

# LBT412BGS-SFP

## 12-port 10//100/1000BASE-TX+4G SFP Managed Industrial Switch



**LBT412BGS-SFP** is a hardened 16-port Industrial Ethernet Switch, provides non-blocking wire-speed performance in harsh industrial environment. It provides 12-port 10/100/1000BASE-TX RJ45 +4G SFP delivered in an IP40 rugged, strong case with redundant power system. Its slim case is suitable for such applications as surveillance system deployments, control management and wireless service in climatically demanding environments with wide temperature range from  $-40^{\circ}\text{C}$  to  $80^{\circ}\text{C}$ .

The **LBT412BGS-SFP** provides the flexibility to all kinds of 10//100/1000Mbps Ethernet Media on RJ-45 port and performs highly stable fiber performance.

The **LBT412BGS-SFP** is packaged in a compact IP40 case that allows either DIN rail or panel mounting to have efficient usage of cabinet space. It provides an integrated power supply with a wide range of voltages for worldwide operation. It also offers dual-redundant, reversible polarity 12V DC to 52V DC power supply inputs for high availability applications requiring dual or backup power inputs.

### Features

- Data control: support 802.3x full duplex flow control, support network storm suppression
- Redundant network: support STP/RSTP/MSTP, support ERPS (self-healing time <20ms)
- Support IPv6, static routing
- Support DHCP Server, DHCP replay, QoS, IGMP Snooping
- Support port-based VLAN Port, IEEE 802.1Q VLAN and GVRP protocol, simple network planning
- QoS: Support QoS (IEEE 802.1p/1Q) and TOS/ Diffserv to increase network stability
- Security management: support ACL access control list, support 802.1x, support user classification management
- Management function: support Web, SNMP management mode
- Monitoring maintenance: support port mirroring, interface status monitoring, log management
- Support 1588 clock protocol

## Specifications:

|                           |                                                                                                                                              |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Model No.                 | LBT412BGS-SFP                                                                                                                                |
| 1000Base-TX Port          | 12 port RJ-45 auto-MDI / MDI-X                                                                                                               |
| 1000Base-FX Port          | 4G SFP Slot                                                                                                                                  |
| Performance Specification | Bandwidth(switch capacity): 106Gbps<br>Packet Buffer Memory:16Mbit<br>Packet Forwarding Rate: 78Mpps<br>MAC Address Table: 8K                |
| Installation              | DIN rail                                                                                                                                     |
| Maximum Frame Size        | 9600bytes                                                                                                                                    |
| Flow Control              | Back pressure for half duplex, IEEE 802.3x pause frame for full duplex                                                                       |
| Enclosure                 | IP40 aluminum housing                                                                                                                        |
| LED Indicator             | Power: Red<br>Fiber: Link 2(Green)<br>Ethernet: Yellow                                                                                       |
| Power Input               | 12 to 52V DC redundant power                                                                                                                 |
| Power Consumption         | <10 watts                                                                                                                                    |
| Surge protection          | ± 4KV                                                                                                                                        |
| Network Protocols         | IEEE802.3 10BASE-T;<br>IEEE802.3i 10Base-T;<br>IEEE802.3u;100Base-TX/FX;<br>IEEE802.3ab 1000Base-T;<br>IEEE802.3z 1000Base-X;<br>IEEE802.3x; |
| Network cables            | 10BASE-T: Cat3,4,5 UTP(≤100 meter)<br>100BASE-TX: Cat5 or later UTP(≤10meter)<br>1000BASE-TX: Cat6 or later UTP(≤100 meter)                  |
|                           | EN55022/CISPR22, Class A<br>IEC61000-4-2 (ESD): ±8kV (contact), ±12kV (air)                                                                  |

