CTS
CONNECTION TECHNOLOGY SYSTEMS

CVT-5102SFP-MG

1 x 10G/1GBase-X SFP+ to

1 x 10G/5G/2.5G/1G/100MBase-T RJ-45

Managed Standalone Media Converter

Description

The CVT-5102SFP-MG is CTS's groundbreaking new **managed 10G/Multi-Gigabit media converter** engineered to meet the escalating demands for higher bandwidth and seamless network transitions between **10G fiber** and **5-speed Ethernet**.

Interface

This model features **one 10G/5G/2.5G/1G/100MBase-T RJ-45 port** and **one 10/1GBase-X SFP+ port**, ensuring compatibility with a wide range of network environments and devices. This allows for efficient and flexible data transfer, making it an essential infrastructure for modern networking needs, especially in Wi-Fi scenarios.

Product Highlights: Remote Manageable & Highly Secure

As a managed networking device, the CVT-5102SFP-MG is user-friendly to configure **advanced layer 2 IP management**, such as port management, VLAN, QoS via web-based interface, CLI, or SNMP, which enables comprehensive remote control and maintenance.

On a cyber-secure note, it is equipped with advanced security features like **DHCP snooping**, **DHCP server trust port**, and **storm control** for unknown unicast, unknown multicast, and broadcast traffic to safeguard your network integrity.

Ideal Applications

In support of 10G/Multi-G, remote control and cyber security, our CVT-5102SFP-MG functions perfectly for environments requiring diverse and high-speed data transmission, as well as robust security, such as **enterprise networks** and **infrastructures of service providers**.

In terms of installation, this model offers flexible options— including **wall mounting**, **DIN-rail mounting**, and **magnetic mounting**— making it adaptable to various deployment scenarios.

Key Features

■ **Diverse Speed Transitions: 10G/1G Fiber to Multi-Gigabit (10G/5G/2.5G/1G/100M) Ethernet**

Featuring a 10G/1G SFP+ port and a 5-speed RJ-45 port (10G/5G/2.5G/1G/100M), it is perfect for instantly bridge the high-speed fiber network and various multi-gigabit devices with no additional setup.

■ **IPv4/IPv6 Dual Stack**

It is capable of running IPv4 and IPv6 protocols in parallel and interoperating with other IPv4, IPv6, and dual-stack devices, which enables IPv6 management and IPv6 packet forwarding.

■ **Full IP Management**

This model features full IP management capabilities, including **SNMP (v1, v2c, and v3)**, **Web-based interfaces (HTTP/HTTPS),** and **Command Line Interface (CLI)** access via **Telnet** and **SSHv2**, enabling remote monitoring, configuring and control over the device.

■ **Enhanced Security Features for Network Integrity**

Equipped with advanced functions to safeguard network integrity, it features DHCP snooping and DHCP server trust port to prevent unauthorized DHCP servers from compromising your network. Additionally, storm control for unknown unicast, unknown multicast, and broadcast traffic effectively mitigates potential network disruptions, ensuring a stable and secure networking environment.

■ **Versatile Installation Modes**

To adapt perfectly to diverse environments, it supports five types of installation modes: flat-type wall mounting, flat-type DIN-rail mounting, slim-type wall mounting, slim-type DIN-rail mounting, and magnetic mounting.

■ **Targeted Applications**

• Network infrastructures demanding 10-gigabit fiber converting to multi-gigabit Ethernet and remote management functions.

