



# CTS

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## Fiber Converter Solutions

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## Rugged/Industrial Media Converter Solutions

### Rugged Media Converter

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## Industrial Media Converter

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## **| Accessory**

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## About CTS

- CTS is a leading network solution provider headquartered in Taiwan. We are professional in design and manufacture products for the Last Mile Connectivity. With branch offices in Japan, Sweden, Austria, India, we aim to develop solutions to achieve sustainability, and grow together with partners worldwide.
- Founded in 1998, public since 2015
- 142 employees internationally, 20% belong to R&D
- 350+ Customers in over 40 countries
- 97.8% Customer Satisfaction

## Our Mission

Find the market gap from user scenario and application

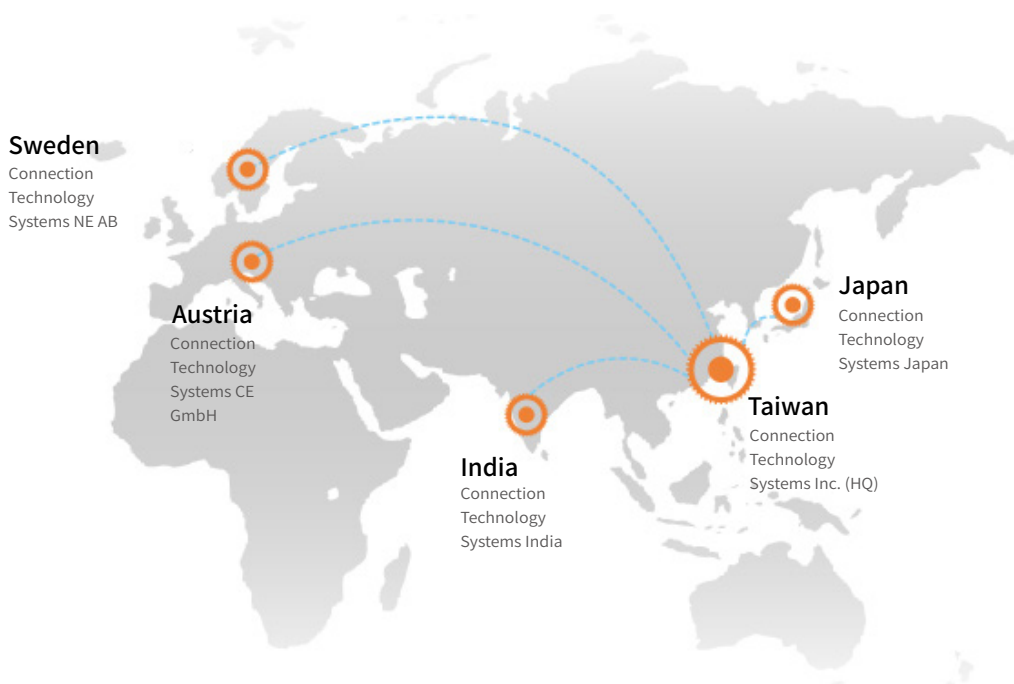
Design reliable products that connect people at the Last Mile

Fulfill customer demands with differentiated and sustainable solutions

## Sustainability

We provide reliable and sustainable solution for our customers so they can use for a long time, reducing the waste of our planet. We also adhere to the most stringent global compliance standards.

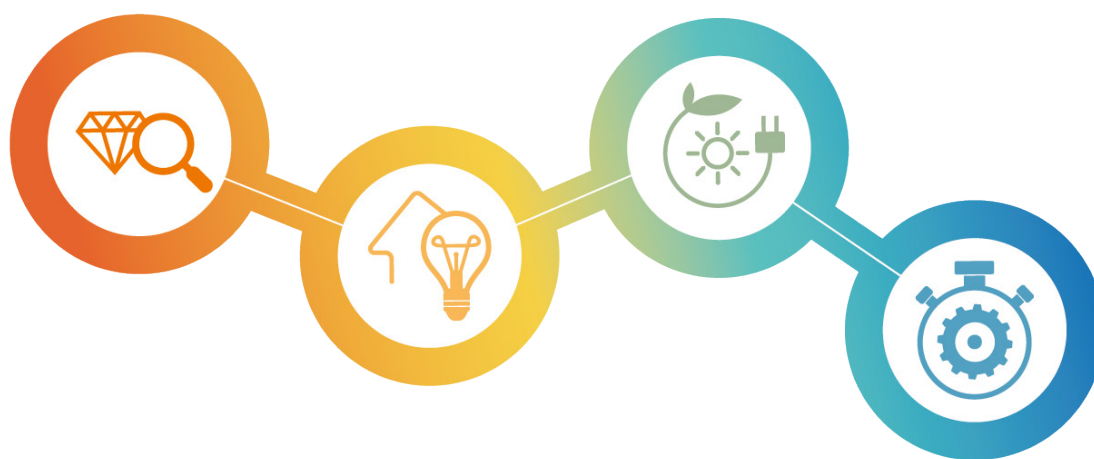
CTS acknowledges the importance of the UN Sustainable Development Goals (SDGs) and we' ve integrated into our business strategy. We' ve started to work with our suppliers and partners on the GHGs and PCF. We plan to release sustainability report to our stakeholders every year.



## 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.



## Quality Assurance

### Engineering Design

- SW/HW Collaboration
- Design Verification Test
- Design for Manufacturing
- Solution & Risk Analysis

### Own Production

- Made in Taiwan
- IQC/PQC/FQC/OQC
- First Pass Yield
- Dynamic Burn-in Test

### Reliability Test

- High Temperature Operating
- High Temperature Storage
- Damp Heat Cycling Test
- Accelerated Aging Test
- MTBF with MIL-HDBK-217F
- ISO 9001, 14001, CE, FCC

### Timely Services

- Engineering Services
- Local Branch Support
- RMA Center
- Root Cause Analysis





## 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.



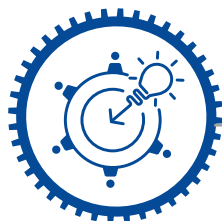
## Solution & Benefit

- 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.



