ORing Industrial Networking Corp.

Designed for Rugged Excellence.

ORing Overview

ORing Industrial Networking Corp. the global leading brand company, established by a group of well-experienced industrial software and hardware engineers in 2005. Since its establishment, ORing has devoted and focuses on innovation of Industrial networking products. Within these years, ORing has developed a lot of product lines, such as industrial grade media converter, Ethernet switch, wireless router and device server. As a professional and brand company, ORing is certified to the ISO9001:2008 Quality and Management System and accredited with numerous international certifications, which ensure the stable and reliable quality of ORing products. Our numerous products have been successfully applied and generating a lot of real application through the world in different fields, such as Rail/Highway monitoring, Intelligent Transportation System, Building Automation, etc. ORing is committed to provide the world-class products, strong technical support team for technical consulting and best after-sale service.

Product Coverage

ORing Industrial Networking Corp. offers a wide variety of products for all of your industrial networking needs. Choose from ORing's complete product line which consists of Industrial Ethernet Switches, Industrial Media Converters, Industrial Device Servers, Industrial Wireless Access Points, Industrial Cellular VPN Routers, Accessories, and Network Management Software.

You can also find the right ORing product for you in many other ways. For example, you can choose by network speed (Gigabit, fast, etc.), mounting options (rack-mount, DIN-rail, wall-mount, as well as other special-installation types), types of data paths (regular Ethernet, weatherproof Ethernet, PoE, wireless LAN, etc.), industry-specific applications (as shown below), and many more.

Product Applications

Industrial Focus

- IP Surveillance
- Railway Automation
- Intelligent Transportation System

Vertical Markets

- Manufacturing Automation
- Intelligent Transportation System
- Building Automation
- City Surveillance
- Resource & Power
- Renewable Energy
- Railway
- In-Vehicle Surveillance

Customer-Oriented R&D

ORing's innovations come from customers' needs.

ORing's R&D team specializes in developing stable, fast, well-protected, and cost-effective industrial networking products – features that are needed the most for industrial networks.

In developing products, ORing's R&D team first get exact customer requirements and then come up with matching products, which would undergo rigorous quality assurance process before being officially available. Once the products are officially released into the market, ORing's R&D team continuously listens to customer feedbacks to constantly make product improvements or new product innovations.

Quick Time-to-Market Product Solution

ORing has been known for swift time-to-market. For example, in 2010, ORing has provided an ideal and reliable mobile networking solution for the Beijing-Shanghai High-Speed Rail, also known as the Jinghu High-Speed Rail. The whole process from getting customer requirements to actual product delivery has taken only 3 months.

ORing R&D team also has full OEM/ODM capability and expertise in terms of project planning, custom application solution, and technical assistance.

Quality Assurance

All of ORing's industrial networking products are produced and tested in certificated labs and manufacturing plants. Accredited with ISO 9001:2000 and numerous international certifications, ORing has set high standard in ruggedness and reliability for mission-critical network applications.

Comprehensive quality assurance tests are performed on all ORing products throughout both development and manufacturing stages, ensuring that all ORing products perform and last in harsh environments while complying with all applicable regulations.

For maximum customer satisfaction, ORing products come with up to 5 years of after-sales warranty.

Green Commitment

ORing has commitment to help creating and maintaining a safe and clean environment. All of ORing's products are qualified with European Union's WEEE and RoHS directives. ORing works together with industry suppliers to offer eco-friendly products that are free from lead and five other hazardous materials (as prohibited by RoHS Directive).

