Overview

The IFS Transmission Industrial Managed Switch Series with multiple redundant ring technology is equipped with eight 10/100Mbps Fast Ethernet ports and two gigabit TP/SFP combo interfaces, and the GE-DSH-73 is equipped with seven 10/100 MpS Fast Ethernet ports and three gigabit TP/SFP combo interfaces. It is a industrial, fully managed Ethernet Switch specifically designed to operate reliably in electrically harsh and climatically demanding environments. The GE-DSH-82/GE-DSH-73 Series is the most dependable choice for highly managed and Fiber Ethernet application.

- Wide-range operating temperature
- Redundant Ethernet network
- Manageable
- Power redundant
- Gigabit/fiber uplink capability
- Industria Fail Safe Ring: fast recovery to a redundant Ethernet network

The GE-DSH-82/GE-DSH-73 Series features strong and rapid self-recovery capability to prevent interruptions and outside intrusions. It incorporates advanced redundant data ring technology, rapid spanning protocol (IEEE 802.1w RSTP) and redundant power supply system into any industrial automation network to enhance system reliability and uptime in harsh factory environments. It also protects industrial network connectivity with switching recovery capability. This capability is used for implementing fault-tolerant ring and mesh network architectures. If the industrial network is interrupted accidentally, the fault recovery times can be less than 20ms. This fast recovery time quickly brings the network back to normal operation.

With IP-30 aluminum industrial case protection, the GE-DSH-82/GE-DSH-73 Series provides a high level of immunity against electromagnetic interference and heavy electrical surges usually found on plant floors or in curbside traffic control cabinets. The Series also provides a wide range of power supply options suitable for multiple industries and for worldwide operation. Its operating temperature range from -40 to 75 degrees C allows the managed industrial switch to be placed in almost any difficult environment. Two Gigabit ports provide drop and insert functionality with a third for uplinking.

GE-DSH-82/ GE-DSH-73 Series Industrial Managed Ethernet Switch

The GE-DSH-82/GE-DSH-73 Series supports robust advanced features including IEEE 802.1Q VLAN, GVRP, port link aggregation, QoS, broadcast storm control and MAC address filtering. It also includes IGMP snooping enhanced security with IGMP snooping and querying multicasting for video operations and bandwidth utilization to fit a variety of applications. Via aggregation of supporting ports, the Series allows the operation of high-speed trunk combining multiple ports. A maximum of up to four ports can be assigned for four trunk groups and support fail-over as well. Additionally, its standard-compliant implementation ensures interoperability with equipment from other vendors.

Standard Features

- 8-Port 10/100Base-TX RJ-45 (GE-DSH-82/GE-DSH-82 PoE)
- 2-Port Gigabit TP/SFP combo interface, SFP (Mini-GBIC) supports 100/1000 Dual Mode (GE-DSH-82/GE-DSH-82 PoE)
- 7-Port 10/100 Base RJ-45 (GE-DSH-73)
- 3-Port Gigabit TP/SFP combo interface, SFP (Mini-GBIC) supports 100/1000 Dual Mode (GE-DSH-73)
- 1 RJ-45 console interface for switch basic management and setup
- Relay alarm for port breakdown, power failure
- Supports 4000 VDC Ethernet ESD protection
- FCC Class A, CE compatibility
- Free-fall, shock and vibration stability
- Provides redundant backup feature and recovery time less than 20ms
- Complies with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3z gigabit Ethernet standards
- Supports auto-negotiation and half-duplex/full-duplex modes for all 10Base-T/100Base-TX and 1000Base-T ports
- Prevents packet loss with back pressure (half-duplex) and IEEE 802.3x pause-frame flow control (full-duplex) groups, out of 4K VLAN IDs
- Supports spanning tree protocol
- Supports strict priority and Weighted Round Robin (WRR) policies
- Ingress/egress bandwidth control on each port
- IGMP query mode for multicast media application
- Dual power operation; External power supply and DIN rail powered
- IP address security management to prevent unauthorized intruder
- Port mirroring to monitor the incoming or outgoing traffic on a particular port
- Web-based, telnet, console command line management
- Supports LLDP to allow switch to advise its identification and capability on the LAN

