# 10-Port Industrial Gigabit L2 Managed DIN-Rail Switch

TI-G102i (v1.0R)

- 8 x Gigabit ports
- 2 x SFP slots
- Supports 100/1000Base-FX fiber SFP modules
- 20Gbps switching capacity
- Hardened IP30 rated metal housing
- Includes DIN-rail mounting bracket
- Wide operating temperature range of -40° – 75° C (-40° – 167° F)

- Supports LACP, STP/RSTP, VLAN, and IGMP Snooping
- IEEE 802.1p QoS with queue scheduling support
- Bandwidth control per port
- Dual redundant power inputs with overload current protection
- Alarm output triggered by power failure
- Power supply sold separately (model: TI-M6024)
- Lifetime Warranty*

TRENDnet's Industrial Gigabit L2 Managed DIN-Rail Switch series offers advanced layer 2 managed features with enhanced traffic controls to meet the evolving demands of today's SMB networks. Each industrial layer 2 managed switch is equipped with an IP30 rated metal enclosure, designed to withstand a high degree of vibration and shock, while operating within a wide temperature range of -40° – 75° C (-40° – 167° F) for industrial environments. Our industrial layer 2 managed switch models feature copper Gigabit ports for high-speed device connections, and SFP slots that support both 100Base-FX and 1000Base-FX modules for long distance fiber networking applications.

