

FS IES3110-8M12 and IES3110-8TFM-P, IES5110-20FMS Switches Data Sheet

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Product overview

The IES3110-8M12 features 8-Port 10/100/1000T M12 ports , which is designed for industrial application. Equipped with an IP40-rated metal enclosure, it can operate within a wide temperature range of -40 to 75° C (-40 to 167° F). This Switches is ideal for harsh environments. This layer 2 industrial Switches supports enhanced L2+ functions such as PTP and ACL, QoS, LACP link aggregation, etc. can meet the requirements of many scenarios in SMBs.

The IES3110-8TFM-P features 8-Port 10/100/1000T 802.3at PoE and 2-Port 10/100/1000T , 2-Port 1G SFP , 2-Port 1G/2.5G SFP , which is designed for industrial application. Equipped with an IP30-rated metal enclosure, it can operate within a wide temperature range of -40 to 75° C (-40 to 167° F). This Switches is ideal for harsh environments, All Gigabit PoE+ ports support a power budget of up to 240W for PoE/PoE+, it is ideal for connecting PoE-powered end devices such as IP cameras, phones, wireless access points, sensors, and more. This layer 2 industrial Switches supports enhanced L2+ functions such as PTP and ACL, QoS, LACP link aggregation, etc. can meet the requirements of many scenarios in SMBs.

The IES5110-20FMS features 14-Port 100/1G SFP with 4 Shared TP + 10-Port 1G/2.5G SFP and 4-Port 10G SFP, which is designed for industrial application. Equipped with an IP30-rated metal enclosure, it can operate within a wide temperature range of -40 to 75° C (-40 to 167° F). This Switches is ideal for harsh environments, such as traffic control cabinets, factory floors, and outdoor places where the temperature is extremely low or high. This layer 3 industrial Switches supports enhanced L3 functions such as ACL, QoS, LACP link aggregation, etc. can meet the requirements of many scenarios in SMBs.

Product highlights

- DIN-rail and Wall-mount for Efficient Use of Cabinet Space(Only for IES3110-8M12 and IES3110-8TFM-P Switches)
- Vibrationproof and Dustproof M12 Port (Only for IES3110-8M12 Switch)
- Bypass Relay Prevents Link Failure During Power Loss
- Operate Stably Under the Temperature Range of -40 to 75° C
- Support ERPS, IEEE 1588v2 PTP, LACP, DHCP Server, QoS, ACL, etc.
- Support WEB/CLI/SSH/Telnet/TLS/SNMP for Easy Network Management
- Up to 8 PoE+ Ports, 240W PoE Power Budget (Only for IES3110-8TFM-P Switch)
- Robust IP30 Aluminum Metal Enclosure for Use in Industrial Environments (Only for IES3110-8TFM-P and IES5110-20FMS Switches)
- Rack Mount for Installation(Only for IES5110-20FMS Switch)
- Support L3 Static Routing, OSPF, DHCP Server(Only for IES5110-20FMS Switch)
- Support ERPS, QinQ, LACP, ACL, QoS, etc.(Only for IES5110-20FMS Switch)

Platform details

Switches models and configurations

Figures 1 through 3 show the IES3110-8M12 and IES3110-8TFM-P, IES5110-20FMS Switches.



Figure 1.

IES3110-8M12, 8-Port 10/100/1000T M12 Wall-mount L2 Managed Industrial Switch



- ① 8x 10/100/1000BASE-T RJ45 ② 2x 1000BASE-X SFP ③ 2x 1000/2500BASE-X SFP

Figure 2.

IES3110-8TFM-P, 8-Port Gigabit Ethernet L2+ Managed Industrial PoE+ Switch, 8 x PoE+ Ports @240W, with 2 x 1Gb SFP, 2 x 1G/2.5G SFP

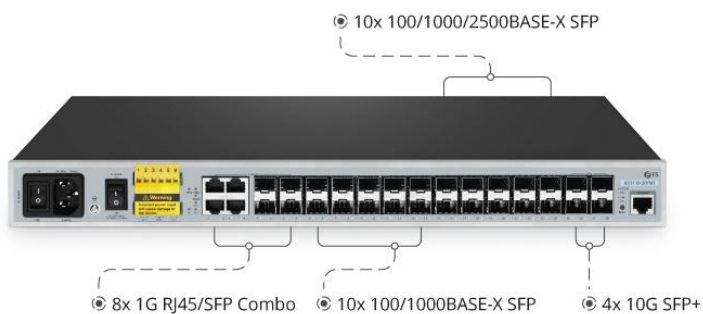


Figure 3.

