



Commissioning Guide

**Computerised Emergency Evacuation System
LONWORKS™ Powerline Technology**

Pre-Installation and Commissioning Instructions

Project name:

Address:

Site Contact person:Phone Number:

Approx. Number of luminaires: Approx number of ZXTELC: PC Date

INSTALLATION DETAILS

1. The System must be installed in accordance with the Clevertronics Zoneworks XT installation requirements as specified in this guide. A sample Zoneworks XT System Schematic is shown on the last page of this document.

EMERGENCY LIGHTING CIRCUIT WIRING METHOD

2. Emergency Lighting circuits are wired as per the schematic diagrams Option 1, Option 2 or Option 3 of this document.

In hard wired applications, using conventional hard wired switching and where the lighting and emergency lighting are supplied from the same circuit, a separate un-switched active is required from the same MCB/RCD. This separate un-switched active will only be used to supply the emergency luminaires and this arrangement is the same as when wiring for a manual test switch.

In applications where a structured cabling system is used resulting in a permanent supply to the luminaires and “soft-switching” using a Lighting Control System then a separate un-switched active to the emergency luminaires is not required.

3. **Variable Speed Drives (VSDs) supplied from Distribution Boards that also supply Emergency Lighting must be identified and these VSDs must be filtered with a VSD filter unit located at the VSD.**

ZONEWORKS BACKBONE CONFIGURATION

4. The Installing Contractor must supply an AC Line Diagram (Schematic) of the Switchboards for the site. Clevertronics will review and provide the quantity and locations for ZXTELC (Zoneworks XT Emergency Lighting Controller, formally known as an iLONSmartServer) and other associated equipment based on these drawings. Each ZXTELC must;
 - a) Be located no more than 2m from a nominated switchboard
 - b) Have up to 200 emergency luminaires and exit signs associated with the ZXTELC. 150 is the number recommend at quotation stage and 200 is the typical maximum. Any allowance over 200 must be confirmed with Clevertronics.
5. The ZXTELC units must be mounted, 3-Phase coupled to switchboard (plus the single phase supply where specified) and powered on at the time of commissioning. During the pre-commissioning phase the supply arrangements for the ZXTELC units will be confirmed. These arrangements are shown on the ZXTELC datasheet.
6. The ZXTELC register must be completed (attached document).
7. ZXTELC positions must be marked on the “as-installed” drawings detailing the connection to the relevant switchboards. The drawings must be available at the time of commissioning.
8. The system backbone is based upon an IP Ethernet Network. This Ethernet network will be either a shared Client LAN/WAN with other services (otherwise known as a converged network) or a dedicated IP Ethernet Network.

Backbone type used:

- a) Shared LAN/WAN
- b) Dedicated LAN/WAN Network just for the emergency lighting (supplied by Installing Contractor)

9. The emergency luminaires associated with the ZXTELC units can be commissioned without the LAN/WAN network available. Commissioning of the emergency luminaires associated with the ZXTELC can commence provided that the ZXTELC is coupled to the 3-phase supply, the ZXTELC is powered on and all emergency luminaires associated with the ZXTELC are also powered on. Please note that the power supply to both the ZXTLEC and associated emergency luminaires cannot be interrupted during commissioning.

10. To commission the ZXTELC units to the LAN/WAN the Ethernet RJ45 cable (supplied by the installing contractor) must be properly terminated from the ZXTLC units to the LAN/WAN (either as a direct RJ45 connection or via an RJ45 outlet supplied as part of the Client LAN/WAN or the dedicated LAN/WAN). A backbone topology diagram must also be supplied by the installing contractor at this time. Additional information to commission the ZXTELC units to the network is required in accordance with the following;
 - a) VLAN
 - b) IP Address
 - c) Subnet Mask
 - d) Gateway IP
 - e) Host name
 - f) Building No
 - g) Location
 - h) DB/CCT
 - i) Equipment
 - j) System
 - k) Data Point
 - l) MAC ID
 - m) Port
 - n) Status