Compliant Standards and Regulations

ISO	ISO 9001:2008
Internet	IPv6
TUV	EN60950
FCC	Part 15B, Part 15C, Part 15E
CE	EN55011, EN55022, EN61373, EN62311, EN300328,EN301893, EN301489-1-17,EN55024
UL	UL60950, UL60601, UL508
CB	IEC60950
VCCI	Class A and Class B
C-Tick	AS/NZS CISPR22
Power Substatin	IEC-61850-3, IEEE1613
Railway	EN50155, EN50121
Marine	EN60945, IEC60945
E-mark	E24

Global Sales and Service

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Star Product Highlights

EN50155 Railway Ethernet Switch

TES-1080-M12/TES-1080-M12-BP2

IndustrialEN50155 8-port unmanaged Ethernet switch with 8x10/100Base-T(X), M12 connector

- Supports auto-negotiation and auto-MDI/MDI-X
- M12/23 connectors to guarantee reliable operation against environmental disturbances
- Dual wide-range power inputs on the M23 connector: 12~48VDC
- 40°C to 70°C operating temperature range

TES-3080-M12/TES-3080-M12-BP2

Industrial EN50155 8-port managed Ethernet switch with 8x10/100Base-T(X), M12 connector

- Supports more Ethernet redundancy with O-Ring / Open-Ring / O-Chian / MRP / MSTP / RSTP / STP
- M12/23 connectors to guarantee reliable operation against environmental disturbances
- 2 pairs of built-in hardware-bypass ports (-BP2 model)
- Supports PTP Client (Precision Time Protocol) clock synchronization
- -40°C to 70°C operating temperature range
- Supports flow control

EN50155 Railway PoE Ethernet Switch

TPS-141TX-M12

Industrial EN50155 5-port unmanaged PoE Ethernet switch with 4x10/100Base-T(X) P.S.E. and 1x10/100Base-T(X), M12 connector

- Supports auto-negotiation and auto-MDI/MDI-X
- Full compliant with IEEE802.3at standard, up to 30watts per port
- M12 connectors to guarantee reliable operation against environmental disturbances
- Supports store and forward transmission

TPS-3082GT-M12-BP1 New

Industrial EN50155 10-port managed PoE Ethernet switch with 8x10/100Base-T(X) P.S.E. and 2x10/100/1000Base-T(X), M12 connector and 1xbypass included

- Supports more Ethernet redundancy with O-Ring / Open-Ring / O-Chian / MRP / MSTP / RSTP / STP
- IEEE802.3af standard, up to 15.4 Watts per port
- Supports more configuration tools and hardware relay bypass function with two gigabit ports
- -40°C to 70°C operating temperature range

EN50155 Railway PoE Ethernet Switch

TGPS-1080-M12 Series New

Industrial EN50155 8-port unmanaged Gigabit PoE Ethernet switch with 8x10/100/1000Base-T(X) P.S.E., M12 connector

- Supports IEEE 802.3at compliant PoE and total power budget is 120Watts with maximum 30Watts per port
- Supports auto-negotiation and auto-MDI/ MDI-X technology
- Supports store and forward transmission
- Supports flow control function

EN50155 Device Server

TDS-5041-I-M12 New

EN50155 Industrial 4-port secure Isolate RS-422/485 to 1x10/100Base-T(X) Device Server

- Redundant multiple host devices: 5 host devices: Virtual COM, TCP Server, TCP Client mode; 4 IP ranges: UDP
- NAT-pass through: user can manage TDS-5041-I-M12 through NAT router
- -40°C to 70°C operating temperature range

TGAP-6620-M12

Industrial EN50155 Dual RF in IEEE 802.11 a/b/g/n Wireless AP with 2x10/100/1000Base-T(X), M12 connector

- Leading EN50155-compliant wireless access point for rolling stock application
- High Speed Air Connectivity: WLAN interface support up to 300 Mbps link speed
- Highly Security Capability: WEP / WPA/ WPA-PSK(TKIP, AES) / WPA2 / WPA2-PSK(TKIP,AES) / 802.1X Authentication supported
- Supports X-Roaming < 60ms

TGAR-1662-4G-M12

Industrial EN50155 Dual IEEE 802.11 a/b/g/n 4G LTE Cellular Router With 2x10/100/1000Base-T(X), M12 connector

- Leading EN50155-compliant wireless access point for rolling stock application
- High Speed Air Connectivity: Dual RF in IEEE 802.11 a/b/g/n WLAN interface support up to 300Mbps link speed
- Secured Management by HTTPs
- Supports 4G LTE dial up

