

ENCODERS IN FORKLIFT AGV

Background

Automated and integrated systems are proving to be more efficient and cost-effective solutions in industries like Materials Handling. The rise of Automated Guided Vehicles (AGVs) in these applications is driving the need for safer and more reliable sensing systems and controls, especially in forklift AGVs. The control of speed, fork height, fork opening and inclination of the mast are just few of the many parameter need to be carefully controlled in a forklift AGV.

Solution

Sensata encoders supply the safety and connectivity required in forklift AGVs.

In such equipment, encoders that are rated up to SIL3 (Safety Integrity Level 3) such as the DS series, are ideal to control the speed, as this allows for the highest safety level in the system. SIL3-rated encoders can often be more expensive than those of a lower safety rating, but they greatly reduce the risk of failure to the system, which in the case of an AGV navigating a warehouse, could prevent costly damage or injury.





For all other controls (such as fork height, fork opening or mast tilt) the IO-Link interface is a growing demand due to his simplicity of installation and capability to connect (through IO-Link master) to the Ethernet network present in the factory and then be part of the wide IIOT system.

SIL3 rated and IO-Link encoders supply maximum safety and flexibility





RECOMMENDED PRODUCTS

Reference on Diagram	Product	Type	Features	Model Number Example	Function
1	 DSK5	Functional safety encoder	SIL3 rated	DSK5H14//5G59//02048//G6R//CSS3**	AGV speed
2	 AHK5	Single-Turn encoder	IO-Link interface	AHK5_14//ZIOB//16//BFR//	Mast tilt
3	 THM5	Multi-Turn encoder	IO-Link interface	THM5_06//ZIOB//12B16//BFR//	Fork opening
4	 THK5	Multi-Turn encoder	IO-Link interface	THK5_14//ZIOB//12B16//BFR//	Fork height



AUTONOMOUS FORKLIFT POSITION AND SPEED



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