11. The Server PC shall be unpacked and setup with power connected. The Server is not required to commission each ZXTLEC however to commission the "System" as a whole and to display all ZXTELC units and the emergency luminaires on the "System" the Server will be required to have the same information as for the ZXTELC units in the previous item;
 - a) VLAN
 - b) IP Address
 - c) Subnet Mask
 - d) Gateway IP
 - e) Host name
 - f) Building No
 - g) Location
 - h) DB/CCT
 - i) Equipment
 - j) System
 - k) Data Point
 - l) MAC ID
 - m) Port
 - n) Status

12. The ZSERV must be terminated to the LAN/WAN (either as a direct RJ45 connection or via an RJ45 outlet and patch supplied as part of the Client LAN/WAN or the dedicated LAN/WAN).

LUMINAIRE REGISTER & REQUIRED LUMINIARE LABELLING (Much of the information on the register is required as part of the log book requirements as defined by AS/NZS2293.1 and AA/NZS2293.2)

13. The luminaires must be visibly labelled by the installing contractor with an alpha numeric luminaire reference. This luminaire reference is defined by the installing contractor. Example references are as follows L1-01, L1-02, L1-03 and B1-01, B1-02, B1-03 etc.
14. Several Barcode labels are provided with each luminaire. One label must be applied to the luminaire and one label must be applied onto the luminaire register (sticking the barcode label to construction drawings is optional). There is no option for "push-button" commissioning. Each emergency luminaire must be commissioned via the barcode method.
15. The "as-installed" drawing must be marked with the luminaire reference. The drawings (or other information provided by you) must also show the switchboard and circuit number of each luminaire.
16. The attached luminaire register must be completed, either electronically or hand written in a legible format, with matching luminaire reference and barcodes with additional location descriptions etc.
17. The as installed drawings, luminaire register and ZXTELC register must be provided to Clevertronics before commissioning can commence.

Request for Commissioning Form

Site Name: _____

Site Address: _____

Installing Contractor: _____

Contractor Contact Names and Telephone Numbers: _____

Checklist (tick or cross as appropriate)

Final Number of emergency luminaires: **Final number of ZXTELC Units:**

Contractor Clevertronics Technician

- AC Line Diagram (Schematic) is available showing the Switchboards for the site.
- Luminaires and ZXTELC units are wired in accordance with either of the schematic diagrams on pages 10 to 12 of this document.
- Variable Speed Drives (VSDs) supplied from Distribution Boards that also supply Emergency Lighting must be identified and these VSDs must be filtered with a VSD filter unit located at the VSD
- ZXTELC Units are mounted, 3-Phase coupled to switchboard and powered on at the time of commissioning.
- ZXTELC positions are marked on the "as-installed" drawings, plus provide a backbone "mud-map", and ZXTELC register complete detailing the connection to the relevant switchboard and are available.
- The ZXTELC Register has been completed.
- The ZXTELC units are properly terminated to either a dedicated or Client Supplied network (the Network) at the time of commissioning. Please note that commissioning of the emergency luminaires can commence at each ZXTELC without a connection to the Network, however until all the ZXTELC units and the ZSERV are connected and terminated to an operational Network the "System" cannot be displayed and commissioned on the ZSERV. Please tick here if the option to commission the ZXTELC units, without the Network Connection is being exercised:
- All emergency luminaires are installed and powered.
- Luminaires are visibly labelled with an alpha numeric luminaire reference and barcodes labels have been applied to the luminaires.
- All emergency luminaires are marked on the as installed drawings with the luminaire reference. The drawings (or other information) show the switchboard and circuit number of each luminaire.
- The Luminaire Register has been completed including the application of the barcode labels corresponding to the correct device reference number.
- The Server PC has been unpacked and setup with power connected and the data cable for the backbone has been terminated into the orange connector at the back of the PC.
- Lifting equipment is available if required.
- A representative supplied by the Installing Contractor is available for the commissioning process.
- Unhindered access to all ZXTELC units, emergency luminaires and the server at all times during the commissioning process.

