EN

CTRLink®

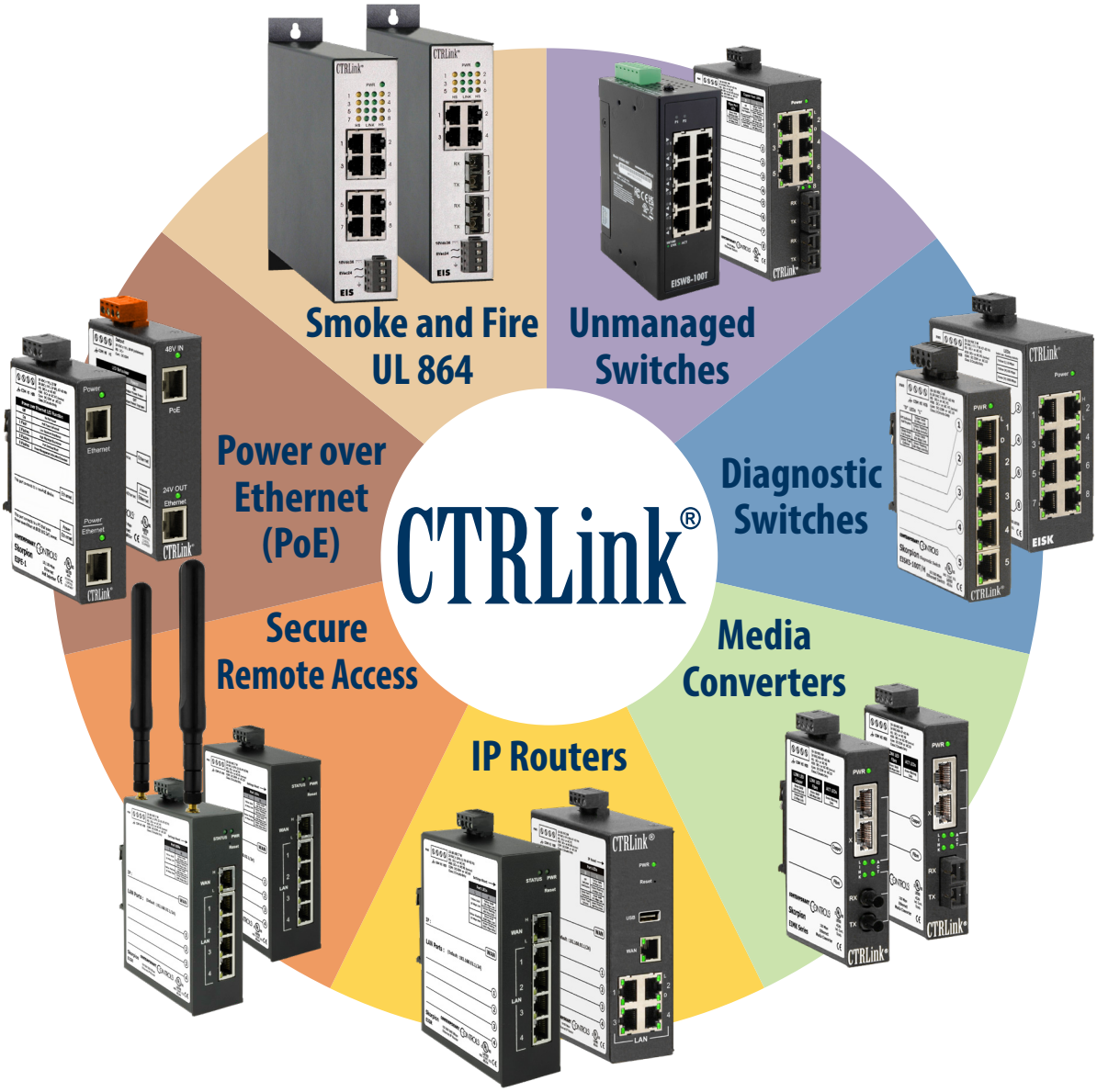
Networking for Automation

Switches • Media Converters • IP Routers

Remote Access • Power over Ethernet

50 years

CONTEMPORARY CONTROLS®



Since 1975, Contemporary Controls has been focused on innovative solutions for building and industrial automation. For simple systems, plug-and-play unmanaged switches provide a cost-effective method for expanding Ethernet networks. If no fiber optic ports are available on equipment to be connected, a media converter will do the trick.

For troubleshooting, the diagnostic switch allows a network sniffer to attach to an unused port on a switch and observe all traffic on the network.

While Ethernet switches can expand a single Ethernet network, IP routers connect two Internet Protocol (IP) networks together—passing appropriate traffic while blocking all other traffic. CTRLink provides several secure wired and wireless network solutions.

A virtual private network (VPN) provides secure access to remote job sites while giving systems integrators the flexibility to monitor and maintain systems from the convenience of their home or office.

Power over Ethernet (PoE) equipment adds power along with data in Ethernet wiring so devices such as surveillance and card access machines can be powered via standard Ethernet cabling.

With automation systems, applications vary and can require a special product or need. Contemporary Controls has worked with OEMs in obtaining UL 864 compliance with some CTRLink switches, and can help in other areas such as private-labeling, unique packaging or extreme environmental design.

Unmanaged Switches

Plug-and-play unmanaged switches can be put into service without adjustments and provide a simple, cost-effective method for expanding Ethernet networks. Most models include features such as auto-MDIX and auto-negotiation.

Diagnostic Switches

The diagnostic switch retains all the virtues of a switch with one exception—no address learning. All messages—directed, multicast, broadcast—are flooded to all ports on the switch allowing a protocol analyzer tool such as Wireshark® the ability to observe all traffic on the network.

Media Converters

Media converters offer the lowest latency because they are pure media converters and not 2-port switches. Conversion from copper to fiber optic cabling is possible without the loss of auto-negotiation features.

IP Routers

IP routers link two Internet Protocol networks together—passing appropriate traffic while blocking all other traffic. One of the networks is designated the local-area-network and the other the wide-area-network. IP routers are used to isolate traffic and for gaining access to remote equipment.

Secure Remote Access

Accessing machines at remote sites over the Internet can be a challenge because firewalls block messages that originate from the Internet. A virtual private network (VPN) makes secure remote communication over the Internet possible.

Power over Ethernet (PoE)

Power over Ethernet provides data and power over one cable, thereby eliminating the need for additional power supplies for Ethernet-enabled devices placed in challenging locations, such as wireless access points or IP cameras on a ceiling or outdoors.

Smoke and Fire UL 864

These products comply with the requirements of Underwriters Laboratories (UL) 864 Control Units and Accessories for Fire Alarm Systems 10th Edition. A UL recognized component has already been evaluated and tested in accordance with UL's component safety standards, streamlining the qualification process for the system supplier.