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Specification

■ Interface

RJ-45 Port

- 1 x 10G/5G/2.5G/1G/100MBase-T RJ-45

Fiber Port

- 1 x 10/1GBase-X SFP+

Standards

- IEEE 802.3an 10GBase-T
- IEEE 802.3ae 10GBase-R
- IEEE 802.3bz 2.5G/5GBase-T (NBase-T)
- IEEE 802.3ab 1000Base-T
- IEEE 802.3z 1000Base-X
- IEEE 802.3u 100Base-TX/FX
- IEEE 802.1p Priority
- IEEE 802.1q Tag VLAN
- IEEE 802.3x Flow Control
- IEEE 802.1ab LLDP

■ H/W Specification

- MAC Address Table: 4K
- Non-Blocking Switching Fabric: 40Gbps
- Throughput @ 64Bytes: 29.76Mpps
- Packet Buffer: 8Mbit
- Jumbo Frame: 16K Bytes
- Store and Forward Switching Mechanism
- Auto-Cross Over for MDI/MDIX in TP Ports
- Auto-Negotiation in TP Ports
- Full/Half Duplex Mode Operation

■ LED

- Power, Status
- TP Link/ACT/Speed, F/O Link/ACT/Speed

■ Forward/Filter Rate

- 10G: 14,880,000/14,880,000pps
- 5G: 7,440,000/7,440,000pps
- 2.5G: 3,720,000/3,720,000pps
- 1000M: 1,488,000/1,488,000pps
- 100M: 148,800/148,800pps

■ Layer 2 Switch Features

Port Management

- State, Description, Media Type, Port Type, Speed, Duplex and Flow Control
- LAN Follow WAN

VLAN

- Port-Based VLAN
- IEEE 802.1q VLAN
  VLAN ID: 4094 IDs
  VLAN Concurrent Groups: 128 VLAN Groups
- Q-in-Q Double tag with Configurable Ether Type (ISP mode)

QoS

- QoS based on Port, 802.1p CoS and DSCP
- Scheduling Algorithm
  Weighted Round Robin (WRR)
  Strict Priority Queuing (SPQ)
- QoS Priority Queues: 8 Queues
- 802.1p P-bit & DSCP Remarking
- Port-Based Rate Limit (Ingress/Egress)

IPv6 Feature

- IPv6 over Ethernet (RFC 2464)
- IPv6 Addressing Architecture (RFC 4291)
- IPv6 Dual Stack (RFC 4213)
- ICMPv6 (RFC 4884)
- Path MTU Discovery for IPv6 (RFC 1981)
- Neighbor Discovery (RFC 4861)
- DHCPv6 Client

■ Security

- 802.1x RADIUS/TACACS+ Authentication for Login Username/Password
- IP Source Binding
- DHCP Snooping and DHCP Server Trust Port
- DHCP Option 82/37 Relay Agent
- DHCP Option 82/37 with configurable circuit and Remote ID
- Storm Control (Unknown Unicast/Unknown Multicast/Broadcast)

■ Management

- SNMP v1, v2c & v3 (Support Traps)
- Web (HTTP/HTTPS)
- CLI (Telnet/SSHv2)
- SNTP with Daylight Saving Time
- LLDP

Upgrade/Restore

- Firmware Upgrade/Downgrade
  HTTP/HTTPS/FTP/TFTP
  DHCP Auto-provision via DHCP Option 60/43
- Configuration Upload/Backup
  HTTP/HTTPS/FTP/TFTP
  DHCP Auto-provision via DHCP Option 60/43
- Auto Configure Backup
  FTP/TFTP

■ Maintenance

Diagnostic

- ICMP Ping
- Event log
- Syslog
- SFP SFF-8472 DDMI Monitor
  Temp/Voltage/TX Bias/TX Power/RX Power
- CPU Utilization
- Memory Statistics

iProbe Advanced Diagnostic

- Cable Test
- HTTP Reachability Diagnostic *
- DHCP Client Emulation
- DNS Connection Measurement
- Throughput Test (iPerf3 / Nuttcp)
- Ping Test
- Diagnostics Schedule

■ Power Requirement

- Power Input (Main Body): 12V DC
- Power Adapter (Including in package):
  Input: 100~240V AC, 50/60Hz
  Output: 12V DC
- Power Consumption
  Device: full-load < 8.8W (30 BTU/h)
  With adapter: full-load <10W (34.1 BTU/h)

