Product Catalogue

MEDIA CONVERTER SOLUTIONS

EXTEND AND CONVERT INTERFACE, SIGNALS FOR ETHERNET NETWORK

- Media Chassis
- Media Converter
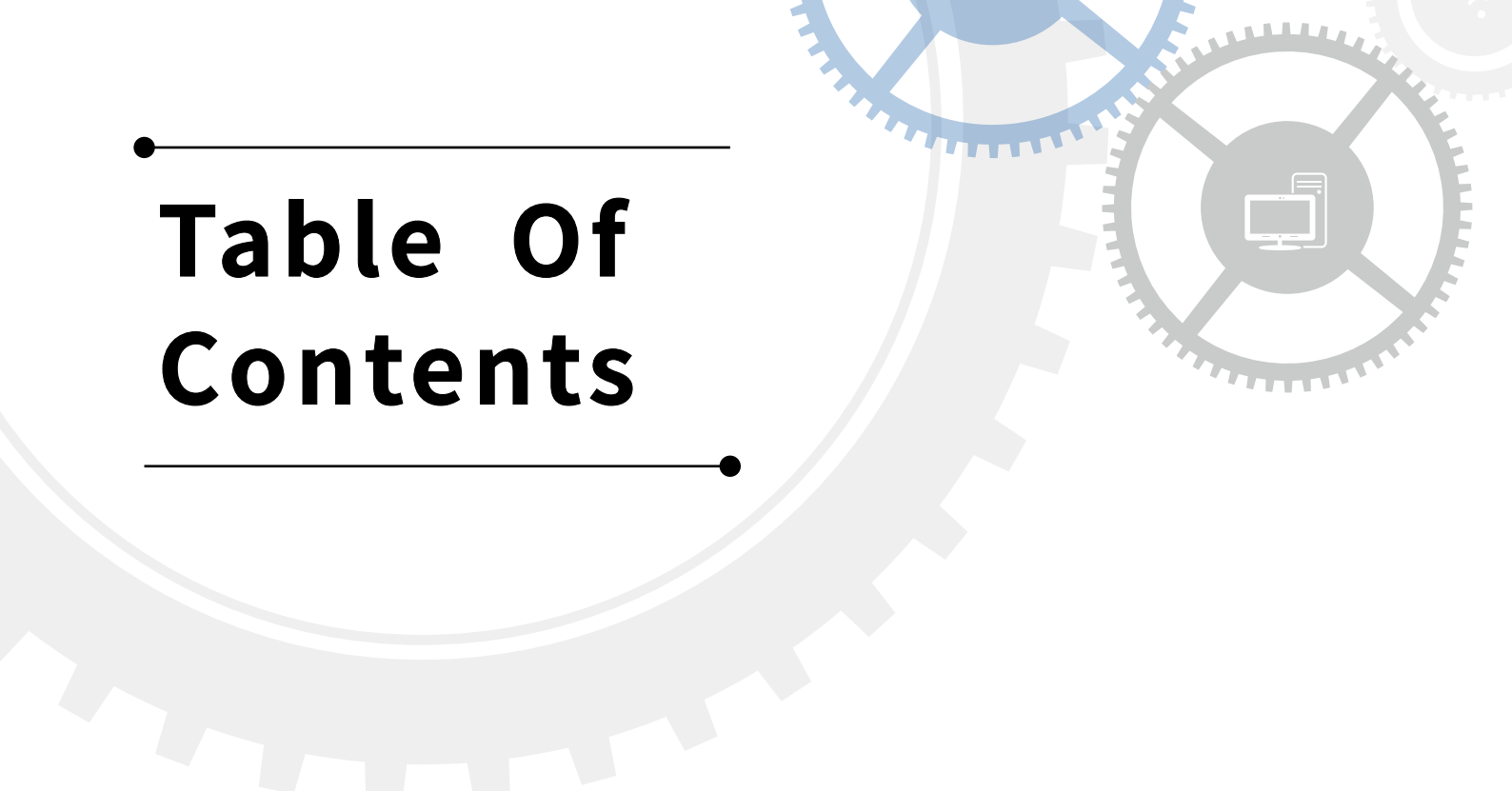- Industrial Media Converter

