



Stanilite
nexusLX[®]
Evacuation Lighting Management System

Thomas & Betts

ARE YOU PREPARED FOR AN EMERGENCY?

In the interest of public safety, the Australian Standard AS/NZS 2293.2 outlines the obligations of building owners/managers, in relation to Exit signs and Emergency Lighting, to ensure the safe evacuation of occupants in an emergency. It is the responsibility of a building owner/manager to:

- Check all emergency lighting units, and conduct a discharge test every 6 months
- Clean light emitting and reflecting surfaces of all fittings every 12 months
- Keep a log book of maintenance information

Complying with these requirements can be very expensive and labour intensive, especially in larger buildings where testing requires many labour hours spent manually inspecting every emergency light. In addition, the disruption of the power supply during inspection can put public safety at risk.

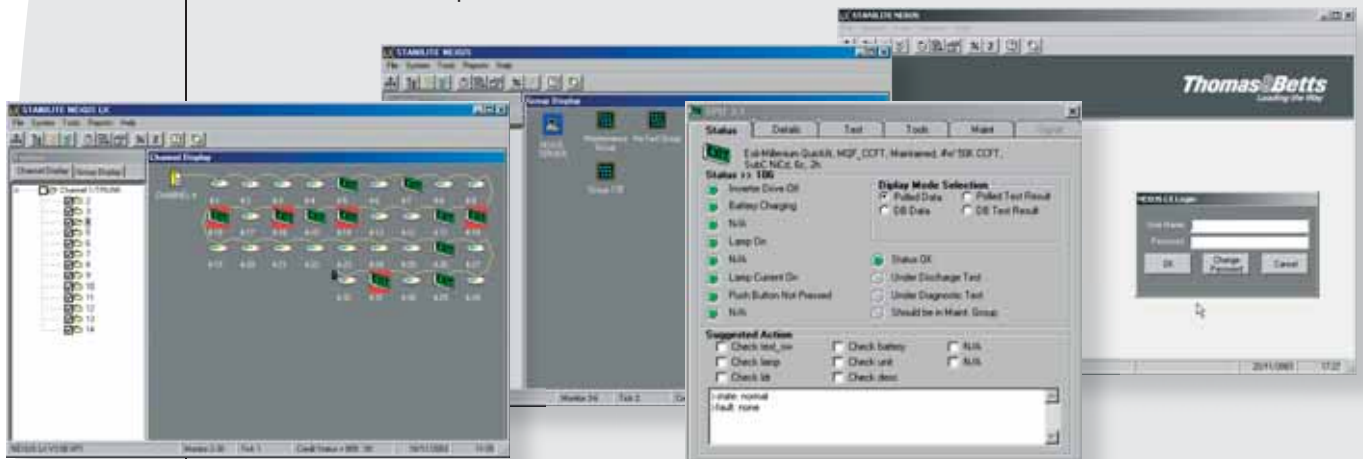


COMPONENT		ICON COLOUR	MEANING
SPU		NO CHANGE	STATUS OK
		RED BACKGROUND	UNIT FAULTY
		RED DOT	UNIT UNDER TEST
		GREYED OUT	UNIT NOT COMMUNICATING
		LAMP GREYED OUT	MAINS POWER LAMP OUT
ROUTER / REPEATER		GENERIC DECOMMISSION SYMBOL	SPU DECOMMISSIONED
		NO CHANGE	STATUS OK
		GENERIC DECOMMISSION SYMBOL	ROUTER DECOMMISSIONED
GROUP		NO CHANGE	STATUS OK
		RED 'TEST'	GROUP, OR UNIT IN GROUP, UNDER TEST

WHAT NEXUS LX® CAN DO FOR YOU

Nexus LX®, is a real-time emergency lighting monitoring and control system which offers building owners/managers control over their public safety obligations, and helps manage installation and the maintenance of an emergency lighting system. A Nexus LX network enables the user to:

- Manage the installation and removal of components
- Cost effectively test and monitor the system
- Assign fittings to groups. Fittings are collected in groups so that they can be tested together in a logical manner eg. – groups could represent different floors or departments
- Manage maintenance activities. Any fitting that fails a test or exhibits a fault will be automatically added to the Maintenance Group ensuring easy identification of the fittings requiring maintenance. The fittings are automatically removed from the Maintenance Group once they have been repaired and re-tested



- Ensure tests are performed properly
- Prepare reports. Testing and maintenance functions can be documented using the Nexus LX reporting functions. You can record all maintenance operations to satisfy requirements of AS/NZS 2293.2, and plan future maintenance budgets through the use of an online log book
- Log test results and print them as required.