Unmanaged Switches for Simple Systems

For simple systems, plug-and-play unmanaged switches meet the need. These products operate "right out of the box" and can be put into service without any configuration.

Auto-negotiation, in which data rate (10/100/1000 Mbps) and duplex (half or full) are set between link partners without user intervention, is standard on copper ports. Auto-MDIX eliminates the need for a crossover cable when cascading switches. Models are available with either multimode (MM) or single-mode (SM) fiber optic ports to accommodate long distances through hostile environments. Fiber ports are fixed at 100Mbps data rate and use 100BASE-FX signaling at a wavelength of 1310nm.

Unmanaged switches provide a simple, cost-effective method of expanding Ethernet networks.

Unmanaged Switch Features

- 10BASE-T/100BASE-TX/100BASE-FX compliant
- 1000BASE-T GigE (GT models)
- Auto-MDIX on all copper ports
- Auto-negotiated data rate, duplex and flow control on twisted-pair
- DIN-rail mountable
- Compact size
- Full or half-duplex
- Activity/link and data rate LEDs
- Industrial environment EMC
- UL 508 Listed, c-UL Listed Industrial Control Equipment, CE Mark
- 10-36 VDC or 24 VAC (± 10%) 47-63 Hz power is provided through a quick disconnect terminal strip

Skorpion Switch Series — for cost-effective general purpose applications

For control panels where DIN-rail space is at a premium, the Skorpion unmanaged Ethernet switch series offers widths as little as one inch (26 mm). Operating temperature 0 to 60°C.

Copper Models	Description
EISK5-100T	Skorpion 5-Port 10/100Mbps Switch
EISK5-GT	Skorpion 5-Port GigE Switch
EISK8-100T	Skorpion 8-Port 10/100Mbps Switch
EISK8-GT	Skorpion 8-Port GigE Switch
EISK16-100T	Skorpion 16-Port 10/100Mbps Switch

EISK Series

Fiber Models	Description
EISK5-100T/FT	Skorpion 4-Port 10/100Mbps 1-Port MM ST-fiber Switch
EISK5-100T/FTS	Skorpion 4-Port 10/100Mbps 1-Port SM ST-fiber Switch
EISK5-100T/FC	Skorpion 4-Port 10/100Mbps 1-Port MM SC-fiber Switch
EISK5-100T/FCS	Skorpion 4-Port 10/100Mbps 1-Port SM SC-fiber Switch
EISK8-100T/FT	Skorpion 6-Port 10/100Mbps 2-Port MM ST-fiber Switch
EISK8-100T/FTS	Skorpion 6-Port 10/100Mbps 2-Port SM ST-fiber Switch
EISK8-100T/FC	Skorpion 6-Port 10/100Mbps 2-Port MM SC-fiber Switch
EISK8-100T/FCS	Skorpion 6-Port 10/100Mbps 2-Port SM SC-fiber Switch

EISW Switch Series — wide-temperature range and compact size

EISW Series

The EISW Ethernet switches provide the performance you need to expand Ethernet networks even in the most demanding environments. A wide operating temperature range of –40°C to +75°C makes them suitable for outdoor applications. The EISW Series provides 10/100 Mbps performance on all ports to accommodate a range of control devices and workstations commonly found in an automation project. These low-cost compact units utilize a rugged metal enclosure, with DIN-rail and wall mounting installation. The units are 12-48 VDC or 24 VAC powered. They are UL Listed and carry the UKCA and CE Mark.

Model	Description
EISW8-100T	8-Port 10/100Mbps Wide-Temp Ethernet Switch -40 to +75°C
EISW16-100T	16-Port 10/100Mbps Wide-Temp Ethernet Switch -40 to +75°C

BAS Switch Series — for shallow-depth cabinets and wiring systems

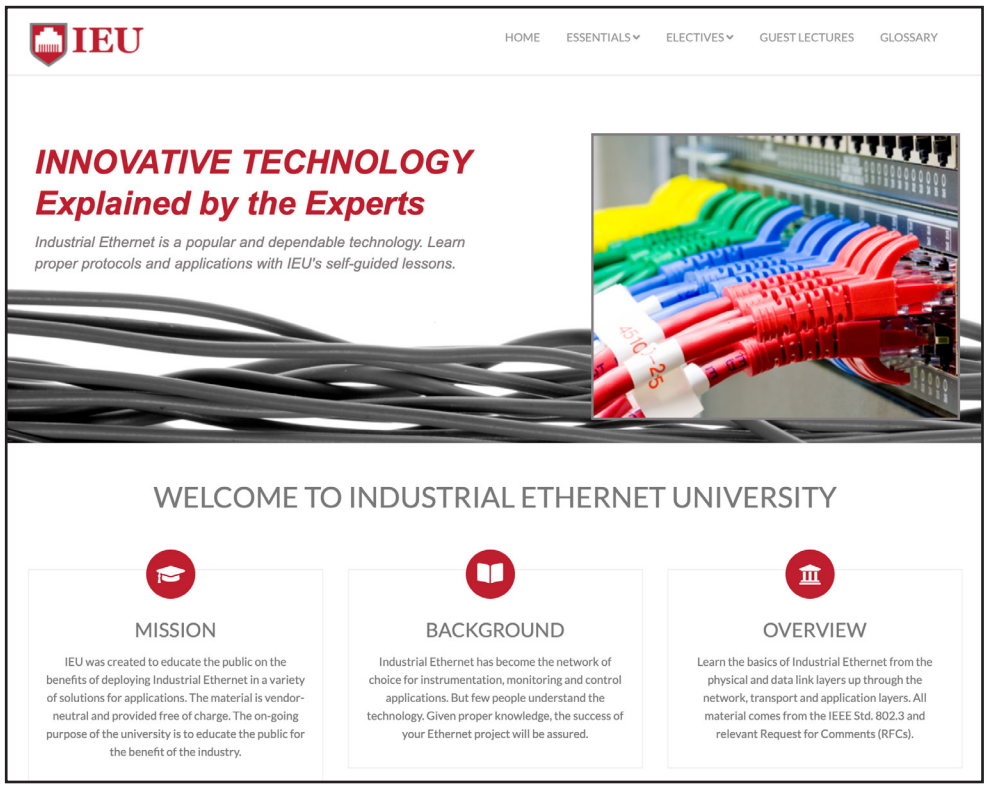
EIBA Series

Utilizing switching technology, the compact and low-cost EIBA switches provide five 10/100Mbps shielded RJ-45 ports. Each port is auto-MDIX compliant and can operate as an uplink port, eliminating the need for crossover cables. All ports automatically negotiate data rate, duplex and flow control. Panel or DIN-rail mount models available with operating temperature 0 to 60°C.

