



6-Port Hardened Industrial Gigabit PoE+ Layer 2 Managed DIN-Rail Switch

TI-PG541i (v1.0R)

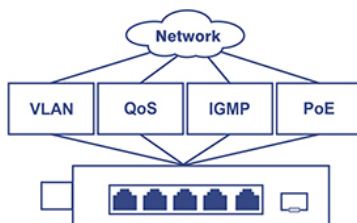
- Hardened IP30 rated metal enclosure with integrated DIN-Rail mount
- Wide operating temperature range - 40 to 75 °C (-40 to 167 °F)
- 4 x Gigabit PoE+ (802.3at) ports, 1 x Gigabit port, and 1 x Gigabit SFP slot
- 120 Watts total power budget
- Dual redundant power inputs and alarm relay output
- CLI (Telnet), Web (HTTP), SNMP v1 / v2c management
- 802.1Q / MAC-Based VLAN and IGMP Snooping support
- 802.1p / DSCP / Queue Scheduling (SP/WFQ/WRR) QoS support
- Power supply sold separately (models: 48VDC3000 / TI-S24048 / TI-S12048)

TRENDnet's 6-Port Hardened Industrial Gigabit PoE+ Layer 2 Managed DIN-Rail Switch, model TI-PG541i, has four Gigabit PoE+ ports, one Gigabit port, one Gigabit SFP slot and a 120 Watts PoE budget. The switch is equipped with an IP30 rated metal enclosure and designed to withstand a high degree of vibration, shock, protection against ESD / EMI / surge, and operate within a wide temperature range (- 40 – 75 °C (- 40 - 167 °F)) for harsh environments. L2 management include features such as PoE port control, VLAN, multicast, and QoS which allow for network integration flexibility.



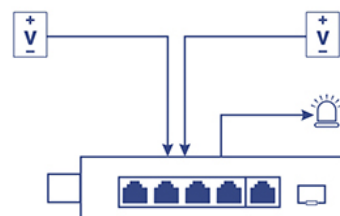
Industrial Hardened Design

Equipped with a rugged IP30 rated enclosure and designed to withstand a high degree of vibration, shock, protection against ESD/EMI/surge, and operate with a wide temperature range (-40 – 75 °C (-40 - 167 °F)) for harsh environments.



Integration Flexibility

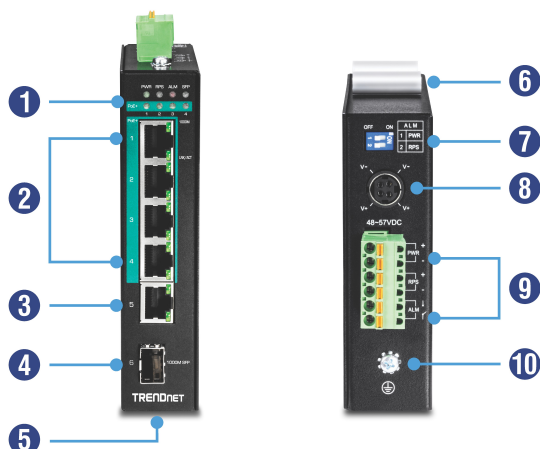
Managed features include PoE per port control/priority/scheduling/power delay, 802.1Q/MAC-based VLAN, IGMP snooping, per port bandwidth control/802.1p/DSCP/queue scheduling, and SNMP trap/RMON/SNMP alert/syslog/port mirror for monitoring and flexible network integration.



Fault Tolerance

Features dual redundant power inputs (Primary and RPS) from external power sources and an output alarm relay to indicate the event of input power failure

NETWORKING SOLUTION



- | | |
|----------------------|-----------------------------|
| 1 LED indicators | 6 Integrated DIN-Rail mount |
| 2 Gigabit PoE+ ports | 7 DIP switches |
| 3 Gigabit port | 8 DC power connector |
| 4 SFP slot | 9 6-pin terminal block |
| 5 Reset button | 10 Grounding point |

FEATURES



Full PoE+ Power Budget

Supplies up to 30 Watts of PoE / PoE+ power per port (ports 1-4 802.3at / 802.3af) with a 120 Watt PoE power budget



Network Ports and Capacity

4 x Gigabit PoE+ ports, 1 x Gigabit Port, and 1 x Gigabit SFP slot allow for a 12 Gbps switching capacity



Integrated DIN-Rail Mount

IP30 rated metal enclosure with integrated DIN-Rail mounting hardware



Full PoE Control Per Port

PoE control features include enabling / disabling PoE and class, power priority, PD alive check, scheduling, and power delay per port using CLI or web management.



L2 Management

Managed features include 802.1Q, /MAC-Based VLAN, IGMP v1/2/3 Snooping, per port bandwidth control/ 802.1p/DSCP/Queue Scheduling (SP/ WFQ/WRR), and Storm Control for flexible network integration.



System Monitoring

Monitoring features include SNMPv1/v2c, MIB support, SNMP trap, RMON Groups (1, 2, 3, 9), SMTP alert, syslog, and port mirroring.



