data
SHEET

EIPR — Skorpion Wired and Wireless VPN Routers

The EIPR links two 10/100 Mbps Internet Protocol (IPv4) networks — passing appropriate traffic while blocking all other traffic. One network is the local-area-network (LAN); the other is the wide-area-network (WAN). The built-in stateful firewall passes communication initiated on the LAN-side while blocking WAN-side initiated communication. With Port Address Translation (PAT), LAN-side clients can access the Internet. Network Address Translation (NAT) allows a one-to-one translation between LAN-side and WAN-side devices. With Port Forwarding, LAN-side devices can be accessed from the Internet. The EIPR incorporates a four-port Ethernet switch for multiple LAN-side connections. An external Ethernet-based modem — cable or DSL — can be used to connect to the Internet. DSL modems connect via the PPPoE protocol. A USB port allows expansion to wireless networks.

The EIPR-E supports Wi-Fi communication; the EIPR-V adds cellular access. With its real-time clock and OpenVPN firmware, the EIPR-V also supports a VPN (virtual-private-network) — so you can obtain secure remote communication — compatible with cloud-VPN service from Contemporary Controls.

EIPR Skorpion IP Router Features …

- Web page configuration
- 10/100 Mbps WAN port
- 4-port 10/100 Mbps Ethernet LAN switch
- PAT, NAT and Port Forwarding
- NAT Loopback
- Remote Router Access
- Whitelist
- Stateful firewall (can be disabled)
- DHCP client (WAN) and DHCP server (LAN)
- Wireless connectivity via USB port
- DIN-rail mounting
- Diagnostic LEDs
- CE Mark, RoHS, UL 508, C22.2 No. 142-M1987
- 24 VAC/VDC powered

EIPR-E

EIPR-E with user-provided Wi-Fi adapter installed

EIPR-V with user-provided cellular adapter installed

CTRLink®

EIPR — Skorpion IP Router

Although the EIPR has many of the same features found in high-end routers, it is simpler to install and commission. A resident DHCP server on the LAN-side will provide IP addresses to LAN-side clients while a DHCP client on the WAN-side will accept IP address assignments from the attached modem. Static addressing is accommodated as well. Configuration is via a web browser using authentication. With a DIN-rail mounting clip, rugged metal enclosure and the ability to be powered from a low-voltage AC/DC power source, the EIPR is ideal IP router for automation systems.

Quick Disconnect 4-pin Power Connector
provides connections to a DC or AC source and a connection for a backup DC source.

35 mm Din-rail Clip
for convenient control panel installation

Writable Label
for a helpful record of connected IP devices

Built-in Ethernet Switch
connect up to four 10/100 Mbps Ethernet devices with auto-negotiation and Auto-MDIX

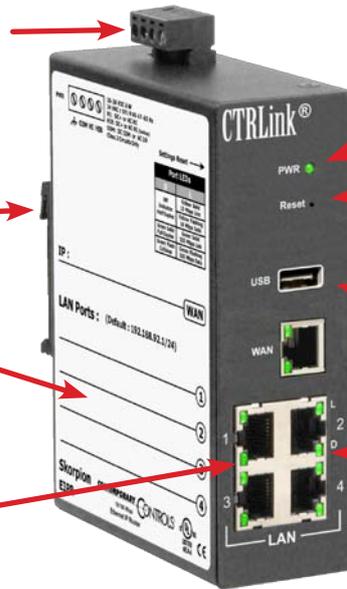**Power LED**
Power OK indicator

Reset Switch
returns the EIPR to its default IP address settings

USB Port
for wireless connectivity

Diagnostic LEDs
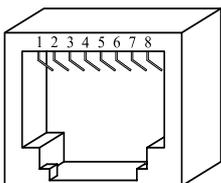indicate the status of Link, Duplex and Activity

Connector Pin Assignments

Ethernet

Pin	Function
1	+TD
2	–TD
3	+RD
4	N/C
5	N/C
6	–RD
7	N/C
8	N/C

All ports are MDIX.

