H&L instruments

The Fiberoptic Communications Specialists

Fiberoptic Transceiver for IntelliTEAM II® Controller Installations

The H&L Instruments model 570 fiberoptic transceiver is the foundation for the most affordable, flexible and efficient communication system available today for distribution automation, secondary networks, substation networks, and protection relays.

Model 570 Features for IntelliTEAM® Controllers

- **SFP fiberoptic interface with dual LC connectors**
- **Up to 126 high-speed virtual channels**
- **8 EIA RS-232 compliant high-speed serial ports**
- **Transceiver and controller features available in a single, powerful unit**
- **Highly reliable, fault-tolerant, redundant, self-healing ring and radial network designs**
- **Vastly superior noise immunity and electrical isolation**
- **Supports all byte protocols (e.g. DNP, UCA)**
- **Point-to-Point communication**
- **LED status indicators, non-volatile flash memory, and optical power meter**
- **8-character alphanumeric LED display for diagnostics and port information**
- **FiberPanel™ Integrated Network Management Software**

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Designed specifically for the S&C 5804 Controller.

This "short case" version of our Model 570 transceiver was developed for the dimensional and power requirements of the S&C 5804 IntelliTEAM II® Controllers. The controllers run on 12V, so our new slim, high-efficiency 9-36V power supply has what it takes!

Overview of the Model 570

Fiberoptic networks based on the model 570 include the hardware and software you need to deliver the highest customer service and the most reliable communications. The Model 570 fiberoptic transceiver combines the capabilities of a transceiver and a controller in a single unit. This means you can perform SCADA master, slave, and point-to-point communication within the same transceiver, which makes it a highly flexible solution.

Multiple Network Channels

The Model 570 Transceiver offers up to 126 high-speed (57.6Kbps) independent virtual communication channels. You can assign a transceiver serial port to any virtual channel, which allows you to group Remote Terminal Units (RTUs) with common protocols, segregate applications, allocate network bandwidth, and connect backup master stations. The H&L Instruments fiberoptic network solution supports multiple RTUs, Intelligent Electronic Devices (IEDs), and Programmable Logic Controllers (PLCs). Both redundant ring and radial network designs can be implemented with a single product.

Self-healing

Model 570 transceivers automatically correct for network failures, rerouting SCADA information within 6ms, without interruption of communications. The self-healing network converts dynamically to a radial network if any single transceiver fails, not just when fibers are severed.

Protocol Transparent

The fiber network transparently carries all byte protocols, such as DNP, UCA, and MODBUS and can group RTUs with common protocols into common virtual communication channels without resorting to hard-coded serial port assignments.

Multiple SCADA Masters

The design of the 570 transceiver enables it to function as a SCADA master on some channels, while acting as a slave on other channels. An H&L fiber network can consist of many SCADA master stations at multiple locations. This type of configuration is optimum for numerous applications such as water, electric, and gas utilities on the same network.

Paired Point-to-Point

A model 570-based network can pair any transceiver port with another transceiver's port while continuing to use the remaining non-paired channels for conventional master/slave SCADA. The system accommodates up to 126 protective relay pairs, supports the use of SEL Mirrored Bits, includes an RS-485 interface, and supports RS-422 64K synchronous communications.

