SPICA
Optical detector

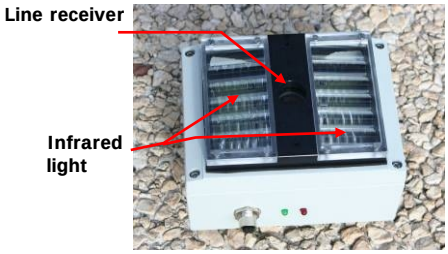
OPTICAL DETECTOR for STEEL WORKSHOP

APPLICATION

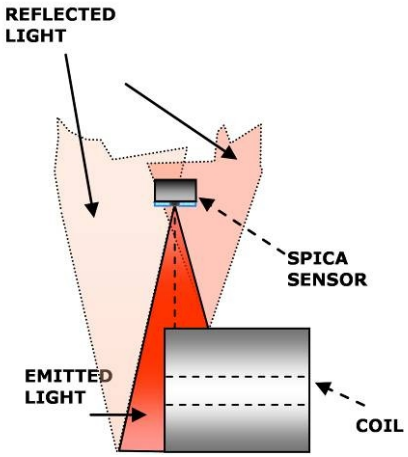
SPICA is an optical sensor which can be used in steel workshops for different applications :
- Detection of coil prior to handling with an OHB crane.
- Positioning of bridge crane on both axis X & Y.
- Restriction of certain areas for safety reasons (i.e. avoiding all collision hazards between a load being moved and the operator control cab on the ground).

SPICA sensor is associated to a central calculator designed to be connected up to 6 sensors and directly linked to the OHBC's PLC through an RS422 serial line.

Optical Sensor

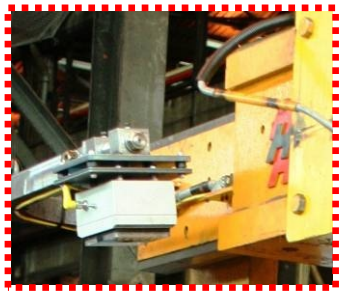


Calculator



MEASUREMENT PRINCIPLE

1D DETECTOR : One optical head integrates an infrared light which lights in a fan way around its vertical axis.
The emission standard angle is +/-8°.
In the other direction the beam is very narrow.
A receiver analyzes the received light and checks the reflection shape.
The internal processor analyzes the light and gives the angular position of object's edge regarding the sensor optical axis:
detection of square objects.
In an other functioning way the processor searches main line :
detection of a cylindrical object.



Multiple detectors : A calculator can receive up to 6 heads and combine these measurements to do a multiple degrees measuring system.
As an example three heads can position a coil on both axis X,Y.
The information received from the sensors allows the complete 2D positioning.

Environment : SPICA detectors are designed to work in a very harsh environment : shocks, vibration, humidity, temperature.

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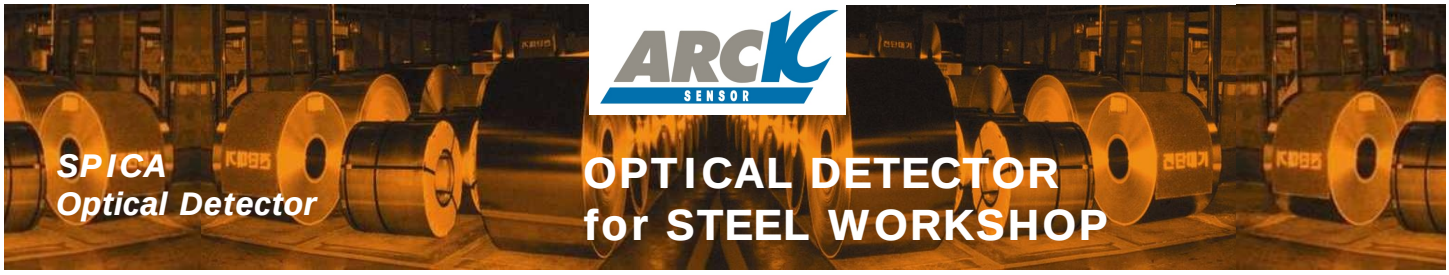

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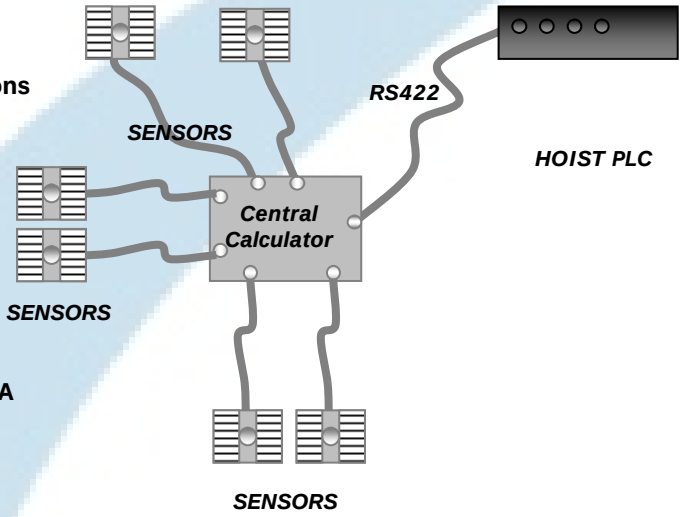
OPTICAL DETECTOR for STEEL WORKSHOP

TECHNICAL SPECIFICATIONS

PERFORMANCES

The standard performances of SPICA Ref. SOS38 are the following:

- Working range from 0,5 m to 3 m
- Angle : +/-8° i.e. +/- 250 mm at a 1600 mm-working distance
- Resolution 1D : 0,125°
- Frequency of measurement : 5Hz
- Interface : RS422
- Functioning temperature : - 20°C to + 60°C
- Storage temperature : - 30°C to + 70°C
- Protection : IP67
- Shocks : 25g 10msec
- Vibration : 10 to 50Hz 5G in three directions



CHARACTERISTICS

Dimensions of the optical head :
- Length 180 mm
- Width 140 mm
- Height 115 mm

Dimensions of the calculator :
L 220 mm, w 185 mm, H 100 mm

Electrical Characteristics :
230VAC 50 Hz - consumption: 50W / 250mA

Interfaces :
RS422

Main options :
Number of detectors variable from 1 to 6
Graphical software to install and supervise from a PC

SALES REFERENCES

SOS38-ST Optical sensor with a range of 3 m and +/-8°
Software included according to the required application :
CO : coil detection prior to hoisting or to centering / GE : coil detection in 2D / BC : brilliant coil detection prior to hoisting or to centering
SPC60-ST Central calculator in waterproof box for 6 optical sensors
Software included according to the required application :
CO : coil detection prior to hoisting or to centering / GE : coil detection in 2D / BC : brilliant coil detection prior to hoisting or to centering

SOS38-SF Optical sensor with a range of 3 m and +/-8°
Software included according to the required application :
SF : restriction of certain areas for safety reason
SPC60-SF Central calculator in waterproof box for 6 optical sensors
Software included according to the required application :
SF : restriction of certain areas for safety reason

SOS38-XY Optical sensor with a range of 3 m and +/-8°
Software included according to the required application :
XY : positioning of bridge crane on both axis X & Y
SPC60-XY Central calculator in waterproof box for 6 optical sensors
Software included according to the required application :
XY : positioning of bridge crane on both axis X & Y

SF and XY softwares can be installed in the same calculator.

SCA-05 Cable between calculator and OHBC's PLC – 5 meters long
SCA-10 Cable between sensor and calculator – 10 meters long

Nota : Non-contractual document - specifications may be subject to modification without prior warning / May 2009