Redundant Power

Dual redundant power inputs (primary and RPS) with overload current protection



Alarm Output

Alarm relay output triggered by power failure of primary and / or redundant power (DIP switch)



Jumbo Frame

Sends larger packets, or Jumbo Frames (up to 10 K)



Wide Temperature

Hardened switch is rated for an operating temperature range of - 40 to 75 °C (-40 to 167 °F)



Electro Magnetic Compliance

Complies with IEC61000-6-2 EMC generic standard immunity for industrial environments



Shock and Vibration Resistant

Rated for shock (IEC 60068-2-27), freefall (IEC 60068-2-32), and vibration (IEC 60068-2-6)



LED Indicators

LED indicators convey power, redundant power, alarm, SFP, PoE, and network port status



Grounding Point

Grounding point protects equipment from external electrical surges

SPECIFICATIONS

Standards

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

Device Interface

- 4 x Gigabit PoE+ ports
- 1 x Gigabit port
- 1 x Gigabit SFP slot
- 6-pin removable terminal block (primary / RPS power inputs & alarm relay output)
- Optional power adapter input (adapter sold separately)
- DIP switch (Alarm for Primary / RPS power)
- LED indicators

Data Transfer Rate

- Ethernet: 10 Mbps (half-duplex), 20 Mbps (full-duplex)
- Fast Ethernet: 100 Mbps (half-duplex), 200 Mbps (full-duplex)
- Gigabit Ethernet: 2000 Mbps (full-duplex)
- SX / LX: 2000 Mbps (full-duplex)

Performance

- Switch fabric: 12 Gbps
- RAM buffer: 512 KB
- MAC address table: 8K entries
- Jumbo frames: 10 KB
- Forwarding rate: 8.93 Mpps (64-byte packet size)

Management

- CLI (Telnet)
- HTTP web based GUI
- SNMP v1, v2c
- SNMP trap
- RMON groups 1, 2, 3, 9
- Enable / disable 802.3az power saving
- LLDP
- Netlite device map*
- ONVIF device discovery*
- SNTP
- SMTP alert
- Syslog
- Port statistics / utilization
- Traffic monitor
- Trusted host
- Port mirror (Ingress, Egress, Both)
- Storm control (Multicast, DLF, Broadcast)
- Loopback detection*
- DHCP relay/option 82*
- Modbus/TCP*
- SFP DDMI (Digital Diagnostic Monitoring Interface)*

Access Control

- 802.1X authentication (Local user database, RADIUS, guest VLAN assignment)*
- DHCP snooping/screening*
- Port Security/MAC address learning restriction*
- Static/dynamic ARP inspection*

ACL

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

MIB

- MIB II RFC 1213
- Bridge MIB RFC 1493
- Ethernet Interface MIB RFC 1643
- RMON MIB RFC 1757
- Power Ethernet MIB RFC 3621

Spanning Tree

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

Link Aggregation

- Static link aggregation and 802.3ad dynamic LACP (Up to 2 groups)*

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 Fair Queuing (WFQ), Weighted Round Robin (WRR)

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 entries
- Static multicast entries

Special Features

- CLI & web based management
- Full power PoE+
- Wide operating temperature range
- Dual redundant power inputs
- Alarm relay triggered by power failure
- Surge / ESD protection

Power

- PWR (Primary) terminal input: 48 – 57 V DC (TI-S12048 sold separately)
- RPS (Redundant) terminal input: 48 – 57 V DC (TI-S12048 sold separately)
- Consumption: 10 Watts (max.), 130 Watts (max.) with PoE+ fully loaded

Optional Power Adapter (48VDC3000 sold separately)

- Input: 100 – 240 V AC, 50/60 Hz, 2 A
- Output: 48 V DC, 3.34 A 160 Watts max.

Optional Power Supply (TI-S24048 / TI-S12048 sold separately)

- Input: 100 – 240 V AC, 50/60 Hz, 1.8 A 125 – 370 V DC
- Output: 240 Watts, 48 V, 5 A
- DIN-rail: TS-35 / 7.5 or 15
- Operating Temperature: - 25 to 70 °C (- 13 to 158 °F)

PoE

- PoE budget: 120 Watts
- Up to 15 Watts per port for PoE
- Up to 30 Watts per port for PoE+
- Mode A: Pins 1, 2 (V+) and pins 3, 6 (V-)
- PoE enable / disable per port setting, priority, scheduling, power delay, and PD alive check

Enclosure

- IP30 rated metal enclosure
- DIN-Rail Mount
- Grounding Point
- ESD (Ethernet) Protection: 8KV DC
- Surge (Power) Protection: 6KV DC

MTBF

- 180,136 hrs @ 65 °C
- 435,905 hrs @ 25 °C

Operating Temperature

- - 40 – 70 °C (- 40 - 158 °F)

Operating Humidity

- Max. 95% non-condensing

Dimensions

- 152 x 120 x 31 mm (5.98 x 4.72 x 1.22 in.)

Weight

- 528 g (1.17 lbs.)

Certifications

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

Warranty

- 3 year limited

Package Contents

- TI-PG541i
- Quick Installation Guide
- CD-ROM (User's Guide)