CTS
CONNECTION TECHNOLOGY SYSTEMS

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SRS-3106

SRS-3106-4BT

| SRS-3106

4 x 10/100/1000Base-T RJ-45 Ports +

2 x 100/1000Base-X SFP Slots

Managed Rugged Switch

| SRS-3106-4BT

4 x 10/100/1000Base-T RJ-45 Ports with IEEE 802.3af/at/bt PoE injector +

2 x 100/1000Base-X SFP Slots

Managed Rugged PoE Switch

Description

CTS's SRS-3106 series consists of advanced 6-port layer-2 managed Ethernet switches meticulously designed to meet the evolving demands of rigorous network environments. This series includes the **SRS-3106** and the **SRS-3106-4BT** models, with the latter featuring four 90W PoE injectors.

Interface

| SRS-3106

This robust model features two 100/1000Base-X SFP slots for flexible distance extension & four 10/100/1000Base-T RJ-45 ports.

| SRS-3106-4BT

This model features not only two 100/1000Base-X SFP slots, but four 10/100/1000Base-T RJ-45 ports equipped with IEEE 802.3af/at/bt PoE injectors, capable of delivering up to 90W per port with a total power budget of 300W.

Network Resilience: Wide Temperature Tolerance

For ensuring and perfecting network resilience, the SRS-3106 series is distinguished by its ability to operate in a wide temperature range from -20°C to 60°C, which ensures reliable performance in harsh environmental conditions.

This resilience is further embodied by exclusive Fast Ring v2 and chain technologies, which guarantee a network recovery time of less than 50 ms, thereby minimizing downtime and enhancing overall network reliability. It also support standard RSTP/STP protocols to prevent network loops and ensure efficient data traffic management.

Ideal Applications

The switch series comes equipped with comprehensive management and security features, safeguarding network integrity and data. These advanced capabilities make it an ideal solution for demanding applications such as surveillance systems, enterprise networks, and outdoor installations, where high-power PoE, resilient network architecture, and robust environmental performance are paramount.

Key Features

Similarities between the 2 models

■ Wide Temperature Tolerance: -20°C ~ 60°C

The extensive operation temperature range allows it to perform reliably in environments with extreme temperature fluctuations, making it suitable for outdoor applications or the increasingly unpredictable conditions caused by global warming.

■ All Aluminum Housing

The robust aluminum casing enhances heat dissipation, ensuring efficient cooling during operation, as well as reduces the overall weight of the device.

■ Dual Power Input

Both models are shipped with a 4-pin terminal block to ensure a seamless transition of power supply in case of a sudden outage on either set of power inputs.

■ Fast Ring v2

Aside from standard RSTP/STP protocols, the SRS-3106 series features Fast Ring v2 technology to ensure network resilience with rapid recovery times of less than 50 ms (milliseconds,) which minimizes downtime, prevent network loops & enhances overall reliability for uninterrupted network performance.

Dissimilarities between the 2 models

■ Power Input Range

The **SRS-3106** supports a range of **DC 12V to 57V**, while the **SRS-3106-4BT** supports a range of **DC 48V to 57V.**

■ SRS-3106-4BT:
90W per PoE Port, 300W of Total Power Budget

Equipped with 4 x 10/100/1000Base-T RJ-45 ports supporting IEEE 802.3af/at/bt PoE injectors, the SRS-3106-4BT model can provide up to 90W per port & a total power budget of up to 300W.

Hence, it's ideal for powering high-demand powered devices, such as PTZ IP cameras, Wi-Fi 7 access points, and self-service terminals via Ethernet cables.

Target Applications

- Extreme environments with unstable temperature changes
- Long-distance fiber Ethernet network deployment

Specification

■ Interface

Fiber Port
- 2 x 100/1000Base-X SFP

RJ-45 Port
- 4 x 10/100/1000Base-T RJ-45 (SRS-3106 only)
- 4 x 10/100/1000Base-T RJ-45 with IEEE 802.3af/at/bt PoE injector (SRS-3106-4BT only)
- 6kV surge protected on PoE ports

Console Port
- 1 x RS-232 to RJ-45 Serial Port

Terminal Block
- 1 x Digital Output (Alarm Relay)
  Relay output with current carrying capacity of 1 A @ 24 VDC
- 1 x Digital Input (Dry contact)

