

Secure data communication with integrated VPN technology

Industrial security routers – versatile, reliable and flexible

As data and information networking continues to increase, Ethernet communication seeing more and more use in industrial automation technology. This is a trend that has not only changed the individual requirements of many customers, but has also had an impact on the devices used. These must now support a flexible system structure, allow networking with each other and, in addition to the targeted integration of all relevant network participants, also guarantee maximum data security

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In order to provide optimal support for meeting the many different requirements, we offer different versions of industrial security routers. These routers enable secure, reliable and location-independent communication between machines and systems, as well as reliable user authentication to protect the network.

Our routers with integrated VPN technology are ideally suited for secure remote access to components and systems in remote networks. They are available with either wired or mobile Internet connectivity and support the u-link Remote Access Service. This allows remote access systems to be set up quickly and easily, with no special IT knowledge required.

Your special advantage:

- Easy integration of subnets with identical IP address ranges through 1:1 NAT
- Secure and easy remote maintenance via Weidmüller u-link Remote Access Service
- Future-proof network connection with static and dynamic routing
- Increased network security thanks to stateful inspection firewall, IP/port forwarding and network segmentation
- Full flexibility thanks to Fast Ethernet and Gigabit Ethernet interfaces with 2 to a maximum of 6 ports

Compatible
with u-link
Remote Access
Service



Reliable Internet connection

Reliable Internet connection thanks to integrated 4G/LTE mobile modem



Monitoring

Client monitoring of network participants



Remote Access Service

Secure remote access with VPN



Internet communication

Secure Internet communication thanks to IPsec and OpenVPN

Configuration

Extensive configuration options for IP address mapping



Industrial Security Router

Gigabit Industrial Security Router

- 2 or 6 Gigabit ports (LAN/WAN)
- NAT masquerading, 1:1 network mapping and port forwarding
- VPN function via u-link Remote Access Service, OpenVPN and IPsec
- Key switch function for disabling/enabling of a WAN/VPN connection
- Variations with 6 routed Ethernet sub networks and individual firewall rules
- Variations with integrated 4G/LTE modem for fast, Internet-based radio communication access
- Variation without VPN functionality for NAT and security applications (1489940000, IE-SR-2GT-LAN-FN)

**Technical data****Operation modes**

Extended IP router Each interface (LAN, WAN, optional mobile radio) can be configured as a separate IP network

IP router IP routing (IPv4, Layer 3) with SPI firewall (Stateful Packet Inspection)

Transparent bridge 2/6-port switch with additional Layer 2 filter

Network Services

- DHCP server / DHCP relay
- DNS relay
- NTP-Client/Relay
- DynDNS (DHCP client by RFC 2136)

Firewall

- IPv4 Stateful inspection Firewall (incoming/outgoing)
- NAT-Masquerading, 1:1 NAT, Portforwarding
- Layer-2/3-Filter (VLAN ID, VLAN, QoS tag, MAC address, Ethertype frame)
- "Auto learning" feature to create packet filter rules (analysis of network traffic)
- Layer 2/3-based packet prioritization (Ethernet frame, IP header, VLAN tag)

VPN functionality*

u-link OpenVPN-based remote access via Weidmüller u-link cloud

- Configurable as OpenVPN server or client (Layer 2 and Layer 3)
- Authentication with X.509 Certificates
- Tunnel support via HTTP proxy
- Maximum of 10 different client or server configurations
- Unlimited number of client connections in server mode

IPsec

- Can be configured as an IPsec server or client
- PSK authentication (user ID, password) or X.509 certificates
- Hardware-based encryption for faster data throughput
- A maximum of 64 simultaneous connections (subnet to subnet or as an IPsec server)
- Encryption algorithms
DES-56, 3DES-168, AES 128, AES 192, AES-256

* is not supported by the model IE-SR-2GT-LAN-FN

Management

- Configuration via WEB interface (HTTP / HTTPS)
- Configuration support through detailed help information (tooltip)
- Configurable multi-user access with definable rights mask
- Support of SNMP v1/v2/v3, event log / syslog

Miscellaneous

Modbus/TCP Integrated Modbus TCP Server for status queries, and software-based activation / de-activation of VPN connections

Diagnosis Remote Capture™ feature for network diagnostics via a connected PC (Wireshark)

Monitoring Client Monitoring (via ICMP) with alarm function in case of error

Mobile radio interface (mobile radio variants only)

Mode of operation Permanent connection, Manual connection control via web interface, Fallback connection with active ICMP monitoring

Wireless module multi-band modem (4G/3G)

Transmission rate mobile radio LTE Category: CAT 6; download rate, max. 300 Mbps; upload rate, max. 50 Mbps

Frequency band Region: EMEA + Americas
4G / LTE: B1, B2, B3, B4, B5, B7, B12, B13, B20, B25, B26, B29, B30, B41
3G: B1, B2, B3, B4, B5, B8