Nexus LX has been designed to enable maintenance personnel to easily maintain the emergency lighting system without having to walk through the building or disrupt the power supply. Nexus LX can test and report on the status of all emergency lights either individually, in groups or all together.

WHY CHOOSE NEXUS LX?[®]

There are many advantages of the Nexus LX[®] system which can result in saving valuable time, money and resources.

Labour Saving

To ensure compliance with AS/NZS 2293.2, testing of a building requires many hours of labour for qualified staff to manually inspect and test every emergency light fitting and record the results in a log book. Manual testing is therefore very difficult and expensive to do on a large scale.

Nexus LX enables the user to remotely activate light fittings and retrieve status information. The fittings will automatically send their status to the server in real-time ensuring the server always has an accurate record of the fittings status. This information is then automatically stored in an electronic log book. Maintenance personnel need only attend to fittings that require maintenance.

Maximise System Availability

Nexus LX can test and report on the status of an entire emergency lighting system within a building either individually, in groups or all together. By selectively alternating the grouping of the emergency light fittings, the installation can be tested in stages so that not all of the emergency lighting of the building is in 'recovery mode' after a discharge test.

Self Monitoring

Nexus LX is self-monitoring and in the event of cable damage, can indicate the location of the fault down to the particular branch, which could potentially save hours of manual fault finding. Faults are detected in real-time and reported instantly so there is no need for users to initiate a search for potential faults.

Extended Functionality (Optional)

A General Purpose Node (GPN) provides a means to add a variety of monitoring control and alarm functions to a Nexus LX system.

The ability to consolidate various management systems onto one network not only provides installation economies but can also provide new 'networked' functionality opportunities.

The GPN can be configured to perform a number of standard functions:

- Lamp and Area Light level monitoring/alarms
- Uninterruptible Power Supply (UPS) interface
- Building Management System (BMS) interface
- Mains monitoring
- External alarm interfacing.

GPN's are installed anywhere on a Nexus LX network and managed with full onsite configuration facilities that come standard with Nexus LX.

A combination of up to four modules can be installed into each GPN. This will enable various different features to be installed at the same time. Modules:

- 4 Channel Analogue Input Module
- 4 Channel Optically Isolated Digital Input Module
- RS-485 Serial Data IO Module
- 4 Channel relay output Module.