Signed: _____ Date: _____ (Installing Contractor)

By signing this form the installing contractor warrants the above items as being correctly marked, and acknowledges that failure to complete any one of the above tasks before commissioning may result in Clevertronics applying additional commissioning charges or re-scheduling a commissioning site visit. Additional charges will be applied to the quoted commissioning fee at the minimum hourly rate of \$95/hour during normal business hours of 8pm – 5pm. All work outside these hours will be charged at \$150 per hour.

Signed: _____ Date: _____ (Clevertronics Commissioning Technician)

Clevertronics XT Sign Off



Date: _____

2.0 System Details

1.0 Project Details	Software Version: _____ Total Luminaires: _____ 0 Total ZXTELC _____ 0 Total ZCOUPLER: _____ 0 Total Single Phase Repeaters: _____ 0 Total Three Phase Repeaters: _____ 0 Next Scheduled Test Date _____ Remote Access Details: UserID _____ Password: _____ <i>Connection Type</i> _____ Permenant / Temporary
Project Name: _____ Address: _____ Installing Contractor: _____ Contact name / number: _____ Email Address: _____	
1.1 Site Contact Details	
Maintenance Contractor: _____ Contact name / number: _____ Email Address: _____ Facility Manager: _____ Contact name / number: _____ Email Address: _____	

3.0 Project Checklist

- Commissioning and 1st test
- Warranty (6 Month) Scheduled for _____
- Warranty (12 Month) Scheduled for _____
- Server Location: _____
- Back Bone Details: _____ Exclusive / Shared
- Backbone Patch Panel Location: _____
- ZXTELC Labelled On-site
- ZXTELC Labelled in Zoneworks
- Distribution Brd Zoneworks Warning stickers in place
- Luminaries Labelled On-site
- Luminaries Labelled in Zoneworks (no N/A's)
- Project name on test results
- Default groups named the same as channels (ie RTR 1 - Level 2 DB2A)
- Scheduled tests have been programmed
- Test results checked
- Failed batch checked:

Commissioned	Failed

- Site Single Line Diagram collected
- As Built Floor Layout Drawings collected
Hard / Soft Copies
- Supplied Documentation Package containing:
 - Discharge Test with all fittings passed
 - Device Details - Condensed
 - ZXTELC Details Report
 - Scheduled Test Report
 - Copy of Zoneworks Register
 - Database Backup
 - Maintenance Log (6 & 12 Month Test)

Notes on any exceptions above:

4.0 Field Service Provider Details

Field Service Provider : _____

Commissioning Technician: _____

Field Service Provider Job #: _____

Comissioning completed date: _____

Project Notes

Please record any items particular to site ie Access, Server Location etc To be recorded in Syteline for future reference

NB : Section "1.1 Site Contact Details" for NEW BUILDS is the responsibility of the PSC. For pre-existing sites it is the responsibility of the CSO.

Site Record Form



Project: _____

Job Address: _____

Installing Contractor: _____

Contact Person: _____

Site Phone: _____

Mobile Phone: _____

Date: _____

Description of works: (please tick those required)

Initial site meeting	<input type="checkbox"/>	Commission luminaires	<input type="checkbox"/>
Powerline testing	<input type="checkbox"/>	Discharge test	<input type="checkbox"/>
Complete commissioning checklist	<input type="checkbox"/>	Warranty	<input type="checkbox"/>
Site inspection	<input type="checkbox"/>	Other	<input type="checkbox"/>

Clevertronics Ref Number

JOB/ ITEM	DESCRIPTION	HOURS
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Total		