Model	Description
EIBA5-100T	5-Port 10/100Mbps Panel Mount BAS Switch
EIBA5-100T/R	5-Port 10/100Mbps DIN-rail Mount BAS Switch

Learn proper protocols and applications at the Industrial Ethernet University. www.ieu.cc

Industrial Ethernet has become the network of choice for instrumentation, monitoring and control applications. But few people understand the technology. The Industrial Ethernet University (www.ieu.cc) was created to educate the public on the benefits of deploying Industrial Ethernet in a variety of solutions for applications. The material is vendor-neutral and provided free of charge. The ongoing purpose of the university is to educate the public for the benefit of the industry. IEU will allow you to learn the basics of Industrial Ethernet from the physical and data link layers up through the network, transport and application layers. All material comes from the IEEE Std. 802.3 and relevant Request for Comments (RFCs).



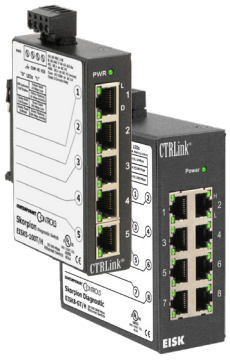
Diagnostic Switches for Network Troubleshooting

One benefit of switched Ethernet technology is that the switch restricts directed messages to only those ports party to the communication. This improves overall network throughput by not burdening end stations with useless traffic. However, this feature makes protocol debugging difficult because a sniffer (protocol analyzer) tool attached to an unused port on the switch cannot observe any directed messages of interest. In the past, the solution was to change out the switching hub with a repeating hub, but with the Skorpion Diagnostic Switch this is unnecessary.

The Skorpion Diagnostic Switch retains all the virtues of switched Ethernet technology such as variable data rates on individual segments, auto-negotiation, auto-MDIX but with one exception—no address learning. All messages—directed, multicast, and broadcast—are flooded to all ports on the switch allowing a sniffer or protocol analyzer tool such as Wireshark the ability to observe all traffic on the network. The Skorpion Diagnostic Switch can be permanently installed on an installation or replaced with a regular Skorpion switch once a system is commissioned. This device can also be useful when developing embedded Ethernet devices because you can connect the Skorpion Diagnostic Switch between two embedded Ethernet devices and view their messages using Wireshark.

- Plug-and-Play operation
- 10BASE-T/100BASE-TX /1000BASE-T
- Shielded RJ-45 connectors
- Auto-negotiation of speed and duplex
- Auto-MDIX supports cable inversion
- DIN-rail mounting
- Floods messages to all ports
- Rugged metal enclosure
- Diagnostic LEDs
- Enhanced EMC compliance
- UL 508 listed, c-UL listed, CE mark
- 24 VAC/VDC powered

Skorpion Diagnostic Switch Series — ideal for network troubleshooting



EISK Series

The Skorpion diagnostic switch is unique because it never learns MAC addresses and therefore floods traffic to all ports. This feature is ideal for network troubleshooting because all network traffic can be observed from any port using sniffer tools such as Wireshark.

The speed of the EISK5-GT/H Gigabit switch minimizes transfer time and greatly improves the ability to stream high-bandwidth files to connected devices without interference. Available as DIN-rail mounting. Operating temperature 0 to 60°C.

Model	Description
EISK5-100T/H	Skorpion 5-Port 10/100Mbps Diagnostic Switch
EISK5-GT/H	Skorpion 5-Port GigE Diagnostic Switch
EISK8-GT/H	Skorpion 8-Port GigE Diagnostic Switch

Media Converters to Simplify the Copper to Fiber Conversion

Ethernet fiber-optic communications provide many advantages over copper based Ethernet communications. These include immunity to noise and further distance capabilities. Systems that require fiber-optic communication can use switches that contain built-in fiber optic ports. However, if your switch does not have built-in fiber optic ports or does not have enough fiber-optic ports, then a media converter is needed to convert copper based communications to fiber-optic communications.

There are two basic types of media converters. A "True Media Converter" converts communications on a bit-by-bit basis. After one bit is received it is transmitted in the other format (copper or fiber-optic). A non-true media converter, or switched media converter, is simply an Ethernet switch that contains one RJ-45 port (copper port) and one fiber-optic port. This media converter will wait for an entire frame to be received before forwarding can begin. Beyond the increase in latency that results, there can be issues when using switched media converters in redundant systems such as IEEE 802.1D RSTP. The EIMK series are true media converters that can be used in RSTP systems, support Far-End Fault and have very low latency. The link loss on either the copper or fiber side is accurately passed to the other side, maintaining true link integrity.

- Plug-and-Play operation
- 100BASE-TX/100BASE-FX conversion
- Full-duplex operation
- MDI and MDIX ports
- Auto-negotiation
- Shielded RJ-45 and SC/ST-style fiber optic connectors
- 24 VAC/VDC powered
- Rugged metal enclosure
- Diagnostic LEDs
- Enhanced EMC compliance
- UL 508 listed, c-UL listed, CE mark

Skorpion Media Converters — for commercial and industrial Ethernet applications

EIMK Series

The EIMK Skorpion Media Converter series makes the conversion of an Ethernet copper segment to fiber simple. By operating full-duplex at 100 Mbps it provides the highest possible performance on 100 Mbps links. Models are available with either multimode (MM) or single-mode (SM) fiber optic ports to accommodate long distances through hostile environments. Fiber ports are fixed at 100Mbps data rate and use 100BASE-FX signaling at a wavelength of 1310nm. Fiber distances of up to 15 km are possible with the single-mode model and up to 2 km with the multimode models. On the copper side, both MDI and MDIX ports are available to complement either an end station port or a switch port. Available as DIN-rail mounting. Operating temperature 0 to 60°C.

Model	Description
EIMK-100T/FT	Skorpion 100BASE-TX/100BASE-FX MM ST-Fiber Media Converter
EIMK-100T/FC	Skorpion 100BASE-TX/100BASE-FX MM SC-Fiber Media Converter
EIMK-100T/FCS	Skorpion 100BASE-TX/100BASE-FX SM SC-Fiber Media Converter

Skorpion IP Routers for LAN-to-LAN or LAN-to-WAN Routing

While Ethernet switches expand a single Ethernet network, Skorpion IP routers connect two Internet Protocol (IP) networks together—passing appropriate traffic while blocking all other traffic using either a wired or wireless connection. Either Ethernet-to-Ethernet (LAN-LAN) or Ethernet-to-modem (LAN-WAN) routing is possible with external DSL or cable modems. CTRLink's routers provide either NAT or PAT and a host of features, including a stateful firewall which makes a WAN connection as secure as possible.

