

Automation using reliable, intelligent and flexible position measurement

MAGNETOSTRICTIVE LINEAR POSITION SENSOR WITH A MEASURING RANGE OF UP TO 1.5 KILOMETERS

Our new intelligent magnetostrictive linear position sensor is designed for applications where the absolute position of an object needs to be determined over great distances and with high accuracy. When used with our rugged position measuring system, it provides precise and reliable position information over a measuring range of up to several hundred meters. This makes the system ideal for typical applications on traveling cranes, overhead cranes, avoidance controls, as well as crane and trolley movement.

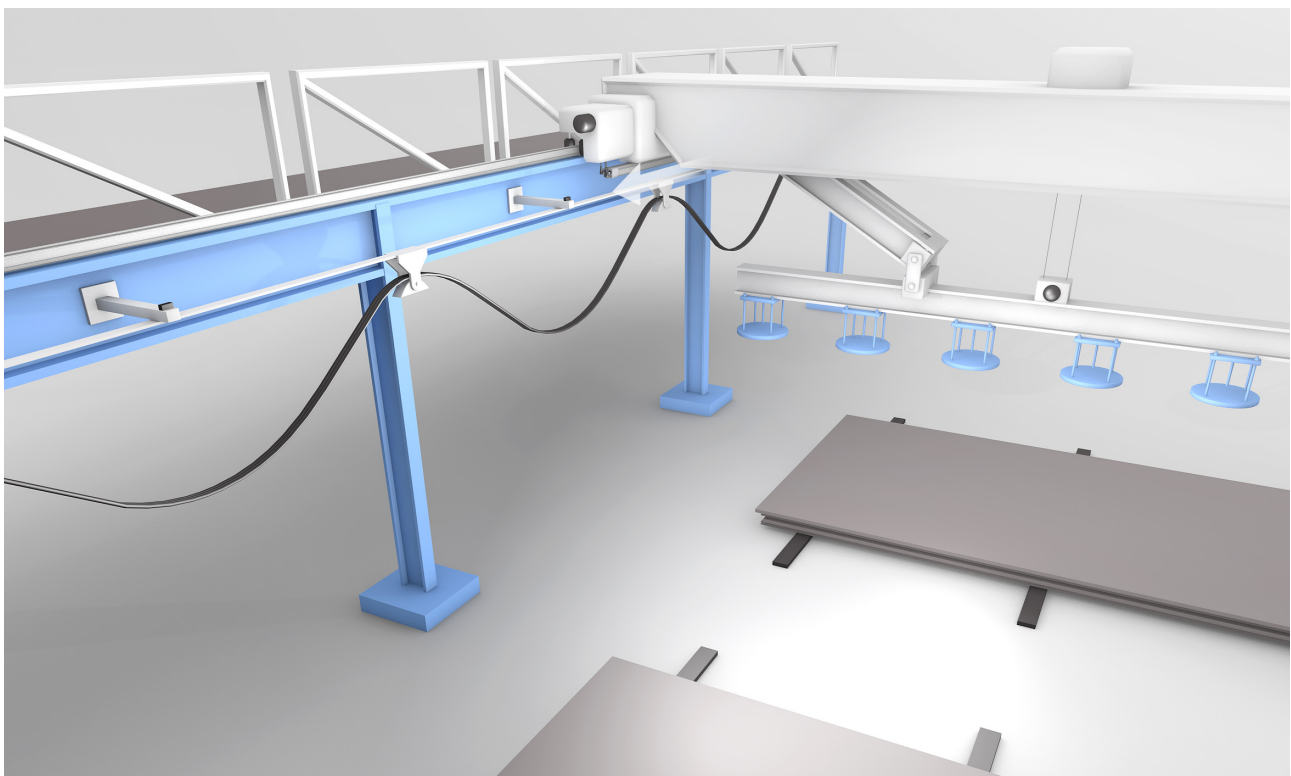
The measuring system is also available with a failsafe operating option – with redundant markings along the measuring track –, so that the efficiency, reliability and quality of your application is even more enhanced.

How does such precise position measurement work over long distances? The position measuring system includes magnetic markers installed along the track of the crane and whose position is read by the magnetostrictive sensor installed on the crane. Information about the position of the markings relative to the sensor are sent to the controller, which, in turn, calculates the absolute coordinates of the crane position with high accuracy. Reliability is, therefore, always ensured.

The position measuring system consists of a magnetostrictive sensor with a Profinet interface, several magnets and a software function block for incorporating it into a Siemens controller.

Features

- Absolute linear position measuring system with a measuring range of up to 1.5 kilometers
- High reliability and low maintenance with a non-contact and wear-free operating principle
- Resistant to harsh industrial environments (IP67)
- System automatically adjusts to the magnetic marking
- Repeat accuracy up to ± 0.5 mm



Crane position measurement

BTL MAGNETOSTRICTIVE
LINEAR POSITION SENSORS
IN PROFILE DESIGN



CONFIGURABLE SET		BTL7-V50_-M_ _ _ _-P-SA447/479 LDPS						
Application distance	with BAM014T	0...50 m	0...100 m	0...200 m	0...250 m			
	with BAM041Y	0...50 m	0...100 m	0...200 m	0...250 m	0...400 m	0...750 m	0...1500 m
Recommended sensor measuring range	with BAM014T	3000 mm	4000 mm	4500 mm	4500 mm			
	with BAM041Y	3000 mm	3500 mm	3500 mm	4000 mm	4000 mm	4500 mm	4500 mm
Recommended number of magnets ¹	with BAM014T	39	57	97	121			
	with BAM041Y	35	109	184	230	367	587	1156
Style	Profile series							
Mounting	Mounting clamps							
Housing material	Aluminum							
Connection 1	M8, 4-pin							
Connection 2	M12, 4-pin, D-coded							
Connection 3	M12, 4-pin, D-coded							
Interface	Profinet Encoder Profil V4.1							
Operating voltage U _B	10...30 V DC							
Ambient temperature	-40...85 °C							
IP rating	IP67							
Approval/conformity	CE, cULus, UKCA							

¹ The number of the required position magnets results from the specific application distance and the measuring range of the sensor.

ACCESSORIES



	BAM014T	BAM041Y	BAM01N3
Principle of operation	BTL magnets, floating	BTL magnets, floating	BTL control arm
Material	POM	PA	Aluminum, anodized
Distance to Sensor	5...15 mm	12...56 mm	

CONNECTIVITY



	BCC02N5	BCC0JFC	BCC0JF0
Connection 1	M8 female, straight, 4-pin, A-coded	M12 male, straight, 4-pin, D-coded	M12 male, straight, 4-pin, D-coded
Connection 2		M12 male, straight, 4-pin, D-coded	RJ45 male, straight, 4-pin
Cable	PUR shielded black, 2 m, drag chain compatible	PUR shielded green, 2 m, drag chain compatible	PUR Shielded Green, 2 m, Drag chain compatible