

INC2



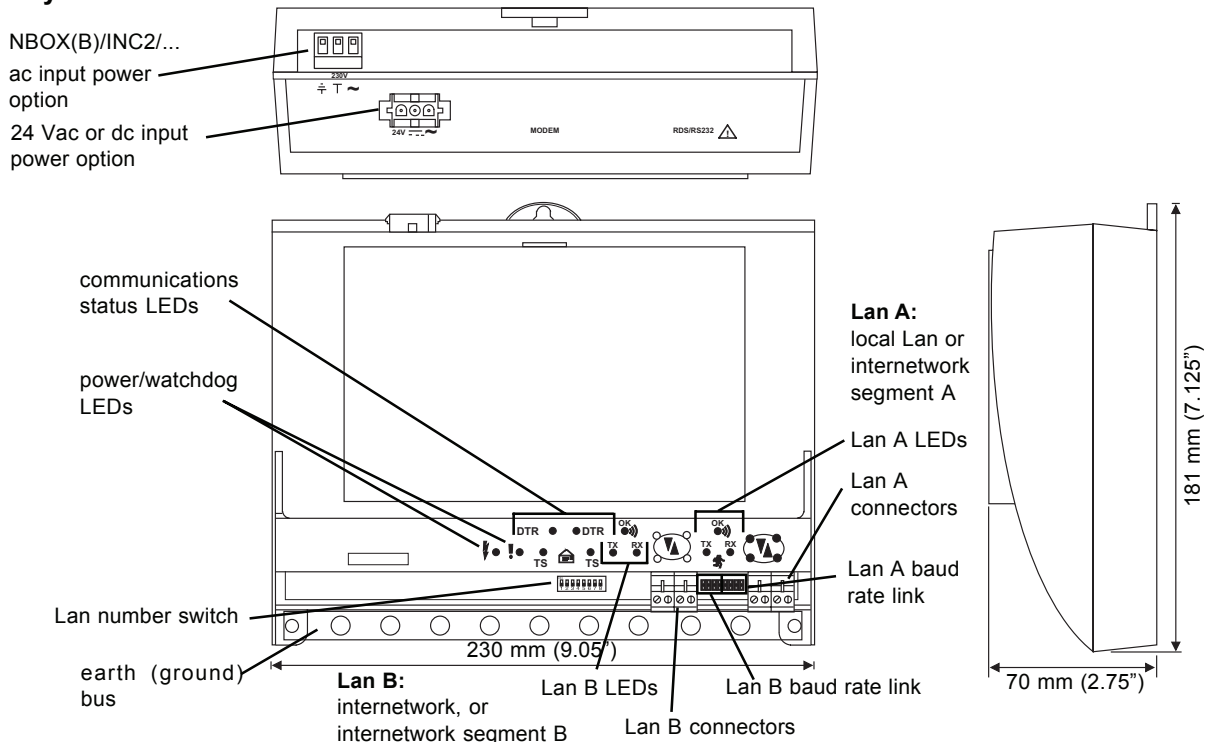
Description

The Internetwork Node Controller (INC2) allows Lans to be interconnected to create very large networks. Up to 116 INC2s can be connected to the internetwork. An INC2 may have up to 116 devices on its Lan. Different Lans can have different communication speeds, enabling compatibility with earlier systems. It is available in a plastic box (NBOX) or can be supplied in a board only version for mounting inside IQ system devices, e.g. an IQ controller. An optional metal enclosure with cable glanding knockouts is available (ENCLS/MBOX).

Features

- 116 devices on local Lan
- 116 Lans on internetwork
- Compatibility with earlier INC networks and 1k2 baud operation.
- Internetwork segmentation for multi-speed internetwork
- Increased internetwork baud rate capability (38k4 setting)
- Lan identification by text label
- IQ system Lan alarms available in 10 languages
- 230 Vac or 24 V ac/dc input power versions
- Battery backed version (NBOXB/INC2/230)

Physical



FUNCTIONALITY

The functionality of the INC2 can be split into system, hardware, and firmware sections:

SYSTEM

The INC2 allows Lans to be combined to create very large networks; it also provides certain network maintenance operations. To enable this an INC2 can operate in one of two modes:

- INC mode
- Internetwork Extension mode.

The mode of operation is determined by the address set on its address switch, and the dumb/normal pole of the address switch. When the dumb/normal pole of the address to is set to 'normal' and the address is set to a value less than 100 the INC2 will operate in INC mode. When the dumb/normal pole of the address to is set to 'normal' and the address is set to a value greater than or equal to 100 the INC2 will operate in Internetwork Extension mode.

Note that so that the INC2 may be used to replace an old INC with a Lan number=>100 without changing the Lan numbering of the system, setting the dumb/normal pole of the address to 'dumb' will force the INC2 to operate in INC mode regardless of the address setting.