The Skorpion series of IP routers eases the integration of new machines into the existing network. Each machine consisting of multiple IP devices connects to the LAN side while keeping the same IP settings for the devices and the application, lowering installation cost and eliminating troubleshooting. The IP address for the WAN port on the IP router is the only setting that requires modification, allowing multiple machines to reuse the same configuration on the LAN side. VPN models of the routers can provide secure remote access with the use of the RemoteVPN service from Contemporary Controls.

- Configurable by web browser
- PAT, NAT, port and port range forwarding
- Stateful firewall
- DHCP client (WAN) and server (LAN)
- Rugged metal enclosure
- Diagnostic LEDs
- Enhanced EMC compliance
- UL 508 listed, c-UL, CE mark
- 24 VAC/VDC powered

Skorpion IP Routers — cost-effective wired routers

EIPR Series

The EIPR routers have a 10/100Mbps Ethernet WAN port and a built-in 4-port LAN switch. By installing the appropriate USB adapter, a Wi-Fi LAN connection can be made with either EIPR model, or in the case of a cellular adapter with EIPR-V, a WAN connection to a cellular provider can be made. The EIPR-V has a resident OpenVPN® client for accessing a virtual private network server—thereby creating a VPN tunnel with higher security. Available as DIN-rail mounting. Operating temperature 0 to 60°C.

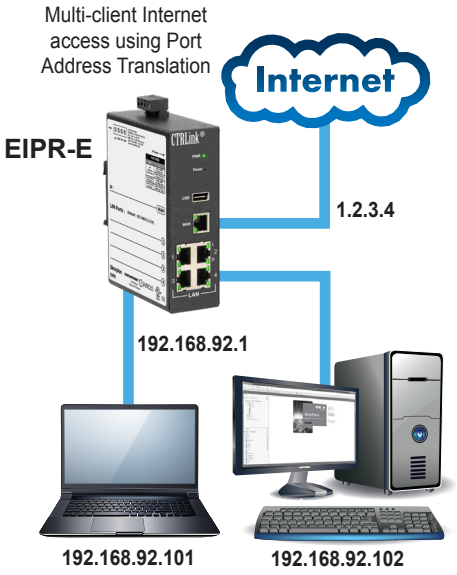
Model	Description
EIPR-E	Skorpion 10/100Mbps IP Router
EIPR-V	Skorpion 10/100Mbps IP Router with VPN

Skorpion GigE IP Routers — wired or wireless routers

EIGR Series

The EIGR series of IP routers add Gigabit ports for faster speeds and higher data throughput and additional built-in LTE cellular capabilities. The EIGR-E is a wired router while EIGR-V router adds OpenVPN server/client. The EIGR-C has a built-in cellular modem and supports OpenVPN client. –40 to +75°C operating temperature versions are available as EIGR-EX, EIGR-VX and EIGR-CX models.

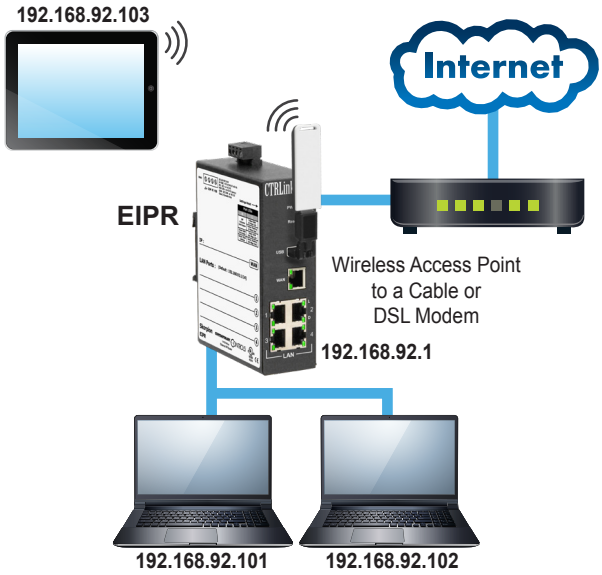
Model	Description
EIGR-E	Skorpion GigE IP Router 0 to 60°C
EIGR-EX	Skorpion GigE IP Router –40 to +75°C
EIGR-V	Skorpion GigE IP Router with VPN 0 to 60°C
EIGR-VX	Skorpion GigE IP Router with VPN –40 to +75°C
EIGR-VB	Skorpion GigE IP Router with Bridge VPN 0 to 60°C
EIGR-C1	Skorpion GigE IP Router with Cellular (AT&T) 0 to 60°C
EIGR-C1X	Skorpion GigE IP Router with Cellular (AT&T) –40 to +75°C
EIGR-C2	Skorpion GigE IP Router with Cellular (Europe) 0 to 60°C
EIGR-C2X	Skorpion GigE IP Router with Cellular (Europe) –40 to +75°C
EIGR-C3	Skorpion GigE IP Router with Cellular (Verizon) 0 to 60°C
EIGR-C3X	Skorpion GigE IP Router with Cellular (Verizon) –40 to +75°C



Multi-Access to the Internet with Port Address Translation

The EIPR links two Internet Protocol (IPv4) networks together, passing appropriate traffic while blocking all other traffic. One of the networks is designated the local-area-network (LAN) and the other the wide-area-network (WAN).

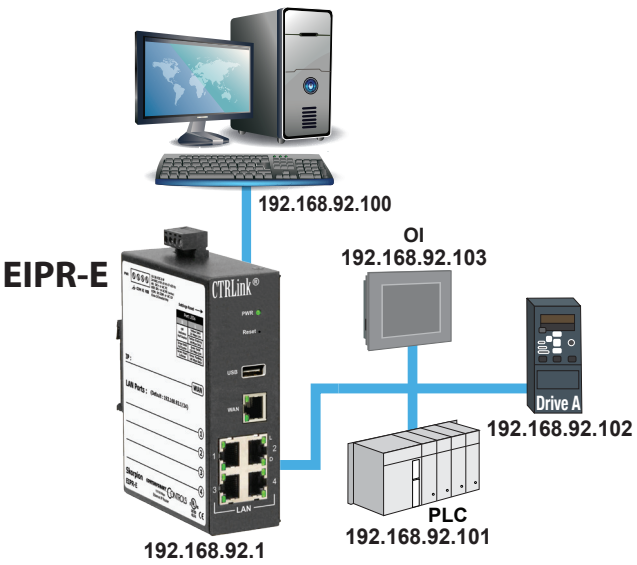
Because of the built-in stateful firewall, communication initiated on the LAN-side passes through the router while WAN-side initiated communication is blocked. With Port Address Translation (PAT), several clients on the LAN-side can gain access to the Internet.



