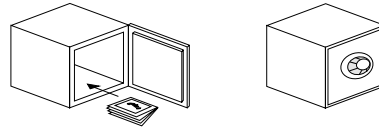


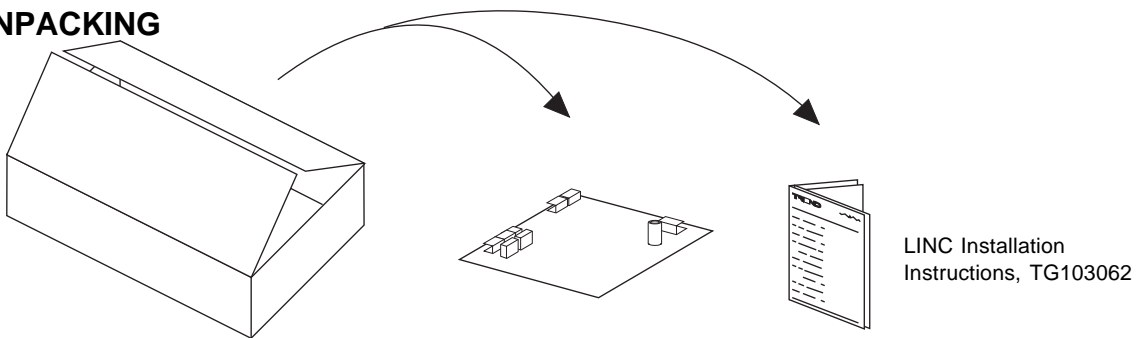
**Important: Retain these instructions**



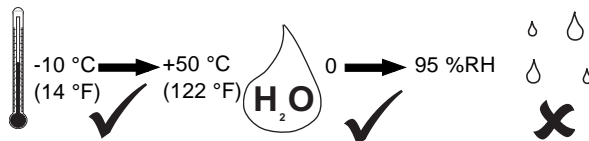
### CONTENTS

1	Unpacking .....	1	3	Installation .....	1
2	Storage .....	1	3.1	Installation - Mounting .....	1
			3.2	Installation - Configuration .....	5
			4	Disposal .....	8

## 1 UNPACKING



## 2 STORING



It is recommended that the installation should comply with the HSE Memorandum of Guidance on Electricity at Work Regulations 1989. For USA install equipment in accordance with the National Electric Code.

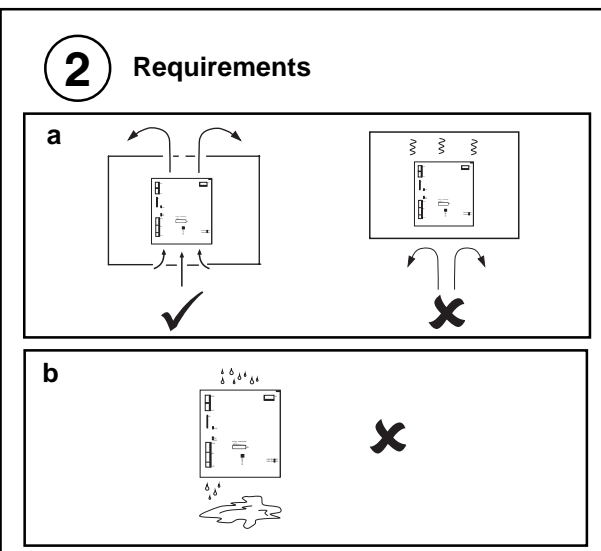
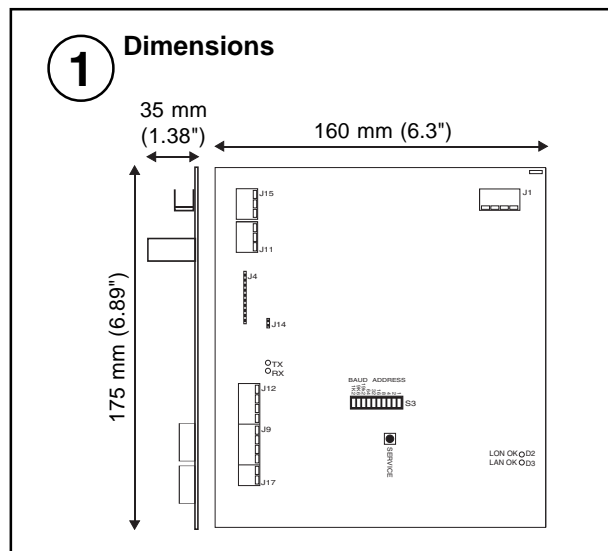
## 3 INSTALLATION

### 3.1 Installation - Mounting

**Caution:** The LINC contains static sensitive devices. Suitable anti-static precautions should be taken throughout this operation to prevent damage to the unit.  
BS EN100015/1 Basic Specification: protection of electrostatic sensitive devices.

