



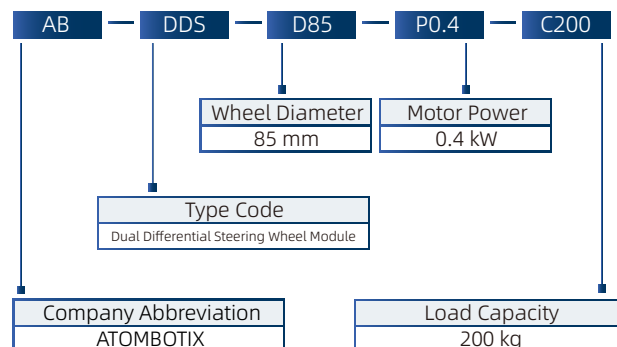
Dual Differential Steering Wheel Module



Overview

The differential steering wheel drive unit combines differential drive technology with active steering control to achieve flexible and precise vehicle movement. Compared with conventional differential drive systems, it provides smoother steering performance, higher positioning accuracy, and improved maneuverability in narrow operating environments.

Model Nomenclature



Key Feature



Enhanced maneuverability

Combines steering control and differential drive for flexible vehicle movement



Optimized system complexity

Simplifies mechanical structure compared with conventional steering systems



Improved motion stability

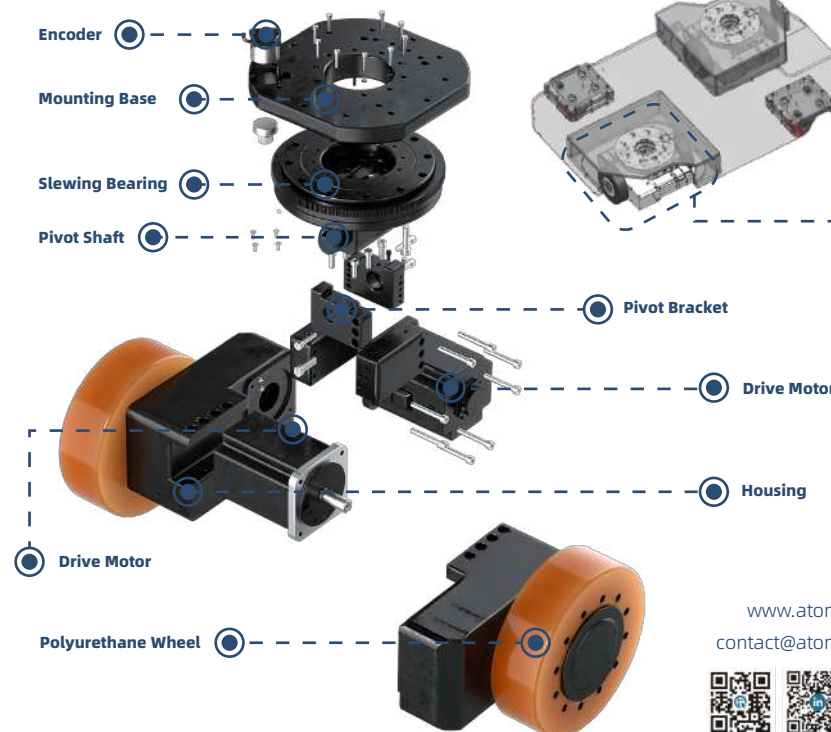
Provides smoother steering response and accurate trajectory tracking



