

# FERSIL

## SATURN

EN50155 platform  
For safety remote  
Inputs / Outputs  
Mixed SIL0, SIL2, SIL4 I/O network  
Programmable safety Controller



# SATURN PROGRAMMABLE SAFETY I/O NETWORK

FERSIL The railway product range of Clearsy

# SATURN

## SYSTEM DESCRIPTION

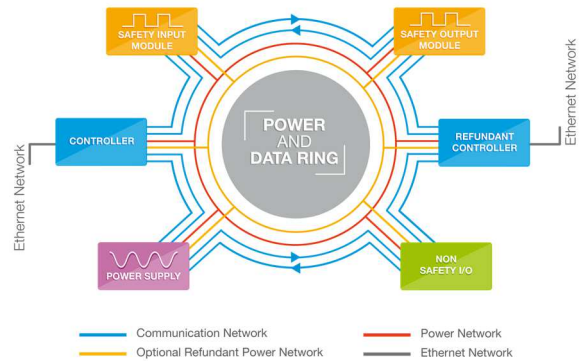
SATURN is a new platform featuring high-robustness and availability for safety solutions. As a railway remote I/O management solution, it is easy to configure and very efficient. This platform reduces the cabling architecture and associated cost.

## SYSTEM ARCHITECTURE

The SATURN basic system architecture includes:

- One or several controller module
- One power-supply module
- One or several I/O modules
- The I/O modules manage system I/O as close to the needs.

The controller acts as the system manager. It collects periodically all the input signal states and drives the outputs through the dedicated communication ring network. In addition, the gateway implements programmable logical algorithms that allow to manage autonomously safety input and output signals. The power-supply module delivers a pure power supply to all the other SATURN agents from the train battery power rail.



Safety module dimension : 262 x 110 x 49 mm

## TECHNICAL FEATURES

- 72 V Power supply, other voltage on demand
- Up to SIL4 functions
- Up to 1 km between modules
- Data rate up to 12 Mbits/s for 100 m repetition distance
- Up to 128 module per ring
- Wiring cost saving
- Assembly: 3U rack or standalone panel-mounting
- Safety logical functions can be integrated into the gateway module
- An integrated work bench (for configuration, maintenance and diagnostic)
- Availability: 100% network operability during a single failure
- EN50155, EN50129, EN50128, EN50159 compliant



■ SATURN Safety modules

## INTEGRATION AND FEATURES

Based on an open protocol (available on demand), the SATURN platform is a product portfolio built on a generic concept. It supports mixed heterogeneous configurations of SIL0, SIL2, and SIL4 modules on the same unique copper cable or fibre optic-based communication network.

SATURN allows system engineers to design fully integrated, efficient, and cost effective I/O management systems for train operations with both safety-critical and non-safety-critical equipment on the same data network.

The SATURN platform can be expanded by adding self-contained or custom I/O modules to match any application requirements.



■ SIL2 certificates

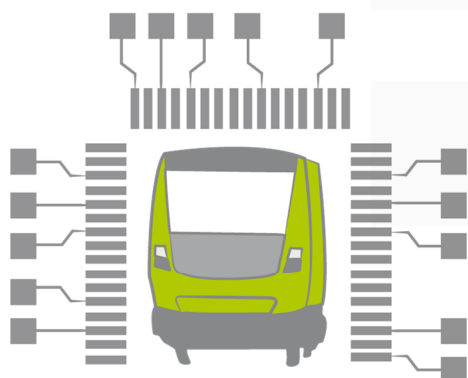


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**CLEARSY**  
SYSTEM ENGINEERING



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