### IPC-3012-PoE++

- 12~57 VDC Power Input
- 60W PoE Power Output
- 6KV Surge Protection
- -40~75 Degrees Celsius



#### Networking Consultant

Our professional sales and technical teams help client look for the best solution.



#### Trustworthy Partner

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



#### In-house Designer

Providing reliable products that help the clients achieve their goals more effectively.



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

In an ever-growing world of internet, media conversion is important for interconnecting two sources of services. For CTS, it's our job to simplify data transportation and create seamless connection between different devices. Media Converters series are flexible and cost-effective solutions for implementing and optimizing fiber links to copper links 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/10GBase-T
- Gigabit Solution for 100/1000Base-X SFP to 100/1000Base-X SFP, or 1G SFP to 10/100/1000Base-T
- WEB, CLI, Telnet, SSHv2 and SNMP v1/v2c/v3 Management Interface for Managed Media Converter
- Plug-and-Play 2/12/16/18-Slot Media Chassis
- 12/18-Slots Managed Media Chassis via WEB, CLI, Telnet, SSHv2 and SNMP v1/v2c/v3 Management Interface



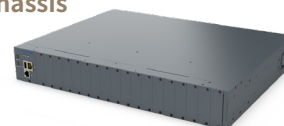
**MCT-5002SFP+**  
10G/Multi-G



**CVT-5102SFP-MG**  
Managed



**MCT-RACK-18-MGM**  
Media Converter Chassis



# Robust, Reliable & Extendable Solutions to Reach Copper Devices Effortlessly



10G/Multi-G



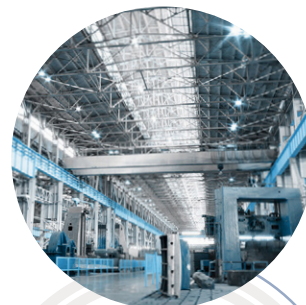
**SRC-5102SFP-MG**



90W PoE  
Output



**SRC-3002SFP-BT**



-20~60°C/  
-40~75°C



**SRC-3002/ IAC-3012**

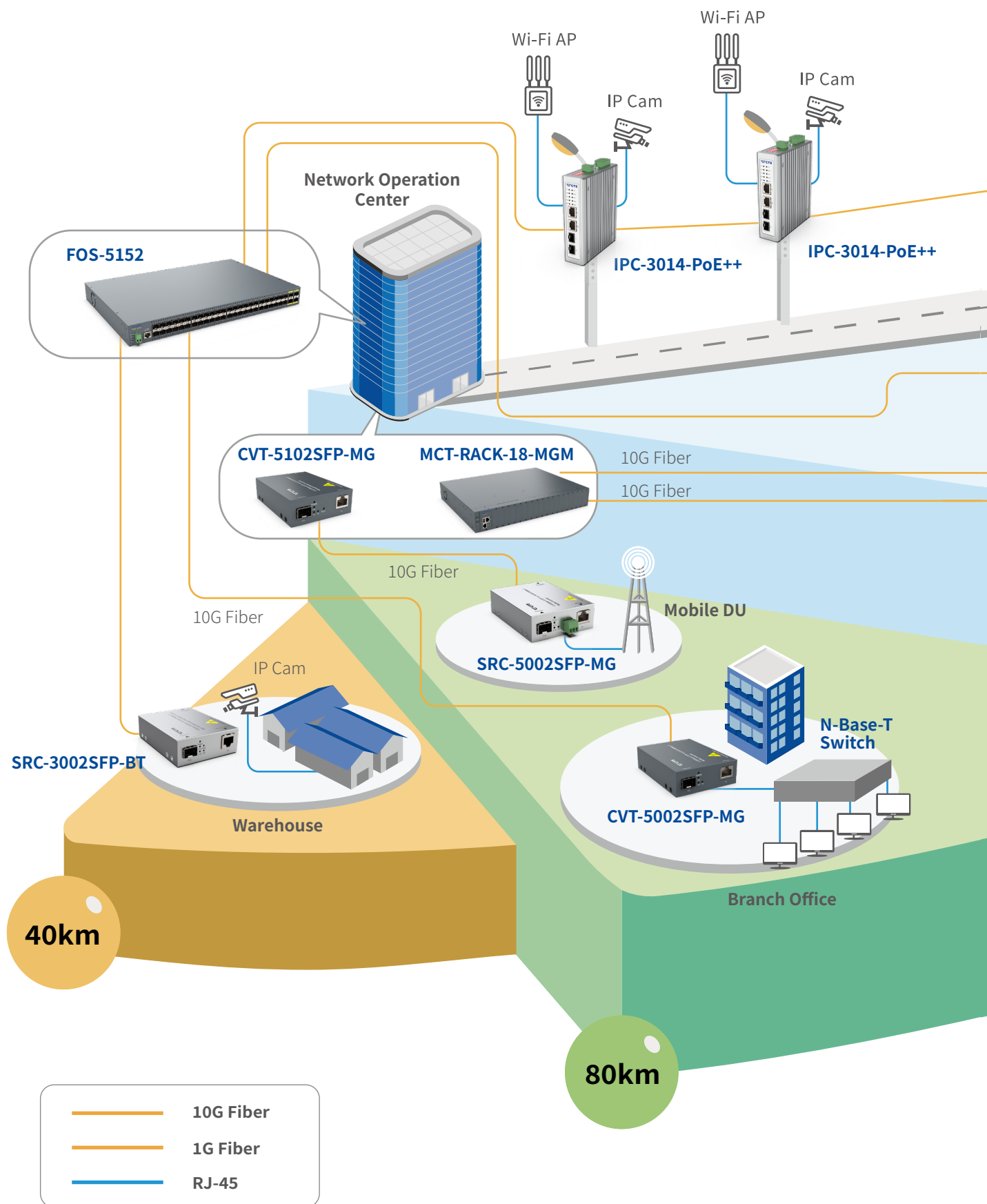
CTS Rugged/Industrial Media Converters in a robust IP30 housing are designed to meet the demands of plug-and-play usage. These series can extend your Ethernet networks beyond 100-meter limitation and convert fiber links from multi-mode to single-mode or vice versa. These models can extend from 2 to 120km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

