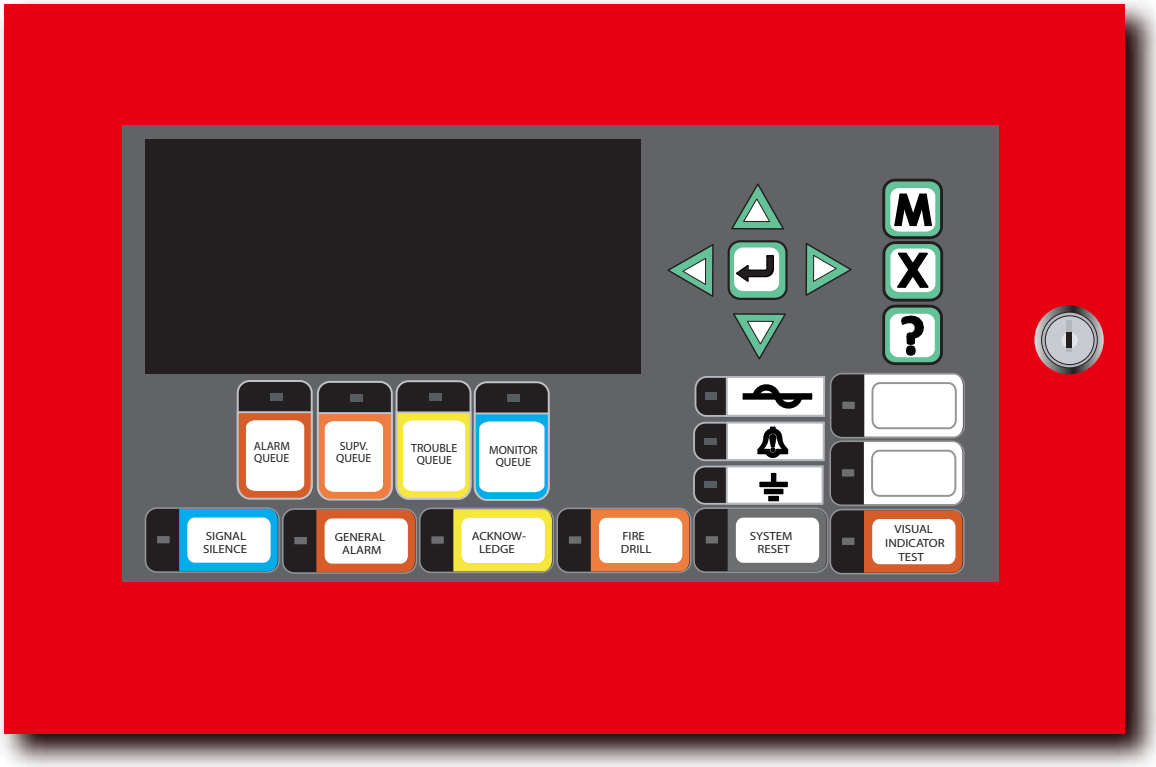
NITTAN

NFU-AN-GL

Network Remote Graphic Annunciator Panel



Installation and Operation Manual

LT-6033NIT Rev 0
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NITTAN

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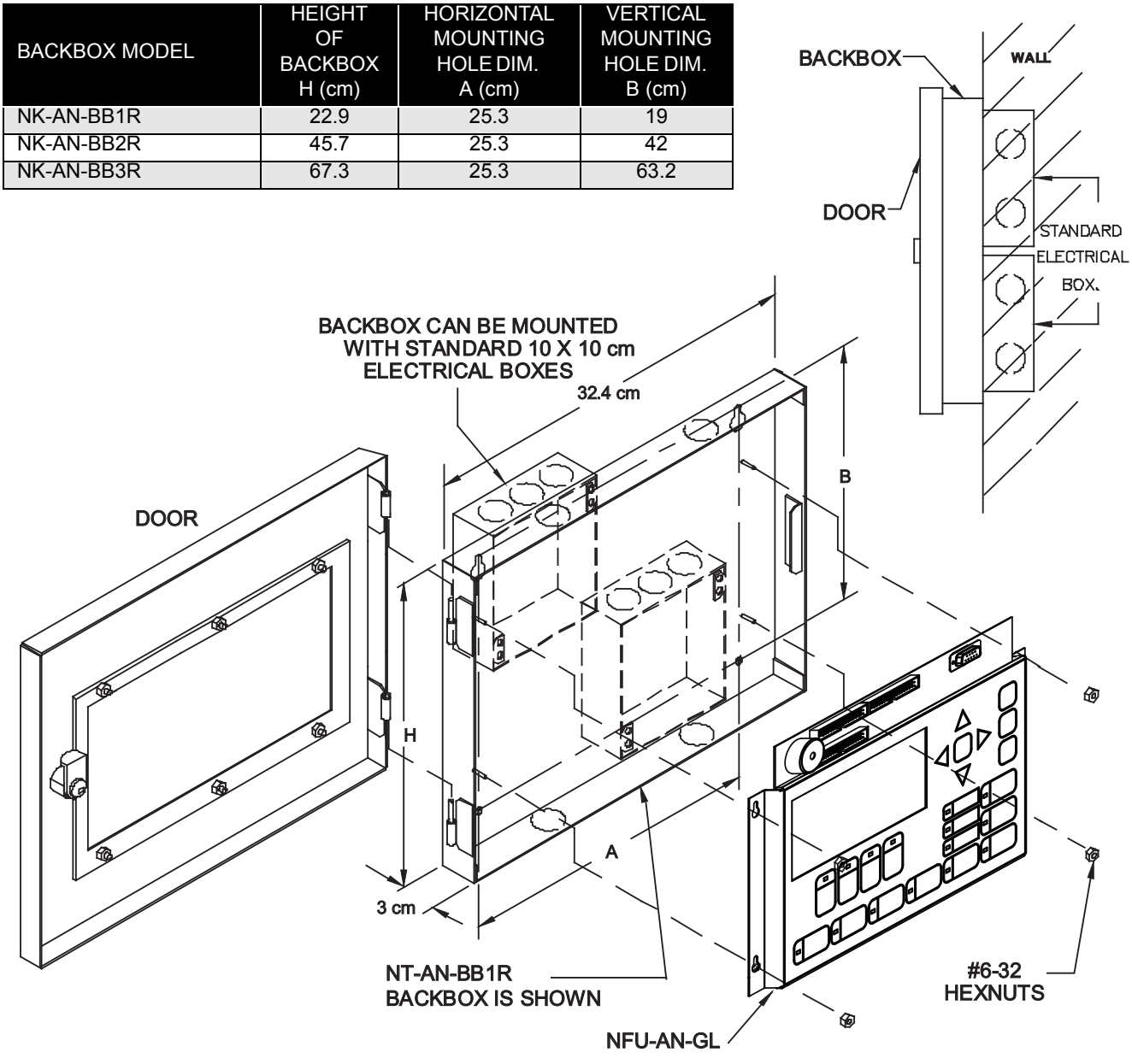
1.0 Introduction

Nittan graphical LCD remote shared display is the **NFU-AN-GL**. The NFU-AN-GL provides an exact replica of the main Nittan Fire Alarm Panel display (except with a 9-event 24-line graphical display) at a remote location. It is equipped with a simple menu system complete with a directional keypad and switches for Enter, Menu, Cancel and Info. The NFU-AN-GL supports up to a maximum of 41 frames, 13 for the first header P5, and 14 frames per headers P6 and P7. A ”frame” is a measure of display capacity. Each display module has its own frame measure. The displays available are NK-TZDS-48A (3 frames), NK-IPS-24 (2 frames), and NK-FDX-8K (1 frame). There are five types of enclosures available: the NK-AN-BB1R, NK-AN-BB2R, and NK-AN-BB3R which can take 1,2, and 3 chassis respectively. The NFU-AN-GL may also be mounted in the NK-7000LBB backbox as part of a central location or node.

