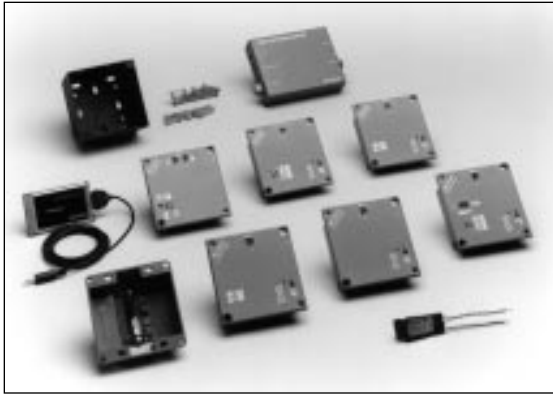


Overview



LonPoint System

The LonPoint System is a family of products designed to integrate new and legacy sensors and actuators, as well as LONMARK devices, into cost-effective, interoperable, control systems for building and industrial applications. In contrast to traditional control networks, which use an hierarchical architecture based on costly, proprietary controllers, the LonPoint System offers a flat system architecture in which every point performs some control processing. Distributing the processing throughout the network lowers the overall installation and life cycle costs, increases reliability by minimizing single points of failure, and provides the flexibility to adapt the system to a wide variety of applications.

Control systems, traditionally, have used hierarchical architectures based on proprietary controllers. This approach to control system design is expensive, complex, and locks the customer into a closed, non-interoperable architecture. Ultimately, the high costs of this design approach limits the market for control systems.

Overcoming the limits of traditional, closed, hierarchical systems is best accomplished with a flat, fully distributed control architecture. Such a system must: (a) interface with a broad range of sensors and actuators, (b) incorporate application programs that blur the distinction between legacy sensors/actuators and intelligent, networked devices, (c) include a design and installation tool that can seamlessly interconnect everything in the control network, and (d) incorporate software that simplifies hardware configuration and reduces commissioning time. Satisfying these diverse requirements requires a systems approach to the architecture, hardware, and software; it cannot be accomplished easily with a piecemeal collection of devices and components.

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- ▼ Seamlessly integrates sensors, actuators, and LONMARK® devices into a low cost, distributed, interoperable control system
 - ▼ LNS-based LonMaker® for Windows® Integration Tool provides a graphical design, commissioning, and maintenance environment
 - ▼ LonPoint Interface and Router and Scheduler Modules interface with sensors and actuators, manage and log system operation, and handle network traffic
 - ▼ SLTA-10 Adapter provides remote access and reporting; PCC-10 PC Card and PCLTA-10 ISA card simplify installation
 - ▼ U.L. Listed, CE Mark, FCC
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The LonPoint System is the result of just such a systems approach, providing at once the low cost of a flat system architecture, the multi-user capabilities of the LNS Network Operating System, the distributed processing capabilities of the Neuron® Chip and LonTalk® protocol, and the wiring flexibility of free topology communications. The system consists of the LNS-based LonMaker for Windows Integration Tool, the LonPoint Software Plug-In, LonPoint Application Programs, and LonPoint Interface, Router, and Scheduler Modules.

The LonMaker tool is an LNS-based network design and installation tool with a Visio® user interface and support for both LonPoint modules and third-party LONMARK devices. The Visio user-interface provides a familiar, CAD-like design environment from which a control system can be designed. Network design and installation consists of interconnecting function blocks (LONMARK objects) within LonPoint modules and third-party devices, using their application resources to create a distributed control system. The LonMaker tool can be used to design, configure, and commission a distributed control network, yet is economical enough to be left behind as a maintenance tool. The LonPoint Plug-In is provided with the tool to simplify the configuration of LonPoint devices.

Resident within each LonPoint module is a powerful, configurable application program. The program includes a variety of function blocks (i.e., PID, analog actuator, digital sensor, type translators) that are configured by the LonMaker tool. Linking together the software function blocks of the LonPoint modules with the resources of third party LONMARK devices creates a distributed control system that offers greater functionality, higher reliability,

and lower cost than a traditional controller-based system. The LonPoint System may be operated as a self-contained control system, integrated with other LONMARK or LONWORKS® devices, or combined with remote systems and a remote supervisory station to form a wide area control system.

The LonPoint Interface, Scheduler, and Router Modules provide I/O processing, application resources, time-keeping, and routing for a LonPoint System. The interface modules seamlessly integrate sensors, actuators, and controllers into peer-to-peer, interoperable networks. There are four different interface modules: DI-10 Digital Input Module (4 digital inputs with a status LED per input), DO-10 Digital Output Module (4 digital outputs each with a separate hand/off/auto switch and status LED), AI-10 Analog Input Module (2 independent 16-bit analog inputs), and AO-10 Analog Output Module (2 independent 12-bit analog outputs with PID).

The SCH-10 Scheduler Module provides time, date, and system state to other modules on the network. The SCH-10 module includes a flexible state machine for implementing a sequence of operations within a system or subsystem.

The LPR Router Modules can be used to manage network traffic, increase the total number of LONWORKS devices, extend the size of the network, as well as create bridges to other channels containing third-party devices. LPR Routers are available in any combination of TP/FT-10, TP/XF-78, and TP/XF-1250 channels.

Many innovative labor saving features have been built into the LonPoint modules to minimize installation time:

- ▼ Two-piece design allows pre-wiring and cable testing by an electrician prior to installing the electronics. Technician time can be reserved for tasks such as node configuration.
- ▼ Color-coded screw terminals and polarity-insensitive power and network connections minimize the chance of miswiring.
- ▼ Modules operate from 16-30VAC or VDC, allowing them to be powered from the same sources as the sensors and actuators.
- ▼ Power and network wiring are “looped” through each base plate, providing continuity in case of module replacement without network disruption.
- ▼ Modules can be hot-plugged, minimizing service time.
- ▼ Front panel jack that accesses the twisted pair network without any disassembly, saving time when the network must be accessed for configuration or maintenance.
- ▼ Front panel bar code with the model, revision, and two removable Neuron Chip ID stickers. When placed on the building or system design plans, these stickers save installation time, especially for inaccessible nodes.

When used in the context of a complete LonPoint System, the LonPoint modules provide tremendous flexibility and lower overall equipment, installation, and life-cycle costs. The modules simplify programming by using a CAD-like design environment, minimize cabling requirements by using free topology transceivers, and reduce the need for on-site calls by offering over-the-network downloading. The LonPoint modules support a flat architecture that is at once LONMARK interoperable, lower cost to install and maintain, and flexible enough for future adds, moves, and changes.

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