



Industrial Data Communication Products

What do Westermo Products do?

Westermo Industrial Data Communication products enable two electronically intelligent devices to communicate with one another. This could be an industrial processor that controls a production machine or an alarm system that alerts the home office of a fire at the job site. In short, wherever there is a need for

safe, reliable communication between electronically intelligent devices, Westermo has the products necessary to complete the job. Westermo manufactures a large selection of modems, interface components and all necessary accessories for direct-connect, phone line, fiber optic, or Ethernet applications.

What sets Westermo Products apart?

Westermo manufactures *industrial-grade data communication products* — products that withstand the abuse of harsh environments, temperature extremes, power surges and interference from electrical or magnetic fields.

What makes Westermo products more robust and reliable than office-grade equipment, or even industrial-grade equipment manufactured by other companies? There are two basic reasons: superior components and galvanic isolation.

Superior Components

All of the components that go into Westermo products have been selected for reliability and durability. Diodes, SIDACTors® or gas tubes prevent transients from entering the system; capacitors are chosen for their long life capabilities; and electrical contacts are made of gold because of its inherent resistance to corrosion. All Westermo products carry the distinguished CE Seal of Quality for *industrial*, not consumer, products.

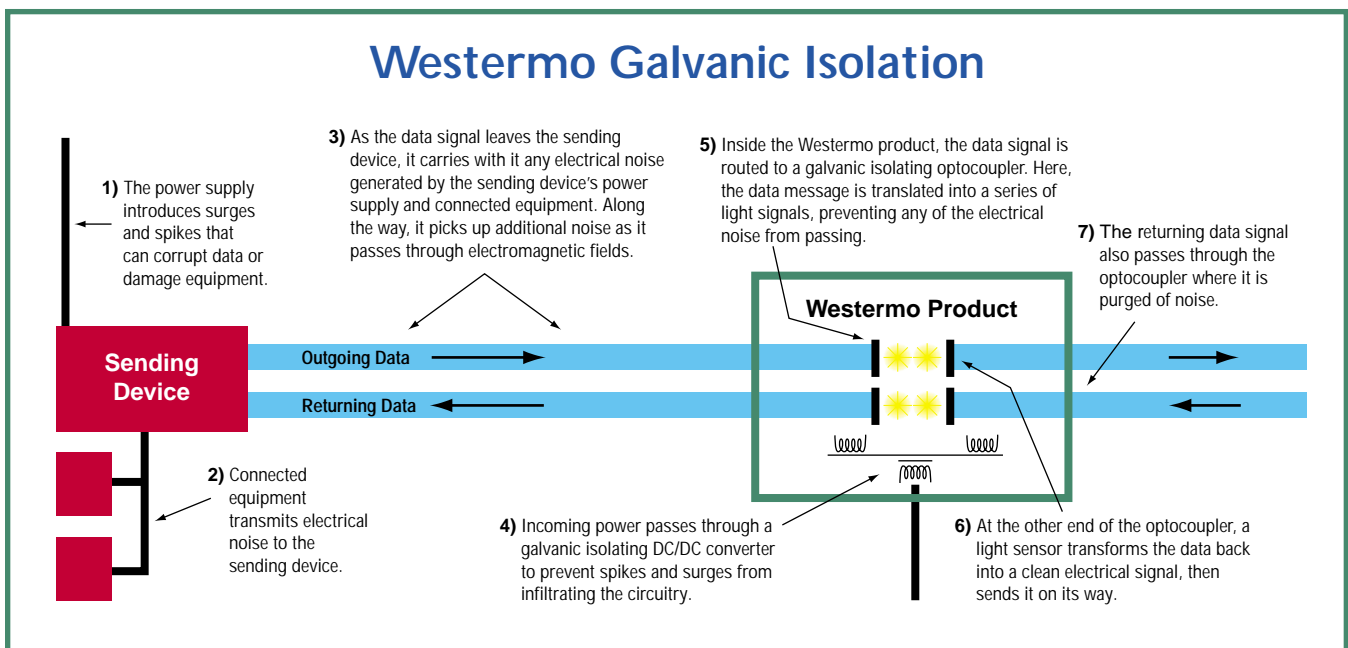
Galvanic Isolation

A galvanically isolated product incorporates a physical barrier that prevents the passage of damaging electromagnetic interference or power spikes.

As soon as a data signal leaves the originating electronic device and makes its way to the receiving device, it is under constant attack from outside electrical and magnetic influences. This electrical noise can disrupt the system in several ways:

- 1) Damaging power surges and spikes can enter through the power supply.
- 2) Differences in the ground potential can create noise that infiltrates the connected equipment.
- 3) Data input and output lines can pick up interference as they pass through electromagnetic fields.

Westermo uses galvanic isolating optocouplers and DC/DC transformers to protect your data from corruption and equipment from damage.



Westermo Industrial Phone Modems



TD-33 and TD-34 Industrial Phone Modems

Model TD-33 and TD-34 phone modems allow you to transmit your data over a standard phone line. A watchdog function monitors the power supply, internal hardware and software, and automatically resets the system if it detects an error.

TD-33/V.90

The TD-33 connects to a standard RS-232 cable and supports download transmission speeds of up to 56.5 Kbps. Galvanic isolation from the phone line assures data integrity and protects connected equipment.

TD-34

The TD-34 can connect to a standard RS-232 or RS-422/485 line and supports data transmission speeds of up to 33.6 Kbps. It has a wide temperature operating range of -40°F to $+158^{\circ}\text{F}$ (-40°C to $+70^{\circ}\text{C}$). Additional features include remote configuration with password protection and alarm listing. The TD-34 is available in two versions: the TD-34 LV for 12–27 VAC and 12–54 VDC applications, and the TD-34 HV for 95–240 VAC and 110–240 VDC applications.