USB

Pin	Function
1	+5 V
2	–Data
3	+Data
4	Ground

Mechanical Drawing
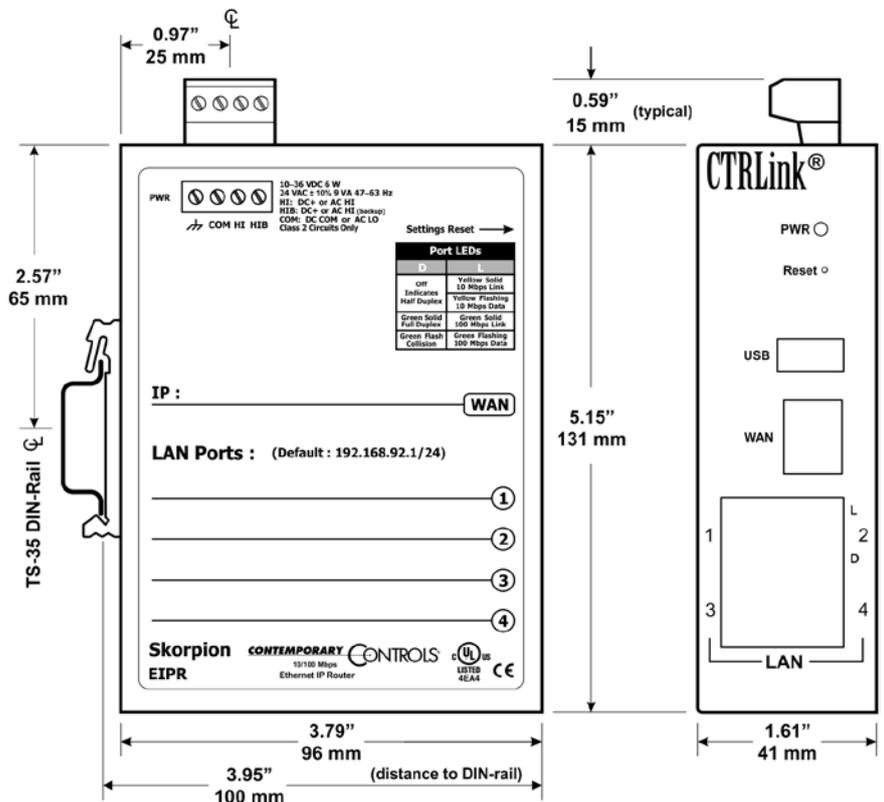
Web Page Configuration

Onboard Help

CONTEMPORARY CONTROLS

| Setup | Administration | Status | Advanced |

Skorpion Wired/Wireless IP Router
Automation Firewall/Router Offers Reliability and Ease of Use

WAN Setup

Connection Type: DHCP

Optional Settings (required by some ISPs)
Host Name:
Domain Name:
MTU: ○ Enable ● Disable Size: 1500

LAN Setup

Router IP
Local IP Address: 192 . 168 . 92 . 1
Subnet Mask: 255.255.255.0

Network Address Server Settings (DHCP)
Local DHCP Server: ● Enable ○ Disable
Start IP Address: 192 . 168 . 92 . 100
Number of Addresses: 10 (1 to 50)
Client Lease Time: 0 minutes (0 means one day)

[Save] [Cancel]

About This Page

Use the setup page to perform basic IP settings for the WAN and LAN interfaces - such as IP address, subnet mask, etc. *Connection Type* is used to specify how your EIPR connects to the WAN: *DHCP, Static IP* or *PPPoE*.

If you select *DHCP*, the WAN side of the EIPR will have its IP address, subnet mask and gateway address set by a DHCP server that is directly or indirectly connected to the WAN port. If no DHCP server is available, static entry values can be entered by selecting connection type *Static IP*. PPPoE is normally used by DSL modems.

The Router IP address is the IP address which you can use to configure the EIPR. This will also be the gateway address used by IP devices connected to the LAN ports of the EIPR.

The **LAN Setup** can be used to enable the DHCP server for the LAN side along with the starting DHCP address, the number of DHCP clients and the lease time (in minutes).

More Information...

Need Support?

Our staff of engineers is available to address any issues you may be having.

Please visit our **website** for more information.

