



# NS3550-8T-2S

## 8+2 Industrial Gigabit Managed Switch

### Overview

The IFS® NS3550-8T-2S is an Industrial Gigabit Managed Switch equipped with eight 10/100/1000Mbps RJ45 ports and two 100/1000Mbps SFP (fiber) uplink ports. These are fully managed Layer 2+ switches providing a robust industrial hardened design that provides for rapid operational recovery in the event of a network or power system failure.

### Layer 2+ Managed Switch

The IFS Industrial Gigabit Managed Switch Series supports advanced features including IEEE 802.1Q VLAN, GVRP, port link aggregation, QoS, broadcast storm control and MAC address filtering. The series also includes IGMP snooping and querying multicasting for media operations and bandwidth utilization to fit a variety of applications. Via aggregation of supporting ports, the series allows the operation of high-speed trunk operation combining multiple ports. A maximum of four ports can be assigned for four trunk groups and support fail-over as well. Additionally, its standards-compliant implementation ensures interoperability with equipment from other vendors.

### Industrial-grade Network Redundancy and Recovery

These switches not only incorporate the industry standard Rapid Spanning Tree Protocol (IEEE 802.1w RSTP), but also an advanced Industrial Fail-Safe (IFS) technology accommodating multiple redundant ring topologies and improved network recovery time of less than 20ms. The switches incorporate a redundant power supply system to further enhance network reliability and uptime. Ideal for use in implementing highly fault-tolerant ring and mesh network architectures, these switches are well suited for harsh environments such as industrial security, factory automation and intelligent transportation systems (ITS).

### Robust Hardened Design

With an IP-30 rated enclosure, IFS Industrial Gigabit Managed Switches provide a high level of immunity against electromagnetic (EMI) and radio-frequency (RFI) interference typically found in industrial environments. This series of switches comply with IEC60068-2-xx standards for free-fall, shock, and vibration and operate in -40° C to 75° C temperatures found in difficult environments such as plant floors or in curbside traffic control cabinets.



### Standard Features

- 8-port 10/100/1000Base-T
- 2-ports SFP (fiber) 100/1000Base-X
- RS-232 DB9 console interface for basic switch management and setup
- High-performance Switch Architecture
- Up to 20Gbps non-blocking switch fabric
- 9K bytes Jumbo frame support
- 8K MAC address table, automatic source address learning and ageing
- IGMP (v1/v2/V3) Snooping, up to 255 multicast Groups with IGMP Querier mode support, and MLD (v1/v2) Snooping, up to 255 multicast Groups with MLD Querier mode support
- VLAN Support - up to 255 VLANs groups out of 4094 VLAN IDs, MVR (Multicast VLAN Registration), Voice VLAN, MAC-Based VLAN, Protocol-Based VLAN
- Quality of Service (QoS), 802.1p priority, 802.1Q VLAN tag, DSCP/TOS field in IP Packet
- IEEE 802.3ad LACP / Static Trunk, Supports 5 groups of 8-Port trunk support
- Advanced Security
- MAC Filtering and Source IP/MAC address port-binding
- Circuit protection prevent power interference between ports
- Robust Hardened Design
- IP30 metal enclosure, DIN Rail and Wall Mount Design
- Wide operating temperature range of -40°C ~ +75°C

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### Specifications

#### Physical Ports

10/100/1000Base-T Ports:	8 RJ-45 ports
SFP/Mini-GBIC Slots:	2 SFP/Mini-GBIC Slots - 100Base-FX/BX/LX and 1000Base-SX/BX/LX/LHX/ZX SFP transceiver compatible
Port Configuration:	Auto MDI/MDI-X
Port Speed:	Auto-negotiate

#### Switch Performance

Switch Architecture:	Store-and-Forward
Switch Fabric:	20Gbps non-blocking
Switch Throughput:	14.8Mpps @64Bytes
Mac Address Table:	8K entries
Share Data Buffer:	4Mbit
Jumbo Frame Size:	9Kbytes
Flow Control:	Back pressure for Half-Duplex, IEEE 802.3x Pause Frame for Full-Duplex

