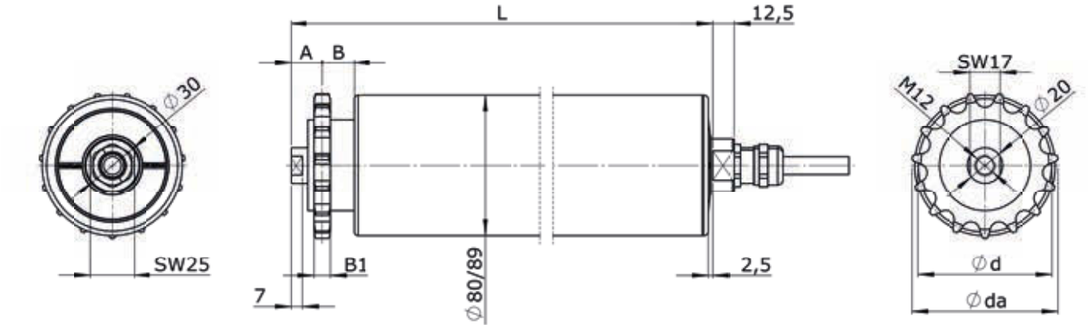
Mechanical versions



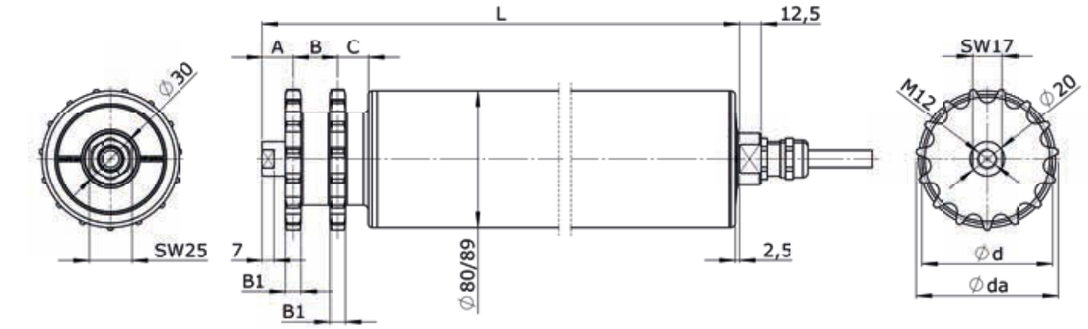
smooth



Timing belt pulley



Single sprocket



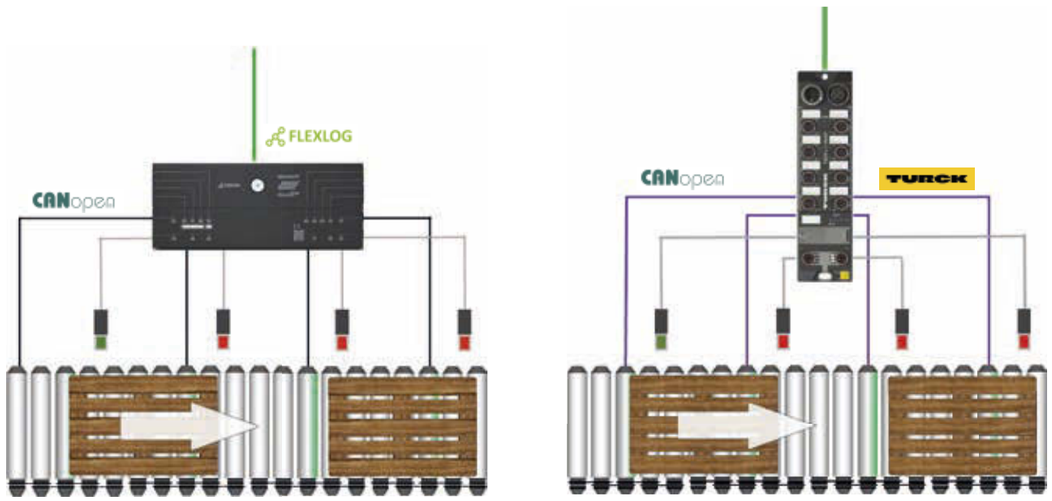
Double sprocket

variable	Single sprocket [mm]	Double sprocket [mm]	Timing belt pulley [mm]
A	18		
B	18	26	32
C	-	18	73.7
L	clamping length		
A1	-	-	14.15
B1	9.1		-
Ød	76.36		-
Øda	83		-
Number of teeth	15		-

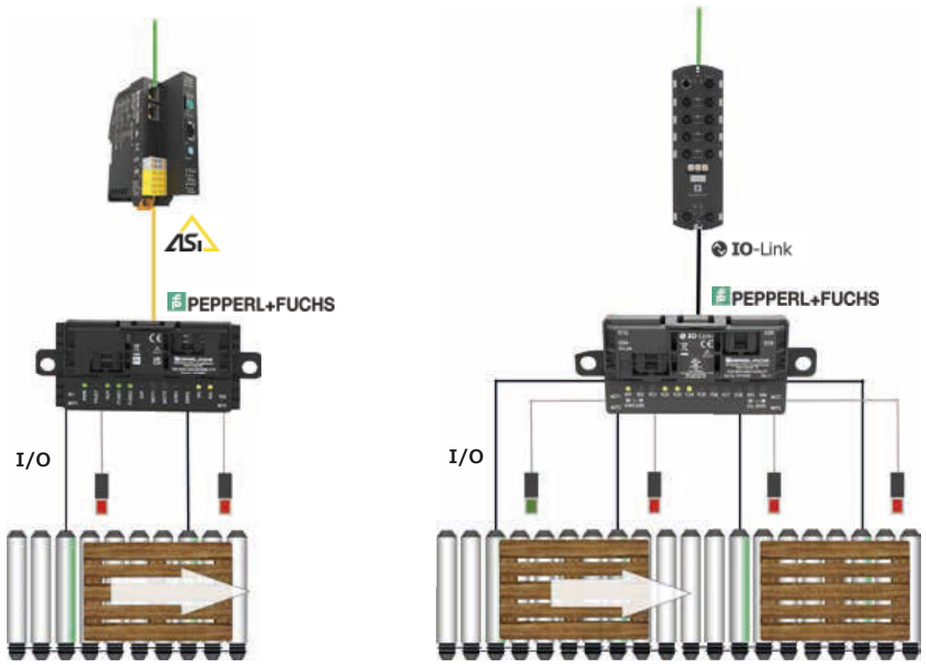
Easy system integration

Our motorized rollers can be seamlessly integrated into common industry standards via standardized interfaces. The integration is quick, flexible and without much effort.

Easy integration into automation solutions via the **CAN interface integrated directly into the motor roller**.



Easy integration into automation solutions via the I/O interface integrated directly into the motor roller



DRUM MOTORS

DMD50
for container conveyor technology

Drum motor for operation on a decentralized Motor Controller for efficient, zero pressure accumulation conveying.

Applications

Reliable drive solutions for applications in general cargo conveying technology under normal environmental conditions. Designed for the safe and efficient transport of boxes, containers and workpiece carriers, the drives impress with their versatile application options in different conveying concepts. They are particularly suitable for line conveyors and compact belt conveyors as well as for zero-pressure accumulation conveyor technology systems where a consistent material flow is crucial.

In addition, the drives can be easily integrated into shuttle systems, alignment conveyor segments and transfer routes and flexibly support the implementation of branches and distribution structures within complex conveyor systems. Thanks to their robust design and high adaptability, they represent an economical and powerful solution for modern intralogistics processes.

Features & Benefits

- Integrated encoders for operation on decentralized Motor Controllers
- Brushless drive technology
- Available as a direct drive (without gearbox) and in a version with gearbox
- Voltage ranges for 24 VDC and 48 VDC
- Low wear and designed to be maintenance-free



DMD50 *Gearless direct drive*

The gearless design enables particularly direct and efficient power transmission while simultaneously reducing energy loss. By eliminating mechanical transmission components, noise, wear and maintenance are significantly minimized. It is also designed for applications with a parcel throughput of up to 1400 parcels per hour with an average weight of 30 kg and a maximum weight of up to 50 kg.

Technical data

		DMD50-AA	DMD50-AB	DMD50-AC	DMD50-AD	DMD50-BA	DMD50-BB	DMD50-BC	DMD50-BD
Rated voltage	VDC	24	24	24	24	48	48	48	48
Rated power (S1)	W	27	40	42	55	28	43	56	77
Speed	m/s	0 - 1.0	0 - 1.0	0 - 2.0	0 - 2.0	0 - 1.0	0 - 1.0	0 - 2.0	0 - 2.0
Nominal torque (S1)	Nm	0.68	1.00	0.52	0.68	0.70	1.05	0.70	0.96
Maximum torque	Nm	1.70	3.40	2.00	2.40	1.80	3.60	1.85	2.90
Rated current	ADC	2.0	3.0	2.5	3.1	1.5	1.5	2.2	3.2
Maximum current	ADC	5.4	10.0	11.6	14.0	4.6	4.9	7.6	8.2

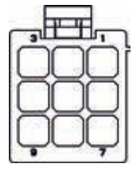
	Configuration
Feedback	sensorless or with Hall sensor
Maximum noise level	< 49 dB(A), application dependent
Length of connecting cable	500 mm
Tube dimensions	Ø 50 x 1.5 mm
Tube material *	Galvanized steel or stainless steel
Tube options*	PVC sleeve / PU sleeve
Ambient temperature *	0 °C ... 40 °C
Protection class *	IP54

* other versions on request

Motor cable connections (sensorless operation)

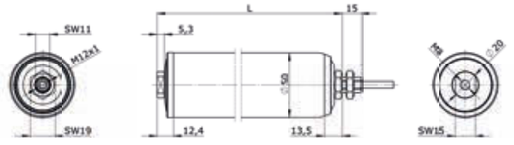
Pin	Signal	Presentation
1	Motor phase U	 M8 B-coded 5-pin/male
2	Motor phase V	
3	Motor phase W	
4	star point	
5	GND	

Hall sensor connections

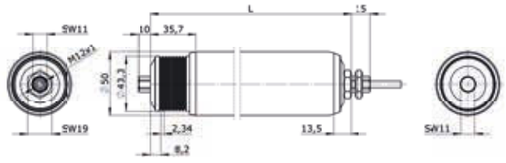
Pin	Signal	Presentation
1	Motor phase U	 9-pin 3-row/male *
2	Motor phase V	
3	Motor phase W	
4	GND 5 V	
5	Supply 5 V	
6	n.c.	
7	Hall 1	
8	Hall 2	
9	Hall 3	

* other versions on request

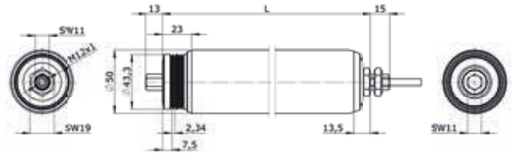
Mechanical versions



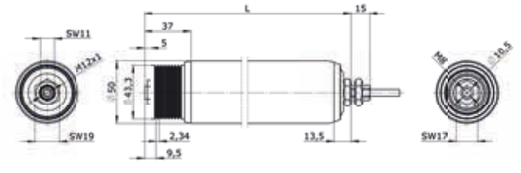
smooth with M8 internal thread



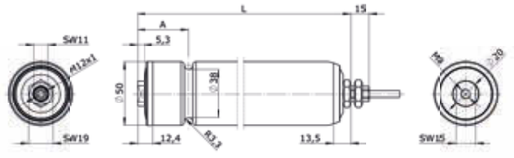
Poly-V, 9 ribs with spring-loaded axle



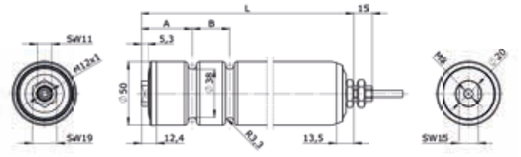
Poly-V, 2x2-ribbed with hexagonal axle



Poly-V, 9-ribbed with through axle

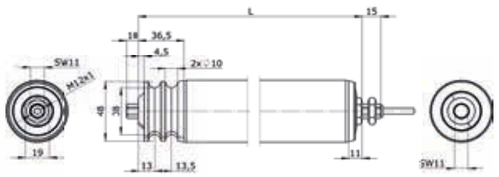


Single groove with M8 internal thread

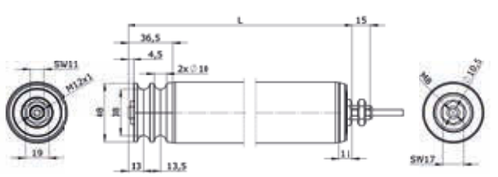


Double groove with M8 internal thread

Variable	Single groove [mm]	Double groove [mm]
A	40.5	40.5
B	-	30
L	clamping length	



Round belt with hexagonal spring axle



Round belt with M8 internal thread can be plugged in

DMG60
for belt conveyor technology

Drum motor for operation on a decentralized Motor Controller for efficient belt conveyor technology

Applications

Drive systems for belt conveyors are specifically designed to meet the requirements of continuous conveying processes and are therefore particularly suitable for this area of application.

They offer high power density, reliable operation and are characterized by strong overload capacity.

They also ensure a robust and long-lasting solution for material flow in applications such as belt drives and cross-belt sorters.



Features & Benefits

- **Integrated rotary encoders** for operation on decentralized Motor Controllers.
- **High overload capability**: Reliable operation even during peak loads and demanding conveying conditions.
- **Optional with integrated holding brake**: Ensures safe positioning and holding of the conveyed goods at a standstill.

Technical data

		DMG60B C09	DMG60B C12	DMG60B C49
Rated voltage	VDC	48	48	48
Rated power (S1)	W	181 *	181 *	181 *
Speed	m/s	0 - 2.1	0 - 1.6	0 - 0.4
Nominal torque (S1)	Nm	2.5	3.4	13.8
Maximum torque	Nm	10.5	14.0	52.0
Rated current	Arms	4.9	4.9	4.9
Maximum current	Arms	18.8	18.8	18.8

* measured as motorized roller - higher, when used in belt conveyor technology

	Configuration
Encoder system	Hall sensor or magnetic encoder
Maximum noise level	< 55 dB(A), application dependent
Length of connecting cable	500 mm
Tube dimensions	Ø 60 x 1.5 mm or Ø 60 x 3.0 mm
Tube material	Galvanized steel
Tube options	convex / belt guide groove / PVC hose
Ambient temperature	0 °C ... 40 °C
Protection class	IP54

Motor cable connections

Pin	Signal	Presentation
1	Motor phase U	 M16 / 3-pin (3x1)/male
2	Motor phase V	
3	Motor phase W	

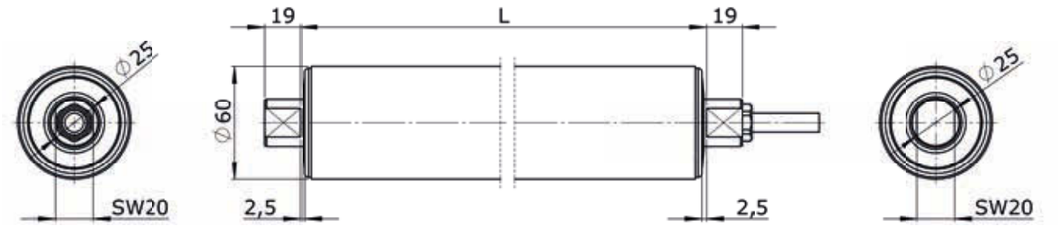
Hall sensor connections

Pin	Signal	Presentation
1	Supply 5 V	 M8 B-coded 5-pin/male
2	GND	
3	Hall 1	
4	Hall 2	
5	Hall 3	

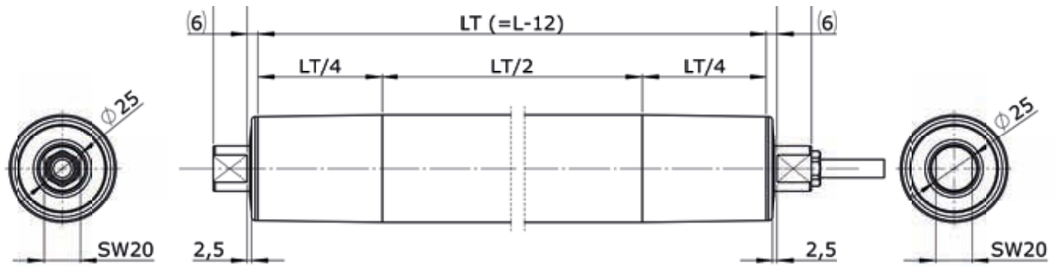
Magnetic encoder connections

Pin	Signal	Presentation
1	GND 5 V	 M16 / 18-pin/male
2	Supply 5 V	
3	I-	
4	I+	
5	B-	
6	B+	
7	A-	
8	A+	
9	PWM-	
10	PWM+	
11	Temp-	
12	Temp+	
13	Brake (GND)	
14	Brake (24 VDC)	
15-18	n.c.	

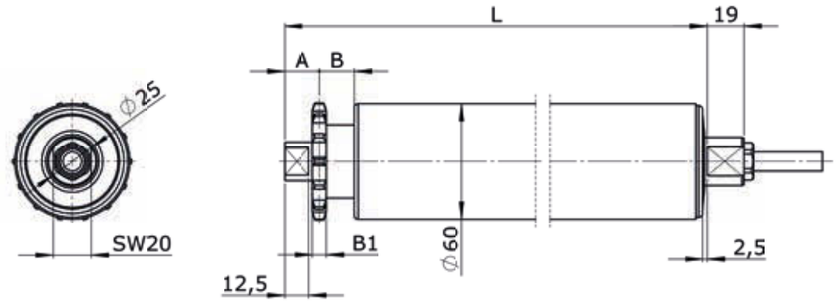
Mechanical execution



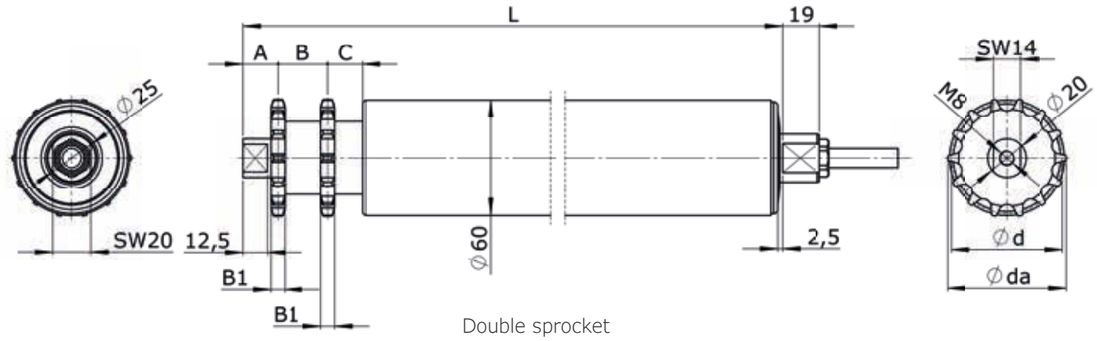
smooth



crowned



Single sprocket



Double sprocket

Variable	Single sprocket [mm]	Double sprocket [mm]
A	18	
B	18	26
C	-	18
B1	7.2	
L	clamping length	
LT	Length of support tube	
Ød	57.87	
Øda	61.8	
Number of teeth	14	

DMG8x-B
for pallet conveyor technology

Robust drum motors for operation with a decentralized Motor Controller for reliable pallet conveying at 48 VDC

Applications

Powerful drum motor for pallet conveyor technology, designed for the reliable transport of heavy loads.

It impresses with its robust construction, high power density and stable operation even under demanding operating conditions in heavy-duty transport.



Features & Benefits

- **48V technology**: Efficient and safe low-voltage technology for modern conveyor systems.
- **Powerhouse for up to 1500 kg**: Designed for the reliable transport of heavy pallet loads in conveyor technology.
- **Integrated rotary encoders** for operation on decentralized Motor Controllers.
- **Up to 1.1 m/s conveying speed**: Powerful drive for dynamic and continuous material flows.

Technical data

Type		DMG80B D17 / DMG89B D17	DMG80B D30 / DMG89B D30	DMG80B D42 / DMG89B D42	DMG80B D56 / DMG89B D56
Rated voltage	VDC	48	48	48	48
Rated Power (S3)	W	370	370	370	370
Rated Power (S1)	W	200	200	200	200
Speed	m/s	0 - 1.0 / 0 - 1.1	0 - 0.56 / 0 - 0.62	0 - 0.40 / 0 - 0.45	0 - 0.30 / 0 - 0.33
Nominal torque (S3)	Nm	16.23	28.64	40.10	53.47
Nominal torque (S1)	Nm	8.12	14.32	20.05	26.73
Maximum torque	Nm	27.12	47.86	67.00	70.00
Rated current	ADC	5	5	5	5
Maximum current	ADC	21.3	21.3	21.3	16.7

	Configuration
Rotary encoder	magnetic encoder
Maximum noise level	< 62 dB(A), application dependent
Temperature sensor *	PTC
Length of connecting cable	500 mm
Tube dimensions	Ø 80 x 3 mm / Ø 89 x 3 mm
Tube material *	Galvanized steel
Ambient temperature *	0 °C ... 40 °C
Protection class *	IP54

* other versions on request

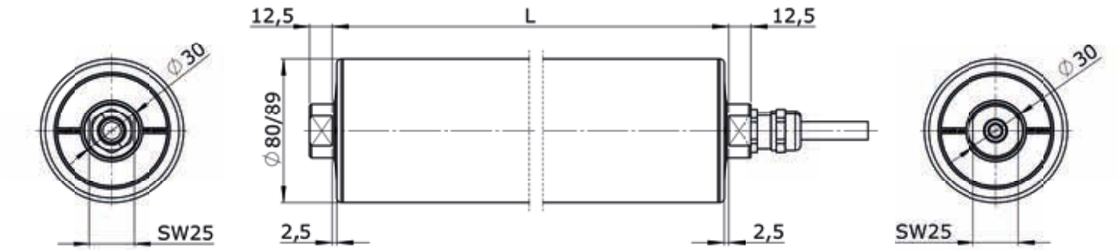
Motor cable connections

Pin	Signal	Presentation
1	Motor phase U	 M16 / 3-pin (3x1)/male
2	Motor phase V	
3	Motor phase W	

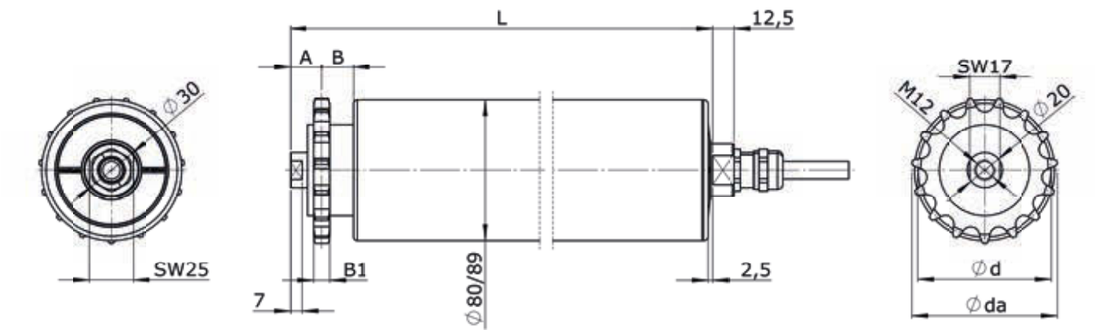
Magnetic encoder connections

Pin	Signal	Presentation
1	GND 5 V	 M16 / 18-pin/male
2	Supply 5 V	
3	I-	
4	I+	
5	B-	
6	B+	
7	A-	
8	A+	
9	PWM-	
10	PWM+	
11	Temp-	
12	Temp+	
13	Brake (GND)	
14	Brake (24 VDC)	
15-18	n.c.	