WAN Setup

Connection Type: Static IP
IP Address: 10 . 0 . 0 . 100
Subnet Mask: 255.0.0.0
Default Gateway: 10 . 0 . 0 . 1
Static DNS 1: 0 . 0 . 0 . 0
Static DNS 2: 0 . 0 . 0 . 0
Static DNS 3: 0 . 0 . 0 . 0

Optional Settings (required by some ISPs)
Host Name:
Domain Name:
MTU: ○ Enable ● Disable Size: 1500

Port Forwarding

WAN IP Port	TCP/UDP		LAN IP Address	LAN IP Port	Enabled	NAT Loopback
8080	Both	TO	192 . 168 . 92 . 101	80	☑	☐
	Both	TO	. . .		☐	☐
	Both	TO	. . .		☐	☐
	Both	TO	. . .		☐	☐
	Both	TO	. . .		☐	☐
	Both	TO	. . .		☐	☐
	Both	TO			☐	

Router Access

Local Router Access
Username:
Password:
Confirm Password:

Remote Router Access
Administration Port: 8080
Enable: ☐

Firewall

Firewall Status: ○ Enable ● Disable

NAT

| WAN IP Address					LAN IP Address				Enabled
129 .	250 .	35 .	123	TO	192 .	168 .	1 .	119	☑
.	.	.		TO	.	.	.		☐
.	.	.		TO	.	.	.		☐
.	.	.		TO	.	.	.		☐
.	.	.		TO	.	.	.		☐

Wi-Fi Connectivity   (EIPR-E and EIPR-V)

With the resident USB port you can expand to wireless networks if an appropriate Wi-Fi adapter is inserted in the port — establishing the EIPR as a Wi-Fi access point and increasing the number of LAN-side clients.

After installing a USB Wi-Fi adapter (IEEE 802.11b, 802.11g, etc.), the EIPR becomes a Wi-Fi access point. This allows Wi-Fi devices to wirelessly communicate with the EIPR and with each other. Each wirelessly connected Wi-Fi device can receive a DHCP-assigned address from the EIPR. When wirelessly connected, each Wi-Fi device can also communicate directly with

any EIPR LAN-connected devices and can also route through the EIPR WAN port for access to other subnets and to the Internet. The EIPR supports Wired Equivalent Privacy (WEP) and Wi-Fi Protected Access (WPA, WPA2) secure communications. Other EIPR features — such as port forwarding — can also be applied to the wirelessly connected Wi-Fi devices. A list of supported Wi-Fi adapters can be found on the Contemporary Controls website under the EIPR product page.
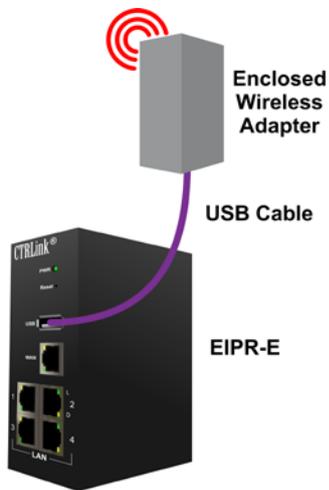
Remote Wireless Adapter
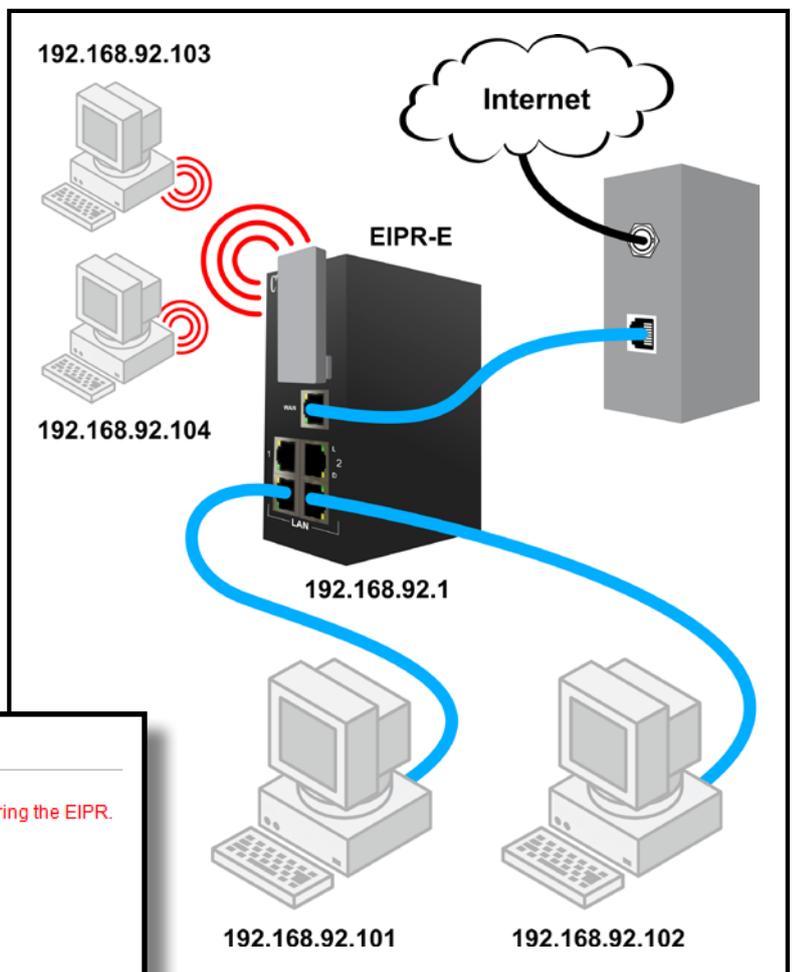
Wired and Wireless Access to the Internet