Cost-effective solution

Balances motion flexibility, control performance, and system cost

Mechanical Structure



Installation Layout



Basic Information

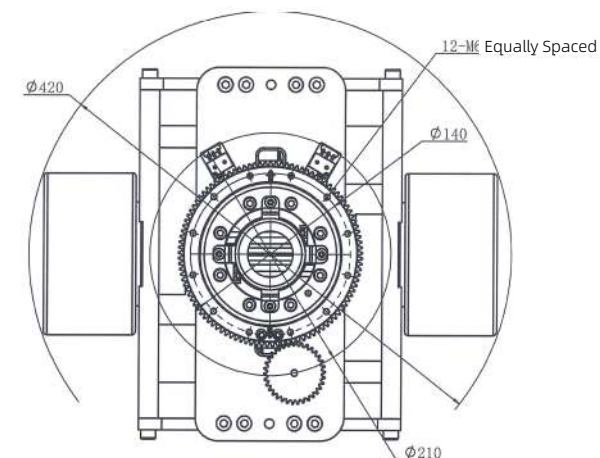
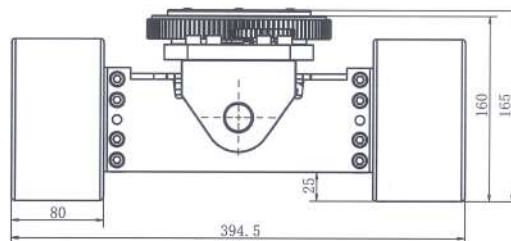
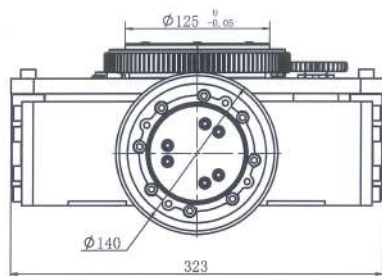
Wheel Diameter(mm)	140	
Wheel Material	Polyurethane	Rubber
Load Capacity(kg)	1300	/
Rated Voltage(V)	48	
Gearbox Ratio	12	
Gearbox Torque(N·m)	96	
Max. Speed(m/min)	109.9	
Traction Force(N)	980	
Towing Capacity(kg)	1470	
Maintenance Method	Refer to maintenance manual	
Maintenance Interval	Refer to maintenance manual	

Drive Unit

Motor Model	SMC80S-0100-30WAK-5DCH
Rated Power(W)	1000
Rated Speed(rpm)	3000
Rated Torque(N·m)	3.18
Rated Current(A)	26.4
Built-in Encoder type	Incremental magnetic Encoder
Encoder Performance	/

Steering Unit

Steering Angle(°)	±140
Encoder	ADK-A38L6-I2000L4P(Incremental type)
Limit Switch	200E06W1/G9-OR-1M


AB-DDS-D140-P1.0-C1300
NO. 1

contact@atombotix.com
www.atombotix.com

Basic Information		
Wheel Diameter(mm)	85	
Wheel Material	Polyurethane	Rubber
Load Capacity(kg)	200	/
Rated Voltage(V)	48	
Gearbox Ratio	10	
Gearbox Torque(N·m)	8.5	
Max. Speed(m/min)	80	
Traction Force(N)	360	
Towing Capacity(kg)	540	
Maintenance Method	Refer to maintenance manual	
Maintenance Interval	Refer to maintenance manual	

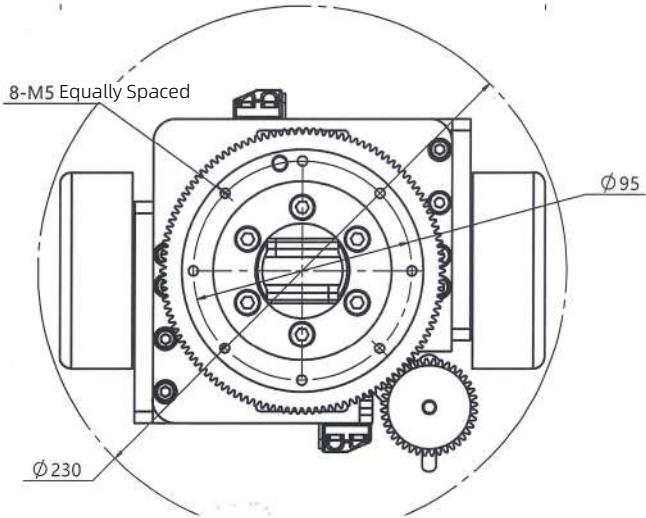
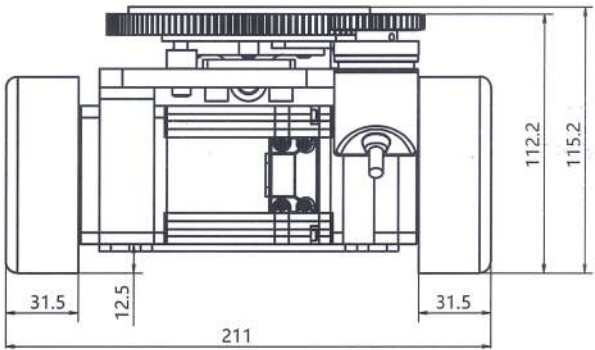
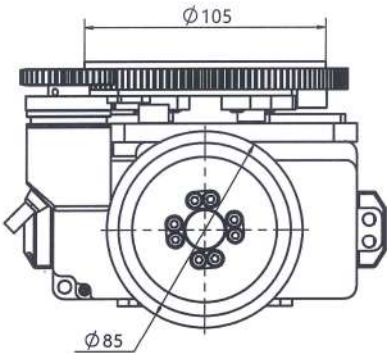
Drive Unit	
Motor Model	SMC60S-0040-30WAK-5DCH
Rated Power(W)	400
Rated Speed(rpm)	3000
Rated Torque(N·m)	1.27
Rated Current(A)	10.6
Built-in Encoder type	Incremental magnetic Encoder
Encoder Performance	/