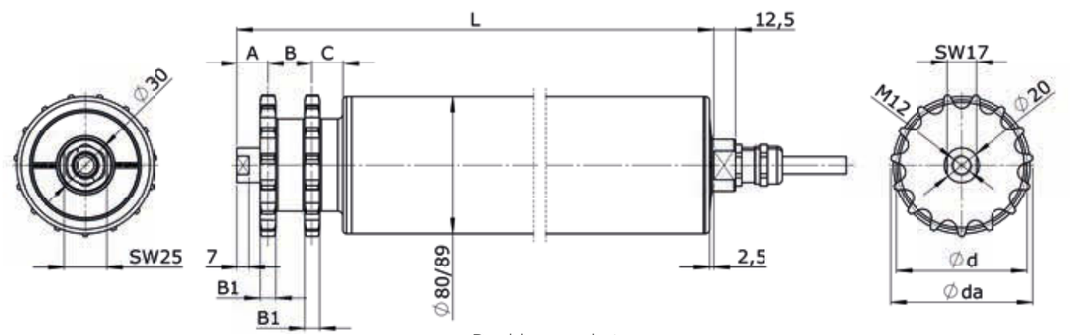
Mechanical execution



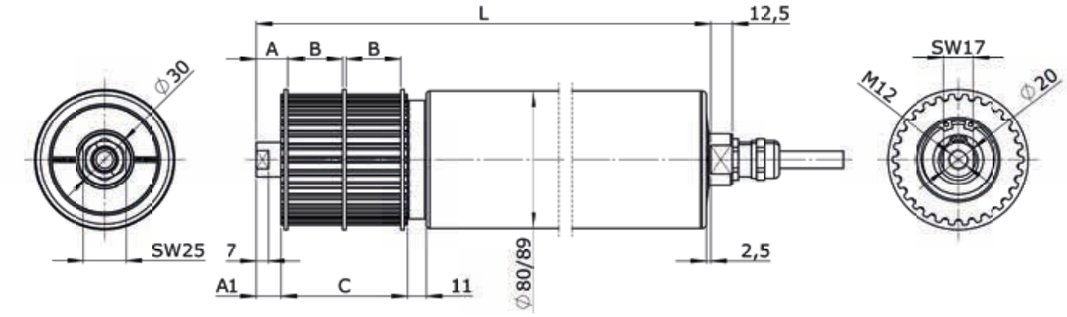
smooth



Single sprocket



Double sprocket



Timing belt pulley

variable	Single sprocket [mm]	Double sprocket [mm]	Timing belt pulley [mm]
A	18		
B	18	26	32
C	-	18	73.7
A1	-	-	14.15
B1	9.1		-
L	clamping length		
Ød	76.36		-
Øda	83		-
Number of teeth	15		-

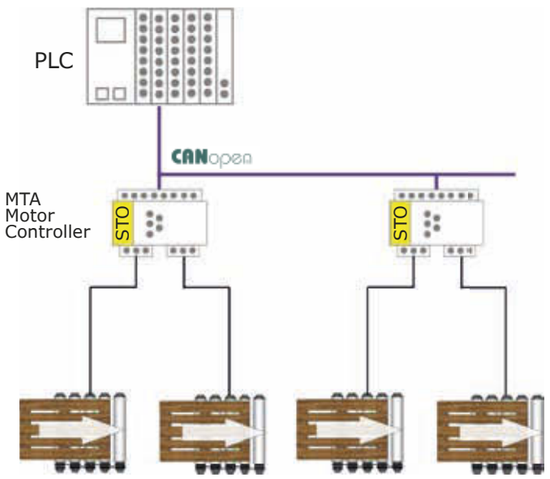
48 VDC DRIVE SYSTEMS FOR MODERN PALLET CONVEYOR TECHNOLOGY

Drum motors and Dual-Axis Motor Controllers with integrated STO function for safe and efficient conveying solutions

Our 48-VDC drum motors were developed specifically for the requirements of modern pallet conveyor systems. In combination with our powerful Dual-Axis Motor Controller, two drum motors can be controlled independently and precisely.

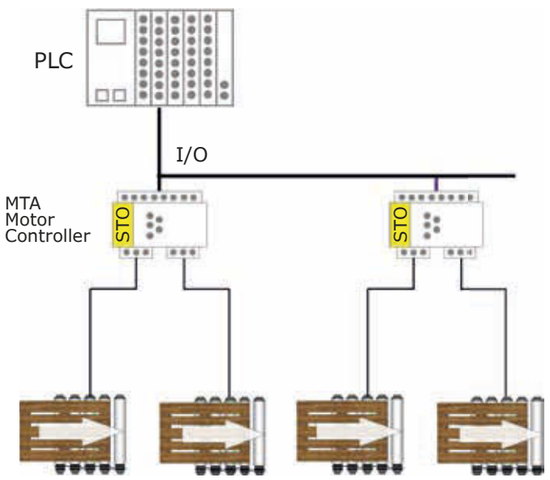
The integrated Safe Torque Off (STO) function enables the torque to be switched off safely and supports the implementation of modern safety concepts in conveyor technology. For maximum flexibility, our drum motors can alternatively be operated with decentralized drive controllers from third-party providers.

We adapt the required encoder interface individually to the respective system architecture. This creates a powerful and future-proof drive solution that can be optimally integrated into existing automation environments.



MTA Drum Motors 48 VDC

Communication and parameterization via CAN – for maximum functionality and seamless integration into modern automation systems.



MTA Drum Motors 48 VDC

Plug & Convey – uncomplicated control via I/O signals for quick commissioning and high availability.

DMG8x-D
for pallet conveyor technology

Drum motor for 400 VAC pallet conveyor technology for easy integration into classic frequency converter systems.

Applications

Powerful drum motor for pallet conveyor technology, designed for the reliable transport of heavy loads.

It impresses with its robust construction, high power density and stable operation even under demanding operating conditions in heavy-duty transport.



Features & Benefits

- **400V technology**: Integration into classic 400 V pallet conveyor technology.
- **Powerhouse for up to 1500 kg**: Designed for the reliable transport of heavy pallet loads in conveyor technology.
- **Integrated rotary encoders** for operation on decentralized drive controllers.
- **Up to 1.1 m/s conveying speed**: Powerful drive for dynamic and continuous material flows.

Technical data

Type		DMG80Đ H07 / DMG89Đ H07	DMG80Đ H50 / DMG89Đ H50
Rated voltage	VAC	400	400
Rated power (S3)	W	572	432
Rated power (S1)	W	311	235
Speed	m/s	0 - 2.39 / 0 - 2.66	0 - 0.34 / 0 - 0.38
Nominal torque (S3)	Nm	9.40	51.60
Nominal torque (S1)	Nm	5.10	28.1
Maximum torque	Nm	44.0	125.0
Rated current	Arms	0.7	0.6
Maximum current	Arms	2.4	2.4

	Configuration
Rotary encoder	Resolver or magnetic encoder
Maximum noise level	< 62 dB(A), application dependent
Temperature sensor *	PTC
Length of connecting cable	500 mm
Pipe dimensions	Ø 80 x 3 mm / Ø 89 x 3 mm
Pipe material *	Galvanized steel
Ambient temperature *	0 °C ... 40 °C
Protection class *	IP54

* other versions on request

Motor cable connections

Pin	Signal	Presentation
1	Motor phase U	 M16 / 3-pin (3x1)/male
2	Motor phase V	
3	Motor phase W	

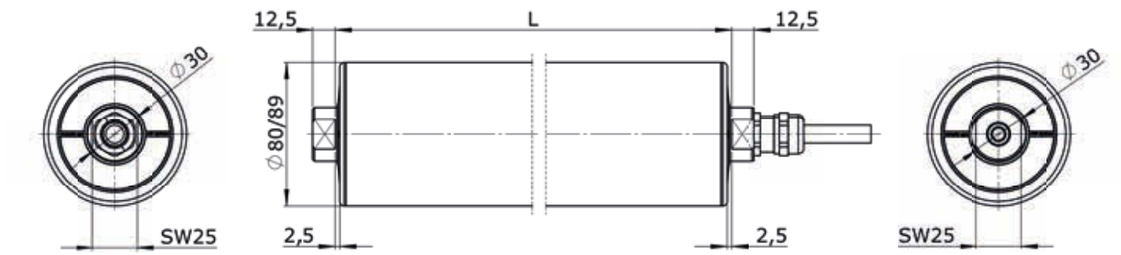
Resolver connections

Pin	Signal	Presentation
1	Reference+	 M16 / 18-pin/male
2	Reference-	
3	Cosine+	
4	Sine+	
5	Cosine-	
6	Sine-	
7-18	n.c.	

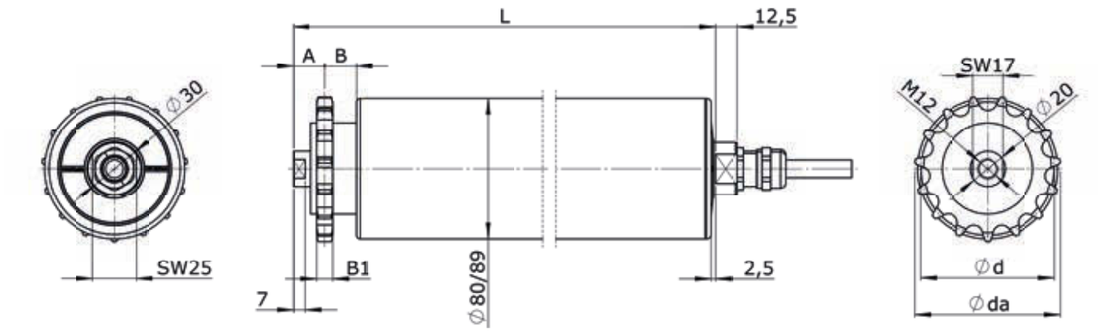
Magnetic encoder connections

Pin	signal	Presentation
1	GND 5 V	 M16 / 18-pin/male
2	Supply 5 V	
3	I-	
4	I+	
5	B-	
6	B+	
7	A-	
8	A+	
9	PWM-	
10	PWM+	
11	Temp-	
12	Temp+	
13	Brake (GND)	
14	Brake (24 VDC)	
15-18	n.c.	

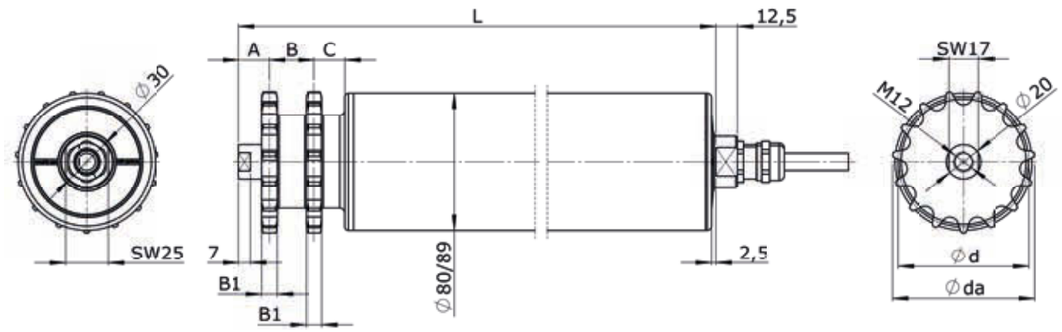
Mechanical execution



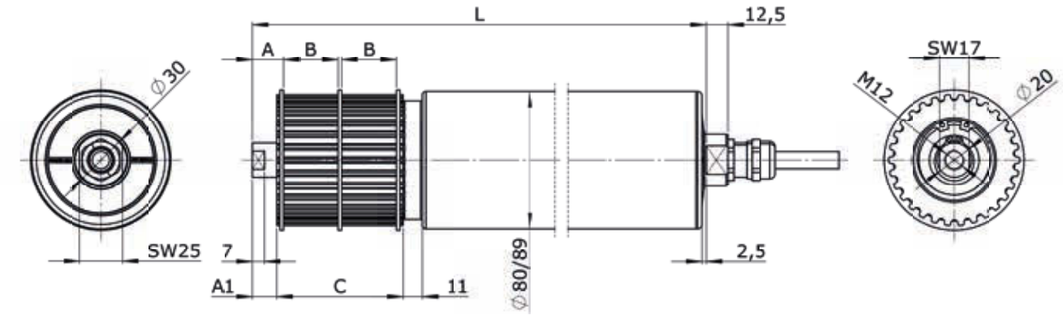
smooth



Single sprocket



Double sprocket



Timing belt pulley

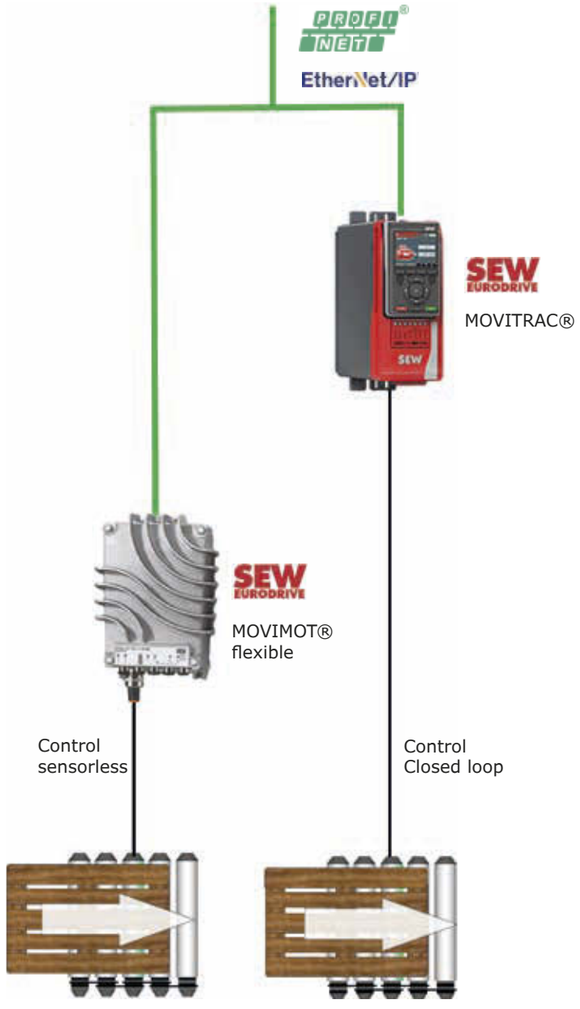
Variable	Single sprocket [mm]	Double sprocket [mm]	Timing belt pulley [mm]
A	18		
B	18	26	32
C	-	18	73.7
A1	-	-	14.15
B1	9.1		-
L	clamping length		
Ød	76.36		-
Øda	83		-
Number of teeth	15		-

SEAMLESS INTEGRATION INTO YOUR 400 VAC DRIVE ARCHITECTURE

400 VAC drum motors with flexible control and individual system connection

Our drum motors are designed for operation on common frequency converters and servo controllers. Depending on the application, we provide the required encoder interface or enable reliable sensorless operation.

This means you benefit from a drive solution that is optimally tailored to your conveyor system – including competent support with system integration.



SMD125

Gearless direct drive, fully integrated into the pulley – for maximum installation space

Applications

Integrated directly **into the pulley**, this groundbreaking solution eliminates all the disadvantages of conventional geared motors, which are usually flanged to a pulley.

The result? A compact, efficient drive unit without compromising performance. A groundbreaking technology that takes efficiency and reliability to a new level.

Designed for belt applications with a high number of start/stop cycles.



Features & Benefits

- **Compactness:** Since no external gearbox is required, the size of the overall system is significantly reduced. This enables space-saving integration.
- **Efficiency:** The direct drive eliminates the energy loss normally caused by the gearbox. This leads to higher overall efficiency of the drive system.
- **Low maintenance:** Traditional geared motors require regular maintenance, especially of the gearbox. The gearless direct drive reduces the number of moving parts. Maintenance is not required.
- **Noise reduction:** Geared motors produce noise due to friction and wear. The gearless direct drive eliminates vibrations and noise, resulting in reduced noise emissions.
- **times:** By integrating the motor directly into the pulley, the gearless direct drive enables faster transmission of torque and improved response time.
- **Precision:** The direct connection between motor and pulley enables precise control and positioning.

Technical data

Designation		SMD125
Rated voltage	VDC	48
Rated power	W	507
Rated speed	m/s	4.4
Rated torque	Nm	8.5
Maximum torque	Nm	31.1
Rated current	Arms	13
Maximum current	Arms	46.6

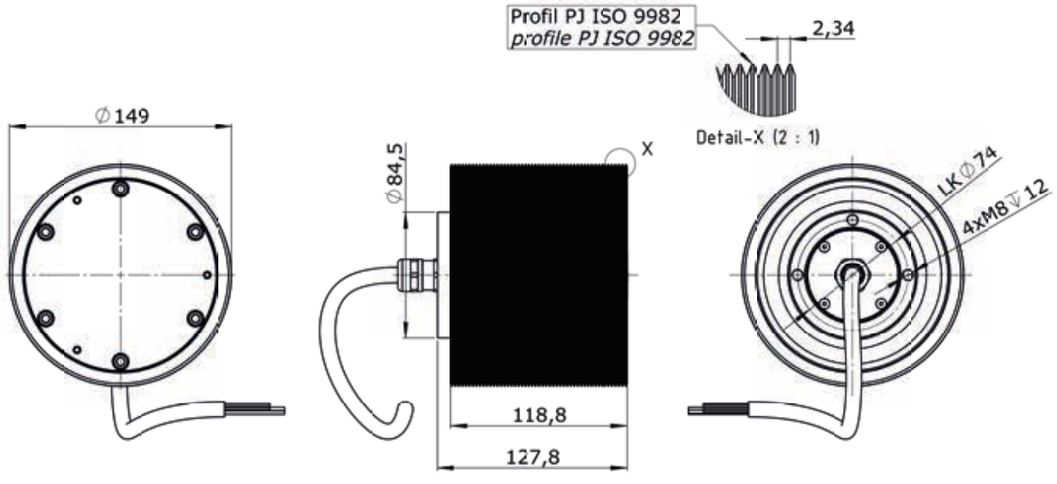
	Configuration
Rotary encoder	magnetic encoder
Maximum noise level	< 49 dB(A), application dependent
Length of motor cable	900 mm
Tube dimensions	Ø 149 x 14.5 mm
Tube material *	Galvanized steel
Ambient temperature *	0 °C ... 65 °C
Protection class *	IP54

* other versions on request

Motor cable and encoder connections

Signal	Presentation
Motor phase U	open ends Plug version on request
Motor phase V	
Motor phase W	
n.c.	
GND 5 V	
Supply 5 V	
Hall 1	
Hall 2	
Hall 3	
A track	
B track	
GND	

Dimensions



MRG50 ECCENTRIC

Motor roller with integrated eccentric stroke for flat and space-saving corner transfers in sorting and conveyor systems

Applications

The eccentric roller was developed specifically for dynamic rejection and transfer processes in intralogistics. Typical applications include belt ejectors, corner transfers and sorting segments in which conveyed goods are lifted in a targeted manner and then transferred in a 90° conveying direction.

During the transfer process, a belt segment between the conveyor rollers is actively lifted, whereby the transport container or the conveyed goods are lifted out of the main flow in a controlled manner.

The precise 90° discharge then takes place into the downstream conveyor system.



The lifting movement is completely realized by the integrated eccentric disk within the motor roller. This eliminates the need for external, flanged lifting drives, which enables a significantly more compact and flatter design of the entire corner transfer unit.

Features & Benefits

- **Integrated eccentric stroke** directly in the motor roller
- **Allows exceptionally low-profile corner transfer units**
- **Reduces installation space** significantly compared to classic external lifting drives
- **Ideal for belt ejectors** and 90° sorting systems
- **Precise and synchronized lifting** during the conveying process
- **Fewer mechanical components** → reduced complexity and maintenance
- **High integration capability** in modular sorting and conveying systems
- **Optimized for compact, high-performance intralogistics systems**
- **Replacement for classic motor/gearbox lifting combinations**

Technical data

		MRG50 Eccentric	
Rated voltage	VDC	24	48
Rated power (S1)	W	58	70
Speed	m/s	0 - 0.37	0 - 0.37
Nominal torque (S1)	Nm	3.92	4.76
Maximum torque	Nm	10.07	10.89
Rated current	ADC	1.0	1.87
Maximum current *	ADC	3.3	5.1

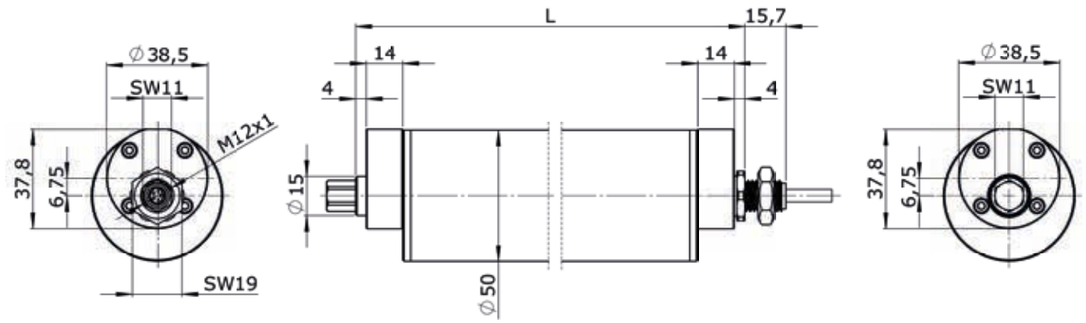
* Current limitation possible when operating with motor module

	Configuration
Interfaces	I/O or CAN
Lift height	13.5 mm
Maximum noise level	< 55 dB(A), application dependent
Length of connecting cable	500 mm
Tube dimensions	Ø 50 x 1.5 mm
Tube material	Galvanized steel
Ambient temperature	0 °C ... 40 °C
Protection class	IP54

Electrical interfaces

Pin	I/O version	CAN version	Presentation
1	Supply voltage (24 V/48 V)	Supply voltage (24 V/48 V)	M8 B-coded 5-pin/male
2	Direction of rotation	CAN-HIGH	
3	Ground	Ground	
4	Error output / start-stop	CAN-LOW	
5	Speed setpoint	manufacturer-specific	

Dimensions



SORTER

SORTER COMPONENTS

Sorter motors

At the heart of the sorter are **MTA sorter motors** with a proven track record. These gearless direct drives operate at very **low noise levels**, ensuring smooth operation and a **long service life**.

Two motor sizes and power ratings are available to suit different requirements and customer-developed systems.



