Contact Kyland

Sales Inquiry: sales@kyland.com
Technical Support: support@kyland.com

HQS - Kyland China
KYLAND TECHNOLOGY CO., LTD.
Address: Building No.2, Shixing Avenue 30#,
Shijingshan District, Beijing, 100041
Tel: +86-10-88798888
Fax: +86-10-88796678

EMEA - Europe, Middle East, Africa
KYLAND TECHNOLOGY EMEA GmbH
Address: Arbachtalstraße 6 (H3-Building)
72800 Eningen u.A Germany
Email: emea@kyland.eu.com

Americas - North America & South America
KYLAND CORPORATION
Address: 2010 Crow Canyon Pl Suite 100
San Ramon CA 94583, USA
Tel: +1-510-935-5320
Email: americas@kyland.com

Asia Pacific
KYLAND TECHNOLOGY ASIA PTE LTD
Address: 229 Mountbatten Road #03-38,
Singapore 398007
Tel: +65 3157 9226
Email: asia@kyland.com

Russia & CIS
Email: ru@kyland.com

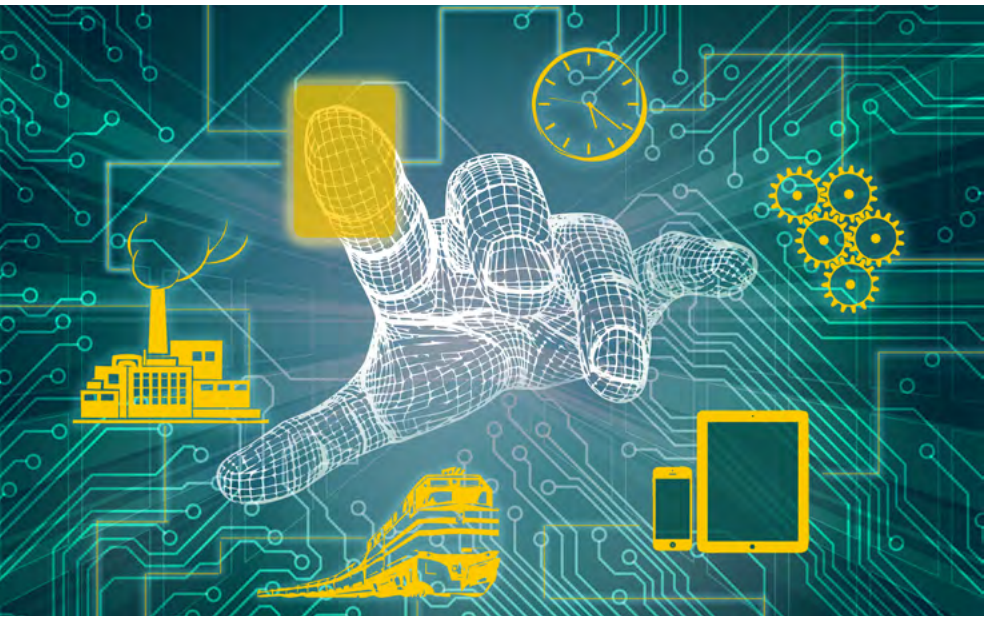
Products at a Glance

www.kyland.com

Version: 5.1

Vision

To be the leading solution provider for
Industrial Networking & Control Systems



Content

2 Industrial Communication Solutions
4 • Layer 3 Backbone Ethernet Switches
5 • Multi-function Switching Platform
7 • Rack Mount Ethernet Switches
9 • DIN Rail Managed Ethernet Switches
12 • EN50155 Ethernet Switches
15 • TSN Switches
16 • HSR/PRP Redundancy Switches
16 • Ethernet switching module
17 • PoE Ethernet Switches
18 • Unmanaged Ethernet Switches
20 • Optical Fiber Convertors
21 • Serial Device Servers
22 • Intelligent Gateways
24 • Precise Timing Solutions
25 • Appendix
25 • Technical Expertise

Strategic Direction

- Industrial Ethernet communications technologies
- IP-based industrial Fieldbus technologies
- Network-based field controller technologies
- Cloud-based industrial controlling server technologies
- Network-based precise time/clock technologies
- Control message communication security technologies

Overview of Industrial Communication Solutions

		Page	Management		Layer		Interface					Number of Ports				Installation			PoE	EN50155	KEMA
			Managed	Unmanaged	Layer 3	Layer 2	10 Gigabit	Full Gigabit	Gigabit /100M	Full 100M	Serial	0-8	9-15	16-28	29-52	Rackmount	DIN Rail	Wall Mount			
Layer 3 Backbone Ethernet Switches	SICOM6448G	4	●		●		●	●							●	●					
	SICOM6432G	4	●		●		●	●						●	●	●					
Multi-function Switching Platform	SICOM3028GPT	5	●		●	●		●	●	●	●	●	●	●		●				●	●
Rack Mount Ethernet Switches	SICOM3448G	7	●			●	●							●	●	●					
	SICOM3432G	8	●			●	●	●						●	●	●					
	SICOM3024G	8	●			●		●						●		●					
	SICOM3024P	8	●			●			●	●				●		●					●
	SICOM3024	9	●			●				●				●		●					
	SICOM2024M	9	●			●				●				●		●					
DIN Rail Managed Ethernet Switches	SICOM6416G/3416G	9	●		●	●	●	●						●			●	●			
	SICOM6000A	10	●		●			●	●	●		●	●				●	●			
	SICOM3000A	10	●			●		●	●	●		●	●	●			●	●			
	SICOM3000	11	●			●			●	●		●	●				●	●			●
	SICOM3000A -LITE	11	●			●			●	●		●	●				●	●			
	SICOM3009A	11	●			●				●		●	●				●	●			●
	KIEN7009	11	●			●				●		●	●				●	●			
EN50155 Ethernet Switches	Aquam8628/8128	12	●		●	●			●		●			●				●	●	●	
	Aquam8620/8120	12	●		●	●			●		●			●				●	●	●	
	Aquam8612/8112	13	●		●	●			●		●		●					●	●	●	
	Aquam8612/8112 -1U	13	●		●	●		●			●		●			●			●	●	
	Aquam8612/8112 -2U	13	●		●	●			●		●			●		●			●	●	
	Aquam8512A/Aquam8012A	14	●		●	●			●		●		●					●	●	●	
	Aquam8512A-1U/8012A-1U	14	●		●	●			●		●		●			●			●	●	
	Aquam9S/8S/5S	14		●		●			●			●	●					●	●	●	
	Aquam8G/5G	15		●		●		●				●						●		●	
	Aquam8A	15		●		●				●		●						●		●	
	Aquam8/5	15		●		●				●		●						●		●	
TSN Switches	SICOM3000TSN	15	●			●	●	●					●				●	●			
	Aquam8124TSN	15	●			●		●	●	●				●				●	●	●	
	SICOM6424GTSN	16	●		●		●	●						●		●					
HSR/PRP Redundancy Switches	Ruby3A	16	●			●		●				●					●	●			
Ethernet switching module	SICOM2000	16	●			●			●					●					●	●	
PoE Ethernet Switches	SICOM3024GS	17	●		●	●	●	●						●		●			●		
	SICOM3000S	17	●			●		●	●			●	●				●	●	●		
	Opal10GS	17		●		●		●				●	●				●	●	●		
	Opal5GS	17		●		●		●				●					●	●	●		
	Opal10S	18		●		●			●	●		●	●				●	●	●		
	Opal5S	18		●		●				●		●					●	●	●		
Unmanaged Ethernet Switches	Opal20	18		●		●			●	●				●			●	●			
	Opal8A	18		●		●				●		●					●	●			
	Opal8	18		●		●				●		●					●	●			
	Opal5	18		●		●				●		●					●	●			
	Opal10G	19		●		●		●				●	●				●	●			
	Opal5G	19		●		●		●				●					●	●			
	Opal8L	19		●		●				●		●					●	●			
	Opal5L	19		●		●				●		●					●	●			
	Opal10GL	19		●		●		●				●	●				●	●			
	Opal8GL	20		●		●		●				●					●	●			
	Opal5GL	20		●		●		●				●					●	●			
Optical Fiber Convertors	KOM600G	20		●		●		●				●					●	●			
	KOM300A	21		●		●				●		●					●	●			
	KOM300F	21		●		●				●		●					●	●			
	KOM200	21		●							●	●					●				
Serial Device Servers	KPS3101A/3102A/3204A	21								●	●	●					●	●			
	KPS3224A	22								●	●			●		●					
Intelligent Gateways	KGW3102A/3204A/3208A	22								●	●	●					●	●			
	KGW3204A-4G	22								●	●	●					●	●			
	KGW3224A	23								●	●			●		●					
	DG-A2/A4	23								●	●	●					●	●			
	DG-A8/A16	23								●	●			●		●					
Precise Timing Solutions	PTS-10/10A/30	24							●	●						●					
	PTD-10	24							●	●						●					
	PTS-DR200	24							●	●							●	●			
	PTC2000	24							●	●							●	●			