Client/Sub Contract Signature

Clevertronics Signature

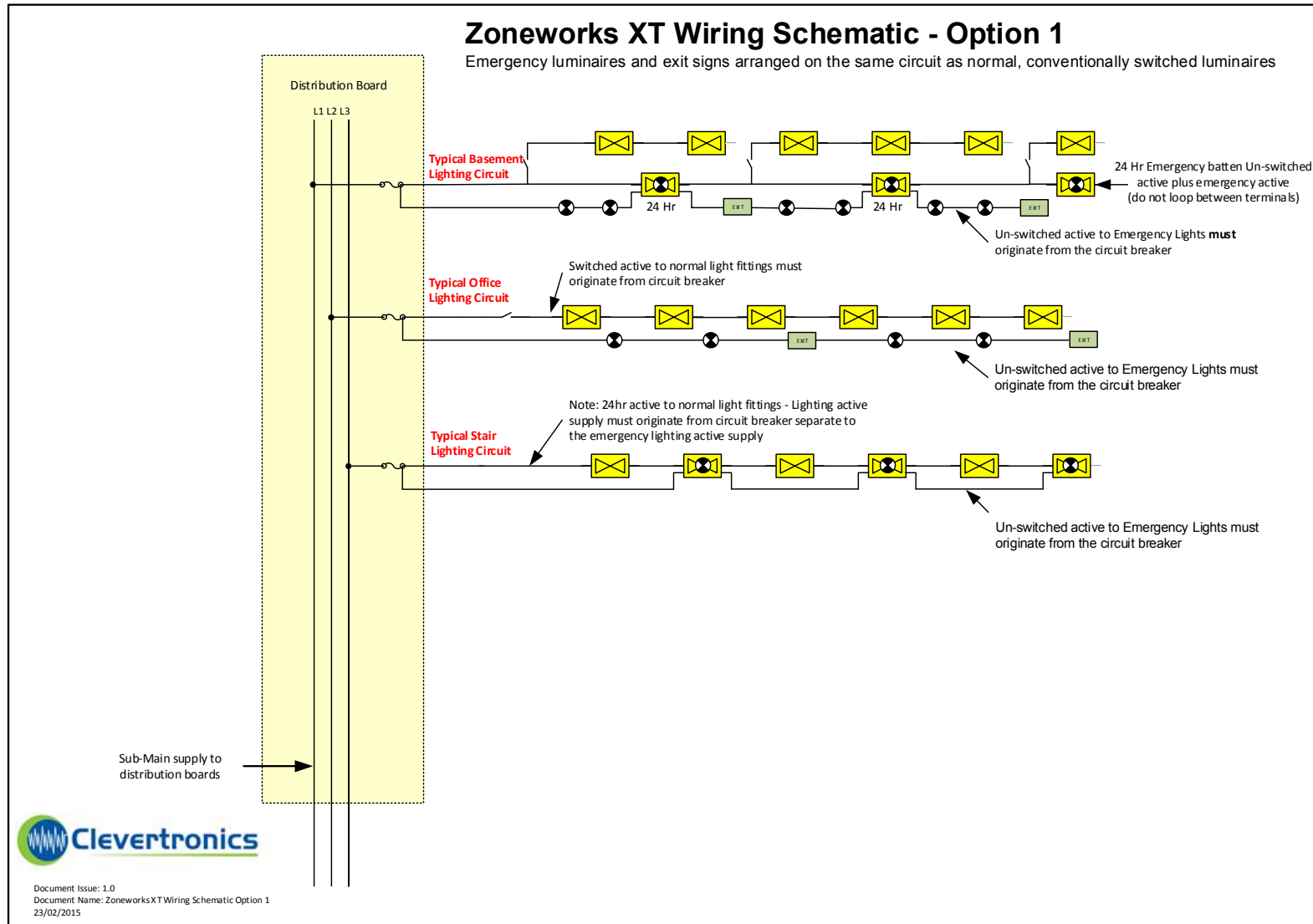
Please print your name

Please print your name

Zoneworks Luminaire Register							Clevertronics Pty Ltd							
Unit ID Number	Unit Ref	Luminaire Type #	Luminaire Description	Zone	BLG	Level /Floor	DWG #	Grid Ref	Location	S/B	CCT	Phase	ZXTELC	Barcode (Sticker)
Installation Contractor :										Page __ of __				

