

*Smart*™



DGS-1248T

## 48-Port Copper Gigabit Smart Switch

### With 4 Combo SFP

The DGS-1248T copper Gigabit Smart Switch presents a cost-effective solution for business to implement Gigabit Ethernet packet switching with easy fine-tuning of network performance and security. This switch comes with a high port density of 48 10/100/1000BASE-T Gigabit ports, plus 4 combo SFP in a low profile rack-mountable housing. Port trunks are provided for server deployment and network backbone attachment, while functions important for bandwidth-intensive applications such as Priority Queues and VLANs are supported to enable you to implement Quality of Service (QoS) and security without having to go through complex network management usually found in other managed switches.

#### High Density With 48 Copper Gigabit Ports

48 1000BASE-T ports provide an inexpensive alternative solution to the fiber-optic. Using your existing low-cost Cat. 5 copper twisted-pair wires as the transmission media, these ports allow you to instantly upgrade your servers to Gigabit capability without requiring you to install new, expensive fiber cables. All ports support 10/100/1000Mbps network speed auto-sensing, full/half duplex auto-negotiation and auto MDI/MDIX plug-and-play.

#### 4 Combo SFP for Flexible Fiber Connection

4 combo SFP are provided for flexible fiber connection. You can select to install optional transceiver modules in these slots for short, medium or long-distance fiber backbone attachment. Use of the SFP will disable their corresponding built-in 10/100/1000BASE-T connections.

#### Port Trunks for Aggregated Bandwidths

Ports can be combined together to create multi-link load-sharing aggregated bandwidths to a server or a network backbone. To expand the network, you can also make use of the port trunks to eliminate bottlenecks between the cascaded switches. The switch allows you to combine multiple ports into a trunk, and to create multiple trunks per switch.

#### VLANs for Enhanced Security & Performance

The switch support VLANs to let you improve security and bandwidth utilization by limiting the broadcast domains and

confining intra-group traffic within their segments. To segment up the network, VLAN-supported workstations and servers that are connected to the switch can be grouped into different Virtual LANs (VLANs).

#### Quality of Service Support

The switch supports Layer 2 802.1p Priority Queue control to prioritize network packets. Classification of users' data priorities can be based on a data packet Priority Queue. This QoS function support allows you to run bandwidth-intensive and delay-sensitive applications and to attach video servers to the switch for videoconference.

#### Port Mirroring

The switch supports port mirroring to assist network traffic monitoring. The network administrator can use this function as a diagnostic tool or debugging feature, especially when fending off an attack. It enables you to keep close track of switch performance and alter it if necessary.

#### Network Management/Monitoring

The switch provides easy web-based switch configuration and network management/monitoring from any networked station that does away with the need for consoles and console cables. Network devices are auto-discovered and displayed on a network topology, and you can receive traps of system events and port errors while monitoring the network status and statistics from any workstation.

### Features

- 48 10/100/1000BASE-T ports for copper Gigabit connection
- 4 combo SFP for flexible fiber Gigabit connection
- Auto MDI/MDIX cross over for all twisted-pair ports
- 802.3x Flow Control for protection against data loss
- Port mirroring for traffic monitoring
- Port trunks for server/network backbone attachments
- 802.1Q VLAN to enhance security/network performance
- 802.1p Priority Queues, port-based QoS
- Easy web-based switch configuration/management and network monitoring
- Standard rack-mount size

# DGS-1248T

## Technical Specifications

## Gigabit Smart Switch

### General

#### Port Standards & Functions

- IEEE 802.3 10BASE-T Ethernet (twisted-pair copper)
- IEEE 802.3u 100BASE-TX Fast Ethernet (twisted-pair copper)
- IEEE 802.3ab 1000BASE-T Gigabit Ethernet (twisted-pair copper)
- ANSI/IEEE 802.3 NWay auto-negotiation
- IEEE 802.3x Flow Control
- Port mirroring

#### Number of Ports

- 48 10/100/1000BASE-T ports
- 4 combo SFP \*

\* Use of the SFP will disable their corresponding 10/100/1000BASE-T connections.