Layer 3 Backbone Ethernet Switches

SICOM6448G

*48G+4*10G ports Layer 3 managed rack mountable switches*

- Supports combo gigabit ports with option of 1000 Base-T(X) RJ45 or 1000 Base-X Fiber,
- Supports Max four 10 gigabit ports, 48 gigabit RJ45 ports or 16 gigabit RJ45 ports and 32 gigabit SFP ports
- Supports DRP/DHP, DT-Ring, STP/RSTP/MSTP and VRRP for network redundancy
- Supports Layer 3 Static routing and routing protocols such as RIP v1/v2 and OSPF
- Supports QoS, VLAN, SNMP v1/v2/v3, RMON (1,2,3,9 Group)
- Supports SFP Digital Diagnostics Monitoring
- Supports Software-based IEEE1588 PTPv2
- Supports dual redundant power supplies: HV (100-240VAC/110-220VDC)
- IP40 protection class
- CE, FCC

SICOM6432G

*32G/24G+4*10G port layer 3 managed rack mountable switches*

- Supports combo gigabit ports with option of 1000 Base-T(X) RJ45 or 1000 Base-X Fiber
- Supports maximum four 10 gigabit ports (Complies with 2.5 gigabit), 32 gigabit ports
- Supports DRP/DHP, STP/RSTP/MSTP, ERPS (G.8032) and VRRP for network redundancy
- Supports layer 3 Static routing and routing protocols such as RIP v1/v2 and OSPF
- Supports QoS, VLAN, SNMP v1/v2/v3, RMON (1,2,3,9 Group)
- Supports DDM (SFP Digital Diagnostics Monitoring)
- Supports NAT
- Supports Hardware-based IEEE1588 PTPv2
- Supports Automatic Configuration Backup and Restoration
- Supports dual redundant power supplies: HV (100-240VAC/110-220VDC), L2 (24-48VDC)
- IP40 protection class
- CE , FCC

Multi-function Switching Platform

SICOM3028GPT

KEMA Gold certified 28G/24+4G port multi-function layer 2/3 switching platform support IEEE1588v2, GPS, IRIG-B, HSR/PRP,serial device server

KEMA

- Flexible modular design for easy expansion, supports maximum 28 gigabit fiber/copper ports
- Supports DRP/DHP, DT-Ring, STP/RSTP/MSTP and VRRP for network redundancy
- Supports layer 3 Static routing and routing protocols such as RIP v1/v2 and OSPF
- Supports IEEE1588 v2, the accuracy of synchronization reaches ±100ns
- Supports ITU-T.G.8261/G.8262 synchronous Ethernet, the accuracy of synchronization reaches ±50ns
- Supports HSR/PRP module, Time server module, GPS module, IRIG-B module, TMS-trigger module, Serial server module, LED module
- Supports IEC61850 MMS sever
- Supports hot swappable dual redundant power supplies: HV (100-240VAC/110-220VDC), L3 (24VDC), L1 (48VDC)
- IEC61850-3 & IEEE1613 (KEMA Gold certified)
- CE, FCC, EN50121 (HV), NEMA-TS2, UL61010

Ethernet Module

Ethernet Module for SICOM3028GPT

SM6.6-4GX-1U
SM6.6-4GX-DDM-1U

SM6.6-4GE-1U

SM6.6-2GX2GE-1U

SM6.6-4GX-0.5U
SM6.6-4GX-DDM-0.5U
SM6.6-4SFP-0.5U
SM6.6-4SFP-DDM-0.5U

SM6.6-4GE-0.5U
SM6.6-4T-0.5U

SM6.6-2GX2GE-0.5U

SM6.6-2GX2M-SC05-0.5U
SM6.6-2GX2S-SC40-0.5U
SM6.6-2GX2S-SC60-0.5U
SM6.6-2GX2S-SC80-0.5U

SM6.6-2GX2M-ST05-0.5U
SM6.6-2GX2S-ST40-0.5U

SM6.6-2GX2M-FC05-0.5U
SM6.6-2GX2S-FC40-0.5U

SM6.6-4M-SC05-0.5U
SM6.6-4S-SC40-0.5U
SM6.6-4S-SC60-0.5U
SM6.6-4S-SC80-0.5U

SM6.6-4M-ST05-0.5U
SM6.6-4S-ST40-0.5U

SM6.6-4M-FC05-0.5U
SM6.6-4S-FC40-0.5U

SM6.6-2M2T-SC05-0.5U
SM6.6-2S2T-SC40-0.5U
SM6.6-2S2T-SC60-0.5U
SM6.6-2S2T-SC80-0.5U

SM6.6-2M2T-ST05-0.5U
SM6.6-2S2T-ST40-0.5U

SM6.6-2M2T-FC05-0.5U
SM6.6-2S2T-FC40-0.5U

LED Module

LED module for SICOM3028GPT

- Offer Port link LED, Alarm LED, Running LED and Power LED from rear panel
- 0.5U structures, for slot 7 only

Hot-Swappable Power Module

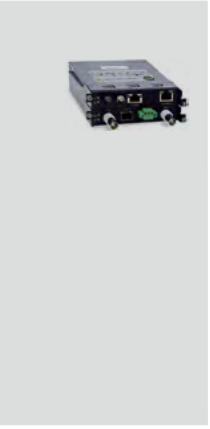
Hot-swappable power modules for SICOM3028GPT

- SM6.6-Power-HV
- SM6.6-Power-L1
- SM6.6-Power-L3

HSR/PRP Module

HSR/PRP modules for SICOM3028GPT

- Plug-in Redbox module for reliable industrial networking in SICOM3028GPT series.
- Full FPGA hardware solution with low switching latency
- Compliant implementation of HSR (IEC62439-3-5) and PRP (IEC62439-3-4)
- Supports hot-swap for easy maintenance