Steering Unit	
Steering Angle(°)	±130
Encoder	UCD-CA01B-1212-RA10-2TW
Limit Switch	/



AB-DDS-D85-P0.4-C200

NO. 2



Basic Information		
Wheel Diameter(mm)	230	
Wheel Material	Polyurethane	Rubber
Load Capacity(kg)	2000	/
Rated Voltage(V)	48	
Gearbox Ratio	44.625	
Gearbox Torque(N·m)	319	
Max. Speed(m/min)	48.6	
Traction Force(N)	5500	
Towing Capacity(kg)	8250	
Maintenance Method	Refer to maintenance manual	
Maintenance Interval	Refer to maintenance manual	

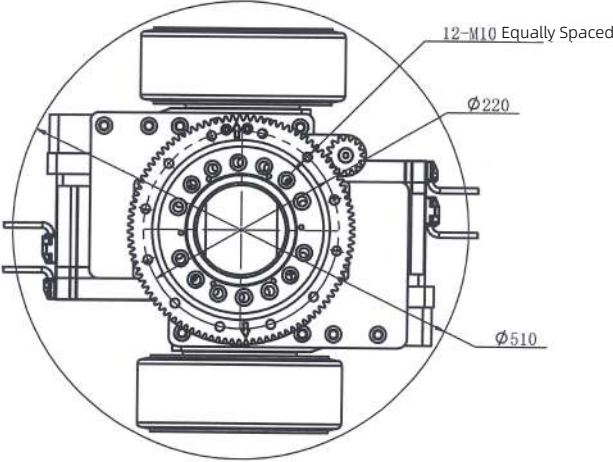
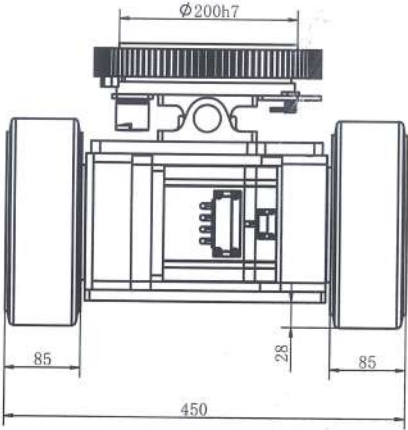
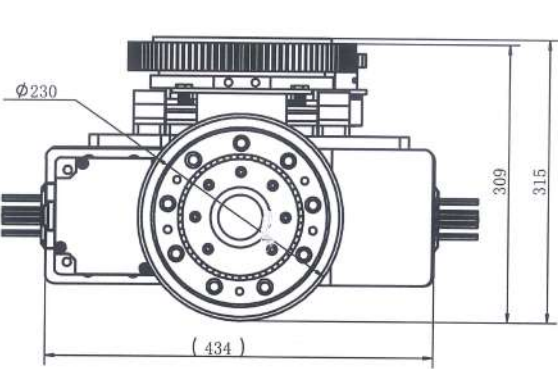
Drive Unit	
Motor Model	SMC130S-0250-30WAK-5DCH
Rated Power(W)	2500
Rated Speed(rpm)	3000
Rated Torque(N·m)	7.96
Rated Current(A)	61
Built-in Encoder type	Incremental magnetic Encoder
Encoder Performance	/

Steering Unit	
Steering Angle(°)	±140
Encoder	DBS36E-S3EK02000(Incremental type)
Limit Switch	I1CF-M1202P-03R2(PNP, Normally Open)