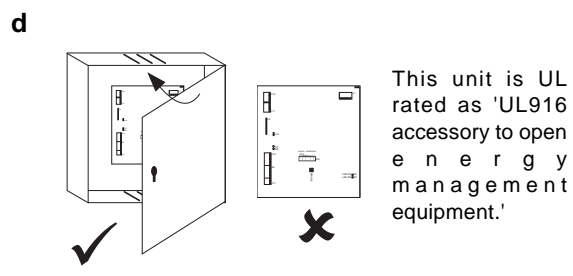
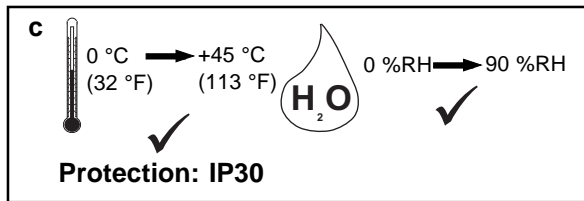
**Warning:** Note that this product may involve LonWorks system integration as referred to in section 3.2 step 14: this procedure should only be performed by an installer with LonWorks engineering expertise.

**Warning:** Opening the panel may expose dangerous voltages.  
417-IEC-5036



3.1 Installation - Mounting (Continued)

2 Requirements (Continued)



3 Mount the Node

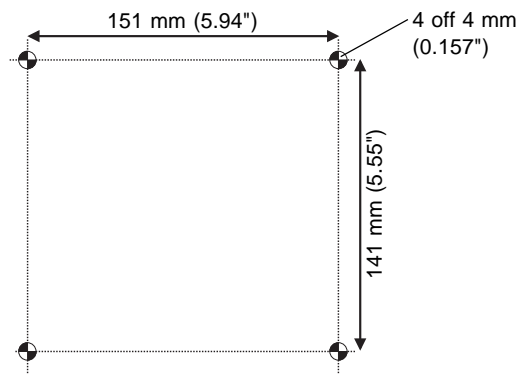
The LINC can be fitted into enclosures and controllers as shown in the table below:

NETB/NETBB	✓
IQ101+/102+	✓
IQ111+	✓
IQ131+	✓
IQ25x	✓*
IQ241/242	✓
IQ23x	✓

\* LINC board fits with 3 screws in normal node position or fits in NDP position (if no NDP). Must use NDP position if RDS fitted.

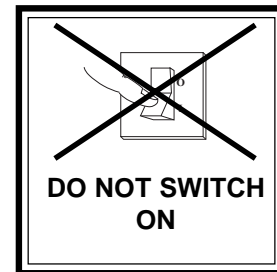
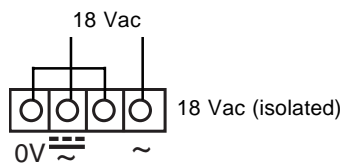
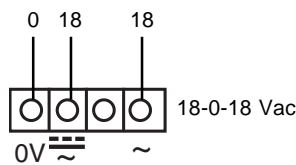
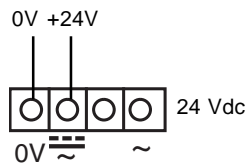
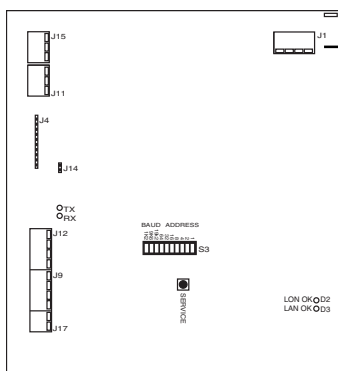


See appropriate enclosure/controller installation instructions for more details about node installation.



