

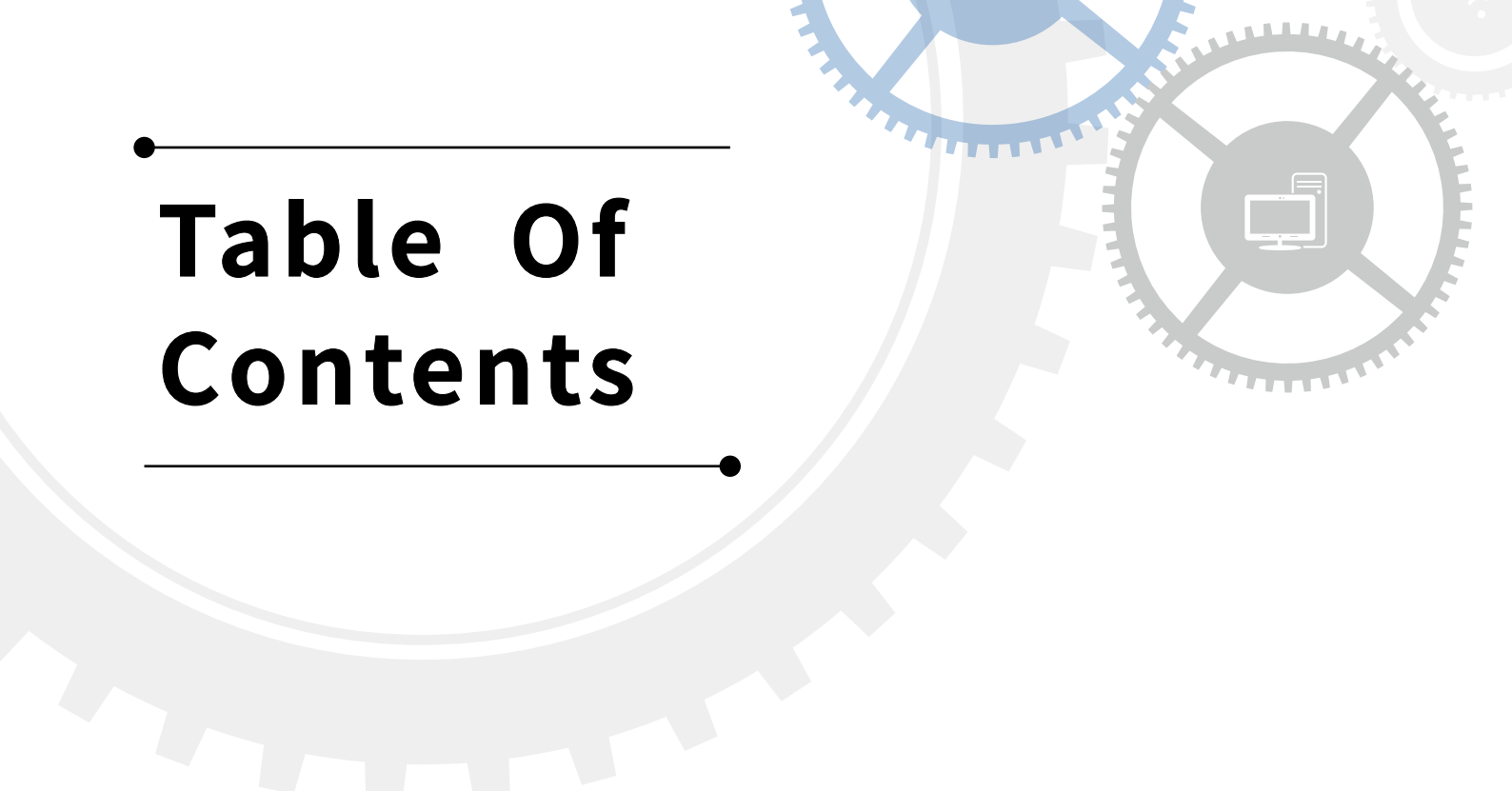
# MEDIA CONVERTER SOLUTIONS

---

EXTEND AND CONVERT INTERFACE,  
SIGNALS FOR ETHERNET NETWORK



- Media Chassis
- Media Converter
- Industrial Media Converter



# Table Of Contents

## CTS

About CTS	03
Why CTS	04
Successful Case	05

## Fiber Media Converter Solutions

Application of Media Converter Solutions	11
Chassis Solution	
• Compact Media Converter Chassis	13
• Media Converter Chassis	13
Standalone Media Converter Solution	
• 10G Media Converter	14
• 1G Compact Media Converter	15
• 1G Media Converter	16
• 100M Media Converter	17
• Home Size Media Converter	18



# Industrial Media Converter Solutions

## Industrial Level Solution (-40~75°C)

- Industrial 60W PoE++ Media Converter 19
- Industrial Media Converter 20

## Entry Level Solution (-20~60°C)

- Industrial 802.3at PoE+ Media Converter 21
- Industrial Media Converter 22

# Accessory

## SFP/SFP+ Transceiver

- 10G Ethernet 23
- Gigabit Ethernet 23
- Industrial Gigabit Ethernet 24

Lightning Protector 24

External Battery Unit 24

Industrial Power Supply 25



## Professional Network Solution Provider

Founded in 1998, Connection Technology System Inc. (CTS) consists of a group of design, technical, and marketing professionals with diverse backgrounds in the communication field and focuses on the professional FTTX and Industrial networking solutions to telcos, network operators, and broadband service providers all over the world. In 2017, with the advantages and experiences accumulated from FTTX markets, CTS launched SIMPNiC\* to dedicate to the most cutting-edge IoT integrated solutions to meet the trend of smart living.



**CTS**  
CONNECTION TECHNOLOGY SYSTEMS

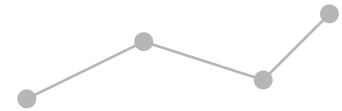
FTTX, Industrial  
Network Solutions

**SIMPNI**C

IoT Integrated Solutions

(\*www.simpnic.com)