■ Environmental Condition

- Operation: 0˚C ~ 50˚C
- Storage: -20˚C ~ 60˚C
- Humidity: 5% ~ 90%, Non-condensing

■ Dimension & Weight

- Size: 71 x 94 x 26mm (W x D x H)
- Weight: 210g
- Housing: Aluminum(Upper), Iron(Bottom)

■ Standards and Certifications

CE/FCC Class A

- Safety: EN/IEC 62368-1
- EMC: EN 55032 / EN 55035
- ESD
  Air Discharge: +/-8kV
  Contact Discharge: +/-4kV
- EFT
  AC input: +/-1kV
  Signal (RJ-45): +/-0.5kV
- Surge Protection
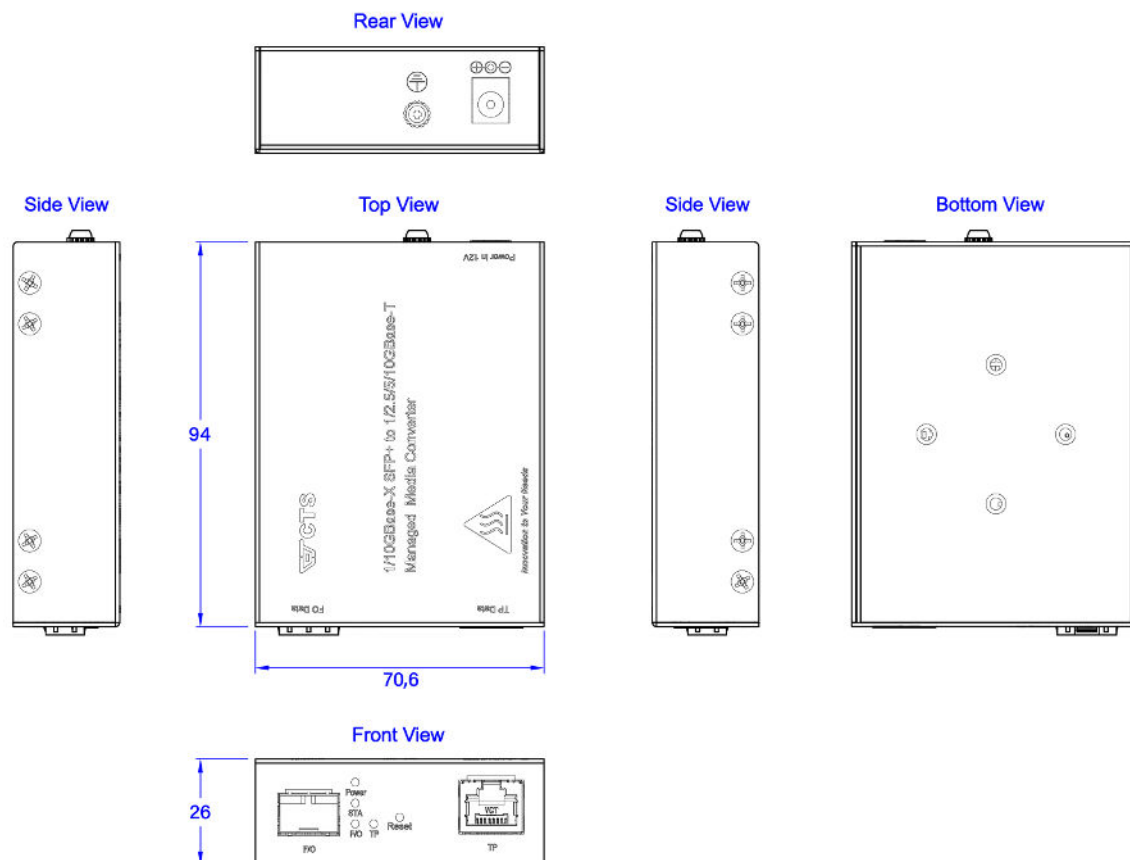 AC input: +/-2kV
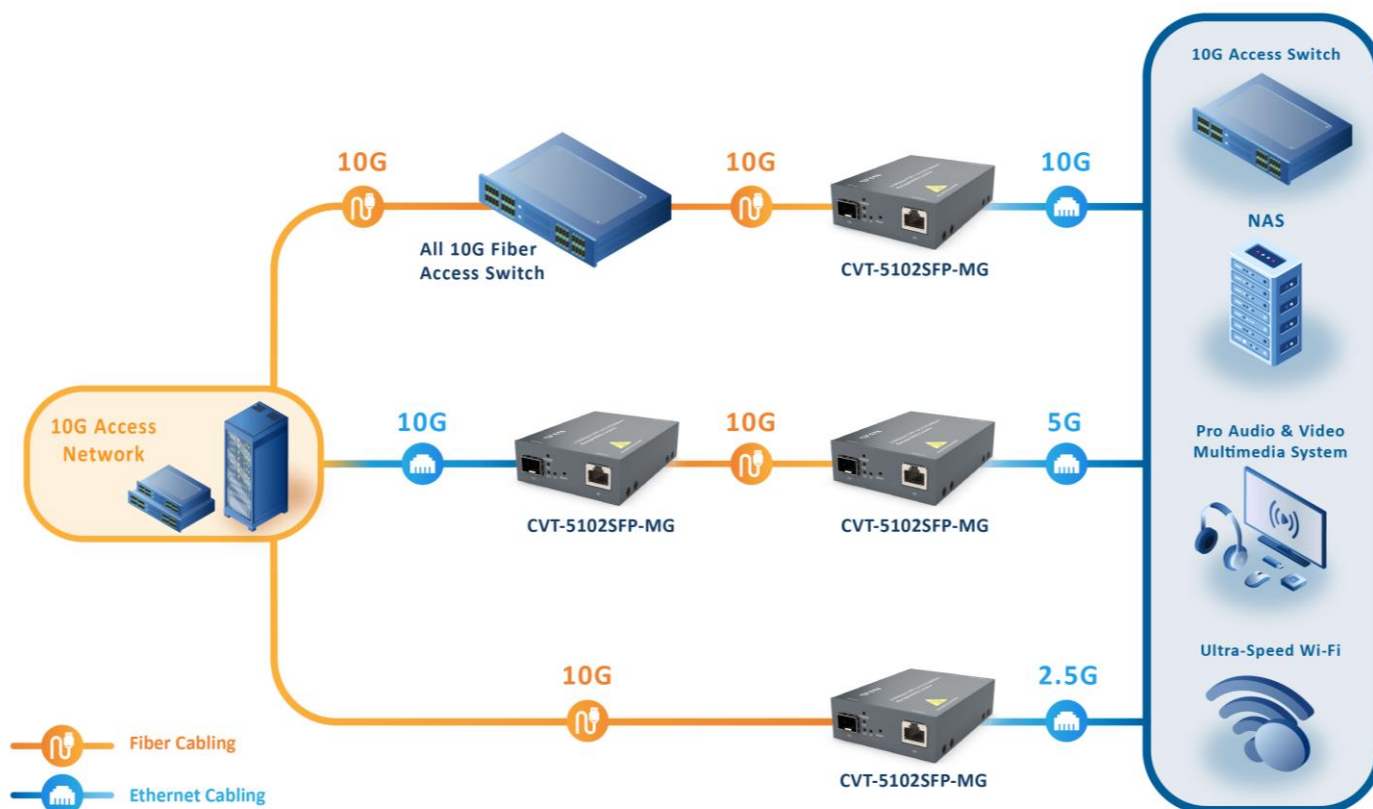 Signal (RJ-45): +/-1kV