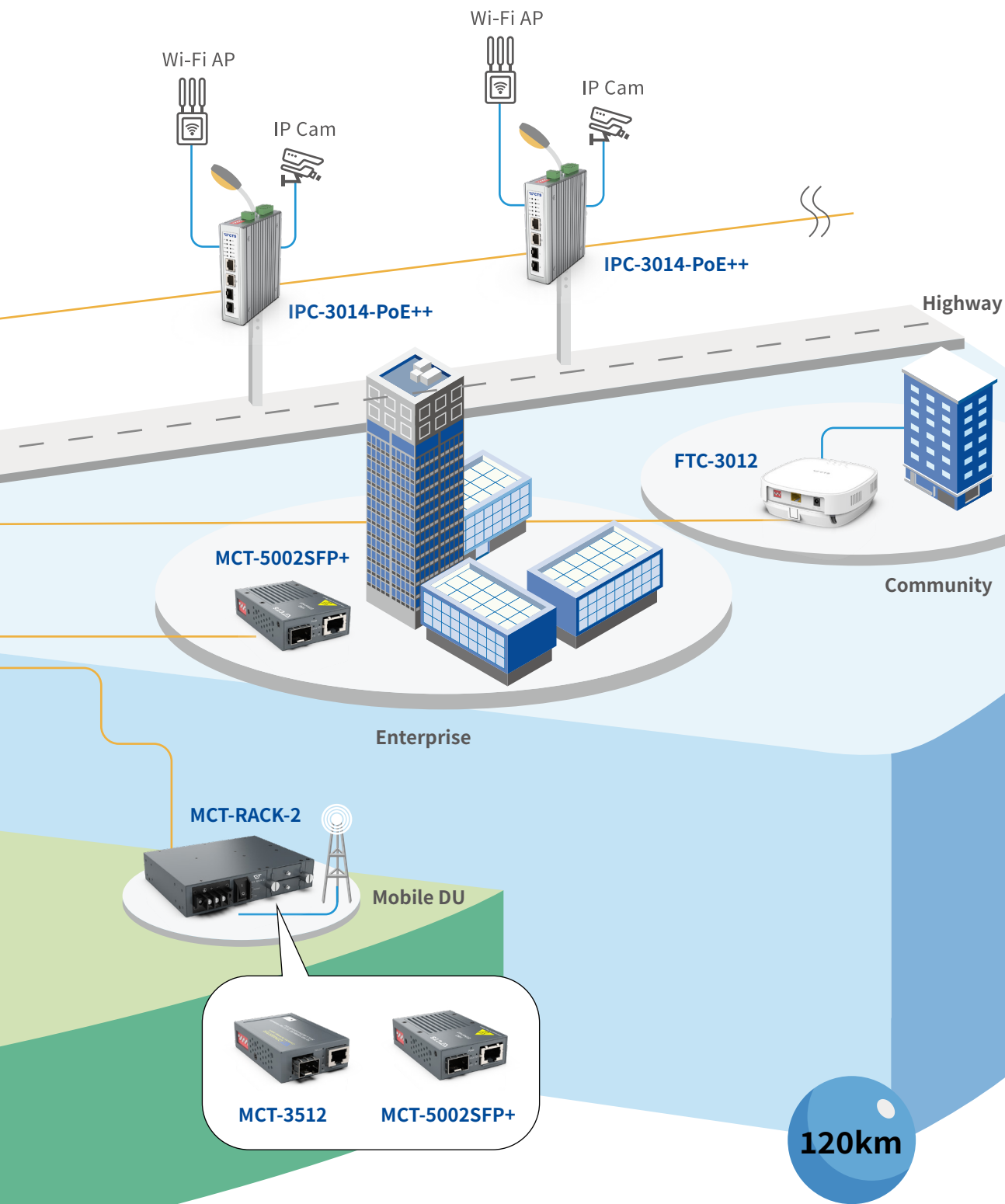
Our rugged media converters feature a very useful function, PSE Auto Power Off! PSE Auto Power Off allows you to turn on/off PoE power with Link Alarm. By shutting down the fiber port in the switch, the IPC/SRC stops transmitting both data and power to connected PoE-fed products such as IP camera and Wi-Fi access point.

Since the first step when troubleshooting an IP camera or Wi-Fi access point is almost always is to reboot it, PSE Auto Power Off is a valuable feature in these situations.

- IP30 Slim Design Housing
- -20~60° C/-40~75° C Operating Temperature
- Dual DC Power Inputs 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/bt PoE Power Output
- Built-in DIP Switch Provides Port Isolation and Fiber Redundancy Mode
- PSE Auto Power Off to turn on and off PoE power with Link Alarm

# Application of Media Converter Solutions





### PoE Media Converter Chassis

|            |                |
|------------|----------------|
| Model name | PCM-CHASSIS-08 |
|            | Non-managed    |

Product Image



|                |                                  |                                       |
|----------------|----------------------------------|---------------------------------------|
| Hardware       | Chassis Slots                    | 8                                     |
|                | Dimension W x D x H              | 440 x 200 x 132mm                     |
|                | Operating Temperature (Humidity) | -10~60° C (5~90%)                     |
|                | Power Source                     | 2 x Hot Swappable 100~240VAC          |
|                | Power Consumption (Full Load)    | 292W                                  |
|                | PoE Budget (Max.)                | 200~240W*                             |
| Certifications | Converter Modules                | PCM-3002SFP-BT                        |
|                | EMC/Safety                       | CE/FCC Class A, UKCA, RCM, VCCI, RoHS |

\* Depending on the power voltage and operating temperature

### PoE Media Converter



|            |                |
|------------|----------------|
| Model name | PCM-3002SFP-BT |
|            | Non-managed    |