# About CTS



### In close cooperation with our partners, CTS has achieved:

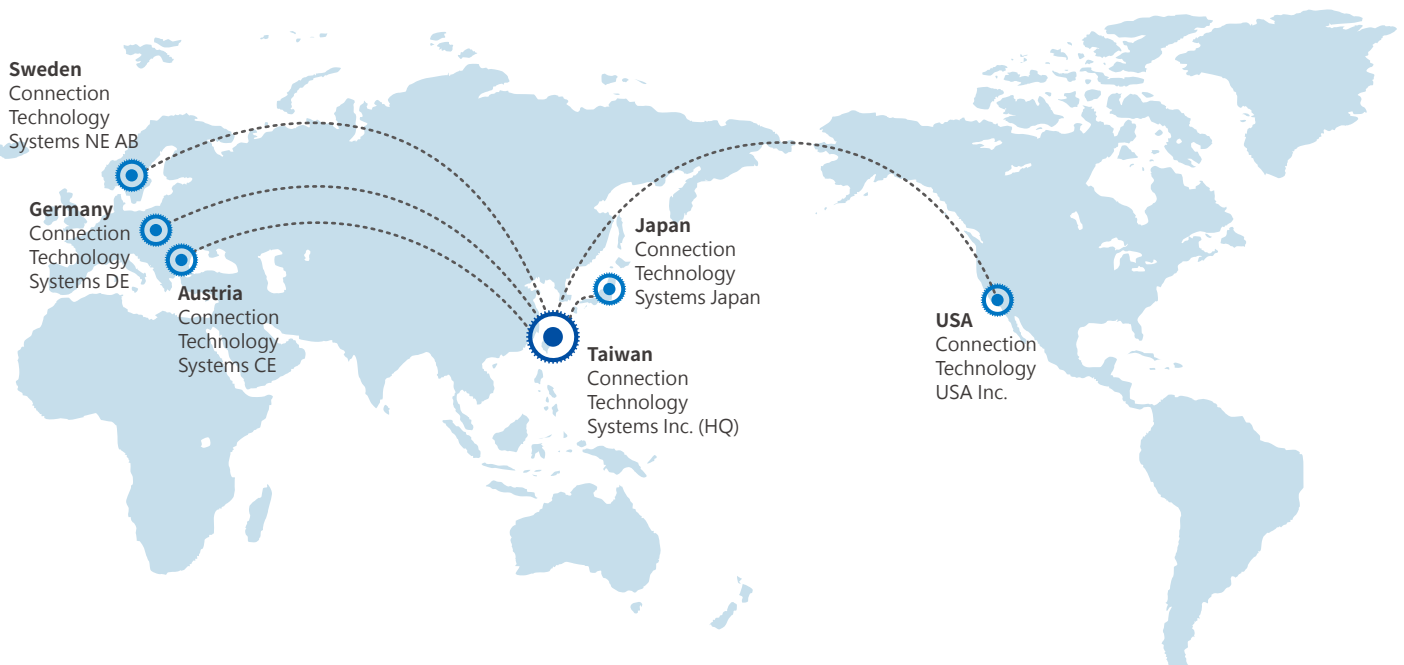
Over **1,4 Million** FTTX Last Mile Deployments

Over **750,000** Fiber Ethernet Connectivity Deployments

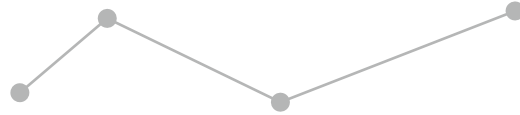
Over **100,000** FTTB Access-Side Deployments

With in-house design capability and over 20 years of FTTX domain knowledge, CTS has been a reliable partner who always acts proactively to understand customers needs in order to provide the most innovative and valuable solution. While our business is growing in different parts of the world, CTS established local branches in Sweden, USA, Japan and Austria since 2010 to provide fast and efficient response as well as to form a deeper understand and closer relationship with regional markets.

Throughout the past two decades, CTS has seamlessly teamed up with our customers and delivered a wide range of professional fiber connectivity solutions. We will continue to keep our customer in mind and think steps-ahead to develop flexible, high-quality and efficient solutions that create the most value to our customers around the world.

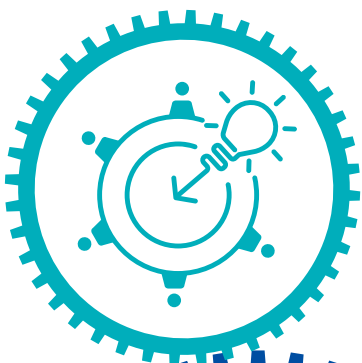


# Why CTS



## The Spirit of Pursuing Excellence

For CTS, our achievement is defined by each successful story our customers have experienced. Until this day, with 20 years experiences in the field, CTS' innovative spirit and passion still driving the company to pursue excellence. Through continuously interact with the clients and the markets, CTS has insisted on keeping "Differentiation and Glocalization" which has make us one of the leading solution providers for telecom companies, network operators, and broadband service providers all over the world.



### Networking Consultant

- With more than 20 years of FTTX experiences, our " Smart-consult Team" combines the best of CTS members who work closely with customers.
- Local professional team in CTS branches offers quick and regional-specific assist and allows us to response value-added information and can think steps ahead.



### In-house Designer

- With the ability to design and manufacture by ourselves, CTS continuously pursues to optimize the solution for better fiber connectivity deployment and future applications.
- Conscientiously research on the market in order to create innovative differentiations to fulfill the ever-growing expectation from the customers worldwide.



### Trustworthy Partner

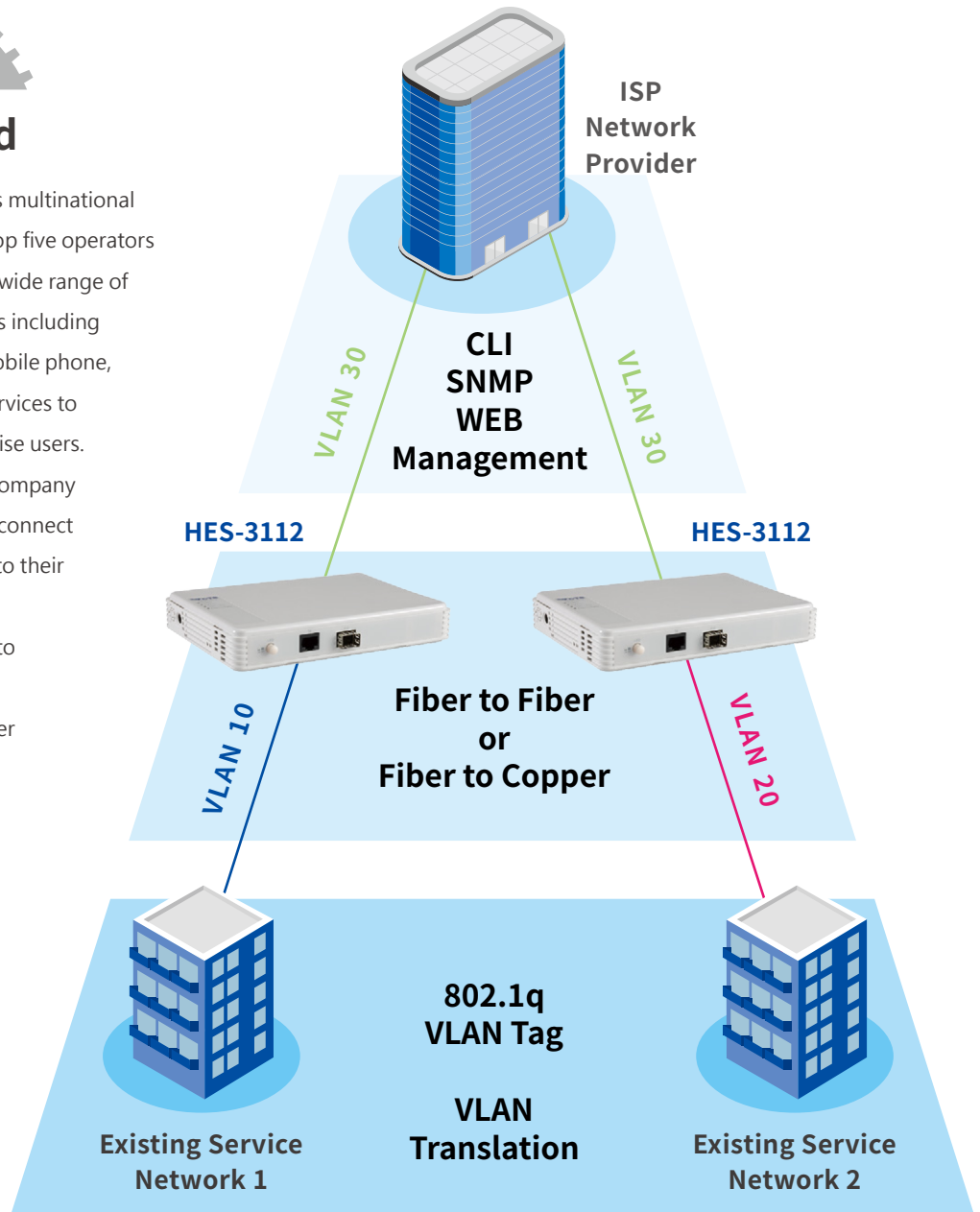
- CTS is not just a vender but partner to our client because we always keep our customer's goal in mind to develop the most fitted solution.
- 0.07% DOA rate is a result of CTS' high-standard quality control program that demonstrate throughout the design, manufacturing, customer service process.