Time Server Module

Time Server modules for SICOM3028GPT

- High Precision Reference Clock as Absolute Time Source (GPS, BDS, GLONASS)
- Relative Reference Time and External Time Synchronization (PTP, IRIG-B)
- High precision stable OCXO oscillator with excellent time keeping performance
- Supports PTP, NTP/SNTP, IRIG-B, PPS output
- Report time status by SNMP, IEC61850 MMS, IEC60870-5-104, DNP over TCP etc.
- Supports Web, SNMP etc. management system
- Designed for the SICOM3028GPT-L2GT, SICOM3028GPT-L2FT, SICOM3028GPT-L3GT, SICOM3028GPT-L3FT chassis
- Supports hot-swap for easy maintenance

TMS-Trigger Module

TMS-trigger modules for SICOM3028GPT

- Internal time synchronized as PTP slave with SICOM3028GPT chassis
- Supports GOOSE publish and MMS report
- Supports optical/electrical signal input/output
- Designed for the SICOM3028GPT-L2GT, SICOM3028GPT-L2FT, SICOM3028GPT-L3GT, SICOM3028GPT-L3FT chassis
- Supports hot-swap for easy maintenance

GPS Module

GPS modules for SICOM3028GPT

- 14 channels GPS C/A coding receiver
- High precision stable crystal oscillator with excellent time keeping performance
- One PPS +5V TTL level output with BNC connector
- Supports one 5M/10M frequency input. (optional)
- Designed for the SICOM3028GPT-L2GT, SICOM3028GPT-L2FT, SICOM3028GPT-L3GT, SICOM3028GPT-L3FT chassis
- Supports hot-swap for easy maintenance

IRIG-B Module

PTP to IRIG-B convert modules for SICOM3028GPT

- PTP to IRIG-B high precision clock converting
- 2 IRIG-B (DC), 2 IRIB-B (AC), and 1 PPS outputs
- Supports IRIG-B000, B001, B002, B003, B004, B005, B006, B007, B120, B121, B122, B123, B124, B125, B126, B127 output
- Designed for the SICOM3028GPT-L2GT, SICOM3028GPT-L2FT, SICOM3028GPT-L3GT, SICOM3028GPT-L3FT chassis
- Supports hot-swap for easy maintenance

Serial Module

Serial device server modules for SICOM3028GPT

- 4 RS232/422/485 serial ports, one 100M interface (backplane)
- Supports VLAN, white list, data mirror, configuration import/export.
- Reset button for easy module reset without need to reboot the device
- ±15kV ESD protection circuit for each serial port
- Supports hot-swap for easy maintenance

Rack Mount Ethernet Switches

SICOM3448G

*48G+4*10G port layer 2 managed rack mountable switches*

- Supports combo gigabit ports with option of 1000 Base-T(X) RJ45 or 1000 Base-X Fiber
- Supports maximum four 10 gigabit ports, 48 gigabit RJ45 ports or 16 gigabit RJ45 ports and 32 gigabit SFP ports
- Supports DRP/DHP, DT-Ring, STP/RSTP/MSTP for network redundancy
- Supports QoS,VLAN, SNMP v1/v2/v3, RMON (1,2,3,9 Group)
- Supports DDM (SFP Digital Diagnostics Monitoring)
- IP40 protection class
- Supports dual redundant power supplies: HV (100-240VAC/110-220VDC)
- CE, FCC

SICOM3432G

*32G/24G+4*10G port layer 2 managed rack mountable switches*

- Supports combo gigabit ports with option of 1000 Base-T(X) RJ45 or 1000 Base-X Fiber
- Supports maximum four 10 gigabit ports (Complies with 2.5 gigabit), 32 gigabit ports
- Supports DRP/DHP, STP/RSTP/MSTP, ERPS (G.8032) for network redundancy
- Supports QoS,VLAN, SNMP v1/v2/v3, RMON (1,2,3,9 Group)
- Supports DDM (SFP Digital Diagnostics Monitoring)
- Supports Hardware-based IEEE1588 PTPv2
- Supports Automatic Configuration Backup and Restoration
- IP40 protection class
- Supports dual redundant power supplies: HV (100-240VAC/110-220VDC), L2 (24-48VDC)
- CE, FCC

SICOM3024G

24G port full gigabit layer 2 managed rack mountable switches

- Supports maximum 24 gigabit ports, include 12 combo ports
- Supports DRP/DHP, DT-Ring, STP/RSTP/MSTP for network redundancy
- Supports dual redundant power supplies: HV (100-240VAC/110-220VDC)
- EMC Level 3
- IP30 protection class
- CE, FCC

KEMA

SICOM3024P

KEMA Gold certified 24+4G port layer 2 managed rack mountable Switches with flexible fiber/copper options

- Supports maximum 4 gigabit fiber/copper ports and 24 fast Ethernet fiber/copper ports
- Supports IEC 61850 MMS sever
- Supports DRP/DHP, DT-Ring, STP/RSTP for network redundancy
- Supports dual redundant power supplies: HV (100- 240VAC/110-220VDC), L3 (24VDC), L1 (48VDC)
- IEC 61850-3 and IEEE1613 (KEMA Gold certified)
- UL508 (HV, L1, L3), Class I Div 2 (HV, L1, L3)
- CE (HV), FCC (HV), NEMA-TS2 (HV)

SICOM3024

20 port cost-effective layer 2 managed rack mountable switches

- Supports maximum 4 fast Ethernet SFP ports and 16 fast Ethernet RJ45 ports
- Supports DT-Ring, STP/RSTP for network redundancy
- Supports dual redundant power supplies: HV (100-240VAC/110-220VDC), L2 (24-48VDC)
- Complies with IEC 61850-3 and IEEE1613
- CE , FCC

SICOM2024M

28 port cost-effective layer 2 managed rack mountable switches

- Supports 4 Ethernet 100Base-FX SFP ports and 24 Ethernet 10/100Base-T(X) RJ45 ports
- Supports DRP/DHP, DT-Ring, STP/RSTP/MSTP for network redundancy
- Supports DDM (SFP Digital Diagnostics Monitoring)
- Supports dual redundant power supplies: HV (100-240VAC/110-220VDC), L2 (24-48VDC)
- Supports multiple alarm types
- CE (Pending), FCC (Pending)

DIN Rail Managed Ethernet Switches

SICOM6416G/3416G

*12G+4*10G port layer 3/2 managed DIN-Rail switches*

- Supports maximum four 10 gigabit ports (Complies with 2.5 gigabit), 12 gigabit ports
- Supports DRP/DHP, STP/RSTP/MSTP and VRRP for network redundancy
- Supports layer 3 Static routing and routing protocols such as RIP v1/v2 and OSPF
- Supports DDM (SFP Digital Diagnostics Monitoring)
- Supports NAT (layer 3 switch only)
- Supports Hardware-based IEEE1588 PTPv2
- Supports Automatic Configuration Backup and Restoration
- Supports dual redundant power supplies: L3 (24VDC), L1 (48VDC). Single power supply: HV (100-240VAC/110- 220VDC)
- CE, FCC, IEC 61850-3&IEEE 1613

IEC 61850

SICOM6000A

12G/8+4G port layer 3 managed DIN-Rail switches

- Supports maximum 4 gigabit SFP ports, 8 gigabit RJ45 ports or 8 fast Ethernet RJ45 ports
- Supports DRP/DHP, DT-Ring, STP/RSTP/MSTP and VRRP for network redundancy
- Supports layer 3 Static routing and routing protocols such as RIP v1/v2 and OSPF
- Supports dual redundant power supplies: L2 (24-48VDC)
- CE, FCC

