

# 10-port Managed Gigabit Switch

## Westermo i-line MDI-110-F3G

- 7 10/100-TX and 3 Gigabit RJ-45/SFP combo ports (10/100/1000 Base-TX, 100Base-FX, 1000Base-X)
- Rated voltage 12 – 48 VDC power inputs, redundant power
- –25 to 70°C operating temperature
- DIN-rail / Wall-mounted
- Rigid aluminium case complies with IP31



The **MDI-110-F3G** is a 10-port managed Ethernet switch with a flexible port setup including 7 10/100BaseTX ports and 3 10/100/1000 RJ-45/100-FX/Gigabit SX/LX combo ports. The MDI-110-F3G is equipped with advanced ring technology supporting multiple rings, dual homing rings and RSTP as well as a wide range of Layer 2 network features for complex networks such as VLAN, QoS, IGMP Snooping, Port Trunking etc.

### Comprehensive redundant ring technology

The MDI-series support single ring as well as dual homing rings technology which can be used for ring coupling.

The ring protocol has a reconfiguration time of less than 300 ms and seamless network restoration.

The MDI series also supports STP/RSTP in case of need for standard protocol. STP/RSTP and Westermo ring protocols can be combined meaning that the MDI can be integrated with products from other vendors in redundant network solutions.

### Features for complex networks

MDI series is designed for complex networks, and has been equipped with a wide range of Layer 2 network features including VLAN, IGMP Snooping v1/v2/v3, Quality of Service, Link Aggregation Control Protocol, rate control.

### Made easy and secure configuration

You can safely access your switch from anywhere in the network, or directly to the product via a console port.

The HTTPS secured web configuration interface has been designed 'Made Easy', setting up a redundant ring or a VLAN is just a few clicks away. For more advanced configuration, you will find an SSH encrypted industry standard CLI which allows extremely detailed settings. For safe handling and MIB readout the switch is also equipped with SNMPv3.

### Designed for industrial environments

The MDI series is designed for use in industrial environments such as industrial automation, machine building,

building automation and CCTV surveillance. No fans or other moving parts and only industrial grade components are used. The product is type-tested and approved according to a variety of industrial standards.

The MDI has a rigid aluminum DIN mounted case sealed to IP31 and can handle a wide input range from 12 to 48 VDC from dual power supplies and can operate in temperatures from –25° to +70°C degrees.

## Specifications

Technology	
Standard	IEEE 802.3 10Base-T Ethernet, IEEE 802.3u 100Base-TX Fast Ethernet, IEEE 802.3ab 1000Base-TX, IEEE 802.3z Gigabit Ethernet Fiber, IEEE 802.3x Flow Control and Back-pressure, IEEE 802.1p class of service, IEEE 802.1Q VLAN and GVRP, IEEE 802.1D-2004 Rapid Spanning Tree Protocol (RSTP), IEEE802.3ad Link Aggregation Control Protocol (LACP), IEEE802.1X Port based Network Access Control, IEEE802.1AB Link Layer Discovery Protocol (LLDP)

Performance	
Switch Technology	Store and Forward Technology with 32 Gbit/s Switch Fabric
System Throughput	14,880 pps for 10M Ethernet, 148,800 pps for 100M Fast Ethernet, 1,488, 100 for Gigabit Ethernet
Transfer packet size	64 bytes to 1522 bytes (with VLAN Tag)
MAC Address	8K
Packet Buffer	1 Mbits

Management	
Configuration	Cisco-Like CLI, HTTP, HTTPS, SSL, SSH and WeDashboard.
LLDP	Link Layer Discovery Protocol to advertise system / port identity and capability on the local network
SNMP	SNMP V1, V2c and V3
Time synchronization	NTP – Network time protocol
Port Mirroring	Online traffic monitoring
Port Trunk	Static Trunk and IEEE802.3ad LACP, Up to 5 Trunk Group, 2 – 8 per trunk
Rate Control	Ingress and Egress rate limiting
VLAN	IEEE802.1Q VLAN and GVRP. Up to 256 VLANs
Quality of Service	IEEE802.1p COS and Layer 3 TOS/DiffServ
IGMP Snooping	IGMP Snooping V1/V2/V3 for multicast filtering and IGMP Query V1/V2
GMRP	GARP Multicast Registration Protocol
Network Security	Port Security – Assign authorized MAC to a specific port 802.1x – Port-based Network Access Control (PNAC) Access Control List – Permit/Deny access control lists RADIUS – Remote Authentication Dial In User Service
DHCP	DHCP-Server – Support 255 Dynamic IP poll DHCP Option 82 – Relay the DHCP request to remote server
E-mail Warning	Automatic warning by pre-defined events
Syslog	Message logged with server and client mode