# Top 5 Europe-based Telecom Chose CTS Solution for Its Enterprise Network

## Background

Established in 1988, this multinational telecom is ranked the top five operators in Europe. It provides a wide range of communication services including fixed line telephone, mobile phone, broadband and IPTV services to both home and enterprise users. However, the telecom company faced challenges when connect the expanded network to their existing network. This triggered the company to search for the most efficient solution in order to serve its enterprise customers without too much hassle...



## CTS Products



### HES-3112SFP-CL-DR

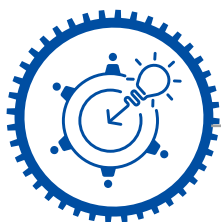
Managed Dual Rate Media Converter

## Challenge

- ① The VLAN in the newly expanded network is different from the VLAN in the existing network.
- ② Increase popularity of Gigabit network in business users while some still remain at 100Mbps.
- ③ The operator needs to be able to monitor and troubleshoot around the clock for its enterprise users.
- ④ Request high security that only allows specify source from the operator to manage the devices.

## Solution & Benefit

- ① Intergrate two networks by VLAN Translation feature to avoid massive re-configuration.
- ② With dual-rate capability from 100Mbps to Gigabit, the operator is able to cater different requirements.
- ③ Remote IP management with WEB/CLI configurable option allows the operator to manage and trouble shoot with ease.
- ④ Support IP Source Binding to meet the security requirement for a large operator.



### Networking Consultant

Adapt features to meet local needs with standard interoperability.



### Trustworthy Partner

Our smart-consult team provides professional assists in the project development stage.



### In-house Designer

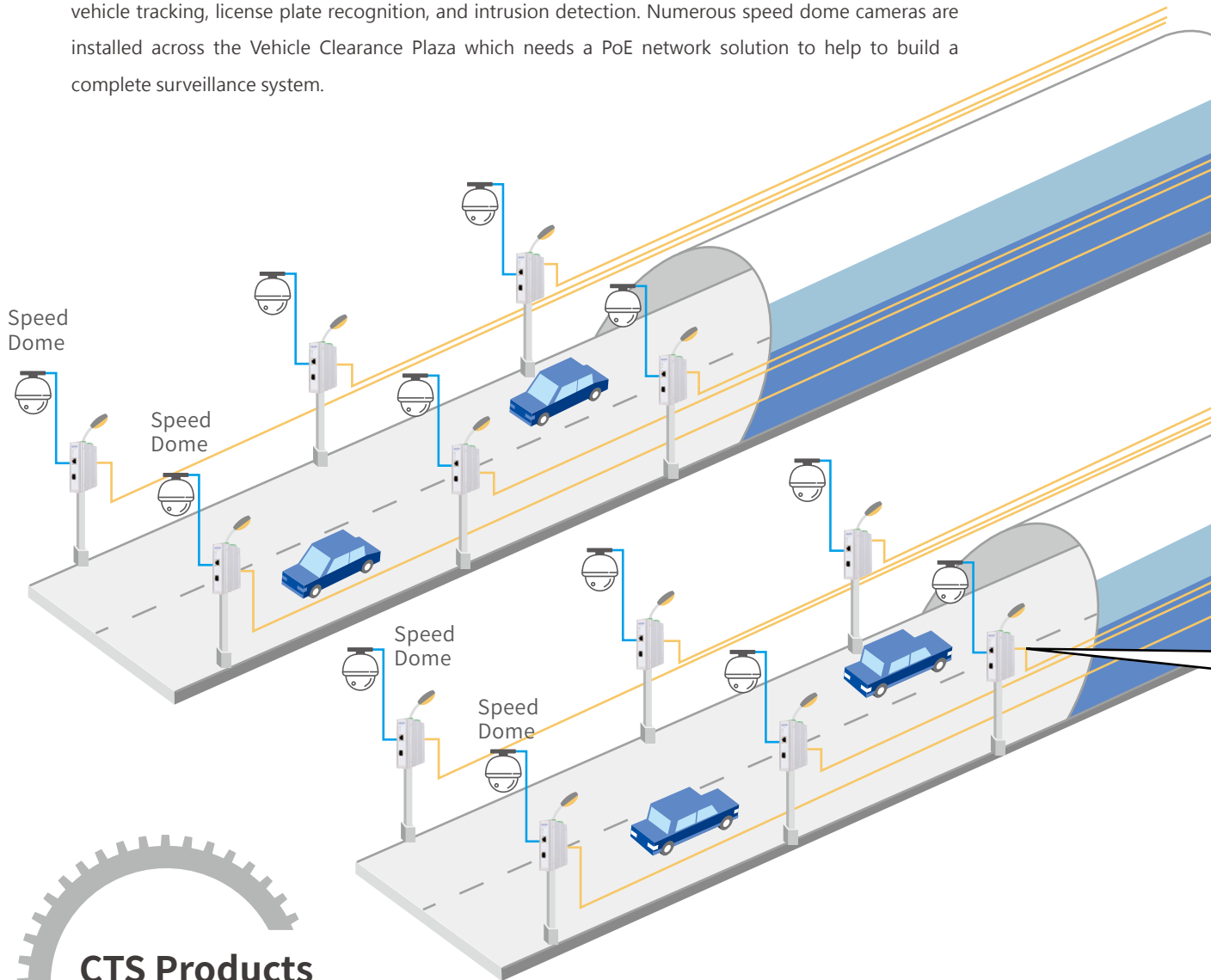
Help the customer to solve the problem in the most efficient way.