IEC 61850

SICOM3000A

New Series of layer 2 managed DIN-Rail Industrial Ethernet switches

>Rich Product Choices

>Enhanced Product Performance

>Suitable for All the Industrial Communication Scenarios

- A Rich Product Port Portfolio
  - 6/8/10/12/16/18/20 ports, 100/1000M SFP ports, DDM (SFP Digital Diagnostics Monitoring)
- A Variety of Input Voltage
  - Dual redundant power supplies: L2 (24-48VDC), L5 (12-24VDC)
  - Single power supply: HV (100-240VAC/110-220VDC)
- Supports PROFINET, EtherNet/IP and Modbus/TCP protocols
- Supports Automatic Configuration Backup and Restoration
  - Easy Plug-n-Play configuration backup and restoration while device exchanges are needed
  - Enables easy update of the switch configuration by attaching the device to the switch and cycling power
- Supports Hardware-based IEEE1588 PTPv2
  - BC, P2P TC, E2E TC Clock Modes
  - Synchronization Precision ±100 ns
- Supports Multiple Network Security Functions
  - IEEE 802.1x, HTTPs/SSL, SSH, RADIUS, TACACS+, User Classification, MAC Address Binding
- Supports Rich Redundancy Protocols
  - MSTP/ RSTP/ STP, DRP/DHP (recovery time<20ms) , DT-Ring
- Stable and reliable in harsh environment
  - Wide Operating Temperature Range -40 +75℃
  - IP40 Protection Class
  - Strong Vibration-resistent Mounting Kit for DIN-Rail Installation
- CE, FCC, CB, UL61010, WEEE
- Class I Div 2, IECEx, ATEX
- IEC61850-3 and IEEE1613 (TUV Certified)
- PROFINET Conformance Class B (-PN model)

SICOM3000

KEMA Gold certified 8+2G port layer 2 managed DIN-Rail switches support full range of AC/DC power supplies

KEMA

- 2 gigabit SFP ports, 2 fast Ethernet fiber/copper ports and 6 fast Ethernet RJ45 ports
- Supports DRP/DHP, DT-Ring, STP/RSTP for network redundancy
- Supports dual redundant power supplies: L2 (24-48VDC), L5 (12-24VDC). Single power supply: HV (100-240VAC/110-220VDC)
- IEC61850-3 & IEEE1613 (KEMA Gold Certified)
- CE (L2, L5), FCC (L2, L5), EN50121 (L2, L5)
- UL508 (L2), Class I Div 2 (L2)

SICOM3000A-LITE

8+2G port layer 2 managed DIN-Rail switches

- 2 gigabit SFP ports or fast Ethernet fiber ports and 8 fast Ethernet RJ45 ports
- Supports DRP/DHP, DT-Ring, STP/RSTP/MSTP for network redundancy
- Supports EtherNet/IP and Modbus/TCP protocols
- Supports DDM (SFP Digital Diagnostics Monitoring)
- Supports dual redundant power supplies: L2 (24-48VDC), L3 (12-24VDC)
- IP40 protection class
- CE, FCC

SICOM3009A

KEMA Gold certified 9 port layer 2 managed DIN-Rail switches support full range of AC/DC power supplies

KEMA

- 3 fast Ethernet fiber/copper ports, 6 fast Ethernet RJ45 ports
- Supports DRP/DHP, DT-Ring, STP/RSTP for network redundancy
- Supports dual redundant power supplies: L2 (24-48VDC), L5 (12-24VDC). Single power supply: HV (100-240VAC/110-220VDC)
- IEC61850-3 & IEEE1613 (KEMA Gold certified)
- CE, FCC, UL508 (L2), Class I Div 2 (L2)

KIEN7009

9 port layer 2 Simple managed DIN-Rail switches support full range of AC/DC power supplies

- 3 fast Ethernet fiber/copper ports, 6 fast Ethernet RJ45 ports
- Supports DRP/DHP, DT-Ring for network redundancy
- Supports dual redundant power supplies: L2 (24-48VDC), L5 (12-24VDC). Single power supply: HV (100-240VAC/110-220VDC)
- CE, FCC, UL508 (L2), Class I Div 2 (L2)

EN50155 Ethernet Switches

Aquam8628/8128

24+4G port layer 3/2 managed PoE IP65 EN50155 switches

- Supports X-coded M12 Gigabit ports and D-coded M12 fast Ethernet ports
- Supports PushPull Connector (by request)
- 4 Gigabit ports support optional 2 pairs of Bypass functions
- Supports maximum 24 802.3af/802.3at PoE ports, maximum 15/30W each port
- Supports dual redundant power supplies: H6 (72-110VDC), L2 (24-48VDC)
- Integrated power supply provides 80/120W PoE output
- Additional 120W can be increased by adding isolated external power supply
- Supports DRP/DHP, STP/RSTP/MSTP and VRRP (L3 switch only) for network redundancy
- Supports layer 3 Static routing and routing protocols such as RIP v1/v2 and OSPF
- Supports NAT and NAPT (L3 switch only)
- Complies with IEC61375 standard, supports TTDP, TRDP, ESCP, TTDB Manager (ETBN only)
- CE(H6), FCC(H6), EN50121(H6), EN50155(H6) and EN45545(H6)
- CE(L2), FCC(L2), EN50121(L2), EN50155(L2) and EN45545(L2)

Aquam8620/8120

16+4G port layer 3/2 managed PoE IP65 EN50155 switches

- Supports X-coded M12 Gigabit ports and D-coded M12 fast Ethernet ports
- Supports PushPull Connector (by request)
- 4 Gigabit ports support optional 2 pairs of Bypass functions
- Supports maximum 16 802.3af/802.3at PoE ports, maximum 15/30W each port
- Supports dual redundant power supplies: H6 (72-110VDC), L2 (24-48VDC)
- Integrated power supply provides 80/120W PoE output
- Additional 120W can be increased by adding isolated external power supply
- Supports DRP/DHP, STP/RSTP/MSTP and VRRP (L3 switch only) for network redundancy
- Supports layer 3 Static routing and routing protocols such as RIP v1/v2 and OSPF
- Supports NAT and NAPT (L3 switch only)
- Complies with IEC61375 standard, supports TTDP, TRDP, ESCP, TTDB Manager (ETBN only)
- CE(H6), FCC(H6), EN50121(H6), EN50155(H6) and EN45545(H6)
- CE(L2), FCC(L2), EN50121(L2), EN50155(L2) and EN45545(L2)

Aquam8612/8112

8+4G port layer 3/2 managed PoE IP65 EN50155 switches

- Supports X-coded M12 Gigabit ports and D-coded M12 fast Ethernet ports
- Supports PushPull Connector (by request)
- 4 Gigabit ports support optional 2 pairs of Bypass functions
- Supports maximum 8 802.3af/802.3at PoE ports, maximum 15/30W each port
- Supports dual redundant power supplies: H6 (72-110VDC), L2 (24-48VDC)
- Integrated power supply provides 80/120W PoE output
- Additional 120W can be increased by adding isolated external power supply
- Supports DRP/DHP, STP/RSTP/MSTP and VRRP (L3 switch only) for network redundancy
- Supports layer 3 Static routing and routing protocols such as RIP v1/v2 and OSPF
- Supports NAT and NAPT (L3 switch only)
- Complies with IEC61375 standard, supports TTDP, TRDP, ESCP, TTDB Manager (ETBN only)
- CE(H6), FCC(H6), EN50121(H6), EN50155(H6) and EN45545(H6)
- CE(L2), FCC(L2), EN50121(L2), EN50155(L2) and EN45545(L2)