Westermo Ethernet Products



ED-10 Ethernet Adapter

ED-10 Industrial Ethernet Adapters are used to connect RS-232 or RS-422/485 serial devices to an Ethernet network. They are available in two configurations: the ED-10 UDP for point-to-point or broadcast applications, and the ED-10 TCP, which enables communication using the TCP/IP protocol. Both models support data rates of up to 115.2 Kbps and come with a 10BaseT Ethernet connection and full galvanic isolation.



ED-20 Ethernet Router

Used in conjunction with a modem, the ED-20 Industrial Serial to Ethernet Router lets you access Ethernet-connected devices from a remote location. It supports data rates of up to 115.2 Kbps and features a 10Base-T Ethernet connection, RS-232 interface and full galvanic isolation.

Westermo Industrial Short Haul Modems



MD-12 Short Haul Modem

The MD-12 Short Haul Modem with RS-232 interface is used for transmitting data over a direct-connect line when the distance between devices is greater than 48 feet (15 m) but less than 11 miles (18 km). Galvanic isolation and premium quality components assure the integrity of your data and protect connected equipment from damaging power surges. Data transmission rates of up to 38.4 Kbps are possible for shorter distances. Longer distances result in slower transmission speeds.



LD-01 & LD-02 Multidrop Short Haul Modems

The LD-01 and LD-02 are similar in nature to the MD-12 with the added capability of supporting multidrop applications. Whereas the MD-12 lets two specific devices communicate with one another, the LD-01 and LD-02 enable one device to communicate with several devices. The LD-01 has an RS-232 interface, and the LD-02 has RS-232 and RS-422/485 interfaces.

Westermo Industrial Distance Modems



TD-23 Leased Line Modem

The TD-23, with RS-232 and RS-422/485 interfaces, transmits data up to 1200 bps over a dedicated, leased telephone line using the V.23 standard. Distances up to 17 miles (28 km) are accomplished through frequency shift keying technology (FSK), which enables transmission speeds to remain unaffected by distance. Galvanic isolation protects equipment and data from transients and interference.



TD-29 Multidrop Distance Modem

The TD-29 handles point-to-point or multidrop applications over a dedicated, 2-wire line. It has RS-232 and RS-422/485 interfaces and uses frequency shift keying technology to support transmission speeds up to 19.2 Kbps at distances to 7.5 miles (12 km). Galvanic isolation protects equipment from damage and assures the integrity of your data.

Westermo Fiber Optic Products



MD-62 and MD-63 Point-to-Point Converters

The MD-62 and MD-63 Point-to-Point Converters are used in fiber optic applications to connect two serial devices. Fiber optic cable is immune to external interference, making it a popular choice for harsh industrial environments. Galvanic isolation and premium quality components assure the integrity of your data and protect connected equipment from damaging power surges. The MD-62 comes with an RS-232 interface and the MD-63 comes with an RS-422/485 interface.



LD-63 and LD-64 Line Sharing Devices

The LD-63 and LD-64 are used to connect one device to two or more devices using a fiber optic cable. Both have RS-232 and RS-422/485 interfaces and can be optimized for Modbus, Allen-Bradley DH+/RIO, Profibus DP, Omron Controller Link and other equipment. Galvanic isolation assures data integrity and protects equipment. The LD-64 adds redundant ring capability to protect against line failure and an alarm function to pinpoint the problem.

Westermo Isolators, Converters, Repeaters, Switches



MD-52 Isolator

The MD-52 Isolator provides galvanic isolation between equipment with RS-232 interfaces.

MD-45 Converter

The MD-45 Converter isolates and lets you connect RS-232 equipment to RS-422/485 equipment. It can be used in point-to-point or multidrop applications and is compatible with equipment that does not generate handshaking signals.



RD-48 Repeater

In addition to isolation, the RD-48 Repeater serves two functions. It extends the effective distance of a data signal an extra 3,937 ft. (1,200 m), and it can be used as a converter between two and four-wire systems. Special versions are available for Modbus and Profibus applications.

LD-34 Switch

The LD-34 Switch has one input and four output channels that provide galvanic isolation and let you connect one piece of equipment to four different devices.

Westermo Profibus Converters and Adapters

FD-40 Serial-Profibus DP Converter

The FD-40 allows RS-232 and RS-485 devices to communicate with integrated Profibus DP systems. It is available for point-to-point and addressed applications.

FD-10 Profibus DP Adapter

The FD-10 transfers Profibus DP data via leased lines, phone modems or radio signals

without the use of special drivers or PLC cards. It is available in point-to-point, addressed or network configurations.

FD-80 TCP/IP-Profibus DP Adapter

The FD-80 connects different Profibus DP networks over an Ethernet system via TCP/IP protocol. It is available in two configurations: point-to-point and addressed.

Westermo Teleindustri



Founded in 1975, Westermo Teleindustri began as an ISO 9001 certified manufacturer of short-haul modems for industrial applications. By the year 2000, Westermo was the leading supplier of industrial data communication products in Europe, and had over a half million products handling critical applications in over fifty countries.

What accounted for this rapid growth? Uncompromising quality. Reliability is of utmost importance to a typical Westermo

customer. It can mean the difference between profitable production and costly downtime, or, even worse, safe and dangerous operation. That's why we feel it's important that all our products earn the distinguished CE marking *for industrial applications* before we offer them for sale. Reliability is also the reason why companies have come to trust Westermo with their most difficult applications. You'll find Westermo products at work deep in mine shafts, at offshore installations, in heavy industrial plants, hospitals, airports, military installations and many other demanding applications.

Wires, Cables and Connectors

A complete line of shielded 2- and 4-wire cables, Ethernet and fiber optic cables, con-

nectors, jacks and adapters are available that are fully compatible with Westermo products.

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