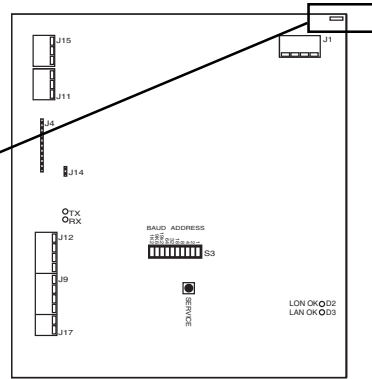
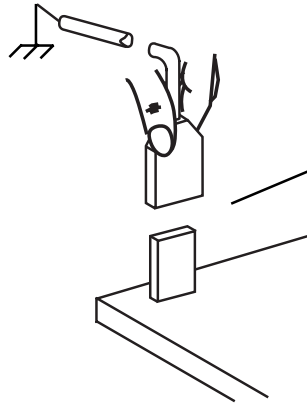
4 Connect Power

LINC consumption <= 6 VA



3.1 Installation - Mounting (Continued)

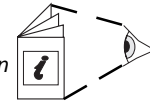
**5** Connect Earth (Ground)



**WARNING:** This apparatus must be earthed (grounded) using earth (ground) tag. Note that the earth (ground) tag is internally connected to 0V

**6** Connect Current Loop Network

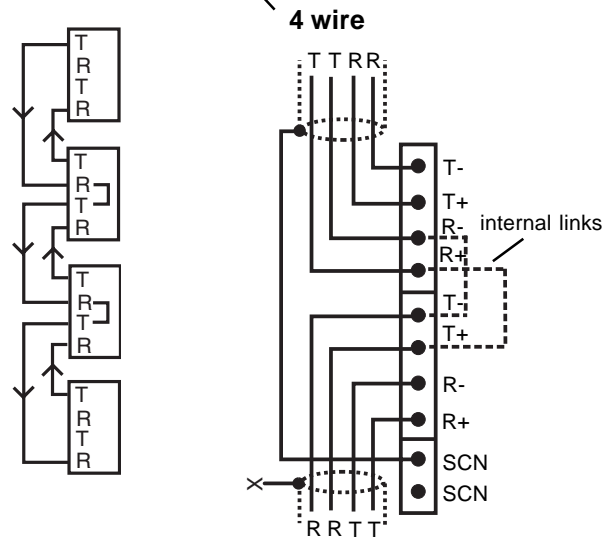
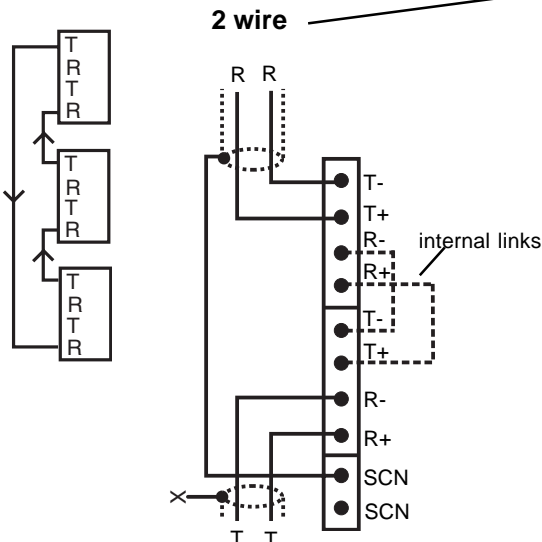
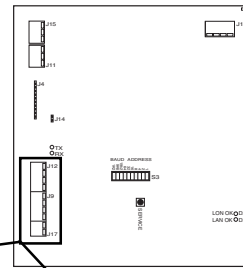
Normally **Local Lan** address <100  
 Note that 3xtend/EINC Ls, EINCs, INCs, LINCs cannot be on same local Lan  
**Internetwork segment A** if address >=100