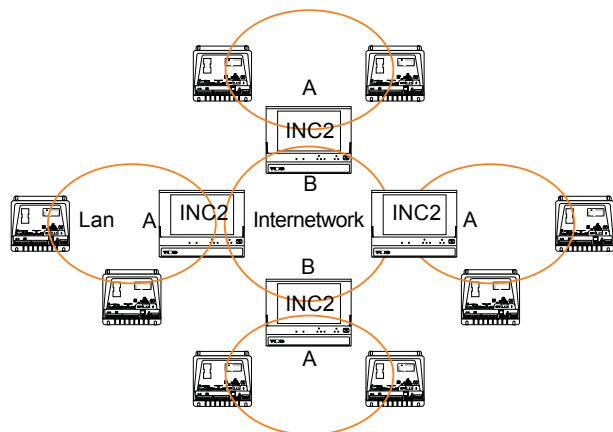
INC Mode

When operating in INC mode the INC2 enables a Lan running on a current loop network to be joined to an internetwork also running on a current loop network as shown below.

The Lan number of the Lan is defined by the INC2's address switch, known as the INC2's local Lan. The INC2 continually monitors the internetwork and local Lan communications. If it receives data on the internetwork that is addressed to a node not on its local Lan, it passes it on around the internetwork. If it receives data from the local Lan intended for a node on another Lan, it will pass it out over the internetwork. If it receives data from the internetwork intended for a node on its local Lan, it passes it to the local Lan. If it receives data from the local Lan intended for a node on its local Lan, it will pass it back over the local Lan.

The INC2 is connected so that Lan A is its local Lan, and Lan B is the internetwork.

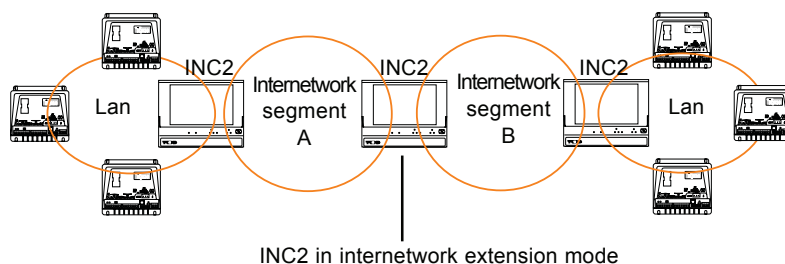
Note that when operating in this mode it is not possible to have another internetworking device (e.g another INC2 or 3xtend/EINC L) on the local Lan.



Internetwork Extension Mode

When operating in internetwork extension mode the INC2 enables an internetwork running on the IQ system current loop network to be split into segments as shown below.

A different internetwork segment is connected to each of its network connections (i.e. Lan A is internetwork segment A, Lan B is internetwork segment B). The INC2 will pass messages received from each segment across into the other segment. This gives the ability to run at different baud rates in each segment which is especially useful to allow internetwork 2 series nodes to run at 38k4 baud in one segment. *Note that only Lan B can run at 38k4 baud.*



HARDWARE

Box: There are two mechanical versions of the INC2, the boxed version, and the board version.

The boxed version (NBOX/INC2/...) is supplied in a plastic enclosure with a transparent plastic flip-up terminal cover, and is available in 230 Vac, and 24Vac versions. It has 3 point mounting to facilitate installation. There is an optional battery backup to keep the node functioning in the event of input power failure (NBOX/INC2/230 - 230 Vac version only). An optional metal enclosure with cable glanding knockouts (ENCLS/MBOX/IQ22x) is also available.

The board version will fit inside certain IQ controllers. The controllers can be ordered pre-fitted with the node (e.g. IQ2xx/INC2/..), or the node can be retrofitted by using the appropriate fitting kit, (KIT/node/IQ23x for IQ231/233, KIT/node/IQ24x for IQ241/242, or KIT/node/IQ25x for IQ250/251).

Power: The boxed version is available in two different power versions 24V (NBOX/INC2/24) and 230V (NBOX/INC2/230). NBOX/INC2/.../24 requires 24 Vac 50/60 Hz, or 24 Vdc $\pm 15\%$ at 7.5 VA. NBOX/INC2/230 (not available in USA) requires 230 Vac -15% +10%, 50 or 60 Hz, at 7.5 VA. The 230 V version is supplied with an optional terminal shroud.

The board version (INC2) requires 24 Vdc, or 18 Vac (transformer isolated), or 18-0-18 Vac (transformer centre tapped).

Fusing: No fuses are fitted. Protection is provided by self-resetting thermally protected transformer. The 24 V version is protected by a self-resetting PTC device.

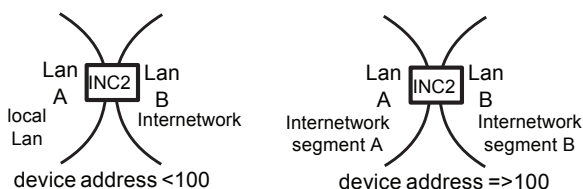
Connectors: Two part connectors are used throughout to facilitate wiring. A busbar is provided for screen termination (NBOX(B) only).

Data Backup: The INC2 uses EEPROM to hold configuration data. This is non-volatile to power failure without need for a battery.

