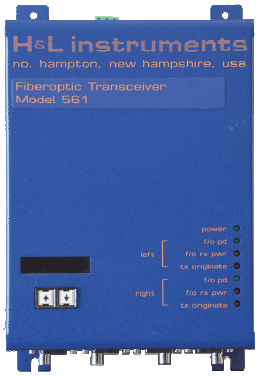
561 Fiberoptic Network Transceiver

The Fiberoptic Communications Specialists



If you want to increase the reliability and speed of your data communications system, then you need the Model 561 with up to 16 virtual channels to perform multi-drop, radial, or loop serial RS-232 and and optional RS-485 communications.

Model 561 Features

- Up to 16 virtual channels (A thru P)
- 4 , 8 or 16 serial ports
- Up to 250 transceivers arranged in a loop or radial bus topology (scalable)
- Highly reliable, fault-tolerant, redundant, self-healing loop technology
- Variety of plug-in optical modules for varying distances between stations (up to 53 miles)
- Vastly superior noise immunity and electrical isolation
- Supports all byte protocols (e.g. DNP, UCA)
- LED status indicators, nonvolatile memory, and built-in optical power meter
- 8 character alphanumeric LED display for diagnostics and port
- information
- Integrated FiberPanel Network Management Software
- Compatible with H&L Model 560/562 Fiberoptic Transceivers

Overview

The model 561fiberoptic transceiver is a field-tested member ot H&L Instruments fiberoptic network technology that includes FiberPanel™ a Windows®-based network management software application. You can network as many 561 transceivers as required to connect Remote Terminal Units (RTUs) or other Intelligent Electronic Devices (IEDs) to the SCADA masters at a Model 561 network controller. This fiberoptic network solution:

- Improves your ability to locate electric system faults
- Ensures worker safety
- Manages data in a single accessible system
- Monitors and control switchgear remotely
- Responds quickly to service outages and restores power

Flexible and Self-Healing

The Model 561 transceiver is used on a pair of multi-dropped fibers for all remote devices, such as RTUs, Programmable Logic Controllers (PLCs), IEDs, etc. You can arrange the transceivers in a loop or bus (radial) topology, which allows you the flexibility for greatly expanding your system in the future.

The Model 561, used as a master unit, is the head end for your SCADA masters. All signals pass through the controller, which can automatically "self-heal" the system and re-route data in the event of fiber breaks or a transceiver failure anywhere in the system. The arrangement of transceivers in a loop configuration provides a highly reliable, fault-tolerant solution. In small systems, you can provide a dedicated channel for each RTU.

Model 561 at Work

If an additional SCADA master is needed at another location, such as a water plant master, you can install serial port jumpers at the 561 electric network controller to bridge two virtual channels and remotely bridge the remote master on one virtual channel to another virtual channel and broadcast to all units.

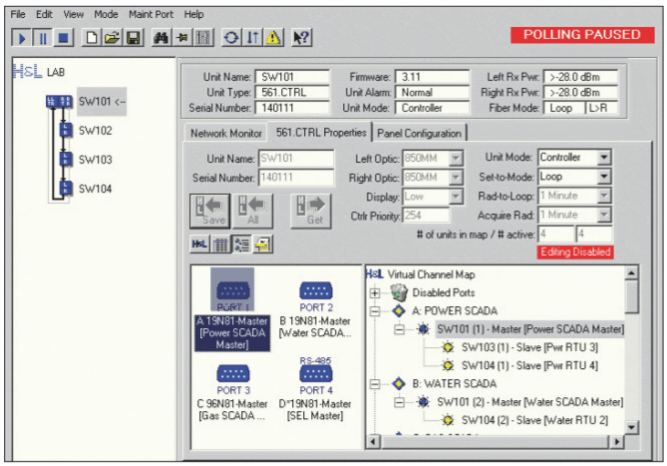
At any location on the network, you can place 561 transceivers as standby controllers connected to standby SCADA master computers. This allows the standby SCADA master to take over the network operation if the primary controller fails. You can add as many as 250 additional Model 561 transceivers to the system, and dependent on the model, you can connect up to 4, 8, or 16 RTUs or other IEDs to each transceiver (32 devices can be multi-dropped on the optional RS-485 port).

Model 561

Integrated Network Management Software

Your purchase of the 561 includes FiberPanel, which provides extensive network management, configuration, and diagnostic capabilities. Other fiberoptic solutions only allow you to catch problems after there is a serious break in the system. FiberPanel helps you proactively maintain your system and streamline your maintenance tasks.

FiberPanel is a Microsoft® Windows-based application that allows you to view the system at all times with graphical, easy-to-use windows to access real-time information about transceivers and network conditions. The software supports remote connections to the fiberoptic network via a standard modem. Additionally, through TCP/IP connectivity, you can monitor and configure the system over your Intranet or via the Internet. Up to four users can monitor an active session simultaneously.



A separate program, called SerialServer™, connects a serial port on the remote PC to a TCP/IP socket. You install this program on the PC that is physically connected to a 561 controller maintenance port. (A TCP/IP demonstration system is available at the H&L Instruments lab via the Internet.) A password provides additional security for TCP/IP connections. When you secure the SerialServer port with a password, any connection request to that port must "know" the password in order to connect.

After installing your H&L Instruments transceivers, you can use FiberPanel to view a System Map of your entire set-up. This Map represents the configuration and status of the fiberoptic network. The software also includes Unit Configuration tools to configure and monitor parameters within any unit, as well as Panel Configuration capabilities. The system records all network events in a log file and displays alarms.