Network Engineering Manual, 92-1735

Cable	1k2 baud	4k8 baud	9k6 baud	19k2 baud	No. of Wires
Belden 9182	1000 m (1090 yds)	1000 m (1090 yds)	1000 m (1090 yds)	700 m (765 yds)	2
Belden 9207	1000 m (1090 yds)	1000 m (1090 yds)	1000 m (1090 yds)	500 m (545 yds)	2
IQ sytem TP/1/1/22/HF/200 (Belden 8761)	1000 m (1090 yds)	1000 m (1090 yds)	700 m (765 yds)	350 m (380 yds)	2
IQ system TP/2/2/22/HF/200 (Belden 8723)	1000 m (1090 yds)	1000 m (1090 yds)	500 m (545 yds)	250 m (270 yds)	4

Terminal size 0.5 to 2.55 m<sup>2</sup> (14 to 20 AWG)  
 Polarity independent




3.1 Installation - Mounting (Continued)

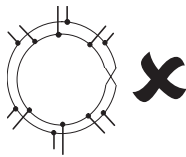
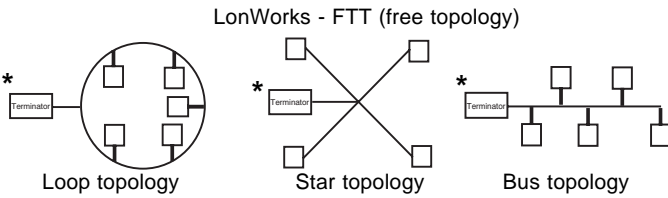
**7** Connect LonWorks

Cable	Max bus length	Max node to node
Belden 85102	500 m	500 m
<b>Trend</b> TP/1/0/16/HF/200 (Belden 8471)	500 m	400 m
UL Level IV, 22 AWG	500 m	400 m
JY(St) Y2 x 2 x 0.8	500 m	320 m
TIA568A Cat. 5, 24 AWG	450 m	250 m

Normal current loop Lan cable is not recommended.  
Do not use screened cable.

Terminal size 0.5 to 2.55 m<sup>2</sup> (14 to 20 AWG)

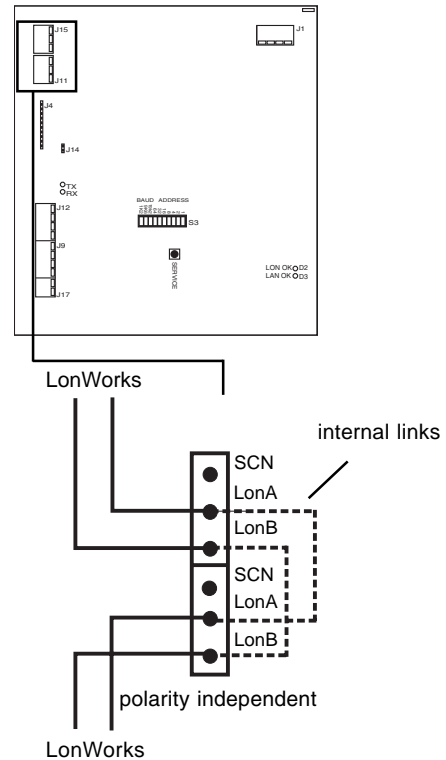
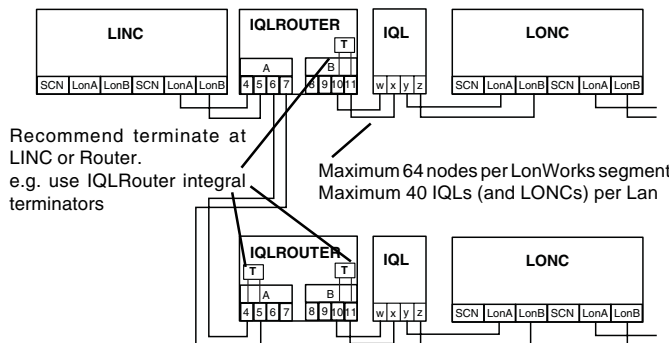
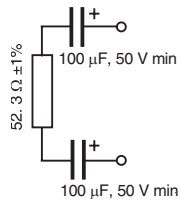
 If used with LPT-10 (powered bus), cable lengths differ - see "Link Power Transceiver User's Guide" (078-0105-01C)".