Aquam8612/8112-1U (Launching Soon)

1U Rack-mount 12G port Layer3/Layer2 managed EN50155 switch

- Supports 12 X-Coded M12 Gigabit ports
- 4 Gigabit ports support 2 pairs of Bypass function
- Supports 8 PoE ports (802.3 af/at) with maximum 60W PoE output
- Supports dual redundant power inputs: H6 (72-110VDC)
- Supports DRP/DHP, STP/RSTP/MSTP and VRRP (L3 switch only) for redundancy
- Supports static routing, RIP and OSPF (L3 switch only)
- Supports 1-1NAT, NAPT and Port forwarding (L3 switch only)
- Supports M12 type USB port for quick configuration backup and restore
- IP40 and 1U rack-mount type
- (CE, FCC, EN50155, EN50121, EN62368) – Pending

Aquam8612/8112-2U (Launching Soon)

2U Rack-mount 20+4G/10+14G port Layer3/Layer2 managed EN50155 switch

- Supports 4 X-Coded M12 Gigabit ports + 20 D-Coded M12 Fast Ethernet ports or 14 Gigabit ports + 10 D-Coded M12 Fast Ethernet ports
- 4 Gigabit ports support 2 pairs of Bypass function
- Supports 10 Gigabit or Fast Ethernet PoE ports (802.3 af/at) with maximum 80W PoE output
- Supports dual redundant power inputs: H6 (72-110VDC)
- Supports DRP/DHP, STP/RSTP/MSTP and VRRP (L3 switch only) for redundancy
- Supports static routing, RIP and OSPF (L3 switch only)
- Supports RJ45 type USB port for quick configuration backup and restore
- IP40 protection class and 2U rack-mount type
- (CE, FCC, EN50155, EN50121, EN62368) – Pending

Aquam8512A/Aquam8012A

8+4G/8+2G/10 port layer 3/2 managed rack mountable EN50155 switches

- Supports X-coded M12 Gigabit ports and D-coded M12 fast Ethernet ports
- Supports maximum 10 fast Ethernet ports or 2 Gigabit ports and 8 fast Ethernet ports or 4 Gigabit ports and 8 fast Ethernet ports
- 4 Gigabit ports support optional 2 pairs of Bypass functions, maximum 8*802.3af/802.3at PoE ports, maximum 15/30W each port
- None PoE models: Supports dual redundant power supplies: H2 (110VDC)
- PoE models: Supports dual redundant power supplies: H6 (72-110VDC)
- Supports a total of 60W for the whole PoE ports
- Supports DRP/DHP, DT-Ring, STP/RSTP/MSTP and VRRP (L3 switch only) for network redundancy
- Supports layer 3 Static routing and routing protocols such as RIP v1/v2 and OSPF
- IP65/67
- None PoE models: Without cooling ribs model (by request)
- CE, FCC, EN50121, EN50155, EN45545

Aquam8512A-1U/8012A-1U

8+4G/8+2G/10 port layer 3/2 managed rack mountable EN50155 switches

- Supports X-coded M12 Gigabit ports and D-coded M12 fast Ethernet ports
- Supports maximum 10 fast Ethernet ports or 2 Gigabit ports and 8 fast Ethernet ports or 4 Gigabit ports and 8 fast Ethernet ports
- 4 Gigabit ports support optional 2 pairs of Bypass functions, maximum 8 802.3af/802.3at PoE ports, maximum 15/30W each port
- None PoE models: Supports dual redundant power supplies: H2 (110VDC)
- PoE models: Supports dual redundant power supplies: H6 (72-110VDC)
- Supports a total of 60W for the whole PoE ports
- Supports DRP/DHP, DT-Ring, STP/RSTP/MSTP and VRRP (L3 switch only) for network redundancy
- Supports layer 3 Static routing and routing protocols such as RIP v1/v2 and OSPF
- IP40 protection class and 1U rack-mount type
- CE, EN50121, EN50155, EN45545

Aquam9S/8S/5S

8+1G/8/5 port unmanaged PoE IP65 EN50155 switches

- Supports X-coded M12 Gigabit ports and D-coded M12 fast Ethernet ports
- Supports PushPull Connector (by request)
- Supports maximum 1 Gigabit ports and 8 fast Ethernet ports or 8 fast Ethernet ports or 5 fast Ethernet ports
- Supports maximum 8/5 802.3af/802.3at PoE ports, maximum 15/30W each port
- Supports dual redundant power supplies: WV (24-110VDC)
- Supports a total of 80W for the whole PoE ports
- CE, FCC, EN50121, EN50155, EN45545, EN60950, E mark

Aquam8G/5G

8G/5G port unmanaged IP65 EN50155 switches

- Supports X-coded M12 Gigabit ports
- Supports maximum 8 Gigabit ports or 5 Gigabit ports
- Supports dual redundant power supplies: H6 (72-110VDC), L12 (24VDC)
- Complies with the requirements of EN50155 and EN50121 industrial standards
- CE, FCC, EN50121, EN50155, EN45545, EN60950, E mark

Aquam8A

8 port smart unmanaged IP65 EN50155 switches

- Supports D-coded M12 fast Ethernet ports
- Supports PushPull Connector (by request)
- Supports 8 fast Ethernet ports
- Supports broadcast storm protection and QoS
- Supports dual redundant power supplies: LV (12-48VDC/18-30VAC)
- UL61010
- CE, FCC, EN50121

Aquam8/5

8/5 port unmanaged IP65/67 EN50155 switches

- Supports D-coded M12 fast Ethernet ports
- Supports maximum 8 fast Ethernet ports or 5 fast Ethernet ports
- Supports dual redundant power supplies: LV (12-48VDC/18-30VAC), H6 (72-110VDC)
- CE, FCC, EN50121, EN50155, EN45545, EN60950
- E mark and UL61010 for LV model

TSN Switches

SICOM3000TSN

DIN-RAIL TSN Switch

- Provides a variety of interface, including 10 x Gigabit ports, full Gigabit copper ports and fiber ports combination form, automatic detection, full/half duplex, MDI/MDI-X adaptive;
- Support TSN standard: IEEE 802.1AS PTP/IEEE 802.1Qbv/ IEEE 802.1Qbu/ IEEE 802.1Qci/IEEE 802.1CB;
- Support CNC centralized network configuration;
- Support IEEE 802.3/802.3u/802.3x/802.1D/802.1W/802.1P/802.1Q standard;
- IP40 protection;
- Operation temperature (-40ºC ~ 75ºC)
- Meet Industral level 4 electromagnetic compatibility requirements

Aquam8124TSN

EN50155 TSN Switch

- Support up to 24 x Gigabit copper ports, or 4 x Gigabit copper ports and 20 x 100M copper ports, and support 8 PoE ports;
- Support POE power up to 60W;
- Gigabit ports support X-Code M12 connector, 100M ports support D-Code M12 connector;
- Support optional bypass function;
- Support DT-Ring, RSTP/MSTP, DRP and VRRP;
- Meet EN50155 and EN50121 industry standard requirements.