Battery Backup: NBOX/INC2/230 only. Rechargeable batteries maintain node operations for 20 minutes (typical) during input power failure. The battery circuit is enabled by two links (J12, J13) and by default the battery is disabled (OFF). The battery links should be moved to the ON position after power up to enable the battery backup. The unit should be powered on for at least 16 hours after moving the links to the ON position to charge up the batteries.

RS232/Current Loop Network: There are two sets of 2 part network terminals, one for each network suitable for 2 wire cables. The standard IQ system node features are included (Lan OK, TX, and RX indicators, bypass relays, network alarm generation).

The two network connectors are referred to as Lan A and Lan B in the NBOX(B) versions and as Lan A and Lan B/IWRK on the board version. If INC2 address switch is <100, Lan A is local Lan and Lan B is internetwork; if address switch is $\Rightarrow 100$, Lan A is internetwork segment A, Lan B is internetwork segment B.



The Lan A and Lan B network connectors are duplicated as Dev A (J15) and DevB/Modem (J16), RS232 connectors. RS232 transmitter/receivers (e.g. for modems for leased lines) can be directly connected to these RS232 connections using adaptor cables, 10 Way Molex Female to 25 Way D type Female (CABLE/EJ100179A001). While an RS232 device is connected to an RS232 connector, the associated Lan connection will be effectively disconnected.



Address Switch: The INC2 device address on the local Lan is set to 126 (hard coded); the Lan number (1, 4 to 9, 11 to 99) is selected by the address switch poles 1 to 7. It must be set to a Lan number unique on the internetwork. With the dumb/normal switch set to 'normal' an address setting <100 identifies the mode of operation as INC mode whereas $\Rightarrow 100$ identifies the mode of operation internetwork extension mode. *Note that if the dumb/normal switch is set to dumb the INC2 may only operate as in INC mode regardless of the address setting.*

Reset: Setting the address switch to zero for more than 3 seconds, (or until both network OK LEDs flash) with power applied will reset the configuration parameters to defaults.


Baud rate links: There are separate links to select the baud rate of Lan A and Lan B (19k2, 9k6, 4k8, or 1k2). Each must be set to match other nodes on Lan A or Lan B respectively. The additional 38k4 high baud rate can be selected for Lan B only by selecting 19k2 and 1k2 simultaneously (i.e. using two links).

Current Loop Network bypass relays: In order that Lan A and Lan B continue to operate if the INC2 fails, 2 node bypass relays (one for the Lan A, and one for Lan B) are fitted to maintain network integrity in the event of failure of the node's input power, or failure of the node itself. The bypassing of a node will be recognised by the downstream node, and reported as a Lan Changed alarm.


Indicators: The INC2 has 12 indicators:

Power  (green) On when input power is on (normally ON); if OFF, power fail.
Watchdog  (red) On if a processor or software fault (normally OFF); if ON, INC2 fail.

Lan A local Lan or internetwork segment A

TX (yellow) Monitors current flow from INC2 to Lan A (normally ON). If OFF, transmit connection to next node may be broken.
RX (yellow) Monitors current flow to INC2 from Lan A (normally ON). If OFF, receive connection from previous node may be broken or short-circuited.
OK  (green) On if Lan A OK. OKA and OKB both flash if prohibited internetwork Lan number (0, 2, 3, >119) set on address switch. OFF if Lan A fault (e.g. baud rate conflict).

Lan B internetwork or internetwork segment B

TX (yellow) Monitors current flow from INC2 to Lan B (normally ON). If OFF, transmit connection to next node may be broken.
RX (yellow) Monitors current flow to INC2 from Lan B (normally ON). If OFF, receive connection from previous node may be broke or short-circuited.
OK  (green) ON if Lan B OK. OKA and OKB both flash if prohibited Lan number (0, 2, 3, >119) set on address switch. OFF is Lan B fault (e.g. baud rate conflict).

RS232 Connections

DTRA (yellow) Only used if device connected to Dev A RS232 connector; indicates INC2 busy to RS232 device A (flashes): else not used (OFF).
CTSA (yellow) Only used if device connected to Dev A RS232 connector; indicates RS232 device A busy to INC2; else not used (ON).
DTRB (yellow) Only used if device connected to Dev B RS232 connector; indicates INC2 busy to RS232 device B (flashes): else not used (OFF).
CTSB (yellow) Only used if device connected to Dev B RS232 connector; indicates RS232 device B busy to INC2: else not used (ON).

FIRMWARE

The INC2's firmware consists of a number of configuration modules (see table below), similar to those used in IQ controllers, that enable INC2's operation to be specified. These modules need to be set up as required before the INC2 will operate correctly.

Module Type	Configuration Prompts	Text Comms Module Identifier	Number of Modules
Address	R	R	1
User	U	U	1

The configuration must be done using the INC2's configuration mode which provides access to all of the INC2's parameters. Configuration mode is a built-in feature enabling the modules to be setup using the network (including across the internetwork), using any IQ system configuration utility.

