CONVINCING USER BENEFITS OFFER SIGNIFICANT COST ADVANTAGES

- Generically and openly programmable, TÜV qualified, highly flexible SIL CPU shortens the approval process of new vehicles, as well as for retrofitting work over the entire vehicle lifecycle.
- High computing power and large memory simplify application engineering.
- Multitasking and multi-application reduce engineering and hardware costs.
- Independent virtual PLC controllers (hypervisors) offer different applications in one device.
- Versatile communication protocols offer gateway functionality and easy integration into TCMS.
- Division into safety-relevant and non-safety-relevant applications in one device structures TCMS architectures and simplifies vehicle approvals.
- Safety Integrity Level up to SIL 4 with decentralized SIL 4 I/O node modules offers completely new fields of application.
- Independent SIL applications on one control hardware that do not interact with each other reduce recurring equipment costs.

- Security by Design & Defense in Depth (IEC 62443) offer protection against inadvertent and deliberate data manipulation.
- Optional DIN rails or 19" mounting (3 RU) simplifies control cabinet mounting.
- Pre-certified, integrated toolchain and operating system simplify application engineering and vehicle approvals.
- Flexibly extendable with communication and function modules, i.e. maximum flexibility and efficient "just enough" architectures.
CONSISTENT AND USER-FRIENDLY SYSTEM

CHARACTERISTICS / DESCRIPTION

The new CPU 94x family of vehicle control units is revolutionizing the control architecture of modern rail vehicles. For the first time it is possible to virtually integrate several independent, user-programmable controllers (PLCs) into one device. Different applications such as vehicle control, TCMS, traction, brake and diagnostics run simultaneously, independently and without feedback on a single certified vehicle control unit. Safety-relevant and non-safety-relevant applications are clearly separated from each other without feedback. They have been developed according to the high standards for safety (up to SIL 4) & cyber security (IEC 62443) and thus offer optimum protection for people and systems.

TECHNICAL DATA

- Quad Core 64-bit ARM®-based processor 1.6 GHz
- Hypervisor operating system
- 3 x Gigabit Ethernet
- 1 x USB device
- Electrical power supply 24 – 110 V DC
- 2 x rotary switches for configuration
- Memory card

Selectron Systems AG
Bernstrasse 70
3250 Lyss
Switzerland
Tel: +41 32 387 61 61
Fax: +41 32 387 61 00
WWW.SELECTRON.CH

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