Network Redundancy	
Rapid Spanning Tree Protocol	IEEE802.1D-2004 Rapid Spanning Tree Protocol. Compatible with Legacy STP and IEEE802.1w
Multiple Super Ring (MSR)	Ring Redundancy Technology Failover less than 300 ms, Restoration time 0 ms, Includes Rapid Super Ring, Rapid Dual Homing, TrunkRing, MultiRing
Rapid Dual Homing (RDH)	Support multiple node to node, multiple path to one node to obtain more flexible and reliable architecture
TrunkRing	Provides port aggregate function in ring path to get more bandwidth for higher throughput ring architecture
MultiRing	New generation of ring coupling technology without extra control port – TangentRing

Interface	
Number of Ports	10/100Base-TX: 7 x RJ-45, Auto MDI/MDI-X, Auto Negotiation 10/100/1000Base-TX: 3 x RJ-45, combo with SFP 1000Base-X/100Base-FX: 3 x SFP with Hot Swappable
Cables	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5 cable (100 m) 100 Base-TX: 2/4-pair UTP/STP Cat. 5 cable (100 m) 1000 Base-T: 4-pair UTP/STP Cat. 5e, 6, 7 cable (100 m)
Diagnostic LED	System: Power(Green), Digital Out (Red) Digital Input (Green), R.M.(Green) 10/100 RJ-45: Link/Activity (Green), Full duplex/Collision (Yellow) Gigabit Copper/SFP: Link/Activity (Green) Gigabit SFP: Link/Activity (Green)
RS-232 Console	RJ-45
Power	2 sets of DC inputs
Digital Input	2 sets of Digital Input Logic Low (0): 0 – 10 VDC / Logic High (1): 11 – 30 VDC
Digital Output	2 sets of Digital Output
Reset	Reset button is provided to restore default settings

Power Requirements	
Rated voltage	Dual 24/48 V (12 – 48 V) DC power input
Power Consumption	Max. 11.5 Watts

Mechanical	
Installation	Din Rail or Wall Mount
Case	Aluminum metal case with IP31 protection
Dimension	137 mm (H) x 96 mm (W) x 129 mm (D)
Weight	0.915 kg with package

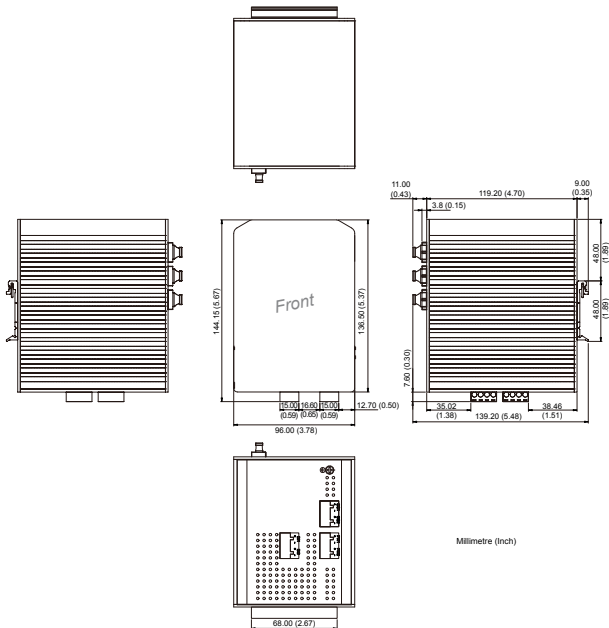
Environmental	
Operating Temperature	–25 to +70°C
Operating Humidity	5% to 95% (non-condensing)
Storage Temperature	–40 to +85°C

Regulatory Approvals	
EMI	EN55022 CLASS A, EN61000-3-2, EN61000-3-3, EN61000-6-4
EMS	EN55024, EN61000-6-2, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-6-2
Shock	IEC60068-2-27
Vibration	IEC60068-2-6
Free Fall	IEC60068-2-32
MTBF	249,683 Hours
Warranty	5 years

## Optional Accessories

100 Mbit/s SFP			
MLC2-DDM	Multi-mode 100 Mbit/s 2 km Fibre Transceiver with DDM LC, Operating Temp. -10 to +70°C	Art. number	1100-0431
SLC30-DDM	Single-mode 100 Mbit/s 30 km Fibre Transceiver with DDM, LC, Operating Temp. -10 to +70°C		1100-0432
1 Gbit/s SFP			
GMLC2-DDM	I-line, Multimode, LC-connector, 2 km, DDM, Operating Temp. -10 to +70°C	Art. number	1100-0442
GSLC10-DDM	I-line, Singlemode, LC-connector, 10 km, DDM, Operating Temp. -10 to +70°C		1100-0441

### Dimensions (Unit – mm / In)



### Ordering Information

Art.no	Description
3624-0210	Westermo i-line MDI-110-F3G (without SFP transceivers)
	Wall mounting plate
	Console Cable
	Quick Installation Guide
	Document CD