The INC2 can be accessed in configuration mode using any IQ system configuration utility connected to the IQ network. Once the configuration utility has connected to the IQ network the INC2 will be located from its local Lan at address 126 on Lan 0, and from the internetwork by device address 126 on its Lan number.

Configuration Mode

When an INC2 is accessed in configuration mode the top-level configuration mode menu is as follows:

```
INC2
User  addRess
=?
```

The required options are selected by entering the relevant upper case letter and pressing **ENTER**. If a value has been changed **X+ENTER** will confirm it and return to the top menu, whereas **Q+ENTER** will quit and return with the value unchanged. Configuration mode may be protected by a password that will stop any changes being made until a valid password is entered.

User Module

The user module provides password protection against changes made to INC2 parameters. There is only one password (PIN), and if set, this PIN must be entered before changes can be made. If the PIN is not correct the changes will be discarded.

If the PIN is forgotten, a default password can be obtained from Trend by quoting the generator number and the serial number. The default password may then be entered and the protection turned off, or the password changed to one that can be remembered.

```
User
Pin
generator  1060
```

Parameter	Description	Parameter Reference
Generator	(read only) A 4-digit number that is used to generate a PIN should the existing PIN be forgotten. Will only be correct for that session of configuration mode.	G
Pin	(read/write) The 4-digit number that must be entered by the user to log on from a display, or must be sent by a tool/supervisor to authorise a change.	P

Address Module

The address module stores the INC2's addressing information and product specific non-network information.

```
ADDRESSES
lan number          0 (address switch)
iDentifier          name_of_lan
local network alarms to Address 1 on Remote lan 1
internetwork alarms to addrEss 1 on remoTe laN 1
alarm language tyPe 0 English
serial number       12345678
INC2 v6.xx 12/05/99
```

Parameter	Description	Parameter Reference
Alarm Language Type	(read/write) The language used for the network alarms. 0=English, 1=Spanish, 2=Finnish, 3=Swedish, 4=Norwegian, 5=Danish, 6=German, 7=Italian, 8=Portuguese, 9=French. Default=0 (English)	P
Identifier	(read/write) A 15 character label used to identify the Lan. 15 alphanumeric characters - not \{\;?* characters.	D
Internetwork Alarms to Address	(read/write) The alarm target device address for alarms generated by the internetwork (Lan B). It can be set to any valid address (1 to 119 excluding addresses 2, 3, and 10). 0 stops the alarms being transmitted. Default = 0	E

Address Module (Continued)

Parameter	Description	Parameter Reference
Internetwork Alarms to Lan	(read/write) The alarm target Lan number for alarms generated by the internetwork (Lan B). It can be set to any valid address (1 to 119 excluding addresses 2, 3, and 10). 0 stops the alarms being transmitted. Default = 0	T
Lan Number	(read only) The Lan number of the Lan connected to the internetwork via the INC2 (i.e. the Lan number of INC2's Lan A). If used in internetwork extension mode the Lan number is only used to address the INC2 for configuration purposes (i.e. address 126 on Lan A). Range = (1 to 119 excluding addresses 2, 3, and 1). It is specified by the address switch setting. If the address is <100, the INC2 operates in INC mode and if =>100 it operates in internetwork extension mode.	n
Local network Alarms to Address	(read/write) The alarm target device address for alarms generated by the local network (Lan A). It can be set to any valid address (1 to 119 excluding addresses 2, 3, and 10). 0 stops the alarms being transmitted. Default = 0	A
Local network Alarms to Lan	(read/write) The target Lan number for alarms generated by the local network (Lan A) It can be any valid address (1 to 119 excluding 2, 3, and 10). 0 stops the alarms being transmitted Default = 0.	R
Serial number	(read only) The unit's serial number, also shown on the unit's label.	s
INC2v1.xxx dd/mm/yy	(read only) A 25-character string containing device type, firmware version, and date.	C

Text Communications

The INC2 has limited text communications capability. U(P) Pin number, R(D) iDentifier, R(c) version, U(g) default PIN generator, and R(s) serial number.

Identification

The INC2 identifies itself as 'INC v6'.

Alarms

The INC2 helps to maintain a high level of network integrity by performing continuous checking of network messages. The following text alarms are generated when faults are found and sent to the specified address. It can deliver the alarms to two destinations set up in the address module: one for alarms from the local network (Lan A), and another for alarms from the internetwork (Lan B).

The following alarms are generated when faults or state changes are found the local network (Lan A). They are sent to the address defined in the local network alarms section of the address module.

Alarm	Description	Alarm Code
Lan Broken	Indicates a break in the Lan communications.	NKBK
Lan Changed	A node has gone from or been added to the Lan.	NKCH
Lan OK	Lan communications are restored.	NKOK
Duplicate address	The INC2's address is duplicated on the Lan (i.e. another address 126, another INC type node). Only generated after the Lan has been mapped.	NKDA
Caused Re-Map	INC2 has started mapping its Lan after a network change.	NKCH
All Maps Built	Lan mapping is finished.	NKCH

The alarms are in the format shown below:

Remote LAN From INC2 on Lan <xxx> - <Alarm> <Alarm Code>

Where <xxx> is the Lan number of the INC2. <Alarm> is the alarm text as in the 'Alarm' column of the table above. <Alarm Code> is the alarm code as in the 'Alarm Code' column of table.