8-Port 10/100mbps Plus 2 Gigabit SFP Combo Managed Switch

8-Port 10/100mbps Plus 2 Gigabit SFP Combo Managed POE Switch

7-Port 10/100mbps Plus 3-Port Gigabit SFP Combo Managed Industrial Switch

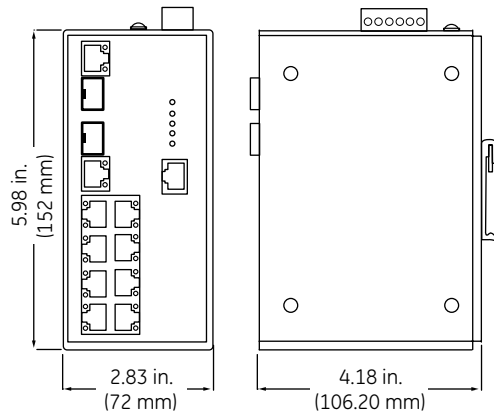# GE-DSH-82/GE-DSH-73 Series Industrial Managed Ethernet Switch Comparisons

GE SKU	GE-DSH-82	GE-DSH-82-PoE*	GE-DSH-73
GE Description			

		GE-DSH-82	GE-DSH-82-PoE*	GE-DSH-73
Hardware Specifications	**10/100Mbps Copper Ports**	8 10/100Base-TX RJ-45 Auto-MDI/MDI-X ports	8 10/100Base-TX RJ-45 Auto-MDI/MDI-X ports	7 10/100Base-TX RJ-45 Auto-MDI/MDI-X ports
	1000Mbps Copper Ports	2 10/100/1000Base-T RJ-45 ports	2 10/100/1000Base-T RJ-45 ports	3 10/100/1000Base-T RJ-45 ports
	SFP/Mini-GBIC Slots	2 SFP interfaces, shared with Port-9 and Port-10	2 SFP interfaces, shared with Port-9 and Port-10	3 SFP interfaces, shared with Port-7, Port-9 and Port-10
	Switch Architecture	Store-and-Forward	Store-and-Forward	Store-and-Forward
	Switch Fabric	5.6Gbps/non-blocking	5.6Gbps/non-blocking	7.4Gbps/non-blocking
	Switch Throughput	4.16Mpps @64Bytes	4.16Mpps @64Bytes	5.5Mpps @64Bytes
	Address Table	8K entries	8K entries	8K entries
	Share Data Buffer	1Mbit	1Mbit	1Mbit
	Maximum Frame Size	1522 Bytes packet	1522 Bytes packet	1522 Bytes packet
	Flow Control	Back pressure for Half-Duplex IEEE 802.3x Pause Frame for Full-Duplex	Back pressure for Half-Duplex IEEE 802.3x Pause Frame for Full-Duplex	Back pressure for Half-Duplex IEEE 802.3x Pause Frame for Full-Duplex
	LED	**Per unit:** Power (Green), Ring Master (Green), Power 1 (Green), Power 2 (Green), Fault (Red) **8 port 10/100:** Link/Activity (Green), Full-Duplex/Collision (Yellow) **2 SFP port:** LNK/ACT (Green) **2 1000T:** LNK/ACT (Green), 1000M (Green)	**Per unit:** Power (Green), Ring Master (Green), Power 1 (Green), Power 2 (Green), Fault (Red) **8 port 10/100:** Link/Activity (Green), Full-Duplex/Collision (Yellow) **2 SFP port:** LNK/ACT (Green) **2 1000T:** LNK/ACT (Green), 1000M (Green) **PoE:** PoE In-Use (Green)	**Per unit:** Power (Green), Ring Master (Green), Power 1 (Green), Power 2 (Green), Fault (Red) **7 port 10/100:** Link/Activity (Green), Full-Duplex/Collision (Yellow) **3 SFP port:** LNK/ACT (Green) **3 1000T:** LNK/ACT (Green), 1000M (Green)
	DI/DO		2 Digital Input (DI): Level 0: -30~2V Level 1: 10~30V Max. input current: 8mA 2 Digital Output (DO): Open collector to 40VDC, 200mA	
	ESD Protection	4KV DC	6KV DC	6KV DC
	EFT Protection	3KV DC	3KV DC	3KV DC
	Console Interface	One RJ-45-to –RS-232 male connector for switch management	One RJ-45-to –RS-232 male connector for switch management	One RJ-45-to –RS-232 male connector for switch management
Power over Ethernet	**PoE Standard**		IEEE 802.3af PSE (Power Sourcing Equipment)	
	Units Can Be Powered		8	
	PoE Power Output		48V DC, Max. 15.4 watts, 350mA	
	Power Pin Assignment		1/2(+), 3/6(-)	