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Cellular Connectivity   (EIPR-V)

The EIPR-V can access popular cellular networks if an appropriate cellular adapter is installed in the USB port. In this case, WAN-port operations are transferred to the USB port (the wired WAN port is disabled) — allowing LAN-side clients access to cellular devices.

Data plans intended for M2M communication usually include the cellular adapter as part of the package.

Contemporary Controls maintains a list of approved cellular adapters.

Note that the EIPR-V supports either Wi-Fi or cellular communication but not both at the same time — even if a USB hub is attached.
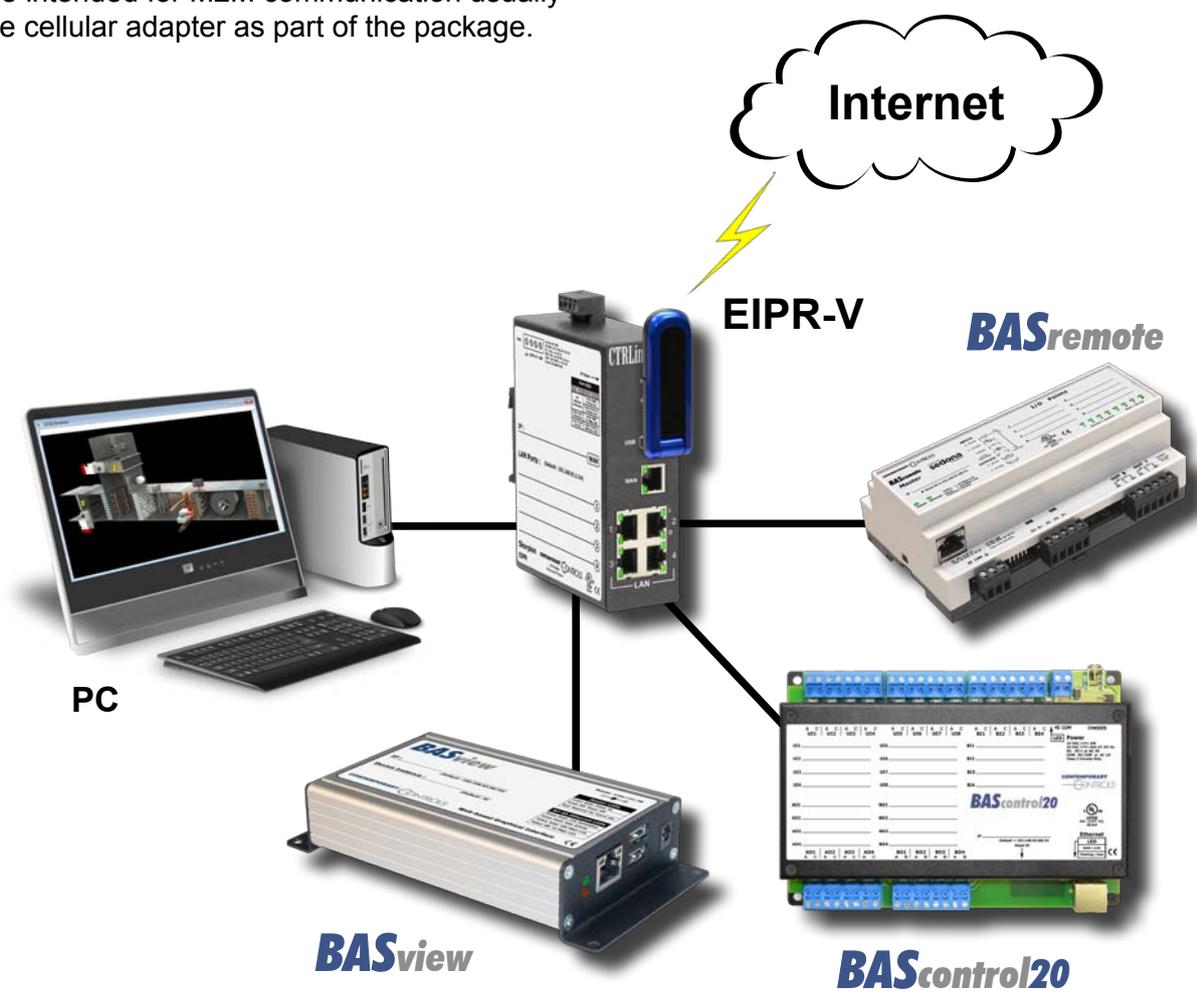
Cellular Configuration File