The following alarms are generated when faults or state changes are found on the internetwork (Lan B). They are sent to the address defined in the internetwork alarms address section of the address module.

Alarm	Description	Alarm Code
Internetwork Broken	Indicates a break in the internetwork communications.	NKBK
Internetwork Changed	A node has gone from or been added to the internetwork.	NKCH
Internetwork OK	Internetwork communications are restored.	NKOK
Duplicate Lan address	The INC2's Lan number is duplicated on the internetwork. Only generated after the internetwork has been mapped.	NKDA
lwrk Caused Re-Map	INC2 has started mapping its internetwork after a network change.	NKCH
lwrkAll Maps Built	Lan mapping finished.	NKCH

Alarms (Continued)

The alarms are in the format shown below:

Internetwork From INC2 on Lan <xxx> - <Alarm> <Alarm Code>

Where <xxx> is the Lan number of the INC2. <Alarm> is the alarm text as in the 'Alarm' column of the table above. <Alarm Code> is the alarm code as in the 'Alarm Code' column of table.

COMPATIBILITY

38k4 baud is only compatible with node 2 devices (e.g 3xtend/EINC L).

The dumb/normal switch (SW1, pole 8) should be set to dumb where the INC2 is being used to replace an INC (not INC2) with a Lan number equal to or greater than 100 if Lan numbering is to be maintained the same.

For configuration on the local Lan, an INC2 can be addressed as device 126 on either Lan 0 or Lan 126; the old INC can only be addressed as device 126 on Lan 126.

When adding INC2s to existing systems using autodialling, autodialled messages may not get replies. The firmware versions for MNC, ANC, AND XN28 should be upgraded to issue 2.5 or later.

INSTALLATION

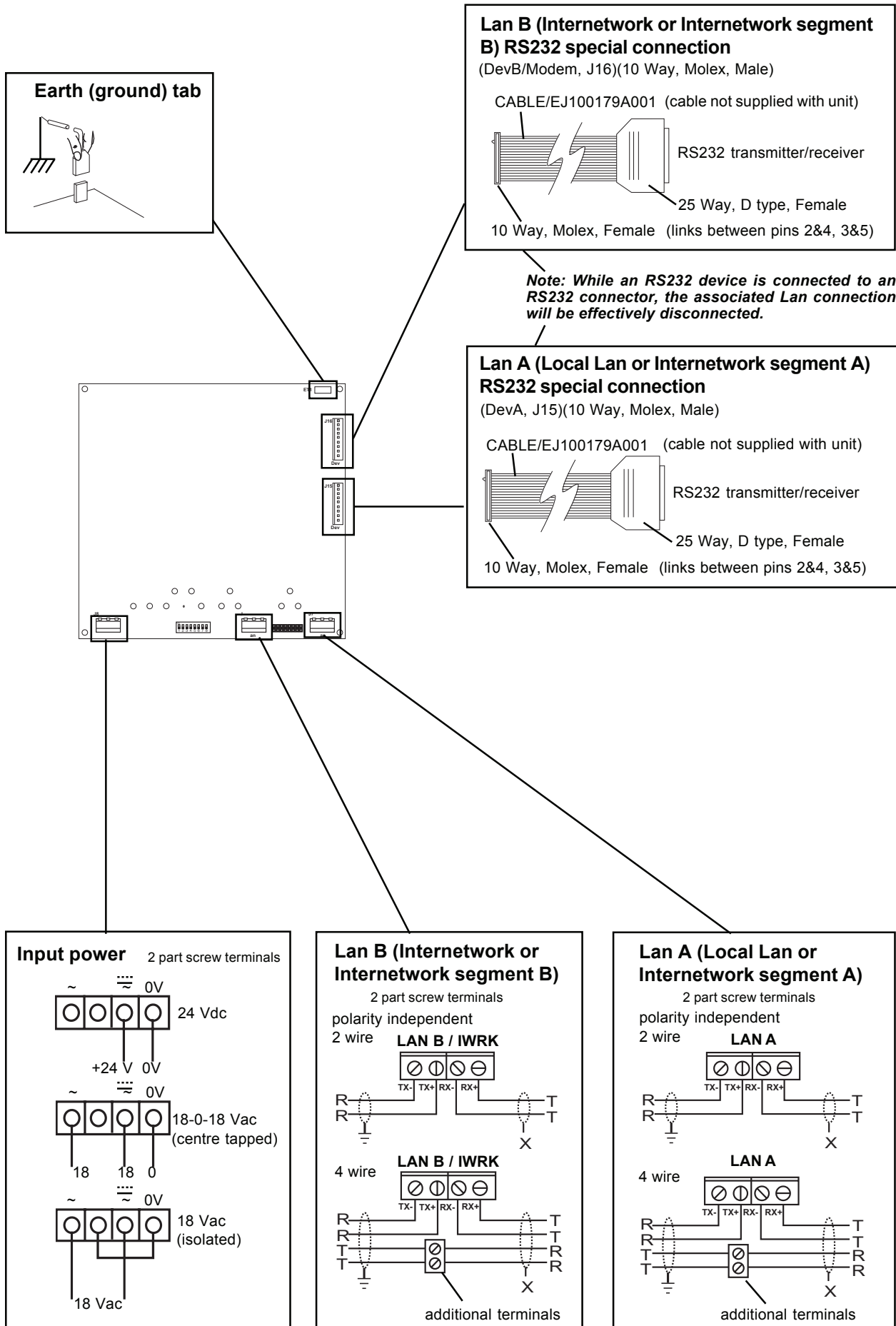
If the INC2 is supplied as a board, it must first be mounted in a suitable enclosure (e.g. certain IQ controllers, NBOX). It is normally mounted on 4 pillars. The NBOX(B)/INC2 must be mounted on a flat surface using 3 off 6 mm (0.24") holes using screws/rawl plugs. For INC2/USA only, the unit is UL rated as 'UL916, accessory to open energy management equipment'. The INC2 installation involves the following procedure:

- | | |
|---------------------------------------------|----------------------------------------------------------|
| Mounting the unit in position | Setting Lan A baud rate |
| Routing cables | Setting Lan B baud rate |
| Connecting the network, and internetwork | Connecting power input power |
| Setting Lan number switch | Configuring (alarm addresses, identifier, PIN, language) |
| Setting dumb/normal switch (if appropriate) | Testing |

A full description of installing the NBOX(B)/INC2 is covered in the NBOX(B) Installation Instructions (TG200220), whereas instructions for installing an INC2 board only are provided in the INC2 Installation Instructions (TG200231). The installation of an NBOX(B)/INC2 using an ENCLS/MBOX/IQ22x is covered in the ENCLS/MBOX/IQ22x installation instructions TG200203.

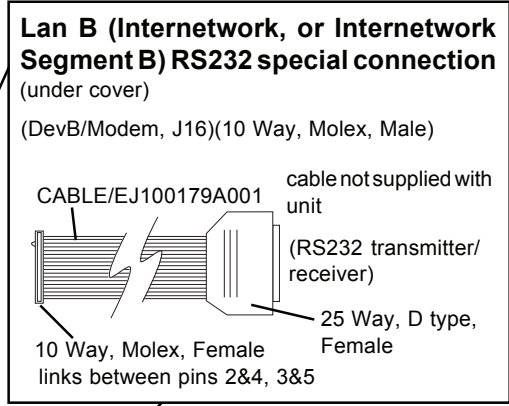
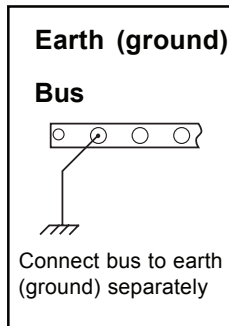
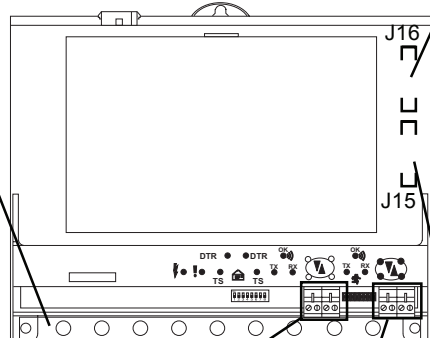
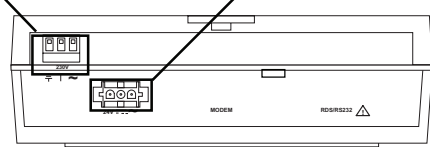
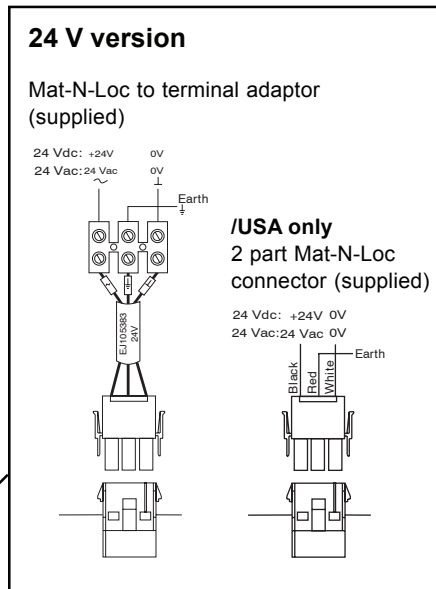
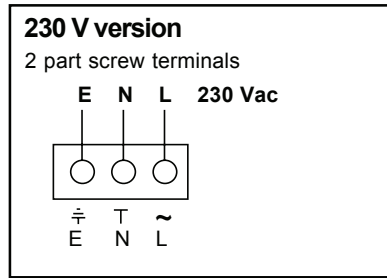
CONNECTIONS