These industrial layer 2 managed DIN-Rail switches provide an intuitive web-based management interface. Each TRENDnet industrial layer 2 managed switch supports advanced traffic management controls, troubleshooting, and SNMP monitoring. Advanced managed switch features include LACP to group ports together to increase bandwidth between switches, VLANs for segmenting and isolating virtual LAN groups, QoS for traffic prioritization, port bandwidth controls, and SNMP monitoring making each TRENDnet industrial layer 2 managed switch a powerful solution for SMB networks.
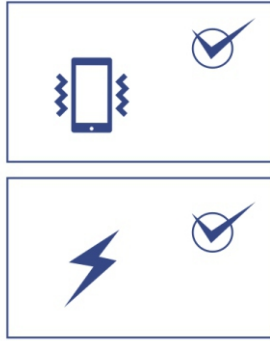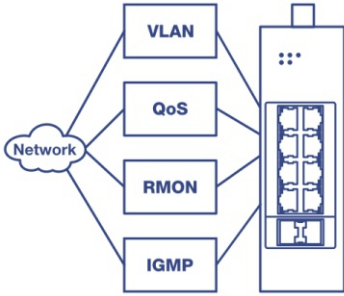
Integration Flexibility
Managed layer 2 features include VLAN, IGMP snooping, QoS, RMON, SNMP trap, and syslog for monitoring and flexible network integration.
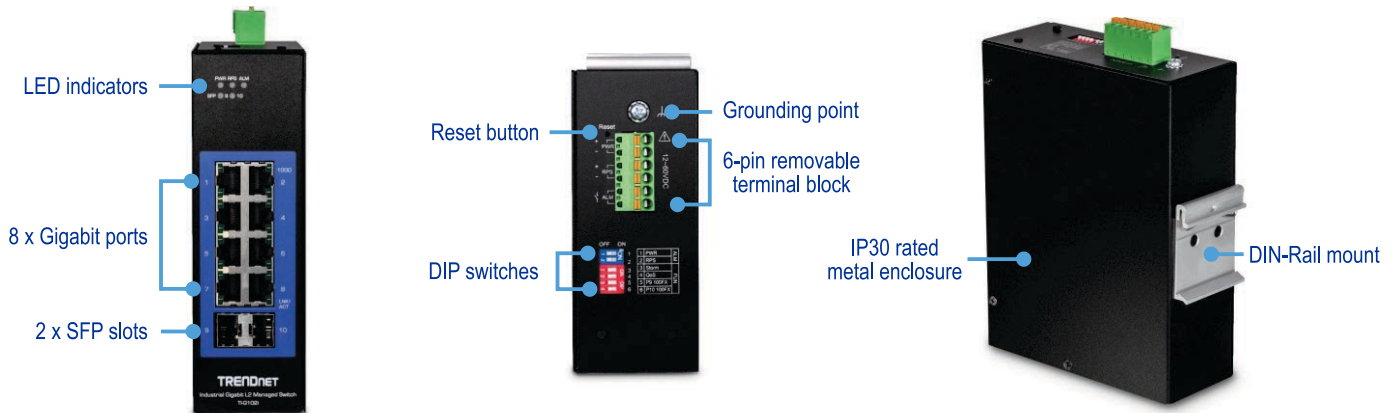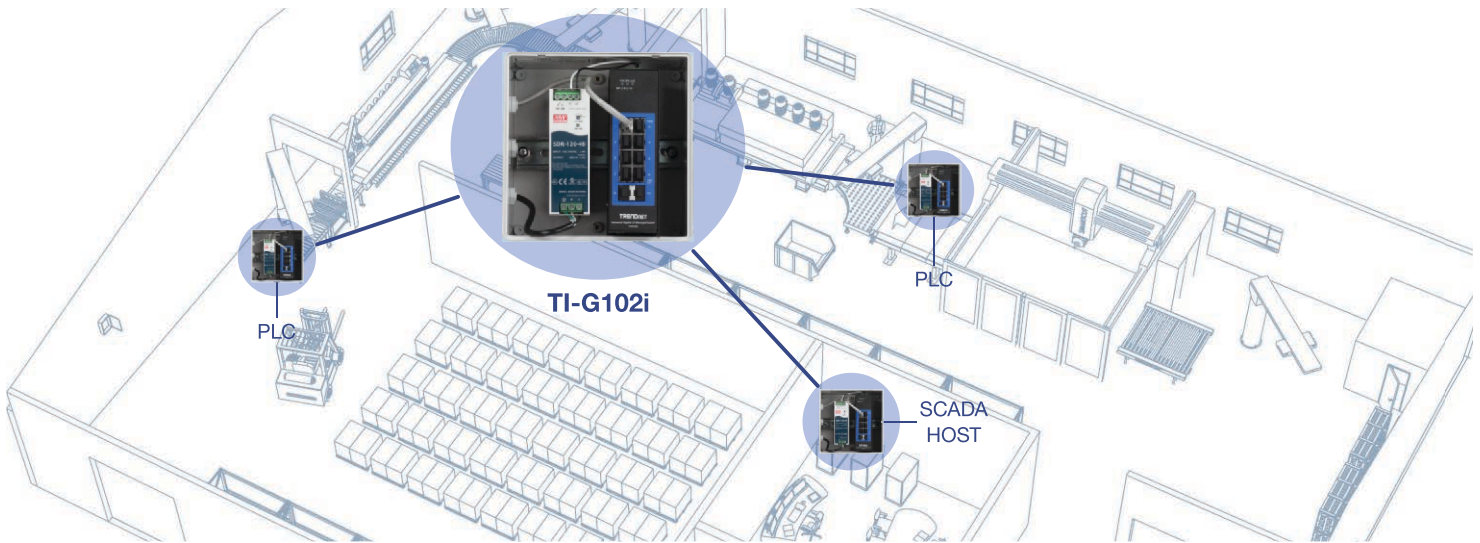
Shock and Vibration Resistant
The industrial layer 2 managed switches are rated for shock (EN 60068-2-27), freefall (EN 60068-2-32), and vibration (EN 60068-2-6).

Industrial Design
Equipped with an IP30 rated metal enclosure, the industrial layer 2 managed switch operates within a wide temperature range of -40° – 75° C (-40° – 167° F).