2.0 Installation Instructions

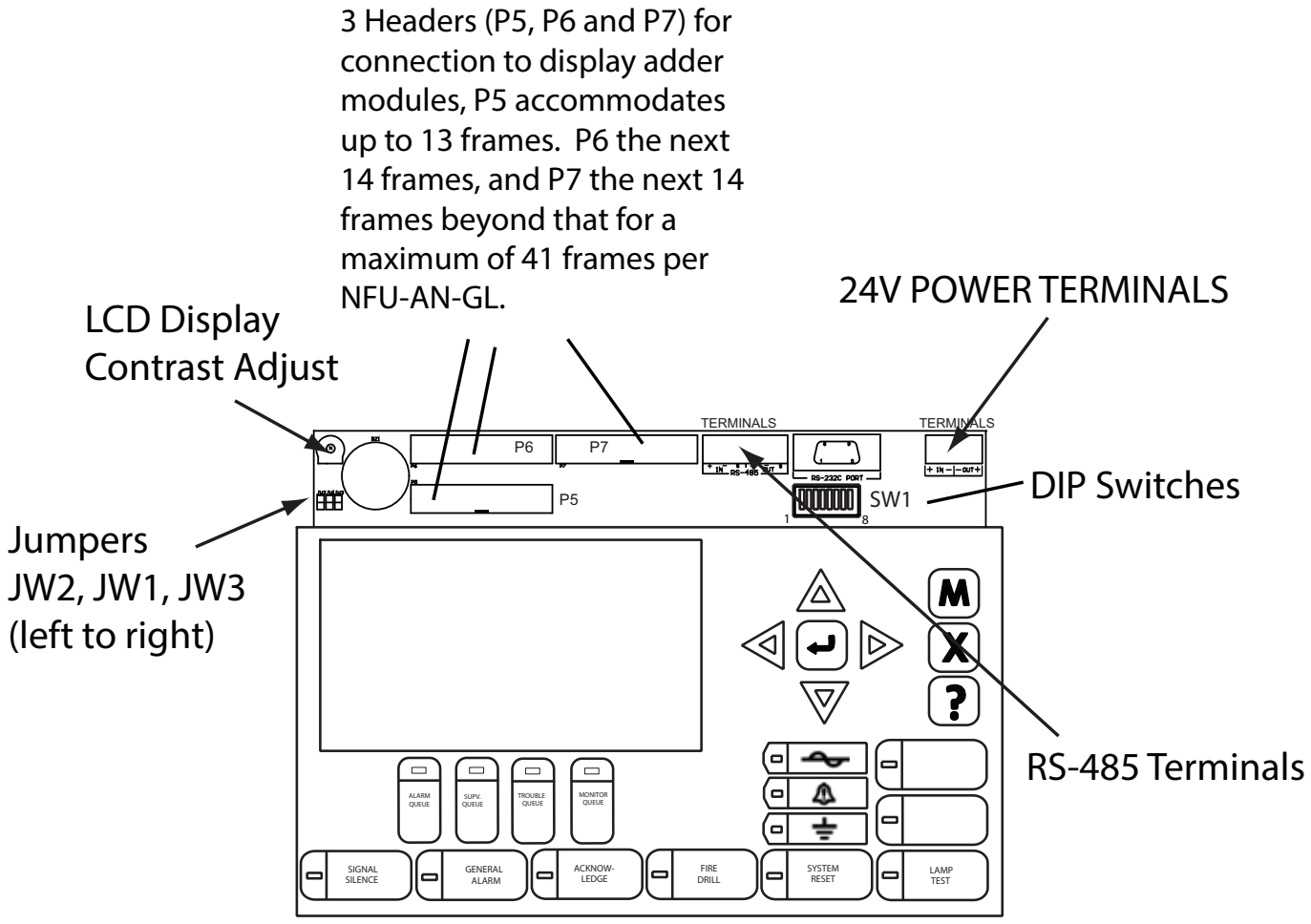
BACKBOX MODEL	HEIGHT OF BACKBOX H (cm)	HORIZONTAL MOUNTING HOLE DIM. A (cm)	VERTICAL MOUNTING HOLE DIM. B (cm)
NK-AN-BB1R	22.9	25.3	19
NK-AN-BB2R	45.7	25.3	42
NK-AN-BB3R	67.3	25.3	63.2



3.0 Jumper Settings

There are 3 jumpers located on the top left-hand side of the board position left to right as JW2, JW1 and JW3.

