

CRANE AUTOMATION AT STEEL WORKSHOP



AREA RESTRICTION FOR CRANES

SPICA[®] SAFETY is a global control positioning system for bridge cranes.

This stand alone security system detects the projection of the bridge's grip towards prohibited areas such as cabin operator or areas with products or dangerous equipment.

If the grip goes in direction of such area, the system will WARN and PROHIBIT the displacement of the bridge in the dangerous direction.



SPICA® SAFETY provides:

- stand alone security system
- restriction of specific areas freely configurable
- simple and cost effective electrical wiring
- contactless measurement system



Arck Sensor products will:

- Protect human working areas
- Avoid bridge's grip collision between production lines and machines
- Provide autonomous and efficient safeguard

Accurate and Robust:

The patented sensor technology, its specific design and ruggedness are approved for severe environments; ambient light immunity.

www.arck-sensor.com

ACCURATE ROBUST

safety concerns.

Since 1998, Arck Sensor has been

OUR EXPERTISE IN τοματ

Load movement measurement

Area restriction

Anti-collision



AREA RESTRICTION FOR CRANES



DISPLAY

Required material

Two sensors SPICA® Ref. SOS38-SF One calculator Ref. SPC60-SF One relay board Ref. SPB10

SPICA® SAFETY system avoids an OHBC to enter on protected zones of a warehouse.

Two SPICA® sensors detect reflective and coded targets on the OHBCs beams on both axis X and Y. These targets are installed on the bridge beam and on the trolley beam, they are adhesive painted paper using a special bar code stencil set to identify each reflective target.

Sensor has been developed to see reflective targets on 70% of its field of vision. Targets are 200 mm long.

When a target of protected area is detected, the system opens a relay and prohibits the crane movements in this direction.

Then, the bridge crane reduces its speed and stops completely at the limit of this protected area. The system will open the

appropriate relay when a target is detected allowing only the right movements to move outside the protected area. It also manages specific targets indicating decelerations and travel ends of the bridge crane.

There exist 4 relays for the restricted movements. 4 relays for decelerations and stops and 1 relay of good functioning of the system.

An RS422 interface allows connection to a PC of programming and maintenance.

SPICA[®] SAFETY is a security system because is independant from the crane PLC and electrical cabinet: there is no link with crane's PLC ; SPICA® central calculator stops the movement directly in the drive system.



Composition

- 2 sensors for translation movement and direction movement detection
- 1 electronic relay board
- 1 calculator for centralizing data located in the bridge
- 1 display for visual information: X targets in direction and Y targets in translation



Targets

The target is a specific bar code mounted on the beam of the bridge crane. There are 127 different codes to set specific bridge crane configuration and 2 sizes for measuring distance of 500mm or 1000mm.



CONTACT US

31520 RAMONVILLE ST AGNE FRANCE contacts@arck-sensor.com