SIRRAH
TS19 / SI19
Sway Sensor

POSITIONING SENSOR FOR CRANES' HOISTING SYSTEM

DESCRIPTION

SIRRAH is a sensor giving angle positions of a hoisting system fitted with an infrared transmitter : to use for sway measurement.
The coordinates are evaluated as plus or minus relative to the axis of the detector.
In its TS19 version, SIRRAH is improved for outside handling applications on container quay crane.

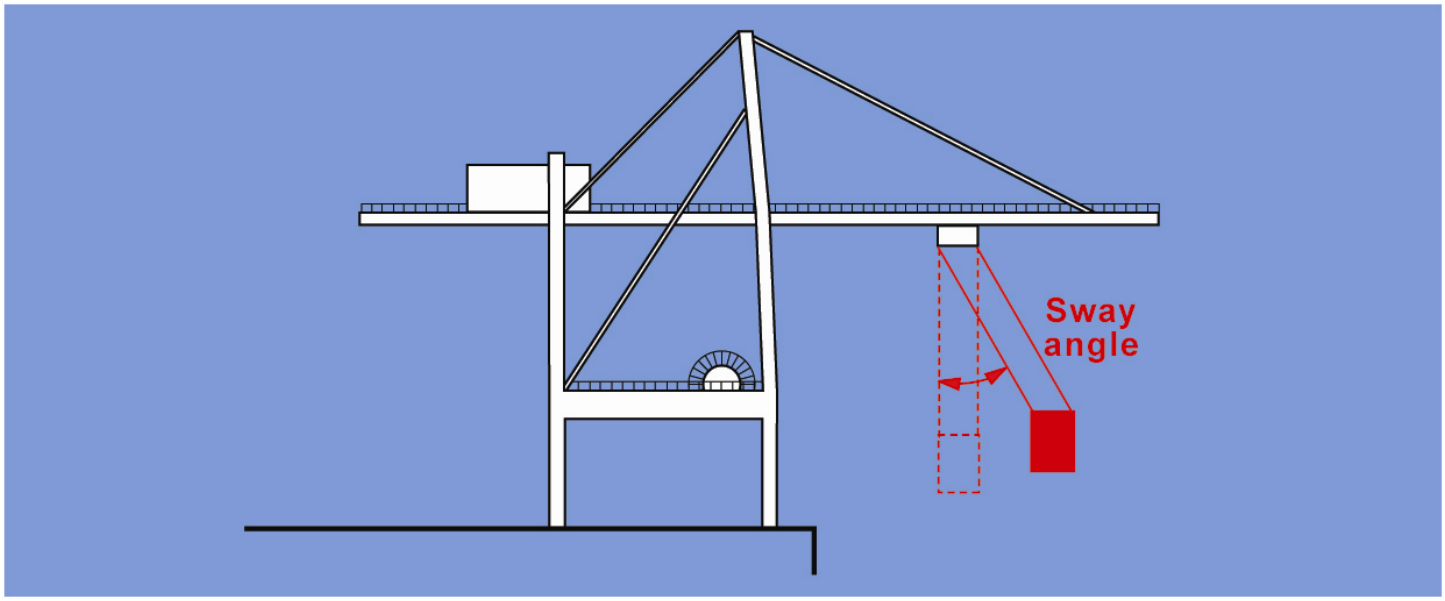
It is waterproof and insensitive to the ambient infrared.
The infrared beacon transmits I.R. modulated energy waves, which enables a good measure whatever the distance.
The safety measure is total.

USE

SIRRAH fixed on the crane trolley analyses the beacon position fixed on the spreader.
It is the sway sensor function or positioning sensor X,Y of a load.
Its high speed of measure enables itself to enter in a sway readjustment loop.

PRESENTATION

SIRRAH is presented in a monolithical way, in a box including optics, electronics and the processor for the measurement control. A calculator or a PLC (not provided) can be directly connected to SIRRAH to enable the use with several softwares.
SIRRAH is associated to one I.R. beacon to put on the spreader. It is independent from the sensor and synchronises itself automatically on SIRRAH.



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TECHNICAL SPECIFICATIONS

	Degrees	At 5 m in mm	At 25 m in mm
Numerical resolution	1/1000 two axis		
Sensor resolution at 200 Hz	10/1000	2	10
Sensor resolution at 20 Hz	3/1000	1	5
Long distance non linearity			
* Angle <2°	<0,05°		
* 2°< angle < 5°	<3% of the measurement		
* 5°< angle < 9°	<10% of the measurement		

Measurement frequency : Up to 200Hz in mode 1 "mono beacon": anti-sway function and X, Y positioning
Output frequency : Programmable by the outside calculator from 200 Hz to 1Hz
Average of measures : Programmable by the outside calculator from 1 to 255 values
Detector type : Optical : View angle of +/- 9° - Narrow band interferential filters
Infrared source : 880 nm LEDs beacon
Working distance : From 4 m to 40 m High resolution with beacon ref. BMU-02
From 4 m to 60 m Low resolution with beacon ref. BMU-02
Communication : With a serial line computer : RS422 or RS232 or with a Profibus interface
Power supply : 220VAC / 0,2A or 120 VAC / 0,4A 50/60 Hz
Environment : Working temperature : -20°C to +50°C (-40°C as an option)
Storage temperature : -40°C to +70°C
Protection : IP 54 / SI19 : IP 65
Weight : About 2,6 Kg
Dimensions : About 120 x 120 x 260 mm
Notes : All the results are given in R.M.S. values at 20°C
Software : Angular speed option choice
Display : One green LED + one red LED on SI19

OPERATING SPECIFICATIONS

Optical filtering of undesirable waves, by narrow band interference filter (40 nm)
Analogic signal and numerical filtering
Numerical position calculation and non linearity compensation of the electrical and optical sets

SALES REFERENCES

TS19 SIRRAH sensor +/- 9°
SI19 TS19 sensor included in BO35 protective housing + SCB13 cable + SCB4 cable
SI19-P TS19 sensor with Profibus interface included in BO35 protective housing + SCB15 cable + SCB4 cable
SCB4 Power supply cable 220 VAC **SCB13** RS422 cable **SCB15** Profibus cable
SCB5 Power supply cable 110 VAC **SCB14** RS232 cable
Associated beacon : Reference BMU-02

OTHER PRODUCTS OF THE RANGE

TS20 SIRRAH sensor +/- 8,8°
LS08 SIRRAH sensor +/- 7°
SI20 TS20 sensor + BO35 protective housing factory mounted
SI08 LS08 sensor + BO35 protective housing factory mounted

Nota : Non-contractual document - specifications may be subject to modification without prior warning / April 2010 / DCFP 009 11

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