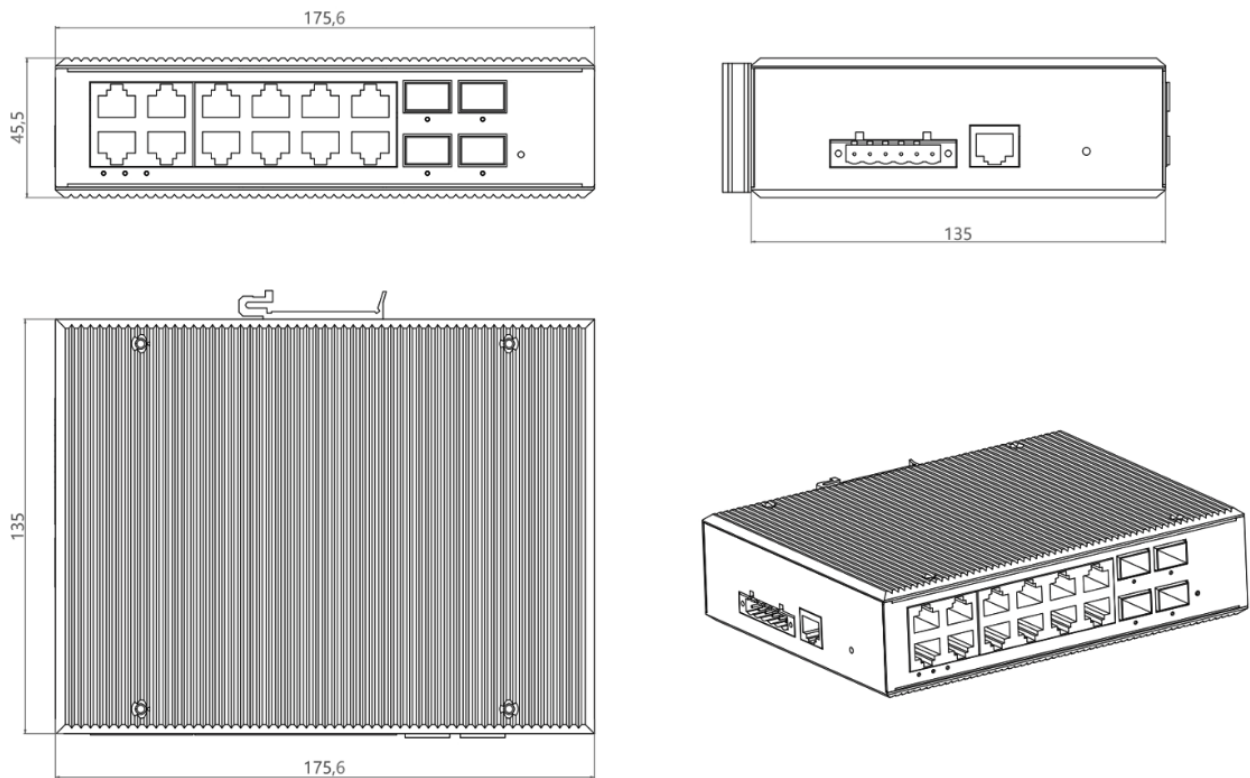
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|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Industry Standard      | <p>IEC61000-4-3 (RS): 10V/m (80~1000MHz)</p> <p>IEC61000-4-4 (EFT): Power Port: <math>\pm 4\text{kV}</math>; Data Port: <math>\pm 2\text{kV}</math></p> <p>IEC61000-4-5 (Surge): Power Port: <math>\pm 2\text{kV/DM}</math>, <math>\pm 4\text{kV/CM}</math>; Data Port: <math>\pm 2\text{kV}</math></p> <p>IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz)</p> <p>IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)</p> |
| Certification          | CE RoHS compliance                                                                                                                                                                                                                                                                                                                                                                                                                            |
| MTBF                   | >300,000hours                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Dimensions (W x D x H) | 175 x 135 x 45.5 mm                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Weight                 | <p>Product Weight: 1KG</p> <p>Packing Weight: 1.1KG</p>                                                                                                                                                                                                                                                                                                                                                                                       |
| Working Environment    | <p>Working temperature: <math>-40\sim 80^{\circ}\text{C}</math> ;</p> <p>Storage temperature: <math>-40\sim 80^{\circ}\text{C}</math></p> <p>Relative Humidity: 5%~95 % ( no condensation)</p>                                                                                                                                                                                                                                                |
| Warranty               | 5-year warranty.                                                                                                                                                                                                                                                                                                                                                                                                                              |

