

ISCOM2128-I

Managed Industrial-grade Ethernet Switch

ISCOM2128-I is managed industrial-grade Ethernet switch manufactured by Raisecom, which serves as ideal solution for outdoor networking deployment in industry, transportation, military, utility and residential areas. Being an intelligent L2 aggregation switch, ISCOM2128-I delivers advanced QoS tool, enhanced network security and reliable Fast and Gigabit Ethernet connectivity under harsh operating conditions. ISCOM2128-I has passed stringent tests conducted by KEMA in Nov 2011, and is certified to comply with both IEC61850-3 and IEEE1613 standards, that define regulations for communication networks and systems in substations.



ISCOM2128-I



Highlights

Sophisticated Network Security Assurance

Networks are secured with port-isolation within individual VLAN, selective Q-in-Q function, MAC table threshold per port, broadcast/multicast/DLF storm control, unique port loopback detection, STP, RSTP & MSTP, and DHCP Client/Snooping/Option82.

Enhanced Industrial-grade Hardware

Devices are designed and manufactured to adapt to deployments in harsh environments: 1) performances and reliabilities are guaranteed under extreme thermal conditions from -40°C to 85°C (-40°F~185°F); 2) products are also featured to be dust-proof (IP40 level).

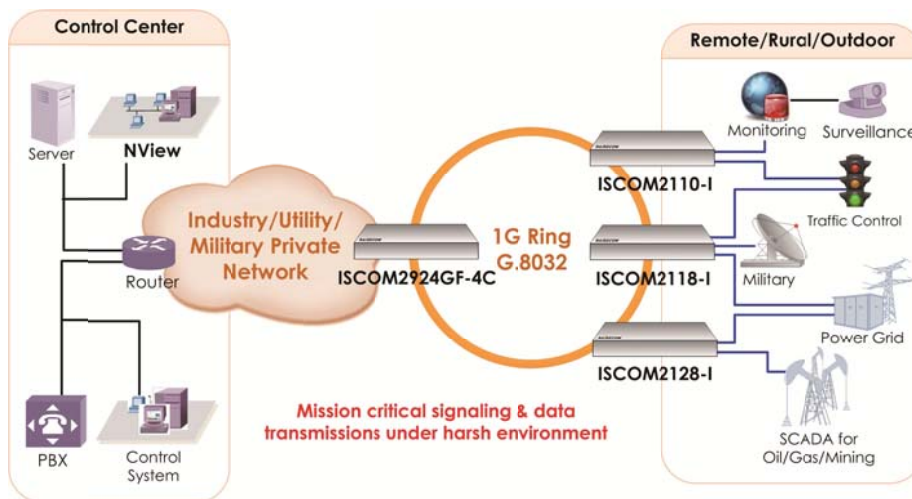
Carrier Ethernet QoS

IEEE802.1p based QoS is supported in terms of 4 queues per port, SP/WRR/SP+WRR, bandwidth control, IGMP snooping, and multicast VLAN registration (MVR) to save bandwidth and optimize corresponding services.

Fully complying with IEC 61850 and IEEE 1613 standard

ISCOM2128-I is managed industrial-grade Ethernet switch manufactured by Raisecom, which is fully complying with IEC 61850 and IEEE 1613 standard, and it passed the stringent tests conducted by KEMA in Nov 2011, Netherlands.

Typical Application





Features

General

Switching Mode Store and forward mode;
Buffer size: ISCOM2128-I: 384KB;

Packet Forwarding ISCOM2128-I: 1,632 byte;
DLF forward control

Bandwidth Profile Rate limit:1,000,000Kbps; Ingress and/or Egress per port;
Rate limit based on packet type/queue;
Increments: 64Kbps (64K-1M), 1Mbps (1-100M), 10Mbps (100-1000M);

Strom control Broadcast/multicast/unicast-DLF strom control;
Control mode: global, bps

VLAN IEEE 802.1Q VLAN;
4K active VLANs;
Port PVID Overviews;

Q-in-Q Port Q-in-Q;
Egress VLAN swapping;
N:1 VLAN swapping (both egress and ingress);
416 N:1 VLAN swapping per device;
16 N:1 VLAN swapping per port

Link Aggregation Up to 4 groups and 8 ports per group;
Load balance based on CRC harsh value of MAC address;

Mirroring N:1 port mirroring;
Mirroring per Stream;
Separate mirroing configurations for ingress & egress ports;

MAC Address Table IEEE802.1Q
8K MAC address;
Add/remove MAC address;
View MAC address statistic;
Search MAC address;
Aging time:15-3,825s;
MAC table threshold per port;
MAC table limit:1-255;

STP STP, RSTP & MSTP; 64 instances

Flow control IEEE 802.3x in full duplex mode;