SICOM6424GTSN

Rackmount TSN Switch

- Support up to 4 x 10 Gigabit ports, 8 x Gigabit Combo ports, and 16 x Gigabit copper ports;
- Support TSN standard: IEEE 802.1AS PTP/IEEE 802.1Qbv/IEEE 802.1Qcc/ IEEE 802.1Qbu/ IEEE 802.1Qci/ IEEE 802.1CB;
- Support CNC centralized network configuration;
- Support IEEE 802.3/802.3u/802.3x/802.1D/802.1W/802.1P/802.1Q standard;
- IP40 protection;
- Meet Industral level 3 electromagnetic compatibility requirements.

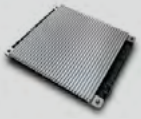
HSR/PRP Redundancy Switches

Ruby3A

3G port managed redundancy box

- Compliant implementation of both PRP (IEC62439-3-4) and HSR (IEC62439-3-5)
- Supports 2 combo gigabit ports as HSR/PRP port
- Supports 1 combo gigabit port as Local port
- Supports Quadbox mode and PRP/HSR Coupling
- Supports Hardware-based IEEE1588 PTPv2
- Out of Band Management Port
- Supports dual redundant power supplies: L2 (24-48VDC), Single power supply: HV (100-240VAC/110-220VDC)
- IEC61850-3 and IEEE1613 (TUV Certified)
- CE, FCC, EN50121

Ethernet switching module



SICOM2000

20+4G/16+6G port layer2 managed Ethernet switching module

- Supports 4*Gigabit ports (2*Combo ports) + 20 Fast Ethernet ports or 6*Gigabit ports+ 16 Fast Ethernet ports
- Power inputs: 5VDC (5% fluctuation)
- Separate FLASH for system and syslog
- Supports DT-Ring, DRP/DHP, STP/RSTP/MSTP
- Supports 15 GPIO for special applications
- Compact design: 80mm*95mm*20mm (Thickness)

PoE Ethernet Switches

SICOM3024GS

*24G+4*10G port layer 2/3 managed rack mountable PoE switches*

- Supports maximum four 10 gigabit ports or 4 gigabit SFP ports, 24 gigabit RJ45 ports
- Supports maximum 24 802.3af/802.3at PoE ports, maximum 15/30W each port
- Supports DRP/DHP, DT-Ring, STP/RSTP/MSTP for network redundancy
- Supports layer 3 Static routing and routing protocols such as RIP v1/v2 and OSPF
- Supports Hardware-based IEEE1588 PTPv2
- Supports dual redundant power supplies: H3 (220VAC)
- Supports a total of 240W for the whole PoE ports
- IP40 protection class
- CE (Pending), FCC (Pending)

SICOM3000S

12G/8+4G port layer 2 managed DIN-Rail PoE switches

- Supports 4 gigabit SFP ports, 8 gigabit RJ45 ports or fast Ethernet RJ45 ports
- Supports maximum 8 802.3af/802.3at PoE ports, maximum 15/30W each port
- Supports DRP/DHP, DT-Ring, STP/RSTP/MSTP and VRRP for network redundancy
- Supports Automatic Configuration Backup and Restore
- Supports DDM (SFP Digital Diagnostics Monitoring)
- Supports dual redundant power supplies: L16 (12-57VDC)
- IP40 protection class
- CE, FCC

Opal10GS

10G/8G port unmanaged DIN-Rail PoE switches

- Supports 2 gigabit SFP ports and 8 gigabit RJ45 ports, or 8 gigabit RJ45 ports
- Supports maximum 8 802.3af/802.3at PoE ports, maximum 15/30W each port
- Supports PD detection and PD classification
- Supports dual redundant power supplies: L5 (12-36VDC), L16 (12-57VDC)
- Operating temperature is -40 to 75℃
- IP30 protection class
- CE, FCC

Opal5GS

5G port unmanaged DIN-Rail PoE switches

- Supports 1 gigabit SFP or RJ45 port, 4 gigabit RJ45 ports
- Supports maximum 4 802.3af/802.3at PoE ports, maximum 15/30W each port
- Supports PD detection and PD classification
- Supports dual redundant power supplies: L5 (12-36VDC), L16 (12-57VDC)
- Operating temperature is -40 to 75℃
- IP30 protection class
- UL61010
- CE, FCC

Opal10S

8+2G/8 port unmanaged DIN-Rail PoE switches

- Supports 2 gigabit SFP ports and 8 fast Ethernet RJ45 ports, or 8 fast Ethernet RJ45 ports
- Supports maximum 8 802.3af/802.3at PoE ports, maximum 15/30W each port
- Supports PD detection and PD classification
- Supports dual redundant power supplies: L5 (12-36VDC), L16 (12-57VDC)
- Operating temperature is -40 to 75°C
- IP30 protection class
- CE, FCC

Opal5S

5 port unmanaged DIN-Rail PoE switches

- Supports 1 fast Ethernet SFP or RJ45 port, 4 fast Ethernet RJ45 ports
- Supports maximum 4 802.3af/802.3at PoE ports, maximum 15/30W each port
- Supports PD detection and PD classification
- Supports dual redundant power supplies: L5 (12-36VDC), L16 (12-57VDC)
- Operating temperature is -40 to 75°C
- IP30 protection class
- UL61010
- CE, FCC

Unmanaged Ethernet Switches

Opal20

18+2G port entry-level unmanaged DIN-Rail switches

- Supports maximum 2 gigabit RJ45 ports, 2 fast Ethernet fiber or SFP ports, 16 fast Ethernet RJ45 ports
- Enable/Disable broadcast storm protection by DIP switch
- Supports dual redundant power supplies: LV (12-48VDC/18-30VAC)
- UL61010, Class I Div 2, ATEX Zone 2, IECEx, CE, FCC

Opal8A

8 port smart unmanaged DIN-Rail switches

- Supports 8 10/100Base-T(X) ports
- Enable/Disable broadcast storm protection by DIP switch
- Enable/Disable QoS by DIP switch
- Supports dual redundant power supplies: LV (12-48VDC/18-30VAC)
- UL61010, CE, FCC, Class I Div 2

Opal8

8 port entry-level unmanaged DIN-Rail switches

- Supports 2 fast Ethernet fiber/copper ports, 6 fast Ethernet RJ45 ports
- Enable/Disable broadcast storm protection by DIP switch
- Supports dual redundant power supplies: LV (12-48VDC/18-30VAC)
- UL61010, Class I Div 2, ATEX Zone 2, IECEx, CE, FCC

Opal5

5 port entry-level unmanaged DIN-Rail switches

- Supports 1 fast Ethernet fiber/copper ports, 4 fast Ethernet RJ45 ports
- Enable/Disable broadcast storm protection by DIP switch
- Supports dual redundant power supplies: LV (12-48VDC/18-30VAC)
- UL61010, Class I Div 2, ATEX Zone 2, IECEx, CE, FCC

Opal10G

10G port entry-level full gigabit unmanaged DIN-Rail switches

- Supports 2 gigabit SFP ports, 8 gigabit RJ45 ports
- Setting jumbo frame transmission function (up to 9.6KB) by DIP-switch
- Enable/Disable broadcast storm protection by DIP switch
- Supports dual redundant power supplies: LV (12-48VDC/18-30VAC)
- UL61010, Class I Div 2, ATEX Zone 2, IECEx, CE, FCC