VCCI/UKCA/RCM

RoHS 2.0

* Coming soon

Dimension

Unit : mm

Rear View

Side View

Top View

1/10GBase-X SFP+ to 1/2.5/5/10GBase-T Managed Media Converter

94

70,6

Side View

Bottom View

Front View

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Power
STA
FXO TP Reset

FXO

TP

Application Diagram

Order Information

Model	Fiber Slot			TP Port		Support Power Source
	Speed	Type	Slot	Speed	Port	
CVT-5102SFP-MG	10G/1G	SFP+	1	10G/5G/2.5G/1G/100M	1	By 12V DC External Power Adaptor

Accessory

SFP-51

Model	Specification					
	Speed	Type	Connector	Distance	Wavelength	Operating Temperature
SFP-51FC	10Gbps	MM	LC	300M	850nm	0˚C~70˚C
SFP-51FC(SM-02/10/20/40)	10Gbps	SM	LC	2/10/20/40KM	1310/1310/1310/1550nm	0˚C~70˚C
SFP-51W2A(SM-10/20/40)	10Gbps	WDM	LC	10/20/40KM	TX: 1270/1270/1270nm RX: 1330/1330/1330nm	0˚C~70˚C
SFP-51W2B(SM-10/20/40)	10Gbps	WDM	LC	10/20KM	TX: 1330/1330/1330nm RX: 1270/1270/1270nm	0˚C~70˚C

SFP-31

Model	Specification					
	Speed	Type	Connector	Distance	Wavelength	Operating Temperature
SFP-31FC-DR	100/1000Mbps	MM	LC	550M/2KM	1310nm	0˚C~70˚C
SFP-31FC(SM-10)-DR	100/1000Mbps	SM	LC	10KM	1310nm	0˚C~70˚C
SFP-31W2A(SM-10/20)-DR	100/1000Mbps	WDM	LC	10/20KM	TX: 1310/1310nm RX: 1550/1550nm	0˚C~70˚C
SFP-31W2B(SM-10/20)-DR	100/1000Mbps	WDM	LC	10/20KM	TX: 1550/1550nm RX: 1310/1310nm	0˚C~70˚C
SFP-31FC	1000Mbps	MM	LC	550M	850nm	0˚C~70˚C
SFP-31FC(SM-10/20/40)	1000Mbps	SM	LC	10/20/40KM	1310/1310/1310nm	0˚C~70˚C
SFP-31W2A(SM-10/20/40)	1000Mbps	WDM	LC	10/20/40KM	TX: 1310/1310/1310nm RX: 1550/1550/1550nm	0˚C~70˚C
SFP-31W2B(SM-10/20/40)	1000Mbps	WDM	LC	10/20/40KM	TX: 1550/1550/1550nm RX: 1310/1310/1310nm	0˚C~70˚C

* SFP-31xxx-DR modules only support 1000Mbps on CVT-5102SFP-MG

Copper SFP

Model	Specification			
	Speed	Connector	Distance	Operating Temperature
SFP-50TP-MG(30M)	10Gbps	RJ-45	30M @ Cat 6A	0˚C~65˚C
	2.5/5Gbps		50M @ Cat 5E	
	1000Mbps		100M @ Cat 5E	
SFP-30TP	1000Mbps	RJ-45	100M	0˚C~70˚C

Accessory

Installation Kit (Optional)

Model	Mounting Method	Support Model
CVT Wall-Mount Kit	Flat type wall mounting	SRC/CVT Series Media Converter
DIN Rail (50x45mm)	Flat type DIN-rail	SRC/CVT Series Media Converter
CVT magnet kit	Flat type wall mounting	SRC/CVT Series Media Converter
SRC/CVT Slim Wall Mount Kit	Slim type wall mounting	SRC/CVT Series Media Converter
SRC/CVT Slim Wall+DIN Rail Kit	Slim type wall mounting & DIN-rail	SRC/CVT Series Media Converter