Type		SUD53-AAA	SUD53-ACA	SUD53B AA	SUD53B DA
Rated voltage	VDC	24	24	48	48
Performance	W	15	41	28	40
Speed	m/s	0 - 2.5	0 - 2.5	0 - 2.5	0 - 2.5
Rated torque	Nm	0.16	0.43	0.16	0.43
Maximum torque	Nm	0.39	0.85	0.40	1.3
Rated current	Arms	1.6	2.7	1.6	1.4
Maximum current	Arms	4.4	6.9	5.1	5.3

Swivel drive

For precise sorting at high conveying speeds, it is essential to move to the swivel positions as quickly as possible.

The swivel drive uses a **highly dynamic synchronous motor with an integrated Motor Controller** and a high-resolution encoder for precise positioning. Its CANopen interface enables **full digital integration**. The integrated Motor Controller reduces cabling to the power supply and CANopen connection.



Type		SMG50I	
Rated voltage	VDC	24	48
Rated power	W	100	118
Speed	°/s	0 - 1560	0 - 1560
Rated torque	Nm	3.7	4.4
Maximum torque	Nm	14.0	14.0
Rated current	Arms	5.9	3.4
Maximum current	Arms	28.6	12.2

The high-resolution encoder and integrated positioning function allow **continuous positioning at any swivel angle, such as ±30°, ±45° or 09 0°**. No limit switches or proximity switches are required. After startup, the sorter line automatically performs a homing cycle. The swivel motor determines both end positions and positions itself continuously between them as required.

Motor Controller for multiple axes



The Motor Controllers enable **complete digitalization** of the sorting system.

Each motor is individually speed-controlled via **CANopen**.

Advanced software functions provide extensive diagnostics and **predictive maintenance**. Alternatively, the motors can be controlled via an **I/O interface**.

Controllers with different numbers of motor outputs are available to suit the mechanical design and application.

		MMAC2 4/480 4	MMAC2 4/480 8	MMAC2 4/481 2
Number of motor outputs		4	8	12
Power supply	VDC	24/48	24/48	24/48
Control voltage	VDC	24	24	24
CANopen interface		●	●	●
I/O interface		1x analog input for speed 1x digital input for direction of rotation 1x digital input for controller enable 1x digital output for error output		
Brake chopper		●	●	●
Dimensions (L x W x H)	mm	186 x 82 x 33	242 x 82 x 33	298 x 82 x 33

- **Supply of power section and control section galvanically isolated**
- **Control via Profinet, CANopen interface or I/Os**
- **Brake chopper onboard**
- **LEDs for diagnosis and display of error states, brake chopper and CANopen communication**
- **Dip switch for CANopen terminating resistor and node ID**
- **Reverse polarity protection, over-voltage protection, overe urrent protection and temperature monitoring**



SERVO DRIVES

SMD50

Compact servo drive with maximum freedom in mechanics, control and system integration

Applications

The SMD50 was developed for applications that require maximum flexibility in the design of the drive system. Without a permanently attached gearbox, the mechanical connection can be optimally adapted to the respective application.

For electrical integration, variants with an integrated Motor Controller as well as versions for operation on customer-provided servo controllers are available. Different encoder systems can be integrated into the third-party controller variant to enable optimal integration into existing automation and control concepts.

Typical areas of application are swivel drives, positioning systems, lifting axes, rejection units and customer-specific automation solutions.



Features & Benefits

- **Free choice** of mechanical connection and gearbox solution
- **Optionally with integrated Motor Controller** or for third-party controllers
- **Flexible integration of different encoder systems**
- **Easy integration** into existing control architectures
- **High dynamics and precise movement control**
- **Compact design** for tight installation spaces
- **Ideal for customized machine and automation solutions**
- **Futureþ roof platform** for individual drive concepts

Technical data Version with integrated Motor Controller

		SMD50I-AA	SMD50IB B
Rated voltage	VDC	24	48
Rated power	W	100	120
Output speed	rpm	6900	6900
Rated torque	Nm	0.14	0.16
Maximum torque	Nm	0.63	0.63
Rated current	ADC	5.9	3.4
Maximum current	ADC	28.6	12.2

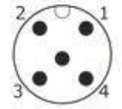
	Configuration
Interfaces	I/O or CAN
Maximum noise level	< 49 dB(A)
Output shaft *	prepared for mounting planetary gearbox
Ambient temperature	0 °C ... 40 °C
Protection class	IP54

* Other versions can be realized on request

Connections supply

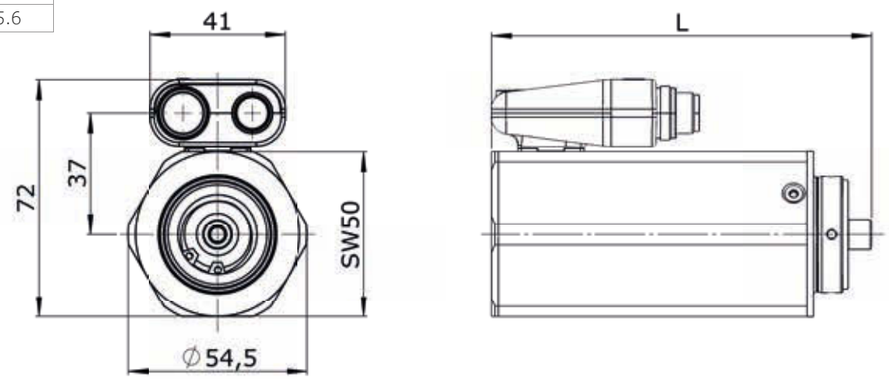
Pin	Description	Presentation
1	24 V / 48 V	 M16 / 3-pin (3x2)/male
2	GND	
3	n.c.	

I/O and CAN connections

Pin	CAN version	I/O version	Presentation
1	Shield	24 VDC	 M12 A-coded / 5-pin/male
2	DI	DI	
3	CAN-GND	GND	
4	CAN high	DO	
5	CAN low	AI	

Dimensions

L
115.6



SMD75

Powerful servo drive for maximum freedom of integration and demanding movement tasks

Applications

The SMD75 offers the same flexibility as the SMD50, but for applications with increased power and torque requirements. The open drive platform enables the free selection of gearboxes, mechanics and control concepts.

In addition to variants with an integrated Motor Controller, versions for operation on external servo controllers are available. Different encoder technologies enable optimal adaptation to existing automation and machine concepts.

The SMD75 is particularly suitable for powerful lifting systems, swivel drives, positioning axes and demanding movement tasks in intralogistics and industrial automation.



Features & Benefits

- **High performance reserves** for dynamic applications
- **Free choice of gearbox, mechanics and system architecture**
- **Variants with integrated Motor Controller** or third party controllers
- **Flexible integration** of different encoder systems
- **Easy integration** into existing machine controls
- **High dynamics and control quality**
- **Precise positioning** even with demanding movement profiles
- **Ideal for individual** and powerful drive concepts

Technical data Version with integrated Motor Controller

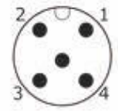
		SMD75IB A	SMD75IB D	SMD75IB F
Rated voltage	VDC	48	48	48
Rated power	W	335	515	550
output speed	rpm	4000	4000	4000
Rated torque	Nm	0.8	1.23	1.31
Maximum torque	Nm	2.72	2.85	3.14
Rated current	ADC	8,0	9.72	10.38
Maximum current	ADC	30.8	35	35

	Configuration
Interfaces	I/O or CAN
Maximum noise level	< 49 dB(A)
output shaft	Ø 11h7 x 23 mm
Ambient temperature	0 °C ... 40 °C
Protection class	IP54

Connections supply

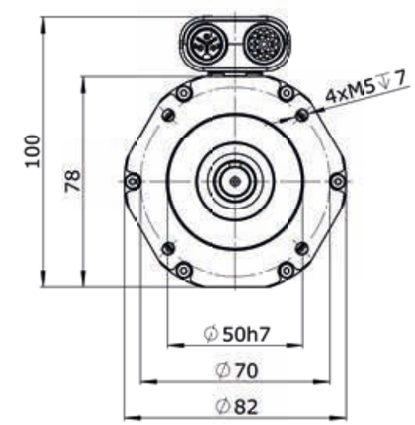
Pin	Description	Presentation
1	24 V / 48 V	 M16 / 3-pin (3x2)/male
2	GND	
3	n.c.	

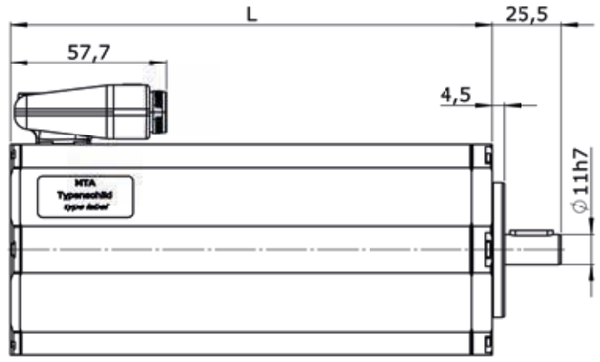
I/O and CAN connections

Pin	CAN version	I/O version	Presentation
1	Shield	24 VDC	 M12 A-coded / 5-pin/male
2	DI	DI	
3	CAN-GND	GND	
4	CAN high	DO	
5	CAN low	AI	

Dimensions

L
178





SMG50

Compact servo gear drive for precise movements and maximum integration flexibility

Applications

The SMG50 combines a powerful servo motor with a permanently integrated planetary gearbox, thus offering a compact solution for applications with increased torque requirements. The series is ideal for swivel drives, lifting systems, positioning tasks and rejection mechanisms within modern intralogistics systems.

For optimal adaptation to different machine architectures, variants with an integrated Motor Controller as well as versions for operation on external servo controllers are available.

Different encoder systems can be integrated into the third-party controller variant, enabling flexible integration into existing automation and control concepts.



Features & Benefits

- **Integrated planetary gearbox** for high torques
- **Compact and easy to install drive unit**
- **Optionally with integrated Motor Controller** or third party controllers
- **Flexible integration** of different encoder systems
- **Easy integration** into existing machine and control concepts
- **High dynamics and precise movement control**
- **Reduced design effort** through integrated gear solution
- **Ideal for lifting, swiveling and positioning applications**

Technical data Version with integrated Motor Controller

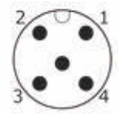
Type		SMG50I-AA16E	SMG50I-AA25F	SMG50I-AA35E	SMG50I-BA16E	SMG50I-BA25F	SMG50I-BA35E
Rated voltage	VDC	24	24	24	48	48	48
Rated power	W	100	100	100	120	120	120
output speed	rpm	375	240	171	375	240	171
Rated torque	Nm	2.40	3.75	5.25	2.83	4.42	6.19
Maximum torque	Nm	9.20	14.0	14.0	9.20	14.0	14.0
Rated current	Arms	5.9	5.9	5.9	3.4	3.4	3.4
Maximum current	Arms	28.6	28.6	17.3	12.2	12.2	7.4

	Configuration
Interfaces	I/O or CAN
Maximum noise level	< 62 dB(A)
output shaft	Ø 10h6 x 24mm
Ambient temperature	0 °C ... 40 °C
Protection class	IP54

Connections supply

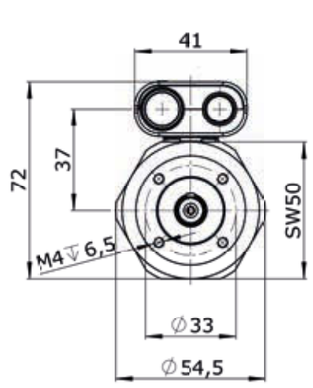
Pin	Description	Presentation
1	24 V / 48 V	 M16 / 3-pin (3x2)/male
2	GND	
3	n.c.	

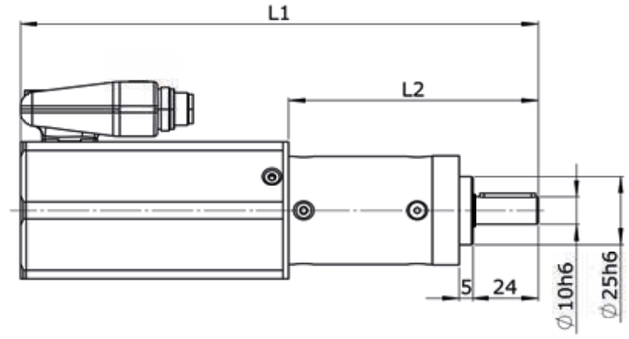
I/O and CAN connections

Pin	Description CAN version	Description version I/O	Presentation
1	Shield	24 VDC	 M12 A-coded / 5-pin/male
2	DI	DI	
3	CAN-GND	GND	
4	CAN high	DO	
5	CAN low	AI	

Dimensions

L1	189.3
L2	91.3





SMG75

Powerful servo gear drive for high torques and maximum system freedom

Applications

The SMG75 is the most powerful version of the Servo Drive family and was developed for demanding motion tasks with high loads and torques. Depending on the application, the drive is available with an integrated planetary gearbox or angular gear, enabling optimal adaptation to different installation situations.

In addition to variants with an integrated Motor Controller, versions for operation on external servo controllers are also available. Thanks to the flexible integration of different encoder systems, the drive can be easily integrated into existing automation, motion control and control architectures.

Typical applications are powerful lifting drives, swivel systems, positioning axes, rejection modules and customer-specific automation solutions.



Features & Benefits

- **High torques** through integrated planetary gearbox
- **Optimized for demanding movement and positioning tasks**
- **Optionally with integrated Motor Controller** or third party controllers
- **Flexible encoder integration** for individual system architectures
- **Easy integration** into existing automation platforms
- **High dynamics and precise controllability**
- **Customizable** to different installation situations
- **Ideal for powerful lifting, swiveling and positioning systems**

Technical data Version with integrated Motor Controller

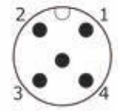
Type		SMG75IB A16E	SMG75IB A20E
Rated voltage	VDC	48	48
Rated power	W	310	310
Output speed	rpm	250	200
Rated torque	Nm	11.9	14.9
Maximum torque	Nm	41.0	51.0
Rated current	Arms	8	8
Maximum current	Arms	30.8	30.8

	Configuration
Interfaces	I/O or CAN
Maximum noise level	< 62dB(A)
output shaft	Ø 14k6 x 30 mm
Ambient temperature	0 °C ... 40 °C
Protection class	IP54

Connections supply

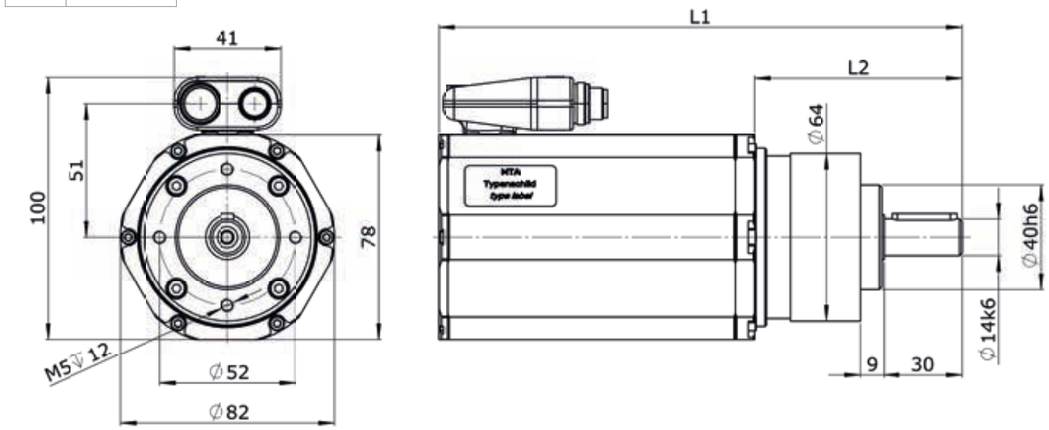
Pin	Description	Presentation
1	24 V / 48 V	 M16 / 3-pin (3x2)/male
2	GND	
3	n.c.	

I/O and CAN connections

Pin	CAN version	I/O version	Presentation
1	Shield	24 VDC	 M12 A-coded / 5-pin/male
2	DI	DI	
3	CAN-GND	GND	
4	CAN high	DO	
5	CAN low	AI	

Dimensions

L1	200.5
L2	79.5



MOBILE ROBOTICS



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AREAS OF APPLICATION / USE CASES

From travel and steering drives to lifting systems and load handling devices – holistic drive solutions for mobile robotics from a single source.

The requirements for modern driverless transport systems and autonomous mobile robots are as diverse as their areas of application.

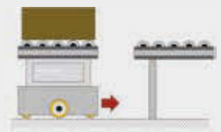
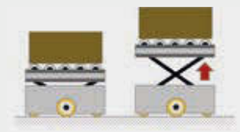
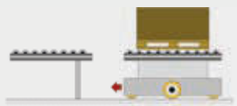
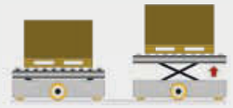
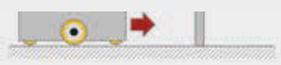
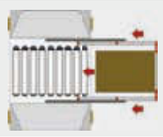
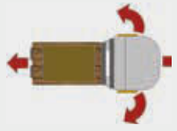
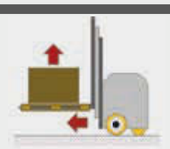
From compact micro AGVs for internal material transport to rail-bound shuttle vehicles in automated high-bay warehouses to omnidirectional heavy-duty vehicles for pallets or entire production plants - each vehicle concept has individual requirements for drive, control, safety and integration.

As a specialist for drive systems in mobile robotics, we develop solutions that are precisely tailored to the respective vehicle architecture. Our portfolio ranges from compact direct drives for small and maneuverable vehicles to powerful gear drives for applications with a total weight of several tons.

Depending on the area of application, different requirements are in the foreground. While installation space, energy efficiency and maneuverability are crucial for micro AGVs and AMRs, the focus for shuttle vehicles is on maximum availability, precise tracking and dynamic driving cycles.

Omnidirectional vehicles, on the other hand, require maximum maneuverability in confined spaces, while heavy-duty AGVs and autonomous forklifts place the highest demands on torque, load capacity and operational safety.

For all movement sequences

	Driving / steering	Conveying / storing and retrieving	Lifting / lowering
Micro AGVs			
Pallet AGVs			
Omni-directional AGVs			
Shuttles			
Forklift			

MTA
innovation is our drive

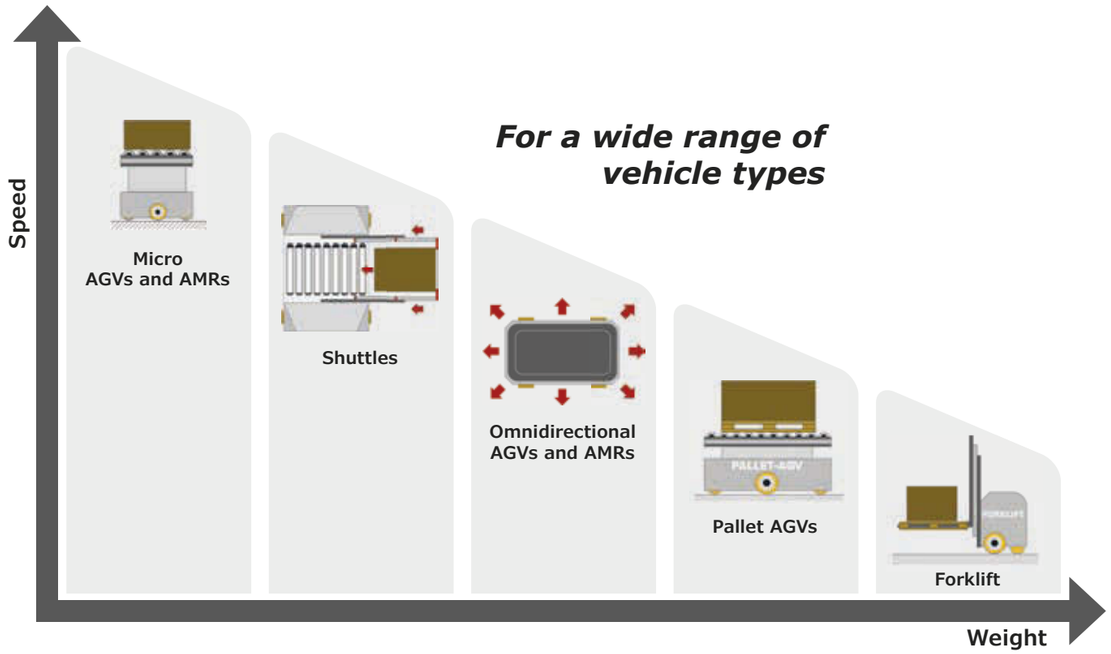
In addition to the travel and steering drives, we also supply the right drive solutions for all load-handling devices on the vehicle. These include roller conveyors for automated material transfer, lifting systems, conveyor modules and customer-specific transfer units.

Our portfolio includes the complete drive technology within the vehicle. Depending on the application, motor rollers, drum motors, servo drives or customer-specific drive solutions are used.

This creates a consistent drive concept from a single source, from vehicle movement and steering to active load pickup and material transfer.

Vehicle manufacturers benefit from perfectly coordinated components, reduced integration effort and a central contact for the entire drive technology.

For a wide range of vehicle types



In addition to the mechanical design, electrical integration also plays a crucial role. Depending on the requirements, drive solutions with integrated power electronics and safe motion functions or open system architectures for customer-specific controller and safety concepts are available. This means that both highly integrated plug-and-play systems and completely individual vehicle platforms can be implemented.

A particular focus is on optimal adaptation to the respective vehicle concept. Different wheel diameters, vehicle heights, load capacities, safety requirements and movement profiles require tailor-made drive solutions. Our modular platforms make it possible to provide exactly the combination of performance, installation space, functionality and level of integration that is required for the respective application.

This creates drive systems that not only provide individual components, but also form the basis for efficient, safe and powerful vehicles in mobile robotics.

APPLICATIONS
Mobile robotics

MTA
innovation is our drive

MOTORIZED ROLLERS for load handling devices for single/multi-deep storage of boxes, containers or small load carriers (KLT).