NETWORKING SOLUTION

PLC

TI-G102i

PLC

SCADA HOST

LED indicators

8 x Gigabit ports

2 x SFP slots

Reset button

DIP switches

Grounding point

6-pin removable terminal block

IP30 rated metal enclosure

DIN-Rail mount

TRENDnet®

FEATURES

Network Ports
Gigabit ports for high-speed network connectivity and SFP slots for long distance fiber applications

System Monitoring
Monitoring features include SNMP v1 / v2c / v3, MIB support, SNMP trap, RMON Groups (1, 2, 3, 9), SMTP alert, syslog, port mirroring, and SFP DDMI

Alarm Relay
Alarm relay output triggered by power failure of primary and / or redundant power to the industrial layer 2 managed switch

Shock and Vibration Resistant
Rated for shock (EN 60068-2-27), freefall (EN 60068-2-32), and vibration (EN 60068-2-6)

Traffic Management
Layer 2 Managed features include 802.1Q, MAC & Port Isolation VLAN, IGMP Snooping, per port bandwidth control / 802.1p / DSCP / Queue Scheduling (SPQ / WRR), STP / RSTP spanning tree, and link aggregation for flexible network integration

DIN-Rail Mount
IP30 rated metal enclosure, includes DIN-rail mounting bracket for the industrial layer 2 managed switch

Jumbo Frame
Sends larger packets, or Jumbo Frames (up to 10KB), for increased performance from the industrial layer 2 managed switch

Grounding Point
Grounding point protects equipment from external electrical surges on the industrial layer 2 managed switch

Access Control
Managed access control features include ACLs, IP-MAC-Port binding, ARP inspection, 802.1X RADIUS, MAC address learning, DHCP snooping, and IP Source Guard provide the industrial layer 2 managed switches with layered network access controls

Redundant Power
Dual redundant power inputs with overload current protection (power supply sold separately)

Wide Temperature Range
A wide operating temperature range of -40° – 75° C (-40° – 167° F) allows for installations in industrial environments with extreme hot or cold conditions

SPECIFICATIONS

Standards
- IEEE 802.1d
- IEEE 802.1p
- IEEE 802.1Q
- IEEE 802.1w
- IEEE 802.1X
- IEEE 802.1ab
- IEEE 802.1ax
- IEEE 802.3u
- IEEE 802.3x
- IEEE 802.3z
- IEEE 802.3ab
- IEEE 802.3ad
- IEEE 802.3az

Device Interface
- 8 x Gigabit ports
- 2 x 100/1000Mbps SFP slots
- 6-pin removable terminal block (primary/RPS power inputs & alarm relay output)
- DIP switches
- LED indicators
- Reset button

Management
- HTTP web-based GUI
- CLI: Telnet / SSHv2
- SNMP v1, v2c, v3
- SNMP trap (up to 5 receivers)
- RMON groups 1/2/3/9
- Device configuration backup & restore, upgrade firmware, reboot, and reset to default
- Multiple administrative or read-only user accounts
- Enable or disable power saving mode per port
- Static MAC entries
- LLDP (Link layer discovery protocol)
- Netlite device map
- ONVIF device discovery
- SNTP
- SMTP alert
- Syslog
- Port statistics/utilization
- Traffic monitor
- Port mirror: one to one, many to one
- Storm control: Broadcast, multicast, destination lookup failure (Min. limit: 1pps)
- Loopback detection
- DHCP relay/option 82
- Modbus/TCP
- SFP DDMI (Digital Diagnostic Monitoring Interface)

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

Performance
- Switch fabric: 20Gbps
- RAM buffer: 128MB
- MAC address table: 8K entries
- Jumbo frames: 10KB
- Forwarding mode: store and forward
- Forwarding rate: 14.88Mpps (64-byte packet size)

MIB
- MIB II RFC 1213
- Bridge MIB RFC 1493
- RMON (Group 1,2,3,9) RFC 2819 RFC 1757

Spanning Tree
- IEEE 802.1d STP (spanning tree protocol)
- IEEE 802.1w RSTP (rapid spanning tree protocol)
- BPDU filter, guard, and root guard