Product Image





|                       |                                       |                        |
|-----------------------|---------------------------------------|------------------------|
| Hardware              | 10/100/1000Base-T                     | 1                      |
|                       | 1000Base-X                            | 1                      |
|                       | Digital Output                        | -                      |
|                       | PoE                                   | 1 x IEEE 802.3af/at/bt |
|                       | Store and Forward                     | ●                      |
|                       | Auto-MDI/MDI-X                        | ●                      |
|                       | Auto-negotiation in TP Port           | ●                      |
|                       | Flow Control                          | -                      |
|                       | MAC Address Table                     | 2K                     |
|                       | Memory Buffer                         | 128 KB                 |
|                       | Jumbo Frame                           | 9 KB                   |
|                       | Slide-in Chassis                      | PCM-CHASSIS-08         |
|                       | Dimension W x D x H                   | 34 x 94 x 132mm        |
|                       | Operating Temperature (Humidity)      | -10~60° C (5~90%)      |
| Management & Features | Power Source                          | 54VDC                  |
|                       | Power Consumption (Full Load)         | 95W                    |
|                       | PSE Auto Power Off                    | ●                      |
| Certifications        | Data-diode Direction                  | -                      |
|                       | Link Alarm                            | ●                      |
| EMC/Safety            | CE/FCC Class A, UKCA, RCM, VCCI, RoHS |                        |

### Compact Media Converter Chassis

| Model name                     | MCT-RACK-18-MGM   | MCT-RACK-12-MGM  |                      |
|--------------------------------|---|--|----------------------|
|                                | Managed   | Managed  |                      |
| Product Image                  |  |             |                      |
| Hardware                       | Chassis Slots   | 18   | 12                   |
|                                | Dimension W x D x H   | 440 x 340 x 66mm   | 440 x 342 x 44mm     |
|                                | Operating Temperature (Humidity)  | 0~50° C (5~90%)  |                      |
|                                | Power Source  | 2 x Hot Swappable 100~240VAC/48VDC   |                      |
|                                | Power Consumption (Full Load)   | 35W  | 72W                  |
| Management & Features          | Converter Modules   | MCT-6002FSMSFP28* ,MCT-5002FSMSFP+, MCT-5002SFP+, MCT-3612, 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, Zabbix Monitoring Template                                   |                      |
|                                | SNMP Power Down Trap  | ●  |                      |
|                                | SNTTP   | ●  |                      |
| Firmware/Configuration Upgrade | FTP/TFTP/HTTP/HTTPS/USB 2.0   |  |                      |
| Certifications                 | EMC/Safety  |  | CE/FCC Class A, RoHS |



\* MCT-6002FSMSFP28 is compatible only with MCT-RACK-12-MGM

### Compact Media Converter Chassis

| Model name     | MCT-RACK-18   | MCT-RACK-12   | MCT-RACK-2  |                            |
|----------------|---|---|---|----------------------------|
|                | Non-managed   | Non-managed   | Non-managed   |                            |
| Product Image  |  |             |  |                            |
| Hardware       | Chassis Slots   | 18  | 12  | 2                          |
|                | Dimension W x D x H   | 440 x 340 x 66mm  | 440 x 342 x 44mm  | 210 x 160 x 44mm           |
|                | Operating Temperature (Humidity)  | 0~50° C (5~90%)   |   |                            |
|                | Power Source  | 2 x Fixed 100~240VAC/48VDC  | 2 x Hot Swappable 100~240VAC/48VDC  | 1 x Fixed 100~240VAC/48VDC |
|                | Power Consumption (Full Load)   | 33W   | 72W   | 16W                        |
|                | Converter Modules   | MCT-6002FSMSFP28* , MCT-5002FSMSFP+, MCT-5002SFP+, MCT-3612, MCT-3512, MCT-3002, MCT-100 Series |   |                            |
| Certifications | EMC/Safety  |   |   | CE/FCC Class A, RoHS       |

\* MCT-6002FSMSFP28 is compatible only with MCT-RACK-12

### Media Converter Chassis

| Model name     | CVT-RACK-16   | CVT-RACK-16S  |                                 |
|----------------|---|---|---------------------------------|
|                | Non-managed   | Non-managed   |                                 |
| Product Image  |  |  |                                 |
| Hardware       | Chassis Slots   | 16  | 16                              |
|                | Dimension W x D x H   | 440 x 385 x 90mm  | 440 x 385 x 90mm                |
|                | Operating Temperature (Humidity)  | 0~50° C (5~90%)   |                                 |
|                | Power Source  | 2 x Hot Swappable 100~240VAC/48VDC  | 1 x Fixed 100~240VAC            |
|                | Power Consumption (Full Load)   | 98W   | 95W                             |
|                | Hot Swappable FAN Number  | 3   | 3                               |
|                | Converter Modules   | CVT-5002SFP+, CVT-3002, CVT-100 Series  |                                 |
| Certifications | EMC/Safety  |   | CE/FCC Class A, UKCA, RCM, RoHS |

## 25G Compact Media Converter

|                   |                         |
|-------------------|-------------------------|
| <b>Model name</b> | <b>MCT-6002FSMSFP28</b> |
|                   | Non-managed             |

Product Image



|                       |                                  |  |
|-----------------------|----------------------------------|--|
| Hardware              | 25G SFP28                        | 2 (10G Compatible)                           |
|                       | 10G SFP+                         | -  |
|                       | Signal Regeneration              | 3R<br>(Re-timing, Re-shaping, Re-amplifying) |
|                       | Store and Forward                | -  |
|                       | Auto-MDI/MDI-X                   | -  |
|                       | Auto-negotiation in TP Port      | -  |
|                       | Flow Control                     | -  |
|                       | MAC Address Table                | -  |
|                       | Memory Buffer                    | -  |
|                       | Jumbo Frame                      | -  |
|                       | Slide-in Chassis                 | MCT-RACK-12 Series                           |
|                       | Dimension W x D x H              | 51 x 74 x 20mm                               |
|                       | Operating Temperature (Humidity) | 0~50° C (5~90%)                              |
|                       | Power Source                     | 12VDC  |
|                       | Power Consumption (Full Load)    | 5W   |
| Management & Features | IEEE 802.3ah OAM                 | -  |
|                       | Loopback Mode                    | -  |
|                       | 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                            |
| Firmware Upgrade      | In Rack                          |  |
| Certifications        | EMC/Safety                       | CE/FCC Class A, RoHS                         |




