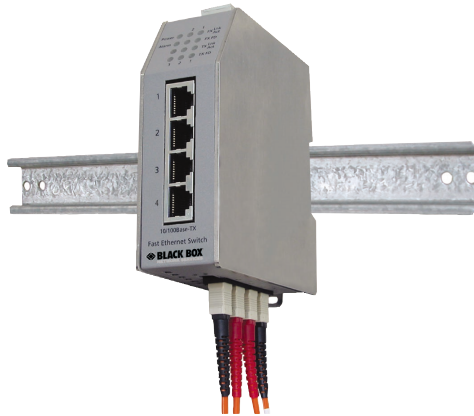




# BLACK BOX<sup>®</sup>

## NETWORK SERVICES

### Industrial Intelligent Ethernet Switches with Fibre Ring Function



#### Key Features

- ▶ 5-Port Switch, (4) 10/100Base-TX, (2) 100Base-FX.
- ▶ IP Protection Class 20 compliant
- ▶ <100ms Switch-over time for redundant fibre applications.
- ▶ Extended Operating Temperature -20 up to +60°C.
- ▶ Full VLAN functionality & Data prioritisation.
- ▶ Built-in Management Agent for Web based, Telnet and SNMP Management.
- ▶ GUI Management Tool for efficient graphical configuration, administration and management.
- ▶ Dual Power inputs.

#### The rise of Ethernet

Ethernet has been used in the controlling level of industrial applications for many years. Ethernet is continuing to beat the field bus technologies used to date in coupling equipment controls, sensors and actors. Process error-tolerant network components are absolutely essential because the network availability has a direct effect on production. For that reason, the Black Box Intelligent Industrial Ethernet Switches incorporate a mechanism that enables the Ethernet network to be reconfigured within milliseconds if an error occurs - for example a fibre link break. (see diagram)

#### Management

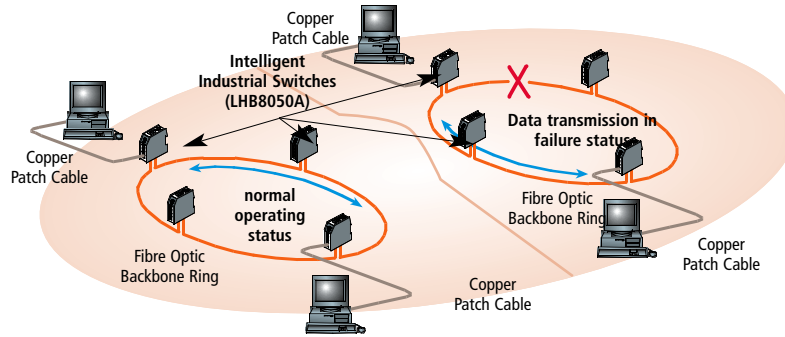
The switches can be configured and monitored either by SNMP, TELNET or a PC-based management tool (Device Manager). The firmware can be updated in-field using via the Device Manager Software or TFTP upload. All intelligent switches are shipped with standard firmware for management with Device Manager Software. See firmware options for additional protocol support.

#### Redundant Power Supply

These Industrial Switches are designed in a suitably robust construction with integrated clamping device for direct 35-mm DIN-rail mounting. The power supply of the devices is done by an external, central power supply unit. With the second power input, the device can accept a redundant power source. All electrical ports are either galvanic isolated or equipped with an effective over-voltage protection.

#### What's included:

- (1) Switch
- (1) Manual on CD-ROM
- (1) Device Manager software on CD-ROM



## Specifications

**Standards** —  
IEEE 802.3 10Base-T Ethernet; IEEE 802.3u 100Base-TX, 100Base-FX Fast Ethernet

**Switching Mechanism** —  
Store-and-Forward

**Indicators** —  
Per Switch: Power LED, Alarm LED;  
Per port: Link LED, Activity LED,  
FDX/HDX LED

**Management** —  
Configuration: through included Device Manager Software; or through TELNET & SNMP with the optional Extended Firmware Package (LHB8200-FW11).

Monitoring: through Web browser or Device Manager; or through TELNET & SNMP with optional Extended Firmware Package.  
Software configuration settings —  
Port on/off; autonegotiation on/off; autocross on/off; speed, H/FDX; Data prioritisation (QoS): 2 priority queues, Hardware-based (fixed port priority), VLAN Tag-based (IEEE 802.1p/Q) and IP-based (Diffserv Codepoints); VLAN filtering, max. 16 VLANs per Switch,

Port VLAN tagging/untagging  
MAC addresses —  
1KB MAC address entries

**Number of ports** —  
(4) 10/100Mbps auto-negotiation MDI/MDX Copper ports; (2) 100Mbps Fibre Duplex SC/ST, Multimode or Single Mode; (2) input ports for Power

**Connectors** —  
data: (4) RJ-45 STP + (2) Fibre duplex ST/SC; power: (2) 2-position terminal blocks

**Temperature Tolerance** —  
Operating: -20 to +60°C; Storage: -20 to + 80°C

**Humidity Tolerance** —  
Operating: 5 to 90% non-condensing

**Power** —  
Dual input (main + redundant) 18-36VDC/maximum 300 mA@24VDC from External power supply (e.g. LHB8000-PS)

**Size** —  
10.8D x 3.8W x 11.6H mm

**Weight** — 0.93 Kg

**Safety and EMI certificates** — CE

## Ordering information

**ITEM**

**CODE**

### Intelligent Industrial Switches

(4) 10/100 STP + (2) Fibre Optic ports...  
Multimode ST .....LHB8050A  
Multimode SC .....LHB8051A  
Single Mode ST .....LHB8055A  
Single Mode SC .....LHB8056A

### Extended Firmware Package

(SNMP & Telnet support) .....LHB8200-FW11

**ITEM**

**CODE**

### Power Supply

Power Supply (DIN-rail mountable) for up to 6 devices ...LHB8000-PS

### Accessories

DIN Rail, 1-m .....DR100

## Black Box Network Services - The world's largest network services company

We are, with 25 years of experience, the world leader in network infrastructure services.

**On the Phone** — no charge, answer calls in less than 20 seconds, find the right product with our technical experts.

**On-site** — superior design and engineering, Certified installations, end-to-end service.

**On-line** — receive technical knowledge on-line, including technology overviews, Black Box Explains and the Knowledge Box.

**Most comprehensive TECHNICAL SUPPORT** — our best Product! Free hotline TECH SUPPORT!

**The world's best customer service** — Custom design services and products, the best warranties, money-saving discount programs.

**BLACK BOX exclusives** — Certification Plus. Guaranteed-for-life products and services.