#### SFP Support

- IEEE 802.3z 1000BASE-SX multi-mode fiber (DEM-311GT transceiver)
- IEEE 802.3z 1000BASE-SX multi-mode fiber (DEM-312GT2 transceiver)
- IEEE 802.3z 1000BASE-LX single-mode fiber (DEM-310GT transceiver)
- IEEE 802.3z 1000BASE-LH single-mode fiber (DEM-314GT transceiver)
- IEEE 802.3z 1000BASE-ZX single-mode fiber (DEM-315GT transceiver)
- IEEE 802.3ab 1000BASE-T Cat. 5 twisted-pair (DGS-712 transceiver)

#### Protocol

CSMA/CD

#### Data Transfer Rates

- Ethernet:
  - 10Mbps (half duplex)
  - 20Mbps (full duplex)
- Fast Ethernet:
  - 100Mbps (half duplex)
  - 200Mbps (full duplex)
- Gigabit Ethernet:
  - 2000Mbps (full duplex)

#### Topology

Star

#### Network Cables

- UTP Cat. 5, Cat. 5e (100 m max.)
- EIA/TIA-568 100-ohm STP (100 m max.)

#### Full/half Duplex

- Full/half duplex for 10/100Mbps speeds
- Full duplex for Gigabit speed

#### Media Interface Exchange

Auto MDI/MDIX adjustment for all twisted-pair ports

#### LED Indicators

- Per device: Power/CPU
- Per 10/100/1000BASE-T port: Link/Act, 100/1000Mbps Speed
- Per SFP: Link/Act

### Software

#### VLAN

- 802.1Q VLAN Tagging
- Maximum 64 VLANs per device

#### Quality of Service (QoS)

- 802.1p Priority Queues
- Maximum number of queues: 2

#### Port Trunks

- 2 or 4 10/100/1000BASE-T port links per trunk
- Up to 3 trunks per switch

#### Management & Configuration

- Web-based configuration
- Windows-based utility
- Configuration reset through software or hardware (reset button)

### Performance

#### Switch Capacity

88Gbps

#### Transmission Method

Store-and-forward

#### MAC Address Table

8K entries per device

#### MAC Address Learning

Automatic update

#### Packet Filtering/Forwarding Rates (half duplex)

Maximum 1,488,095 pps per port

#### RAM Buffer

1.632MBytes per device

### Physical & Environmental

#### AC Input

100 to 240 VAC 50/60Hz internal universal power supply

#### Power Consumption

68.88 watts (max.)

#### Ventilation

40 x 40 mm DC fans x 4

#### Operating Temperature

0° to 40°C

#### Storage Temperature

-10° to 70 °C

#### Operating Humidity

10% to 90% non-condensing

#### Storage Humidity

5% to 90% non-condensing

#### Dimensions

441 (W) x 309 (D) x 44 (H) mm (device only)  
19-inch standard rack mounting size

#### Weight

4.4 kg (device only)

#### Emission (EMI)

- FCC Class A
- CE Class A
- C-Tick

#### Safety

UL



## Ordering Information

#### Gigabit Smart Switch

**DGS-1248T** 24 10/100/1000BASE-T ports, 4 combo SFP

#### Optional SFP Transceiver

- DEM-310GT** 1000BASE-LX SFP transceiver, single-mode fiber, max. distance 10km, 3.3V
- DEM-311GT** 1000BASE-SX SFP transceiver, multi-mode fiber, max. distance 550m, 3.3V
- DEM-312GT2** 1000BASE-SX SFP transceiver, multi-mode fiber, max. distance 2km, 3.3V
- DEM-314GT** 1000BASE-LHX SFP transceiver, single-mode fiber, max. distance 50km, 3.3V
- DEM-315GT** 1000BASE-ZX SFP transceiver, single-mode fiber, max. distance 80km, 3.3V
- DGS-712** 1000BASE-T SFP transceiver, Cat. 5 twisted-pair, Max. distance 100m, 3.3V



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