Independent System

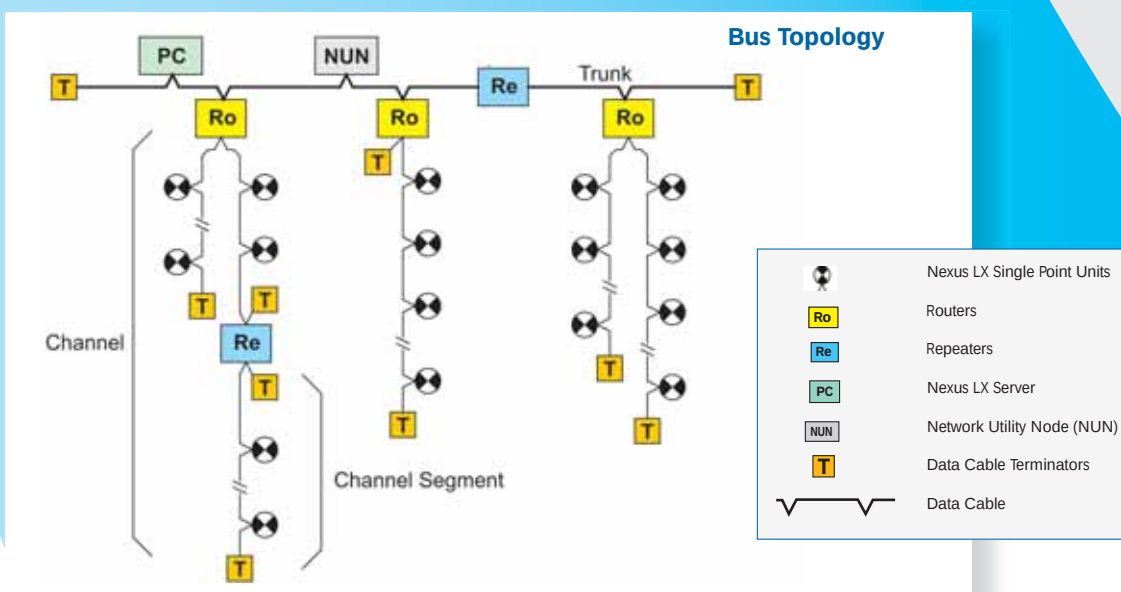
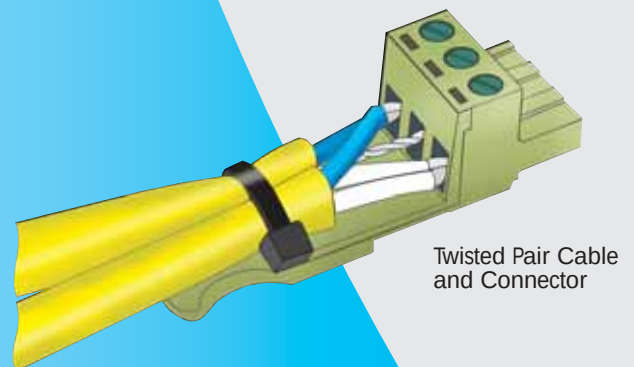
The operation of emergency lighting is not impeded by, nor dependant upon Nexus LX®, which is simply used to monitor and remotely test the light fittings without the need to visually and individually sight them for testing. A Nexus LX light fitting can be removed from or added anywhere within the Nexus LX network without interruption to the operation of the system.

Data Integrity

Data Integrity refers to the validity of data, which can be compromised by human error. Nexus LX can minimise these errors by automating processes and logging maintenance data. Nexus LX also enables easy, fast access to reliable data.

Bus Topology

Nexus fittings are connected by a twisted pair data cable in a doubly terminated multi-drop bus topology. The signal is absorbed by terminators to prevent the reflection of signals back and forth on the bus which can distort the signal. The data conductors are not polarised, thereby making connecting easy and reliable using a high quality pluggable connector.

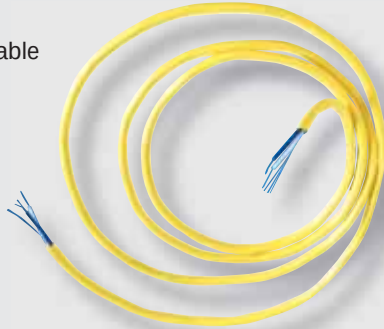


WHY CHOOSE NEXUS LX?[®]

Single Twisted Pair Cable

The Nexus LX[®] system requires a certain type of data cable to suit the data transmission characteristics of the network. Nexus LX uses a single shielded twisted pair cable as the network medium. The advantages of the data cable are:

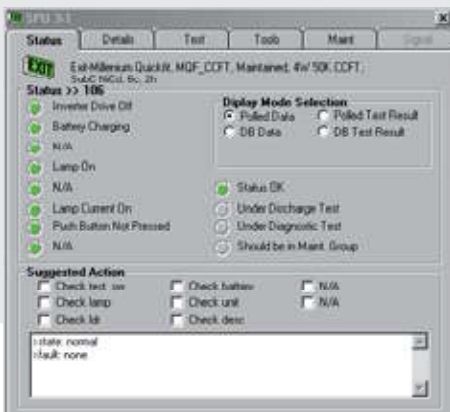
- High communication speed (78kbps) enabling fast system updates
- Highly resistant to external interference
- Ability to handle other LonWorks Systems on the same cable
- Very reliable



Easy to use Graphic User Interface

The Nexus LX software contains an easy to use Graphic User Interface which guides the user through a series of functions such as:

- Viewing fitting status
- Scheduling tests
- Viewing & printing test results
- Maintaining an electronic log
- Accessing diagnostic tools



Through-Life Product Support Service

Thomas & Betts provides a unique nation wide Through-Life Product Support Service to assist you at every stage of your System Life. Nexus specialists are available to offer assistance over the phone or within the field if required throughout the life of the system.