Standards
- IEEE 802.3 10Base-T
- IEEE 802.3u 100Base-TX/FX
- IEEE 802.3ab 1000Base-T
- IEEE 802.3z 1000Base-X
- IEEE 802.3x Flow Control
- IEEE 802.3ad Link Aggregation (Static)**
- IEEE 802.1ab LLDP
- IEEE 802.1p Priority
- IEEE 802.1q Tag VLAN
- IEEE 802.1d STP**
- IEEE 802.1w RSTP**
- IEEE 802.3af Power over Ethernet *
- IEEE 802.3at Power over Ethernet + *
- IEEE 802.3bt Power over Ethernet ++ *

■ H/W Specification
- MAC Address Table: 2K
- Non-Blocking Switching Fabric: 12Gbps
- Throughput @ 64Bytes: 8.928Mpps
- Packet Buffer: 1Mbit
- Jumbo Frame: 9K Bytes
- Store and Forward Switching Mechanism
- Auto-Cross Over for MDI/MDIX in TP Ports
- Auto-Negotiation in TP Ports
- Full/Half Duplex Mode Operation

■ LED
- P1, P2, STA, ALM, Ring, Ring Master, COM, Link/Act, PoE

■ Forward/Filter Rate
- 10M: 14,880/14,880pps
- 100M: 148,800/148,800pps
- 1000M: 1,488,000/1,488,000pps

■ Power over Ethernet *
- Total PoE Power Budget: 300W

Per Port Power Pin Assignment
- IEEE 802.3af/at (mode A/end-span):
  1/2(-), 3/6(+)
  max. PoE output Budget: 15/30W
- IEEE 802.3bt
  (4-pair mode, 4-pair mode mandatory):
  1/2(-), 3/6(+) & 4/5(+), 7/8(-)
  max. PoE output Budget: 90W

■ Layer 2 Switch Features

Port Management
- State, Description, Media Type, Port Type, Speed, Duplex and Flow Control

Network Redundancy
- IEEE 802.1d Spanning Tree Protocol (STP)**
- IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)**
- Fast Ring v2/Chain Redundancy Protocols**
- Static Port Trunking**
- Up to 3 Aggregation Groups, 2-4 Ports per Group**

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

QoS
- QoS based on 802.1p CoS and DSCP
- Scheduling Algorithm
  Weighted Round Robin (WRR)
  Strict Priority Queuing (SPQ)
- QoS Priority Queues: 4 Queues
- 802.1p P-bit & DSCP Remarking
- Port-Based Rate Limit (Ingress/Egress)

Multicast
- IGMP Snooping v1/v2/v3
- IGMP Fast Leave
- MLD Snooping v1/v2
- IGMP/MLD Snooping Group: 64/32 Groups

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

■ Security
- 802.1x RADIUS Authentication for login username/password
- DHCP Snooping and DHCP Server Trust Port
- Port Isolation
- Broadcast Storm Control
- Loop Detection

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

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

■ PoE Management *
- System/per port PoE off and on
- PoE Usage Alarm Threshold **
- PoE Inline Mode
  Auto af/at, Auto bt, Fix, Force
- PoE Priority
  Critical/High/Low
- PoE off/on by schedule

■ Maintenance

Diagnostic
- Port Mirror
- ICMP Ping
- Event log
- Syslog
- SFP SFF-8472 DDMI Monitor
  Temp/Voltage/TX Bias/TX Power/RX Power
- CPU Temperature/Utilization
- Memory Statistics
- Digital Input
  Normal Open, Normal Close
- Digital Output
  Event Trigger (Digital Input, Power 1/2 Down and Port Down)

■ Power Requirement

Dual DC Input (4-pin removable terminal block)
- SRS-3106: 12~57 VDC
- SRS-3106-4BT: 48~57 VDC

Recommend PoE Output Requirement Voltage
- 802.3at: 50~57 VDC
- 802.3bt: 52~57 VDC

Max. Power Consumption:
- SRS-3106: 7.4W (25.25 BTU/h)
- SRS-3106-4BT: 313W (1068 BTU/h)

■ Environmental Condition
- Operation: -20˚C ~ 60˚C
- Storage: -30˚C ~ 70˚C
- Humidity: 5% ~ 90%, Non-condensing

■ Dimension & Weight
- Size: 56.5 x 110 x 135mm (W x D x H)
- Weight: 0.57 Kg
- Housing: Aluminium, IP30

■ Standards and Certifications

CE/FCC Class A
- Safety: EN/IEC 62368-1
- EMC: EN 55032 / EN 55035
- ESD
  Air Discharge: +/-8kV
  Contact Discharge: +/-4kV
- EFT
  DC Input: +/-0.5kV
  Signal (RJ-45): +/-0.5kV
- Surge Protection
  DC Input: +/-0.5kV
  Signal (RJ-45): +/-6kV