Board - INC2

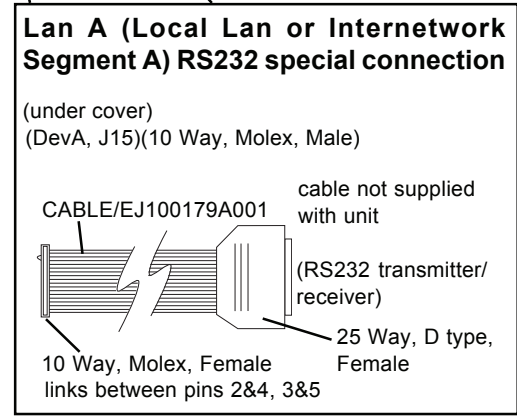
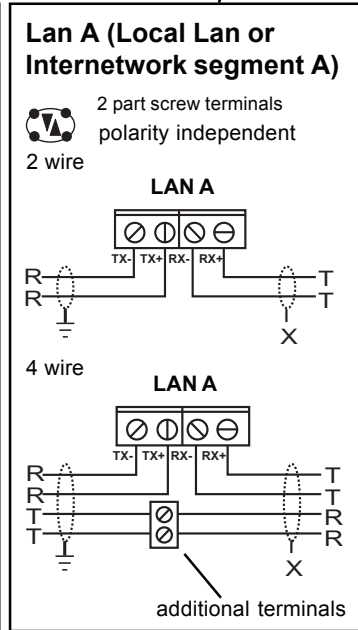
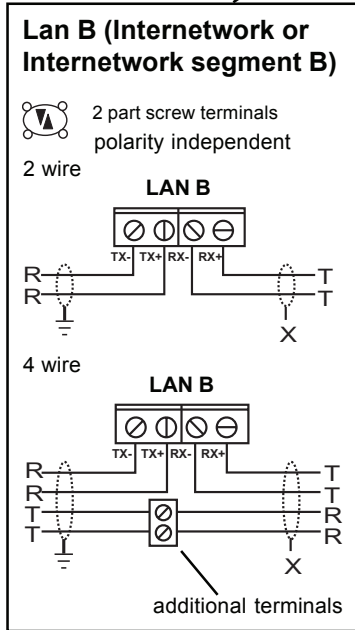


INSTALLATION (Continued)

Boxed - NBOX(B)/INC2



Note: While an RS232 device is connected to an RS232 connector, the associated Lan connection will be effectively disconnected.



DISPOSAL

CONTROL OF SUBSTANCES HAZARDOUS TO HEALTH UK GOVERNMENT REGULATIONS 2002 (COSHH) ASSESSMENT FOR DISPOSAL OF INC2. No parts affected.

RECYCLING.

All plastic and metal parts are recyclable. The printed circuit board may be sent to any PCB recovery contractor to recover some of the components for any metals such as gold and silver.



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.

ORDER CODES

Non USA Order Code	USA Order Code	
INC2	not available in USA	INC2 board only.
NBOX/INC2/230	not available in USA	INC2 for 230 Vac input power in a NBOX plastic enclosure, including busbar and screws.
NBOX/INC2/24	not available in USA	INC2 for 24 Vac input power in a NBOX plastic enclosure, including busbar and screws.
NBOX/INC2/USA/UL/24	882000260	UL rated INC2 for 24 Vac input power in a NBOX plastic enclosure, including busbar and screws.
NBOXB/INC2/230	not available in USA	Battery backed INC2 for 230 Vac input power in a NBOX plastic enclosure, including busbar and screws.

Accessories

Non USA Order Code	USA Order Code	
KIT/node/IQ25x	not available in USA	Mountings required to retrofit a node inside an IQ250/251 controller
KIT/node/24x	not available in USA	Mountings required to retrofit a node inside an IQ241/242 controller
KIT/node/IQ23x	not available in USA	Mountings required to retrofit a node inside an IQ231/233 controller
IQ2xx/INC2/..	not available in USA	INC2 fitted inside an IQ231, 233, 241, 242, 250, or 251 (e.g. IQ241/INC2/... for INC2 inside IQ241)
CABLE/EJ100179A001	not available in USA	INC2 to RS232 device adaptor cable, 10 Way, Molex, Female to 25 Way, D type, Female
ENCLS/MBOX/IQ22x	not available in USA	Metal box with hinged front panel for NBOX device, including busbar, screws, and cable glanding knockouts
TP/1/1/22/HF/200	not available in USA	200 m of screened single twisted pair cable for use on the IQ system Lan and for inputs/outputs (Belden equivalent 8761NH)
TP/2/3/22/HF/200	not available in USA	200 m of screened twin twisted pair cable for use on the IQ system Lan (Belden equivalent 8723NH)

