



# VITAL COMPUTER

## Product Description

Vital Computer is a modular, scalable and configurable high security (SIL4) computer used in different applications in the field of railway transportation signaling including both onboard and wayside.

## Application Areas

- ERTMS (European Railway Traffic Management System) Level 1/2 Onboard ATP System
- CBTC (Communication Based Train Control) On-board ATP System
- ERTMS RBC (Radio Block Control) / RIU (Radio Infill Unit) / LEU (Lineside Electronic Unit) Control Units
- CBTC Zone Control Unit
- Interlocking Control Unit

## Main Features

- Applicable to systems having different safety integrity levels up to SIL4
- System availability of 99.9999%
- High rate of diagnostics
- Redundant and flexible design architecture
- Software architecture supporting secure communication protocols
- Easy installation, maintenance and testability via front panel
- Configurable system parameters
- Adaptive Input/Output (I/O) interfaces
  - Expandable and adaptable split vital line interfaces
  - Different odometer sensors (doppler radar, tachometer, serial communication and analog connection for accelerometer interfaces)
- Profibus and Ethernet communication interfaces
- Compatibility with standard racks of 3U height and 19" width

## Technical Specifications

### Processor

- 1002D Safety architecture
- Xilinx Zynq-7020 System On Chip (SoC), Dual Core ARM Cortex-A9 processor (max. 866Mhz)
- Intel Cyclone-V System On Chip (SoC), Dual Core ARM Cortex-A9 processor (max. 925Mhz)

### Interface

- 6x Gigabit Ethernet ports
- 2x Boot/Log interface
- 4x Secure communication interface
- 10x configurable I/O slots
  - 4 Channel vital card / slot
  - 4 Channel vital output card / slot
  - 4 Channel analog input card / slot
  - 4-Channel tachometer interface card / slot
  - Doppler radar interface card / slot
- 4x RS422/485 Serial channel interface (1x Profibus)

### Thermal & Mechanical Data

- Cooling Method : Air
- Weight : 6.5 kg
- Operating Temp. : - 25 °C / +70 °C
- Storage Temp. : - 40 °C / +85 °C
- Dimensions : 482mm x 282mm x 132mm

### Standards

- Electrical : EN 50126, EN 50128, EN 50129, EN 50155, EN 50159, EN 50124-1, EN 50124-2, EN 61375
- Fire : EN 45545
- Mechanical : EN 61373
- EMC : EN 50121-3-2