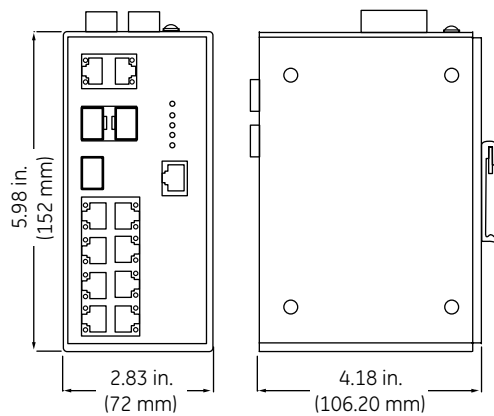# GE-DSH-82/GE-DSH-73 Series IndustrialManaged Ethernet Switch Comparisons

GE SKU	GE-DSH-82	GE-DSH-82-PoE*	GE-DSH-73
GE Description			

Layer 2 Function

Management Interface	Console, Telnet, Web Browser, SNMP v1, v2c and v3
Port Configuration	Port disable/enable. Auto-negotiation 10/100Mbps full- and half-duplex mode selection. Flow control disable/enable. Bandwidth control on each port.
Port Status	Display each port's speed duplex mode, link status, Flow control status, Auto negotiation status
VLAN	Port-Based VLAN, up to 9 VLAN groups IEEE 802.1q Tagged Based VLAN , 4K VLAN ID, up to 256 VLAN groups
Spanning Tree	IEEE 802.1d Spanning Tree, IEEE 802.1w Rapid Spanning Tree
Link Aggregation	Static Port Trunk, IEEE 802.3ad LACP (Link Aggregation Control Protocol), Supports 4 groups of 4-Port trunk
QoS	Traffic classification based on : • Port Number • 802.1Q Tag • 802.1p priority • IP DSCP/TOS field in IP Packet
IGMP Snooping	v1 and v2 256 multicast groups and IGMP query
Bandwidth Control	Per port bandwidth control, Ingress: 500Kb~80Mbps, Egress: 64Kb~80Mbps
Port Mirror	RX / TX / Both
Security	Support 100 entries of MAC address for static MAC and another 100 for MAC filter Support 10 IP addresses that have permission to access the switch management and to prevent unauthorized intruder
SNMP MIBs	RFC-1213 MIB-II RFC-2863 Interface MIB RFC-1493 Bridge MIB RFC-2819 RMON MIB (Group 1, 2, 3, 9) RFC-2674 Extended Bridge MIB (Q-Bridge) Private MIB

Standards Conformance

Regulation Compliance	FCC Part 15 Class A, CE
Standards Compliance	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX/100Base-FX IEEE 802.3z Gigabit SX/LX IEEE 802.3ab Gigabit 1000T IEEE 802.3x Flow Control and Back Pressure IEEE 802.1d Spanning Tree Protocol IEEE 802.1w Rapid Spanning Tree Protocol IEEE 802.1p Class of Service IEEE 802.1Q VLAN Tagging IEEE 802.1x Port Authentication Network Control IEEE 802.3af Power over Ethernet (GE-DSH-82-PoE) RFC 768 UDP RFC 793 TFTP RFC 791 IP RFC 792 ICMP RFC 2068 HTTP RFC 1112 IGMP Version 1 RFC 2236 IGMP Version 2

Environmental

Operating	Temperature -40°C ~ -75°C; Relative Humidity 5%~95% (non-condensing)
Storage	Temperature -40°C ~ -85°C; Relative Humidity 5%~95% (non-condensing)

Electrical

	GE-DSH-82	GE-DSH-82-PoE*	GE-DSH-73
External Power Supply	DC 12-48v	DC 48v	DC 12-48v
Redundant Power	DC 12-48v	DC 48v	DC 12-48v

*Special order only.

Dimensional Diagrams

GE-DSH-82/GE-DSH-82-P0E

GE-DSH-73

Ordering Information

GE-DSH-82	8-Port 10/100mbps Plus 2 Gigabit TP/ SFP Combo Managed Switch (Wide Operating Temp. -40~75°C)
GE-DSH-82-PoE	8-Port 10/100mbps Plus 2 Gigabit TP/ SFP Combo Managed Poe Switch (Poe Full Power) (Wide Operating Temp. -40~75°C)
GE-DSH-73	7-Port 10/100mbps Plus 3-Port Gigabit TP/SFP Combo Managed Industrial Switch (Wide Operating Temp. -40~75°C)