Wireless Access Point

The EIPR incorporates a four-port 10/100 Mbps Ethernet switch and USB port for multiple LAN-side connections. Wi-Fi clients can be accommodated with the installation of a Wi-Fi adapter in the USB port. An external Ethernet-based modem, cable or DSL, attached to the 10/100 Mbps WAN-side port can be used to connect to the Internet. DSL modems connect via the PPPoE protocol.

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.



Easy Machine Integration

By using an EIPR/EIGR router, a machine builder can easily install the machine at his customer's site. The IP addresses used for the devices on the machine do not have to change per the site IP addressing scheme and this eliminates device and application reconfiguration and troubleshooting. The machine is installed with the same configuration that it was built and tested with. The router also separates the normal machine traffic from the site network. Configuration downloads to the machine are easily achieved by assigning the WAN port IP address to match the site network and using NAT and Port Forwarding features of the IP router to access the machine. The use of EIPR/EIGR also cuts down on the need for multiple IP addresses for each machine device by requiring just one IP address for the WAN port of the IP router instead.

VPN Options for Secure Remote Communication

A VPN can provide secure access to remote job sites while giving systems integrators the flexibility to monitor and maintain systems from the convenience of their home or office. Contemporary Controls offers three VPN solutions to meet your remote access needs—our **RemoteVPN subscription service**, and our **Self-HostedVPN** and **BridgeVPN solutions**.

Contemporary Controls' EIPR-V, EIGR-V series, and EIGR-C series Skorpion IP routers support OpenVPN® client functionality and can be used with our RemoteVPN subscription service. Our EIGR-V and EIGR-VB routers can be configured as VPN servers for our Self-HostedVPN and BridgeVPN solutions.

RemoteVPN for Simplified Secure Remote Communication

Contemporary Controls' RemoteVPN subscription service provides secure communication and the convenience of remote access without having to maintain the VPN server.

Utilizing the Internet for remote commissioning provides convenience while saving time and money. However, accessing equipment at remote sites can be difficult because firewalls block messages that originate from the Internet. Although it is possible to open ports in firewalls using port forwarding, IT professionals are often reluctant to compromise the security of their networks and usually decline this type of request. Without support from the IT department, the system integrator is usually left with very few options.

One solution is to incorporate a VPN. A simple VPN can exist between two end points, called clients. One client is you at your office, and the other client is the remote job site. Communication is encrypted, so only authorized devices can communicate over the VPN. Contemporary Controls RemoteVPN subscription service incorporates a cloud-based OpenVPN® server. OpenVPN is open-source and incorporates SSL/TLS security with encryption. Any IP program (TCP or UDP) can communicate via RemoteVPN. Once the VPN connection is established messages can originate from either side—eliminating the need for port-forwarding.

How It Works

The RemoteVPN server, hosted on the Internet and maintained by Contemporary Controls, allows OpenVPN client devices to communicate together. Communication initiated by OpenVPN clients pass through firewalls up to the RemoteVPN server which completes the client connections. All that is needed is an account on the server to utilize the RemoteVPN service. OpenVPN clients are easy to obtain and can be downloaded from OpenVPN.net, or via Google Play for Android devices, or via the Apple App Store for iOS devices.

RemoteVPN is an easy and cost-effective remote access solution that allows you to proactively review and communicate with job site automation systems, resulting in valuable time and money savings.

Simplified Remote Access Minimizes Site Visits

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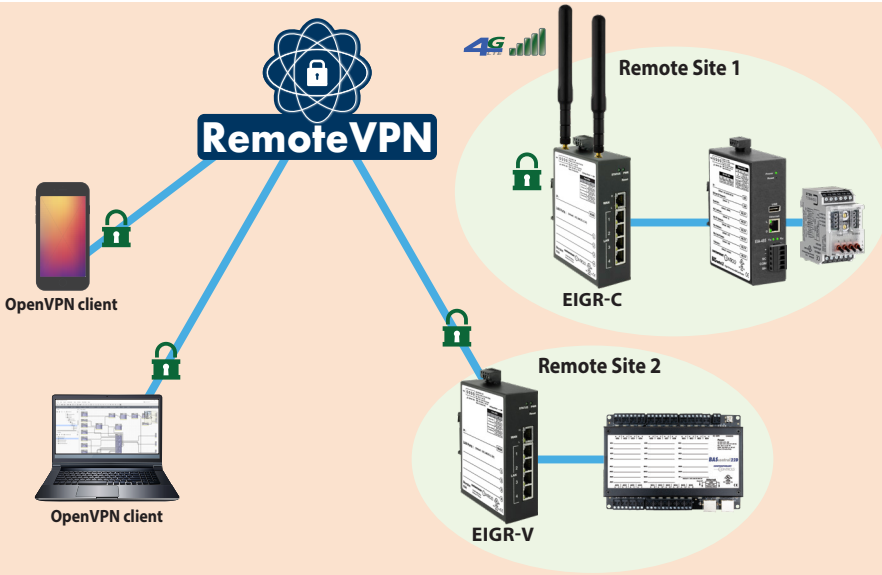
RemoteVPN Service

The RemoteVPN service provides remote access without concern for intervening firewalls. This cloud-based VPN server provides secure encrypted connections between VPN clients installed on the systems integrator's PC or mobile device and the other permanently installed on our VPN router located at the job sites. This approach provides the creation of two secure VPN tunnels with no concern for intervening firewalls. Connections can be wired or wireless. Multiple remote sites can be accessed simultaneously using the RemoteVPN service.