Star Product Highlights

Industrial Gigabit PoE Ethernet Switch

IGPS-9084GP New

Industrial 12-port managed Gigabit PoE Ethernet switch with 8x10/100/1000Base-T(X) P.S.E. ports and 4x100/1000Base-X, SFP socket

- Supports more Ethernet redundancy with O-Ring / Open-Ring / O-Chian / MRP / MSTP / RSTP / STP
- P.S.E. based on IEEE 802.3at standard
- Supports IEEE 1588v2 clock synchronization
- Supports IPv6 new internet protocol version
- Supports Modbus TCP protocol

Industrial PoE Media Converter

IPMC-111PB

Industrial mini type Ethernet to fiber PoE media converter with 1x10/100Base-T(X) P.S.E. and 1x100Base-FX, SFP socket

- Supports 1 port 10/100Base-T(X) P.S.E. auto-negotiation and auto-MDI/MDI-X
- Supports Ethernet to fiber or Ethernet to SFP port
- Supports LFP (Link Fault Pass-through) function
- Supports DIP-Switch to setting function

Industrial CID2 ATEX Ethernet Switch

IES-A3080/A3062 New

Industrial C1D1/ATEX 8-port managed Ethernet switch

- World's fastest Redundant Ethernet Ring: O-Ring (recovery time < 10ms over 250 units of connection)
- Open-Ring support the other vendor's ring technology in open architecture
- O-Chain allow multiple redundant network rings
- Supports standard IEC 62439-2 MRP (Media Redundancy Protocol) function
- Supports Auto Negotiation Speed

Industrial Rack-Mount Media Converter

RMC-1000

Industrial Rack mount Ethernet to fiber media converter Chassis with 18 slots

- Supports 18 slots for media converter
- Each slot supports RMC-111PB/111FB/121FB/ RGMC-111GPB series with 10/100Base-T(X) auto-negotiation and auto-MDI/MDI-X
- 19-inch rack-mount enabled

*Notice:
Power need to be purchased separately

Industrial IEC61850-3 Ethernet Switch

RGS-PR9000 SERIES

Industrial Layer-3 IEC 61850-3 modular rack mount managed Gigabit Ethernet switch with 4 slots

- Designed for power substation / Railway application and fully compliant with the requirement of IEC 61850-3 and IEEE 1613
- Modular designed makes network planning easy
- Supports Layer 3 routing, RIP and static routing function

RMC-111PB / RMC-111FB-MM/SS

Industrial Rack mount card type Ethernet to fiber media converter with 1x10/100Base-T(X) to 1x100Base-FX, SC connector/SFP socket

- Supports LFP (Link Fault Pass-through) function
- Supports full/half duplex operation and store and forward transmission
- Up to 18-slot slot high density installation in RMC-1000 chassis on the 19-inch rack

IES-P3073GC Series

Industrial IEC 61850-3 10-port managed Ethernet switch

- Supports 7x10/100Base-T(X) and 3xGigabit combo ports, SFP socket
- Designed for power substation / Railway application and fully compliant with the requirement of IEC 61850-3 and IEEE 1613
- Supports PTP Client (Precision Time Protocol) clock synchronization

Industrial Cellular VPN Router

IGAR-1062+-4G New

Industrial IEEE 802.11 a/b/g/n 4G LTE Cellular Router with 2x10/100/1000Base-T(X)

- High Speed Air Connectivity: WLAN interface supports up to 300Mbps link speed
- Supports 2 -port 10/100/1000Base-T(X) port and 1 sim card slot
- 4G LTE Modem dial up included
- Supports HNAT enhance LAN to WAN routing performance