Upload Cellular Config to Router   Select File: [Browse..] No file selected.

[Upload] [Cancel]

Current Configuration

Country: USA
Provider: Devun
Device: 4G Laptop Stick

Virtual Private Network (VPN)   (EIPR-V)

The EIPR-V is equipped with OpenVPN client firmware and the real-time clock required for communicating with a partner OpenVPN server over the Internet, such as our BAScloudVPN server. The connection to the Internet can be wired or wireless. Workstations on the LAN side need not have OpenVPN client software installed because the OpenVPN client exists in the EIPR-V.

Resident Virtual Private Network not in the Cloud

A virtual private network (VPN) encrypts TCP/IP for communication over a public network — such as the Internet — and limits access by restricting communication to authorized users. A simple VPN can exist between two end points. This is also called a *VPN tunnel*. Think of VPN communication over the public Internet while existing in its own (virtual) secure tunnel. Once the VPN connection is made, messages can originate from either side — eliminating the need for port-forwarding and allowing easy communication to devices behind firewalls.

Wired Connection to the BAScloudVPN

There is still an opportunity to enjoy the benefits of a VPN without maintaining a resident VPN. With the BAScloudVPN, the VPN server is on the Internet and is hosted by Contemporary Controls through a third-party. You load a VPN client application onto your PC and connect to the BAScloudVPN. This provides an encrypted connection to the VPN server. At the remote site you have another VPN client but this time it is permanently installed in the EIPR-V VPN Router and is always connected to the BAScloudVPN via an encrypted connection. The LAN-side of the EIPR-V connects to the building automation equipment. The BAScloudVPN will route between the two VPN tunnels thus created. Although the BAScloudVPN will work with either a wired or cellular connection to the Internet, there is an advantage of using the cellular network in that the IT personnel at the remote site need not get involved.
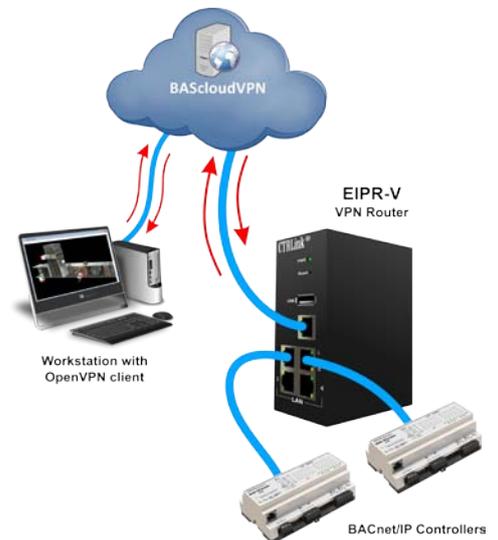
Cellular Connection to the BAScloudVPN