Opal5G

5G port entry-level full gigabit unmanaged DIN-Rail switches

- Supports 5 gigabit RJ45 ports
- Setting jumbo frame transmission function (up to 10KB) by DIP-switch
- Enable/Disable broadcast storm protection by DIP switch
- Supports dual redundant power supplies: LV (12-48VDC/18-30VAC)
- UL61010, Class I Div 2, ATEX Zone 2, IECEx, CE, FCC

Opal8L

8 port unmanaged DIN-Rail switches

- Supports 2 Fast Ethernet fiber/RJ45 optional ports, 6 10/100Base-T(X) ports
- Built-in isolated power supply, Full load power consumption is as low as 3.4 W
- Supports dual redundant power supplies: LV (12-48VDC/18-30VAC)
- Both standard and wide operating temperature models are available
- EMC level 3
- IP30/IP40 protection class
- UL61010 (Pending), Class I Div 2 (Pending)
- CE, FCC

Opal5L

5 port unmanaged DIN-Rail switches

- Supports 1 Fast Ethernet fiber/RJ45 optional port, 4 10/100Base-T(X) ports
- Built-in isolated power supply, Full load power consumption is as low as 2.5 W
- Supports dual redundant power supplies: LV (12-48VDC/18-30VAC)
- Both standard and wide operating temperature models are available
- EMC level 3
- IP30/IP40 protection class
- UL61010 (Pending), Class I Div 2 (Pending)
- CE, FCC

Opal10GL

10G port full gigabit unmanaged DIN-Rail switches

- Supports 2 Gigabit SFP ports, 8 10/100/1000Base-T(X) ports
- Built-in isolated power supply, Full load power consumption is as low as 5.2 W
- Supports dual redundant power supplies: LV (12-48VDC/18-30VAC)
- Both standard and wide operating temperature models are available
- Jumbo frame transmission function (up to 9KB)
- EMC level 3
- IP40 protection class
- UL61010 (Pending), Class I Div 2 (Pending)
- CE (Pending), FCC (Pending)

Opal8GL

8G port full gigabit unmanaged DIN-Rail switches

- Supports 8 10/100/1000Base-T(X) ports
- Built-in isolated power supply, Full load power consumption is as low as 3.9 W
- Supports dual redundant power supplies: LV (12-48VDC/18-30VAC)
- Both standard and wide operating temperature models are available
- Jumbo frame transmission function (up to 9KB)
- EMC level 3
- IP30/IP40 protection class
- UL61010 (Pending), Class I Div 2 (Pending)
- CE (Pending), FCC (Pending)

Opal5GL

5G port full gigabit unmanaged DIN-Rail switches

- Supports 1 Gigabit SFP/RJ45 optional port and 4 10/100/1000Base-TX RJ45 ports
- Built-in isolated power supply, Full load power consumption is as low as 4 W
- Supports dual redundant power supplies: LV (12-48VDC/18-30VAC)
- Both standard and wide operating temperature models are available
- Jumbo frame transmission function (up to 9KB)
- EMC level 3
- IP40 protection class
- UL61010 (Pending), Class I Div 2 (Pending)
- CE (Pending), FCC (Pending)

Optical Fiber Convertors

KOM600G

2G/3G port DIN-Rail LFP copper to fiber media converters

- Support 1 Gigabit SFP port and 1 or 2 10/100/1000Base-TX RJ45 ports
- Support LFP (Link Fault Pass-Through)
- Built-in isolated power supply, Full load power consumption is as low as 3 W
- Supports dual redundant power supplies: LV (12-48VDC/18-30VAC)
- Jumbo frame transmission function (up to 9KB)
- EMC level 3
- IP40 protection class
- CE (Pending), FCC (Pending)

KOM300A

3 port DIN-Rail copper to fiber media converters support full range of AC/DC power supplies

- 1 fast Ethernet fiber port and 2 fast Ethernet RJ45 ports
- Supports dual redundant power supplies: L2 (24-48VDC), L5 (12-24VDC). Single power supply: HV (100-240VAC/110-220VDC)
- IP40 protection class
- CE (L2, HV), FCC (L2, HV)

KOM300F

3 port DIN-Rail copper to fiber media converters support AC/DC power supplies

- 1 fast Ethernet fiber port and 2 fast Ethernet RJ45 ports
- Supports single power supply: L3 (24VDC), L2 (24-48VDC), L5 (12-24VDC), HV (100-240VAC/110-220VDC)
- IP30 protection class
- CE (L3, L2, L5, HV), FCC (L3, L2, L5, HV)

KOM200

DIN-Rail serial to fiber media converters support AC/DC power supplies

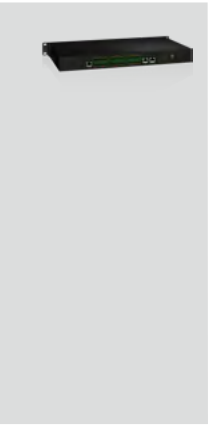
- One fiber port, three types of serial ports (RS232/RS422/RS485)
- Supports single power supply: L3 (24VDC), L5 (12-24VDC), H1 (100-240VAC/220VDC)
- IP30 protection class
- FCC (L3)

Serial Device Servers

KPS3101A/3102A/3204A/3208A

1, 2, 4, 8 serial ports DIN-rail serial device servers

- Provide 1 to 2 Ethernet interfaces and 1 to 8 RS-232 / RS-485 serial ports
- Support wall-mounting and DIN Rail instllation at same time
- Support socket operation mode, including TCP server, TCP client and UDP
- Support transparent transmission mode and Modbus RTU data transmission protocol
- 2KV isolation protection for the serial port 1.5kV isolation protection for Ethernet ports
- Support alarm function and reset function
- IP40 protection class
- Metal housing, wide temperature operation (- 40 ℃ ~ + 75 ℃)
- Specialized debugging and management tool KyCMT

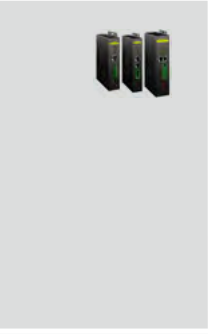


KPS3224A

8 RS232+16 RS485 Rack mountable serial device server

- Provide 2 Ethernet interfaces, 8 RS-232, 16 RS-485 serial ports
- Support dual power redundant power supply
- Support dual network port bridging cascading, dual network port independent can be configured with different network segment IP
- Support socket operation mode, including TCP server, TCP client and UDP
- Suppor transparent transmission mode and Modbus RTU data transmission protocol
- Support specialized debugging and management tool KyCMT
- Support alarm function and resetfunction
- 2KV isolation protection for the serial port 1.5kV isolation protection for Ethernet ports
- IP40 protection class
- Metal housing, wide temperature operation (- 40 ℃ ~ + 75 ℃)

Intelligent Gateways



KGW3102A/3204A/3208A

Industrial DIN-Rail protocol gateway

- Provide 1 to 2 Ethernet interfaces and 1 to 8 RS-232 / RS-485 serial ports
- Support wall-mounting and DIN Rail instllation at same time
- Support socket operation mode, including TCP server, TCP client and UDP
- Support a variety of commom protocols
- 2KV isolation protection for the serial port 1.5kV isolation protection for Ethernet ports
- Support alarm function and resetfunction
- IP40 protection class
- Metal housing, wide temperature operation (- 40 ℃ ~ + 75 ℃)
- Specialized debugging and management tool KyPMT