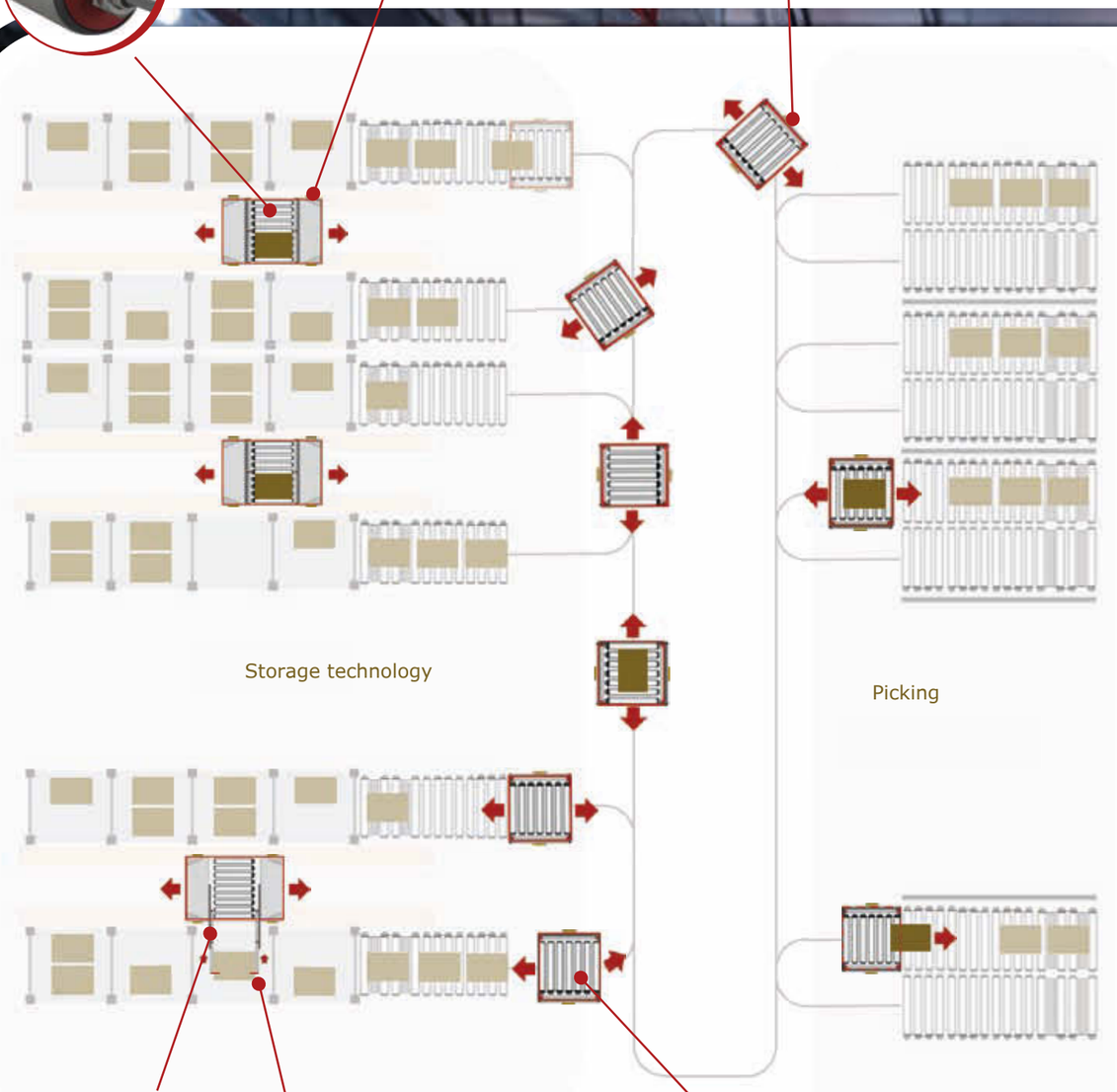


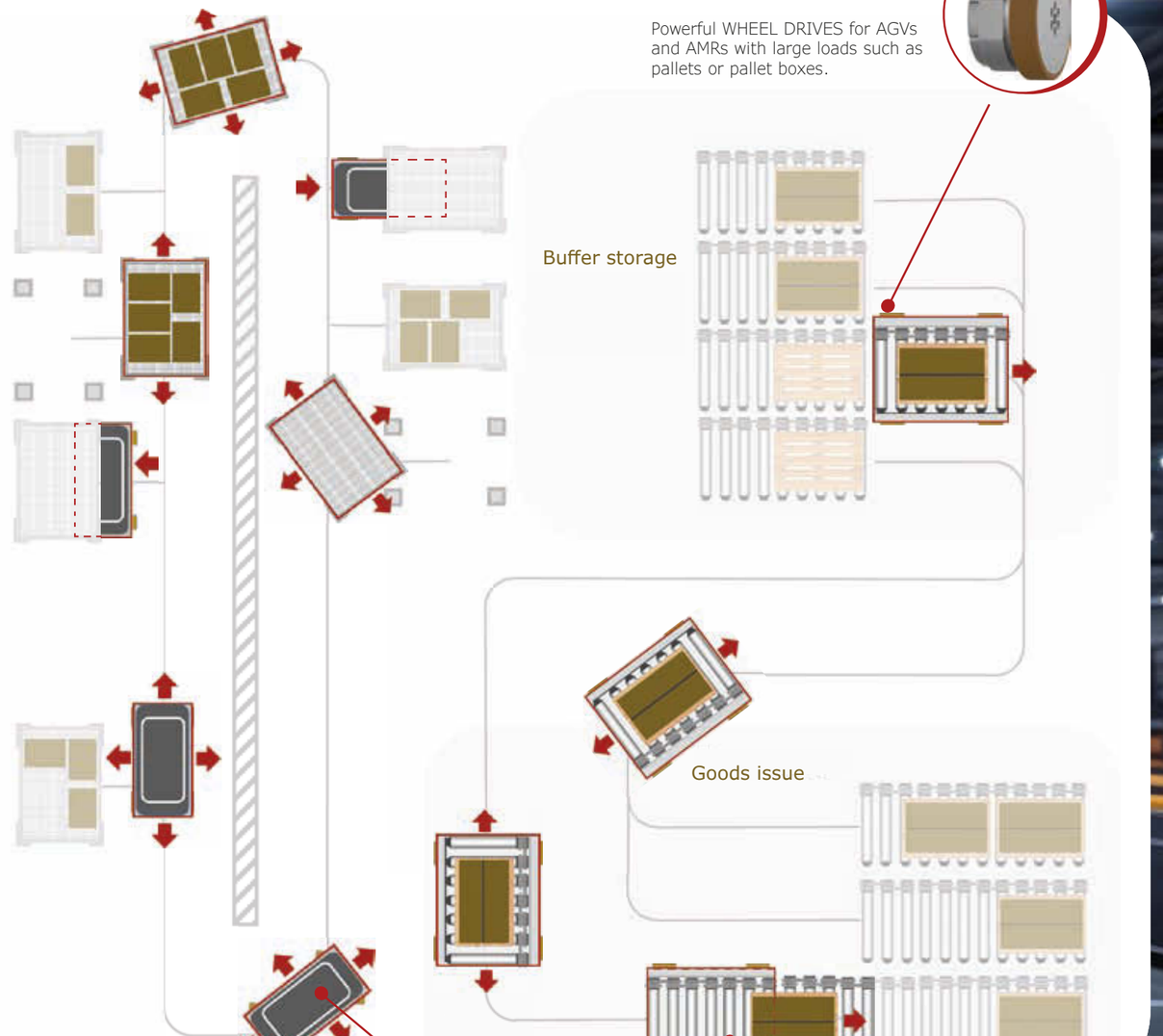


Energy-efficient WHEEL DRIVES with high power density for rail-bound shuttles.



WHEEL DRIVES, optimized for mini and micro AGVs/ AMRs.





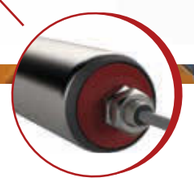
Powerful WHEEL DRIVES for AGVs and AMRs with large loads such as pallets or pallet boxes.



Powerful GEARED MOTORS as telescopic drives for feeding multi-deep storage channels.



GEARED MOTORS as a flap drive on load-handling devices for quick pick-up of all storage units such as containers, boxes, trays, etc.



Energy efficient DRUM MOTORS for fast and safe load pickup and delivery on AGVs and AMRs.

Combined travel/steering drives (WHEEL DRIVES) for omnidirectional material transport in AGVs and AMRs.





Powerful SERVO DRIVES for lifting mechanics for vertical loading of assembly and packing stations.

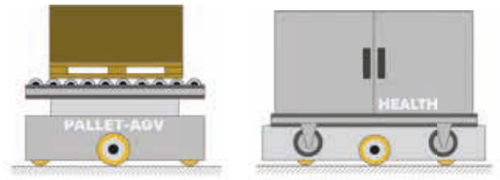
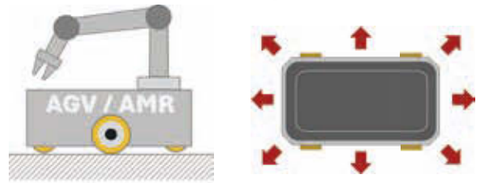


DRUM MOTORS for heavy load carriers on transport vehicles.

PRODUCT OVERVIEW

From micro AGVs to heavy-duty vehicles, from wheel drives to load handling devices – our drive platforms cover the entire range of modern intralogistics applications.

	Differential drives	
Total weight of vehicle	100 - 200 kg	
		
Driving speed	up to 3 m/s	
Gearbox	without	
Motor Controller	integrated	decentralized
Functional safety	integrated	decentralized
Drive	WDD115I	WDD115E
		
	WDD140I	WDD140E
		

	Differential drives		Omnidirectional drives	
Total weight of vehicle	up to 2500 kg		up to 2500 kg	
				
Driving speed	up to 2 m/s		up to 2 m/s	
Gearbox	with gearbox		with gearbox	
Motor Controller	integrated	decentralized	integrated	decentralized
Functional safety	integrated	decentralized	integrated	decentralized
Drive	WDG135I	WDG135E	WOG2	WOG1-125
				
		WDG225E		WOG1-150
				
		SMG75E		WOG1-187
				
		WDG110E		
				

BIDIRECTIONAL WHEEL DRIVES *(differential)*

Intelligent drive solutions for mobile automation.
Highest performance for AGVs and AMRs.

MTA Wheel Drives are designed to meet the needs of modern automated guided vehicles (AGVs), autonomous mobile robots (AMRs) and mobile platforms. The compact drive units combine motor, drive technology and, if desired, integrated drive control to form a powerful overall solution for mobile automation.

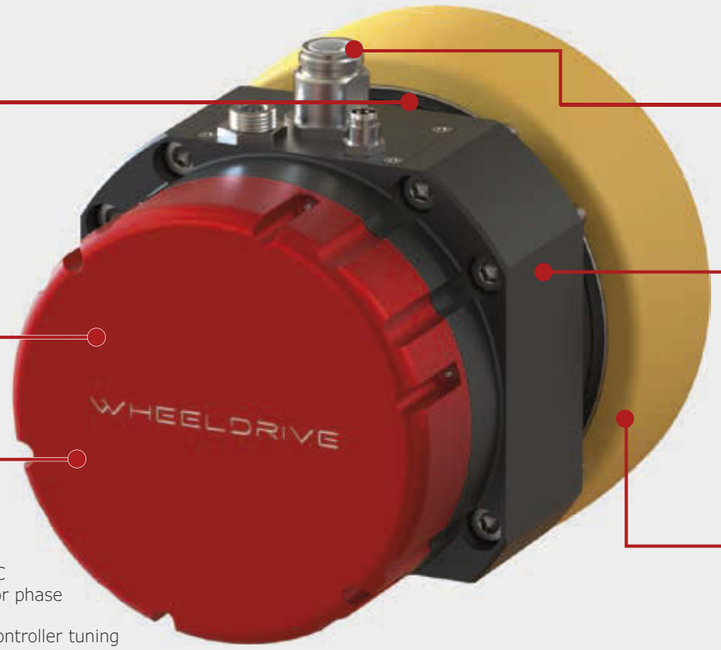
Whether noise-sensitive material transport, highly dynamic intralogistics or demanding industrial applications – our wheel drives offer maximum efficiency, highest reliability and easy system integration.

The drives enable bidirectional and differential travel movements and are available both as gearless direct drives for particularly quiet operation and in versions with planetary gearboxes for higher torques and larger vehicle masses.

Variants with an integrated Motor Controller are available to meet the highest functional safety requirements. These offer comprehensive safety functions up to Performance Level e (PL e) and enable the realization of safe and powerful vehicle concepts with minimal integration effort.

Features

- Specifically designed for AGVs, AMRs and mobile robotics
- Compact and integrated drive unit
- Bidirectional and differential driving concepts
- Direct drive without gear for whisper-quiet operation
- Planetary gearbox variants for high torques and payloads
- Optional integrated Motor Controller
- Functional Safety up to Performance Level e (PL e)
- Safety functions such as STO, SBC, SS1, SS2 and others
- Supply voltages 24 VDC and 48 VDC
- Higher efficiency and low energy consumption
- Low-maintenance and long-lasting construction
- Simple integration into existing vehicle architectures



Gearless or with gearbox
- Backlash-free gearbox
- High torsional rigidity

Integrated Safety PL e
- STO
- SBC
- SS1, SS2
- SOS
- SLS
- SMS

Motor Controller
- Maximum supply voltage 60 VDC
- 48 VDC and up to 60 Arms motor phase current
- Drive Manager with automatic controller tuning function
- Model Predictive Field Oriented Control

Interfaces
- Industry 4.0 ready – Predictive Maintenance
- Power supply 48 VDC
- EtherCAT/FSoE field bus
- Easy connection
- Easy project planning

Wheel drive
- High Power up to 720 W
- Speed up to 2 m/s
- Compact design
- Integrated brake

wheel
- Diameter 115 - 225 mm
- High resilience
- Easy maintenance

Applications

Our wheel drives are used wherever goods, materials and products need to be moved reliably, safely and efficiently.

- Automated Guided Vehicles (AGVs)
- Autonomous Mobile Robots (AMRs)
- Intralogistics and material flow automation
- Production and assembly supply
- Warehousing and distribution centers
- Hospital and laboratory logistics
- Mobile robot platforms
- Service and special vehicles
- Custom automation solutions

Precision. Safety. Efficiency.

With MTA Wheel Drives you create the basis for powerful, safe and future-proof mobility concepts.

From the noise-optimized transport platform to the highly dynamic autonomous vehicle – the modular drive solutions offer maximum flexibility and highest performance for the mobile automation of tomorrow.

WDD115x-BA

Compact direct drive for bidirectional driverless transport systems and mobile robotics applications.

Applications

The WDD115x-BA combines high energy efficiency with a space-saving design.

Thanks to the gearless drive concept, it works particularly quietly, with little wear and precision - ideal for applications in which dynamics, reliability and compact dimensions are crucial.



Features & Benefits

- **Compact design:** Ideal for tight installation spaces
- **High efficiency:** Reduces energy consumption and operating costs
- **Gearless design:** Quiet running and minimal maintenance
- **48V technology:** Ideal for modern AGV and robotics platforms
- **Integrated holding brake:** Safe holding at a standstill
- **Flexible electronics options:** Optionally with integrated power electronics or for external control
- **Advanced safety:** With integrated electronics with safe motion functions such as STO, SBC and SLS
- **Diverse encoder integration:** Numerous encoder variants for versions without integrated electronics

Technical data

		WDD115IB A with integrated Motor Controller	WDD115EB A without integrated Motor Controller
Rated voltage	VDC	48	48
Rated power	W	84	84
Speed	m/s	0 - 3.0	0 - 3.0
Rated torque	Nm	1.6	1.6
Maximum torque	Nm	5.4	5.4
Rated current	ADC	2.5	-
Maximum current	ADC	9.2	-
Rated current	Arms	-	5.0
Maximum current	Arms	-	17.6

WDD115x-BA with Motor Controller

		WDD115xB A with integrated Motor Controller
Max. wheel load*	kg	100
Wheel diameter	mm	115
Ambient temperature	°C	0...40
Relative humidity		<80%, non-condensing
Temperature sensor		PTC
Feedback		2 magn. Encoders
Supply voltage	VDC	integrated in the Motor Controller
Motor commutation signals		
Resolution	Bit	19 per mag. Encoder
Brake		integrated motor brake
Braking torque	Nm	4.2
Voltage	VDC	integrated in the Motor Controller

* Base 20,000 h, duty cycle = 60%, with combined radial and axial force.

Connections supply voltage

Pin	Description	Presentation
1	Supply 48 VDC	M16 / 3-pin (3x2)/male
2	Supply GND	
3	n.c.	

EtherCAT In connections

Pin	Description	Presentation
1	RX-	 M8 A-coded 4-pin/male
2	RX+	
3	TX-	
4	TX+	

EtherCAT Out connections

Pin	Description	Presentation
1	RX-	 M8 A-coded 4-pin/female
2	RX+	
3	TX-	
4	TX+	

WDD115x-BA without Motor Controller

		WDD115xB A without integrated Motor Controller
Max. wheel load*	kg	100
Wheel diameter	mm	115
Ambient temperature	°C	0...40
Relative humidity		<80%, non-condensing
Temperature sensor		PTC
Feedback		1 mag. Encoder
Supply voltage	VDC	5
Motor commutation signals		BiSS-C / asynchronous / serial / PWM / SSI / SPI
Resolution	Bit	14
brake		Spring-applied brake
Braking torque	Nm	5
Voltage	VDC	24

* Base 20,000 h, duty cycle = 60%, with combined radial and axial force.

Motor cable connections

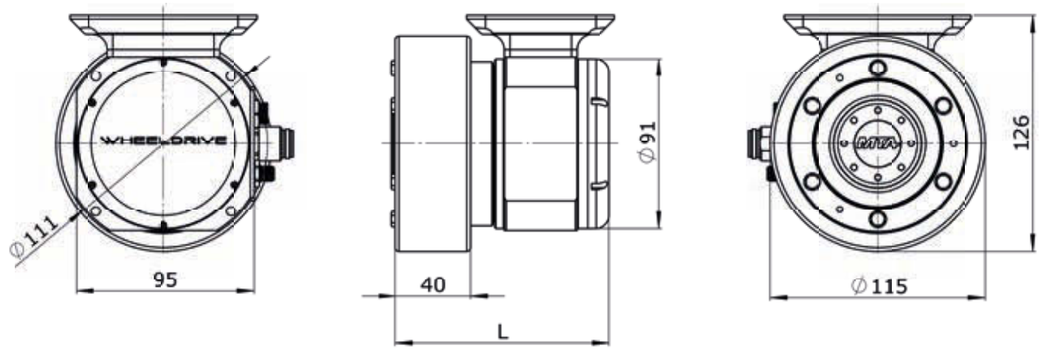
Pin	Description	Presentation
1	U	 M16 / 3-pin (3x2)/male
2	V	
3	W	

Sensor cable connections

Pin	Description	Presentation
1	0 VDC	 M16 / 18-pin/male
2	+5 VDC	
3	Z-	
4	Z+	
5	B-	
6	B+	
7	A-	
8	A+	
9	W	
10	V	
11	U	
12	TEMP	
13	Brake-	
14	Brake+	
15-18	n.c.	

Dimensions

	L
without Motor Controller	104.5
with Motor Controller	114



WDD115x-BB

Powerful direct drive for bidirectional vehicles with increased torque requirements.

Applications

The WDD115x-BB is based on the same platform as the WDD115x-BA, but offers higher power and torque density due to its larger length.

This makes it ideal for applications with increased requirements in terms of dynamics and load bearing.



Features & Benefits

- **Increased power density:** More torque and dynamics thanks to greater overall length
- **Compact integration:** More performance without changing platforms
- **Gearless design:** Quiet running and minimal maintenance
- **High efficiency:** Efficient operation even under demanding driving cycles
- **48V technology:** Suitable for modern AGV and robotics platforms
- **Integrated holding brake:** Safe holding at a standstill
- **Flexible electronics options:** Optionally with integrated power electronics or for external control
- **Advanced safety:** With integrated electronics with safe motion functions such as STO, SBC and SLS
- **Diverse encoder integration:** Numerous encoder variants for versions without integrated electronics

Technical data

		WDD115IB B with integrated Motor Controller	WDD115EB B without integrated Motor Controller
Rated voltage	VDC	48	48
Rated power	W	143	143
Speed	m/s	0 - 3.0	0 - 3.0
Rated torque	Nm	2.74	2.74
Maximum torque	Nm	10.6	12.0
Rated current	ADC	5.0	-
Maximum current	ADC	18.0	-
Rated current	Arms	-	5.9
Maximum current	Arms	-	31.3

WDD115x-BB with Motor Controller

		WDD115xB B with integrated Motor Controller
Max. wheel load*	kg	100
Wheel diameter	mm	115
Ambient temperature	°C	0…40
Relative humidity		<80%, non-condensing
Temperature sensor		PTC
Feedback		2 magn. Encoders
Supply voltage	VDC	integrated in the Motor Controller
Motor commutation signals		
Resolution	Bit	19 per mag. Encoder
brake		integrated motor brake
Braking torque	Nm	4.2
Voltage	VDC	integrated in the Motor Controller

* Base 20,000 h, duty cycle = 60%, with combined radial and axial force.

Connections supply voltage

Pin	Description	Presentation
1	Supply 48 VDC	 M16 / 3-pin (3x2)/male
2	Supply GND	
3	n.c.	

EtherCAT In connections

Pin	Description	Presentation
1	RX-	 M8 A-coded 4-pin/male
2	RX+	
3	TX-	
4	TX+	

EtherCAT Out connections

Pin	Description	Presentation
1	RX-	 M8 A-coded 4-pin/female
2	RX+	
3	TX-	
4	TX+	

WDD115x-BB without Motor Controller

		WDD115xB B without integrated Motor Controller
Max. wheel load*	kg	100
Wheel diameter	mm	115
Ambient temperature	°C	0...40
Relative humidity		<80%, non-condensing
Temperature sensor		PTC
Feedback		1 mag. Encoder
Supply voltage	VDC	5
Motor commutation signals		BiSS-C / asynchronous / serial / PWM / SSI / SPI
Resolution	Bit	14
Brake		Spring-applied brake
Braking torque	Nm	5
Voltage	VDC	24

* Base 20,000 h, duty cycle = 60%, with combined radial and axial force.

Motor cable connections

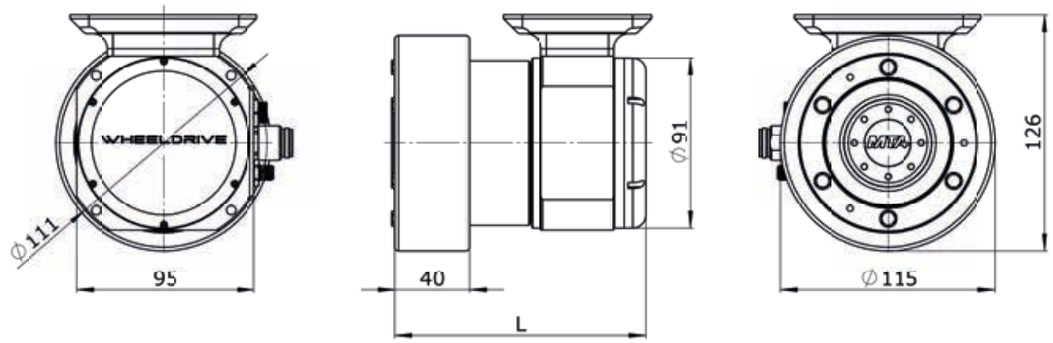
Pin	Description	Presentation
1	U	 M16 / 3-pin (3x2)/male
2	V	
3	W	

Sensor cable connections

Pin	Description	Presentation
1	0 VDC	 M16 / 18-pin/male
2	+5 VDC	
3	Z-	
4	Z+	
5	B-	
6	B+	
7	A-	
8	A+	
9	W	
10	V	
11	U	
12	TEMP	
13	Brake-	
14	Brake+	
15-18	n.c.	