Jumper	Function
JW1	Left OPEN, used for hard reset
JW2	Jumpered (jumper installed) for watchdog timer
JW3	Left OPEN, if buzzer (located on the right-side of jumper JW3) is to be silenced.



4.0 DIP Switch Settings

Each NFU-AN-GL Shared Display Annunciator needs to be assigned a unique address via the DIP switches of SW1 located on the top right-hand side of the board.

The NFU-AN-GL DIP switches are defined as:

DIP SWITCH SETTINGS

DIP switches are for assigning an address to the NFU-AN-GL. Binary addresses 33 to 39 are available with the least significant bit being switch SW1-1 and the most significant bit being SW1-6. The ON setting is active binary. DIP switches SW1-7 and SW1-8 are not used and left in the OFF position.

For example, address 33 is set by placing DIP switches SW1-6 and SW1-1 to the ON position and all the other DIP switches to the OFF position.

Refer to Network Fire Alarm Manual as to whether addresses 37 to 39 are available.

THE ON SETTING IS ACTIVE. The addresses available for a NFU-AN-GL are 33 to 39 per each node. Set the address as follows in the table below:

NFU-AN-GL Remote Annunciator Address Setting (DIP SWITCH SW1)

NFU-AN-GL Address	SW1-1	SW1-2	SW1-3	SW1-4	SW1-5	SW1-6	SW1-7	SW1-8
33	ON	OFF	OFF	OFF	OFF	ON	Leave in “OFF” position as Factory Set.	
34	OFF	ON	OFF	OFF	OFF	ON		
35	ON	ON	OFF	OFF	OFF	ON		
36	OFF	OFF	ON	OFF	OFF	ON		
37	ON	OFF	ON	OFF	OFF	ON		
38	OFF	ON	ON	OFF	OFF	ON		
39	ON	ON	ON	OFF	OFF	ON		

5.0 Cable Connections

On the NK-TZDS-48A Adder Annunciator Chassis:

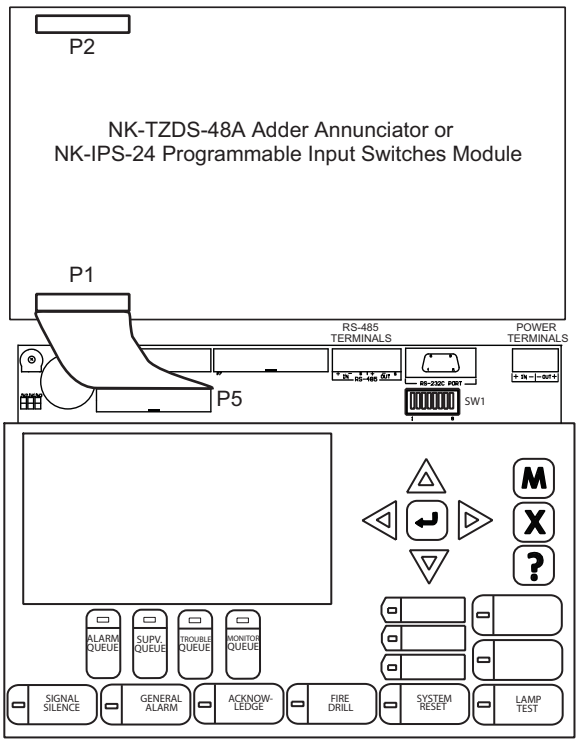
P1: Connects to the NFU-AN-GL main annunciator chassis, or to the previous display modules NK-TZDS-48A, NK-IPS-24 or other display adder.

P2: Connects to the next NK-TZDS-48A, NK-IPS-24 or other display adder.

On the NK-IPS-24 Programmable Input Switches Module (shown here as an example):

P1: Connects to the NFU-AN-GL main annunciator chassis, or to the previous display module.

P2: Connects to the next display module.