## 10G Compact Media Converter

| Model name | MCT-5002FSMSFP+ | MCT-5002SFP+ |
|------------|-----------------|--------------|
|            | Non-managed     | Non-managed  |



|                               |                                    |  |        |
|-------------------------------|------------------------------------|--|--------|
| Hardware                      | 10G SFP+                           | 2 (1G Compatible)                            | 1      |
|                               | 1G/2.5G/5G/10GBase-T               | -  | 1      |
|                               | Signal Regeneration                | 3R<br>(Re-timing, Re-shaping, Re-amplifying) | -      |
|                               | Store and Forward                  | -  | ●      |
|                               | Auto-MDI/MDI-X                     | -  | ●      |
|                               | Auto-negotiation in TP Port        | -  | ●      |
|                               | Flow Control                       | -  | -      |
|                               | MAC Address Table                  | -  | -      |
|                               | Memory Buffer                      | -  | 128 KB |
|                               | Jumbo Frame                        | -  | 9 KB   |
|                               | 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                       | 12VDC  |        |
| Power Consumption (Full Load) | 6.5W                               | 8W   |        |
| Management & Features         | IEEE 802.3ah OAM                   | -  | -      |
|                               | Loopback Mode                      | 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<br>CE/FCC Class A, RoHS |  |        |

### 10G Media Converter

| Model name           |                                  | CVT-5102SFP-MG  | CVT-5002SFP-MG   | CVT-5002SFP+  |
|----------------------|----------------------------------|---|--|---|
|                      |                                  | Non-managed   | Non-managed  | Non-managed   |
| Product Image        |                                  |  |  |  |
| Hardware             | 10G SFP+                         | 1 (1G Compatible)   | 1 (1G Compatible)  | 2   |
|                      | 1G/2.5G/5G/10GBase-T             | 1   | 1  | -   |
|                      | Store and Forward                | ●   | ●  | -   |
|                      | Auto-MDI/MDI-X                   | ●   | ●  | -   |
|                      | Auto-negotiation in TP Port      | ●   | ●  | -   |
|                      | Flow Control                     | ●   | ●  | -   |
|                      | MAC Address Table                |   | 4K   | -   |
|                      | Memory Buffer                    |   | 1 MB   | -   |
|                      | Jumbo Frame                      |   | 16 KB  | -   |
|                      | 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                     |   | 12VDC  | 5VDC  |
|                      | Power Consumption (Full Load)    | 8.8W  | 6.4W   | 5W  |
|                      | Management & Features            | IEEE 802.3ah OAM  | ● *  | -   |
| Loopback Mode        |                                  |   | -  | -   |
| QoS                  |                                  | 802.1p, CoS/DSCP  | -  | -   |
| QoS Priority Queue   |                                  | 8   | -  | -   |
| Bandwidth Control    |                                  | ●   | -  | -   |
| VLAN                 |                                  | 802.1q, Q-in-Q, Port based  | -  | -   |
| VLAN ID              |                                  | 4094  | -  | -   |
| VLAN Groups          |                                  | 128   | -  | -   |
| Management           |                                  | Telnet, SSHv2, CLI, WEB, SNMP v1/v2c/v3, Zabbix Monitoring Template               | -  | -   |
| SNMP Power Down Trap |                                  |   | -  | -   |
| DHCP                 |                                  | Client, Auto Provisioning, Snooping   | -  | -   |
| Data-diode Direction |                                  | -   | ●  | -   |
| Link Fault           |                                  | -   | Link Alarm   | -   |
| Firmware Upgrade     | FTP/TFTP/HTTP/HTTPS              | -   | -  |   |
| Certifications       | EMC/Safety                       | CE/FCC Class A, UKCA, RCM, VCCI, RoHS   |  | CE/FCC Class A, RCM, RoHS   |

\* Coming soon

| 1G Compact Media Converter |             |             |             | 1G Media Converter |
|----------------------------|-------------|-------------|-------------|--------------------|
| Model name                 | MCT-3612    | MCT-3512    | MCT-3002    | CVT-3002-PLUS      |
|                            | MCT-3612-DR | MCT-3512-DR | MCT-3002-DR | CVT-3002-PLUS-DR   |
|                            | Managed     | Managed     | Non-managed | Non-managed        |

