HRB-140

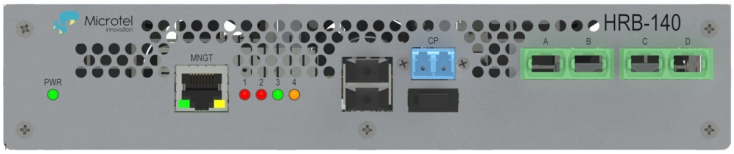
High Reliability Optical Bypass Switch

Technical Data Sheet

Microtel innovation

Product Description

HRB-140 Optical Bypass Switch

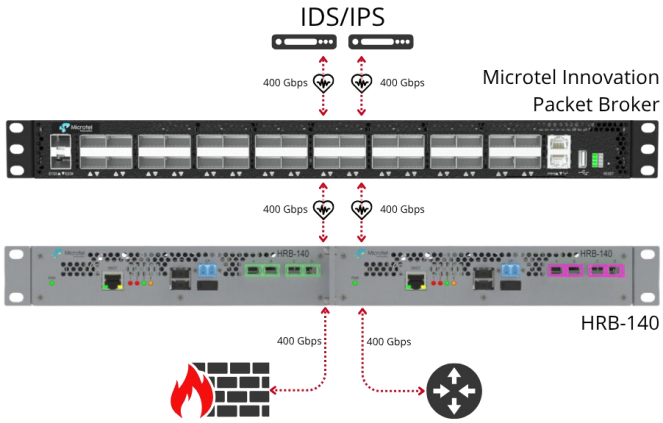


Microtel Innovation HRB-140 serves as a fail-safe access port for an in-line active security appliance, such as intrusion prevention systems (IPS), intrusion detection systems (IDS), web application firewalls (WAF), next-generation firewalls (NGFW), and other network devices and appliances.

The Optical Bypass Switch ensures the prevention of any Single Point of Failure (SPOF) by automatically redirecting traffic to maintain the critical network link's activity. Utilizing bidirectional heartbeat packets, the HRB-140 regularly monitors the health and performance of these tools.

Additionally, manual bypass switch operation mode is supported, enabling users to conduct maintenance on their in-line appliances without disrupting network traffic flow, thereby minimizing system downtime.

Furthermore, it seamlessly integrates with Microtel Innovation packet brokers, ensuring optimal performance and streamlined operation within network infrastructures.



The diagram showcases a hypothetical deployment scenario featuring the HRB-140 alongside a Microtel Innovation Packet Broker, incorporating essential elements such as IPS and IDS.

Highlights

- **Supports up to 8x10/25 Gb/s links or 2x40/100/400 Gb/s links.**
- **Accommodates up to 2xBypass Switches in 1RU (modular chassis).**
- **Guarantees zero latency for seamless data traffic management.**
- **Offers automatic or manual bypass functionality.**
- **Maintains uninterrupted network uptime with the bidirectional heartbeat function.**
- **Features a user-friendly Web-GUI.**
- **Adaptable to any speed and fiber mode type for versatile deployment.**

HRB-140 — Technical Specifications

Versions	• SINGLE Optical Bypass Switch: up to 4x10/25 or 1x40/100/400 Gb/s optical links • DUAL Optical Bypass Switch: up to 8x10/25 or 2x40/100/400 Gb/s optical links
Link Types	• 10/25 Gb/s - Multi-Mode and Single-Mode fiber • 40/100/400 Gb/s - Multi-Mode and Single-Mode fiber
Optical Parameters	• Switching time < 8ms • Insertion loss < 2dB • Cross-talk > 75dB • Return loss > 50dB

HRB-140 — Ordering Information

HRB-140-1-MM/AC	SINGLE Optical Bypass Switch, Multi-Mode, 10/25/40/100/400 Gb/s, redundant AC power
HRB-140-2-MM/AC	DUAL Optical Bypass Switch, Multi-Mode, 10/25/40/100/400 Gb/s, redundant AC power
HRB-140-1-MM/DC	SINGLE Optical Bypass Switch, Multi-Mode, 10/25/40/100/400 Gb/s, redundant DC power
HRB-140-2-MM/DC	DUAL Optical Bypass Switch, Multi-Mode, 10/25/40/100/400 Gb/s, redundant DC power
HRB-140-1-SM/AC	SINGLE Optical Bypass Switch, Single-Mode, 10/25/40/100/400 Gb/s, redundant AC power
HRB-140-2-SM/AC	DUAL Optical Bypass Switch, Single-Mode, 10/25/40/100/400 Gb/s, redundant AC power
HRB-140-1-SM/DC	SINGLE Optical Bypass Switch, Single-Mode, 10/25/40/100/400 Gb/s, redundant DC power
HRB-140-2-SM/DC	DUAL Optical Bypass Switch, Single-Mode, 10/25/40/100/400 Gb/s, redundant DC power

Operating Specifications	Electrical Specifications	Mechanical Specifications	Certifications
• Operating temperature: 0°C to 45°C • Storage temperature: —10°C to 70°C • Relative Humidity: min 10% max 95% non-condensing	• 90÷250 Vac 47÷63 Hz redundant hot swap power modules • -48 Vdc redundant hot swap power modules • Max consumption: 90 W	• Base unit surface or 19" rack mount • Dimensions (WxDxH): 483 mm W, 425 mm D, 44 mm H • Weight (Dual Optical Bypass Switch): 8 Kg	• CE Mark • Fully RoHS compliant • FCC