Freefall/Shock/Vibration
- IEC 60068-2-32
- IEC 60068-2-27
- IEC 60068-2-6

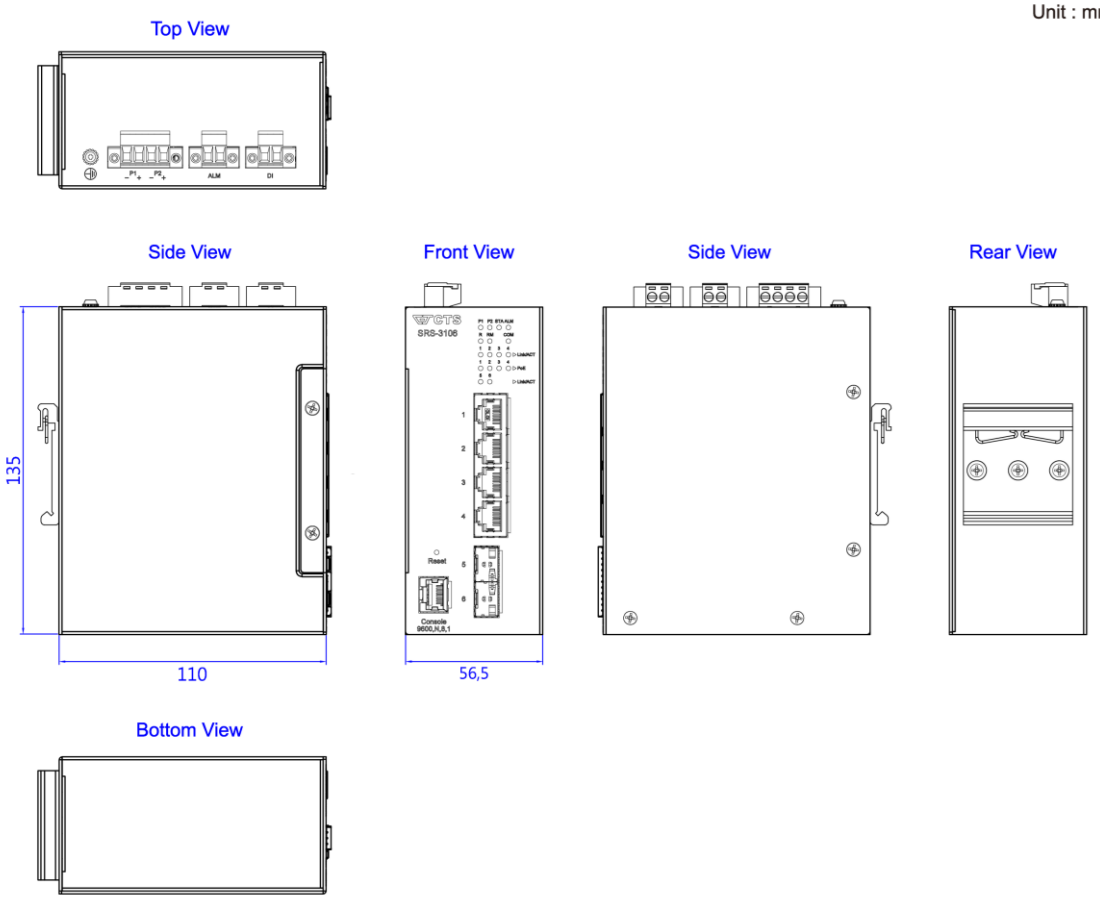
UKCA/RCM

RoHS 2.0

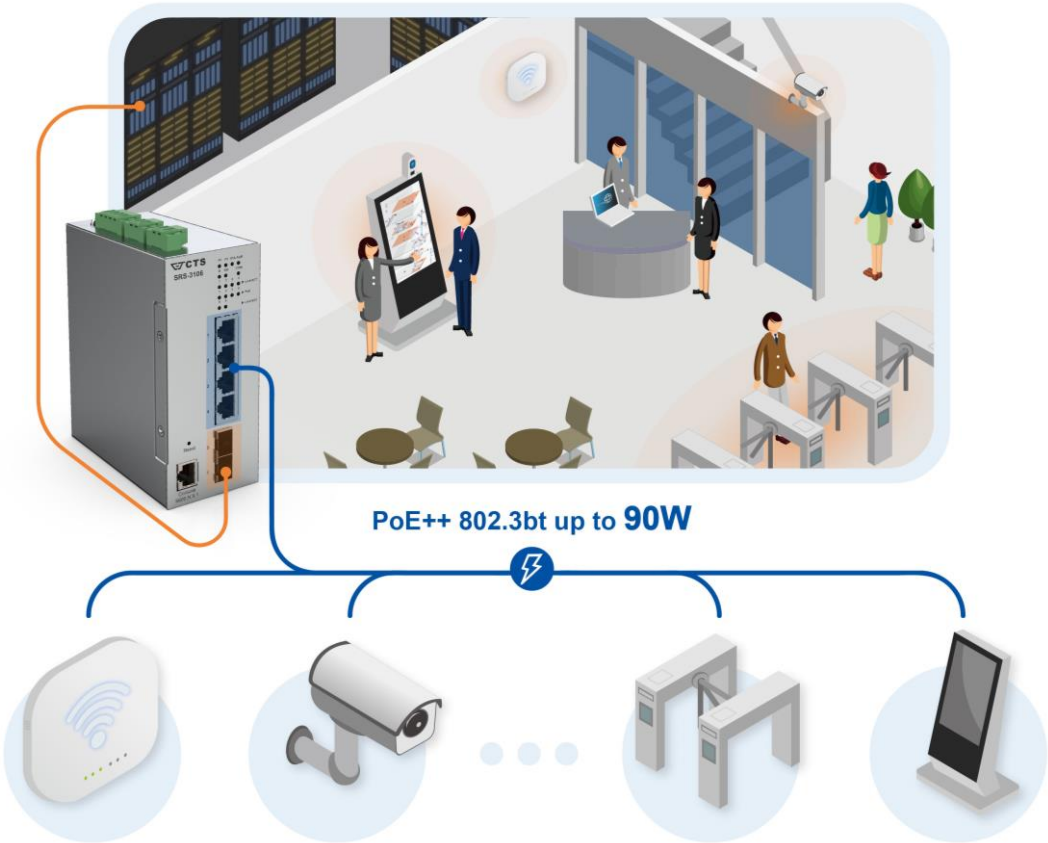
* The PoE related function only operates on SRS-3106-4BT
** Coming soon

Dimension

Unit : mm



Application Diagram



Order Information

Model	Fiber Port			TP Port		Support Power Source
	Speed	Type	Slots	Speed	Ports	
SRS-3106	100/1000Mbps	SFP	2	10/100/1000Mbps	4	2 x 12~57V DC with removable terminal block
SRS-3106-4BT	100/1000Mbps	SFP	2	10/100/1000Mbps	4 with 802.3af/at/bt Injector	2 x 48~57V DC with removable terminal block

Accessory

SFP-31FC-D

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

Power Supply

Model	Output Voltage Range	Maximum Output Watt	Operating Temperature
SDR-480-48	48~55V	480W	-25˚C ~ 70˚C
SDR-240-48	48~55V	240W	-25˚C ~ 70˚C
SDR-120-48	48~55V	120W	-25˚C ~ 70˚C
SDR-75-48	48~55V	75W	-25˚C ~ 70˚C
NDR-480-48	48~55V	480W	-20˚C ~ 70˚C
NDR-240-48	48~55V	240W	-20˚C ~ 70˚C
NDR-120-48	48~55V	120W	-20˚C ~ 70˚C
NDR-75-48	48~55V	75W	-20˚C ~ 70˚C
MDR-60-48	48~56V	60W	-20˚C ~ 70˚C
MDR-20-12	10.8~13.2V	20W	-20˚C ~ 70˚C

NOTE: Please refer to the power supply datasheet for details regarding the operating temperature and derating curve. Subsequently, choose the suitable power supply based on your specific requirements and operating environment.

Connection Technology Systems Inc. (HQ)
Tel.: +886-2-2698-9661
E-mail: cts_esales@ctsystem.com
info@ctsystem.com
Sales Direct Line: +886-2-26989201

Connection Technology Systems NE AB
Tel: +46-31-221980
E-mail: info@ctsystem.se

Connection Technology Systems CE GmbH
Tel: +43 1 343 9553 50
E-mail: cts_ce@ctsystem.com

Connection Technology Systems Japan
Tel: +81-6-6450-8890
E-mail: cts_japan@ctsystem.com

Connection Technology USA Inc.
Tel: +1-510-509-0304
Sales Direct Line: +1-510-509-0305
E-mail: cts_us@ctsystem.com

Connection Technology Systems India Private Limited
E-mail: cts_in@ctsystem.com