Product Image



|                               |                                  |                                 |   |                                 |                  |
|-------------------------------|----------------------------------|---------------------------------|---|---------------------------------|------------------|
| Hardware                      | 10/100/1000Base-T                | 1                               | 1                                       | 1                               | 1                |
|                               | 10/100Base-TX                    | -                               | -                                       | -                               | -                |
|                               | 1000Base-X                       | 1 (BTFX/W2X/SFP)                | 1 (BTFX/W2X/SFP)                        | 1 (BTFX/W2X/SFP)                | 1 (BTFX/W2X/SFP) |
|                               | 100Base-FX*                      | Compatible                      | Compatible                              | Compatible                      | Compatible       |
|                               | Store and Forward                |                                 |   | ●                               |                  |
|                               | Auto-MDI/MDI-X                   |                                 |   | ●                               |                  |
|                               | Auto-negotiation in TP Port      |                                 |   | ●                               |                  |
|                               | Flow Control                     |                                 | -                                       |                                 | ●                |
|                               | MAC Address Table                |                                 |   | 2K                              |                  |
|                               | Memory Buffer                    |                                 | 128 KB                                  |                                 | 64 KB            |
|                               | Jumbo Frame                      |                                 |   | 9 KB                            |                  |
|                               | 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                     |                                 | 5VDC                                    |                                 |                  |
| Power Consumption (Full Load) |                                  |                                 | 3W                                      | 1.5W                            |                  |
| Management & Features         | IEEE 802.3ah OAM                 | -                               | ●                                       |                                 | -                |
|                               | Loopback Mode                    |                                 |   | -                               |                  |
|                               | QoS                              |                                 |   | -                               |                  |
|                               | QoS Priority Queue               |                                 |   | -                               |                  |
|                               | Bandwidth Control                |                                 | ●                                       |                                 | -                |
|                               | VLAN                             |                                 | 802 1q, Q-in-Q                          |                                 | -                |
|                               | VLAN ID                          |                                 | 4094                                    |                                 | -                |
|                               | VLAN Groups                      |                                 | 8                                       |                                 | -                |
|                               | Management                       | In Rack Management              | In Rack Management, Remote Management** |                                 | -                |
|                               | SNMP Power Down Trap             |                                 |   | -                               |                  |
|                               | DHCP                             |                                 |   | -                               |                  |
|                               | Link Alarm                       |                                 |   | ●                               |                  |
| Firmware Upgrade              |                                  | In Rack                         |   | -                               |                  |
| Certifications                | EMC/Safety                       | CE/FCC Class A, UKCA, RCM, RoHS | CE/FCC Class A, RCM, RoHS               | CE/FCC Class A, UKCA, RCM, RoHS |                  |

\* Only MCT-XXXX-DR/CVT-XXXX-DR compatible with 100Base-FX

\*\* Must be used with a CTS OAM-supported access switch or another MCT-3512 in a managed MCT-RACK.

|            | 100M Media Converter |             | Home Size Media Converter |
|------------|----------------------|-------------|---------------------------|
| Model name | CVT-100              | MCT-100     | FTC-3012-DR-DS*           |
|            |                      |             | FTC-3012-DR               |
|            | Non-managed          | Non-managed | Non-managed               |

Product Image



|                       |                                  |                                 |                  |                  |
|-----------------------|----------------------------------|---------------------------------|------------------|------------------|
| Hardware              | 10/100/1000Base-T                | -                               | -                | 1                |
|                       | 10/100Base-TX                    | 1                               | 1                | -                |
|                       | 1000Base-X                       | -                               | -                | 1 (W2A)          |
|                       | 100Base-FX                       | 1 (BTFX/W2X/SFP)                | 1 (BTFX/W2X/SFP) | Compatible       |
|                       | Store and Forward                |                                 | ●                |                  |
|                       | Auto-MDI/MDI-X                   |                                 | ●                |                  |
|                       | Auto-negotiation in TP Port      |                                 | ●                |                  |
|                       | Flow Control                     | ●                               |                  | -                |
|                       | MAC Address Table                |                                 | 2K               |                  |
|                       | Memory Buffer                    | 64 KB                           |                  | 128 KB           |
|                       | Jumbo Frame                      |                                 | 9 KB             |                  |
|                       | 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 |
|                       | Operating Temperature (Humidity) | 0~50° C (5~90%)                 |                  | 0~45° C (5~90%)  |
|                       | Power Source                     | 5VDC                            |                  | 12VDC            |
|                       | Power Consumption (Full Load)    | 1.5W                            | 3W               | 2.04W            |
| Management & Features | IEEE 802.3ah OAM                 |                                 | -                |                  |
|                       | Loopback Mode                    |                                 | -                |                  |
|                       | QoS                              |                                 | -                |                  |
|                       | QoS Priority Queue               |                                 | -                |                  |
|                       | Bandwidth Control                |                                 | -                |                  |
|                       | VLAN                             |                                 | -                |                  |
|                       | VLAN ID                          |                                 | -                |                  |
|                       | VLAN Groups                      |                                 | -                |                  |
|                       | Management                       |                                 | -                |                  |
|                       | SNMP Power Down Trap             |                                 | -                |                  |
|                       | DHCP                             |                                 | -                |                  |
| Link Alarm            |                                  | ●                               | -                |                  |
| Firmware Upgrade      |                                  | -                               |                  |                  |
| Certifications        | EMC/Safety                       | CE/FCC Class A, UKCA, RCM, RoHS |                  |                  |

\* FTC-3012-DR-DS equipped with a 4-Pin DIP switch

## Rugged 10G Media Converter





| Model name | SRC-5102SFP-MG | SRC-5002SFP-MG-BT | SRC-5002SFP-MG |
|------------|----------------|-------------------|----------------|
|            | Managed        | Non-managed       | Non-managed    |