	Back pressure in half duplex mode; Port-based configurations
Multicast	1K multicast addresses; Static multicast group; IGMP Snooping V1/V2/V3; Multicast filtering & unknow multicast discard; MVR;
Port Loopback Detection	Auto shutdown individual ports upon fault signals
Port Backup	Support
Transparent Reply	BPDU; DOT1X; LACP
Digital Diagnostic	SFP digital diagnostic function
Ethernet Ring	RAISECOM Ethernet ring: ≤50ms recovery time; Up to N Ethernet rings with max 124 devices in each ring: ISCOM2128-I: N=14;
Advanced	
Qos	CoS/DSCP to queue mapping; Port priority override; Port TRUST mode; TRUST CoS/DSCP priority; Global queue scheduling; 4 queues per port; SP/WRR/SP+WRR;
Filter	Switch access IP packet filter
Safety Features	Client classification; RADIUS; TACAS+; Binding of MAC address & port; Port protection;
Maintenance	Debug information output; PING (Packet Internet Groper); Telnet Client;
Scheduling	System task scheduling
Software Upgrade	Xmodem/FTP upgrade in BOOTROM FTP/TFTP



System Management	CLI/ARP/Telnet/Console/SNMP/Web; management; RMON1,2,3 & 9; Bridge MIB (RFC1493); RAISECOM NMS; System log; Hierarchical alarms; Link alarm per port; Keepalive report; Fault pass through;
Cluster Management	RAISECOM Neighbor Discovery Protocol (RNDP); RAISECOM Topology Discovery Protocol (RTDP); RAISECOM Cluster Management Protocol (RCMP); RAISECOM Cluster Program
Time Management	Timezone; Time modification; DST; System time synchronization by SNTP Client
DHCP	DHCP Client/Snooping/Opt82
Error Tolerance& Redundancy	System error report; Fast recovery during serious error
Auto Configuration	Support
Password Recovery	Support
Industrial-grade	
Complying with IEC61850 and IEEE1613	With KEMA certification Complying with both IEC61850 and IEEE 1613 standards
Extended Temp Range	Operating temp:-40~85°C(-40~185°F)
Dust-proof	IP40 level dust prevention
Lingting-proof	IEC61000-4-5:2005 Up to 6,000V in common mode; 4,000V in differential mode



Specifications

Performance	Switching fabric: 12.8Gbps	Management port: 1 console (RJ45);
Capacity	32MB SDRAM; 8MB flash; 384KB switch buffer; 1K IGMP groups	Serial port config: 9600bps/8bit/none parity/1 stop bit/none flow control
MTU	1,632 Bytes;	DC24: 18~36V
Indicators	Power Supply (flashing); System (flashing); 10/100BASE-T: FDX, 100M & LINK/ACT indicators; 1000BASE-X SFP: LNK/ACT indicators 6	DC 48: 36V~72V
Port Specs	16x10/100BASE-T; 4x 1000BASE-FX SFP; Extended slot: -8x10/100BASE-T; -8x100BASE-FX SFP; -4x10/100BASE-T+ 4x10/100BASE-FX SFP;	DC110: 66V~160V
		DC 220: 120V~370V
		AC 220: 85V~264V
		≤25 W (full load)
		User Conditions
		Storage temp: -40~85°C (-40~185°F)
		Dimensions
		Operating temp: -40~85°C (-40~185°F)
		Humidity: 5~95% non-condensing
		440(L) x 360(W) x 44(H) mm3
		Weight
		17.3(L) x 14.2(W) x 1.7(H) cub. inch
		<3.7kg
		(<8.2lbs)

Compliances

Safety	N/A (application in process)
MIB	802-1x-2004-MIB
Management	DISMAN-PING-MIB
	RFC1213
	RFC1493
	RFC1757
	RFC1907
	RFC2233
	RFC2571
	RFC2572
	RFC2573N
	RFC2573P
	RFC2573T

Compliances

	RFC2574
	RFC2575
	RFC2665
	RFC2674P
	RFC4363Q
	TRACEROUTE
	RAISECOM-ACL-MIB
	RAISECOM-
	COMMONMANAGEMENT-MIB
	RAISECOMDOT1XMIB
	RAISECOM-EXTEND-
	RAISECOM-KEEPALIVE-MIB
	RAISECOM-QOS-MIB



RAISECOM-RCMP-MIB
RAISECOM-RELAY-MIB
RAISECOM-REMOTEMANAGEMENT-
LOCAL-MIB
RAISECOM-REMOTEMANAGEMENT-
REMOTE-MIB
RAISECOM-RNDP-MIB
RAISECOM-RTDP-MIB
RAISECOM-SCHEDULE-MIB
RAISECOM-SYSLOGSERVICE-MIB
SWITCH-SYSTEM-MIB
RCCFM
RCDOT1AG
RCQINQ
RCSLA
RMONMIB
SWITCH-AUTOCONFIG-MIB
SWITCH-DHCPCLIENT-MIB
SWITCH-DHCPOPTION-MIB
SWITCH-DHCPSNOOPINGMIB
SWITCH-ERING-MIB
SWITCH-IFEXTEND-MIB
SWITCH-L3FILTER-MIB
SWITCHLINKSTATETRACK-MIB
SWITCH-MACCONFIG-MIB
SWITCH-MSTP-MIB
SWITCH-MVR-MIB
SWITCH-NTP-MIB
SWITCH-PORTBACKUP-MIB
SWITCH-PORTMIRROR-MIB
SWITCH-PORTSTATISTICMIB
SWITCH-RATELIMIT-MIB
SWITCH-RSTP-MIB