# CTS Industrial Media Converter Is Adopted by Hong Kong Border Facility



## Background

Hong Kong Boundary Crossing Facilities (HKBCF) is the immigration and customer check point on the Hong Kong–Zhuhai–Macau Bridge. To meet security requirements and provide convenient services to motorists and passengers, HKBCF deployed state of the art Automatic Vehicle Clearance System (AVCS) for vehicle tracking, license plate recognition, and intrusion detection. Numerous speed dome cameras are installed across the Vehicle Clearance Plaza which needs a PoE network solution to help to build a complete surveillance system.

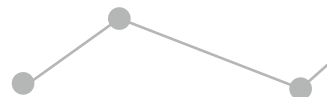


## CTS Products



### IPC-3012-PoE++

1-Port SFP to 1-Port **60W PoE++** Gigabit Industrial Media Converter



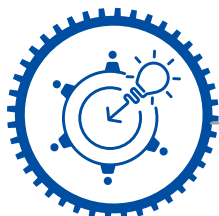
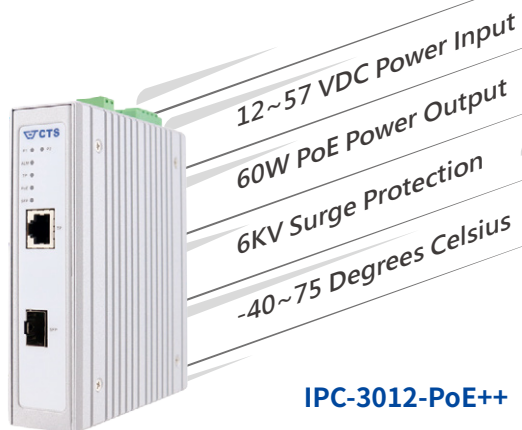


## Challenge

- ① Speed dome camera require 60W power input.
- ② Outdoor site on an artificial island with subtropical climate.
- ③ Frequent thunder storm on site.
- ④ Required 24/7 non-stop surveillance network.

## Solution & Benefit

- ① IPC-3012-PoE++ compatible with IEEE 802.3af/at PoE+ and up to 60W power output.
- ② Able to operate smoothly in outdoor, marine, hot and humid environments.
- ③ 6KV Surge Immunity on copper ports prevent devices from damage.
- ④ Dual power input (12~57VDC) and built-in power booster to ensure non-stop and stable power supply to the connected cameras.



### Networking Consultant

Our professional sales and technical team helped client looking for the best fitted solution.



### Trustworthy Partner

The CTS in-house design and production team ensure the top-notch quality.



### In-house Designer

Providing the reliable product that helps the customer achieve their goal more effectively.



## Extension and Expansion for Point-to-Point Solutions

In an ever-growing world of internet, media conversion is important for interconnecting two source of services. For CTS, it's our job to simplify data transportation and create seamless connection between different devices. MCT/CVT Media Converters series are flexible and cost-effective solution for implementing and optimizing fiber links to copper link in all types of networks.

With centralized Media Chassis – MCT/CVT-RACK Series, the stand-alone, plug-and-play MCT/CVT Media Converters can easily expand the fiber-optic networks. The wiring distance of MCT/CVT-RACK Series can extend from 2 to 120km and the transmission distance is up to 120km.

- 10G Solution for 10G SFP+ to 10G SFP+ or 10G SFP+ to 100M/1G/2.5G/5G/10G N-Base-T
- Gigabit Solution for 100/1000Base-X SFP to 100/1000Base-X SFP or 1G SFP to 10/100/1000Base-T
- WEB UI and SNMP v1/v2c Management Interface for Managed Media Converter
- Plug and Play 2/16/18-Slots Media Chassis
- 12/18-Slots Managed Media Chassis via WEB UI, CLI, Telnet, SSH and SNMP v1/v2c Management Interface