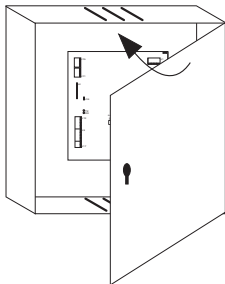
Do not allow wires to cross on a loop

\*Terminate LonWorks bus at one end only using IQLROUTER integrated LonWorks terminator or LONTERMINATOR

LONTERMINATOR



**8** Close Panel



This unit is UL rated as 'UL916 accessory to open energy management equipment.'

### 3.2 Installation - Configuration

**1** Switch off

**2** Open Panel

**WARNING:** Opening the panel may expose dangerous voltages.  
417-IEC-5036

**Caution:** This LINC contains static sensitive devices. Suitable anti-static precautions should be taken throughout this operation to prevent damage to the unit.  
BS EN100015/1 Basic Specification: protection of electrostatic sensitive devices

**3** Set LINC Internetwork Address (Lan number)

ON  
e.g. BAUD ADDRESS  
1K2 19K2 4 2 1  
9K6 9K6 8 4 2 1  
484 32 16 8 4 2 1

Address = 2 + 16 = 18

SET (lightning bolt symbol)

NOT SET (lightning bolt symbol)

address ✓ 1, 4 to 9, 11 to 119  
✗ 0, 2, 3, 10 or >119

Address = D

Address = D Lan = D LINC

Lan ≠ D Lan ≠ D Lan ≠ D

if address < 100, address defines Lan number on Internetwork (LonWorks internetwork)

if address = > 100, address is for configuration only (Internetwork LonWorks Extension)

3.2 Installation - Configuration (Continued)

### 4 Set Network Baud Rate

**ON BAUD ADDRESS**

1	2	4	8	16	32	64
1k2	9k6	19k2	1k2	9k6	19k2	1k2

**SET** (jumper on) **NOT SET** (jumper off)

**Baud = C**

If address < 100, \_\_\_\_\_  
 baud rate of current loop Lan

If address = > 100, \_\_\_\_\_  
 baud rate of current loop Internetwork (Segment A)

### 5 Switch On

### 6 Check Current Loop Network

If address < 100, current loop Lan  
 If address = > 100, current loop Internetwork (Segment A)

**Lan OK (green)**

Lan OK (lightbulb with checkmark) **✓**  
 Lan Faulty (lightbulb with X) **✗**

Lan OK (lightbulb with checkmark) **✓**  
 LINC Faulty (lightbulb with X) **✗**

Lan OK (lightbulb with checkmark) **✓**

Check network cabling for short circuits with a multimeter (NOT Megger)

Check baud rate. Powerup other nodes until faulty node is found (OK **✓**). Correct fault.

### 7 Check LINC on LonWorks

**Lon OK (green)**

Lightbulb **✓** Flashes every 24 s, ON after 1½ mins  
 Lightbulb **✗** (Check LonWorks, LINC, and LINC, or LONC, or IQL)

### 8 Close Panel

This unit is UL rated as 'UL916 accessory to open energy management equipment'.

### 3.2 Installation - Configuration (Continued)

#### 9 Configure LINC

address 126, local Lan

address 126, Lan number set by address switch

SET

*Note that the LINC can be configured across LonWorks (using another LINC) if TARP is set to Yes (default) in both LINC's (see step 14)*

SET Manual TE200147

top menu : LINC  
User  
address  
intcon  
=?

e.g. R select address module

to eXit module having changed parameter X

to Quit module and discard changes Q

#### 10 Set up following parameters

*Note that a PIN may be required to make changes in configuration mode. If the PIN has been forgotten the users should contact their supplier (installers contact Technical Support) quoting the generator number (User module) and neuron id (Address module) whereupon a default PIN will be supplied. This will only work during the same configuration mode session i.e. the utility must not be exited between reading the generator and entering the default PIN. After the PIN is entered a new PIN should be set up and remembered.*

Settings that must be made				
Parameter	Setting	Function	Condition	
Address	tarP	address resolution protocol, default=Yes	Switches on or off global address resolution messages	*Change to No unless connected to second LINC by Lon
	local alarms	Addr	node address	node address of LINC alarm target
Remote lan		Lan number	Lan number of LINC alarm target	to send current loop network alarms
int/net alarms	nodE	node address	node address of LINC alarm target	to send alarms from Lon internetwork
	remoTe lan	Lan number	Lan number of LINC alarm target	to send alarms from Lon internetwork