KGW3204A-4G

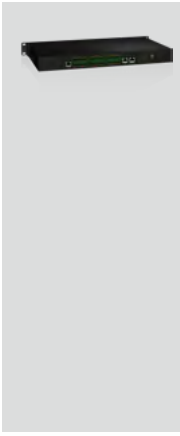
High performance Industrial 4G protocol gateway

- Provide 2 Ethernet interfaces, 2 RS-485 , 2 RS-232/422/485 serial ports
- Support 4G wireless transmission
- Support dual network port bridging cascading, dual network port independent can be configured with- different network segment IP
- Support socket operation mode, including TCP server, TCP client and UDP
- Support IEC61850 server/client application
- Support Web and specialized debugging and management tool KyPMT
- Support alarm function and reset function
- 2KV isolation protection for the serial port 1.5kV isolation protection for Ethernet ports
- IP40 protection class and EMC3
- Metal housing, wide temperature operation (- 40 ℃ ~ + 75 ℃)

KGW3224A

High performance rack mountable protocol gateway

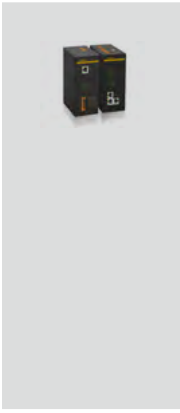
- Provide 2 Ethernet interfaces, 8 RS-232 , 16 RS-485 serial ports
- Support dual power redundant power supply
- Support dual network port bridging cascading, dual network port independent can be configured with different network segment IP
- Support socket operation mode, including TCP server, TCP client and UDP
- Support IEC61850 server/client application
- Support Web and specialized debugging and management tool KyPMT
- Support alarm function and reset function
- 2KV isolation protection for the serial port 1.5kV isolation protection for Ethernet ports
- IP40 protection class and EMC3
- Metal housing, wide temperature operation (- 40 ℃ ~ + 75 ℃)



DG-A2/A4

Industrial DIN-Rail protocol gateways for Smart Grid

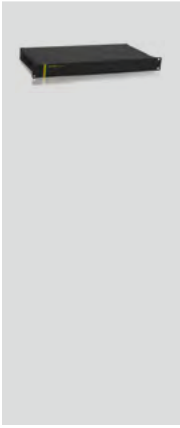
- DG-A2: 1 fast Ethernet RJ45 port, 2 dual-mode of RS232/RS485 isolated serial ports
- DG-A4: 2 fast Ethernet RJ45 ports, 4 dual-mode of RS232/RS485 isolated serial ports
- Special designing based on ARM Cortex-A8 architecture
- Configurable MMS (IEC 61850-8-1) server & client application
- Full functional NTP for time synchronization
- Supports 3G GPRS wireless communication
- Complied with IEC 61850-3, IEEE 1613 standards
- Power supply of 85-264VAC or 12-24VDC
- Built-in SoftPLC calculating task
- Supports IEC-101/103/104,Modbus/RTU,Modbus/TCP, DNP3
- Supports Vport
- CE



DG-A8/A16

Industrial rack mountable protocol gateway for Smart Grid

- 4 fast Ethernet RJ45 ports
- 8 RS232/485 serial ports and optional extra 8 RS485 serial ports
- Special designing based on ARM Cortex-A8 architecture
- Configurable MMS (IEC 61850-8-1) server & client application
- Configurable hardware watchdog
- Full functional NTP for time synchronization
- Supports IRIG-B DC time synchronization
- Dual mode of RS232/RS485 isolated serial ports
- Complied with IEC 61850-3, IEEE 1613 standards
- Power supply of 85-264VAC
- Built-in SoftPLC calculating task
- Supports IEC-101/103/104,Modbus/RTU,Modbus/TCP, DNP3
- Supports Vport
- CE



Precise Timing Solutions

PTS-10/10A/30

High-precision time servers

- GPS, BDS, GLONASS, IRIG-B, PTP etc., can be used as time source
- TCXO, OCXO or Rubidium features
- Safety and reliable multiple source selection algorithm
- 1PPS/1PPM/1PPH output
- IRIG-B Demodulated and Modulated output
- Idle Contact time output
- 1PPS+TOD time output
- RS-232/485 serial time output
- NTP/SNTP output
- PTP V2 output
- Screen display (3U-Touch Screen/1U-LCD Screen)
- Monitoring (IEC61850/IEC60870/DNP/SNMP)
- Alarm contact output
- Supports dual redundant power supplies: 85-264VAC
- CE

PTD-10

Rack mount time distributors

- Maximum 2 inputs as redundancy time source for Best Time Source selection
- Maximum 16 output ports can connect more IEDs
- Supports BNC, Terminal, Optical interface
- Supports IRIG-B signal with B000, B001, B002, B003, B004, B005, B006 and B007
- Cable delay compensation can be set by manual
- Alarm contact indicate device status
- LCD time display

PTS-DR200

DIN-Rail time servers

- Compact DIN-Rail installation design
- High Precision Reference Clock as Absolute Time Source (GPS, BDS, GLONASS)
- Relative Reference Time and External Time Synchronization (PTP, IRIG-B, NTP/SNTP)
- High precision stable OCXO oscillator with excellent time keeping performance
- Supports single power supply: 220VAC/DC (85-264VAC/85-300VDC), 24VDC (18-36VDC), 48VDC (36-72VDC)
- Supports PTP, NTP/SNTP,IRIG-B,PPS,TOD output
- Report time status by SNMP, IEC61850 MMS, IEC60870-5-104, and DNP over TCP etc.
- Supports Web, SNMP etc. management system
- CE, FCC

PTC2000

DIN-Rail time convertors

- Compact DIN-Rail installation design
- Supports single power supply: HV (100-240VAC/110-220VDC), L3 (24VDC), L1 (48VDC)
- Supports PTP, IRIG-B time input
- Supports PTP,NTP/SNTP,IRIG-B,PPS,TOD time output
- Supports Web management system
- Optional high performance OCXO with excellent time keeping performance
- CE, FCC

Appendix

Power Supply Range

Power Supply	Description	Power Voltage Range
HV	100-240VAC,50/60Hz;110-220VDC	85-264VAC/77-300VDC
H1	100-240VAC,50/60Hz;220VDC	85-264VAC/120-300VDC
H2	110VDC	77-154VDC
H3	220VAC	85-264VAC
H4	220VDC	120-300VDC
H5	110VDC	40-160VDC
LV	24VAC/DC (18-30VAC/12-48VDC)	18-30VAC/9-60VDC
L1	48VDC	36-72VDC
L2	24-48VDC	18-72VDC
L3	24VDC	18-36VDC
L4	18VDC	9-21VDC
L5	12-24VDC	9-36VDC
L6	12VDC	9-18VDC
L7	5VDC	4.5-5.5VDC
L8	3.3VDC	3.15-3.45VDC
L9	3.3-5VDC	3-5.5VDC
L10	48VDC	45-57VDC
L11	7VDC	6.5-7.5VDC
L12	24VDC	22-36VDC
WV	24-110VDC	16.8-154VDC
L13	24VDC	16.8-30VDC
L14	48VDC	33.6-60VDC
L15	24/48VDC	12-58VDC
L17	24VDC	12-48VDC
H6	72-110VDC	50.4-137.5VDC

Technical Expertise

Rugged Design & Manufacturing Capability

International Certificates