## Robust, Reliable and Extensible Solution to Reach Copper Devices Effortlessly



**-40~75  
Degrees  
Celsius**



**IAC-3012**



**60W PoE  
Output**



**IPC-3012-PoE++**



**Dual Fiber**

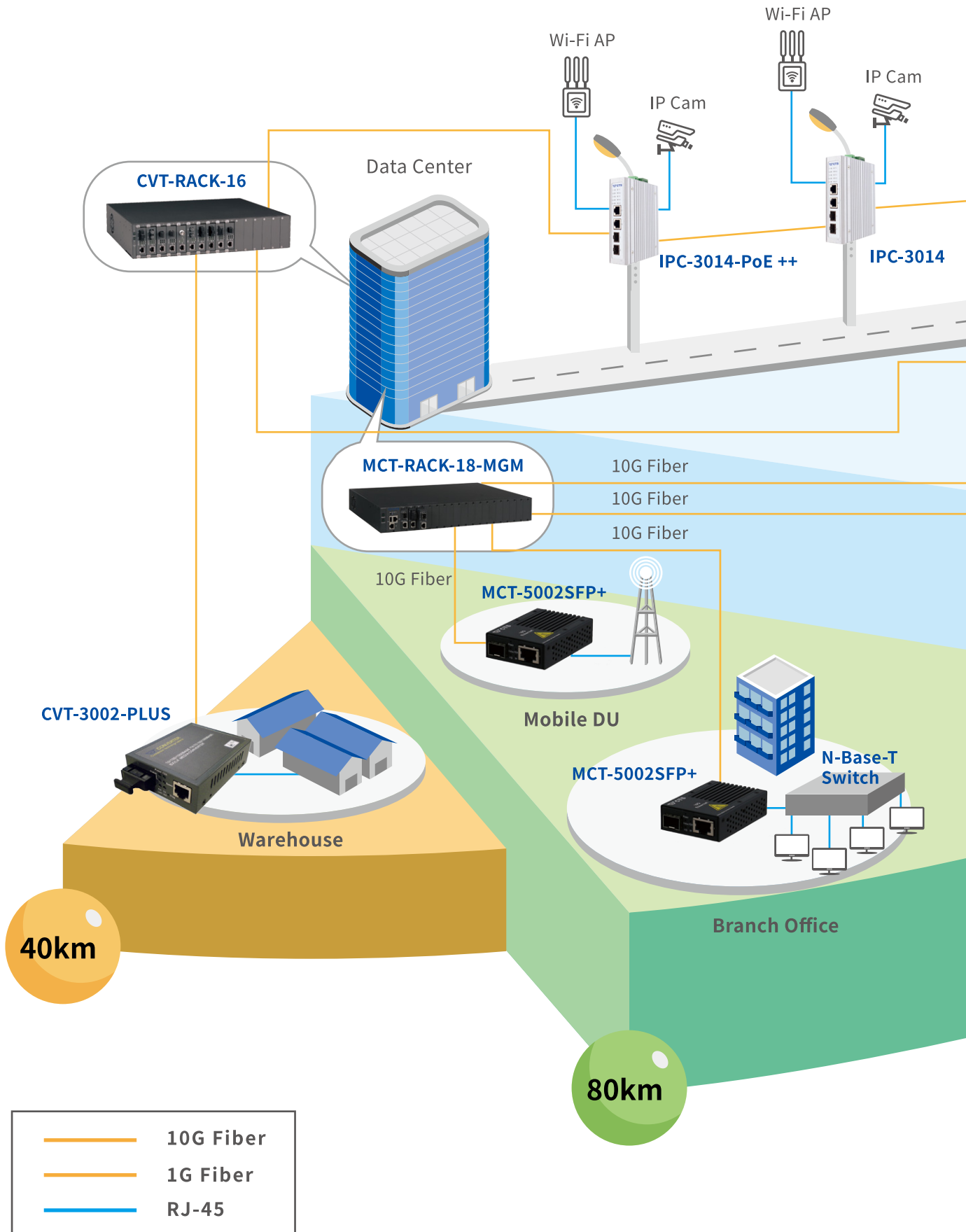


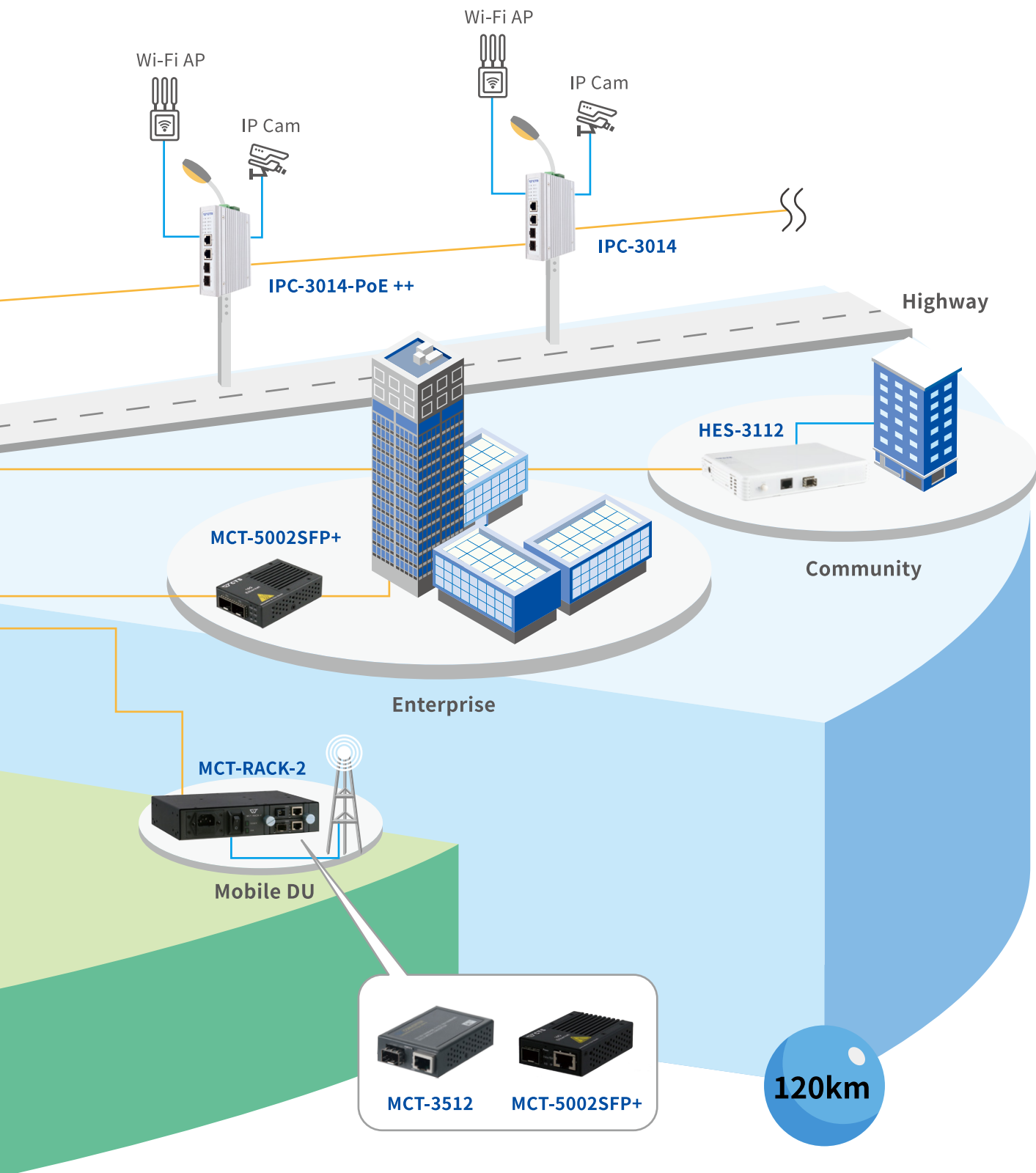
**IPC-3014-PoE++**

CTS Industrial Media Converters in robust IP30 housing are designed to meet the demands of industrial network plug-and-play usage. Industrial Media Converters can extend your Ethernet network beyond 100-meter limitation and convert fiber links from multi-mode to single-mode or vice versa. The wiring distance of CTS Industrial Media Converters can extend from 2 to 120km and data transmission distance is up to 120km.

- IP30 Slim Design Housing
- -40~75 Degrees Celsius Operating Temperature for Harsh Operating Environment
- 12~48/12~57/48~54VDC Dual Power Input for Uninterrupted Network System
- 1/2-port Copper to 1/2-port Fiber-optic Interface
- Supports 1/2-port PoE Injector
- Supports IEEE 802.3at/af PoE and 60W PoE++ Power Output
- Built-in DIP Switch Provides Port Isolation and Fiber Redundancy Mode

# Application of Media Converter Solutions





## Compact Media Converter Chassis

Model Name	MCT-RACK-18-MGM Managed	MCT-RACK-12-MGM Managed	MCT-RACK-18 Non-managed	MCT-RACK-2 Non-managed
------------	----------------------------	----------------------------	----------------------------	---------------------------

Product Image



Hardware	Chassis Slots	18	12	18	2
	Dimension W x D x H	440 x 340 x 66 mm	440 x 340 x 44 mm	440 x 340 x 66 mm	210 x 160 x 44 mm
	Operating Temperature (Humidity)	0~50°C (5~90%)			
	Power Source	2 x Hot Swappable 100~240VAC/48VDC		2 x Fixed 100~240VAC/48VDC	1 x Fixed 100~240VAC/48VDC
	Power Consumption (Full Load)	35W	26W	33W	16W
	Converter Modules	MCT-5002FSMSFP+, MCT-5002SFP+, MCT-3512, MCT-3612, MCT-3002, MCT-100 Series			
Management & Features	Management Port	1 x 10/100Base-T RJ-45 1 x RS-232 to RJ-45 Console		-	
	USB Port	1 x USB 2.0 (Type A)		-	
	Digital Input/Output	1/1		-	
	Management	Telnet, CLI, WEB, SNMP v1/v2c/v3		-	
	SNMP Power Down Trap	•		-	
	SNTP	•		-	
	Firmware/Configuration Upgrade	FTP/TFTP/HTTP		-	
Certifications	EMC/Safety	FCC Class A, CE			