IES5110-20FMS, 14-Port 100/1G SFP with 4 Shared TP + 10-Port 1G/2.5G SFP + 4-Port 10G SFP+ L3 Managed Industrial Switch

Switches configurations and port density

Table 1 shows the IES3110-8M12 and IES3110-8TFM-P, IES5110-20FMS configurations and port density.

Table 1. Switches configuration and port density

FS P/N	IES3110-8M12	IES3110-8TFM-P	IES5110-20FMS
Description	8-Port 10/100/1000T M12 Wall-mount L2 Managed Industrial Switches	8-Port Gigabit Ethernet L2+ Managed Industrial PoE+ Switches, 8 x PoE+ Ports @240W, with 2 x 1Gb SFP, 2 x 1G/2.5G SFP	14-Port 100/1G SFP with 4 Shared TP + 10-Port 1G/2.5G SFP + 4-Port 10G SFP+ L3 Managed Industrial Switches
Port			
1G port RJ45 density	8(M12 X-coded female connector)	8 RJ45 PoE, 2 RJ45	4 RJ45 combo
1G port SFP density	-	2	14 SFP, 4 combo
2.5G port SFP density	-	2	10
10G port density	-	-	4
Console port	-	1	1
Memory and processor			
Switches chip	Vitesse VSC7514 + VSC8514	Vitesse VSC7429	VSC7448YIH-02+VSC8504
CPU	MIPS 500MHz 32-bit (integrated with VSC7514)	MIPS 416MHz (integrated with VSC7429)	MIPS 24KEc CPU (integrated with VSC7448)
DRAM	512MB	128MB	512MB
SDRAM	MT40A512M	-	-
Flash memory	W25Q256	64MB	64MB
Packet buffer	4Mbit	4Mbit	32Mbit

Note:

RJ45 ports can be used as 10-100-1000M ports for Ethernet connection.

SFP ports can be used for 100-1000M connection.

Power supplies and fans

Table 2 provides more details on the IES3110-8M12 and IES3110-8TFM-P, IES5110-20FMS power supplies and fan specifications.

Table 2. Power supply and fan specifications

Description	IES3110-8M12	IES3110-8TFM-P	IES5110-20FMS
Power supply	-	-	-
Fan number	Fanless	Fanless	Fanless
Max. power consumption	System on:Max.7.68 watts-26.21 BTU Full loading:Max.11.04 watts-37.67 BTU"	Max. 7 watts-23.88 BTU (Power on without any connection) Max. 262W-893.98 BTU(Full Loading)	AC input:Max. 38.3 watts-131.4 BTU DC input:Max. 41.4 watts-142 BTU
Input-voltage range and frequency	9~48VDC	48~54VDC	AC:100~240V; 50-60Hz DC:24~60V
PoE standard	-	IEEE 802.3at Power over Ethernet Plus-PSEBackward compatible with 802.3af Power over Ethernet	-
PoE power budget	-	48V power input- 120W maximum (depending on power input)52~56V power input- 240W maximum (depending on power input)	-

Switches performance

Table 3 shows performance specifications for the IES3110-8M12 and IES3110-8TFM-P, IES5110-20FMS.

Table 3. Performance specifications

Description	IES3110-8M12	IES3110-8TFM-P	IES5110-20FMS
Switchesing capacity	16Gbps	34Gbps	158Gbps
Forwarding rate	11.9Mpps	25.30Mpps	117.5Mpps
Total number of MAC addresses	4K	8K	32K
Total number of IPv4 routes (indirect routes)	32	32	128
Total number of IPv4 host routes (direct routes and ARP)	32	32	128
Total number of IPv6 routes (indirect routes)	32	32	128
Total number of IPv6 host routes (direct routes and NDP)	32	32	128

Description	IES3110-8M12	IES3110-8TFM-P	IES5110-20FMS
QoS ACL scale	256	256	256
Security ACL scale	256	256	256
VLAN IDs	Up to 4K VLAN groups, out of 4095 VLAN IDs	Up to 4K VLAN groups, out of 4094 VLAN IDs	Up to 4K VLAN groups, out of 4094 VLAN IDs
STP virtual ports (port* VLANs) for MST	-	-	-
Total Switchesd virtual interfaces (SVIs)	Max. 8 VLAN interfaces	Max. 8 VLAN interfaces	Max. 128 VLAN interfaces
Jumbo frame	10K bytes	9K bytes	10K bytes

Platform benefits

Table 4 lists the software spotlights for the IES3110-8M12 and IES3110-8TFM-P, IES5110-20FMS.