CTS
CONNECTION TECHNOLOGY SYSTEMS

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CTS

Fiber Media Converter Solutions

Industrial Media Converter Solutions

Accessory

About CTS

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.
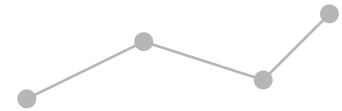
CTS Group

CTS CONNECTION TECHNOLOGY SYSTEMS — FTTX, Industrial Network Solutions

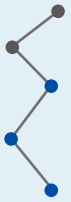**SiMPNiC** — IoT Integrated Solutions
(*www.simpnic.com)

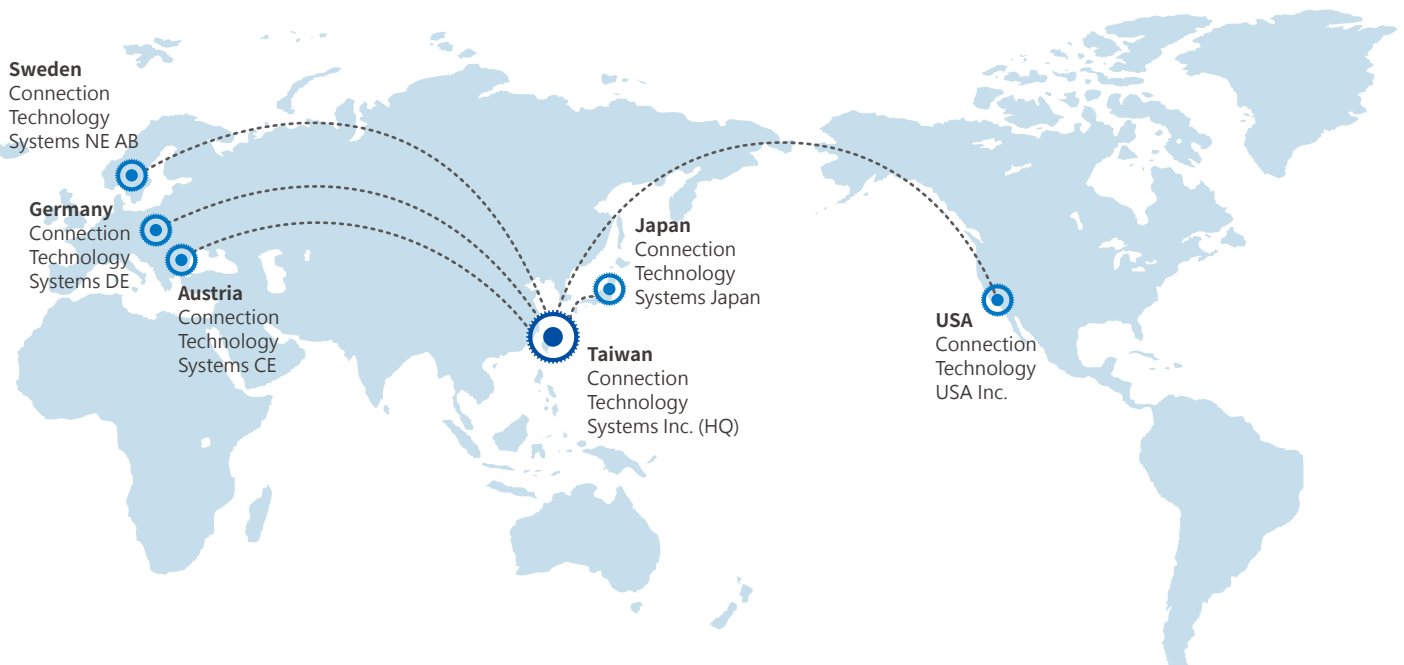## In close cooperation with our partners, CTS has achieved:

Over **1,4 Million** FTTH 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.