## Media Converter Chassis

Model Name	CVT-RACK-16 Non-managed	CVT-RACK-16S Non-managed
------------	----------------------------	-----------------------------

Product Image



Hardware	Chassis Slots	16	16
	Dimension W x D x H	440 x 385 x 88mm	440 x 280 x 88mm
	Operating Temperature (Humidity)	0~50°C (5~90%)	
	Power Source	2 x Hot Swappable 115 or 230VAC/48VDC	1 x Fixed 115 or 230VAC/48VDC
	Power Consumption (Full Load)	98W	95W
	Hot Swappable FAN Number	3	-
	Converter Modules	CVT-5002SFP+, CVT-3512, CVT-3112, CVT-3002, CVT-2512, CVT-2112, CVT-100 Series	
Certifications	EMC/Safety	FCC Class A, CE	

## 10G Media Converter

Model Name	MCT-5002FSMSFP+ Non-managed	MCT-5002SFP+ Non-managed	CVT-5002SFP+ Non-managed
------------	--------------------------------	-----------------------------	-----------------------------

Product Image



Hardware	10G SFP+	2	1	2
	10G N-Base-T*	-	1	-
	Store and Forward	-	•	-
	Auto-MDI/MDI-X	-	•	-
	Auto-negotiation in TP Port	-	•	-
	Flow Control	-		
	MAC Address Table	-		
	Memory Buffer	-	128K Bytes	-
	Jumbo Frame	9K Bytes		
	Slide-in Chassis	MCT-RACK Series		CVT-RACK Series
	Dimension W x D x H	51 x 74 x 20mm		71 x 94 x 26mm
	Operating Temperature (Humidity)	0~50°C (5~90%)		
	Power Source	12VDC		5VDC
	Power Consumption	6.5W	8W	4.3W
	Management & Features	IEEE 802.3ah OAM	-	
TS-1000 Loopback Test		Passive Loopback	-	
QoS		-		
QoS Priority Queue		-		
Bandwidth Control		-		
VLAN		-		
VLAN ID		-		
VLAN Groups		-		
Management		In Rack Management	-	
SNMP Power Down Trap		-		
DHCP		-		
Link Fault		Signal Loss Alarm	Link Alarm	
Firmware Upgrade		In Rack	-	
Certifications	EMC/Safety	FCC Class A, CE		

\* 100M/1G/2.5G/5G/10G N-Base-T RJ-45 interface

## 1G Compact Media Converter

Model Name	MCT-3512* MCT-3512-DR* Managed	MCT-3612 MCT-3612-DR Managed	MCT-3002 MCT-3002-DR Non-managed
------------	--------------------------------------	------------------------------------	--

Product Image



Hardware	10/100/1000Base-T	1	1	1
	10/100Base-TX	-	-	-
	1000Base-X	1 (BTFX/W2X/SFP)	1 (BTFX/W2X/SFP)	1 (BTFX/W2X/SFP)
	100Base-FX	Compatible	Compatible	Compatible
	Store and Forward		•	
	Auto-MDI/MDI-X		•	
	Auto-negotiation in TP Port		•	
	Flow Control		-	
	MAC Address Table		2K	
	Memory Buffer		128K Bytes	
	Jumbo Frame		9K Bytes	
	Slide-in Chassis		MCT-RACK Series	
	Dimension W x D x H		51 x 74 x 20mm	
	Operating Temperature (Humidity)		0~50°C (5~90%)	
	Power Source		3.3VDC	
Power Consumption	2.5W	2.1W	2.3W	
Management & Features	IEEE 802.3ah OAM	•	-	
	TS-1000 Loopback Test		-	
	QoS		-	
	QoS Priority Queue		-	
	Bandwidth Control		•	-
	VLAN		802 1q, Q-in-Q	-
	VLAN ID		4094	-
	VLAN Groups		8	-
	Management	In Rack Management Remote Management**	In Rack Management	-
	SNMP Power Down Trap		-	
	DHCP		-	
	Link Alarm	-	•	
	Firmware Upgrade		In Rack	-
Certifications	EMC/Safety	FCC Class A, CE		

\* MCT-3512/MCT-3512-DR support Link Pass Through

\*\* Must be used with another MCT-3512 in a managed MCT-RACK



## 1G Media Converter

Model Name	CVT-3512	CVT-3112	CVT-3002-PLUS CVT-3002-PLUS-DR	CVT-3002FSMSFP-DR
	Managed	Managed	Non-managed	Non-managed

Product Image



Hardware	10/100/1000Base-T	1	1	1	-
	10/100Base-TX	-	-	-	-
	1000Base-X	1 (BTFX/W2X/SFP)	1 (BTFX/W2X/SFP)	1 (BTFX/W2X/SFP)	2 (SFP)
	100Base-FX	-	-	Compatible	Compatible
	Store and Forward		•		-
	Auto-MDI/MDI-X		•		-
	Auto-negotiation in TP Port		•		-
	Flow Control		•		-
	MAC Address Table		1K	2K	-
	Memory Buffer		32K Bytes	128K Bytes	-
	Jumbo Frame		9K Bytes		
	Slide-in Chassis		CVT-RACK Series		
	Dimension W x D x H		71 x 94 x 26mm		
	Operating Temperature (Humidity)		0~50°C (5~90%)		
	Power Source		5VDC		
Power Consumption		3.4W	2.2W	1.8W	
Management & Features	IEEE 802.3ah OAM	•		-	
	TS-1000 Loopback Test		•		-
	QoS			-	
	QoS Priority Queue			-	
	Bandwidth Control		•		-
	VLAN		802 1q, Q-in-Q		-
	VLAN ID		4094		-
	VLAN Groups		16		-
	Management		WEB, SNMP v1/v2c		-
	SNMP Power Down Trap		•		-
	DHCP		Client		-
	Link Alarm			•	
	Firmware Upgrade		HTTP		-
Certifications	EMC/Safety		FCC Class A, CE		

## 100M Media Converter

Model Name	CVT-2512	CVT-2112	CVT-100	MCT-100
	Managed	Managed	Non-managed	Non-managed

Product Image



OAM



Compact Size

Hardware	10/100/1000Base-T	-	-	-	-
	10/100Base-TX	1	1	1	1
	1000Base-X	-	-	-	-
	100Base-FX	1 (BTFX/W2X/SFP)	1 (BTFX/W2X/SFP)	1 (BTFX/W2X)	1 (BTFX/W2X/SFP)
	Store and Forward	•			
	Auto-MDI/MDI-X	•			
	Auto-negotiation in TP Port	•			
	Flow Control	•			-
	MAC Address Table	1K		2K	
	Memory Buffer	12K Bytes		128K Bytes	
	Jumbo Frame (9K Bytes)	9K Bytes			
	Slide-in Chassis	CVT-RACK Series			MCT-RACK Series
	Dimension W x D x H	71 x 94 x 26mm			51 x 74 x 20mm
	Operating Temperature (Humidity)	0~50°C (5~90%)			
	Power Source	5VDC			3.3VDC
Power Consumption	2.9W		2.2W	2.1W	
Management & Features	IEEE 802.3ah OAM	•			-
	TS-1000 Loopback Test	•			-
	QoS	-			
	QoS Priority Queue	-			
	Bandwidth Control	•			-
	VLAN	802 1q, Q-in-Q		-	
	VLAN ID	4094		-	
	VLAN Groups	16		-	
	Management	WEB, SNMP v1/v2c		-	
	SNMP Power Down Trap	•			-
	DHCP	Client		-	
	Link Alarm	•			
Firmware Upgrade	HTTP		-		
Certifications	EMC/Safety	FCC Class A, CE			

