SAFARID products (ref XCSR…) is a new range of contactless safety interlock switches.

The objective of SAFARID products is to detect the position of a guard (e.g a door or a gate) monitoring the access to a dangerous area.

SAFARID products are SRP/CS (Safety-Related Parts of a Control System) designed to prevent the operation of dangerous machine elements under specified conditions (e.g. as long as a guard is not closed).

These products are based on RFID technology (operating with a carrier frequency of 13,56 MHz) allowing to reach a high coding level between the actuator and the switch, and complying with ISO 14119 type 4 interlocking device definition.

A SAFARID safety interlock switch is composed of a SAFARID reader and an SAFARID transponder (also named "tag"), associated and delivered together in same packaging.

The SAFARID reader must be mounted on the fixed part of the machine guard, while the SAFARID transponder must be mounted on the moving part.

Photographies below show the external views of SAFARID readers and transponder :

Single
(108 x 30 x 15 mm)

Daisy-chain
(119 x 30 x 15 mm)

Stand-alone
(108 x 30 x 15 mm)

Transponder
(50 x 15 x 15 mm)

SAFARID product range is composed of 3 main versions:
- "Single" : basic version for connection to the machine through a safety interface, module or PLC,
- "Daisy-chain" : same as "Single", but provided with 2 connectors for easy chaining of several switches inside a loop,
- "Stand-alone" : enhanced version for direct connection to the machine, including EDM and manual or automatic start/restart functions.

Each version is available in 2 models :
- 1 time pairing capacity,
- 3 times pairing capacity.

Other versions with different pairing capacities (e.g 5 times, 10 times, …, unlimited pairing) can be created on demand of customers by software final configuration during manufacturing process.

All versions/models within this range share the same mechanical and electronic parts, use the same emission frequency and power, but may differ from :
- the absence/presence of monitoring (EDM) and start functions,
- their chaining ability,
- their pairing capacity (maximum number of pairing allowed).

Concerning readers, following table presents the electronic boards used in the different versions and shows which are common/different for each of them :

Version	Reference	Antenna board Part No. – rev.	Main board Part No. – rev.	Comments
Single	XCSRC10M12	NHA15952 – 04	EAV25006 – 08	Factory paired, no new pairing
Single	XCSRC30M12	NHA15952 – 04	EAV25006 – 08	Factory paired, 3 new pairing allowed
Stand-alone (automatic)	XCSRC11AM12	NHA15952 – 04	NVE68568 – 03	Factory paired, no new pairing
Stand-alone (automatic)	XCSRC31AM12	NHA15952 – 04	NVE68568 – 03	Factory paired, 3 new pairing allowed
Stand-alone (manual start)	XCSRC11MM12	NHA15952 – 04	NVE68568 – 03	Factory paired, no new pairing
Stand-alone (manual start)	XCSRC31MM12	NHA15952 – 04	NVE68568 – 03	Factory paired, 3 new pairing allowed
Daisy-chain	XCSRC12M12	NHA15952 – 04	EAV25006 – 08	Factory paired, no new pairing
Daisy-chain	XCSRC32M12	NHA15952 – 04	EAV25006 – 08	Factory paired, 3 new pairing allowed

Inside readers, all radio related functions and/or components (e.g RFID controller, cristal oscillator, antenna coil, …) are located on the antenna board.
As shown in table above, all reader versions use the same antenna board.
Therefore, all product versions have same radio characteristics and performances.

"Single" and "daisy-chain" versions use also the same main board, while "stand-alone" versions use a different one (same PCB but with different components implementation). These differences have no effects on radio characteristics.

From radio emissions point of view, the SAFARID transponder is a passive component.