Utilizing cellular networks for data communications can sometimes be easier to setup than other forms of Internet communications — especially if these connections are temporary. The EIPR-V will connect to cellular networks using a USB cellular modem provided by a cellular provider as part of a data plan. By using the cellular network, the main Internet connection to the remote site is not affected.
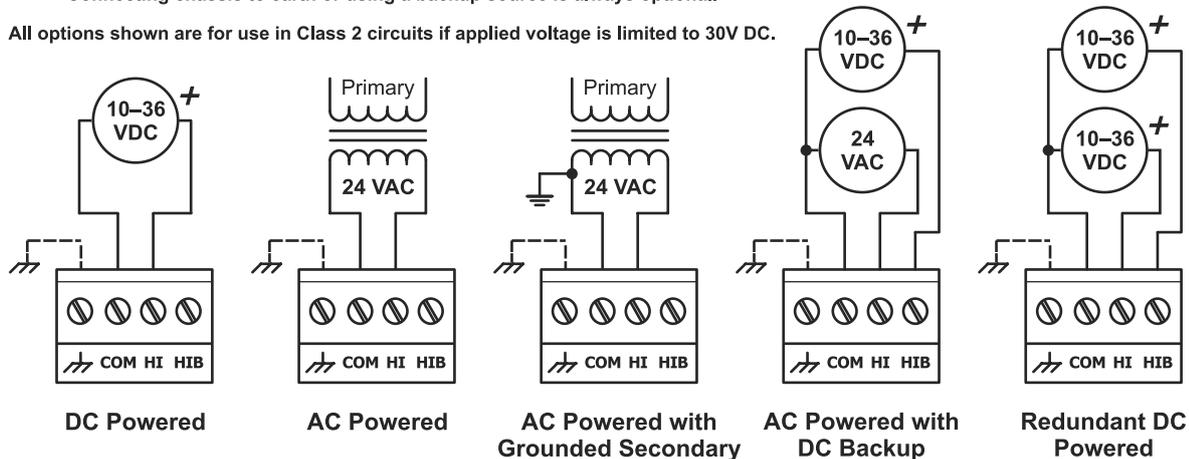
CONTEMPORARY CONTROLS®
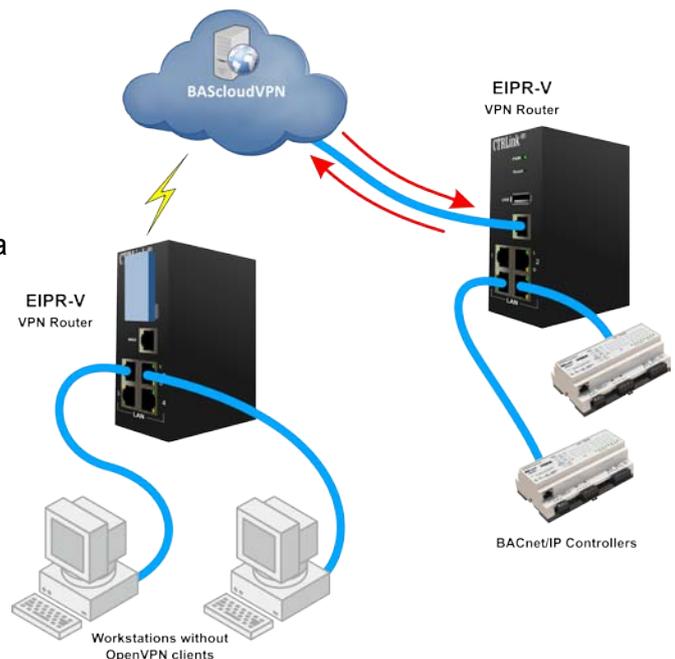
Power Considerations

Applied voltage must be in the specified range and deliver a current commensurate with power consumption. The recommended size for solid power conductors is 16–20 AWG; and for stranded conductors use 16–18 AWG. Zero volts (COM) is isolated from chassis (earth). Input connections are reverse-polarity protected.