Standards

SWITCH-SNMP-MIB
SWITCH-SYSTEM-MIB
SWITCH-TRUNK-MIB
SWITCH-VLANCFG-MIB
IEC 61850
IEEE 1613
IEEE 802.1Q VLAN
IEEE 802.3ad Link Aggregation
IEEE 802.1ad QinQ
IEEE 802.1D Spanning Tree Protocol
IEEE 802.1w RSTP
IEEE 802.1s MSTP
IEEE 802.1x Security
IEEE 802.1p QoS Prioritization
IEEE 802.3x Flow Control
Fault Management
Static Routing
IGMPv1/v2/v3 Multicast
SNMPv1/v2/v3

Ordering Information

ISCOM2128-I-DC/D	16 x 10/100BASE-TX, 4 x 1000BASE-FX SFP, extended slot available in 1) 8 x 10/100BASE-T; 2) 8 x 100BASE-FX SFP; 3) 4 x 10/100BASE-T + 4 x 100BASE-FX SFP; dual 48V DC power supply
ISCOM2128-I-AC/D	16 x 10/100BASE-TX, 4 x 1000BASE-FX SFP, extended slot available in 1) 8 x 10/100BASE-T; 2) 8 x 100BASE-FX SFP; 3) 4 x 10/100BASE-T + 4 x 100BASE-FX SFP; dual AC power supply
ISCOM2128-I-DC/D (+24V)	16 x 10/100BASE-TX, 4 x 1000BASE-FX SFP, extended slot available in 1) 8 x 10/100BASE-T; 2) 8 x 100BASE-FX SFP; 3) 4 x 10/100BASE-T + 4 x 100BASE-FX SFP; dual +24V DC power supply
ISCOM2128-I-DC/D (+110V)	16 x 10/100BASE-TX, 4 x 1000BASE-FX SFP, extended slot available in 1) 8 x 10/100BASE-T; 2) 8 x 100BASE-FX SFP; 3) 4 x 10/100BASE-T + 4 x 100BASE-FX SFP; dual +110V DC power supply
ISCOM2128-I-DC/D (+220V)	16 x 10/100BASE-TX, 4 x 1000BASE-FX SFP, extended slot available in 1) 8 x 10/100BASE-T; 2) 8 x 100BASE-FX SFP; 3) 4 x 10/100BASE-T + 4 x 100BASE-FX SFP; dual +110V DC power supply
ISCOM2128-I-DC/S	16 x 10/100BASE-TX, 4 x 1000BASE-FX SFP, extended slot available in 1) 8 x 10/100BASE-T; 2) 8 x 100BASE-FX SFP; 3) 4 x 10/100BASE-T + 4 x 100BASE-FX SFP; single 48V DC power supply
ISCOM2128-I-AC/S	16 x 10/100BASE-TX, 4 x 1000BASE-FX SFP, extended slot available in 1) 8 x 10/100BASE-T; 2) 8 x 100BASE-FX SFP; 3) 4 x 10/100BASE-T + 4 x 100BASE-FX SFP; single AC power supply
ISCOM2128-I-DC/S (+24V)	16 x 10/100BASE-TX, 4 x 1000BASE-FX SFP, extended slot available in 1) 8 x 10/100BASE-T; 2) 8 x 100BASE-FX SFP; 3) 4 x 10/100BASE-T + 4 x 100BASE-FX SFP; single +24V DC power supply
ISCOM2128-I-DC/S(+110V)	16 x 10/100BASE-TX, 4 x 1000BASE-FX SFP, extended slot available in 1) 8 x 10/100BASE-T; 2) 8 x 100BASE-FX SFP; 3) 4 x 10/100BASE-T + 4 x 100BASE-FX SFP; single +110V DC power supply
ISCOM2128-I-DC/S (+220V)	16 x 10/100BASE-TX, 4 x 1000BASE-FX SFP, extended slot available in 1) 8 x 10/100BASE-T; 2) 8 x 100BASE-FX SFP; 3) 4 x 10/100BASE-T + 4 x 100BASE-FX SFP; single +110V DC power supply
ISCOM2128-I-AC_DC	16 x 10/100BASE-TX, 4 x 1000BASE-FX SFP, extended slot available in 1) 8 x 10/100BASE-T; 2) 8 x 100BASE-FX SFP; 3) 4 x 10/100BASE-T + 4 x 100BASE-FX SFP; redundant AC/DC power supply