Interfaces	
RJ45 ports	10/100/1000BaseT (X), auto negotiation, full/half duplex mode
USB port	USB 2.0 interface for firmware update or restoration of the device configuration via USB flash drive
Digital outputs	<ul style="list-style-type: none"> • "Alarm" -> Indicates a configurable network status or error (24 V out) • "VPN-active" -> Indicates an active VPN connection (24 V out)*
Digital inputs	<ul style="list-style-type: none"> • "Cut" -> Disconnects physically (link down) the WAN port (24 V) • "VPN-initiate" -> Enables a pre-configured VPN connection (24 V)*
Reset button	Restoring the factory default
Connection for external antennas	SMA (socket)
Power Requirements	
Input Voltage	1x 24 V DC (7 to 36 V DC), NEC class 2, (for use in compliance with UL specifications: 7 - 30 V DC)
Current consumption	max. 0.8 A at 24 V
Technical data (housing)	
Housing	Diecast aluminium, IP20 protection
Dimensions (W x H x D)	2-Port Router: 35 x 163 x 140 mm 6-Port Router: 57 x 163 x 140 mm 2-Port DNV-GL Router: 57 x 163 x 140 mm
Installation	DIN-Rail, VESA 75
Environmental Limits	
Operating temperature	-20 °C to +70 °C
Storage Temperature	-20 °C to +85 °C
Relative ambient air humidity	5 to 95% (non-condensing)
Approvals	
Security	EN60950-1
Radio	EN 301 489-1/17, EN 301 893, EN 302 291-2
EMC	EN 61000-6-2/6-4 FCC Part 15B Class A
Ship use	DNV-GL (only for 2535980000, 2535970000)
Shock	DIN EN 60068-2-27
Vibration	DIN EN 60068-2-6
Warranty	
Warranty Period	3 years

Ordering data

Version	Type	Order No.
Security/NAT/VPN/u-link Router, 2 * RJ45 10/100/1000BaseT(X)	IE-SR-2GT-LAN	1345270000
Security/NAT Router, 2 * RJ45 10/100/1000BaseT(X)	IE-SR-2GT-LAN-FN	1489940000
Security/NAT/VPN/u-link Router, with integrated multi-band modem (4G/3G), 2 * RJ45 10/100/1000BaseT(X)	IE-SR-2GT-LTE/4G-US	2535780000
Security/NAT/VPN/u-link Router, with integrated multi-band modem (4G/3G), 2 * RJ45 10/100/1000BaseT(X)	IE-SR-2GT-LTE/4G-EU	2535930000
Security/NAT/VPN/u-link Router, 6 * RJ45 10/100/1000BaseT(X)	IE-SR-6GT-LAN	2535940000
Security/NAT/VPN/u-link Router, with integrated multi-band modem (4G/3G), 6 * RJ45 10/100/1000BaseT(X)	IE-SR-6GT-LTE/4G-US	2535950000
Security/NAT/VPN/u-link Router, with integrated multi-band modem (4G/3G), 6 * RJ45 10/100/1000BaseT(X)	IE-SR-6GT-LTE/4G-EU	2535960000
Security/NAT/VPN/u-link Router, 2 * RJ45 10/100/1000BaseT(X), DNV-GL approval	IE-SR-2GT-LAN-M	2535980000
Security/NAT/VPN/u-link Router, with integrated multi-band modem (4G/3G), 2 * RJ45 10/100/1000BaseT(X), DNV-GL approval	IE-SR-2GT-LTE/4G-EU-M	2535970000

Accessories

	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000

4-Port Fast Ethernet Industrial Security Routers

- Easy integration of subnets with identical IP address ranges through 1:1 NAT
- Secure and easy remote maintenance with Weidmüller u-link remote access service
- Future-proof network connection with static and dynamic routing
- Increased network security through stateful inspection firewall, IP/Port-forwarding and network segmentation
- Reliable internet connection, even without on-site internet access, thanks to integrated 4G/LTE cellular modem