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Product Selection Guide

	Industrial Rack-Mount/Fast/Gigabit PoE Ethernet Switch				
	Managed Rack-Mount Switch				Gigabit PoE Ethernet Switch
Industrial Ethernet Switch		Preliminary			
	RGS-PR9000	RGPS-92222GCP-NP-P/ LP	RES-3242GC/3242GC-E	RES-P3242GCL-HV	IGPS-9084GP
Port Number					
Number of ports	-	26	26	26	12
10/100Base-T(X) RJ45 Ports	-	-	24	24	-
10/100/1000Base-T(X) Ports	-	22 (P.S.E) IEEE 802.3 at (max.720/320 Watts)	-	-	8 (P.S.E.) IEEE 802.3 at
100Base-FX Fiber Ports	-	-	-	-	-
1000Base-X Fiber Ports	-	-	-	-	-
100Base-FX SFP Ports	-	-	-	-	-
1000Base-X SFP Ports	-	2	-	-	4(100/1000M)
Gigabit Combo Ports	-	2 (P.S.E)	2	2	-
Power Redundancy					
DC Terminal Block	-	-	- / 2	-	2
DC Power Jack	-	-	-	-	-
AC Power Cord	2	1	- / 2	2	-
Installation					
DIN-Rail Mounting	-	-	-	-	•
Wall Mounting	-	-	-	-	•
Rack Mounting	•	•	•	•	-
Physical Characteristics					
Casing Protection	IP-30	IP-20	IP-20	IP-20	IP-30
Dimensions (mm)	443.7(W) x 330(D) x 44(H)	431(W) x 342(D) x 44(H)	444(W) x 200(D) x 44(H)	443.7W) x 262.7(D) x 44(H)	96.4(W) x 108.5(D) x 154(H)
Operating Temperature					
-40 to 60°C	-	•	• / -	-	-
-40 to 70°C	-	-	- / •	-	•
-40 to 85°C	•	-	- / -	•	-
Network Redundancy					
O-Ring	•	•	•	•	•
Open-Ring	•	•	•	•	•
O-Chain	•	•	•	•	•
MRP	•	•	•	•	•
MSTP/RSTP/STP	•	•	•	•	•
Management and Control					
Layer3 Switching	•	-	-	-	-
802.1X	•	•	•	•	•
Rate Limit	•	•	•	•	•
Port Mirror	•	•	•	•	•
Port Security	•	•	•	•	•
IGMP v2/v3	•	•	•	•	•
QoS Port Base/COS/TOS	•	•	•	•	•
Port Trunk Static/LACP	•	•	•	•	•
LLDP	•	•	•	•	•
IEEE 1588v2	•	•	•	•	•
System Alarm	SYSLOG / SNMP Trap	SYSLOG / SNMP Trap	SYSLOG / SNMP Trap / SYSLOG / SNMP Trap/ Relay	SYSLOG / SNMP Trap	SYSLOG / SNMP Trap / Relay
DHCP	Server / Client / Relay	Server / Client / Relay	Server / Client /	Server / Client	Server / Client /Relay
VLAN	802.1Q	802.1Q	Port-Based/802.1Q/Q-in-Q/ GVRP	802.1Q	802.1Q
Management / Configuration	WEB / Windows Utility / SNMP v1,v2c,v3 /Telnet / Console(CLI)	WEB / Windows Utility / SNMP v1,v2c,v3 /Telnet / Console(CLI)	WEB / Windows Utility / SNMP v1,v2c,v3 /Telnet / Console(CLI)	WEB / Windows Utility / SNMP v1,v2c,v3 /Telnet / Console(CLI)	WEB / Windows Utility / SNMP v1,v2c,v3 / Telnet / Console(CLI)
Warranty	5 years				