Model 570 and S&C IntelliTEAM II Version

Remote Monitoring with Network Software

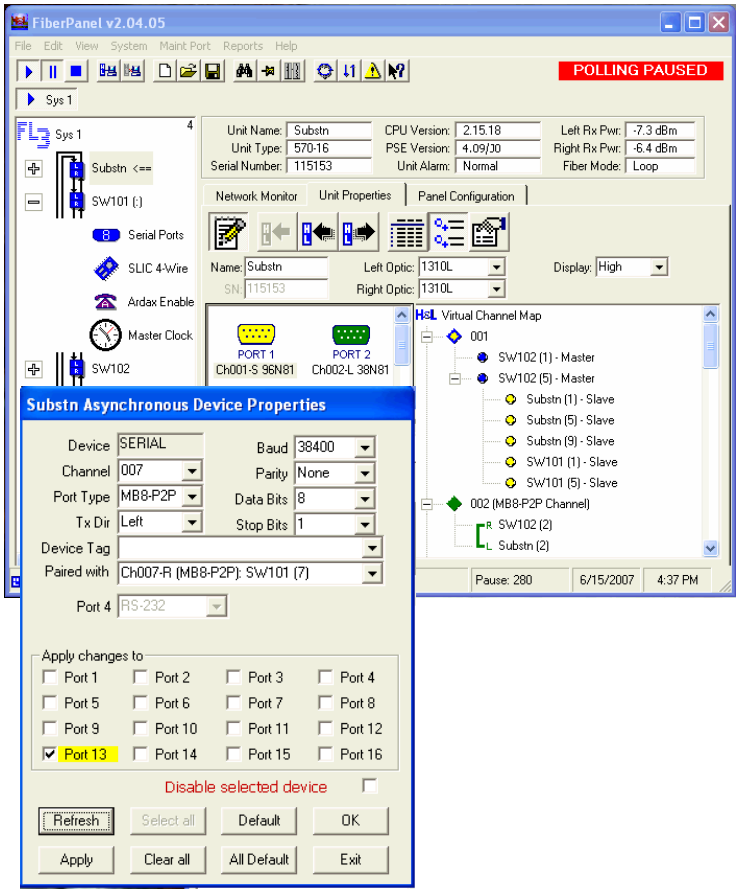
Differentiating itself from competitors, H&L also includes the FiberPanel™ Network Management Software with every system. FiberPanel™ is specifically designed to work with the Model 570 transceivers. You configure and view the system with easy-to-use graphical windows that provide access to real-time network information.

The software/PC connects directly to the transceiver and also supports remote connection to the fiberoptic network via a standard modem. Additionally, through TCP/IP connectivity, you can monitor and configure a an H&L system via your Intranet or the Internet. Up to four users can monitor an active session.

Other fiberoptic solutions only allow you to catch problems after there is a break in the system. FiberPanel™ continuously displays alarms and records a history of all network events in a log file. If fiber problems occur, you can quickly identify and correct the issues. This complete fiberoptic solution helps you proactively maintain control over your network and streamlines your maintenance tasks.

Using FiberPanel™, from the convenience of your desk, you can:

* View a System Map of your entire set-up.
* Check fibers, locations, unit names, and serial numbers.
* Assign unit names and location tags.
* Configure parameters for your units.
* Allocate channels and configure channel speed.
* Selectively turn on ports to communicate with remote devices, such as relay maintenance ports (which do not have SCADA addresses) to download event data or upload new settings.
* Measure optical power.
* Isolate faults, turn off serial ports, and re-route signals.
* Print reports on system activity, including diagnostic reports showing mis-wired fibers, telemetry of transceiver voltages and temperature, and identify malfunctioning units.



Model 570 IntelliTEAM® Specifications

Model 570-8:
8 RS-232 ports on 4 DB9F connectors
Maintenance PORT:
RS-232 via PC-AT DB-9F port
Virtual Channels:
Model 570s support 126 virtual channels. Any port can be assigned to any channel. Point-to-Point channels available.
RS-485:
Opto-isolated transient-protected port
Data Rates:
600, 1200, 2400, 4800, 9600, 19.2k, 38.4k, 57.6 kb/s
Power Options (8 watts max):
9-36Vdc and 18-75Vdc
Alarm Output:
Form 1A (N.O.) opto-isolated solid state relay
Push-to-Talk:
Form 1A (N.O.) opto-isolated solid-state relay; PTT contacts on pins 1 & 9 of DB-9 Serial 3 (option)
Fiberoptic Connectors:
Dual LC

Environmental/Mechanical Specs:
Operating Temperature: -40°C to +85°C
5% to 95% RH
Net Weight: 3.25lbs
9"L X 6"W X 2.3"H
Optical Output:
20 km transmission distance:
Laser -8 to -15 dBm @ 1310nm singlemode
Laser -8 to -15dBm @ 1550nm singlemode
80 km transmission distance:
Laser –5 to 0 dBm @ 1550nm singlemode
120 km transmission distance:
Laser –2 to +3 dBm @ 1550nm singlemode
Optical Receiver Sensitivity:
> -28dBm
Optical Budget:
20dB singlemode
FiberPanel Requirements :
Microsoft® Windows 10, Windows 7, Windows XP, Windows 2000, Windows NT4

Dimensions:
Depth: 2.3"
Width: 6.0"
Height :
8.0" (body)
9.5" (with mounting tabs)

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