Nexus LX[®] Training

Thomas & Betts offer training courses in the installation and commissioning of a Nexus LX[®] system:

- Nexus Installation:
- Course for electrical contractors to educate them in the correct method for installing the Nexus LX System.
- Nexus Commissioning:
- Course covering the procedure for the commissioning of the Nexus LX System.

Nexus LX Warranty

All Nexus Light Fittings are covered by a 1 year return to base warranty that covers the Electronics, Cold Cathode Lamps and NiCad/NiMH batteries (external electronics, standard lamps, tombstones and mechanical damage excluded).



HOW DOES NEXUS LX® WORK?

Computerised emergency lighting systems are a combination of a communication network and emergency lights distributed throughout a building. Nexus LX communicates between the emergency light fittings and a centrally located server, usually a computer. The network can pass messages both to and from the emergency fittings to either:

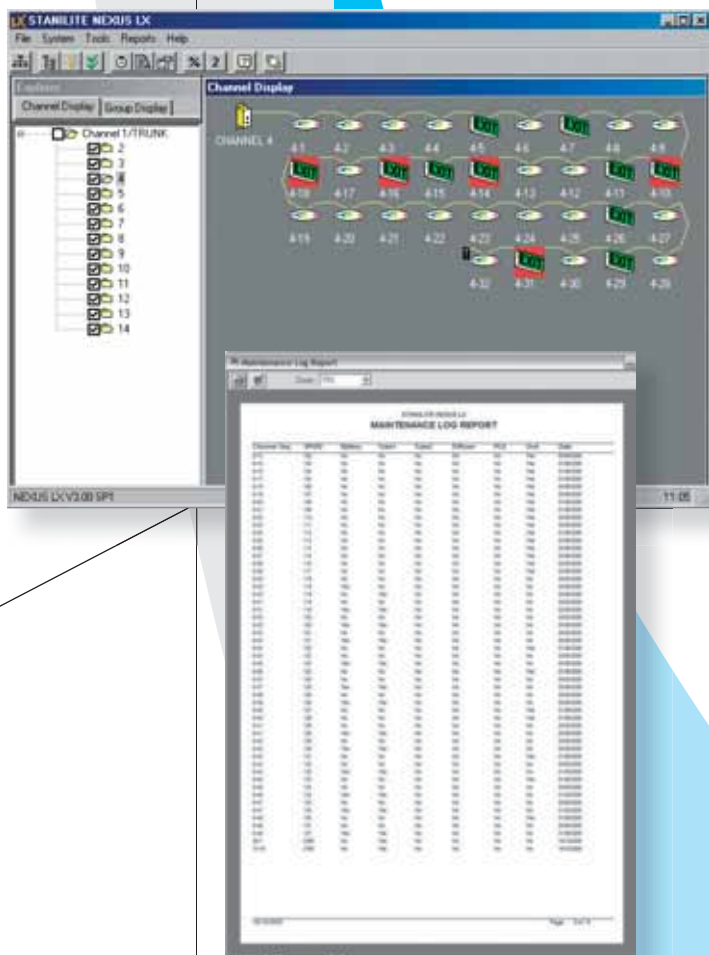
- instruct the fittings to perform a task - for example, turn on or off their emergency lamps, or
- report back to the server giving the fittings status – for example, whether the lamp is working or not

Computerised emergency lighting systems use a variety of means to communicate. The most common reliable method uses a dedicated communications cable wired between every emergency light fitting and the server. The method of communication within the network, called the protocol, determines the way the communication cabling must be installed, connected and used. Different brands of emergency lighting systems use different protocols and therefore cannot be combined.

A Nexus LX® Network consists of the following components:

1. Emergency light fittings connected together by a network of data cable and routers.
2. The Nexus server which performs network management and control functions and enables the user to perform the following tasks:

- **Schedule Tests** - making it easier to comply with the 6 month inspection requirement of AS/NZS 2293.2
- **Reporting** -
 - Test Schedule – what is due to be tested and when
 - Test Results – discharge test results and most recent one-minute test
 - Characteristics – list of all installed SPU's (Single Point Units)
 - Work Instruction – every unit that failed the last test and main poll status
 - Communication Errors
 - Router Locations
- **Maintain an electronic log book** - providing a means of recording service history and can be used as a tool to plan maintenance requirements such as re-lamping or battery replacement. Also offers easier compliance with the requirements of AS/NZS 2293.2
- **Access diagnostic tools** -
 - Poll Status Test – a scan of all fittings on the network allowing you to interpret which SPU's require attention
 - Channel Communication Test – to test the integrity of the Nexus LX network either by individual channel or by all routers.