Product Selection Guide

Industrial Ethernet Switch	Industrial DIN-Rail Gigabit Ethernet Switch Managed Switch				
	IGS-9848GPF/ IGS-9848GPFX	IGS-9844GPF/ IGS-9844GPFX	IGS-9812GP	IGS-7084GCP	IGS-P9164GF
Port Number					
Number of ports	20	16	20	12	20
10/100Base-T(X) RJ45 Ports	-	-	-	-	-
10/100/1000Base-T(X) Ports	8	8	8	-	16
100Base-FX Fiber Ports	- / 8	- / 4	-	-	-
1000Base-X Fiber Ports	8 / -	4 / -	-	-	4
1000Base-FX SFP Ports	-	-	-	4	-
100/1000Base-X SFP Ports	4	4	12	-	-
Gigabit Combo Ports	-	-	-	8	-
Power Redundancy					
DC Terminal Block	2	2	2	2	2
DC Power Jack	-	-	-	-	-
AC Power Cord	-	-	-	-	-
Installation					
DIN-Rail Mounting	•	•	•	•	•
Wall Mounting	•	•	•	•	•
Physical Characteristics					
Casing Protection	IP-30	IP-30	IP-30	IP-30	IP-30
Dimensions (mm)	96.4(W) x 105.5(D) x 154(H)	96.4(W) x 105.5(D) x 154(H)	96.4(W) x 108.5(D) x 154(H)	96.4(W) x 108.5(D) x 154(H)	
Operating Temperature					
-10 to 60°C	-	-	-	-	-
-40 to 70°C	•	•	•	•	•
-40 to 85°C	-	-	-	-	-
Network Redundancy					
O-Ring	•	•	•	•	•
Open-Ring	•	•	•	•	•
O-Chain	•	•	•	•	•
MRP	•	•	•	•	•
MSTP/RSTP/STP	•	•	•	•	•
Management and Control					
802.1X	•	•	•	•	•
Rate Limit	•	•	•	•	•
Port Mirror	•	•	•	•	•
Port Security	•	•	•	•	•
SNMP v1/v2/v3	•	•	•	•	•
IGMP v2/v3	•	•	•	•	•
QoS Port Base/COS/TOS	•	•	•	•	•
Port Trunk Static/LACP	•	•	•	•	•
LLDP	•	•	•	•	•
IEEE 1588v2	•	•	•	-	-
System Alarm	SYSLOG/ SNMP Trap / Relay	SYSLOG/ SNMP Trap / Relay	SYSLOG/ SNMP Trap / Relay	SYSLOG/ SNMP Trap / Relay	SYSLOG/ SNMP Trap / Relay
DHCP	Server / Client/ Relay	Server / Client/ Relay	Server / Client/ Relay	Server / Client	Server / Client/ Relay
VLAN	802.1Q	802.1Q	802.1Q	802.1Q	802.1Q
Management / Configuration	WEB / Windows Utility / SNMP v1,v2c,v3 /Telnet / Console(CLI)	WEB / Windows Utility / SNMP v1,v2c,v3 /Telnet / Console(CLI)	WEB / Windows Utility / SNMP v1,v2c,v3 /Telnet / Console(CLI)	WEB / Windows Utility / SNMP v1,v2c,v3 /Telnet / Console(CLI)	WEB / Windows Utility / SNMP v1,v2c,v3 /Telnet / Console(CLI)
Warranty	5 years				

