

Automated mobile robot _KMP 600-S diffDrive



High-standard security



Ingress protection grade 54



Various application interfaces



Intelligent laser SLAM navigation



With intelligence into the future _Leading a new era of smart logistics

More flexible, more intelligent, and more efficient. With the advancement of Industry 4.0, the constraints of logistics on manufacturing have become increasingly prominent. To embrace the challenges posed by the ever-changing market and rising labor costs, KUKA's newly designed mobile robot KMP 600-S diffDrive, characterized by intelligence, high efficiency, safety, and reliability, is committed to remove the obstacles hindering manufacturing and to provide better solutions for logistics automation. Based on KUKA.NavigationSolution, KMP 600-S diffDrive uses laser SLAM navigation and is highly flexible, so it can be put into use without modifying the environment.

Highlights of KMP 600-S diffDrive

- Laser SLAM navigation system
- Maximum speed of 2 m/s
- Repositioning accuracy with a difference range of ± 10 mm
- The waterproof and dustproof rating reaches IP54
- Various application interfaces

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Automated navigation – flexible and intelligent

Based on laser SLAM technology, KMP 600-S diffDrive is agile and adaptive to its surroundings. It can be used in various industrial scenarios with no need to change the environment. Backed by the stable algorithm of KUKA.NavigationSolution, it can work in a dynamically changing environment, plan its path independently and avoid obstacles.

Excellent Dynamic Performance

KMP 600-S diffDrive has excellent dynamic performance. It can operate in a straight line at a speed of up to 2 m/s, with a maximum acceleration of 1.25 m/s² and maximum deceleration of 1.5 m/s², which can significantly improve operational efficiency and shorten delivery time.

High Repositioning Accuracy

Based on the laser SLAM navigation solution, KMP 600-S diffDrive can achieve a positioning accuracy of ± 10 mm without the support of auxiliary landmarks or reflectors. It can be widely used in all logistics links of manufacturing, ensuring accurate delivery of materials, automatic docking, and autonomous operation.

Various Application Interfaces

KMP 600-S diffDrive provides abundant application interfaces, including 24 V and 48 V power supply interfaces, EtherCAT, STO, and I/O interfaces, which can provide access to various external execution equipment, such as roller conveyors, sensors, etc. KMP 600-S diffDrive also offers an integrated lifting system as an optional function with a lifting height of 60 mm.

Safety and Stability

Equipped with the latest generation of safety components such as Lidars, Safety PLC, safe motor encoders for speed monitoring and emergency switches, KMP 600-S diffDrive has a functional safety level of PL-d. Following the CE functional safety standard (ISO 13849), KMP 600-S diffDrive can be applied to all kinds of human-robot cooperation scenes and guarantees human safety.

Comprehensive Protection Widely Used in Industrial Applications

The protection level of the whole machine reaches IP54. It can adapt to environments with heavy dust or splash water.

Low Maintenance Cost

Simplicity and efficiency are vital to reduce maintenance costs. The covers of KMP 600-S diffDrive can be disassembled directly without any tools. Assembly of major components such as the control cabinet and battery can be done with few tools. All these simplified procedures effectively reduce maintenance time and cost.

Long Battery Life

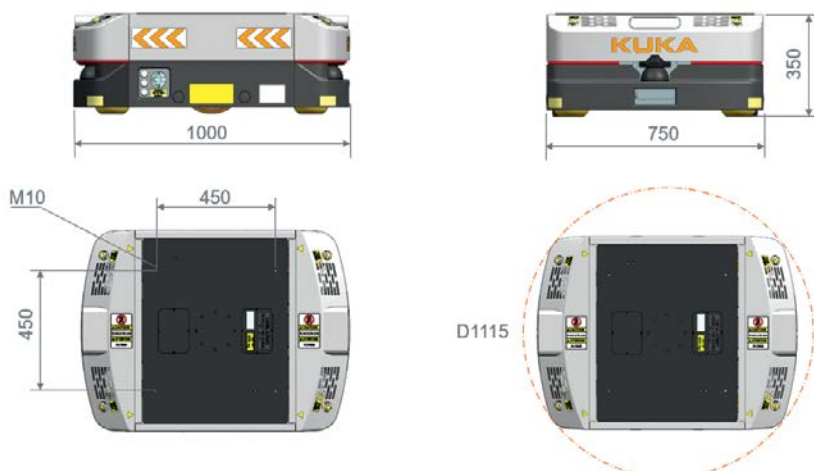
KMP 600-S diffDrive can work continuously and reliably a long time, with an endurance of over 8 hours and charge and discharge life of over 2000 times.

Technical Parameter

Parameter	Value
Rated load	600 kg
Navigation mode	Laser SLAM
Size	1000 × 750 × 350 mm
Turning radius	turn on spot
Dead weight	280 kg
Type of drive	Differential speed
Maximum linear velocity	2 m/s
Maximum rotational speed	22 °/s
Lifting height	60 mm
Security configuration	Safety laser, emergency stop switch, anti-collision strip (optional), safety PLC
Positioning accuracy	± 10 mm
Battery type	lithium battery
Battery capacity	48 V 37Ah
Application interface	24 V and 48 V power interface, Ether-CAT, STO and I/O interface
IP rating	54
Operating noise	< 75 dB

Runtime Environment

Maximum slope		3 %
Ground gap		≤ 35 mm
Ground flatness		5 mm/m²
Temperature	Operation	0 °C – max. 45 °C
	Storage	–10 °C – max. 45 °C
	Transportation	0 °C – max. 45 °C
Humidity	Operation	10 % – 80 % (no condensation)
	Storage	5 % – 95 % (no condensation)
	Transportation	5 % – 95 % (no condensation)



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