Input power: 10–36 VDC   or   24 VAC ± 10%, 47–60 Hz.
Connecting chassis to earth or using a backup source is always optional.

All options shown are for use in Class 2 circuits if applied voltage is limited to 30V DC.

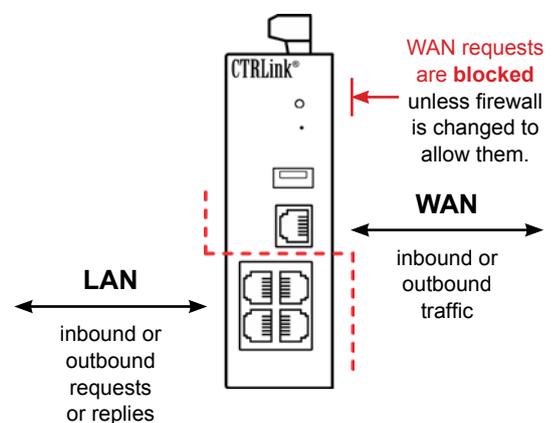| DC Powered	AC Powered	AC Powered with Grounded Secondary	AC Powered with DC Backup	Redundant DC Powered

Stateful Firewall — Promotes Secure Communication

The lower part of the router connects the LAN side (the local-area-network). The upper part connects the WAN side (wide-area-network). A firewall (which can be disabled by the user) separates the two parts.

A firewall controls the passing of messages from one side of a router to the other. A *stateful firewall* acts on the structure of the message and who is initiating and who is responding.

Originating requests from the LAN side and corresponding responses from the WAN side *pass through* the firewall. But traffic originating from the WAN side is *blocked* from the LAN side *unless* the firewall is adjusted to allow it. This protects the LAN side from unauthorised WAN access. **NOTE:** Wi-Fi is part of the LAN.

WAN requests are **blocked** unless firewall is changed to allow them.

WAN

inbound or outbound traffic

LAN

inbound or outbound requests or replies

Specifications

Power Requirements	10–36 VDC ±10% 6 W	or	24 VAC ±10% 9 VA 47–63 Hz

Operating Temperature	0°C to 60°C
Storage Temperature	–40°C to 85°C
Relative Humidity	10–95%, non-condensing
Protection	IP30
Mounting	TS-35 DIN-rail
Ethernet Communications	IEEE 802.3 10/100 Mbps data rate 10BASE-T, 100BASE-TX physical layer 100 m (max) CAT5 cable length
USB Port	USB 2.0, Type A 5 m (max) cable length delivered power (max) 500 mA

LEDs	Power	Green = power OK
	L	Green = 100 Mbps communication established Yellow = 10 Mbps communication established Flash = activity
	D	Green = Full-duplex operation Off = Half-duplex operation Flash = Half-duplex collision
Regulatory Compliance	CE Mark; CFR 47, Part 15 Class A; RoHS; UL 508; C22.2 No. 142-M1987	

Ordering Information

Model	RoHS	Description
EIPR-E	✔	Skorpion IP Router with Four-port Switch and USB port for wireless connectivity
EIPR-V	✔	Skorpion VPN Router with Four-port Switch and USB port for wireless connectivity
ACC-WIFISTK-1	✔	USB 802.11 b/g/n Wireless USB adapter
ACC-USBADPT-1	✔	USB Right Angle Swivel Adapter
ACC-MTGKIT-1	✔	Wall Mount USB Adapter Enclosure with 15' (4.5 m) cable
ACC-USBCBL-15	✔	15' USB Extension Cable