Product Selection Guide

Industrial Ethernet Switch	Industrial Gigabit PoE Ethernet Switch					
	Managed DIN-Rail Switch			Unmanaged DIN-Rail Switch		
	IGPS-9842GTP	IGPS-9080	IGPS-9042GP	IGPS-1080-24V	IGPS-1080A	IGPS-1042GPA
Port Number						
Number of ports	14	8	6	8	8	6
10/100Base-T(X) RJ45 Ports	-	-	-	-	-	-
10/100/1000Base-T(X) Ports	8 (P.S.E) IEEE 802.3 at (max TBD)+4	8 (P.S.E) IEEE 802.3 at (max TBD)	4 (P.S.E) IEEE 802.3 at	8 (P.S.E) IEEE 802.3 at (max 120 Watts)	8 (P.S.E.) IEEE 802.3 at	4 (P.S.E.) IEEE 802.3at
100Base-FX Fiber Ports	-	-	-	-	-	-
1000Base-X Fiber Ports	-	-	-	-	-	-
100Base-FX SFP Ports	-	-	-	-	-	-
1000Base-X SFP Ports	2	-	2	-	-	2
Gigabit Combo Ports	-	-	-	-	-	-
Power Redundancy						
DC Terminal Block	2	2	2	2	2	2
DC Power Jack	-	-	-	-	-	-
AC Power Cord	-	-	-	-	-	-
Installation						
DIN-Rail Mounting	•	•	•	•	•	•
Wall Mounting	•	•	•	•	•	•
Rack Mounting	-	-	-	-	-	-
Physical Characteristics						
Casing Protection	IP-30	IP-30	IP-30	IP-30	IP-30	IP-30
Dimensions (mm)	41(W)x94.9(D)x144.3(H)	41(W)x94.9(D)x144.3(H)	41(W)x94.9(D)x144.3(H)	41(W)x94.9(D)x144.3(H)	26.1(W)x94.9(D) x144.3(H)	26.1(W)x94.9(D) x144.3(H)
Operating Temperature						
-40 to 60°C	-	-	-	-	-	-
-40 to 70°C	•	•	•	•	•	•
Network Redundancy						
O-Ring	•	•	•	-	-	-
Open-Ring	•	•	•	-	-	-
O-Chain	•	•	•	-	-	-
STP/RSTP	•	•	•	-	-	-
MSTP	•	•	•	-	-	-
Management and Control						
802.1X	•	•	•	-	-	-
Rate Limit	•	•	•	-	-	-
Port Mirror	•	•	•	-	-	-
Port Security	•	•	•	-	-	-
IGMP v2/v3	•	•	•	-	-	-
QoS Port Base/COS/TOS	•	•	•	-	-	-
Port Trunk Static/LACP	•	•	•	-	-	-
LLDP	•	•	•	-	-	-
System Alarm	Relay / SYSLOG / SNMP Trap	Relay / SYSLOG / SNMP Trap	Relay / SYSLOG / SNMP Trap	Relay	Relay	Relay
DHCP	Server / Client / Relay	Server / Client / Relay	Server / Client / Relay	-	-	-
VLAN	802.1Q	802.1Q	802.1Q	-	-	-
Management / Configuration	WEB / Windows Utility / SNMP v1,v2c , v3 / Telnet / Console(CLI)	WEB / Windows Utility / SNMP v1,v2c , v3 / Telnet / Console(CLI)	WEB / Windows Utility / SNMP v1,v2c , v3 / Telnet / Console(CLI)	-	-	-
Warranty	5 years					

Product Selection Guide

	Industrial EN50155 Ethernet Switch					
	Managed Switch			Lite-Managed Switch	Unmanaged Switch	
Industrial Ethernet Switch	Preliminary					
	TES-3162GT-M12-BP1	TES-3082GT-M12-BP1	TES-3080-M12 / M12-BP2	TES-250-M12	TES-1080-M12 / M12-BP2	TES-150-M12
Port Number						
Number of ports	18	10	8	5	8	5
10/100Base-T(X) M12 D-Coding Ports	16	8	8 / 8 (2-pair bypass)	5	8 / 8 (2-pair bypass)	5
10/100/1000Base-T(X) M12 A-Coding Ports	2(1-pair bypass)	2(1-pair bypass) D-Coding	-	-	-	-
100Base-FX Fiber Ports	-	-	-	-	-	-
1000Base-X Fiber Ports	-	-	-	-	-	-
Gigabit Combo Ports	-	-	-	-	-	-
Power Redundancy						
On M12 Connector	-	-	-	1	-	1
On M23 Connector	2	2	2	-	2	-
Installation						
DIN-Rail Mounting	-	-	-	-	-	-
Wall Mounting	•	•	•	•	•	•
Physical Characteristics						
Casing Protection	IP-40	IP-40	IP-40	IP-40	IP-40	IP-40
Dimensions (mm)	125(W) x 65(D) x 196(H)	125(W) x 65(D) x 196(H)	125(W) x 65(D) x 196(H)	89(W) x 40(D) x 178(H)	125(W) x 65(D) x 196(H)	89(W) x 40(D) x 178(H)
Operating Temperature						
-10 to 60°C	-	-	-	-	-	-
-40 to 70°C	•	•	•	•	•	•
Network Redundancy						
O-Ring	•	•	•	•	-	-
Open-Ring	•	•	•	•	-	-
O-Chain	•	•	•	-	-	-
MRP	•	•	•	-	-	-
MSTP/RSTP/STP	•	•	•	•	-	-
Management and Control						
802.1X	•	•	•	-	-	-
Rate Limit	•	•	•	-	-	-
Port Mirror	•	•	•	-	-	-
Port Security	•	•	•	-	-	-
IGMP v2/v3	•	•	•	-	-	-
QoS Port Base/COS/TOS	•	•	•	-	-	-
Port Trunk Static/LACP	•	•	•	-	-	-
LLDP	•	•	•	•	-	-
System Alarm	•	•	SYSLOG / SMTP / SNMP Trap / Relay	SYSLOG / SMTP / SNMP Trap	Relay	-
DHCP	•	•	Server/Client	Client	-	-
VLAN	•	•	Port-Based/802.1Q/Q-in-Q/GVRP	Port-Based	-	-
Management / Configuration	WEB / Windows Utility / SNMP v1,v2c,v3 / Telnet / Console (CLI)	WEB / Windows Utility / SNMP v1,v2c,v3 / Telnet / Console (CLI)	WEB / Windows Utility / SNMP v1,v2c,v3 / Telnet / Console (CLI)	WEB / Windows Utility / SNMP v1,v2c,v3 / Telnet	-	-
Warranty	5 years					