Table 4. Software spotlights

Functionality	Description
High Availability And Multi-Service Support	Support the Spanning Tree Protocols (IEEE802.1d STP, IEEE802.1w RSTP, standard 802.1s MSTP) Support IEEE 1588v2 PTP Support the IPv4 and IPv6 multicast functions Support IGMP v1/v2/v3, IGMP snooping, MLD
Error-Free Network Configuration	Support SNMP (Managed by Zabbix) v1, v2, and v3 Support STP protocol protection (BPDU Guard) Support LACP, ERPS, etc Support traffic classification based strict priority and WRR Support 802.1P priority and DSCP remarking
Secure And Simplified Access for Users And IoT	Support WEB GUI, Telnet, SSH Support IEEE802.1X RADIUS authentication Support IPv4/IPv6 ACL Support DHCP snooping, DHCP server and relay Support IP source guard Support ARP inspection

Software requirements

The IES3110-8M12 and IES3110-8TFM-P, IES5110-20FMS Switches run on FS OS Software version.

Table 5 lists the latest software requirements for the Switches models.

Table 5 Latest software requirements

FS P/N	Description	Latest software requirements
IES3110-8M12	IES3110-8M12, 8-Port 10/100/1000T M12 Wall-mount L2 Managed Industrial Switches	-
IES3110-8TFM-P	IES3110-8TFM-P, 8-Port Gigabit Ethernet L2+ Managed Industrial PoE+ Switches, 8 x PoE+ Ports @240W, with 2 x 1Gb SFP, 2 x 1G/2.5G SFP	-
IES5110-20FMS	IES5110-20FMS, 14-Port 100/1G SFP with 4 Shared TP + 10-Port 1G/2.5G SFP + 4-Port 10G SFP+ L3 Managed Industrial Switches	-

Product specifications

Table 6 shows the product specifications for the IES3110-8M12 and IES3110-8TFM-P, IES5110-20FMS Switches.

Table 6. Product specifications

Description	IES3110-8M12	IES3110-8TFM-P	IES5110-20FMS
Environmental			
Operating temperature	-40 to 75° C (-40 to 167° F)	-40 to 75° C (-40 to 167° F)	-40 to 75° C (-40 to 167° F)
Storage temperature	-40 to 80° C (-40 to 176° F)	-40 to 80° C (-40 to 176° F)	-40 to 80° C (-40 to 176° F)
Operating humidity	5% to 95%(Non-condensing)	5% to 95%(Non-condensing)	5% to 95%(Non-condensing)
Storage humidity	5% to 95% (Non-condensing)	5% to 95% (Non-condensing)	5% to 95% (Non-condensing)
Temperature alarm	Not supported	Not supported	Not supported
Acoustic noise	-	-	-
Physical specifications			
Dimensions (HxWxD)	245 x 140 x 24.4 mm	76.8 x 107.3 x 152 mm	440 x 200 x 44.5 mm
Installation	DIN-rail and Wall Mount	DIN-rail Mount	Rack units (RU): 1U
Weight	1kg	1.1kg	2.94kg

Description	IES3110-8M12	IES3110-8TFM-P	IES5110-20FMS
Electrical			
Voltage (auto ranging)	9~48VDC	48~56VDC	100~240VAC 24~60VDC
Frequency	-	-	AC: 50-60Hz
Current	1.3A max	6A max	AC: 1A DC: 2.25A
Power rating (maximum consumption)	System on:Max.7.68 watts-26.21 BTU Full loading:Max.11.04 watts-37.67 BTU	Max. 7 watts-23.88 BTU (Power on without any connection) Max. 262W-893.98 BTU(Full Loading)	AC input:Max. 38.3 watts-131.4 BTU DC input:Max. 41.4 watts-142 BTU
Mean-time between failures			
MTBF (hours)	> 100,000	> 100,000	> 100,000
Connectors			
Connectors and cabling	*Power Connector:1 x M12, 5-pin A-coded male connector * M12 5-pin A-coded female connector power cable *8-pin X-coded M12-to-RJ45 UTP cable (2m)	Removable 6-pin terminal block for power inputPin 1-2 for Power 1, Pin 3-4 for fault alarm, Pin 5-6 for Power 2Removable 6-pin terminal block for DI-DO interfacePin 1-2 for DI 1 & 2, Pin 3-4 for DO 1 & 2, Pin 5-6 for GND	Removable 6-pin terminal block for power input Pin 1-2 for DC 1, Pin 3-4 for fault alarm, Pin 5-6 for DC 2 Removable 6-pin terminal block for DI-DO interface Pin 1-2 for DI 1 & 2, Pin 3-4 for DO 1 & 2, Pin 5-6 for GND *RJ45-to-DB9 RS232 Cable
Standards			