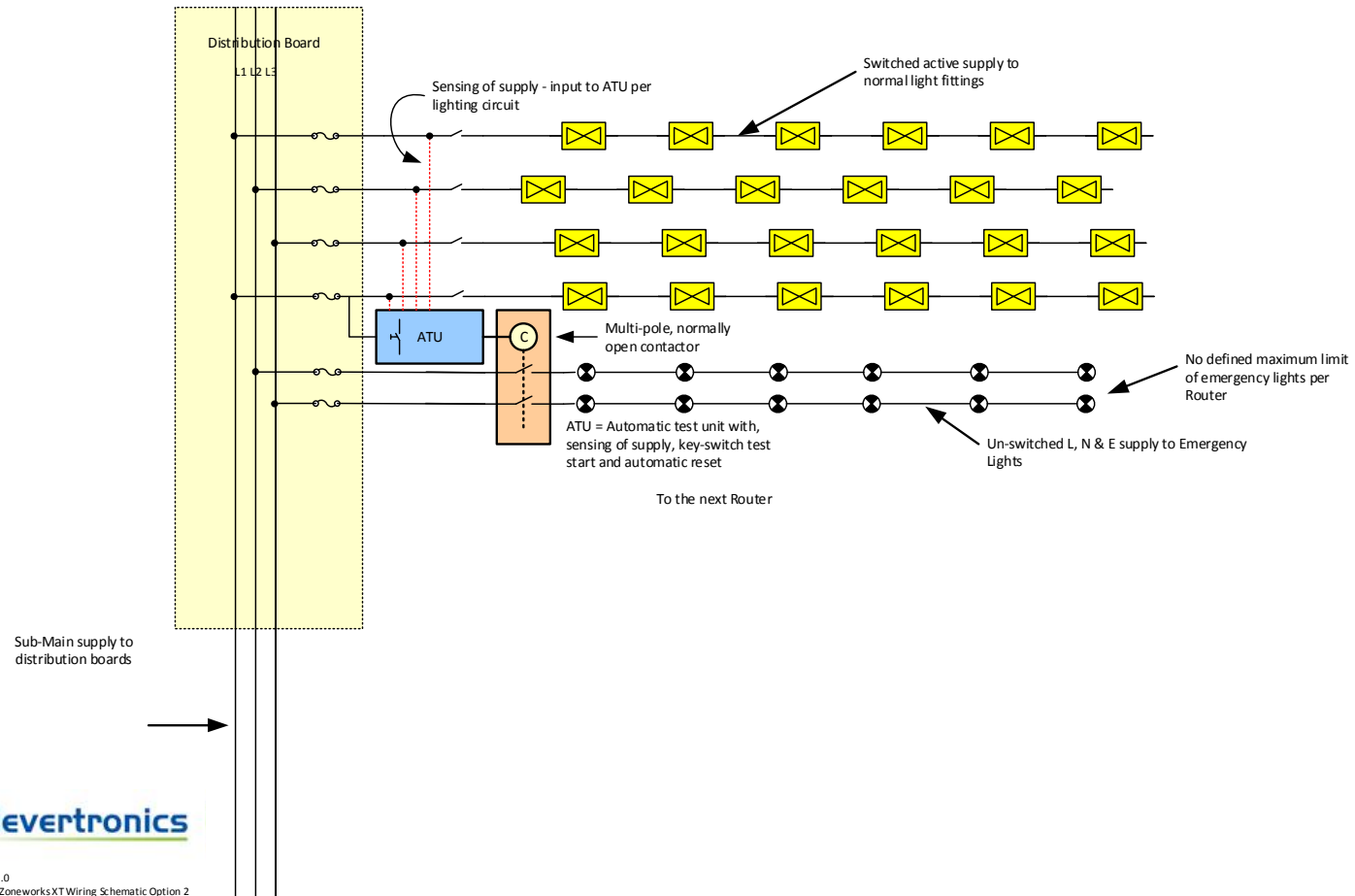
Zoneworks XT Wiring Schematic - Option 1

Emergency luminaires and exit signs arranged on the same circuit as normal, conventionally switched luminaires