#### Layer 2 Functions

Management Interface:	Console, Telnet, SSH, SSL, Web Browser, SNMPv1, v2c and v3
Port Configuration:	Port enable/disable; Auto-negotiation; 10/100/1000Mbps full and half duplex mode selection; Flow Control enable/disable; Bandwidth control on each port
Port Status:	Display each port's: speed duplex mode, link status, flow control status, Auto negotiation status, trunk status
Port Mirroring:	TX/RX/Both; 1 to 1 monitoring
Bandwidth Control:	Bandwidth control per port: Ingress: 500Kb~1000Mbps, Egress: 500Kb~1000Mbps
VLAN:	IEEE 802.1q tagged-based VLAN; Port-based VLAN; Q-in-Q tunneling; Up to 255 VLANs groups; Private VLAN, MAC-Based VLAN, Protocol-Based VLAN, Voice VLAN, MVR (Multicast VLAN Registration)
Link Aggregation:	IEEE 802.3ad LACP / Static Trunk, Supports 5 groups of 8-Port trunk support
Quality of Service (QoS):	Traffic classification based, Strict priority and WRR; 8-level priority for switching - Port Number - 802.1p priority - 802.1Q VLAN tag - DS/TOS field in IP Packet
Multicasting/IGMP:	IGMP (v1/v2/V3) Snooping, up to 255 multicast Groups with IGMP Querier mode support, MLD (v1/v2) Snooping, up to 255 multicast Groups with MLD Querier mode support
Access Control List:	IP-Based ACL/MAC-Based ACL 256 entries
SNMP MIBs:	RFC-1213 MIB-II; IF-MIB; RFC-1493 Bridge MIB; RFC-1643 Ethernet MIB; RFC-2863 Interface MIB; RFC-2665 Ether-Like MIB; RFC-2737 Entity MIB; RFC-2618 RADIUS Client MIB; RFC-2933 IGMP-STD-MIB; RFC3411 SNMP-Frameworks-MIB; IEEE802.1X PAE; LLDP; MAU-MIB

#### LED Indicators & Switch

Power:	On/Green
10/100/1000Base-T Ports:	10/100/1000 LNK/ACT - Green
100/1000Base-X/SFP Ports:	100 LNK/ACT - Green; 1000 LNK/ACT - Green
FAN(s):	Alarm/Green
Reset Button:	System reboot: push and hold < 5 sec.; Factory Default: push and hold > 5 sec.

#### Electrical & Mechanical

Power Input 1:	12-48VDC or 24VAC
Power Input 2:	12-48VDC or 24VAC
Electrical Fast Transient (EFT) Protection:	6KV DC
Power and Alarm Fault Connector:	6-pin removable screw terminal
Alarm Fault Relay:	1A @ 24VDC
Enclosure:	IP-30 Metal Case
Mounting:	DIN-rail or wall-mount
Dimensions (WxDxH): in/cm:	3.5 x 5.31 x 2.2 in. (88 x 135 x 56mm)

Weight; lbs/kgs: 1.59 lbs., 720g

#### Environmental

Operating Temperature:	-40°C ~ 75°C
Storage Temperature:	-40°C ~ 85°C
Relative Humidity:	0% to 95% (non-condensing)

#### Standards Compliance

Regulatory Standards:	FCC Part 15 Class A, CE
IEEE Standards (1):	IEEE 802.3 10Base-T; IEEE 802.3u 100Base-TX/100Base-FX; IEEE 802.3z Gigabit SXBX/LX/LHX/ZX; IEEE 802.3ab Gigabit 1000T; IEEE 802.3x Flow Control and Back pressure; IEEE 802.3ad Port trunk with LACP; IEEE 802.1d Spanning tree protocol
IEEE Standards (2):	IEEE 802.1w Rapid spanning tree protocol; IEEE 802.1s Multiple spanning tree protocol; IEEE 802.1p Class of service; IEEE 802.1Q VLAN Tagging; IEEE 802.1x Port Authentication Network Control; IEEE 802.1ab LLDP
RFC Standards:	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
IEC Standards:	IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)

#### Accessories

SFP (100Mbps):	S25 Series (wide-temp)
SFP (1000Mbps):	S35 Series (wide-temp)
PS48VDC100W-DIN:	48VDC (100W) DIN rail Power Supply

### Ordering Information

Part No.	Description
NS3550-8T-2S	8+2 Industrial Gigabit Managed Switch

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