Description	IES3110-8M12	IES3110-8TFM-P	IES5110-20FMS
Standards	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX 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 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 768 UDP RFC 793 TFTP RFC 791 IP RFC 792 ICMP RFC 2068 HTTP RFC 1112 IGMP v1 RFC 2236 IGMP v2 RFC 3376 IGMP v3 RFC 2710 MLD v1 RFC 3810 MLD v2 ITU-T G.8032 ERPS (Ethernet Ring Protection Switching)	IEEE802.3 10BASE-T IEEE802.3u 100BASE-TX-100BASE-FX IEEE802.3z Gigabit SX-LX IEEE 802.3ab Gigabit 1000T IEEE802.3x flow control and back pressure IEEE802.3ad port trunk with LACP IEEE802.1D Spanning Tree Protocol IEEE802.1w Rapid Spanning Tree Protocol IEEE 802.1s Multiple Spanning Tree Protocol IEEE802.1p Class of Service IEEE802.1Q VLAN tagging IEEE 802.1ad Q-in-Q VLAN stacking IEEE 802.1X Port Authentication Network Control IEEE 802.1ab LLDP IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet Plus IEEE 802.3ah OAM IEEE 1588 PTPv2 RFC 768 UDP RFC 793 TFTP RFC 791 IP RFC 792 ICMP RFC 2068 HTTP RFC 1112 IGMP v1 RFC 2236 IGMP v2 RFC 3376 IGMP version 3 RFC 2710 MLD version 1 RFC 3810 MLD version 2 ITU-T G.8032 ERPS Ring	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX-100BASE-FX IEEE 802.3z Gigabit SX-LX IEEE 802.3ab Gigabit 1000T IEEE 802.3ae 10Gb-s Ethernet IEEE 802.3x flow control and back pressure IEEE 802.3ad port trunk with LACP IEEE 802.1D Spanning Tree Protocol 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 IEEE 802.3ah OAM IEEE 802.1ag Connectivity Fault Management(CFM) RFC 768 UDP RFC 793 TFTP RFC 791 IP RFC 792 ICMP RFC 2068 HTTP RFC 1112 IGMP v1 RFC 2236 IGMP v2 RFC 2328 OSPF v2 RFC 3376 IGMP v3 RFC 2710 MLD v1 RFC 3810 MLD v2 ITU G.8032 Ethernet Ring Protection Switching ITU-T G.8032 ERPS Ring ITU-T Y.1731 Performance Monitoring

Quality certification

At FS, our Quality Commitment lies in all aspects of processes, resources, and methods that enable us to build superior networks for our customers. Through a quality policy focusing on continuous improvement of products and services, we're able to achieve the highest levels of satisfaction for our customers. To that end, every FS employee is accountable for contributing to the value of the products and services we deliver.

Figure 4 shows some of the authoritative certifications obtained by IES3110-8M12 and IES3110-8TFM-P, IES5110-20FMS Switches.



Figure 4.

Warranty, service and support

IES3110-8M12 and IES3110-8TFM-P, IES5110-20FMS Switches enjoy 5 years limited warranty against defects in materials or workmanship. For more information for FS Returns & Refunds policy, visit <https://www.fs.com/policies/warranty.html> or https://www.fs.com/policies/day_return_policy.html

FS provides a personal account manager, free professional technical support, and 24/7 live customer service to each customer.

- Professional Lab: Test each product with the latest and advanced networking equipment.
- Free Technical Support: Provide free & tailored solutions and services for your businesses.
- 80% Same-day Shipping: Immediate shipping for in-stock items.
- Fast Response: Direct and immediate assistance from an expert.

For more information, visit https://www.fs.com/service/fs_support.html

Ordering information

Table 7 provides the ordering information for IES3110-8M12 and IES3110-8TFM-P, IES5110-20FMS Switches.

Table 7. Ordering information

FS P/N	Product description
Switches hardware	
IES3110-8M12	IES3110-8M12, 8-Port 10/100/1000T M12 Wall-mount L2 Managed Industrial Switch
IES3110-8TFM-P	IES3110-8TFM-P, 8-Port Gigabit Ethernet L2+ Managed Industrial PoE+ Switch, 8 x PoE+ Ports @240W, with 2 x 1Gb SFP, 2 x 1G/2.5G SFP
IES5110-20FMS	IES5110-20FMS, 14-Port 100/1G SFP with 4 Shared TP + 10-Port 1G/2.5G SFP + 4-Port 10G SFP+ L3 Managed Industrial Switch

I Additional information

For more information about the IES3110-8M12 and IES3110-8TFM-P, IES5110-20FMS Switches, contact your account manager or visit <https://www.fs.com/uk/c/industrial-ethernet-switches-4073>

I Document history

New or revised topic	Described in	Date
Updates to FS IES3110-8M12 and IES3110-8TFM-P, IES5110-20FMS Switches Data Sheet	Updated all	3/7/2023



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