New!

Smart Bollard

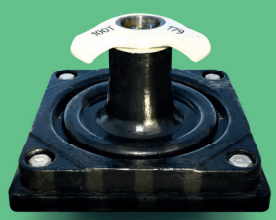
What is the Smart Bollard?

The Smart Bollard is a bollard that measures the vector load and angle on the bollard generated by the mooring lines. It measures, by using industrial sensors inside the bollard, the loads of the mooring lines on the bollard by sensing and translating structural movement caused by the mooring line tension. The Smart Bollard can be used for all seagoing vessels, such as container and bulk carriers.

Why a Smart Bollard?

Until now it was not possible to continuously measure mooring line loads of moored vessels. The lack of exact data measured on moored vessels means that ports have to assume maximum mooring loads. With vessels getting bigger it is important to have better insights in mooring loads. Real-time monitoring allows to monitor safety at berth and helps to avoid unsafe situations.

Benefits of using the Smart Bollard systems:



- It increases safety by real-time load monitoring
- It gives a better understanding of mooring forces, which will result in a more efficient use of the port
- Reduces downtime
- Clear overview of the available quays for each vessel
- Possibility to moor larger vessels on quays deemed inappropriate before
- Due to real-time monitoring, scarce resources like tug boats can be used less often, as the port will have a better understanding when to expect critical situations
- Easy integration with Port Management Systems (PMS)

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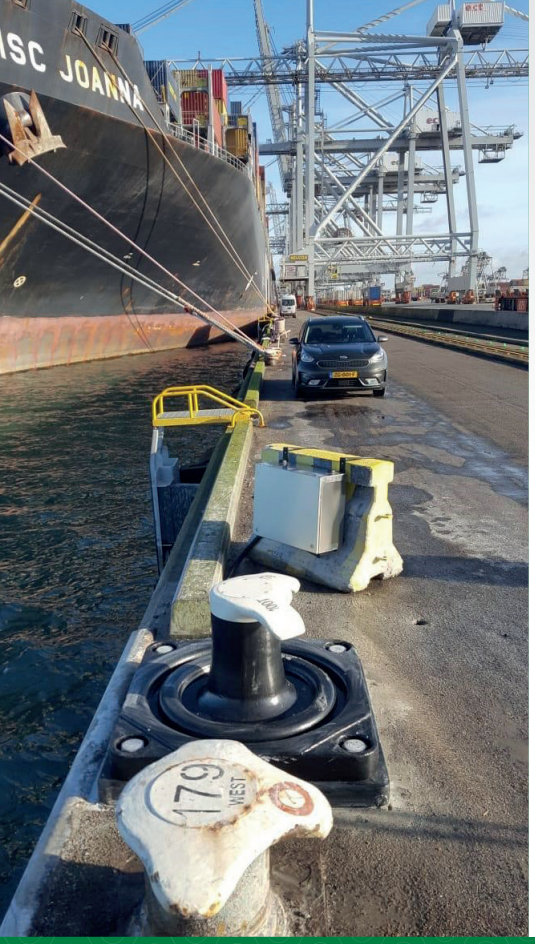

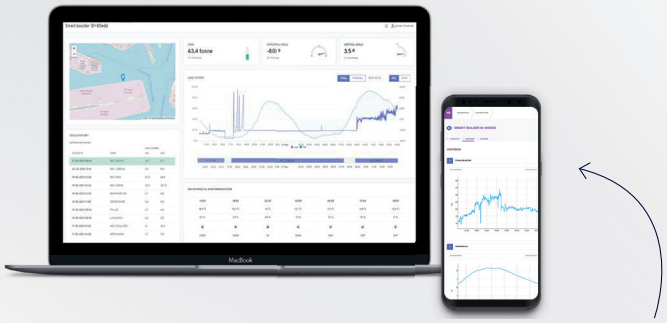

Real-time monitoring
With the Smart Bollard safety can be monitored in real-time. The actual data will be available for the port authority, terminal operator or the vessel itself.

The Smart Bollard is integrated in the Straatman MoorControl Software. This software is available in the cloud, accessible with every common browser. The dashboard provides all information necessary to fully use all capabilities of the Smart Bollard.

The following data is displayed and stored:
1) Load on bollard
2) Line direction
3) Line angle
4) Tide level
5) Weather data
6) Vessel history (AIS data)

With a friendly interface the administrator of the system can easily add users and set alarms. With the provided API all data can be accessed to be imported into other systems.

Technical Specifications

	RSB-120	RSB-180	RSB-240	RSB-300
Material	1,7231 G42CrMo4 +QT (EN10293)	1,7231 G42CrMo4 + QT (EN10293)	1,7231 G42CrMo4 + QT (EN10293)	G42CrMo4 + QT (EN10293)
SWL	120T	180T	240T	300T
Testload	180T	270T	360T	450T
Load Measuring Range	0-120T +/- 5%	0-180T +/- 5%	0-240T +/- 5%	0-300T +/- 5%
Direction Measuring Range	-80 - 80 degrees +/- 10 degrees	-80 - 80 degrees +/- 10 degrees	-80 - 80 degrees +/- 10 degrees	-80 - 80 degrees +/- 10 degrees
Angle Measuring Range	0 - 45 degrees +/- 20 degrees	0 - 45 degrees +/- 20 degrees	0 - 45 degrees +/- 20 degrees	0 - 45 degrees +/- 20 degrees
Weight	800 Kg	1100 Kg	1380 Kg	1650 Kg
Connectivity	Ethernet / Wireless	Ethernet / Wireless	Ethernet / Wireless	Ethernet / Wireless
Power supply	PoE / 24Vdc	PoE / 24Vdc	PoE / 24Vdc	PoE / 24Vdc

The Smart Bollard is developed and tested in close cooperation with Port of Rotterdam

"The Smart Bollard is the new tool to better understand mooring of vessels, increase safety and reduce downtime simultaneously. The Smart Bollard is an important part of our program to enhance safety in the port and making the port more efficient through innovation and digitisation."

Project Engineer | Port of Rotterdam

Check our website for more technical information or contact us!

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