NFU-AN-GL GRAPHIC ANNUNCIATOR BOARD

On the NFU-AN-GL Shared Display Chassis:

P5: Connects to the first display module. This connector can support up to13 frames.

P6: Connects up to 13 frames.

P7: Connects up to 13 frames.

If all headers are used, the NFU-AN-GL can support up to a maximum of 41 frames.

Terminals: See *Wiring Instructions* on page 5 for details.

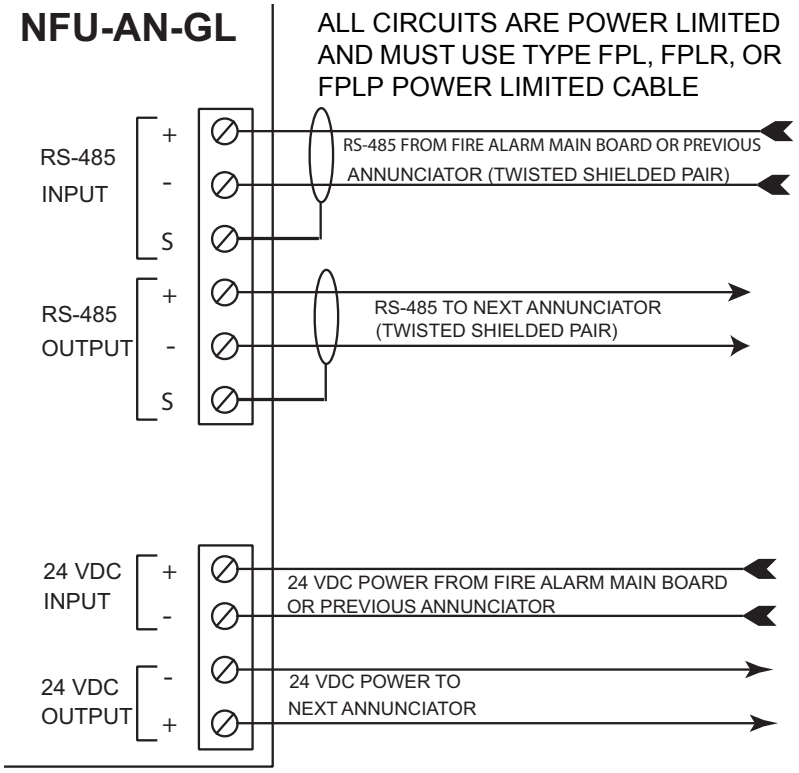
SW1: See *DIP Switch Settings* on page 3 for details.

Note: The last annunciator must have a 120 ohm E.O.L. resistor connected to the RS-485 output terminals.

6.0 Wiring Instructions

The RS-485 wiring to the NFU-AN-GL Display Module is recommended to be twisted shielded pair as shown in the diagram to the right. The wire gauge may be:

- 22 AWG up to 2000 ft.
- 20 AWG up to 4000 ft.



The RS-485 wiring from the fire alarm control panel to the annunciator(s) must be point-to-point from the fire alarm panel to the first annunciator, then to the next annunciator, and so on. No star wiring or T-tapping is allowed. Each NFU-AN-GL Shared Display has a 120 ohm end-of-line resistor on its RS-485 output terminals. This is removed on all except the last wired module. The 24 VDC field wiring needs to be of an appropriate gauge for the number of annunciators and the total wiring run length. Use the *Current Drain for Battery Calculations* on page 7 to calculate the maximum current for all annunciators summed together.

Note: All circuits are power limited and must use type FPL, FPLR, or FPLP power limited cable.

ATTENTION: Accidentally connecting any of the 24 VDC wires to the RS-485 wiring will result in damage to the annunciator and/or to the fire alarm control panel to which it is connected.

Total Maximum Current for all Annunciators	Maximum Wiring Run to Last Annunciator								Max. Loop Resistance
	18AWG		16AWG		14AWG		12AWG		
Amperes	ft	m	ft	m	ft	m	ft	m	Ohms
0.12	1180	360	1850	567	3000	915	4250	1296	15
0.30	470	143	750	229	1200	366	1900	579	6
0.60	235	71	375	114	600	183	850	259	3
0.90	156	47	250	76	400	122	570	174	2
1.20	118	36	185	56	300	91	425	129	1.5
1.50	94	29	150	46	240	73	343	105	1.2
1.70	78	24	125	38	200	61	285	87	1.0

7.0 Specifications and Features

Enclosure Models

NK-AN-BB1R: Backbox for one annunciator chassis with keylock door.

