

ASEM24 | ASEM48 External motors

BLDC
MotorS1
S412 KHz
PWMAnalog
0 -10 V24 V
80 Watt48 V
80 Watt

Intended Use

External BLDC motors are a proven technology used to built low profile conveying systems like driven roller conveyors and belts conveyors. External motors are more easily replaceable if more power of other specifications are required.

In combination with out controllers the motorized rollers can be used in the following applications.

- Roller conveyor modules
- Belt Conveyor modules
- Linear motion applications
- Sorters and Diverters

Designed for the future

Our Motors are designed for most transportation applications in the field of intralogistics and automation including technologically more demanding features.

Operational specifications and state of the art features.

- Brushless motors
- Active braking
- Pulse per rotation feedback
- S1 and S4 duty cycle
- Synchronized running with AS Controllers



Scope of delivery

The scope of delivery defines the required components in order to create a working application, it is advised to consult our website for training material to choose what components you need more for your application or what kits are available.

	Information	Specifications	Details	
1	AS MDR	Motor Driven Roller	Poly-V Roundbelt Belt Pulley None	80 Watt Included
2	Mounting Bracket	Stainless steel bracket	Torque bracket with m5 hole	6 mm Included
3	Motor Bracket	Aluminium bracket + Pulley	Roundbelt Poly-V Timingbelt	Aluminium Included
4	Accessories	Torque bracket Half Lock Nut	6 mm SS 5 mm SS + toothed washer	Stainless Steel Included

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Technical Specifications

ASEM24 | ASEM48 External motor

	ASEM 24 VDC	ASEM 48 VDC
Rated voltage	24 VDC	48 VDC
Rated current	3.7 A @ rated torque	2.4 A @ rated torque
Starting current	4.5 A	3.0 A
Power consumption (Rated)	80 W	80 W
Motor connector cable	M8 5-pin Snap-in PU Halogen-free 1000 mm	
Motor shaft	Stainless steel, Hex 11mm thread M12x1,75	
Protection	Stall Protection Overvoltage Overheating External drive	
Overvoltage protection	+28V @24 VDC +56V @48 VDC	
Temperature protection	> 90 C° shut down, resets after temperature is below 90 C° and speed or power toggle	
Interfaces	PWM 12KHz 10 V (23 - 100%) Analog 0 -10 V (23 - 100%)	
Directional Interfaces	CW > 7 VDC CCW < 4 VDC	
Certifications	CE ETL ¹	
Ambient Temperature	Operation 0 to +40C Transport -20 to +80C	
Protection rate	IP 54 IP65 (on request)	
Installation altitude	Max +1000 m from sea level	
Duty Cycles	S1 Continuous at rated torque/ current S4 50% on/ off *	
Active Braking	The motor brakes with a max current of 2A continuous	