A basic Nexus LX® network is comprised of a trunk with one or more channels with level 4 shielded twisted pair data cable used as the transmission medium. Each channel is connected to the trunk by a router. The Nexus LX server and the network utility node are connected directly to the trunk. Repeaters can be used to extend both the trunk and channels as shown below.

Where a channel has been extended using a repeater, the channel is hereby broken up into channel segments. Each channel segment consists of a length of data cable terminated at either end of the cable.

A Nexus LX trunk can also be integrated into existing trunk networks such as Ethernet and Optical Fibre. This can also provide an easy method of connecting to remote sites with an existing LAN or WAN network.

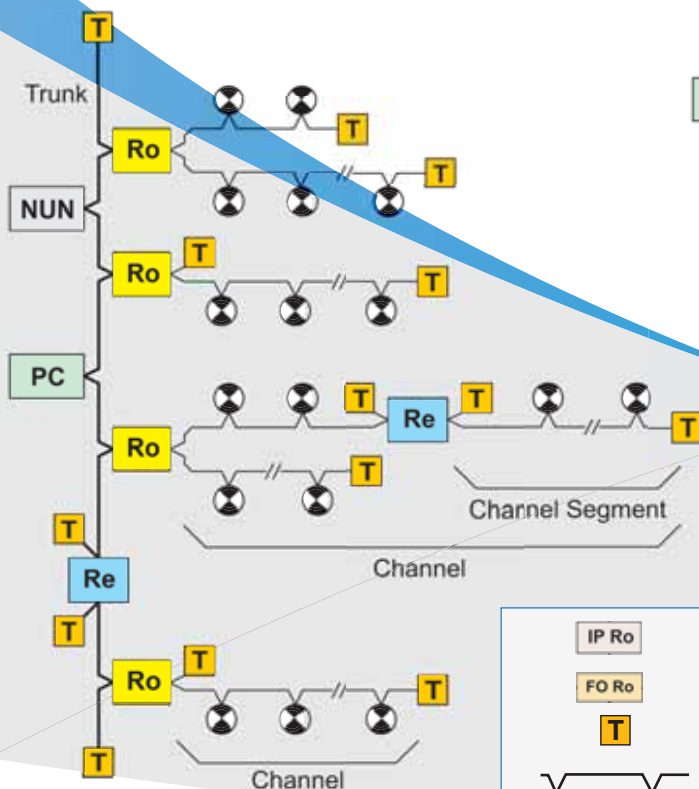
Easy to Install

Licensed electricians will find Nexus LX easy to install. Generally an installation requires:

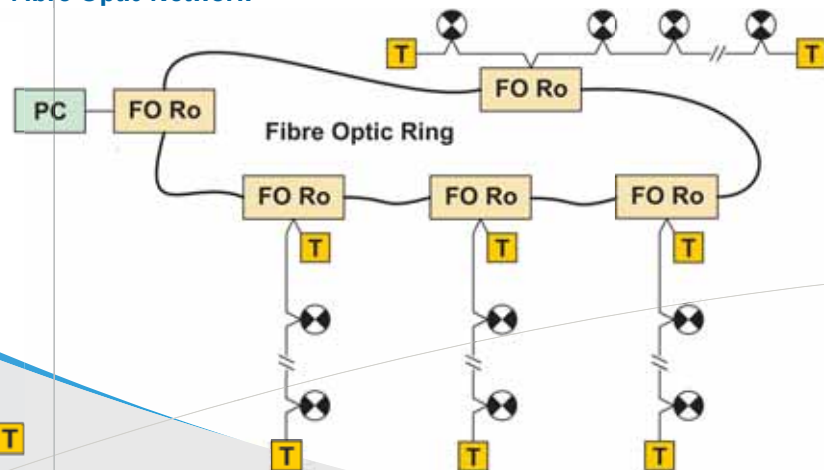
- Floor plan drawings
- Project specifications
- The tenants fit-out guide and consultant specifications.