Sweden
Connection Technology Systems NE AB

Germany
Connection Technology Systems DE

Austria
Connection Technology Systems CE

Japan
Connection Technology Systems Japan

Taiwan
Connection Technology Systems Inc. (HQ)

**USA**
Connection Technology USA Inc.

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.
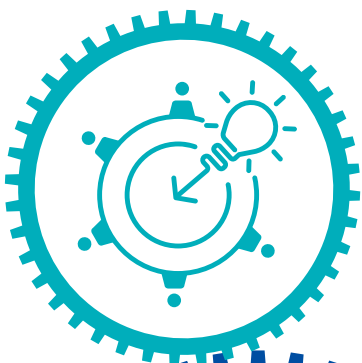
Networking Consultant

- 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.

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.
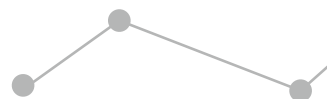
Speed Dome

Speed Dome

Speed Dome
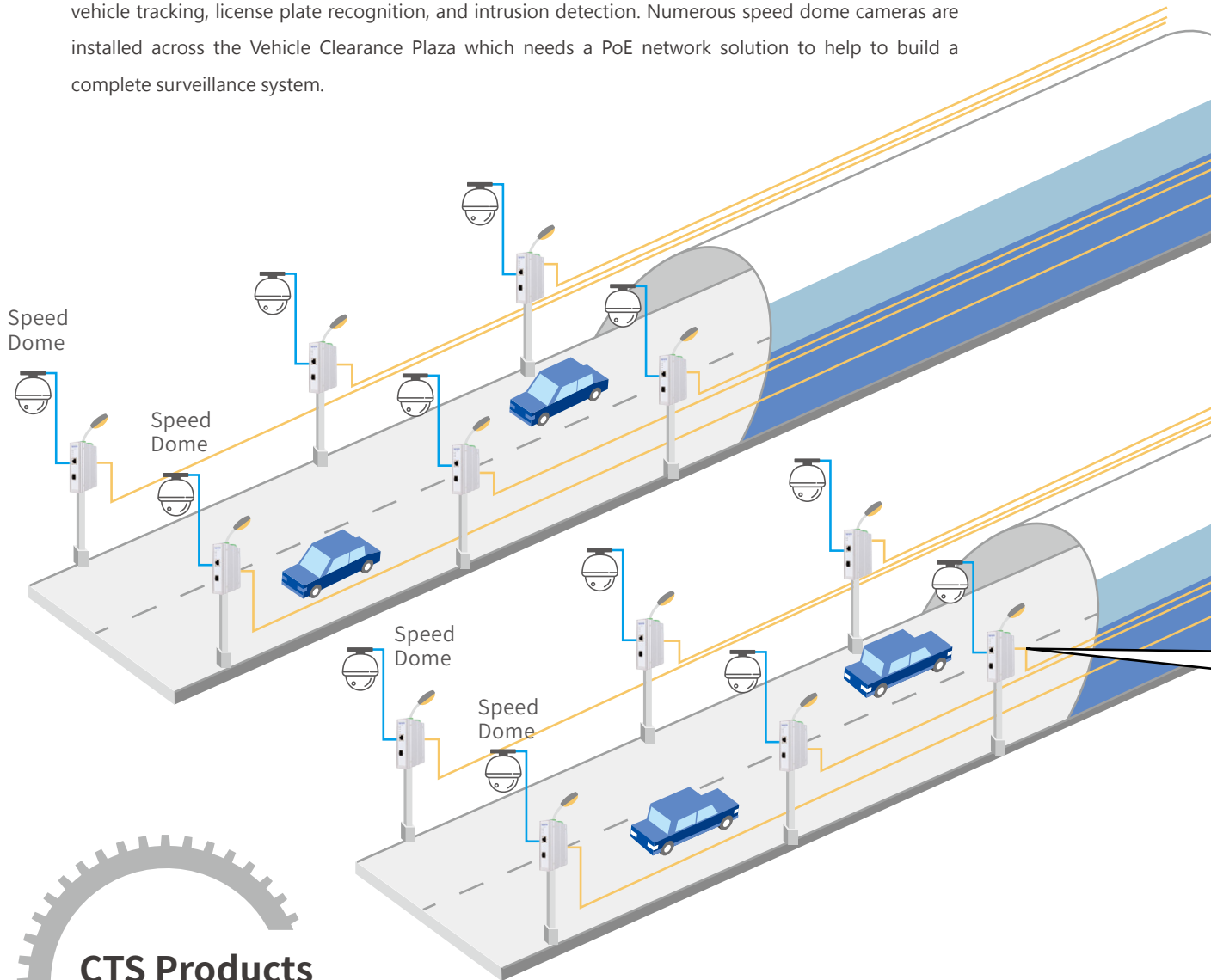
Speed Dome

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.