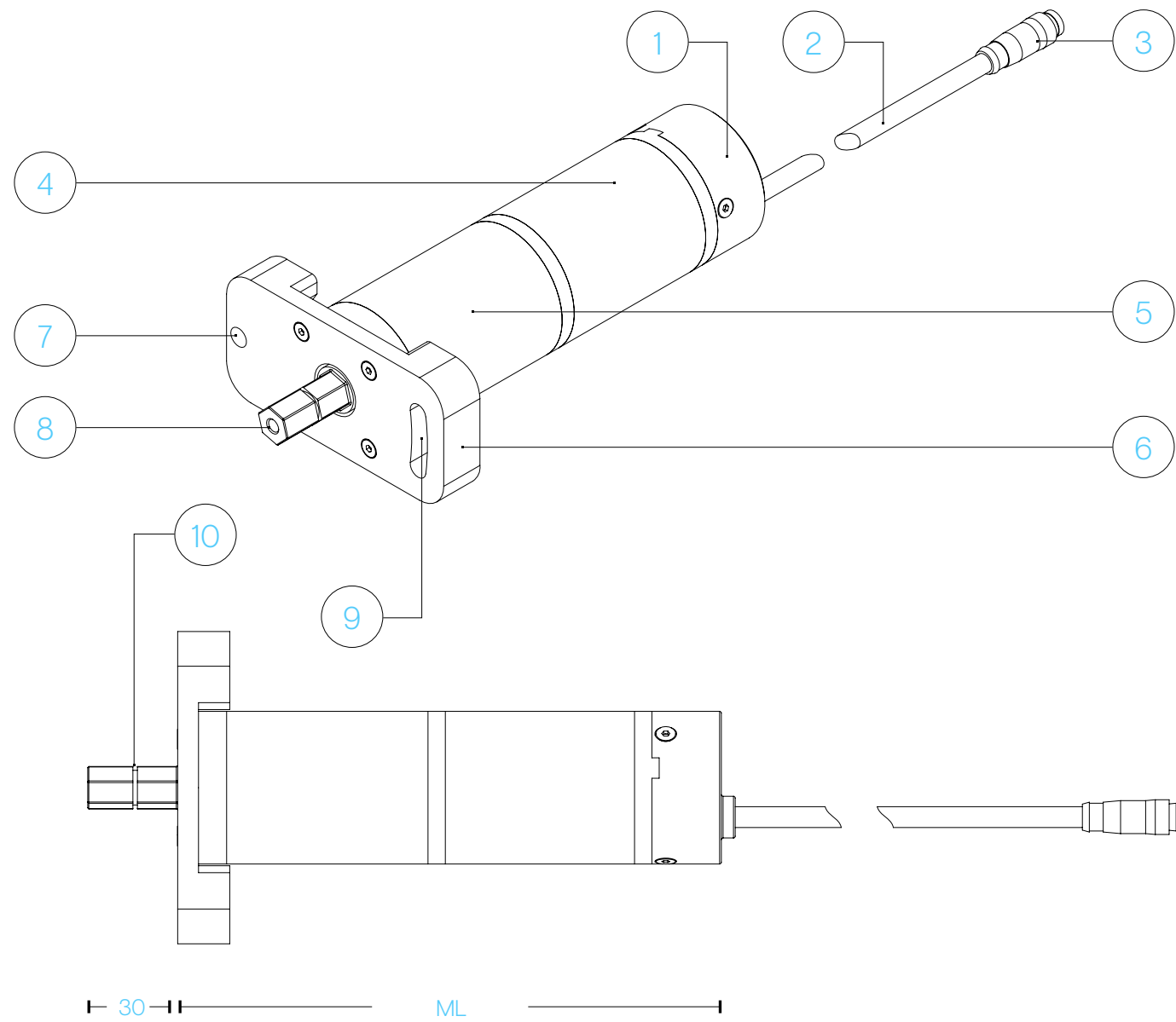
Additional information

1. Contact us for information about applications in countries that require ETL listed components.
2. The S4 duty cycle at no- load is 50% on and 50% off, without timing restriction. The duty cycle decreases when more load is applied to the motor due the start up current of the motor. A built-in protection protects the motor when it is overloaded and will prevent the motor from breaching the duty cycle parameters.
3. When more force is exerted than the motor can brake, the motor will stop braking. Depending on the specific scenario it an error is triggered and a power or speed toggle is required. This typically happens when inertia is too high for the motor and gearbox.

Please visit our website for the latest 3D CAD drawings and variations in dimensions/ configurations.

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BLDC Motor	S1 S4	12 KHz PWM	Analog 0 -10 V	24 V 80 Watt	48 V 80 Watt
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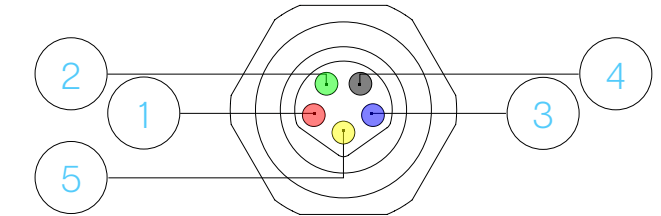
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Description	Details	Description	Details
1 Motor Cover	Anodized aluminum	6 Motor Bracket	Aluminum bracket
2 Motor Cable 4A rated	6 mm PU Cable	7 Fixed mounting hole	9.0 mm hole
3 Motor Connector	M8 5-pin	8 Motor Shaft	Hex 11 M5 x 10
4 BLDC Motor	24 VDC or 48 VDC	9 Tensioning slotted hole	For M8 bolt
5 Gearbox	Stage 1 Stage 2 Stage 3	10 Circlip groove	Din 471

Motor Connector specifications

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Motor Connector	1	24 V / 48 V Red 0.34 mm ²
	2	Direction Green 0.25 mm ²
	3	GND Blue 0.34 mm ²
	4	Error / Pulse Black 0.25 mm ²
	5	Speed Yellow 0.25 mm ²



Pin-out Specifications

Pin	Colour	Function	Value and Parameters			
1	Red	Power in (+)	Rated Voltage Voltage Range	24 VDC ¹ 18 - 28 VDC	48 VDC ¹ 36 - 56 VDC	
2	Green	Direction	'Low' = < 4VDC Counter Clockwise (CCW) 'High' = > 7 VDC Clockwise (CW)			
3	Blue	Ground (-)	Ground (0 V)			
4	Black	Error + Feedback	Open Collector = 24VDC when an error occurs Error modes: 1. Motor Stall 2. Overcurrent 3. Overvoltage 4. Undervoltage 5. Overtemperature Feedback modes: Analog speed feedback PWM speed Feedback ²	U ^{max} = 30VDC Error = High No Error = Low	I ^{max} = 5 mA 24VDC 0 VDC	U ^{GESat} = 0.5 V at I _c = 5 mA
5	Yellow	Speed Control	Analog speed control Analog speed feedback Analog start Analog stop PWM speed control PWM speed feedback PWM start PWM Stop	2.3 VDC = 10 % 2.3 VDC = 10 % Start = >2.3 VDC	9.5 VDC = 100% 9.5 VDC = 100% Stop = < 2 VDC 100% DUTY = 100 % Level = 10V @250us Stop = < 10 %	

Additional information

- The motor stall protection only works with AS Motor Controllers or motor controllers of other brands that support this functionality.
- Hall sensor feedback is pushed every 250 micro seconds. If not using a AS Motor controller this can cause to short error output with the same length. It is possible to order the motor with this functionality disabled.
- Do not power the 24 VDC MDR with a 48 VDC Power Supply or the 48 VDC MDR with a 24 VDC Power Supply.

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Example applications

ASMDR24 and ASMDR48 can be used in any common intralogistics solutions and beyond. From typical transportation conveyors, divert & merge modules and many more. Learn more on www.automationsupply.nl



Disclaimer

AS and AS partners are not responsible for integration and usage of our products outside of the specified application range, technical specifications and in combination with third party components.

Images may differ from the actual product due to our continuous product improvement.



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