Nexus LX specialists can be contacted at Thomas & Betts to assist with any installation queries.

Basic Nexus LX Network



Fibre Optic Network



IP Ro	iLON600 Ethernet Router		Nexus LX Single Point Units
FO Ro	CBL Fibre Optic Router	Ro	Routers
T	Data Cable Terminators	Re	Repeaters
	Data Cable	PC	Nexus LX Server
NUN	Network Utility Node (NUN)		

Protocols

Many Emergency Lighting systems currently on the market, cannot work with each other because they use a proprietary protocol developed by the systems manufacturer, making each system unique and exclusive. Systems using these proprietary protocols are considered 'closed' systems.

Open systems, on the other hand, use a protocol that is non-exclusive and available to everyone. These systems allow different manufacturers to share the data network because they each 'share' the same protocol.

LonWorks

NEXUSLX® uses an open, interoperable protocol known as LonWorks, developed by the Echelon Corporation and released in the early 1990's. Today, LonWorks is one of the worlds most widely adopted standards for control of devices and systems in buildings.

The language of the LonWorks network is called LonTalk and enables communication amongst the devices on a network.

LonTalk can:

- provide end-to-end acknowledgement of messages
- authenticate messages
- prioritise delivery to provide bounded transaction times

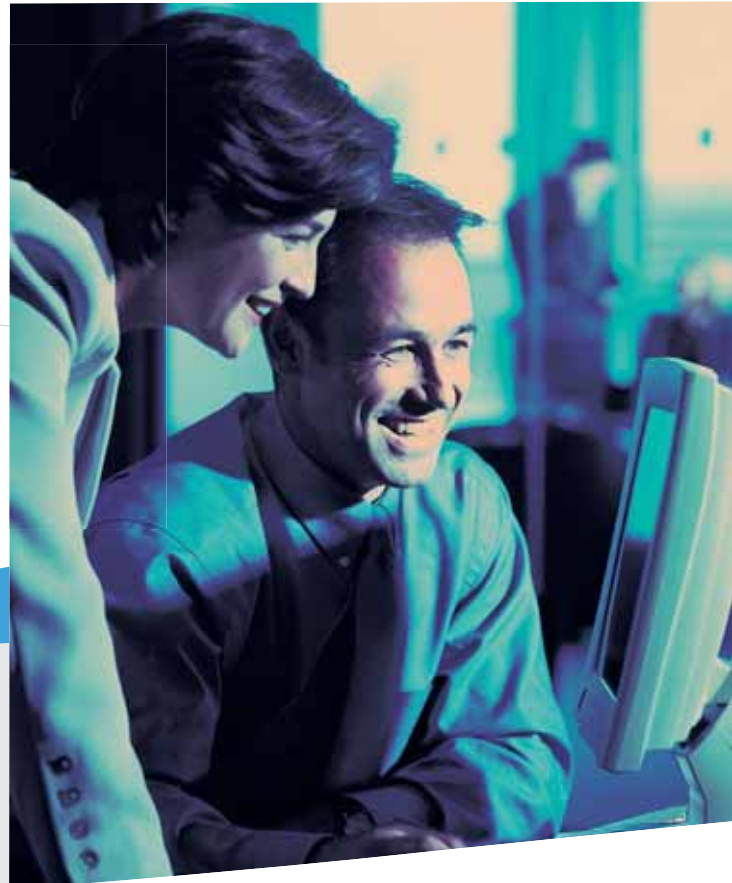
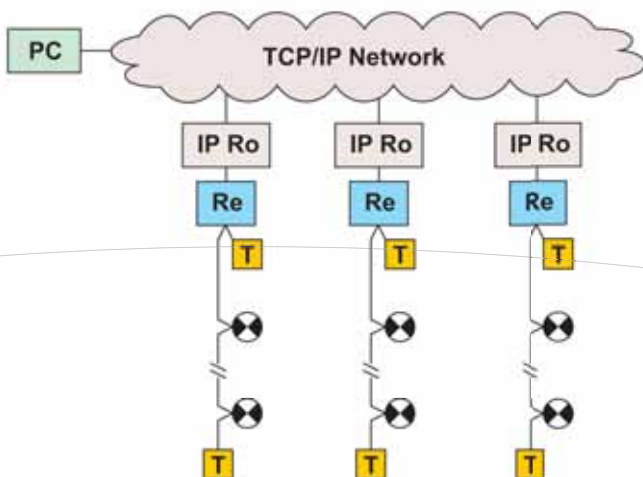
LonWorks allows network management tools to interact with devices over the network enabling:

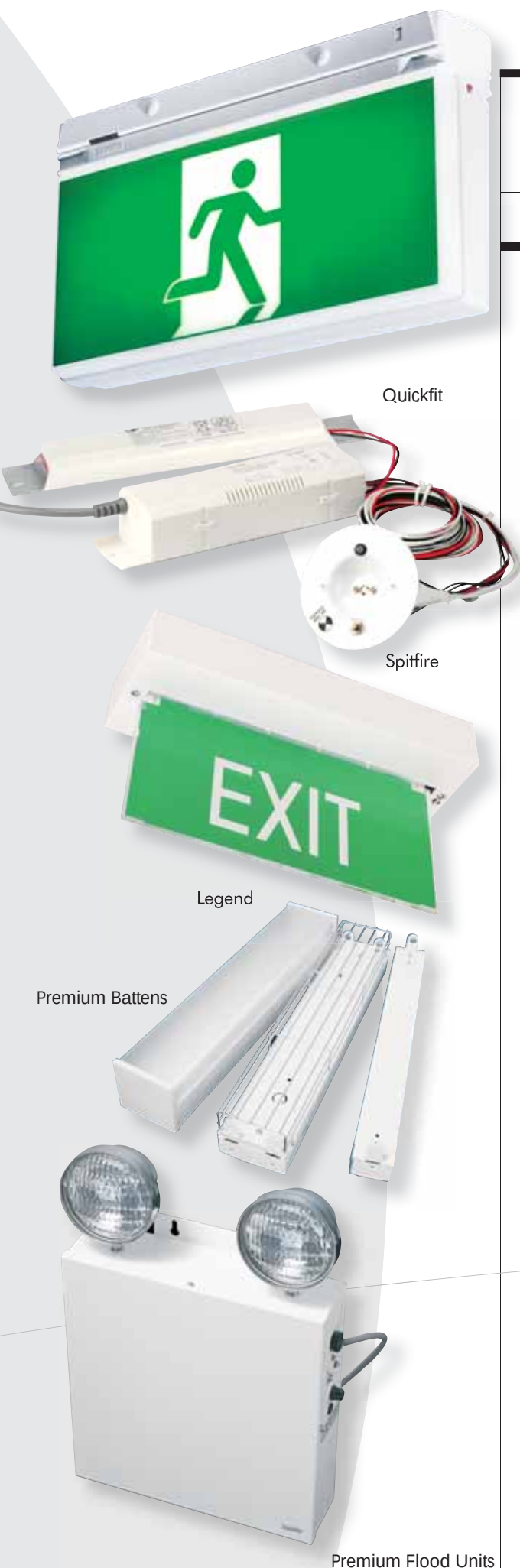
- reconfiguration of network addresses and parameters
- downloading of application programs
- reporting on network problems
- start, stop and resetting of device application programs

Further information on LonWorks can be obtained from the Echelon Corporation website:

<http://www.echelon.com>

Internet Protocol Network





Quickfit

Spitfire

Legend

Premium Battens

Premium Flood Units

NEXUS LX[®] PRODUCT RANGE

NEXUS SINGLE POINT UNITS

Quickfit[®]

"Winner of Australian Manufacturing product of the Year, 2001, and Design Mark[™] Australian Design Awards 2002"

Emergency Exit with unique steel slide connect bracket allowing any Quickfit to be easily changed over or upgraded. The Quickfit range has a variety of units suitable for commercial and industrial applications including Weatherproof, Theatre Masks, Vandal Resistant and Cold Cathode with a 6 year rated lamp life.

Spitfire[®]

Recessed Emergency Luminaire designed to be as unobtrusive as practically possible. The unit comes standard with a small 85mm lamp head and remote control gear. Engineered so the powerful halogen lamp provides significant levels of emergency light minimising the overall number of units required. All Spitfires include a Filament Continuity Circuit that monitors whether the lamp is present or if the filament has failed.