Dimensions

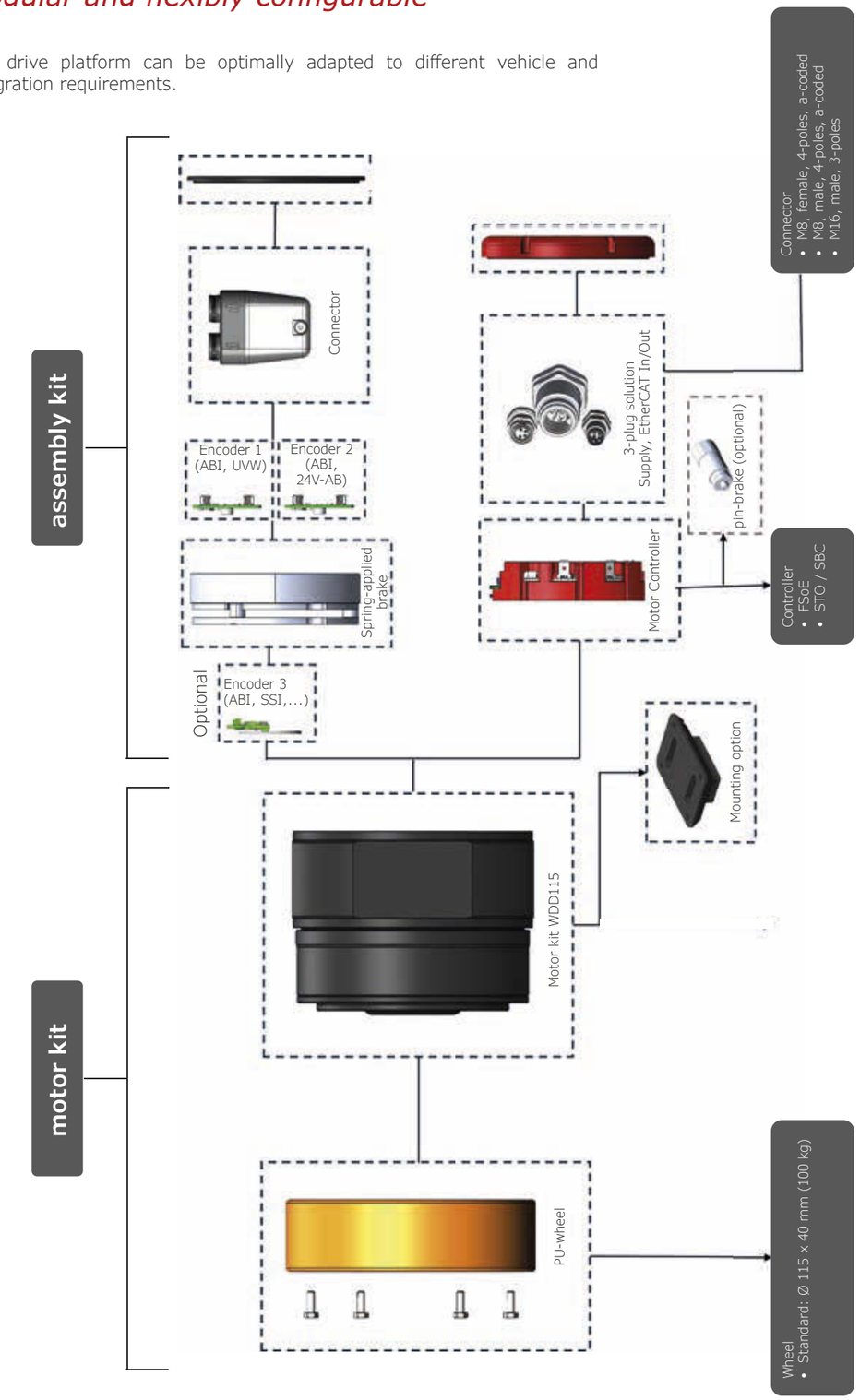
	L
without Motor Controller	124.5
with Motor Controller	134



WDD115x-BB

Modular and flexibly configurable

The drive platform can be optimally adapted to different vehicle and integration requirements.



WDD140x-BA

Robust, high-performance direct drive for bidirectional vehicles with increased load requirements.

Applications

The WDD140x-BA combines the advantages of a gearless direct drive with a larger motor platform.

The larger diameter enables higher power and torque output, making the drive the ideal solution for demanding mobile applications.



Features & Benefits

- **Higher performance reserves:** More torque due to larger motor diameter
- **Suitable for heavy loads:** Reliable performance even under high stress
- **Gearless design:** Less wear, less maintenance, more availability
- **Energy efficient operation:** High efficiency for long periods of use
- **48V technology:** Seamless integration into modern vehicle architectures
- **Integrated holding brake:** Safe holding at a standstill
- **Flexible electronics options:** Optionally with integrated power electronics or for decentralized control
- **Advanced safety:** With integrated electronics with safe motion functions such as STO, SBC and SLS
- **Diverse encoder integration:** Numerous encoder variants for versions without an integrated Motor Controller

Technical data

		WDD140IB A with integrated Motor Controller	WDD140EB A without integrated Motor Controller
Rated voltage	VDC	48	48
Rated power	W	185	185
Speed	m/s	0 - 3.0	0 - 3.0
Rated torque	Nm	4.3	4.3
Maximum torque	Nm	16.4	16.4
Rated current	ADC	5.5	-
Maximum current	ADC	45.0	-
Rated current	Arms	-	11.4
Maximum current	Arms	-	53.6

WDD140x-BA with Motor Controller

		WDD140xB A with integrated Motor Controller
Max. wheel load*	kg	150
Wheel diameter	mm	140
Ambient temperature	°C	0…40
Relative humidity		<80%, non-condensing
Temperature sensor		PTC
Feedback		2 magn. Encoders
Supply voltage	VDC	integrated in the Motor Controller
Motor commutation signals		
Resolution	Bit	19 per mag. Encoder
brake		integrated motor brake
Braking torque	Nm	10
Voltage	VDC	integrated in the Motor Controller

* Base 20,000 h, duty cycle = 60%, with combined radial and axial force.

Connections supply voltage

Pin	Description	Presentation
1	Supply 48 VDC	 M16 / 3-pin (3x2)/male
2	Supply GND	
3	n.c.	

EtherCAT In connections

Pin	Description	Presentation
1	RX-	 M8 A-coded 4-pin/male
2	RX+	
3	TX-	
4	TX+	

EtherCAT Out connections

Pin	Description	Presentation
1	RX-	 M8 A-coded 4-pin/female
2	RX+	
3	TX-	
4	TX+	

WDD140x-BA without Motor Controller

		WDD140xB A without integrated Motor Controller
Max. wheel load*	kg	150
Wheel diameter	mm	140
Ambient temperature	°C	0...40
Relative humidity		<80%, non-condensing
Temperature sensor		PTC
Feedback		1 mag. Encoder
Supply voltage	VDC	5
Motor commutation signals		BiSS-C / asynchronous / serial / PWM / SSI / SPI
Resolution	Bit	14
brake		Spring-applied brake
Braking torque	Nm	12
Voltage	VDC	24

* Base 20,000 h, duty cycle = 60%, with combined radial and axial force

Motor cable connections

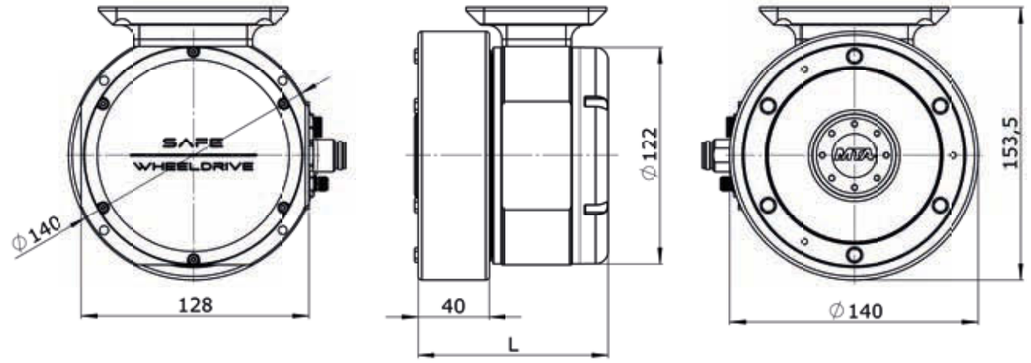
Pin	Description	Presentation
1	U	M16 / 3-pin (3x2)/male
2	V	
3	W	

Sensor cable connections

Pin	Description	Presentation
1	0 VDC	 M16 / 18-pin/male
2	+5 VDC	
3	Z-	
4	Z+	
5	B-	
6	B+	
7	A-	
8	A+	
9	W	
10	V	
11	U	
12	TEMP	
13	Brake-	
14	Brake+	
15-18	n.c.	

Dimensions

	L
without Motor Controller	97.5
with Motor Controller	107



WDD140x-BB

Maximum performance for bidirectional vehicles with the highest demands on dynamics and load capacity.

Applications

The WDD140x-BB is the most powerful version of the WDD series.

Thanks to the combination of larger diameter and extended design, it offers maximum torque and power reserves for heavy loads and demanding driving profiles.



Features & Benefits

- **Maximum power density:** Highest torque in the WDD series
- **For demanding driving profiles:** Ideal for high accelerations and heavy loads
- **Gearless design:** Quiet, precise and low-maintenance
- **High energy efficiency:** Efficient operation despite high performance reserves
- **48V technology:** Optimized for modern AGV and robotics platforms
- **Integrated holding brake:** Safe holding at a standstill
- **Flexible electronics options:** Optionally with integrated power electronics or for external control
- **Advanced safety:** With integrated electronics with safe motion functions such as STO, SBC and SLS
- **Diverse encoder integration:** Numerous encoder variants for versions without integrated electronics

Technical data

		WDD140IB B with integrated Motor Controller	WDD140EB B without integrated Motor Controller
Rated voltage	VDC	48	48
Rated power	W	270	270
Rated speed	rpm	410	410
Speed	m/s	0 - 3.0	0 - 3.0
Rated torque	Nm	6.24	6.24
Maximum torque	Nm	25.0	25.0
Rated current	ADC	12.2	-
Maximum current	ADC	45.0	56.0
Rated current	Arms	-	7.2
Maximum current	Arms	-	56.0

WDD140x-BB with Motor Controller

		WDD140xB B with integrated Motor Controller
Max. wheel load*	kg	150
Wheel diameter	mm	140
Ambient temperature	°C	0...40
Relative humidity		<80%, non-condensing
Temperature sensor		PTC
Feedback		2 magn. Encoders
Supply voltage	VDC	integrated in the Motor Controller
Motor commutation signals		
Resolution	Bit	19 per mag. Encoder
brake		integrated motor brake
Braking torque	Nm	10
Voltage	VDC	integrated in the Motor Controller

* Base 20,000 h, duty cycle = 60%, with combined radial and axial force.

Connections supply voltage

Pin	Description	Presentation
1	Supply 48 VDC	M16 / 3-pin (3x2)/male
2	Supply GND	
3	n.c.	

EtherCAT In connections

Pin	Description	Presentation
1	RX-	 M8 A-coded 4-pin/male
2	RX+	
3	TX-	
4	TX+	

EtherCAT Out connections

Pin	Description	Presentation
1	RX-	 M8 A-coded 4-pin/female
2	RX+	
3	TX-	
4	TX+	

WDD140x-BB without Motor Controller

		WDD140xB B without integrated Motor Controller
Max. wheel load*	kg	150
Wheel diameter	mm	140
Ambient temperature	°C	0…40
Relative humidity		<80%, non-condensing
Temperature sensor		PTC
Feedback		1 mag. Encoder
Supply voltage	VDC	5
Motor commutation signals		BiSS-C / asynchronous / serial / PWM / SSI / SPI
Resolution	Bit	14
brake		Spring-applied brake
Braking torque	Nm	12
Voltage	VDC	24

* Base 20,000 h, duty cycle = 60%, with combined radial and axial force.

Motor cable connections

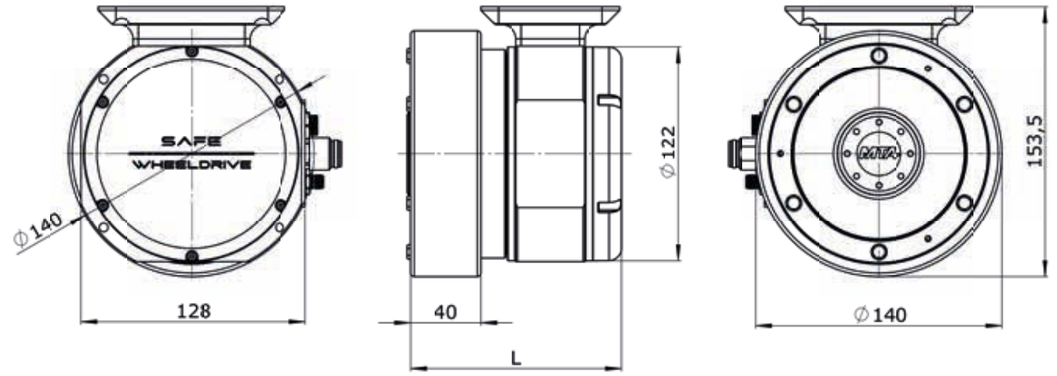
Pin	Description	Presentation
1	U	 M16 / 3-pin (3x2)/male
2	V	
3	W	

Sensor cable connections

Pin	Description	Presentation
1	0 VDC	 M16 / 18-pin/male
2	+5 VDC	
3	Z-	
4	Z+	
5	B-	
6	B+	
7	A-	
8	A+	
9	W	
10	V	
11	U	
12	TEMP	
13	Brake-	
14	Brake+	
15-18	n.c.	

Dimensions

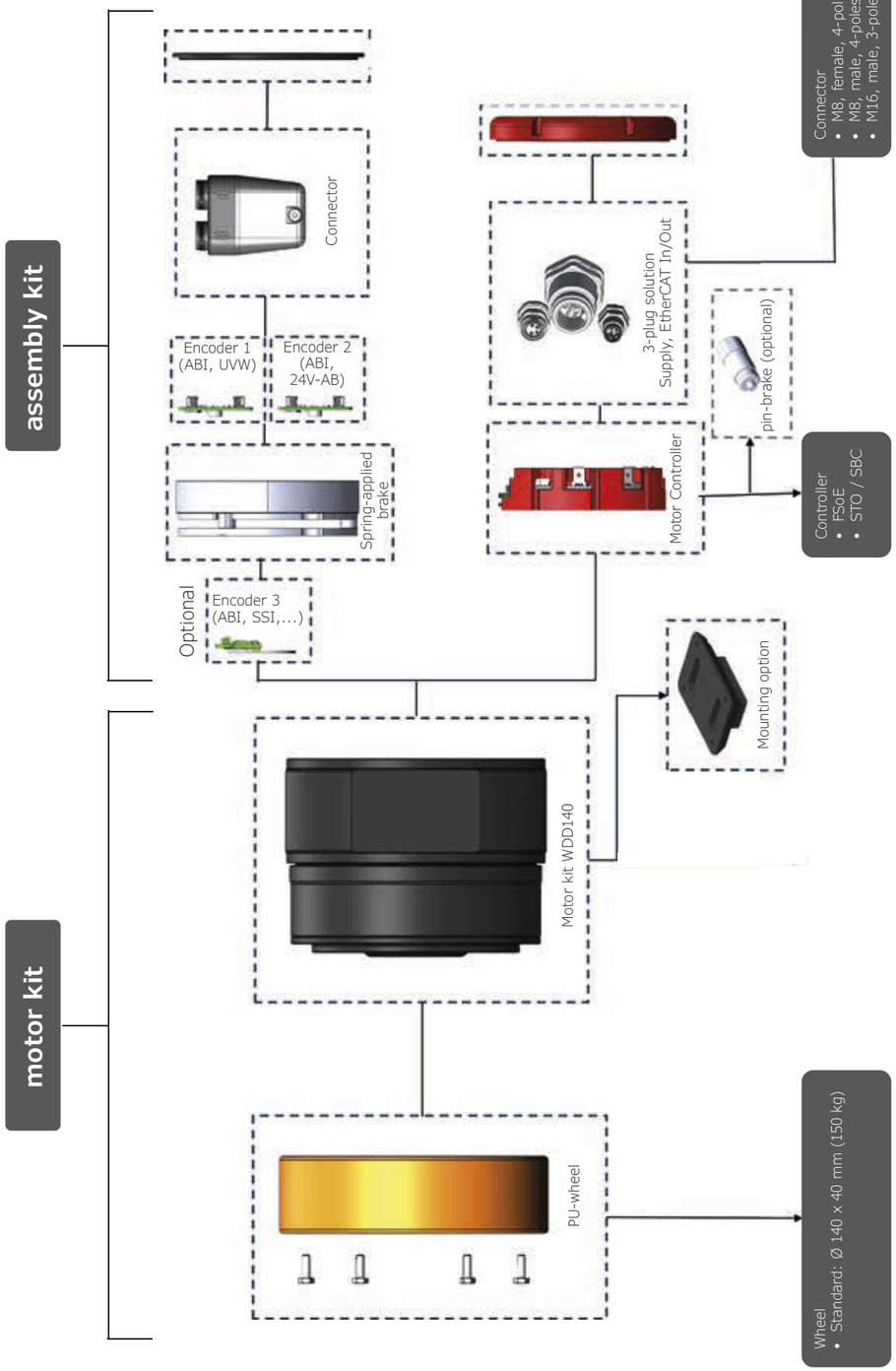
	L
without Motor Controller	110.5
with Motor Controller	120



WDD140x-BB

Modular and flexibly configurable

The drive platform can be optimally adapted to different vehicle and integration requirements.



WDG135x

Compact high performance for powerful AGV drives.

Applications

The WDG135x closes the gap between gearless direct drives and heavy-duty systems.

It combines high torque reserves with a very compact design and thus enables high-performance vehicle designs without major structural adjustments. Ideal for applications where more power is required but installation space remains limited.



Features & Benefits

- **More load and pulling power** without increasing the size of the vehicle platform
- **Compact installation length** facilitates integration into existing designs
- **High power density** for dynamic transport processes
- **Reduced design effort** through integrated overall system (motor + gearbox)
- **Flexible system integration** through optional electronics
- **Increased operational safety** thanks to integrated holding brake
- **Safe motion functions** (with integrated Motor Controller) for safe human-robot interaction
- **Suitable for scalable AGV and AMR platforms**

Technical data

		WDG135IB AA with integrated Motor Controller	WDG135EB WW without integrated Motor Controller
Rated voltage	VDC	48	48
Rated power	W	413	700
Speed	m/s	0 - 2.0	0 - 2.0
Rated torque	Nm	14	23.6
Maximum torque	Nm	70.0	75.0
Rated current	ADC	10.2	-
Maximum current	ADC	57	-
Rated current	Arms	-	19.0
Maximum current	Arms	-	68.4

WDG135x with Motor Controller

		WDG135x with integrated Motor Controller
Max. wheel load*	kg	500
Wheel diameter	mm	135
Ambient temperature	°C	0 … 40
Relative humidity		< 80%, non-condensing
Temperature sensor		PTC
Feedback		2 magnetic encoders
Supply voltage	VDC	integrated in the Motor Controller
Motor commutation signals		
Resolution	Bit	14
brake		integrated motor brake
Braking torque	Nm	75
Voltage	VDC	integrated in the Motor Controller

* Base 20,000 h, duty cycle = 60%, with combined radial and axial force.

Connections supply voltage

Pin	Description	Presentation
1	Supply 48 VDC	 M16 / 3-pin (3x2)/male
2	Supply GND	
3	n.c.	

EtherCAT In connections

Pin	Description	Presentation
1	RX-	 M8 A-coded 4-pin/male
2	RX+	
3	TX-	
4	TX+	

EtherCAT Out connections

Pin	Description	Presentation
1	RX-	 M8 A-coded 4-pin/female
2	RX+	
3	TX-	
4	TX+	

WDG135x without Motor Controller

		WDG135x without integrated Motor Controller
Max. wheel load*	kg	500
Wheel diameter	mm	135
Ambient temperature	°C	0 … 40
Relative humidity		< 80%, non-condensing
Temperature sensor		PTC
Feedback		1 magnetic encoder (optional 2)
Supply voltage	VDC	5
Motor commutation signals		BiSS-C / asynchronous / serial / PWM / SSI / SPI
Resolution	Bit	14
brake		Spring-applied brake
Braking torque	Nm	75
Voltage	VDC	24

* Base 20,000 h, duty cycle = 60%, with combined radial and axial force.

Motor cable connections

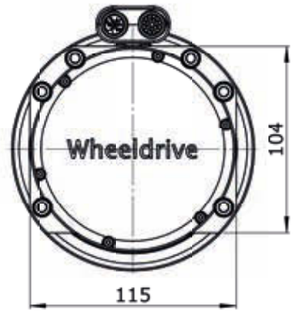
Pin	Description	Presentation
1	U	 M16 / 3-pin (3x2)/male
2	V	
3	W	

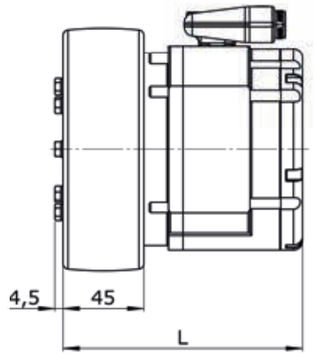
Sensor cable connections

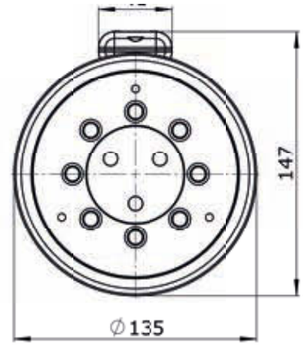
Pin	Description	Presentation
1	0 VDC	 M16 / 18-pin/male
2	+5 VDC	
3	I-	
4	I+	
5	B-	
6	B+	
7	A-	
8	A+	
9	PWM-	
10	PWM+	
11	Temp-	
12	Temp+	
13	Brake (GND)	
14	Brake (24 V)	
15-18	n.c.	