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SPECIFICATIONS

Electrical

Input power	
INC2 (board)	:24 Vdc ±15 % at 250 mA, or 18-0-18 Vac ±15 % (transformer centre tapped) 50 or 60 Hz 5 VA, or 18 Vac ±15 % (transformer isolated) 50 or 60 Hz 5 VA. (board must be earthed (grounded)).
NBOX(B)/INC2	
/230	:230 Vac -15% +10%, 50 or 60 Hz at 7.5 VA.
/24	:24 Vac 50/60 Hz, or 24 Vdc ±15 % at 7.5 VA (not NBOXB)
Fusing	:No fusing, protected by self-resetting devices.
Data Backup	:No battery needed, configuration data stored in non-volatile memory
Battery Backup	
NBOXB/INC2/230	:Maintains board operation for 20 minutes (typical) during input power failure.
Lan	:20 mA two wire current loop, opto-isolated polarity independent, receiver, balanced transmitter
Internetwork	:20 mA two wire current loop, opto-isolated polarity independent, receiver, balanced transmitter
Distance	
Lan/Internetwork	:Between units dependent on cable type (see table).

Cable	1k2 baud	4k8 baud	9k6 baud	19k2 baud	38K4 baud	No. of Wires
Belden 9182	1000 m (1090 yds)	1000 m (1090 yds)	1000 m (1090 yds)	700 m (765 yds)	500 m (545 yds)	2
Belden 9207	1000 m (1090 yds)	1000 m (1090 yds)	1000 m (1090 yds)	500 m (545 yds)	350 m (380 yds)	2
IQ system TP/1/1/22/HF/200 (Belden 8761)	1000 m (1090 yds)	1000 m (1090 yds)	700 m (765 yds)	350 m (380 yds)	250 m (270 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)	125 m (135 yds)	4

Baud rate

Lan	:Selectable by links 1k2, 4k8, 9k6, 19k2 baud-set to be same as other nodes on Lan.
Internetwork	:Selectable by links 1k2, 4k8, 9k6, 19k2, 38k4 baud - set to be same as other nodes on internetwork.
Internetwork address	:Lan number selectable by board switches - set to be unique on internetwork. If dumb/normal switch is dumb, 116 nodes addressable (1, 4 to 9, 11 to 119). If dumb/normal switch is normal, addresses 100 to 119 cause INC2 to assume internetwork repeater mode; addresses 1, 4 to 9, 11 to 99 (96 nodes) assume Lan/internetwork gateway mode.
Device address	:The address of the INC2 on the Lan is preset at 126.

Mechanical

Dimensions	
INC2 (board)	:151 mm (5.94") x 160 mm (6.3") x 35 mm (1.38")
NBOX(B)/INC2	:230 mm (9.05") x 181 mm (7.125") x 70 mm (2.75")
Enclosure Material	
NBOX(B)	:Box - ABS, terminal cover - clear Styrolux
Protection	
NBOX(B)	:IP30
Weight	
Board	:0.3 kg (0.66lb)
NBOX	:1.0 kg (2.2 lb)
NBOXB	:1.1 kg (2.42lb)
Connectors	
Power	:2 part connector screw terminals 0.5 to 2.5 mm ² cross section area (14 to 20 AWG) cables.
Lan/Internetwork	:2 part connector screw terminals 0.5 to 2.5 mm ² cross section area (14 to 20 AWG) cables.
RS232	:Flat 10 Way, Molex, Female

Indicators

Power	:(green) On when input power is on.
Watchdog	:(red) On if a processor or software fault.
DTRA	:(yellow) Only used if RS232 device connected to Dev A connector; indicates INC2 busy to device A (flashes).
CTSA	:(yellow) Only used if RS232 device connected to Dev A connector; indicates device A busy to INC2.
DTRB	:(yellow) Only used if RS232 device connected to Dev B connector; indicates INC2 busy to device B (flashes).
CTSB	:(yellow) Only used if RS232 device connected to Dev B connector; indicates device B busy to INC2.
Lan A local lan or internetwork segment A	
TX	:(yellow) Monitors current flow from INC2 to Lan A.
RX	:(yellow) Monitors current flow to INC2 from Lan A.
OK	:(green) On if local Lan A OK. OKA and OKB both flash if prohibited Lan number (0, 2, 3, >119) set on address switch.
Lan B internetwork or internetwork segment B	
TX	:(yellow) Monitors current flow from INC2 to Lan B.
RX	:(yellow) Monitors current flow to INC2 from Lan B.
OK	:(green) On if local Lan B OK. OKA and OKB both flash if prohibited Lan number (0, 2, 3, >119) set on address switch.

Environmental

EMC

Emissions :EN50081-1

Immunity :EN50082-2

Electrical safety :EN61010

UL

INC2/USA The unit is UL rated as 'UL916, accessory to open energy management equipment'.

Ambient limits

Storage :-10 °C (14 °F) to +50 °C (122 °F)

Operating :0 °C (32 °F) to 45 °C (113 °F)

Humidity :0 to 95 %RH non-condensing

Flammability

Casing material :Flame retardance, UL99V0 Glow wire test, UL746A(3).

Version: This document covers:

Firmware :v6.1

Board :AP104178v3

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