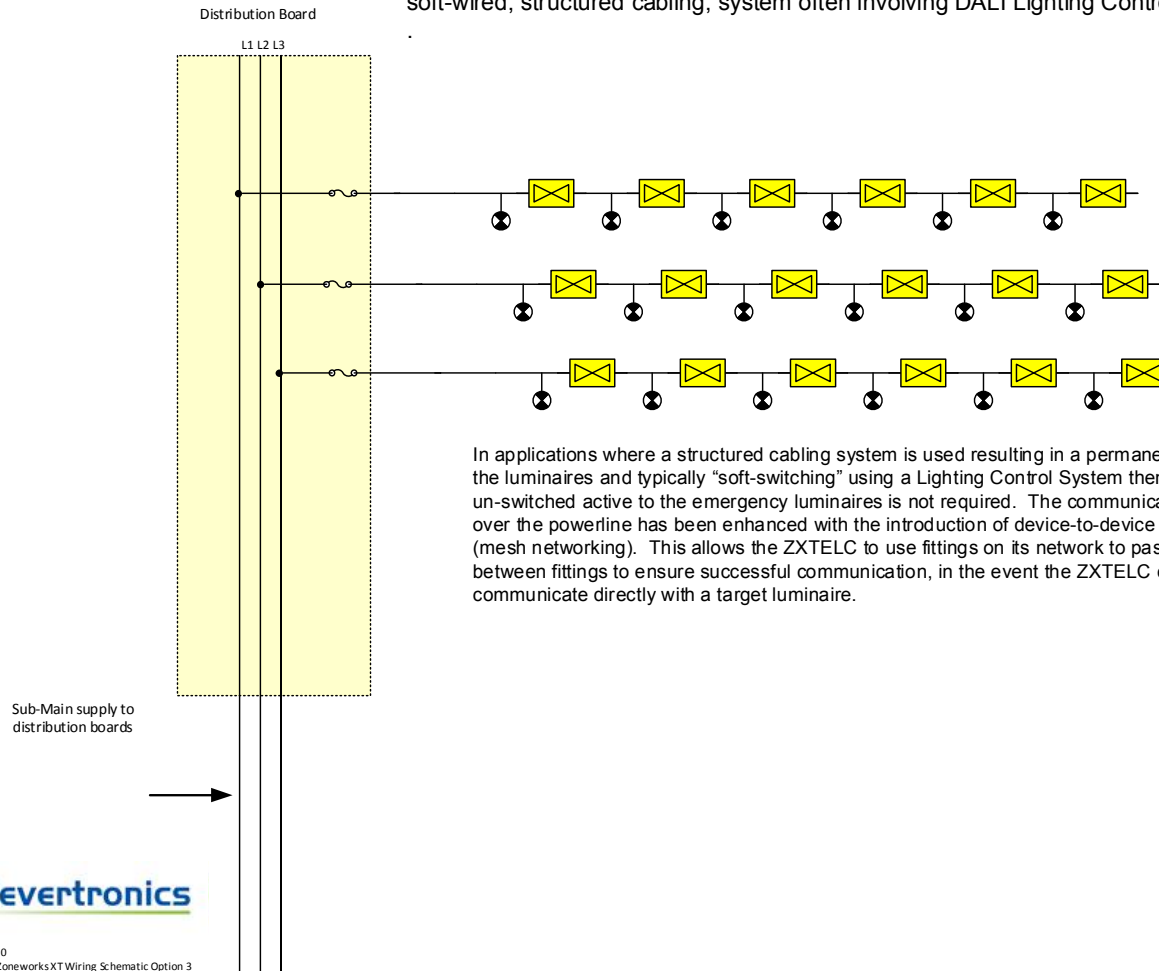
Zoneworks XT Wiring Schematic - Option 2

Emergency luminaires and exit signs arranged as dedicated circuits with ATU device for sensing of supply and contactor switching control. General luminaires conventionally switched.



Zoneworks XT Wiring Schematic - Option 3

Emergency luminaires and exit signs connected to a structured cabling system - e.g. connected to a soft-wired, structured cabling, system often involving DALI Lighting Control of the general luminaires



In applications where a structured cabling system is used resulting in a permanent supply to the luminaires and typically "soft-switching" using a Lighting Control System then a separate un-switched active to the emergency luminaires is not required. The communication platform over the powerline has been enhanced with the introduction of device-to-device repeating (mesh networking). This allows the ZXTELC to use fittings on its network to pass messages between fittings to ensure successful communication, in the event the ZXTELC can't communicate directly with a target luminaire.

Zoneworks XT System Schematic