If problems with the fibers occur, you can quickly identify and correct any issues. FiberPanel keeps you informed and eliminates the guesswork often found in fiberoptic network maintenance, which results in the saving of time and money. You no longer have to physically drive to individual units to record their status. From the convenience of your office, you can:

- Check fibers, locations, unit names, and serial numbers
- Assign unit names and location tags
- Configure your units
- Designate channels and decide channel speed
- Read optical signal strength
- Turn off serial ports and re-route signals
- Print reports on system activity, including diagnostic reports showing mis-wired fibers and malfunctioning units

Model 561 Specifications

Serial Port:
600, 1200, 2400, 4800, 9600, 19.2kb/s, 38.4kb/s full duplex
RS-232 ports, 4 DB-9Fports standard, 8 ports (option),
RS-485 opto-isolated (option)

Environmental/Mechanical:
Operating Temperature: -40°C to +85°C 5% to 95% RH
Net Weight: 3.25lbs 9"L X 6"W X 3.3"H

Fiberoptic Connector Options:
ST

Optical Output Power:
LED> -18dBm @ 850nm multimode (62/125 fiber)
LED> -24dBm @ 1310nm singlemode Laser> -8dBm @ 1310nm singlemode Serial 3 (option)

Optical Receiver Sensitivity:
> -38 dBm multimode > -42 dBm singlemode @ 1310nm [1 X 10-9 BER]

Optical Budget:
20dB multimode LED @ 850nm (62/125 fiber)
16 dB singlemode LED @ 1310nm
32 dB Laser @ 1310nm

Power Options (10.4 watts max):
12Vdc, 24Vdc, 48Vdc,
125Vdc/120Vac 50-60 Hz,
250Vdc/230Vac 50-60 Hz

Alarm Output:
1A (N.O.) opto-isolated solid state relay

FiberPanel System Requirements:
Microsoft® Windows 7/Vista/ XP/2000/NT

Related Products:
Model 561-16
16 RS-232 serial ports on 16 DB-9F connectors

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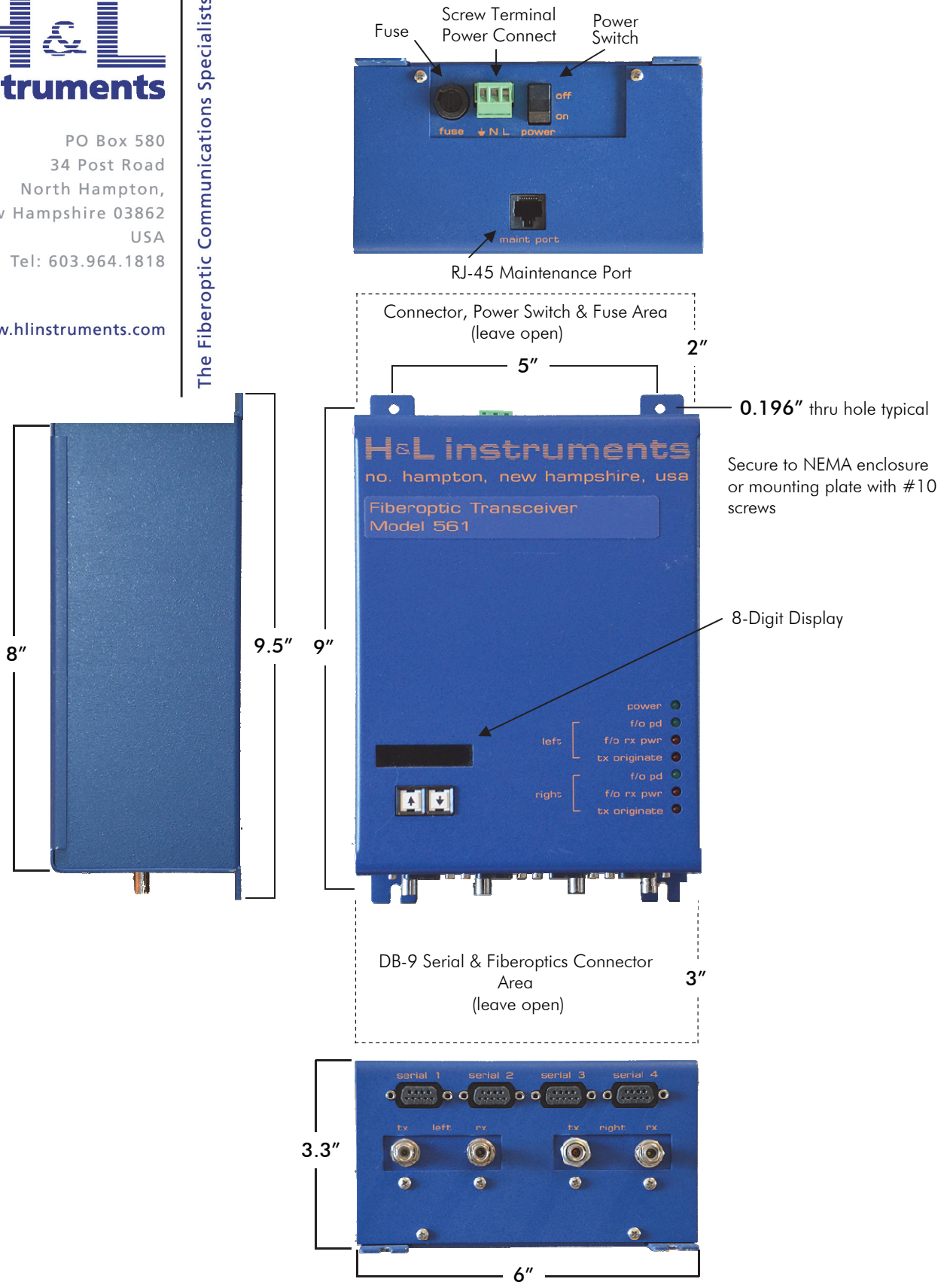

Model 561 Fiberoptic Transceiver Dimensions