* Provide 2pairs of HW Bypass ports.

Product Selection Guide

DIN-Rail 3.5G / 4G LTE Cellular VPN Router

IGAR-1062+-3G/4G

IGAR-2062 +-3G/4G

IGAR-1662+-3G/4G

Ethernet Ports						
10/100 Base-T(X) LAN Ports	-		-		-	
10/100/1000 Base-T(X) Lan Ports	2		2		2	
PoE (P.D.)Support	• (LAN Port-2)		• (LAN Port-2)		• (LAN Port-2)	
Ethernet switch/redundant mode support	•		•		•	
WLAN Interface						
WLAN Standard	IEEE802.11a/b/g/n		IEEE802.11a/b/g/n		Dual IEEE802.11a/b/g/n	
Transmit Power	17 dBm max.		17 dBm max.		17 dBm max.	
Transmission Rate	IEEE802.11b : 11Mbps IEEE802.11a/g : 54Mbps IEEE802.11n : 300Mbps		IEEE802.11b : 11Mbps IEEE802.11a/g : 54Mbps IEEE802.11n : 300Mbps		IEEE802.11b : 11Mbps IEEE802.11a/g : 54Mbps IEEE802.11n : 300Mbps	
Antenna connector	Reverse SMA		Reverse SMA		Reverse SMA	
Antenna	2.4GHz :2 dBi 5GHz :2 dBi		2.4GHz :2 dBi 5GHz :2 dBi		2.4GHz :2 dBi 5GHz :2 dBi	
WAN Interface						
Cellular Standard	GSM / GPRS/ EGPRS/ EDGE / WCDMA / HSDPA / HSUPA / LTE(4G)		GSM / GPRS/ EGPRS/ EDGE / WCDMA / HSDPA / HSUPA / LTE(4G)		GSM / GPRS/ EGPRS/ EDGE / WCDMA / HSDPA / HSUPA / LTE(4G)	
Transmission Power	33 dbm max.		33 dbm max.		33 dbm max.	
SIM Slot	1		2		1	
Antenna	Multi-Band Antenna		Multi-Band Antenna		Multi-Band Antenna	
WAN Connection Type	Static/Dynamic IP,PPPoE		Static/Dynamic IP,PPPoE		Static/Dynamic IP,PPPoE-	
WAN Dial-UP	3G	4G LTE	Dual 3G	Dual 4G LTE	3G	4G LTE
Power Redundancy						
DC (Connector)	2(Terminal Block)		2(Terminal Block)		2(Terminal Block)	
Installation						
DIN-Rail Mounting	•		•		•	
Wall mounting	•		•		•	
Physical Characteristics						
Casing Protection	IP-30		IP-30		IP-30	
Dimensions (mm)	74.3(W) x 109.2(D) x 53.6(H)		74.3(W) x 109.2(D) x 53.6(H)		74.3(W) x 109.2(D) x 53.6(H)	
Operating Temperature						
-10 to 60°C	-		-		-	
-10 to 70°C	-		-		-	
-25 to 70°C	•		•		•	
Network Technology						
Alarm Notification	Relay Output / System Log		Relay Output / System Log		Relay Output / System Log	
Management / Configuration	WEB		WEB		WEB	
Warranty	5 years					