12~57 VDC Power Input

60W PoE Power Output

6KV Surge Protection

-40~75 Degrees Celsius

IPC-3012-PoE++
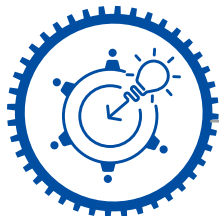
Networking Consultant

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

N-Base-T

MCT-5002SFP+

Plug and Play

CVT-3002-PLUS

Media Converter Chassis

MCT-RACK-18-MGM

Robust, Reliable and Extenable Solution to Reach Copper Devices Effortlessly

-40~75 Degrees Celsius

IAC-3012

60W PoE Output
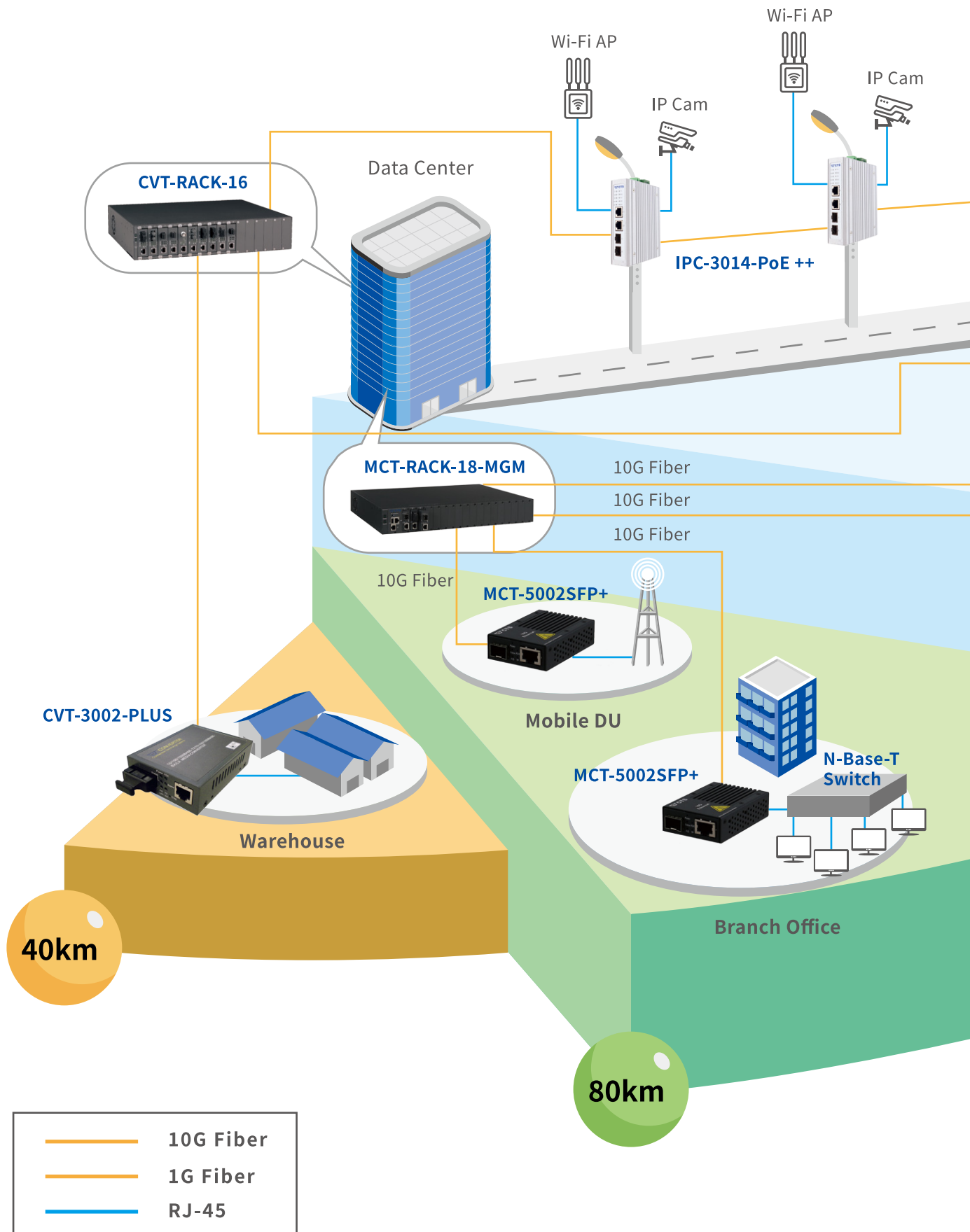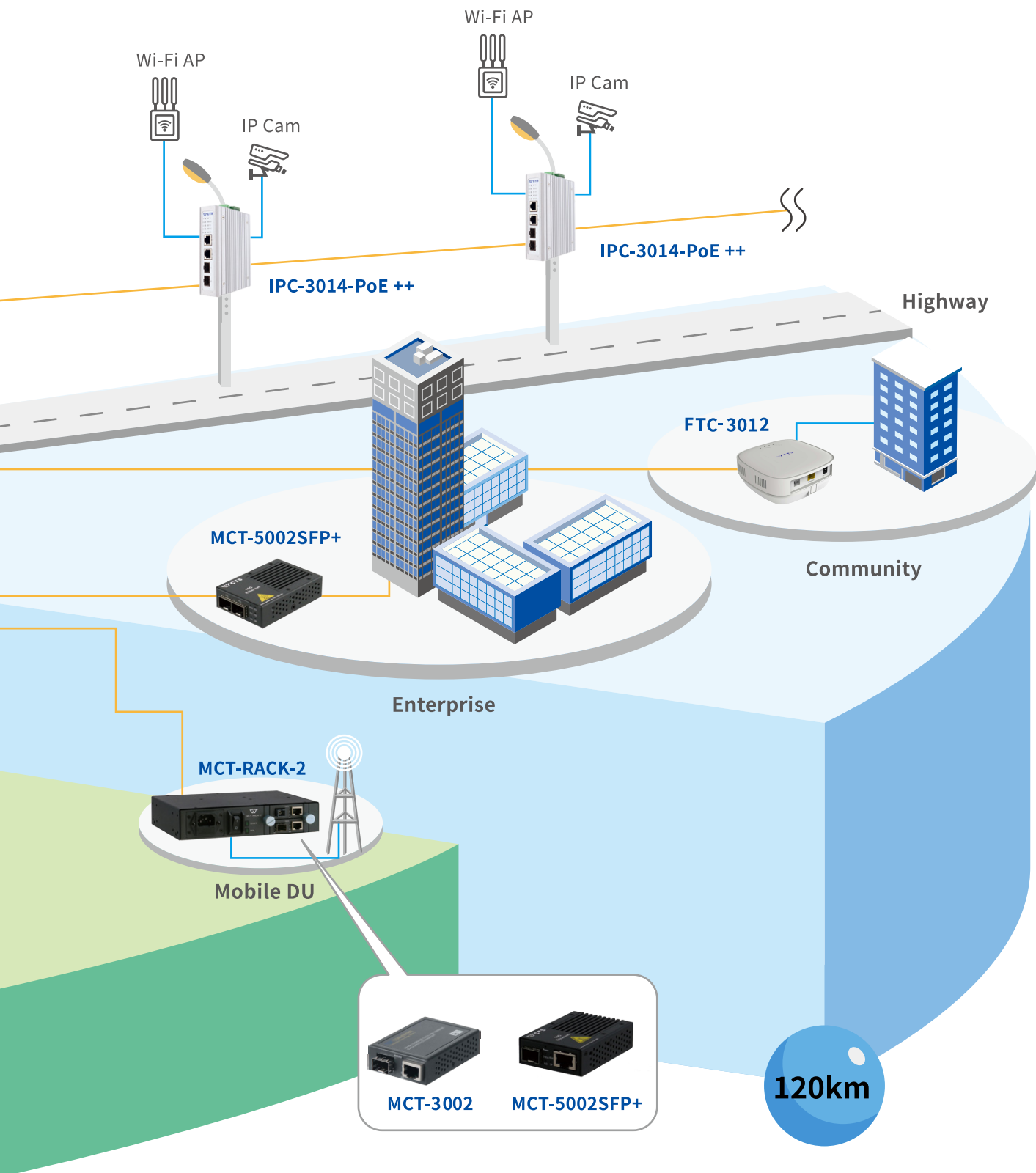
IPC-3012-PoE++