Dimensions

	L
without Motor Controller	133.3
with Motor Controller	149.3



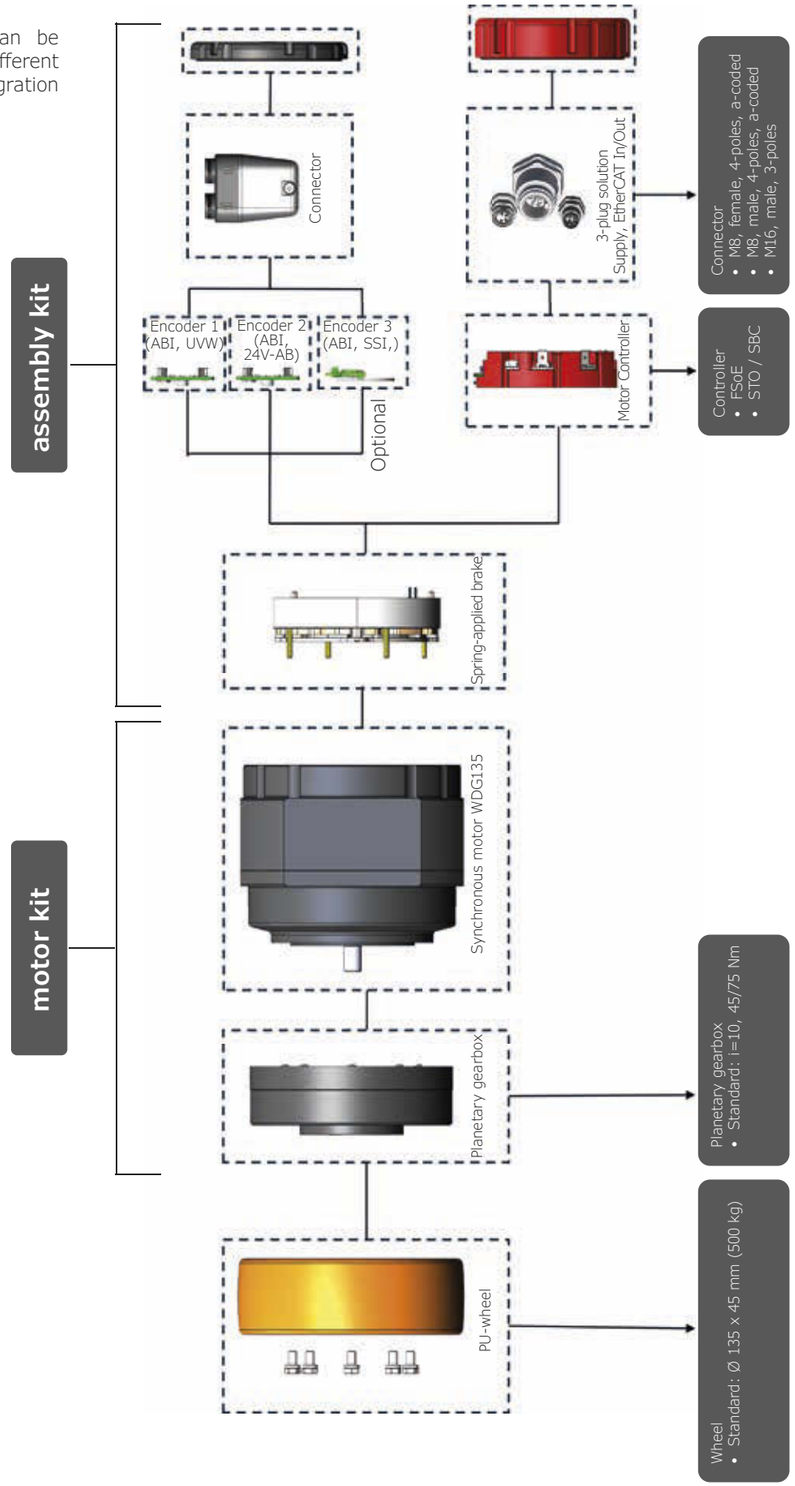




WDG135x

Modular and flexibly configurable

The drive platform can be optimally adapted to different vehicle and integration requirements.



WDG225

Maximum power in the most compact performance format.

Applications

The WDG225 is the top solution for maximum durability under industrial operating conditions.

Despite its enormous performance, it remains exceptionally short and therefore enables heavy-duty concepts where classic drives reach their limits.

Developed for maximum performance in minimal space.



Features & Benefits

- **Highest traction and pushing forces** in the series for heavy-duty AGVs
- **Extremely compact length** for maximum Freedom of design in the vehicle
- **Allows higher payloads** without increasing the vehicle footprint
- **Robust drive concept** for permanent peak loads
- **High process reliability** in demanding industrial environments
- **Integrated holding brake** for safe positioning under load
- **Ideal for heavyd uty logistics** and **industrial transport automation**

Technical data

		WDG225E-ABA	WDG225EB BA	WDG225EB AA	WDG225E-BBB
Rated voltage	VDC	24	48	48	48
Rated power	W	630	1020	665	1020
Speed	m/s	0 - 1.17	0 - 2.34	0 - 0.82	0 - 3.37
Rated torque	Nm	60.0	48.7	91.0	34.1
Maximum torque	Nm	180.0	180.0	180.0	125.0
Rated current	Arms	33.8	29.8	20.5	29.8
Maximum current	Arms	120.0	120.0	44.5	120.0

		WDG225
Max. wheel load*	kg	500
Wheel diameter	mm	225
Ambient temperature	°C	0 … 40
Relative humidity		< 80%, non-condensing
Temperature sensor		PT 1000 or PTC
Feedback		magn. Encoder
Supply voltage	VDC	5
Motor commutation signals		ABI, PWM
Resolution	Bit	10
brake		Spring-applied brake
Braking torque	Nm	5
Voltage	VDC	24

* Base 20,000 h, duty cycle = 60%, with combined radial and axial force.

Motor phase connections

color	signal	Presentation
Black 1	U	open ends Plug version on request
Black 2	V	
Black 3	W	
Green - yellow	n.c.	

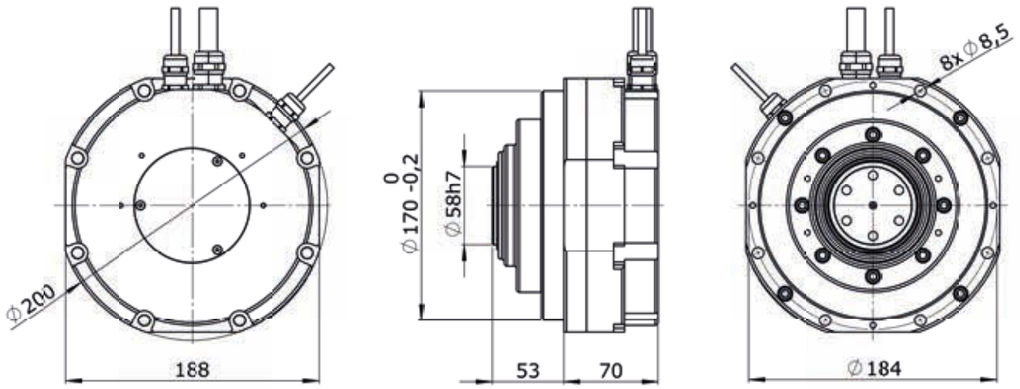
Brake connections

color	signal	Presentation
Black 1	BR+	open ends Plug version on request
Black 2	BR GND	

Sensor cable connections

color	signal	Presentation
Blue	TH+	open ends Plug version on request
White	TH-	
Green - brown	GND	
Green - White	5V	
Violet	U	
Yellow	V	
Pink	B/	
Grey	B	
Black	A/	
Red	A	
Green	W	
Brown	n.c.	

Dimensions



WDG110E

Maximum freedom in vehicle design thanks to slim drive architecture.

Applications

WDG110E was developed for applications where it is not the shortness but the installation direction that is crucial.

Thanks to the elongated motor design, this system opens up completely new possibilities in vehicle integration - especially where installation space is limited in width or in the radial area.



Features & Benefits

- **Optimal solution for limited lateral installation space** in vehicle design
- **Flexible integration** in linear or longitudinally oriented constructions
- **High performance** despite the slim design
- **Reduced design restrictions** with complex vehicle geometries

Technical data

		WDG110E
Rated voltage	VDC	48
Rated power	W	378
Speed	m/s	0 - 1.92
Rated torque	Nm	11.48
Maximum torque	Nm	33.9 - 52.0
Rated current	Arms	11.5
Maximum current	Arms	50.7

		WDG110E
Max. wheel load*	kg	200
Wheel diameter	mm	110
Ambient temperature	°C	0 … 40
Relative humidity		< 80%, non-condensing
Temperature sensor		PTC
Feedback		magn. Encoder
Supply voltage	VDC	5
Motor commutation signals		ABI, PWM
Resolution	Bit	12
brake		Spring-applied brake
Braking torque	Nm	18
Voltage	VDC	24

* Base 20,000 h, duty cycle = 60%, with combined radial and axial force.

Motor cable connections

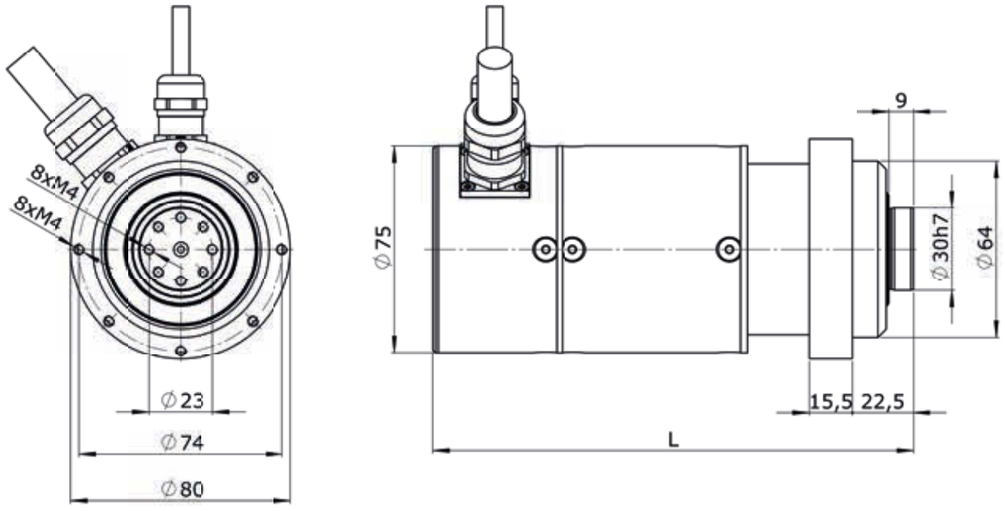
Description	Presentation
U	open ends, Connections with plug connectors possible on request
V	
W	
PE	
TH1	
TH2	

Sensor cable connections

Description	Presentation
BR+	open ends, Connections with plug connectors possible on request
BR GND	
GND	
5V	
I-	
I+	
B-	
B+	
A-	
A+	
PWM-	
PWM+	
shield	

Dimensions

L
175



SMD75 with right-angle gearbox

Highly integrated 90° drive for maximum freedom in vehicle integration in AGV and robotics systems.

Applications

The right-angle gearbox drive is based on the SMD75 platform and expands it with an integrated 90° change in drive direction.

This means that the drive can be flexibly integrated into vehicle concepts where an axial design is not possible. The performance and system characteristics remain identical to the SMD75 series, while the installation options are significantly expanded.



Features & Benefits

- **90° change in drive direction** for maximum flexibility in vehicle layout
- **Allows installation** in **difficult-to-access** or **confined installation spaces**
- **Same performance basis as SMD75 platform**
- **Reduces design restrictions** in AGV design
- **Optimized for modular** and **complex vehicle architectures**
- **Optionally with integrated** or **external electronics**
- **Integrated holding brake** for safe positioning
- **Flexible encoder integration** when operating with third-party Motor Controllers

Technical data

		SMD75 with right-angle gearbox
Rated voltage	VDC	48
Rated power	W	398
Speed	m/s	0 - 1.76
Rated torque	Nm	15.3
Maximum torque	Nm	78.7
Rated current	Arms	11.5
Maximum current	Arms	67.5

		SMD75 with right-angle gearbox
Max. wheel load	kg	315
Wheel diameter	mm	135
Ambient temperature	°C	0 … 40
Relative humidity		< 80%, non-condensing
Temperature sensor		Triple PTC
Feedback		
Supply voltage	VDC	5
Motor commutation signals		A, A/, B, B/, I, I/, PWM, PWM/
Resolution	Bit	10
brake		
Braking torque	Nm	1
Voltage	VDC	24

Connections supply

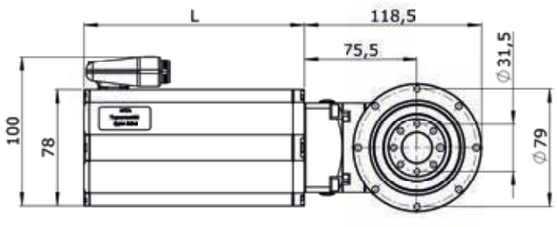
Pin	Description	Presentation
1	24 V / 48 V	 M16 / 3-pin (3x2)/male
2	GND	
3	n.c.	

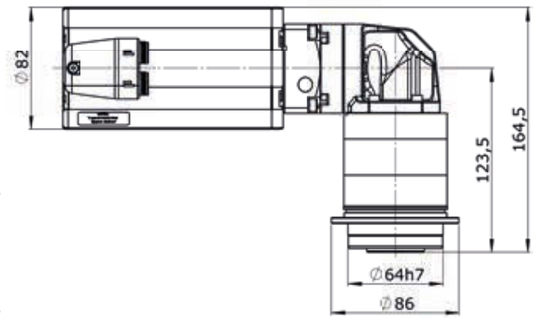
I/O and CAN connections

Pin	CAN version	I/O version	Presentation
1	Shield	24 VDC	 M12 A-coded / 5-pin/male
2	DI	DI	
3	CAN-GND	GND	
4	CAN high	DO	
5	CAN low	AI	

Dimensions

	L
with brake	148





SAFETY INTEGRATION
Wheel Drive Bidirectional

Safety Integration WDDE and WDGE without integrated Motor Controller

Drives without an integrated Motor Controller are operated in the AGV via an external control and safety architecture. For the safe operation of driverless transport systems, at least Performance Level d (PL d) in accordance with EN ISO 13849-1 must be achieved.

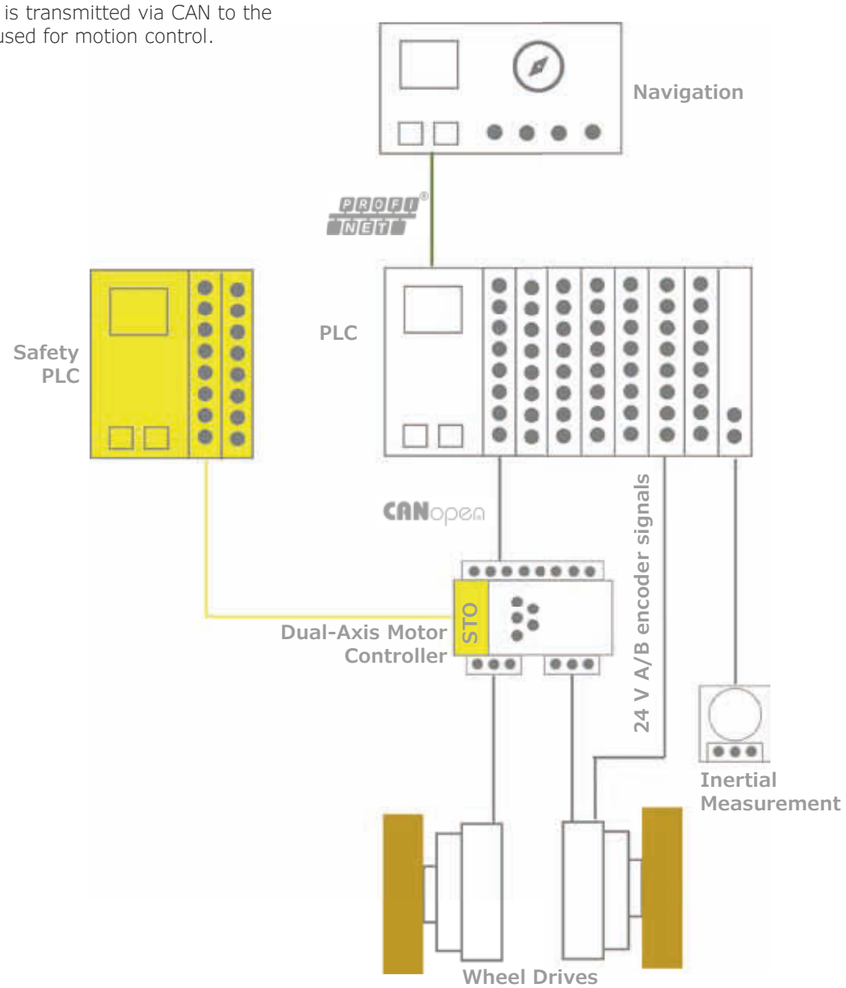
The control typically takes place via a decentralized Dual-Axis Motor Controller, which takes over the power control of the drive. The safety-relevant monitoring is relocated to the vehicle architecture and implemented by the safety PLC or the central vehicle control.

To achieve the required performance level, the encoder signals are processed redundantly. This means that speed detection is based on two independent signal paths:

- The speed signal is transmitted via CAN to the central PLC and used for motion control.
- Additionally, the 24 V encoder signals are routed directly to the safety PLC or a safety controller (e.g. Logic PLC) of the vehicle and evaluated there independently.

The drive controller also provides the safety function STO (Safe Torque Off). This is controlled directly by the safety PLC and ensures that the drive is switched torque-free in the event of a safety event.

This architecture achieves a clear separation between power control and safety functions. This enables flexible integration into different AGV safety concepts while maintaining high functional safety and standard-compliant implementation up to PL d.



Safety Integration WDDI and WDGI with integrated Motor Controllers

Drives with an integrated Motor Controller enable a particularly compact and simple system architecture in the AGV. The fully integrated drive control and safe motion functions ensure safe operation up to and including Performance Level e (PL e) in accordance with EN ISO 13849-1.

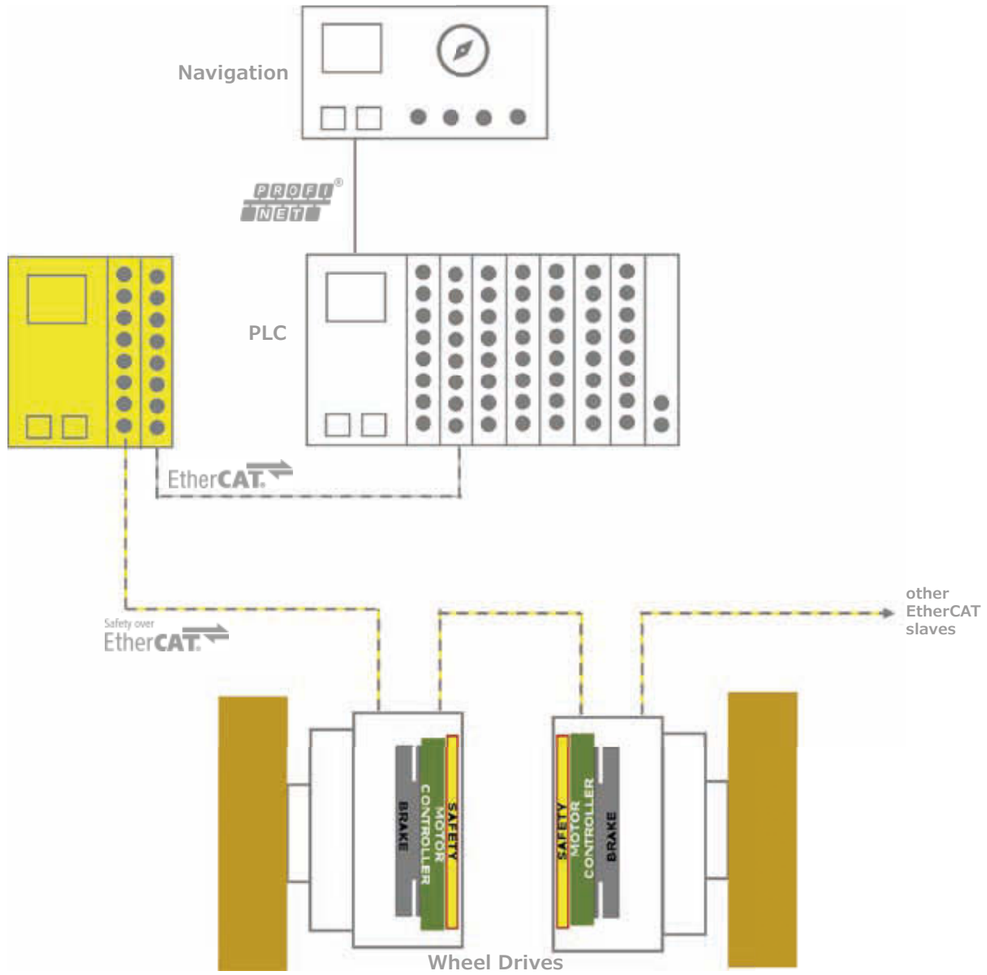
The entire control and safety monitoring is integrated directly into the drive system. This eliminates the need for external drive controllers, which significantly reduces system complexity and simplifies the vehicle architecture.

Communication takes place via EtherCAT, including Safety over EtherCAT (FSoE) for safety-relevant functions.

The drives are connected to one another in a daisy chain structure, which results in particularly simple and efficient cabling.

This leads to significantly reduced installation time as well as clearly structured and space-saving wiring in the vehicle.

The main advantage of this architecture is the combination of high functional safety, simple integration and reduced system complexity - ideal for modern, scalable AGV and AMR platforms.



WHEEL DRIVES Omnidirectional
Next Generation

Experience the future of drive technology

MTA's **nextg eneration traction and steering drive** sets new standards in performance and safety with its **fully integrated drive controller**. With a height of 203 mm and a compact footprint, the omnidirectional drive is **exceptionally compact**.

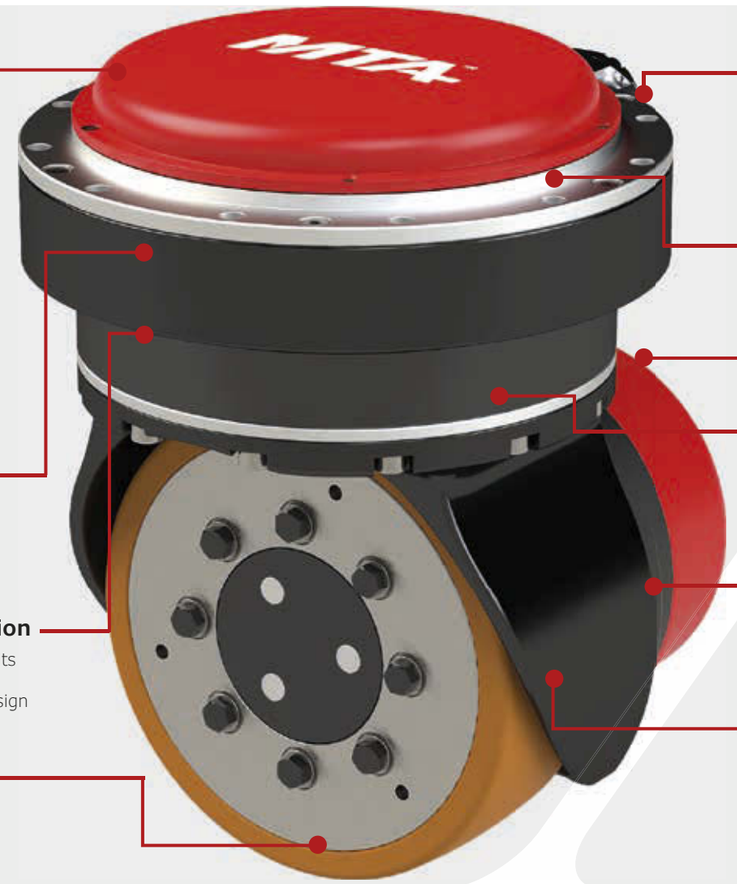
In a system with multiple drive units, it can transport loads of up to 2,000 kg and provides continuous steering rotation. **Integrated safety functions such as STO, SBC, SLS, SS1 and SS2 support safety architectures up to PL e**, subject to the approved system design.

MTA's drive system not only defines the next level of technology, but is also future-proof, even as standards become more stringent.