*\*Note that to speed up communications, TARP should be changed to No unless there is more than one LINC physically connected by LonWorks. Installation on a LonWorks Management Tool sets TARP to Yes and it can no longer be changed in configuration mode (see step 14).*

#### 11 Optional Settings

Set up the following parameters if required. The table shows setting that may be required for special circumstances

Settings that may be made						
Parameter	Setting	Function	Condition	See Note		
User	Pin	number	Protects changes in configuration mode	Default is blank (unprotected). Set up if security required.	1	
Address	IDentifier	15 alphanumeric characters - not ^({;?* characters	identifier for this LINC	Set up for supervisors, display panels		
	lonworks	Message code	code number. Default = 64.	All LINC's/LONCs/IQLs must use same code	If message code being used by other users - must be exclusive to IQ system	2
		router Buffer size	buffer size (bytes) Default = 146	specifies smallest router buffer on system	If routers separate LINC's and have buffer size smaller than 146 bytes - set to smallest buffer size. (minimum = 66)	
		transceiVer	number defines transceiver type Default=0 (FTT-10)		DO NOT CHANGE FROM 0	
		r-retry time			See IQ system LonWorks Products Engineering Guide for details	
		i-interpacket delay				
s-service class						

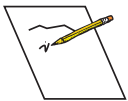
**Note**

- If PIN is forgotten see note in step 10
- Message code can only be changed in configuration mode if 'lonworks managed' is set to No (i.e. managed by LINC). If the LINC is installed on LonWorks Management Tool (see step 14), 'lonworks managed' is set to YES, and Message code cannot be changed in configuration mode.

3.2 Installation - Configuration (Continued)

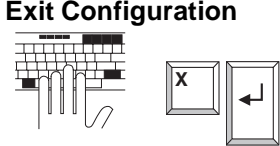
**12 Note Neuron ID**

If user wishes to install LINC using neuron ID - see step 14 a



addRes/ neuron chip id 00:00:00:00:00:00

**13 Exit Configuration**




→ "Exit from Utility"

**14 Install on LonWorks Network Management Tool (LMT)**

If


- a binding IQLs to LonMark Devices
- or b LINC's version <3.23 straddle router
- or c other devices have address conflicts with IQ system devices
- or d LONROUTERS used on system already installed on LMT



See LonWorks network management tool manual. See IQ system LonWorks Products Engineering Guide (TE200292). Lonworks System Integrator must have Lonworks engineering expertise.

**If one IQ system LonWorks device is installed on LMT, all must be installed**  
 Note that if a 3xtend/EINC L is installed in the LonWorks segment, IQ system devices cannot be installed on a LMT because 3xtend/EINC L does not support installation on a LMT.

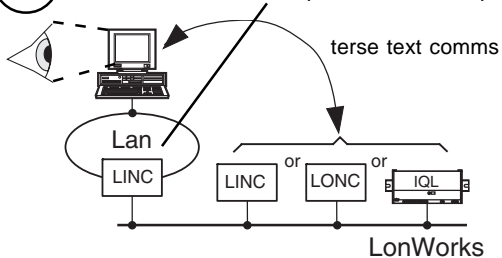
a). When installing LINC On lonworks tool enter neuron ID from step 12 - or press service button.



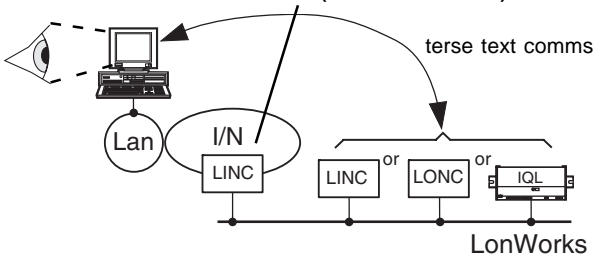
b). The LINC network image can be retrieved by uploading the XIF file from LINC to tool.

**15 Check LINC Operation**

If LonWorks Internetwork (LINC address <100)




If Internetwork LonWorks Extension (LINC address =>100)



4 Disposal

**WEEE Directive :**



At the end of their useful life the packaging and product should be disposed of by a suitable recycling centre.  
 Do not dispose of with normal household waste.  
 Do not burn.

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