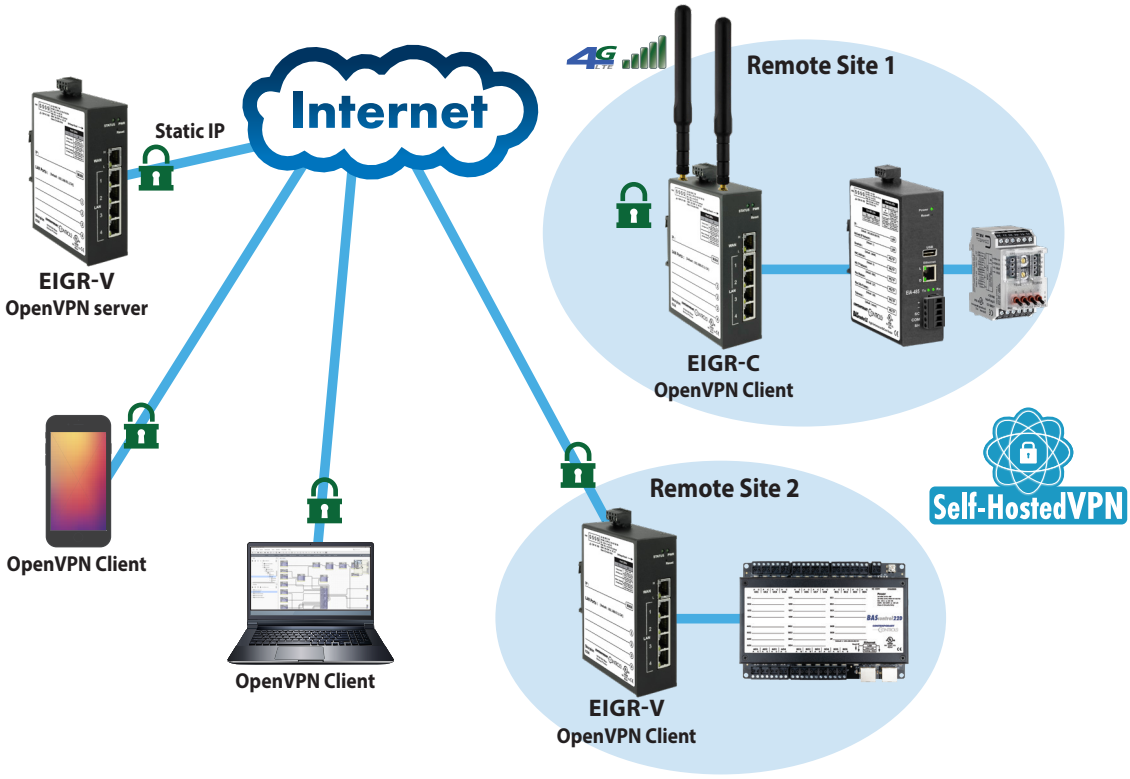


Host Your Own OpenVPN Server and Eliminate Subscription Fees

The RemoteVPN subscription service provides security and convenience. However, for network-savvy customers wishing to avoid subscription fees, the EIGR-V IP router can be configured to operate in OpenVPN server mode, thereby eliminating the cloud service and related fees. Setting up an OpenVPN server on your own is not trivial. It typically involves setting up a root certificate authority and generating certificates and keys for the OpenVPN server and for each client device that intends to connect to this server. However, the EIGR-V's built-in webpages facilitate the tasks without requiring downloaded software to generate certificates or keys. One EIGR-V set to OpenVPN server mode and assigned a fixed public IP address resides at the client site or any other convenient site and uses the Internet for communicating to OpenVPN clients without any cloud service involved.

With Self-HostedVPN, one EIGR-V in OpenVPN server mode can support up to 15 IP routers in OpenVPN client mode, allowing access to 15 remote sites via cellular (EIGR-C) or wired VPN routers (EIGR-V / EIPR-V). Additionally, 15 PC/tablet/ phone OpenVPN clients with access control permissions configurable via the EIGR-V's built-in webpage are supported. These PC clients can be located anywhere that has Internet connectivity. With this arrangement, PC/tablet/cell phone clients and client routers in remote locations can communicate securely using the services of this one EIGR-V OpenVPN server. There is no additional requirement to setup NAT or Port Forwarding on the client routers as they initiate outbound connections to the OpenVPN server. Furthermore, the OpenVPN client devices only require internet access—there is no requirement for a static public IP address. The only requirement for a public IP is for the OpenVPN server router. The OpenVPN server router itself can be connected behind an existing firewall/router with a public IP and have the OpenVPN port forwarded to it.

An additional benefit is that each PC/tablet/cell phone client can be configured to communicate with one or more router clients independent of each other. The EIGR-V provides the ideal solution for secure remote access across multiple locations without subscription fees or cloud service dependencies.



Host Your Own OpenVPN Server for Single-Site Access

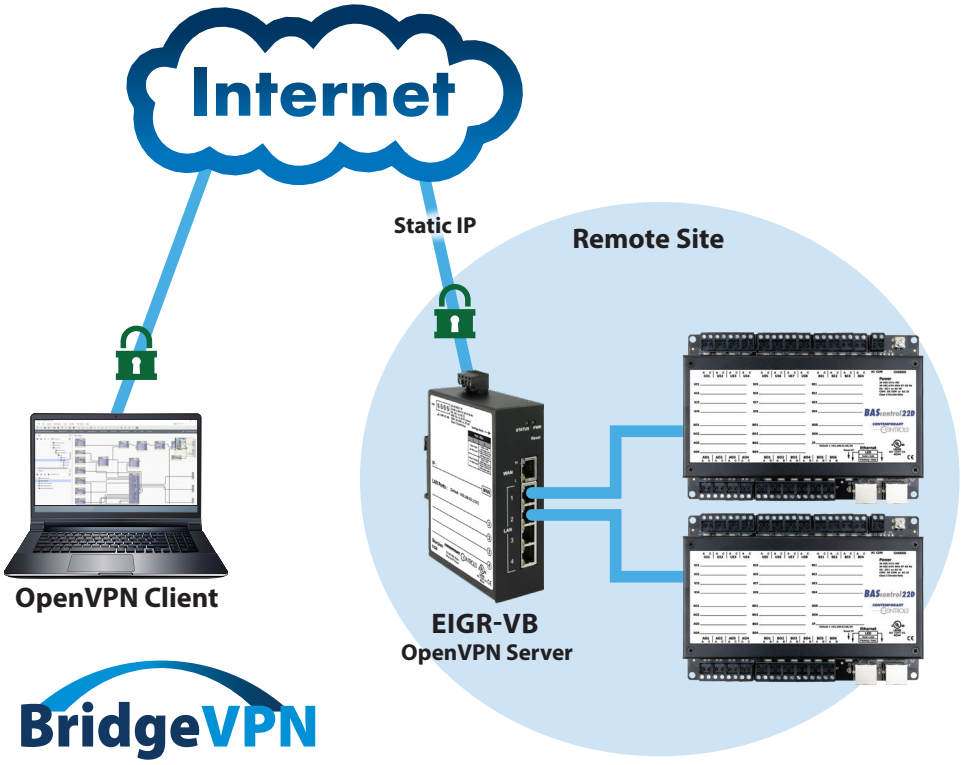
Utilizing the Internet for remote commissioning provides convenience while saving time and money. For single-site, remote access solutions, the the EIGR-VB wired router and EIGR-C cellular IP routers can be configured to operate in OpenVPN server mode as a bridge-mode VPN server. With this configuration, users set up and maintain their own secure remote access without subscription fees and without the need for a cloud-based VPN server.