Features

- Highly integrated travel and steering drive, **"smallest in its class"**
- Transported **loads up to 2,000 kg** at smallest footprint
- Endlessly rotating axis
- Integrated brake
- **Integrated drive controller with safe motion functions** STO, SBC, SLS, SS1,... via FSoE
- Simple cabling of all components via one hybrid cable
- **Integrated redundant absolute encoder multit urn capable** – no wiring, no external end position sensors required
- Industry 4.0 ready – data transfer via EtherCAT
- Drive Manager with automatic Controller tuning
- **Low complexity of the system leads to faster ROI**
- Maintenance free

High power in minimal space



Integrated Safety PL e
- STO
- SBC
- SS1, SS2
- SOS
- SLS
- SMS

Steering drive
- For omnidirectional driving
- Endlessly rotating axis
- no limit switch required

Steering angle detection
- Absolute encoder up to 20 bits
- Multiturn capable
- Safety-related redundant design

wheel
- diameter 135 mm
- High resilience
- Easy maintenance

Interfaces
- Industry 4.0 ready – Predictive Maintenance
- Power supply 48 VDC
- EtherCAT/FSoE field bus
- Single cable technology
- Easy connection
- Easy project planning

Drive controller
- Drive Manager with automatic controller tuning function
- Model Predictive Field Oriented Control
- Maximum supply voltage 60 VDC
- 48 VDC and up to 60 Arms motor phase current
- Motor temperature protection

Gearbox
- Backlash-free gearbox
- High torsional rigidity

Wheel drive
- High Power up to 700 W
- Speed up to 2 m/s
- Compact design
- Integrated brake

Mounting bracket / housing
- Compact Dimensions
  - Envelope diameter 252 mm
  - Height 203mm
- Robust design
- Easy assembly

Condition monitoring

Our system uses **EtherCAT** to provide seamless and efficient **data exchange**.

This enables **realt ime control** and **optimization** of your drives, **diagnostics** and **advanced condition monitoring**.

Potential problems can be detected early to maximize

Our system uses EtherCAT to provide seamless and efficient data exchange. This nables real-time control and optimization of your drives, diagnostics and advanced condition monitoring.

Potential problems can be detected early to maximize AGV fleet availability and improve operational reliability and efficiency.

WOG2

Highly integrated wheel/steering drive with Safe Motion and fully integrated controls for maximum freedom of movement.

Applications

The WOG2 is designed for demanding mobile robotics applications where maximum maneuverability, compact integration and fully integrated drive and steering control are required. By combining driving and steering functions in one system, the drive enables true omnidirectional vehicle movements including 360° endless rotation.

Typical areas of application are omnidirectional AGVs and AMRs, flexible transport systems and vehicles with high requirements for maneuverability, precision and dynamic driving movements. The complete freedom of movement shows its strengths, especially in confined environments. The integrated safe motion functionality as well as the complete drive and steering control enable use in safety-critical applications in intralogistics and industrial automation. Communication takes place entirely via EtherCAT or Safety over EtherCAT and allows seamless integration into modern control architectures.



Features & Benefits

- **Fully integrated wheel and steering drive** in a system
- **Integrated Motor Controller** for driving and steering
- **360° endless rotation** for maximum freedom of movement, high dynamics and precise vehicle guidance
- **Integrated safe motion functions** (e.g. STO, SBC, SS1)
- **Safetyє ompliant motion control** up to Performance Level e
- **Communication via EtherCAT and Safety over EtherCAT**
- **Reduced integration effort** through highly integrated system architecture
- **Optimized for omnidirectional AGVs and AMRs**
- **Patented system solution** for fully integrated driving and steering functions

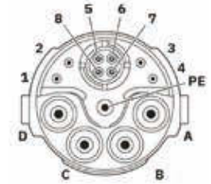
Technical data

		WOG2	
Drive		Steering drive	Wheel drive
Rated voltage	VDC	48	48
Rated power	W	121	594
Speed	°/s / m/s	0 - 250.0	0 - 2.0
Rated torque	Nm	61.6	20.0
Maximum torque	Nm	135.0	70.0
Rated current	ADC	7.3	13.5
Maximum current	ADC	20.0	45.0

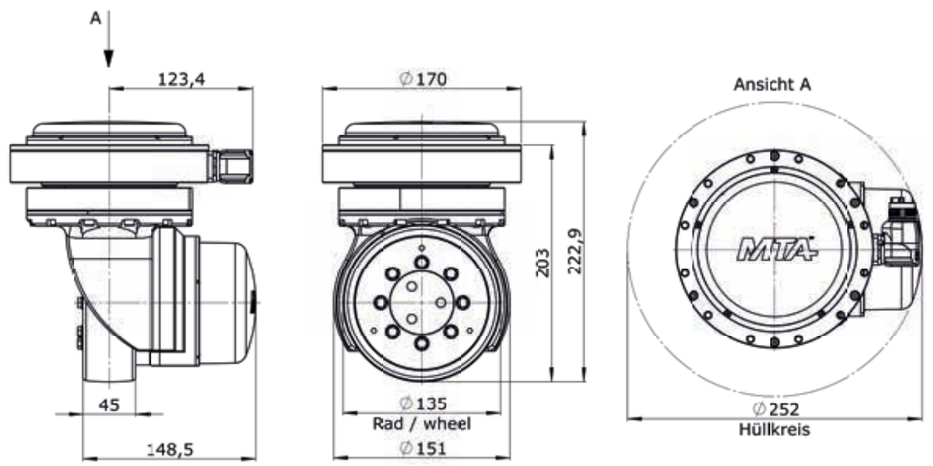
		WOG2
Max. wheel load*	kg	500
Wheel diameter	mm	135
Gear steering		Harmonic Drive i=80
Gear driving		Planetary gearbox i=10
Ambient temperature	°C	0 ... 40
Relative humidity		< 80%, non-condensing
Temperature sensor		PTC
Feedback		
Resolution	Bit	up to 20 bits
Brake		
Braking torque	Nm	75
Voltage	VDC	48, holding voltage 4.5 V
Envelope diameter	mm	252

* Base 20,000 h, duty cycle = 60%, with combined radial and axial force.

Connections supply line and EtherCAT connection

Pin	Description	Presentation
A	GND	 4+4+4+PE
B	48 VDC	
C	GND	
D	48 VDC	
1	n.c.	
2	n.c.	
3	n.c.	
4	n.c.	
5	RX-N	
6	RX-P	
7	TX-N	
8	TX-P	

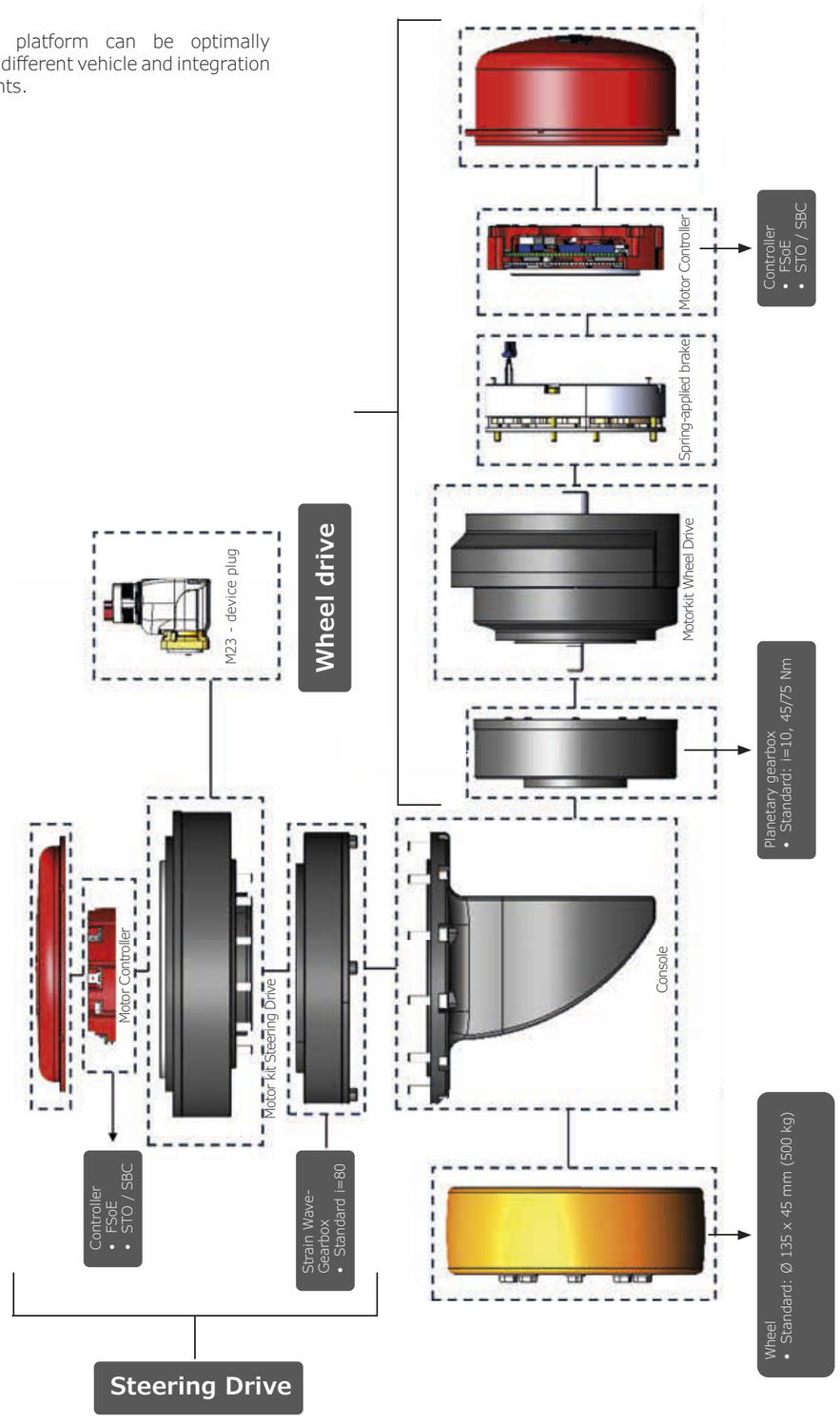
Dimensions



WOG2

Modular and flexibly configurable

The drive platform can be optimally adapted to different vehicle and integration requirements.



SAFETY INTEGRATION WOG2

Safety Integration WOG2 with integrated Motor Controllers

The omnidirectional drive has two fully integrated Motor Controllers with safe motion functionality.

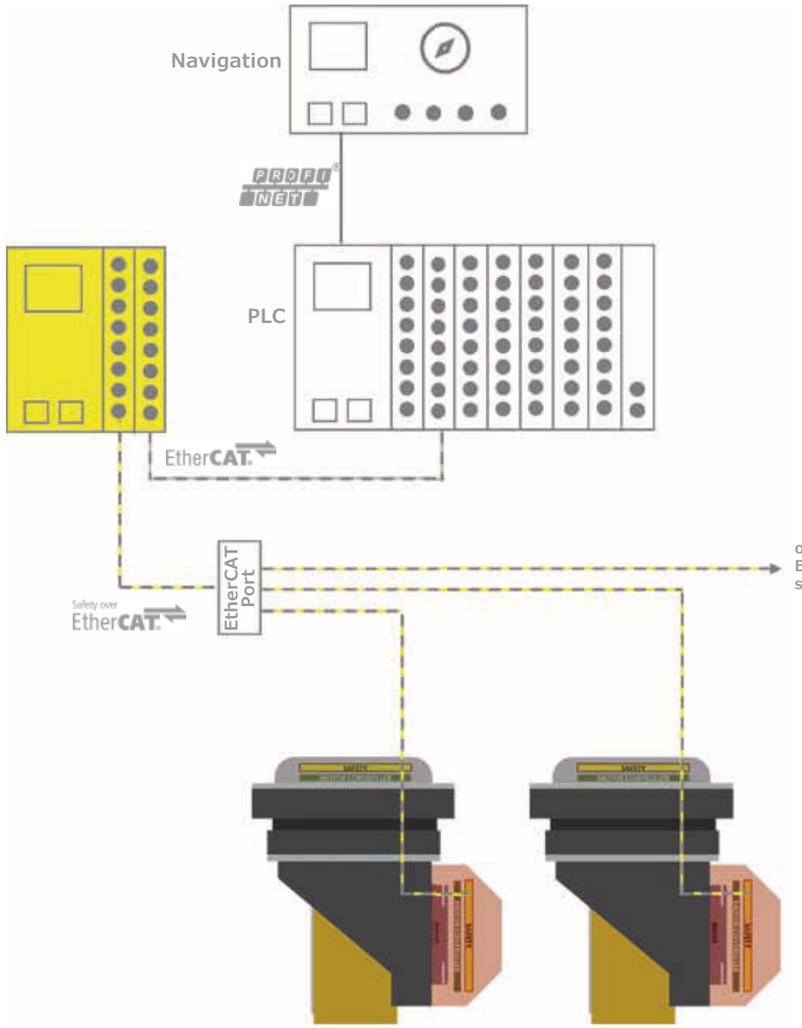
This means that both driving and steering movements are controlled and safely monitored directly in the drive system.

The entire axis control achieves Performance Level e (PL e) in accordance with EN ISO 13849-1 and thus meets the highest requirements for functional safety in mobile robotics and AGV applications.

Communication takes place via EtherCAT and Safety over EtherCAT (FSoE). The two drives are integrated into the vehicle control system in a star shape via an Ethernet port, creating a clear and structured system architecture.

Other safety-relevant components in the vehicle are connected via an additional daisy chain structure, which enables the overall system to be easily expanded.

This combination of integrated intelligence, high functional safety and flexible network architecture enables particularly compact vehicle designs with maximum freedom of movement and easy integration into modern AGV and AMR platforms.



Wheel and Steering Drives

OMNIDIRECTIONAL WHEEL/STEERING DRIVE – without integrated Motor Controller

Highly flexible travel and steering drive for individually designed AGV safety and vehicle concepts.

Applications

This variant of the omnidirectional drive was developed for maximum freedom of integration.

The wheel and steering drives are controlled separately via external Dual-Axis Motor Controllers or customer-provided controllers.

This allows the system to be optimally integrated into your own safety and control architectures.

Mechanically and electrically, the drive offers a maximum of adaptability for customer-specific AGV and underfloor vehicle concepts.

Features & Benefits

- **Maximum freedom** when implementing your own safety concepts
- **Separate control** of wheel and steering drives via external controllers
- **Control via Dual-Axis Motor Controller**
- **Flexible integration** in PLC and Safety PLC architectures
- **Ideal for customer-specific automation and control concepts**
- **Mechanically highly flexible** for individual vehicle layouts
- **Optimized for modular AGV and AMR platforms**

Steering drive

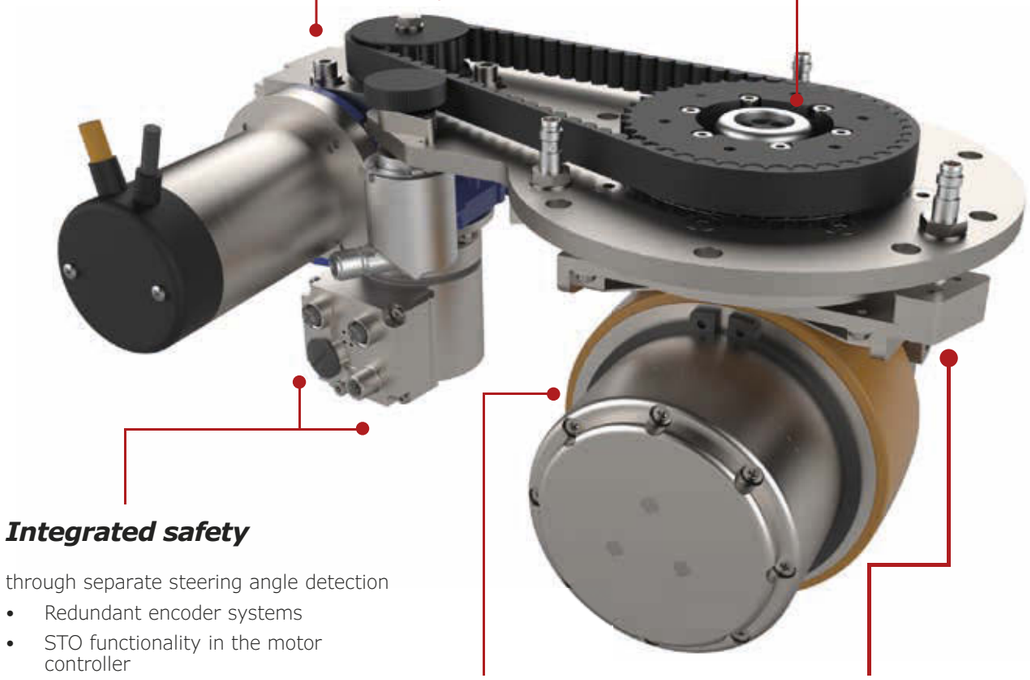
- For omnidirectional driving
- Swivel angle can be continuously rotated

Console/case

- Compact dimensions
- Robust design
- Flexible positioning on the vehicle

Interfaces

- CANopen EtherCAT Profinet
- Easy connection
- Easy project planning



Integrated safety

through separate steering angle detection

- Redundant encoder systems
- STO functionality in the motor controller
- Brake for emergency stop function

Steering angle detection

- Redundant steering angle monitoring

Wheel

- High resilience
- Sufficient ground clearance
- Easy maintenance

Wheel drive

- High performance
- Compact design
- Simplified installation
- With holding or service brake

WOG1-125

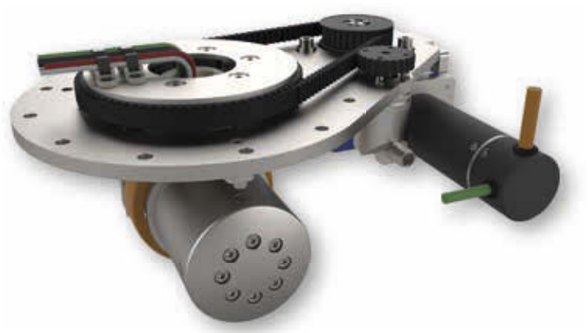
Size 125 mm – ultra-compact for maximum underfloor integration. Omnidirectional wheel/steering drive.

Ultra-flat wheel and steering drive for highly integrated underfloor AGVs with maximum installation space restrictions.

Applications

This size is optimized for extremely flat vehicle concepts where the installation space under the load is severely limited.

The wheel and steering drives are controlled via external Dual-Axis Motor Controllers or customer-provided controllers, creating a completely freely configurable safety and control architecture. The mechanical and electrical integration is designed to be as flexible as possible.



Features & Benefits

- **Extremely low overall height** for the flattest vehicle concepts
- **Optimized for underfloor AGVs** with minimal ground clearance
- **Maximum design freedom** in vehicle design
- **Integration into customer-specific PLC and safety architectures**
- **Freely selectable encoder integration** for safety concepts
- **Ideal for light to medium load requirements**
- **High design freedom** despite the compact design

Technical data

		WOG11 25	
Drive		Steering drive	Wheel drive
Rated voltage	VDC	48	48
Rated power	W	80	197.1
Speed	°/s / m/s	0 - 405	0 - 1.96
Rated torque	Nm	5.5	4.52
Maximum torque	Nm	45.0	12.5
Rated current	Arms	4.4	8.7
Maximum current	Arms	33.2	20.4

		Steering drive	Wheel drive
Wheel load	kg	-	150
Wheel diameter	mm	-	90
Gear steering		worm gearbox	
Gear driving			Planetary gearbox
Coating			Vulkollan 95° Shore A
Temperature sensor		PTC	
Encoder/feedback		magnetic encoder	
Signals		A,/A, B,/B I,/I, PWM,/PWM	
Resolution	Counts/rev	4096 / 12 bits	
Voltage	VDC	5	
Holding brake		-	Spring-applied brake
Braking torque	Nm	-	0.5
Voltage	VDC	-	24
Inductive steering angle position sensors		3 pieces	-
Redundant steering angle sensors		Sick	-
Ambient temperature	°C	0 ... 40	
Relative humidity	%	< 80	
Noise level	dB	< 60 depending on the application	
Protection class		IP54	

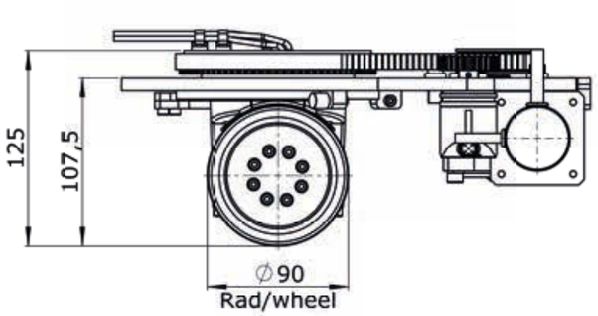
Motor cable connections

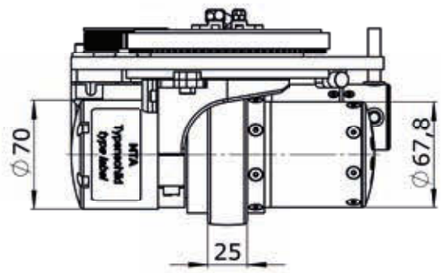
Steering drive			Wheel drive		
Signal description	**Core color (open ends)**	**Plug / Connection**	**Description**	**Core color (open ends)**	**Plug / Connection**
U	black 1	Round cable lug M4	Motor phase U	red	M4 ring cable lug
V	black 2	Round cable lug M4	Motor phase V	white	
W	black 3	Round cable lug M4	Motor phase W	black	
PE	yellow-green	2-pole terminal	-	-	

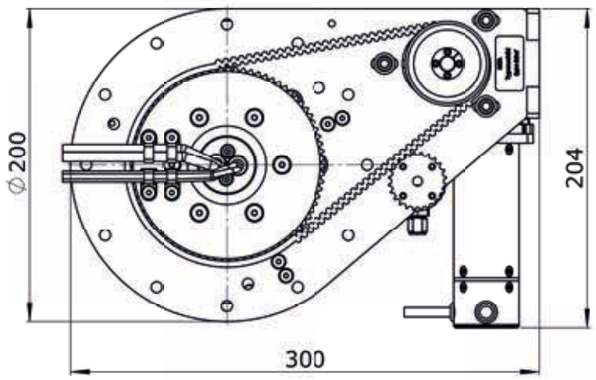
Control line connections

Steering drive			Wheel drive		
Signal description	**Core color (open ends)**	**Plug / Connection**	**Description**	**Core color (open ends)**	**Plug / Connection**
GND	green-brown	JST connector 10-pin / 2 rows	GND	green-brown	JST connector 10-pin / 2 rows
5V	green-white		5V	green-white	
/I	violet		/I	violet	
I	yellow		I	yellow	
/B	pink		/B	pink	
B	grey		B	grey	
/A	black		/A	black	
A	red		A	red	
/PWM	green		/PWM	green	
PWM	brown		PWM	brown	
PTC	blue	pluggable 6-pin screw-terminal or spring-clamp connector	PTC	blue	pluggable 6-pin screw-terminal or spring-clamp connector
PTC	white		PTC	white	
-	-	-	BR+	black 1	
-	-	-	BR-	black 2	

Dimensions







WOG1-150

Size 150 mm – Universal solution for flexible AGV platforms. Omnidirectional wheel/steering drive – without integrated Motor Controller.