Legend[™]

Architecturally pleasing exit that has a unique prismatic diffuser providing discreet yet highly visible exit directions at all times. Recessed, surface and wall mounted options available. Cold Cathode – 6 year rated lamp life option also available.

Premium Battens

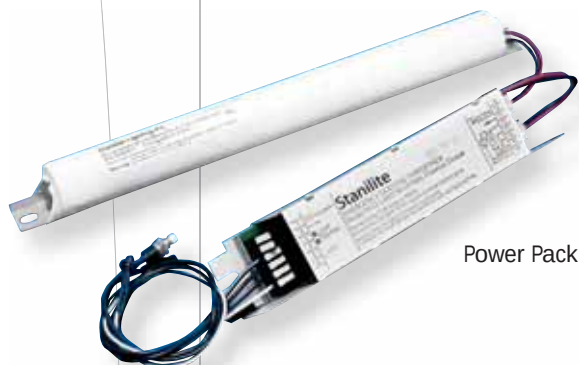
Emergency battens designed to offer superior photometric performance – saving money as fewer battens need to be installed to achieve compliance with Australian Standards. Weatherproof and Vandal Resistant options available.

Premium Flood Units

Offers versatile powerful light that can be easily installed to provide emergency lighting for large open areas or for installations where ceiling mounted units are difficult to install or service. All premium flood units come with directional lamp heads in a range of 12W, 20W and 35W configurations.

POWER PACKS

The Thomas & Betts range of Emergency Lighting Power Packs are suitable for retrofitting into T5, T8, PL and Circular lamped luminaries.



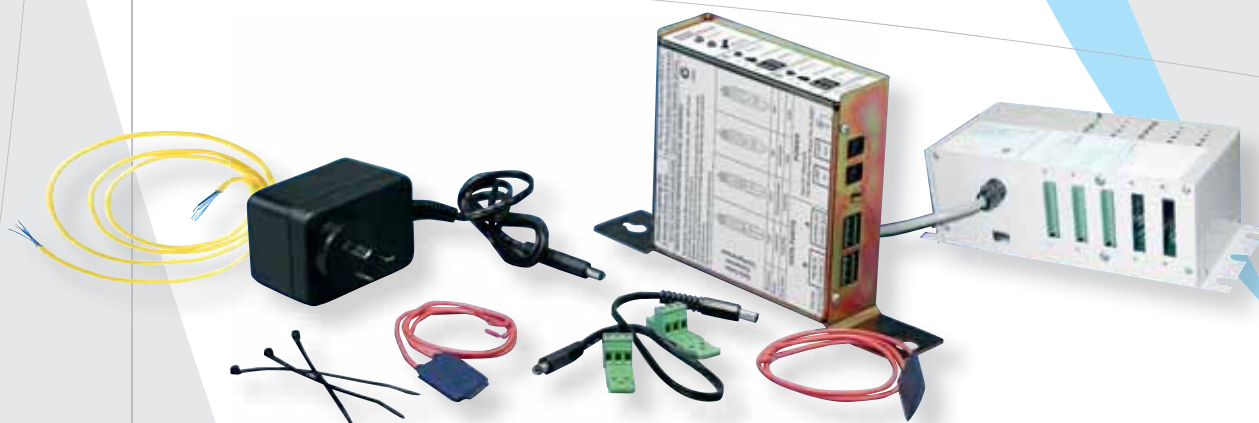
Power Pack

OTHER NEXUS LX® COMPONENTS

For full product details,
please refer to the Thomas
& Betts Lighting Catalogue

Other components available to complete the Nexus LX® system include:

- Router – a device that connects a channel to the main trunk
- Repeater – a device that connects two segments of a channel together to extend the channel length or increase the number of nodes connected to the channel
- LX Server Pack & Software - complete PC pre-loaded with Nexus LX
- Network Utility Node – a device that is used in conjunction with the Network Utility Program to test the data communications of a Nexus LX network.
- Data Cable and Data Cable Terminators





Thomas & Betts

www.tnbaust.com

*For further information, please refer to the Thomas & Betts Lighting Catalogue or
contact the Thomas & Betts National Support Centre on Phone 1300 666 595 Fax 1300 666 594
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