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
- 12~48/12~57VDC 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

Wi-Fi AP

Wi-Fi AP

IP Cam

IP Cam

CVT-RACK-16

Data Center

IPC-3014-PoE ++

MCT-RACK-18-MGM

10G Fiber

10G Fiber

10G Fiber

10G Fiber

MCT-5002SFP+

Mobile DU

CVT-3002-PLUS

MCT-5002SFP+

N-Base-T Switch

Warehouse

Branch Office

40km

80km

———	**10G Fiber**
———	**1G Fiber**
———	**RJ-45**

Wi-Fi AP

Wi-Fi AP

IP Cam

IP Cam

IPC-3014-PoE ++

IPC-3014-PoE ++

Highway

FTC-3012

MCT-5002SFP+

Community

Enterprise

MCT-RACK-2

Mobile DU

MCT-3002　　**MCT-5002SFP+**

120km

Compact Media Converter Chassis

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

		MCT-RACK-18-MGM	MCT-RACK-12-MGM	MCT-RACK-18	MCT-RACK-2
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
Management & Features	Converter Modules	MCT-5002FSMSFP+, MCT-5002SFP+, MCT-3512, MCT-3002, MCT-100 Series			
	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	CVT-RACK-16S
	Non-managed	Non-managed
Product Image		

		CVT-RACK-16	CVT-RACK-16S
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 100~240VAC/48VDC	1 x Fixed 100~240VAC/48VDC
	Power Consumption (Full Load)	98W	95W
	Hot Swappable FAN Number	3	-
	Converter Modules	CVT-5002SFP+, CVT-3002, 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	Compact Size	Compact Size	
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 Media Converter			
Model Name	MCT-3512* MCT-3512-DR* Managed	MCT-3002 MCT-3002-DR Non-managed	MCT-3002-PLUS MCT-3002-PLUS-DR Non-managed
Product Image	OAM		
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		64K Bytes
Jumbo Frame	9K Bytes		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	3.3VDC		5VDC
Power Consumption	2.5W	2.3W	1.5W
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**	-	-
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