## Home Size Media Converter

Model Name	HES-3112-CL-DR	HET-3012-DR
	Managed	Non-managed

Product Image



Hardware	10/100/1000Base-T	1 (COMBO)	1
	10/100Base-TX	-	-
	1000Base-X	2 (W2X/SFP)	1 (BTFX/W2X/SFP)
	100Base-FX	Compatible	Compatible
	Store and Forward		•
	Auto-MDI/MDI-X		•
	Auto-negotiation in TP Port		•
	Flow Control		•
	MAC Address Table		2K
	Memory Buffer		128K Bytes
	Jumbo Frame		9K Bytes
	Cable Tray	Option (HES-FCT-S)	Built-in
	Dimension W x D x H	180 x 130 x 30mm	160 x 110 x 45mm
	Operating Temperature (Humidity)	0~50°C (5~90%)	
	Power Source	12VDC	
	Power Consumption	4.8W	3W
	Management & Features	IEEE 802.3ah OAM	-
IPv6		IPv4/IPv6 Dual Stack	-
QoS		P-bit, CoS, DSCP	-
QoS Priority Queue		4	-
Bandwidth Control		•	-
VLAN		802.1q, Q-in-Q, Port Based	-
VLAN ID		4094	-
VLAN Groups		128	-
SSHv2		•	-
Management		Telnet, CLI, WEB, SNMP v1/v2c	-
SNMP Power Down Trap		•	-
DHCP		Client, Auto Provisioning	-
Link Alarm		-	
Firmware Upgrade		FTP/TFTP	-
Certifications	EMC/Safety	FCC Class A, CE	

## Industrial 60W PoE++ Media Converter (-40~75°C)

Model Name	IPC-3014-PoE++ Non-managed	IPC-3012-PoE++ Non-managed
------------	-------------------------------	-------------------------------

Product Image



Hardware	10/100/1000Base-T	2	1
	1000Base-X	2	1
	100Base-FX	Compatible	Compatible
	Digital Output	•	
	PoE	1 x 60W PoE++ and 1 x 802.3af/at PoE+	1 x 60W PoE++ or 1 x 802.3af/at PoE+
	PoE Budget (Max.)	90W	60W
	Power Connector	Terminal Block	
	Power Source	12~57VDC Dual Input	
	Power Consumption	96W	64.8W
	Store and Forward	•	
	Auto-MDI/MDI-X	•	
	Auto-negotiation in Fiber Port	•	
	MAC Address Table	2K	
	Memory Buffer	128K Bytes	
	Jumbo Frame	9K Bytes	
	Link Alarm	•*	
	Dimension W x D x H	36 x 110 x 135mm	
	Operating Temperature (Humidity)	-40~75°C (5~90%)	
	Network Redundancy	Fiber Backup Mode	-
	Certifications	EMC/Safety	FCC Class A, CE
Stability		IEC 60068-2-27 (Shock), IEC 60068-2-32 (Freefall), IEC 60068-2-6 (Vibration)	
Surge		ITU-T K.21 Enhanced Level 6KV	

\* Customer should inform CTS before manufacturing if they request for adding link alarm function

## Industrial Media Converter (-40~75°C)

Model Name	IAC-3014 Non-managed	IAC-3012 Non-managed
------------	-------------------------	-------------------------





Product Image



Hardware	10/100/1000Base-T	2	1
	1000Base-X	2	1
	100Base-FX	Compatible	Compatible
	Digital Output	•	
	Power Connector	Terminal Block	
	Power Source	12~48VDC Dual Input	
	Power Consumption	4.8W	3.4W
	Store and Forward	•	
	Auto-MDI/MDI-X	•	
	Auto-negotiation in Fiber Port	•	
	MAC Address Table	2K	
	Memory Buffer	128K Bytes	
	Jumbo Frame	9K Bytes	
	Link Alarm	•*	
	Dimension W x D x H	36 x 110 x 135mm	
	Operating Temperature (Humidity)	-40~75°C (5~90%)	
Network Redundancy	Fiber Backup Mode	-	
Certifications	EMC/Safety	FCC Class A, CE	
	Stability	IEC 60068-2-27 (Shock), IEC 60068-2-32 (Freefall), IEC 60068-2-6 (Vibration)	
	Surge	ITU-T K.21 Enhanced Level 6KV	

\* Customer should inform CTS before manufacturing if they request for adding link alarm function

## Industrial 802.3at PoE+ Media Converter (-20~60°C)

Model Name	WPC-3112	WPC-3012	WPC-2112	WPC-2012	
	Managed	Non-managed	Managed	Non-managed	
Product Image					
Hardware	10/100/1000Base-T	1	1	-	-
	10/100Base-TX	-	-	1	1
	1000Base-X	1	1	-	-
	100Base-FX	-	-	1	1
	Digital Output	•			
	PoE	1 x 802.3af/at PoE+			
	PoE Budget (Max.)	30W			
	Power Connector	Terminal Block + DC Jack			
	Power Source	48~54VDC Triple Input			
	Power Consumption	38W	34W	36W	
	Store and Forward	•			
	Auto-MDI/MDI-X	•			
	Auto-negotiation in TP Port	•			
	Flow Control	•		-	
	MAC Address Table	1K			
	Memory Buffer	32K Bytes		12K Bytes	
	Jumbo Frame	9K Bytes			
Dimension W x D x H	35 x 93 x 105mm				
Operating Temperature (Humidity)	-20~60°C (5~90%)				
Management & Features	TS-1000 Loopback Test	•	-	•	-
	Bandwidth Control	•	-	•	-
	VLAN	802.1q, Q-in-Q	-	802.1q, Q-in-Q	-
	VLAN ID	4094	-	4094	-
	VLAN Groups	16	-	16	-
	Management	WEB, SNMP v1/v2c	-	WEB, SNMP v1/v2c	-
	SNMP Power Down Trap	•	-	•	-
	DHCP	Client	-	Client	-
	Link Alarm	•			
	Firmware Upgrade	HTTP	-	HTTP	-
Certifications	EMC/Safety	FCC Class A, CE			

## Industrial Media Converter (-20~60°C)

Model Name	WAC-3112 Managed	WAC-3012 Non-managed	WAC-2112 Managed	WAC-2012 Non-managed
------------	---------------------	-------------------------	---------------------	-------------------------