This BridgeVPN solution can support up to 10 OpenVPN clients on Windows and Linux PCs. Note: Though OpenVPN client software is available from the Google Store for Android devices and App Store for iOS, it doesn't support TAP adapter required for bridge mode, and hence mobile clients are not supported.

These clients are bridged to the router's LAN-side and assigned an IP address from the LAN subnet.

This provides the same application experience as if the client devices were part of the IP router's LAN and allows passage of multicast and broadcast messages through the VPN tunnel without the need for a BACnet/IP Broadcast Management Device (BBMD). Although the EIGR 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 network. Static addressing is accommodated as well. Configuration is via a web browser using authentication.

The EIGR-VB and EIGR-C routers provide the ideal solution for secure, single-site, remote access without subscription fees or cloud service dependencies.



Skorpion PoE for powering a single PoE end device or for deriving power from PoE

Power over Ethernet (PoE) equipment adds power along with data to Ethernet wiring, so devices such as surveillance and card access machines can be powered via standard Ethernet cabling. Power Sourcing Equipment (PSE) such as the Skorpion PoE Injector and Skorpion PoE Gigabit Switch provide the required 48VDC power onto the Ethernet cable while the Skorpion PoE Splitter extracts power from the Ethernet cable to power non-PoE compliant Powered Devices (PD). All PoE models support the IEEE 802.3af standard.

- IEEE 802.3af compliant
- 10BASE-T/100BASE-TX
- DIN-rail mounting
- Rugged metal enclosure
- Diagnostic LEDs
- Enhanced EMC compliance
- UL 508 listed, c-UL, CE mark

Skorpion PoE Mid-Span Injector — powering a single device

EIPE Series

PoE applications require a 48 VDC power source, but most automation systems run from 24 VAC/VDC power. If only one Ethernet Powered Device (PD) needs power, the Skorpion PoE Injector can provide it. The EIPE-1 operates from 24 VAC/VDC and internally generates the 48 VDC PoE power for the Powered Device (PD)—eliminating grounded primary power concerns while providing isolated 15.4 W power output. It injects 48 VDC into the Ethernet cable to provide both power and data to the PD.

Model	Description
EIPE-1	Skorpion PoE Mid-Span Power Injector

Skorpion PoE Mid-Span Splitter — harvest power from your cable

EIPE Series

Under certain circumstances a non-PoE compliant device can work with the use of the EIPE-2 splitter. If the end device is 10/100 Mbps Ethernet-based but requires 24 VDC to operate, the splitter will accept the combined 48 VDC and data from a power sourcing equipment (PSE) and then internally generate 24 VDC to provide the non-PoE end device with separate data and power up to 10 W.

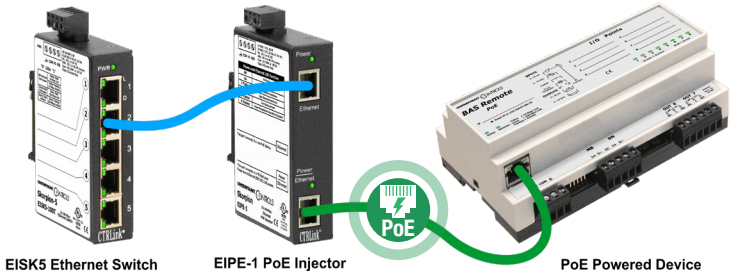
Model	Description
EIPE-2	Skorpion PoE Mid-Span Power Splitter

Skorpion PoE Gigabit Switch — high speed, compact size

EISK Series

The EISK8P-GT gigabit switch within the Skorpion Series is an 8-port unmanaged Ethernet switch with Gigabit Ethernet (GigE) performance on all ports and PoE on four ports, supplying 15.4 W per PoE port. GigE jumbo frames up to 9216 bytes are supported for maximum system performance. 10/100 Mbps legacy devices are supported via auto-negotiation—accommodating any Ethernet automation system. This low-cost compact unit has a rugged metal enclosure and is intended for DIN-rail mounting in control panels. The unit is powered from 48 VDC and operates over 0 to 60°C temperature range.

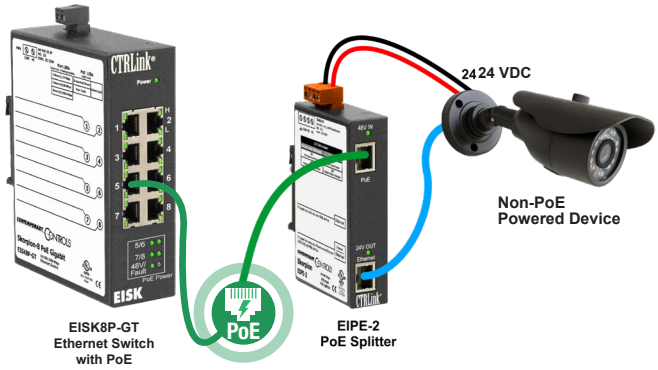
Model	Description
EISK8P-GT	Skorpion 8-Port GigE Switch w/4-PoE



PoE Mid-Span Injector

PoE requires a 48 VDC power source but most automation systems operate from 24 VAC/VDC power. If only one PoE device needs to be powered, an injector like the EIPE-1 can be used.

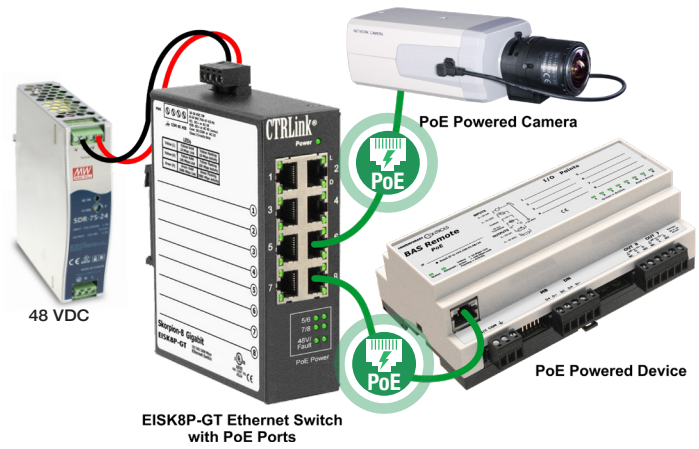
An injector is inserted mid-span between a standard Ethernet switch and Ethernet powered device (PD). Power to the injector can be either 24 VAC or VDC. The injector develops the required 48 VDC and injects the voltage into the Ethernet cable in order to provide power and data to the powered device.



PoE Mid-Span Splitter

Under certain circumstances a non-PoE compliant device can be made compliant with the use of the EIPE-2 splitter.

