66

Equipment for testing electronics used in automatic sanitary facilities

Bc. Andrii Shumenko, Bc. Dániel Botos, Bc. Volodymyr Denysenko
Ing. Peter Mikluš   SENZOR, s.r.o.   prof. Ing. Alena Pietriková, CSc.

Problem Description

Modern automatic sanitary devices contain microprocessor-based electronics. Failures can cause water leakage, hygiene risks and financial losses. Reliable pre-deployment testing is therefore essential.

Solution Architecture

The solution is based on Siemens Desigo PXC4.E16 PLC. Tested modules communicate via RS485 using Modbus RTU. The system is implemented as a compact testing cabinet.

Key Features

- Configurable I/O
- Modbus RTU diagnostics
- Fault simulation
- Automated test sequences
- BMS compatibility

Usage State

The PLC simulates real operation of sanitary devices, monitors sensor responses and evaluates communication and logic correctness. Test profiles can be changed without hardware modification.

Evaluation

The proposed solution enables efficient and repeatable testing, improves reliability of sanitary electronics and is suitable for development, production and education.

LIVE IT PROJECTS

investechskills
Košice 2026