Product Image





|                               |                                  |   |                        |                           |
|-------------------------------|----------------------------------|---|------------------------|---------------------------|
| Hardware                      | 10G SFP+                         | 1                                       | 1                      | 1                         |
|                               | 1G/2.5G/5G/10GBase-T             | 1                                       | 1                      | 1                         |
|                               | 1000Base-X                       | Compatible                              | Compatible             | Compatible                |
|                               | Digital Input/Output             | 1 x DI                                  | 1 x DO                 | 1 x DO                    |
|                               | PoE                              | -                                       | 1 x IEEE 802.3af/at/bt | -                         |
|                               | Store and Forward                |   | ●                      |                           |
|                               | Auto-MDI/MDI-X                   |   | ●                      |                           |
|                               | Auto-negotiation in TP Port      |   | ●                      |                           |
|                               | Flow Control                     |   | ●                      |                           |
|                               | MAC Address Table                |   | 4K                     |                           |
|                               | Memory Buffer                    |   | 1 MB                   |                           |
|                               | Jumbo Frame                      |   | 16 KB                  |                           |
|                               | Slide-in Chassis                 |   | -                      |                           |
|                               | Dimension W x D x H              |   | 71 x 94 x 26mm         |                           |
|                               | Operating Temperature (Humidity) |   | -20~60° C (5~90%)      |                           |
|                               | Power Source                     | 12~57VDC                                | 48~57VDC               | 12~57VDC                  |
|                               | Power Connector                  | Terminal Block or DC Jack               | Terminal Block         | Terminal Block or DC Jack |
| Power Consumption (Full Load) | 11W                              | 68W                                     | 7W                     |                           |
| Management & Features         | PSE Auto Power Off               | -                                       | ●                      | -                         |
|                               | IEEE 802.3ah OAM                 |   | -                      |                           |
|                               | Loopback Mode                    |   | -                      |                           |
|                               | QoS                              | 802.1p, CoS/DSCP                        |                        | -                         |
|                               | QoS Priority Queue               | 8                                       |                        | -                         |
|                               | Bandwidth Control                | ●                                       |                        | -                         |
|                               | VLAN                             | 802.1q, Q-in-Q, Port based              |                        | -                         |
|                               | VLAN ID                          | 4094                                    |                        | -                         |
|                               | VLAN Groups                      | 128                                     |                        | -                         |
|                               | Management                       | Telnet, SSHv2, CLI, WEB, SNMP v1/v2c/v3 |                        | -                         |
|                               | SNMP Power Down Trap             |   | -                      |                           |
|                               | DHCP                             | Client, Auto Provisioning, Snooping     |                        | -                         |
|                               | Link Fault                       | -                                       |                        | Link Alarm                |
| Firmware Upgrade              | FTP/TFTP/HTTP/HTTPS              |   | -                      |                           |
| Certifications                | EMC/Safety                       | CE/FCC Class A, UKCA, RCM, VCCI, RoHS   |                        |                           |

### Rugged 1G Media Converter



| Model name                    | SRC-3002SFP-BT-DO   | SRC-3002SFP-BT  | SRC-3002SFP-DO  | SRC-3002SFP   |   |
|-------------------------------|---|---|---|---|---|
|                               | Non-managed   | Non-managed   | Non-managed   | Non-managed   |   |
| Product Image                 |  |  |  |  |   |
| Hardware                      | 10/100/1000Base-T   | 1   | 1   | 1   | 1 |
|                               | 1000Base-X  | 1   | 1   | 1   | 1 |
|                               | Digital Output  | ●   | -   | ●   | - |
|                               | PoE   | 1 x IEEE 802.3af/at/bt  |   | -   |   |
|                               | Store and Forward   |   |   | ●   |   |
|                               | Auto-MDI/MDI-X  |   |   | ●   |   |
|                               | Auto-negotiation in TP Port   |   |   | ●   |   |
|                               | Flow Control  |   |   | -   |   |
|                               | MAC Address Table   |   |   | 2K  |   |
|                               | Memory Buffer   |   |   | 128 KB  |   |
|                               | Jumbo Frame   |   |   | 9 KB  |   |
|                               | Slide-in Chassis  |   |   | -   |   |
|                               | Dimension W x D x H   |   |   | 71 x 94 x 26mm  |   |
|                               | Operating Temperature (Humidity)  | -20~60° C (5~95%)   |   | -40~75° C (5~95%)   |   |
|                               | Power Source  | 48~57VDC  |   | 12~57VDC  |   |
|                               | Power Connector   |   |   | Terminal Block or DC Jack   |   |
| Power Consumption (Full Load) | 93W / 62.7W*  |   | 2.45W   |   |   |
| Management & Features         | PSE Auto Power Off  | ●   |   |   | - |
|                               | Data-diode Direction  | -   | ●   | -   | ● |
|                               | Link Alarm  |   |   | ●   |   |
| Certifications                | EMC/Safety  |   | CE/FCC Class A, UKCA, RCM, RoHS   |   |   |

\*Only for DC Jack module

### Industrial Force 60W PoE Media Converter

| Model Name                    | IPC-3014-PoE++  |  | IPC-3012-PoE++  |   |
|-------------------------------|---|--|---|---|
|                               | Non-managed   |  | Non-managed   |   |
| Product Image                 |  |  |  |   |
| Hardware                      | 10/100/1000Base-T   | 2  | -   | 1   |
|                               | 1000Base-X  | 2  | -   | 1   |
|                               | Digital Output  | -  | ●   | -   |
|                               | PoE   | 1 x up to Force 60W PoE<br>+ 1 x IEEE 802.3af/at                             |   | 1 x up to Force 60W PoE<br>or 1 x IEEE 802.3af/at |
|                               | PoE Budget (Max.)   | 90W  | -   | 60W   |
|                               | Store and Forward   | -  | ●   | -   |
|                               | Auto-MDI/MDI-X  | -  | ●   | -   |
|                               | Auto-negotiation in Fiber Port  | -  | ●   | -   |
|                               | MAC Address Table   | 2K   |   | -   |
|                               | Memory Buffer   | 128 KB   |   | -   |
|                               | Jumbo Frame   | 9 KB   |   | -   |
|                               | Dimension W x D x H   | 36 x 110 x 135mm   |   | -   |
|                               | Operating Temperature (Humidity)  | -40~75° C (5~90%)  |   | -   |
|                               | Power Source  | 12~57VDC Dual Input  |   | -   |
| Power Consumption (Full Load) | 96W   | -  | 64.8W   |   |
| Management & Features         | PSE Auto Power Off  | -  | ●   | -   |
|                               | Link Alarm  | -  | ●   | -   |
|                               | Network Redundancy  | Fiber Backup Mode  | -   | -   |
| Certifications                | EMC/Safety  | CE/FCC Class A, UKCA, RoHS   |   | -   |
|                               | Stability   | IEC 60068-2-27 (Shock), IEC 60068-2-32 (Freefall), IEC 60068-2-6 (Vibration) |   | -   |
|                               | Surge   | ± 6KV  |   | -   |