If the end device is 10/100 Mbps Ethernet-based but requires 24 VDC to operate the splitter will accept combined power and data connections from a PoE-compliant power sourcing equipment (PSE) and uses the 48 VDC to generate 24 VDC at 10W to power the end device while passing the data signals.



End-Point Power Sourcing Equipment

For multiple PoE port applications, an Ethernet switch equipped with PoE sourcing ports is required. An end-point PSE such as the EISK8P-GT can drive a PoE splitter or a PoE compliant powered device directly. Power for the PoE switch is derived from an isolated 48 VDC power supply. PoE applications typically involve surveillance and card access systems.

Switches for Life Safety

UL 864 10th edition fire-protective signalling systems

The EIS Ethernet Interconnect Switches from Contemporary Controls comply with the requirements of Underwriters Laboratories (UL) 864 Control Units and Accessories for Fire Alarm Systems 10th Edition.

The UL recognized component mark is rarely seen by the customer, but is often part of a larger system that is UL Listed by the fire alarm supplier. A UL recognized component has already been evaluated and tested in accordance with UL's component safety standards, streamlining the qualification process for the system supplier. By having the fire alarm system supplier specify a Contemporary Controls' EIS switch as a component, the supplier is not required to perform additional testing on the component. Several fire alarm and security firms have already specified the EIS series as part of their system, thereby improving their time-to-market.

Ethernet Interconnect Unmanaged Switch Series

EIS Series

The EIS line of unmanaged switches within the Ethernet Interconnect Series accommodates up to eight 10/100 Mbps twisted-pair ports. A mix of fiber optic and twisted-pair ports is available in six and eight-port models. The EIS complies with the requirements of Underwriters Laboratories (UL) 864 Control Units and Accessories for Fire Alarm Systems 10th Edition. Available panel or DIN-rail mounting. Operating temperature 0 to 60°C. Models are available with either multimode (MM) or single-mode (SM) fiber optic ports to accommodate long distances through hostile environments. Fiber ports are fixed at 100Mbps data rate and use 100BASE-FX signaling at a wavelength of 1310nm.

Model	Description
EIS8-100T	8-Port 10/100Mbps UL 864 EIS Switch
EIS6-100T/FT	4-Port 10/100Mbps 2-Port MM ST-fiber UL 864 EIS Switch
EIS6-100T/FC	4-Port 10/100Mbps 2-Port MM SC-fiber UL 864 EIS Switch
EIS6-100T/FCS	4-Port 10/100Mbps 2-Port SM SC-fiber UL 864 EIS Switch

Original Design Manufacturing

With 50 years of experience in electronics design, development and manufacturing, Contemporary Controls has a rich inventory of intellectual property that can be tapped for your next project. Leverage our design and manufacturing resources to reduce your costs and time-to-market.

Private Label Product

Apply your brand to one of our standard products—the quickest way to market.

Original Design Manufacturing

Using one of our standard products as a basis for design, hardware and software are modified to meet your requirements. Leverage our intellectual property to reduce design risk and speed time to market.

Design to Worldwide Standards

Two design centers—one in the United States and the other in the China—cooperate on product designs from concept to production. Capabilities include:

- Schematic capture and printed circuit board layout
- Firmware and programmable logic development
- Mechanical design
- Design for Test (DFT)
- Design for Manufacturing (DFM)
- Environmental testing
- Electromagnetic Compatibility (EMC)
- Safety and performance testing

We assist in obtaining regulatory approvals, including UL, CE and CCC markings.

Worldwide Electronics Manufacturing

Contemporary Controls offers lead-free surface-mount-technology (SMT) electronics manufacturing in the United States and China while complying with the requirements for the Restriction of Hazardous Substances (RoHS) European Union directive. Through-hole assembly and wave soldering are also supported. Contemporary Controls adhears to the workmanship standards established by IPC—Association Connecting Electronics Industries.

The Downers Grove, Illinois manufacturing plant focuses on lower-volume, higher-mix products or those products requiring Made-in-America compliance or a North American Free Trade Agreement (NAFTA) certificate.

For higher-volume, lower-mix, cost-sensitive requirements, our Suzhou, PRC plant offers the highest production capacity as well as global logistics support. This plant is ISO 9001:2015 registered. Both plants are under Underwriters Laboratories (UL) surveillance. Your intellectual property is protected at either plant location.

Quality Policy

Contemporary Controls develops, manufactures and markets innovative networking and control products to the benefit of our automation customers worldwide. We are committed to delivering products and services that meet customer requirements and strive to exceed their expectations through our continuous improvement efforts.

About CTRLink® Networking for Automation

Ethernet continues to evolve as the network of choice for automation systems due to its high speed, familiarity among users, and ability to easily connect to the Internet. But the environment can be demanding. The equipment must be robust, reliable, and easy to install, maintain and use. It must carry proper regulatory approvals and, in some instances, withstand harsh outdoor temperatures. Office-grade equipment, with its frequent model changes and inconvenient mounting, does not stand up to these demanding needs.

Designed for unattended operation in environments not conducive to office-grade equipment, CTRLink overcomes the challenges that Ethernet presents to the automation professional by providing convenient mounting in control panels, low-voltage power wiring, improved EMC compliance, and reliability. All CTRLink product enclosures are metal and intended for direct panel, rack or DIN-rail mounting. Metal DIN-rail clips prevent damage during installation. Most products can share with other automation equipment a common 24 VAC/VDC power source, eliminating the need for a dedicated mains-powered transformer. Most models have provisions for redundant power sources to accommodate back-up strategies in critical applications.

CTRLink products have been successfully used in diverse industries and hold up to stringent conditions.

- **Industrial Automation**
- **Building Automation**
- **Commercial Automation**
- **Communications and Networking**
- **Energy, Utilities and Transportation**
- **Embedded Networking**

CONTEMPORARY CONTROLS®

Contemporary Control Systems, Inc.
2431 Curtiss Street
Downers Grove, IL 60515
USA
+1 630 963 7070
info@ccontrols.com

Contemporary Controls Ltd
14 Bow Court
Fletchworth Gate
Coventry CV5 6SP
United Kingdom
+ 44 (0) 24 7641 3786
ccl.info@ccontrols.com

Contemporary Controls GmbH
Fuggerstraße 1 B
04158 Leipzig, Germany
+ 49 (0) 341 520359 0
ccg.info@ccontrols.com

Contemporary Controls (Suzhou) Co. Ltd
Room 603, Block A,
New Energy Technology Park,
No. 298 Mayun Road, Suzhou
New District 215000 China
+ 86 512 68095866
info@ccontrols.com.cn

www.ccontrols.com

