HiOS Operating System

Hirschmann develops HiOS software to meet the functional and performance requirements of modern industrial networks.

Based on more than twenty years of experience with industrial network configuration and operation.

Key Features

- Developed for Industrial networks
- Extensive range of security functionality
- Standard and proprietary redundancy technologies
- Supports converged and real-time networks
- Switching and routing functionality
- Industrial management protocols
- Single operating system for a complete range of hardware platforms
- Ensures functional compatibility across all network devices

Security – comprehensive functionality to build a secure network foundation.

Redundancy – multiple technologies to match industrial network topologies.

Ease of Use – intuitive interfaces for rapid network deployment and effortless operation.

The user-friendly Industrial HiVision network management software offers extensive configuration and monitoring functionality, both for products with installed HiOS software and for third-party devices.
Your Benefits

Highest network security and availability

The Hirschmann Operating System (HiOS) is an in-house development, designed right from the start to support the requirements of industrial networks. Its intuitive graphical user interface and familiar command line interface appeal to both automation engineers and IT specialists. Effortless configuration ensures rapid network deployment at minimum cost. New software versions are released at regular intervals, which results in a future-proof investment. The HiOS secure product development lifecycle is independently certified according to IEC62443-4-1.

Security is a key requirement for industrial networks, and HiOS provides a wealth of functionality. User accounts are controlled by configurable roles, password policy, RADIUS, and LDAP. Access to the network is permitted by port security, 802.1X authentication, and MAC Authentication Bypass. HiOS can protect against Denial of Service attacks. It uses DHCP Snooping to enable Dynamic ARP Inspection and IP Source Guard. Access Control Lists provide wire speed data filtering. A permanent Audit Trail contributes towards regulatory compliance.

Redundancy forms the basis for high availability networks. HiOS supports standard mechanisms such as MRP and MSTP. Proprietary techniques like Ring Coupling Protocol and sub-rings accommodate the unique topology requirements of industrial networks. For applications which must have zero packet loss, PRP and HSR match the specification.

Multicast control protocols such as IGMP allow precise control over industrial applications and video surveillance systems. TSN sustains converged multi-application networks, as well as real-time control systems.

VLANs can be based on port number, MAC address, protocol, or IP subnet. Private VLANs simplify port isolation. Quality of Service is achieved using DiffServ.

RIP and OSPF provide unicast routing. Multicast routing is available through PIM and DVMRP. VRRP achieves router redundancy. Address mapping is via 1:1 NAT.

HiOS has extensive support for SNMP over IPv4 and IPv6. Out-Of-Band management increases availability of the user interfaces. Scripting allows bulk device configuration. Other management protocols include EtherNet/IP, Profinet, Modbus/TCP, IEC61850, and OPC-UA.

HiOS combines sophisticated functionality with ease of use. Two versions of software can be stored in a device. Removable external memory allows devices to be replaced without tools. Configuration changes can be backed-up automatically. Products running HiOS can be delivered with customized factory defaults.

Application

HiOS runs on the following switch families: DRAGON MACH, GREYHOUND, OCTOPUS, MSP, RSP, RSPL/RSPS/RSPE, BOBCAT, RED, RDD, EES, EESX.

Markets

HiOS was developed specifically to meet the requirements of industrial networks. Examples include:

- Automotive production
- Transportation
- Power transmission and distribution

With HiOS you have access to the widest range of standard functions and special features for the industrial automation sector.