NK-AN-BB2R: Backbox for up to two annunciator chassis with keylock door.

NK-AN-BB3R: Backbox for up to three annunciator chassis with keylock door.

Notes: Enclosure finish: painted semi-gloss off white, except for models with suffix “R” which are painted red.

Material: NK-AN-BB1R, NK-AN-BB2R, and NK-AN-BB3R are 18 GA. (0.12 cm) thick CRS except the NK-AN-BB3R Door, which is 16 GA (0.15 cm).

See *Installation Instructions* on *page 1* for enclosure dimensions.

Module Models

NK-AN-LCDG Remote Shared Display LCD Annunciator

- 24V DC nominal.
- Interconnects via one ribbon cable (or wiring) to the Network Fire Alarm Panel or to previous NK-AN-LCDG.
- Provides exact functions as the Network Fire Alarm main display.
- Standby: 139 mA Max., All LEDs ON: 164 mA Max.

NK-TZDS-48A Adder Annunciator (48 Display Points)(3 frames)

- Interconnects via one ribbon cable from NK-AN-LCDG or previous display module and to the next display module.
- Annunciation of up to 48 additional points.
- Standby: 22 mA Max., All LEDs ON: 262 mA Max.

NK-IPS-24 Adder Annunciator (48 Display Points)(2 frames)

- Interconnects via one ribbon cable from NK-AN-LCDG or from previous display module and to the next display module.
- Annunciation of up to 48 additional points.
- Standby: 10 mA Max., All LEDs ON: 262 mA Max.

8.0 Battery Calculations

Current Drain for Battery Calculations

The following are the currents for the NK-AN-LCDG to which is added the number of NK-TZDS-48A, NK-IPS-24 or NK-FDX-8 used:

Normal Standby Current = 139mA + (_____ x 22mA) + (_____ x 10mA) = _____
[number of NK-TZDS-48A] [number of NK-IPS-24]

Maximum Alarm Current = 164mA + (_____ x 35mA) + (_____ x 15mA) = _____
[number of NK-TZDS-48A] [number of NK-IPS-24]

The **Normal Standby Current** is used for battery size calculations (see the Network Fire Alarm Manual for battery calculations) and includes the current drain for the Trouble Buzzer, Trouble LED, and one alarm LED.

The **Maximum Alarm Current** is used to calculate the wire size required (see Wiring Table on page 5).

9.0 Warranty

9.1 Nittan warrants to the customers that:

(a) all products supplied hereunder will be of merchantable quality and will comply with any specification agreed between Nittan and customer.

(b) it is not aware of any rights of any third party in the market which would or might render the sale of the products, or the use of any of the trade marks on or in products, or the use of any of the trade marks on or in relation to the products, unlawful.

9.2 In the event of any breach of Nittan's warranty in Clause 9.1(a) whether by reason of defective materials, production faults or otherwise, Nittan's liability shall be limited to:

(a) replacement of the products in question; or
(b) at Nittan's option, repayment of the price where this had been paid.

And the warranty period is three (3) years from the shipment from Nittan's factory.

9.3 Notwithstanding anything to the contrary in this warranty terms, Nittan shall not be liable to the customer by reason of any representation or implied warranty, condition or other term or any duty at common law, or under the express terms of this warranty terms, for any consequential loss or damage whether for loss of profit or otherwise and whether occasioned by the negligence of Nittan or its employees or agents or otherwise, arising out of or in connection with any act or omission of Nittan relating to Nittan or supply of the products, their use by any customer.

Customer shall indemnify Nittan against all loss, damages, liabilities, costs and expenses which Nittan may suffer or incur as a result of or in connection with any breach by customer of this warranties terms or any laws or regulations of any jurisdiction or any rules of any governing authorities.