Model Name	100M Media Converter		Home Size Media Converter	
	CVT-100 Non-managed	MCT-100 Non-managed	FTC-3012-DR-DS* FTC-3012-DR Non-managed	HMC-3012 Non-managed
Product Image				

Hardware		CVT-100	MCT-100	FTC-3012-DR-DS* / FTC-3012-DR	HMC-3012
Hardware	10/100/1000Base-T	-	-	1	1
	10/100Base-TX	1	1	-	-
	1000Base-X	-	-	1 (W2A)	1 (W2A)
	100Base-FX	1 (BTFX/W2X)	1 (BTFX/W2X/SFP)	Compatible	Compatible
	Store and Forward	●			
	Auto-MDI/MDI-X	●			
	Auto-negotiation in TP Port	●			
	Flow Control	●	-		
	MAC Address Table	2K			
	Memory Buffer	64K Bytes	128K Bytes		
	Jumbo Frame	9K Bytes			
	Slide-in Chassis	CVT-RACK Series	MCT-RACK Series	-	-
	Cable Tray	-	-	Built-in	-
	Dimension W x D x H	71 x 94 x 26mm	51 x 74 x 20mm	150 x 150 x 53mm	88 x 88 x 27mm
	Operating Temperature (Humidity)	0~50°C (5~90%)			
	Power Source	5VDC	3.3VDC	12VDC	12VDC
	Power Consumption	1.5W	2.1W	2.04W	2.04W
Management & Features	IEEE 802.3ah OAM	-			
	TS-1000 Loopback Test	-			
	QoS	-			
	QoS Priority Queue	-			
	Bandwidth Control	-			
	VLAN	-			
	VLAN ID	-			
	VLAN Groups	-			
	Management	-			
	SNMP Power Down Trap	-			
	DHCP	-			
	Link Alarm	●	●	-	-
	Firmware Upgrade	-			
Certifications	EMC/Safety	FCC Class A, CE			
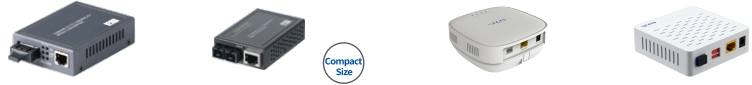
*Equipped with a 4-Pin DIP switch

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++ + 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

10G Ethernet SFP+ Transceiver

Product Image

MODEL	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	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	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	

Gigabit Ethernet SFP Transceiver

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

Power Supply

Product Image

MODEL	Output			Input	Protection	Temperature	Dimension W x D x H
	Rated Power	Voltage Adj. Range*	Current Range	Voltage Range			
SDR-480-48	480W	48~55V	0~10A	90~264VAC 127~370VDC	Overload, Over Voltage, Over Temperature	-25~70°C	85.5 x 128.5 x 125.2mm
SDR-240-48	240W		0~5A	88~264VAC 124~370VDC			63 x 113.5 x 125.2mm
SDR-120-48	120W		0~2.5A				40 x 113.5 x 125.2mm
SDR-75-48	76.8W		0~1.6A				32 x 102 x 125.2mm
NDR-480-48	480W	48~55V	0~10A	90~264VAC 127~370VDC	Overload, Over Voltage, Over Temperature	-20~70°C	85.5 x 128.5 x 125.2mm
NDR-240-48	240W		0~5A				63 x 113.5 x 125.2mm
NDR-120-48	120W		0~2.5A				40 x 113.5 x 125.2mm
NDR-75-48	76.8W		0~1.6A				32 x 102 x 125.2mm
MDR-60-48	60W	48~56V	0~1.25A	85~264VAC 120~370VDC	Overload, Over Voltage	-20~70°C	40 x 100 x 90mm
MDR-20-12	20W	10.8~13.2V	0~1.67A			-20~70°C	22.5 x 100 x 90mm

CTS

Innovation to Your Needs

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