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

		WDD115I-BA with integrated Motor Controller	WDD115E-BA 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

		WDD115x-BA 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

		WDD115x-BA 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

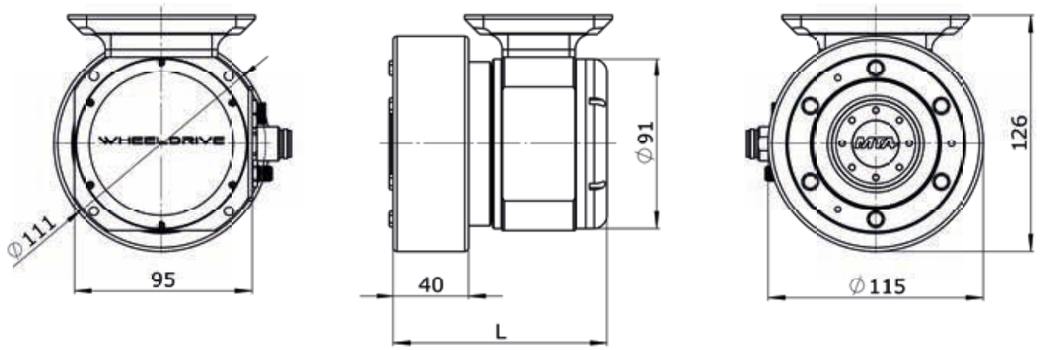
Pin	Description	Presentation
1	U	 M16 / 3-pin (3x2)/male
2	V	
3	W	

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

		WDD115I-BB with integrated Motor Controller	WDD115E-BB 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

		WDD115x-BB 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

		WDD115x-BB without integrated Motor Controller
Max. wheel load*	kg	100
Wheel diameter	mm	115
Ambient temperature	°C	0...40
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Temperature sensor		PTC
Feedback		1 mag. Encoder
Supply voltage	VDC	5
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Motor cable connections

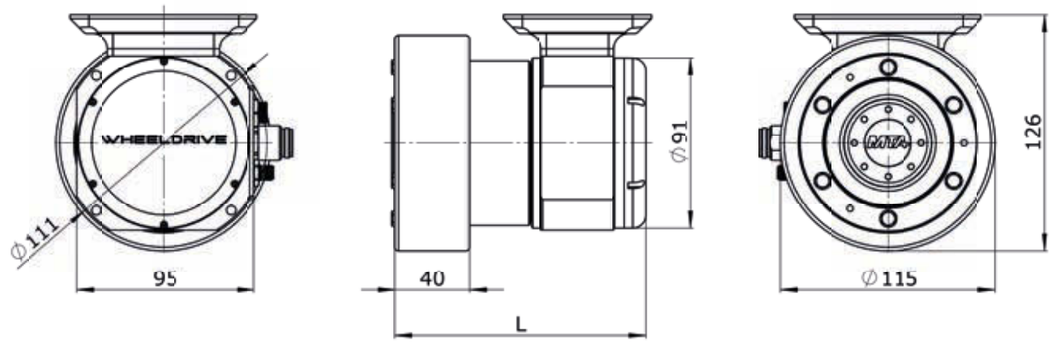
Pin	Description	Presentation
1	U	 M16 / 3-pin (3x2)/male
2	V	
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Sensor cable connections

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.