Product Selection Guide

EN50155 3.5G / 4G LTE WLAN Cellular VPN Router

Industrial Cellular VPN Router

	TGAR-1062-3G/4G-M12	TGAR-2062-3G/4G-M12		TGAR-1662-3G/4G-M12	
Ethernet Ports					
10/100 Base-T(X) LAN Ports	-	-		-	
10/100/1000 Base-T(X) LAN Ports	2 (M12)	2 (M12)		2 (M12)	
10/100 Base-FX Fiber Ports	-	-		-	
PoE (P.D.)Support	-	-		-	
Ethernet switch/redundant mode support	•	•		•	
WLAN Interface					
WLAN Standard	IEEE802.11a/b/g/n	IEEE 802.11a/b/g/n		Dual IEEE 802.11a/b/g/n	
Transmit Power	17 dBm max.	17 dBm max.	17 dBm max.	17 dBm max.	17 dBm max.
Transmission Rate	IEEE802.11b : 11Mbps IEEE802.11a/g : 54Mbps IEEE802.11n : 300Mbps	IEEE802.11b : 11Mbps IEEE802.11a/g : 54Mbps IEEE802.11n : 300Mbps		IEEE802.11b : 11Mbps IEEE802.11a/g : 54Mbps IEEE802.11n : 300Mbps	
Antenna connector	Reverse SMA	Reverse SMA		Reverse SMA	
Antenna	2.4GHz :2 dBi 5GHz :3 dBi	2.4GHz :2 dBi 5GHz :3 dBi		2.4GHz :2 dBi 5GHz :3 dBi	
WAN Interface					
Cellular Standard	GSM / GPRS/ EGPRS/ EDGE / WCDMA / HSDPA / HSUPA / LTE(4G)	GSM / GPRS/ EGPRS/ EDGE / WCDMA / HSDPA / HSUPA / LTE(4G)		GSM / GPRS/ EGPRS/ EDGE / WCDMA / HSDPA / HSUPA / LTE(4G)	
Transmission Power	33 dbm max.	33 dbm max.		33 dbm max.	
SIM Slot	1	2		1	
Antenna	Multi-Band Antenna	Multi-Band Antenna		Multi-Band Antenna	
WAN Connection Type	Static/Dynamic IP,PPPoE	Static/Dynamic IP,PPPoE		Static/Dynamic IP,PPPoE-	
WAN Dial-UP	3G	4G LTE	Dual 3G	Dual 4G LTE	3G	4G LTE
Power Redundancy					
DC (connector)	2 (M23)	2 (M23)		2 (M23)	
Installation					
DIN-Rail Mounting	-	-		-	
Wall mounting	•	•		•	
Physical Characteristics					
Casing Protection	IP-40	IP-40		IP-40	
Dimensions (mm)	125(W) x 65(D) x 196(H)	125(W) x 65(D) x 196(H)		125(W) x 65(D) x 196(H)	
Operating Temperature					
-10 to 60°C	-	-		-	
-25 to 70°C	•	•		•	
Network Technology					
Alarm Notification	Relay Output / SNMP Trap / System Log/SMTP	Relay Output / SNMP Trap / System Log/SMTP		Relay Output / SNMP Trap / System Log/SMTP	
Management / Configuration	WEB / Window Utility	WEB / Window Utility		WEB / Window Utility	
Warranty	5 years				