Universal size for versatile omnidirectional vehicle concepts with a balanced ratio of height and performance.

Applications

This variant offers an optimal compromise between compact design and increased performance.

The control takes place via external Dual-Axis Motor Controllers or customer-specific controllers, which enables flexible integration into individual safety and control architectures. Ideal for modular AGV and AMR systems with varying requirements.



Features & Benefits

- **Flexible integration** in different vehicle concepts
- **Suitable for modular AGV and AMR platforms**
- **External driving and steering control** possible via Dual-Axis Motor Controller
- **High adaptability** of safety architectures
- **Freely configurable encoder and control integration**
- **Scalable** for medium load and power ranges

Technical data

		WOG11 50	
Drive		Steering drive	Wheel drive
Rated voltage	VDC	48	48
Rated power	W	80	225
Speed	°/s / m/s	0 - 243.0	0 - 1.91
Rated torque	Nm	9.1	5.89
Maximum torque	Nm	74.6	22.0
Rated current	Arms	4.4	10.0
Maximum current	Arms	33.2	37.1

		Steering drive	Wheel drive
Wheel load	kg	-	250
Wheel diameter	mm	-	100
Gear steering		worm gearbox	
Gear driving			Planetary gearbox
Coating		-	Vulkollan 95° Shore A
Temperature sensor		PTC	
Encoder/feedback		magnetic encoder	
Signals		A,/A, B,/B I,/I, PWM,/PWM	
Resolution	Counts/rev	4096 / 12 bits	
Voltage	VDC	5	
Holding brake		-	Spring-applied brake
Braking torque	Nm	-	1.5
Voltage	VDC	-	24
Inductive steering angle position sensors		3 pieces	-
Redundant steering angle sensors		SICK	-
Ambient temperature	°C	0...40	
Relative humidity	%	< 80	
Noise level	dB	< 60 depending on the application	
Protection class		IP54	

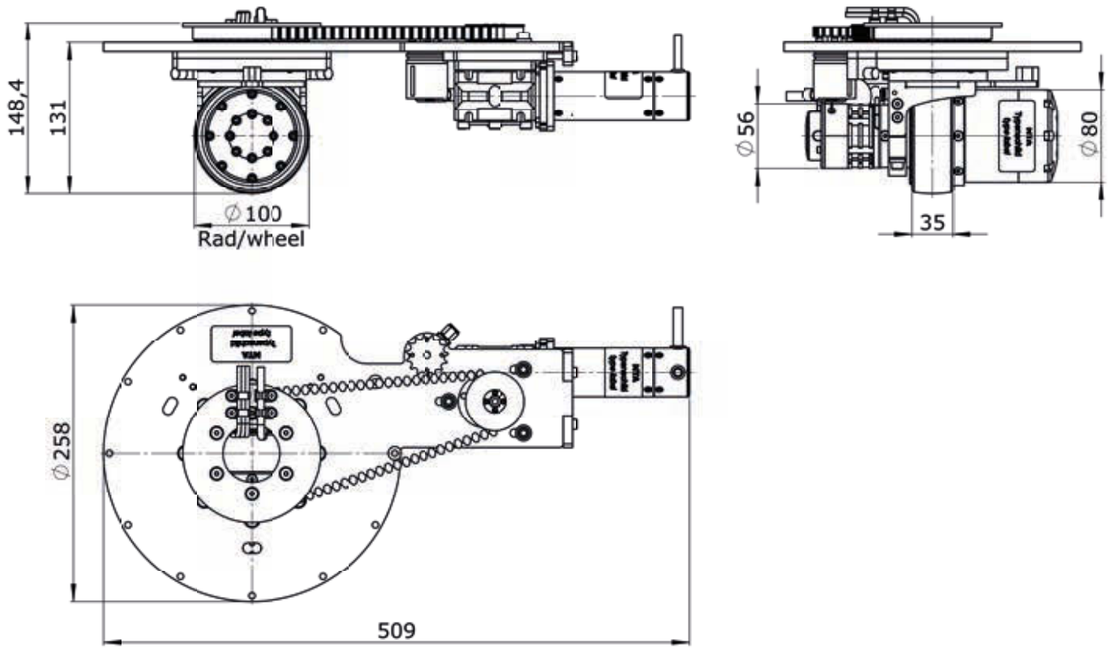
Motor cable connections

Steering drive			Wheel drive		
Signal description	**Core color (open ends)**	**Plug / Connection**	**Description**	**core color (open ends)**	**Plug / Connection**
U	black 1	Round cable lug M4	Motor phase U	red	M4 ring cable lug
V	black 2	Round cable lug M4	Motor phase V	white	
W	black 3	Round cable lug M4	Motor phase W	black	
PE	yellow-green	2-pole terminal	-	-	

Control line connections

Steering drive			Wheel drive		
Signal description	**Core color (open ends)**	**Plug / Connection**	**Description**	**core color (open ends)**	**Plug / Connection**
GND	green-brown	JST connector 10-pin / 2 rows	GND	green-brown	JST connector 10-pin / 2 rows
5V	green-white		5V	green-white	
/I	violet		/I	violet	
I	yellow		I	yellow	
/B	pink		/B	pink	
B	grey		B	grey	
/A	black		/A	black	
A	red		A	red	
/PWM	green		/PWM	green	
PWM	brown		PWM	brown	
PTC	blue	pluggable 6-pin screw-terminal or spring-clamp connector	BR+	blue	pluggable 6-pin screw-terminal or spring-clamp connector
PTC	white		BR-	white	

Dimensions



WOG1-187

Size 187 mm – powerful for demanding applications.

Robust size for powerful omnidirectional vehicles with increased load and dynamic requirements.

Applications

This size is designed for applications with higher loads and performance requirements. The greater height ensures higher power density and robustness.

The travel and steering drives are integrated via external Dual-Axis Motor Controllers or customer-specific controllers, which ensures maximum freedom in the design of the control and safety architecture.



Features & Benefits

- **Optimized for heavy AGVs** and industrial transport vehicles
- **Robust design** for demanding operating conditions
- **External driving and steering control can be flexibly integrated**
- **Suitable for customer-specific safety architectures**
- **Freely configurable encoder integration**
- **High continuous load capacity and stability**
- **Maximum system flexibility** despite performance focus

Technical data

		WOG11 87	
Drive		Steering drive	Wheel drive
Rated voltage	VDC	48	48
Rated power	W	120	346
Speed	°/s / m/s	0 - 245.0	0 - 1.70
Rated torque	Nm	19	13.2
Maximum torque	Nm	166	52
Rated current	Arms	7.4	8.9
Maximum current	Arms	57.9	39.6

		Steering drive	Wheel drive
Wheel load	kg	-	500
Wheel diameter	mm	-	130
Gear steering		worm gearbox	
Gear driving			Planetary gearbox
Coating		-	Vulkollan 95° Shore A
Temperature sensor		PTC	
Encoder/feedback		magnetic encoder	
Signals		A,/A, B,/B I,/I, PWM,/PWM	
Resolution	Counts/rev	4096 / 12 bits	
Voltage	VDC	5	
Holding brake		-	Spring-applied brake
Braking torque	Nm	-	4,0
Voltage	VDC	-	24
Inductive steering angle position sensors		3 pieces	-
Redundant steering angle sensors		TR-Electronics and Sick	-
Ambient temperature	°C	0…40	
Relative humidity	%	< 80	
Noise level	dB	< 60 depending on the application	
Protection class		IP54	

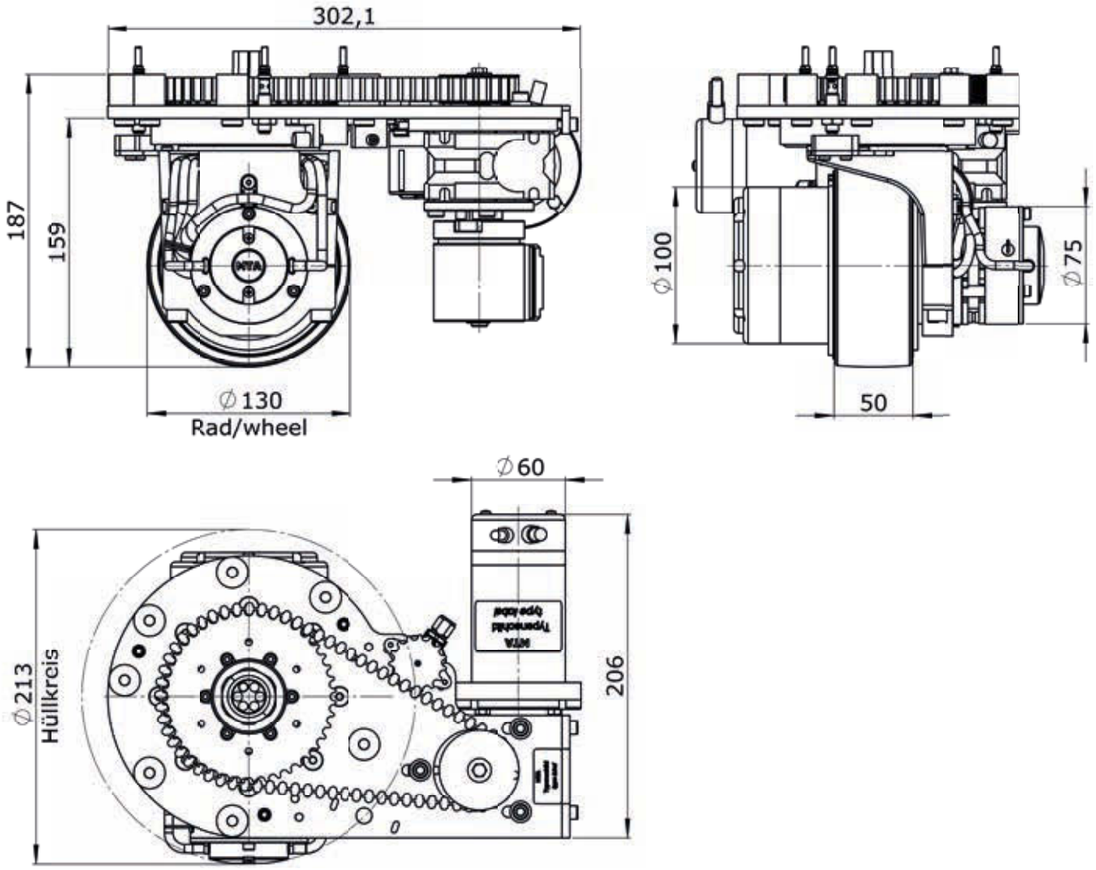
Motor cable connections

Steering drive			Wheel drive		
Signal description	**Core color (open ends)**	**Plug / Connection**	**Description**	**Core color (open ends)**	**Plug / Connection**
U	black 1	Round cable lug M4	Motor phase U	red	M4 ring cable lug
V	black 2	Round cable lug M4	Motor phase V	white	
W	black 3	Round cable lug M4	Motor phase W	black	
PE	yellow-green	2-pole terminal	-	-	

Control line connections

Steering drive			Wheel drive		
Signal description	**Core color (open ends)**	**Plug / Connection**	**Description**	**Core color (open ends)**	**Plug / Connection**
GND	green-brown	JST connector 10-pin / 2 rows	GND	green-brown	JST connector 10-pin / 2 rows
5V	green-white		5V	green-white	
/I	violet		/I	violet	
I	yellow		I	yellow	
/B	pink		/B	pink	
B	grey		B	grey	
/A	black		/A	black	
A	red		A	red	
/PWM	green		/PWM	green	
PWM	brown		PWM	brown	
PTC	blue	pluggable 6-pin screw-terminal or spring-clamp connector	PTC	blue	pluggable 6-pin screw-terminal or spring-clamp connector
PTC	white		PTC	white	
-	-	-	BR+	black 1	
-	-	-	BR-	black 2	

Dimensions



SAFETY INTEGRATION WOG1

Safety Integration WOG1 with decentralized Dual-Axis Motor Controllers

Travel and steering drives without integrated Motor Controllers are integrated into the AGV system via the decentralized Dual-Axis Motor Controller. The controller takes over both the traction motor control and the steering motor control via two separate motor outputs.

The safety-related integration takes place in several variants depending on the system architecture. The maximum performance level d (PL d) in accordance with EN ISO 13849-1 is achieved in all versions.

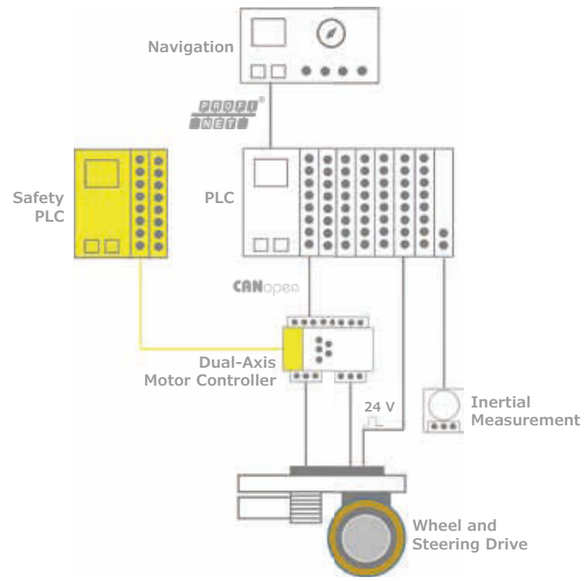
The Dual-Axis Motor Controller has the Safe Torque Off (STO) function, which is controlled directly by the vehicle's safety PLC. The safety-related architecture is based on redundant speed detection and a clear separation of control and safety channels.

Variant 1 – Standard safety architecture with IMU

In the first variant, the speed of the drive is transmitted to the central PLC via CAN. In addition, the 24 V encoder signals of the travel drive are read redundantly into the PLC or safety PLC.

An IMU (Inertial Measurement Unit) also supplies an independent speed signal to check the plausibility of the driving dynamics.

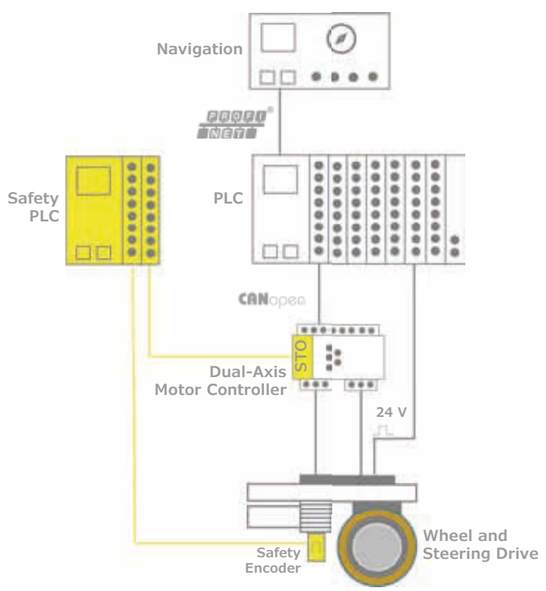
This combination enables a robust safety design with high system accuracy at the same time.



Variant 2 – safety encoder on the steering shaft

In the second variant, the IMU is omitted. Instead, a safety encoder is used directly on the steering shaft, which safely transmits the steering angle information to the safety PLC.

This solution increases the direct protection of the steering function through hardware-based angle feedback and is suitable for applications with clearly defined steering kinematics.

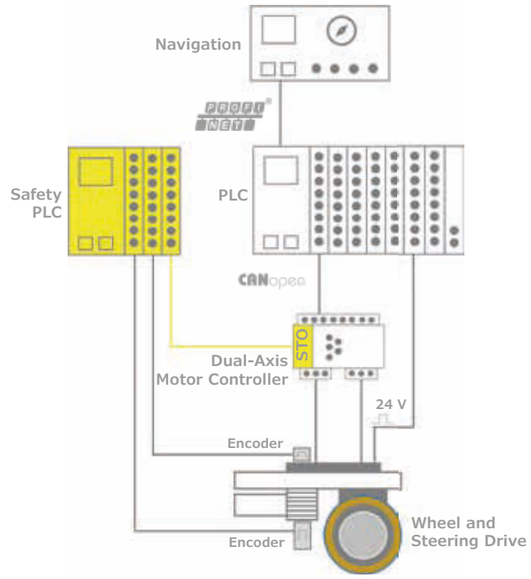


Variant 3 – Cost-efficient redundant encoder solution

The third variant does without a certified safety encoder and instead relies on two independent, non-safe encoders.

One encoder is positioned on the steering shaft and the second on the steering belt. This physical separation creates a redundant signal base to check the plausibility of the steering position.

This solution offers an economical alternative with redundant signal processing at the same time.



Common safety architecture

Regardless of the variant chosen, the following basic principles apply:

- Use of a Dual-Axis Motor Controller with STO function
- STO is controlled by the safety PLC
- Driving speed is always transmitted to the PLC via CAN
- 24 V A/B encoder signals are read redundantly into the PLC or safety PLC
- Redundant or additional sensors depending on the safety concept

MOTOR CONTROLLERS

MOTOR CONTROLLERS

		MCS	MCR25 0	MCR28 0	MCR29 0
	Supply power	24 - 48 VDC	24 - 48 VDC	24 - 48 VDC	24 - 48 VDC
	Supply Logic	-	24 VDC	24 VDC	24 VDC
	Galvanic isolation	-	●	●	-
	Motor Controller integrated	●	●	●	●
	Decentralized Motor Controller	-	-	-	-
	Number of drive axes	1	1	1	1
	I/O interface	●	●	●	-
	CAN interface	●	●	●	-
	EtherCAT	-	-	-	●
	Safety over EtherCAT	-	-	-	●
	Safety integrated	-	-	-	STO, SBC, SLS, …
	Number of encoders	-	1	1	2
	Motor commutation	sensorless	magn. Encoder	magn. Encoder	magn. Encoder
	Brake control	-	●	●	●
	Control	Speed	Speed Position	Speed Position	Speed Position Torque
	Drive	MRD50	MRG50 MRG50 Eccentric MRG60 SMD50 SMG50	MRG80 MRG89 SMD75 SMG75 SMG75-E	WDD115I WDD140I WDD135I WOG2

	MMAC	Single-Axis Motor Controller	Dual-Axis Motor Controller	Decentralized Motor Controller Third Party Provider 244 8 VDC	Decentralized Drive controller Third Party Provider 400 VAC
	24 - 48 VDC	24 - 48 VDC	24 - 48 VDC	24 - 48 VDC	400 VAC
	24 VDC	24 VDC	24 VDC	depending on the manufacturer	depending on the manufacturer
	●	●	-		
	-	-	-	-	-
	●	●	●	●	●
	4, 8,12	1	2	depending on the manufacturer	depending on the manufacturer
	●	●	●		
	●	●	●		
	-	-	-		
	-	-	-		
	-	-	-		
	1	1	1 per axis		
	sensorless	magn. Encoder	magn. Encoder		
	-	●	●		
	Speed	Speed Position	Speed Position Torque		
	SUD53-A SUD53-B	DMG60 DMG80-B DMG89-B SMD125 WDD115E WDD140E WDD135E WDG225E WDG110E	DMG60 DMG80-B DMG89-B SMD125 WDD115E WDD140E WDD135E WDG225E WDG110E WOG1-125 WOG1-150 WOG1-187	DMD50 DMG60 DMG80-B DMG89-B SMD125 WDD115E WDD140E WDG135E WDG225E WDG110E	DMG80-D DMG89-D

DUAL-AXIS MOTOR CONTROLLER
for driverless transport systems

Powerful Dual-Axis Motor Controller for highly dynamic and precise driving and steering movements in modern AGV systems.

Applications

The Dual-Axis Motor Controller was developed specifically for driverless transport systems and combines the control of two drive axes in a single controller.

This means that wheel and steering drives – in both differential and omnidirectional vehicles – are coordinated directly and synchronously in the controller.

The key advantage is internal synchronization: movements are coordinated directly within the controller, without routing synchronization through a higher-level control system.

The integrated cogging compensation enables smooth and jerk-free running, especially in direct drives with high magnetic forces - even at very low speeds or when stationary.

This leads to noticeably more stable driving behavior, especially when changing direction quickly, cornering precisely and driving dynamic profiles.



Features & Benefits

- **Direct axis synchronization in the controller** → no delays due to external control
- **Noticeably quieter and more stable driving behavior,** especially in curves and during dynamic driving
- **Greater precision in path tracking** for freely navigating and rail-guided vehicles
- **A controller for driving and steering axes** → reduces system effort and interface complexity
- **Less coordination effort in the PLC** → Relieving the burden on vehicle controls
- **Very high control quality** for speed, position and torque
- **Flexible control via CAN or I/O** → easy integration into existing systems
- **Integrated STO safety function** for safe operation in the vehicle
- **High dynamic reserves** during acceleration and load changes
- **Flexible encoder evaluation** for different system architectures
- **Ideal for compact, scalable AGV and AMR platforms**

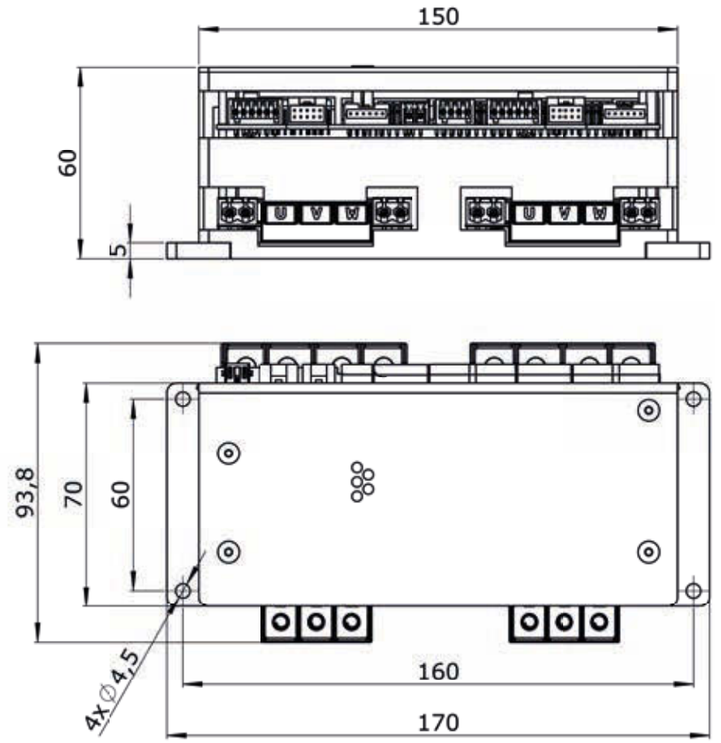
MTA
innovation is our drive

Technical data

		Dual-Axis Motor Controller
Supply voltage for power section	VDC	48
Supply voltage for control section	VDC	24
Rated current (RMS)	A	20
Starting current (RMS)	A	65 / 86 / 97 *
Ambient temperature	°C	0 … 40
Digital inputs	VDC	24 (10x input)
Digital outputs Ready M1, M2	VDC	24 (2x output)
Digital outputs brake M1, M2	VDC	24 (1x per motor, 1 A)
Analog input	VDC	0 … 10 (optional)
Bus system		CANopen
Brake chopper		1x per motor
Safe Torque Off		1x STO per motor (optional)
Temperature monitoring		PTC, PT1000, I²xt

* 3 different current sensors available

Dimensions



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