**D****Technical data**

Management features	
Operating modes	IP router: IP routing (IPv4, Layer-3) with SPI firewall (Stateful Packet Inspection), Static or dynamic routing, Supports RIPv2 / OSPF Transparent bridge: 4-port switch with additional Layer-2 filter
Device configuration	Webbrowser (HTTP/HTTPS), SNMP v1/v2c/v3, Windows tool
Monitoring function	SNMP v1/v2c/v3, Syslog
IP-address management	Static, DHCP-Client, DHCP-Server (pool-based), DHCP-Relay
Security functions	IPv4 Stateful Packet Inspection Firewall (incoming/outgoing), NAT masquerading, 1:1 NAT, IP forwarding, Port forwarding
Time synchronization management	NTP client
Industrial protocol support	Modbus/TCP slave
VPN functionality	
u-link	OpenVPN-based remote access service via the Weidmüller u-link cloud
OpenVPN	Configurable as OpenVPN server or client (Layer 2 and Layer 3), Authentication via X.509 certificate, Tunnel support via HTTP proxy, Maximum 10 different client or server configurations
Ipssec	Configurable as Ipssec server or client
Interfaces	
RJ45 ports	10/100BASE-T(X), auto negotiation, Full/half-duplex mode, Auto MDI/MDI-X port
Digital inputs	1x galvanically isolated VPN-initiate: establishes a pre-configured VPN connection (24 V in) Cut: physically disconnects (Link Down) the WAN port (24 V in) Trigger pre-configured packet filter rules (24 V in)
Serial port	1x RS-485, 2-wire, galvanically isolated, 1 removable 3-pole terminal block
Reset button	Reset to factory default settings
SCM-card slot	1x Smart Card (ID-000 format), save and restore the configuration using smart card (memory chip)
SIM-card slot (mobile radio variants only)	1x Mini-SIM (ID-000 format)
Connector for external antennas (mobile radio variants only)	1x SMA female
Mobile radio interface (mobile radio variants only)	
Mode of operation	Permanent connection, Manual connection control via web interface
Wireless module	IE-SR-4TX-LTE/4G-EU: multi-band modem (4G/3G/2G) IE-SR-4TX-LTE/4G-USEMEA: multi-band modem (4G/3G)
Transmission rate mobile radio	IE-SR-4TX-LTE/4G-EU: LTE Category: CAT 4 download rate, max. 150 Mbps; upload rate, max. 50 Mbps IE-SR-4TX-LTE/4G-USEMEA: LTE Category: CAT 6; download rate, max. 300 Mbps; upload rate, max. 50 Mbps
Frequency band	IE-SR-4TX-LTE/4G-EU: LTE: B1 (2100), B3 (1800), B7 (2600), B8 (900), B20 (800DD) UMTS/WCDMA: B1 (2100), B8 (900) GSM/GPRS/EDGE: B3 (1800), B8 (900) IE-SR-4TX-LTE/4G-USEMEA: LTE: B1 (2100), B2 (1900), B3 (1800), B4 (AWS), B5 (850), B7 (2600), B12 (700ac), B13 (700c), B20 (800DD), B25 (1900), B26 (US 850 Ext), B29 (US 700de Lower), B30 (2300 WCS), B41 (TDD 2500) UMTS: B1 (2100), B2 (1900), B3 (1800), B4 (AWS), B5 (850), B8 (900)

Mobile radio interface (mobile radio variants only)

Transmit power	IE-SR-4TX-LTE/4G-EU: LTE: +23 dBm +2.7/-2.7 dB (Power Class 3) WCDMA: 24 +1/3 dBm (Power Class 3) GSM900: 33 ± 2 dBm (Power Class 4) GSM1800: 30 ± 2 dBm (Power Class 1)
	IE-SR-4TX-LTE/4G-USEMEA: LTE Band 1, 2, 3, 4, 5, 8, 12, 13, 20, 25, 26: +23 dBm +/- 1 dB LTE Band 7, 30, 41: +22 dBm +/- 1 dB UMTS: +23 dBm +/- 1 dB

Power supply

Connection type	1 removable 4-pin terminal block
Input voltage	24 V DC (19.2 - 28.8 V), 1 single input
Current consumption at 24 V	0.8 A
Reverse polarity protection	yes

Physical characteristics

Housing main material	Plastic
Protection degree	IP30
Type of mounting	DIN rail
Dimensions (W x H x D)	29.9 x 134.5 x 94.8 mm (1.17 x 5.29 x 3.73 in)
Weight	IE-SR-4TX: 175 g IE-SR-4TX-LTE/4G-EU: 213 g IE-SR-4TX-LTE/4G-USEMEA: 213 g

Environmental conditions

Operating temperature	-30 to 75 °C (-22 to 167 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Humidity	5 to 90 % (non-condensing)
Operating altitude	≤ 2000 m

EMC conformity and approvals

EMC	EN 55032, EN 55024, EN 61000-6-2, EN 61000-6-4
Safety	SELV according to EN 62368-1, EN 62311
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
Wireless	EN 301 489-1, EN 301 489-52, EN 301 511, EN 301 908-1, EN 301 908-2

Guarantee

Time interval	3 years
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Ordering Information

Version	Model Type	Order No.
Security/NAT/VPN/U-link Router, 4x RJ45 10/100 Mbit/s	IE-SR-4TX	2751270000
Security/NAT/VPN/U-link Router with integrated multi-band modem (4G/3G/2G), EU-model, 4x RJ45 10/100 Mbit/s	IE-SR-4TX-LTE/4G-EU	2751280000
Security/NAT/VPN/U-link Router with integrated multi-band modem (4G/3G), US/EMEA-model, 4x RJ45 10/100 Mbit/s	IE-SR-4TX-LTE/4G-USEMEA	2739630000

Accessories

	Model Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000