Product Image



Hardware	10/100/1000Base-T	1	1	-	-
	10/100Base-TX	-	-	1	1
	1000Base-X	1	1	-	-
	100Base-FX	-	-	1	1
	Digital Output	•			
	PoE	-			
	PoE Budget (Max.)	-			
	Power Connector	Terminal Block + DC Jack			
	Power Source	12~48VDC Triple Input			
	Power Consumption	3.84W		2.88W	
	Store and Forward	•			
	Auto-MDI/MDI-X	•			
	Auto-negotiation in TP Port	•			
	Flow Control	•		-	
	MAC Address Table	1K			
	Memory Buffer	32K Bytes		12K Bytes	
	Jumbo Frame	9K Bytes			
Dimension W x D x H	35 x 93 x 105mm				
Operating Temperature (Humidity)	-20~60°C (5~90%)				
Management & Features	TS-1000 Loopback Test	•	-	•	-
	Bandwidth Control	•	-	•	-
	VLAN	802.1q, Q-in-Q	-	802.1q, Q-in-Q	-
	VLAN ID	4094	-	4094	-
	VLAN Groups	16	-	16	-
	Management	WEB, SNMP v1/v2c	-	WEB, SNMP v1/v2c	-
	SNMP Power Down Trap	•	-	•	-
	DHCP	Client	-	Client	-
	Link Alarm	•			
	Firmware Upgrade	HTTP	-	HTTP	-
Certifications	EMC/Safety	FCC Class A, CE			

## 10G Ethernet SFP+ Transceiver

Product Image



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

## Gigabit Ethernet SFP Transceiver

Product Image



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

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



## Industrial Gigabit Ethernet SFP Transceiver

Product Image



Model Name	SFP-31-D					
	Specification					
	Speed (Mbps)	Type	Connector	Distance	Wavelength (nm)	Temperature
SFP-31FC-D	1000	MM	LC	550M	850	-40~85°C
SFP-31FC(MM-02)-D	1000	MM	LC	2KM	1310	-40~85°C
SFP-31FC(SM-10/20)-D	1000	SM	LC	10/20KM	1310/1310	-40~85°C
SFP-31W2A(SM-10/20)-D	1000	WDM	LC	10/20KM	TX:1310/1310	-40~85°C
					RX:1550/1550	
SFP-31W2B(SM-10/20)-D	1000	WDM	LC	10/20KM	TX:1550/1550	-40~85°C
					RX:1310/1310	

## Lightning Protector

Product Image



Model Name	LPB-101						
	Copper Port				Temperature	Dimension W x D x H	Note
	Speed (Mbps)	Type	Input Port	Output Port			
LPB-101G-P	10/100/1000	RJ-45 w/ PoE	1	1	0~50°C	70 x 25 x 25mm	It is necessary to be grounding properly when implementing.
LPB-101G	10/100/1000	RJ-45	1	1	0~50°C	70 x 25 x 25mm	

## External Battery Unit

Product Image



Model Name	EBU-120						
	DC Input	External Battery (Recommended Spec.)		Charging/Backup (for reference)		Temperature	Dimension W x D x H
		Voltage	Type	Capacity	Charging Time		
EBU-120	12V	VRLA	12V/2.3h	7hrs	2.2hrs (for HES-3109SSFP)	0~50°C	124 x 70 x 30mm

## Industrial Power Supply

Product Image



Model Name		SDR-480-48	SDR-240-48	SDR-120-48	SDR-75-48
Output	Rated Power	480W	240W	120W	76.8W
	Voltage Adj. Range*	48~55V			
	Current Range	0~10A	0~5A	0~2.5A	0~1.6A
Input	Voltage Range	90~264VAC 127~370VDC	88~264VAC 124~370VDC		
Protection		Overload, Over Voltage, Over Temperature			
Temperature		-25~70°C			
Dimension W x D x H		85.5 x 128.5 x 125.2mm	63 x 113.5 x 125.2mm	40 x 113.5 x 125.2mm	32 x 102 x 125.2mm

## Industrial Power Supply

Product Image



Model Name		NDR-480-48	NDR-240-48	NDR-120-48
Output	Rated Power	480W	240W	120W
	Voltage Adj. Range*	48~55V		
	Current Range	0~10A	0~5A	0~2.5A
Input	Voltage Range	90~264VAC 127~370VDC		
Protection		Overload, Over Voltage, Over Temperature		
Temperature		-20~70°C		
Dimension W x D x H		85.5 x 128.5 x 125.2mm	63 x 113.5 x 125.2mm	40 x 113.5 x 125.2mm

\* Voltage Tolerance:  $\pm 1.0\%$ 

Product Image



Model Name		NDR-75-48	MDR-60-48	MDR-20-12
Output	Rated Power	76.8W	60W	20W
	Voltage Adj. Range*	48~55V	48~56V	10.8~13.2V
	Current Range	0~1.6A	0~1.25A	0~1.67A
Input	Voltage Range	90~264VAC 127~370VDC	85~264VAC 120~370VDC	
Protection		Overload, Over Voltage, Over Temperature	Overload, Over Voltage	
Temperature		-20~70°C		
Dimension W x D x H		32 x 102 x 125.2mm	40 x 100 x 90mm	22.5 x 100 x 90mm





*Innovation to Your Needs*

[www.ctssystem.com](http://www.ctssystem.com)

**Connection Technology Systems Inc. (HQ)**

18F-6, No. 79, Sec 1, Xintai 5th Rd.,  
Xizhi Dist., New Taipei City 221, Taiwan  
Sales Direct Line: +886-2-26989201  
E-mail: [info@ctssystem.com](mailto:info@ctssystem.com)

**Connection Technology Systems NE AB**

August Barks Gata 21,  
421 32 Västra Frölunda, Sweden  
Tel: +46-31-221980  
E-mail: [info@ctssystem.se](mailto:info@ctssystem.se)

**Connection Technology Systems Central  
Europe (COMPONET Handels GmbH)**

Hirschstettner Straße 19-21/Stiege I  
A-1220 Vienna, Austria  
Tel: +43-1-235 05 66-0  
E-mail: [cts\\_ce@ctssystem.com](mailto:cts_ce@ctssystem.com)

**Connection Technology Systems DE GmbH**

An den Bergen 17, 60437 Frankfurt  
am Main, Germany  
Tel: +49-1711051295  
E-mail: [cts\\_de@ctssystem.com](mailto:cts_de@ctssystem.com)

**Connection Technology Systems Japan**

Higobashi Bldg, No3 R201, 1-23-13, Edobori,  
Nisi-ku, Osaka 550-0002, Japan  
Tel: +81-6-6450-8890  
E-mail: [cts\\_japan@ctssystem.com](mailto:cts_japan@ctssystem.com)

**Connection Technology USA Inc.**

40538 La Purissima Way, Fremont, CA 94539,  
USA  
Tel: +1-510-509-0304  
Sales Direct Line: +1-510-509-0305  
E-mail: [cts\\_us@ctssystem.com](mailto:cts_us@ctssystem.com)

Connection Technology Systems (CTS) reserves the right to  
change specifications without prior notice.