Quality of Service (QoS)

- 802.1p Class of service (CoS)
- DSCP (Differentiated Services Code Point)
- Bandwidth control per port
- Queue Scheduling: strict priority (SP), weighted round robin (WRR), weighted fair queuing (WFQ)

VLAN

- 802.1Q tagged VLAN
- MAC-based VLAN
- Port isolation
- Up to 256 VLAN groups, ID range 1-4094

Multicast

- IGMP snooping v1, v2, v3
- IGMP querier
- IGMP fast leave
- Up to 256 multicast groups
- Static multicast entries

Access Control

- 802.1X authentication (Local user database, RADIUS, guest VLAN assignment)
- DHCP snooping/screening
- Trusted host/IP access list for management access
- Port Security/MAC address learning restriction (Up to 100 entries per port)
- Static/dynamic ARP inspection

ACL

- Source/Destination MAC address
- Source/Destination IP address
- Source Interface
- VLAN ID
- EtherType
- TCP/UDP port 1-65535

Special Features

- Netlite device discovery and map display in GUI
- Port security: MAC address learning restriction per port
- DHCP relay/option 82 & DHCP server snooping/ screening support
- Wide operating temperature range
- Dual redundant power inputs
- Alarm relay triggered by power failure
- Surge and ESD protection

Power

- PWR (Primary) terminal input: 12 – 60V DC
- RPS (Redundant) terminal input: 12 – 60V DC
- Compatible power supply: TI-M6024 (60W), TI-S12024 (120W), TI-S12048 (120W), and TI-S24048 (240W) sold separately
- Max. consumption: 13W

DIP Switch

Switch	Status	Function
1	OFF	Disable alarm relay for PWR power input
	ON	Enable alarm relay for power failure on PWR power input
2	OFF	Disable alarm relay for RPS power input
	ON	Enable alarm relay for power failure on RPS power input
3	OFF	Storm control managed by switch configuration
	ON	Enable storm control (Broadcast and DLF rate set to 300pps) Takes precedence over storm control switch configuration
4	OFF	802.1p QoS managed by switch configuration
	ON	Enable 802.1p QoS on ports 1 and 2 (Set CoS priority to tag 4 on ports 1 and 2) Takes precedence over 802.1p QoS switch configuration
5	OFF	Port 9 SFP set to Gigabit speed full duplex
	ON	Port 9 SFP set to 100Mbps speed full duplex
6	OFF	Port 10 SFP set to Gigabit speed full duplex
	ON	Port 10 SFP set to 100Mbps speed full duplex

Terminal Block

- Redundant power inputs, alarm relay contact, 6-pin
- Wire range: 0.5 mm^2 to 2.5 mm^2
- Solid wire (AWG): 12-26
- Stranded wire (AWG): 12-26
- Wire strip length: 10-11mm

Alarm Relay Output

- Relay output with current carrying capacity of 1A, 24V DC
- Short circuit mode when one power source is connected
- Open circuit mode when two power sources are connected

Enclosure

- IP30 rated metal enclosure
- Fanless passive cooling
- DIN-Rail mount
- Grounding point
- ESD (Ethernet) Protection: 8KV DC
- Surge (Power) Protection: 2KV DC

MTBF

- 617,085 hours @ 25° C
- 113,378 hours @ 75° C

Operating Temperature

- -40° – 75° C (-40° – 167° F)

Operating Humidity

- Max. 95% non-condensing

Dimensions

- 160 x 120 x 50mm (6.3 x 4.72 x 1.97 in.)

Weight

- 884g (1.95 lbs.)

Certifications

- CE
- FCC
- Shock (IEC 60068-2-27)
- Freefall (IEC 60068-2-32)
- Vibration (IEC 60068-2-6)

Warranty

- Lifetime Warranty*

Package Contents

- TI-G102i
- Quick Installation Guide
- Removable terminal block
- DIN rail mounting bracket

Updated: 6/6/2019