### Industrial Media Converter

| Model Name                    | IAC-3014  |  | IAC-3012  |   |
|-------------------------------|---|--|---|---|
|                               | Non-managed   |  | Non-managed   |   |
| Product Image                 |  |  |  |   |
| Hardware                      | 10/100/1000Base-T   | 2  | -   | 1 |
|                               | 1000Base-X  | 2  | -   | 1 |
|                               | Digital Output  | -  | ●   | - |
|                               | PoE   | -  | -   | - |
|                               | PoE Budget (Max.)   | -  | -   | - |
|                               | Store and Forward   | -  | ●   | - |
|                               | Auto-MDI/MDI-X  | -  | ●   | - |
|                               | Auto-negotiation in Fiber Port  | -  | ●   | - |
|                               | MAC Address Table   | 2K   |   | - |
|                               | Memory Buffer   | 128 KB   |   | - |
|                               | Jumbo Frame   | 9 KB   |   | - |
|                               | Dimension W x D x H   | 36 x 110 x 135mm   |   | - |
|                               | Operating Temperature (Humidity)  | -40~75° C (5~90%)  |   | - |
|                               | Power Source  | 12~48VDC Dual Input  |   | - |
| Power Consumption (Full Load) | 4.8W  | -  | 3.4W  |   |
| Management & Features         | PSE Auto Power Off  | -  | -   | - |
|                               | Link Alarm  | -  | ●   | - |
|                               | Network Redundancy  | Fiber Backup Mode  | -   | - |
| Certifications                | EMC/Safety  | CE/FCC Class A, UKCA, RoHS   |   | - |
|                               | Stability   | IEC 60068-2-27 (Shock), IEC 60068-2-32 (Freefall), IEC 60068-2-6 (Vibration) |   | - |
|                               | Surge   | ± 6KV  |   | - |

## 10G Ethernet SFP+ Transceiver

Product Image



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

## Gigabit Ethernet SFP Transceiver

Product Image



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

Product Image



| MODEL                  | SFP-31       |      |           |            |  |             |
|------------------------|--------------|------|-----------|------------|--|-------------|
|                        | Speed (Mbps) | Type | Connector | Distance   | Wavelength (nm)                        | Temperature |
| SFP-31FC               | 1000         | MM   | LC        | 550M       | 850                                    | 0~70° C     |
| SFP-31FC(SM-10/20/40)  | 1000         | SM   | LC        | 10/20/40KM | 1310/1310/1310                         | 0~70° C     |
| SFP-31W2A(SM-10/20/40) | 1000         | WDM  | LC        | 10/20/40KM | TX:1310/1310/1310<br>RX:1550/1550/1550 | 0~70° C     |
| SFP-31W2B(SM-10/20/40) | 1000         | WDM  | LC        | 10/20/40KM | TX:1550/1550/1550<br>RX:1310/1310/1310 | 0~70° C     |

### Copper Ethernet SFP Transceiver

Product Image



| MODEL            | SFP-50/30TP  |      |           |          |                 |             |
|------------------|--------------|------|-----------|----------|-----------------|-------------|
|                  | Speed (Gbps) | Type | Connector | Distance | Wavelength (nm) | Temperature |
| SFP-50TP-MG(30M) | 1/2.5/5/10   | -    | RJ-45     | 30M      | -               | 0~65° C     |
| SFP-30TP         | 1            | -    | RJ-45     | 100M     | -               | 0~70° C     |

### Industrial 10G Ethernet SFP+ Transceiver

Product Image



| MODEL             | SFP-51-D     |      |           |          |                 |             |
|-------------------|--------------|------|-----------|----------|-----------------|-------------|
|                   | Speed (Gbps) | Type | Connector | Distance | Wavelength (nm) | Temperature |
| SFP-51FC(SM-02)-D | 10           | SM   | LC        | 2KM      | 1310            | -40~85° C   |

### Industrial Gigabit Ethernet SFP Transceiver

Product Image



| MODEL                 | SFP-31-D     |      |           |          |                              |             |
|-----------------------|--------------|------|-----------|----------|------------------------------|-------------|
|                       | 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<br>RX:1550/1550 | -40~85° C   |
| SFP-31W2B(SM-10/20)-D | 1000         | WDM  | LC        | 10/20KM  | TX:1550/1550<br>RX:1310/1310 | -40~85° C   |

## Lightning Protector

Product Image



| MODEL      | LPB-101      |              |            |             |             |                        |   |
|------------|--------------|--------------|------------|-------------|-------------|------------------------|---|
|            | Copper Port  |              |            |             | Temperature | Dimension<br>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<br>(Recommended Spec.) |           | Charging/Backup (for reference) |                              | Temperature | Dimension<br>W x D x H |
|         | Voltage  | Type                                    | Capacity  | Charging Time                   | Backup Time                  |             |                        |
| EBU-120 | 12V      | VRLA                                    | 12V/2.3Ah | 7hrs                            | 2.2hrs<br>(for HES-3109SSFP) | 0~50° C     | 124 x 70 x 30mm        |

## Industrial Power Supply

Product Image



| MODEL      | Output      |                        |               | Input                   | Protection                                     | Temperature        | Dimension<br>W x D x H |
|------------|-------------|------------------------|---------------|-------------------------|--|--------------------|------------------------|
|            | Rated Power | Voltage Adj.<br>Range* | Current Range | Voltage Range           |  |                    |                        |
| SDR-480-48 | 480W        | 48~55V                 | 0~10A         | 90~264VAC<br>127~370VDC | Overload,<br>Over Voltage,<br>Over Temperature | -25~70° C          | 85.5 x 128.5 x 125.2mm |
| SDR-240-48 | 240W        |                        | 0~5A          | 88~264VAC<br>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        | -30~70° C               |  | 32 x 102 x 125.2mm |                        |
| NDR-480-48 | 480W        | 48~55V                 | 0~10A         | 90~264VAC<br>127~370VDC | Overload,<br>Over Voltage,<br>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               | Overload,<br>Over Voltage                      | -20~70° C          | 40 x 100 x 90mm        |
| MDR-20-12  | 20W         | 10.8~13.2V             | 0~1.67A       | 120~370VDC              | Over Voltage                                   | -20~70° C          | 22.5 x 100 x 90mm      |

\* Output Voltage Tolerance: ± 1.0%

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