AB-DDS-D230-P2.5-C2000

NO. 3



Basic Information		
Wheel Diameter(mm)	350	
Wheel Material	Polyurethane	Rubber
Load Capacity(kg)	10000	/
Rated Voltage(V)	48	
Gearbox Ratio	100	
Gearbox Torque(N·m)	796	
Max. Speed(m/min)	33	
Traction Force(N)	8180	
Towing Capacity(kg)	12280	
Maintenance Method	Refer to maintenance manual	
Maintenance Interval	Refer to maintenance manual	

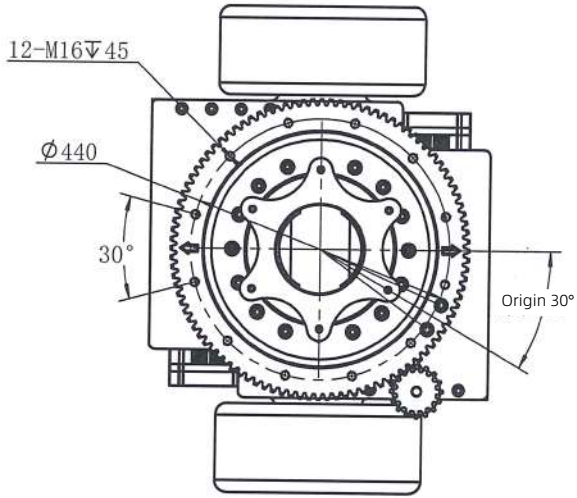
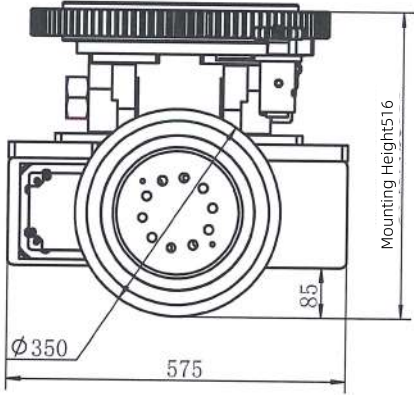
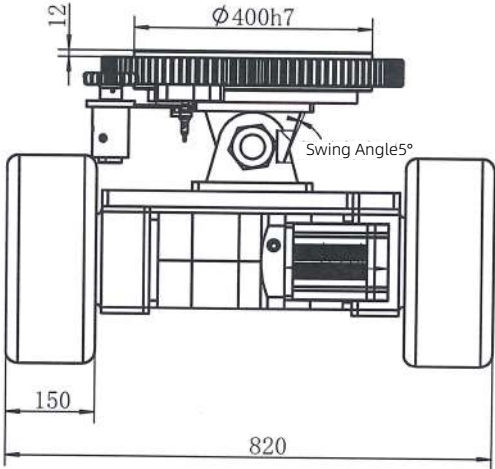
Drive Unit	
Motor Model	SMC130D-0250-30WBK-4DSH
Rated Power(W)	2500
Rated Speed(rpm)	3000
Rated Torque(N·m)	7.96
Rated Current(A)	61
Built-in Encoder type	Incremental magnetic Encoder
Encoder Performance	/

Steering Unit	
Steering Angle(°)	/
Encoder	ADK-A38L6-I2000L4P(Incremental type)
Limit Switch	PR12-2DN(NPN, Normally Open)



AB-DDS-D350-P2.5-C10000

NO. 4



Basic Information		
Wheel Diameter(mm)	450	
Wheel Material	Polyurethane	Rubber
Load Capacity(kg)	20000	/
Rated Voltage(V)	72	
Gearbox Ratio	140	
Gearbox Torque(N·m)	1200	
Max. Speed(m/min)	28.2	
Traction Force(N)	10500	
Towing Capacity(kg)	20000	
Maintenance Method	Refer to maintenance manual	
Maintenance Interval	Refer to maintenance manual	

Drive Unit	
Motor Model	/
Rated Power(W)	3000
Rated Speed(rpm)	3000
Rated Torque(N·m)	9.55
Rated Current(A)	54
Built-in Encoder type	/
Encoder Performance	/

Steering Unit	
Steering Angle(°)	±157
Encoder	ADK-A38L6-I2000L4P(Incremental type)
Limit Switch	PR12-2DP2(PNP, Normally Closed)



AB-DDS-D450-P3.0-C20000

NO. 5