## Management features:

|                  |                                                                                                                                                                                                                                                                        |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Interface        | <p>IEEE802.3X (Full-duplex), Port temperature protection setting</p> <p>Port green Ethernet Energy-saving setting Broadcast storm control based on port speed. The speed limit of the message flow in the access port.</p> <p>The minimum particle size is 64Kbps.</p> |
| Layer 3 Features | <p>L2+ network management, IPV4/IPV6 management L3 soft routing forwarding,</p> <p>Static route, Default route @ 128 pcs, APR@1024pcs</p>                                                                                                                              |
| VLAN             | <p>4K VLAN based on port, IEEE802.1q</p> <p>VLAN based on the protocol</p> <p>VLAN based on MAC</p> <p>Voice VLAN, QinQ configuration</p> <p>Port configuration of Access, Trunk, Hybrid</p>                                                                           |
| Port Aggregation | <p>LACP, Static aggregation</p> <p>Max 8 aggregation groups and 8 ports per group.</p>                                                                                                                                                                                 |
| Spanning Tree    | STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)                                                                                                                                                                                                                 |

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| Industrial Ring  | G.8032 (ERPS), Recovery time less than 20ms                                                                                                                                                                                                                                                                                                  |
| Network Protocol | 250 Ring at most, Max 250 devices per ring. Multicast                                                                                                                                                                                                                                                                                        |
| Multicast        | MLD Snooping v1/v2,Multicast VLAN<br>IGMP Snooping v1/v2, Max 1024 multicast groups, Fast log out                                                                                                                                                                                                                                            |
| Port Mirroring   | Bidirectional data mirroring based on port                                                                                                                                                                                                                                                                                                   |
| QoS              | Flow-based Rate Limiting Flow-based Packet Filtering<br>8*Output queues of each port 802.1p/DSCP priority mapping<br>Diff-Serv QoS, Priority Mark/Remark<br>Queue Scheduling Algorithm (SP, WRR, SP+WRR)                                                                                                                                     |
| ACL              | Port-based Issuing ACL,ACL based on port and VLAN<br>L2 to L4 packet filtering, matching first 80bytes message.<br>Provide ACL based on MAC, Destination MAC address, IP Source, Destination IP, IP Protocol Type, TCP/UDP Port, TCP/UDP Port Range, and VLAN, etc.                                                                          |
| Security         | IP-MAC-VLAN-Port binding<br>ARP inspection, Anti-DoS attack AAA & RADIUS, MAC learning limit<br>Mac black holes, IP source protection IEEE802.1X & MAC address authentication Broadcast storm control,Backup for host datum<br>SSH 2.0, SSL, Port isolation, ARP message speed limit<br>User hierarchical management and password protection |
| DHCP             | DHCP Client, DHCP Snooping, DHCP Server, DHCP Relay                                                                                                                                                                                                                                                                                          |
| Management       | One-key recovery Cable Diagnose, LLDP<br>Web Management (HTTPS) NTP, System work log,Ping Test CPU instant utilization status view<br>Console/AUX Modem/Telnet/SSH2.0 CLI<br>Download & Management on FTP, TFTP, X modem, SFTP, SNMP V1/V2C/V3                                                                                               |
| System           | Category 5 Ethernet network cable<br>Web browser: Mozilla Firefox 2.5 or higher, Google browser chrome V42 or higher, Microsoft Internet Explorer10 or later;<br>TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, or Mac OS X) installed on each computer in a network                               |

## Dimensions



## Ordering Information

|                      |                                                            |
|----------------------|------------------------------------------------------------|
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