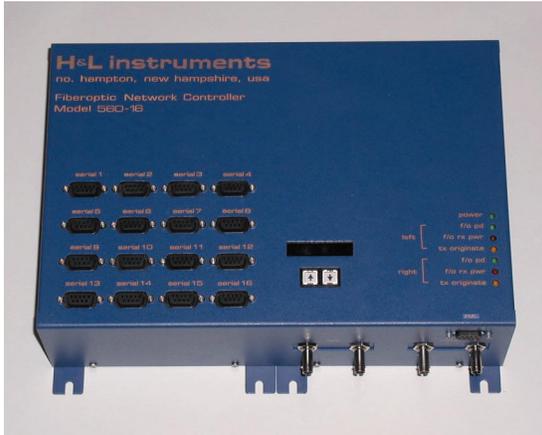


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H&L Instruments Add 12 More Channels to Fiber Loop II in Response to EPCOR's Underground Network System Demand



The Model 560-16 Fiber optic Network Controller is the last addition to H&L's Fiber Loop II System, a multi-drop, multi-channel, serial data communications system for SCADA. The system automatically re-routes data in the event of fiber cuts or transceiver failures. The Model 560-16 extends the Fiber Loop II system to up to 16 virtual channels at 19.2K baud, allows for much faster polling times and, in small systems, can provide a dedicated channel for each RTU or IED if needed. The 560-16 also provides extensive network management, configuration and diagnostics through its HLPanels3 software (free downloads to Fiber Loop II system owners for MS Windows 95/98/2000/NT).

The Model 560-16 uses the Fiber Loop II System optical module technology enabling distances of up to 53 miles between transceivers while maintaining vast noise immunity and electrical isolation. All Fiber Loop II System components are Industrial Rated for environments of -40°C to +85°C.

"The need for additional channels arose when we were contacted by EPCOR Distribution, Inc. (Edmonton's Power Distribution Company)," said H&L's president and chief engineer, Bob Landman.

Located in Edmonton, Alberta, Canada, EPCOR has an underground network system that comprises some 190 network transformers (some 347/600 V, others 120/208 V) distributed among approximately 90 below-grade vaults. "They were upgrading an older mechanical relay-based network system to a modern solid-state relay system with two-way communications to avoid the excessive costs of a manual maintenance inspection system," he continued. "Constant, instantaneous, reliable two-way communications can help avoid general network outages by remote switching and increase safety by avoiding exposure to hazardous working conditions when inspecting the network, making it possible and practical to turn off part of the network system to avoid working in manholes and vaults with faults in progress.



"Fortunately, a few years before, EPCOR engineers had heard of H&L Instruments' Fiber Loop II system. It seemed like a good fit: field-proven, redundant-loop architecture, not too complicated, not too expensive. It appeared to fit the needs perfectly, allowing the implementation of an optical backbone with communication nodes along the backbone collecting data from nearby Cutler-Hammer MPCV relays via inexpensive RS-485 opto-isolated copper cables. EPCOR engineers completed a successful proof-of-concept bench test at the company with several C-H MPCV relays, an H&L Model 560 Fiber optic Network Controller (master unit) and an H&L Model 562 Fiber optic Transceiver (field device)."

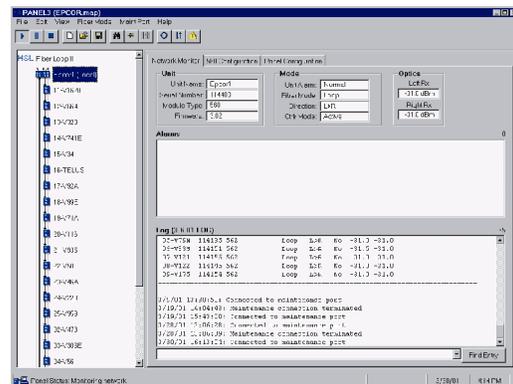


To maximize system performance, EPCOR needed more than H&L's standard virtual four channel system. Initially, consideration was given to breaking the system into two parts as this would reduce the number of devices. However, this would require an additional H&L 560 master unit and the use of additional precious fiber strands (due to the way the optical network is laid out). H&L proposed the possibility of an engineering effort to expand the channel capacity of the H&L Fiber Loop II system and to develop a master unit with 16 serial ports.

With the newly developed H&L Model 560-16 master units, EPCOR was able to allocate six channels (9600 bps per channel) for the Rossdale

Substation half of the network, another six channels for the Victoria Substation half and still have four channels which are available future requirements.

Recently, an unanticipated requirement for an additional communication channel came to light: A developer wished to incorporate a generator and become an IPP as well as a property owner. This necessitated data links to EPCOR's control center and to the Provincial ISO. The property is in the downtown and very proximal to one of EPCOR's new H&L 562 field units. A secure, reliable communication channel is now readily available.



Founded in 1979, H&L Instruments is a supplier of fiberoptic transceivers and control units specifically designed for the harsh environmental requirements of the electric utility industry. Its products are in use in a variety of distribution automation applications throughout the world.

Contact H&L Instruments at www.hlinstruments.com

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