Operation Manual

IN3213 High Resolution 13W3 Distribution Amplifier

IN3262 High Resolution VGA Distribution Amplifier

Installation and Safety Instructions

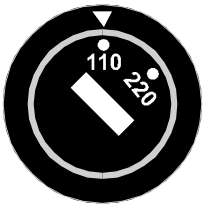
For Models without a Power Switch:

The socket outlet shall be installed near the equipment and shall be accessible.

For Models with 110 / 220V Power Selector:

Caution: Before applying power to this unit, the voltage selector must be set to the appropriate setting to match local A/C line voltage. Improper setting of the voltage selector may cause damage to the unit and create a potential fire hazard.

The voltage selector is a round switch located next to the A/C power input connector which looks like this:



Using a straight slot screwdriver or small coin, rotate the selector to the correct position so that the arrow lines up with 110 or 220 as appropriate for local power line voltage as indicated in the chart below:

Local A/C Voltage	Voltage Selector Setting
110 ~ 120 VAC	110
220 ~ 240 VAC	220

For all Models:

No serviceable parts inside the unit. Refer service to a qualified technician.

For Models with Internal or External Fuses:

For continued protection against fire hazard, replace only with same type and rating of fuse.

For IN2001 / IN3234 / IN3236 / IN3502 / IN3504 / IN3506 / IN3562 / IN3564 / IN3566 / IN3572 / IN3574 / IN3576:

Caution: Double pole / neutral fusing.

For all Models with Integral Lithium Battery:

Caution: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Instructions d'installation et de sécurité

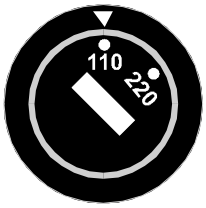
Pour les modèles sans interrupteur de courant:

La prise de courant d'alimentation sera installé près de l'équipement et sera accessible.

Pour les modèles avec un sélecteur d'alimentation 110V/220V:

Attention: Avant de connecter l'appareil au circuit d'alimentation, le sélecteur de courant doit être positionné sur la sélection appropriée correspondant au voltage du circuit de courant alternatif local. Une mauvaise sélection peut engendrer des dommages à l'appareil et créer un danger d'incendie.

Le sélecteur d'alimentation est un commutateur rond positionné près du connecteur d'alimentation. Il se représente comme suit:



A l'aide d'un tourne-vis plat ou d'une pièce de monnaie, le sélecteur peut être tourné dans la position adéquate en veillaut que la flèche corresponde avec 110 ou 220, en fonction de la valeur du circuit de courant local. (Voir tableau ci-dessous)

Circuit local AC	Position Sélecteur
110 ~ 120 VAC	110
220 ~ 240 VAC	220

Pour tout les modèles:

Pas de composants à entretenir à l'intérieur. Confiez toute réparation à un technicien qualifié.

Pour les modèles équipés de fusibles internes ou externes:

Afin d'éviter tout danger d'incendie, ne remplacer qu'avec le même type et la même valeur de fusible.

Pour IN2001 / IN3234 / IN3236 / IN3502 / IN3504 / IN3506 / IN3562 / IN3564 / IN3566 / IN3572 / IN3574 / IN3576:

Attention: Double pôle / fusible au neutre.

Pour tout les modèles avec une batterie au lithium interne:

Attention: Danger d'explosion si la batterie est incorrectement remplacée. Ne remplacez la batterie qu'avec le même modèle, ou avec un modèle recommandé par le constructeur. Traitez les batteries usagées selon les instructions du fabricant, ou selon les normes écologiques en viguer.

Installations und Sicherheitshinweise

Für Geräte ohne Netzschalter:
Die Netzsteckdose soll in de Nähe des Gerätes installiert und frei zugänglich sein.

Für Geräte mit 110 / 220V Spannungswähler:

Achtung: Bevor Sie dem Gerät Spann ung zuführen, muß der Spannungswähler entsprechend der Spannung des lokalen Wechselspannungsnetzes eingestellt werden. Die falsche Stellung des Spannungswählers kann eine Beschädigung des Gerätes und möglicherweise ein Feuer verursachen.

Der Spannungswähler ist ein runder Schalter in der Nähe der Netzeingangsbuchse mit folgendem Aussehen:

Drehen Sie den Wähler mit einem normalen Schraubenzieher oder einer kleinen Münze so, daß der Pfeil auf die 110 oder 220 zeigt, entsprechend der Spannung Ihr es lokalen Netzes wie hier angezeigt:

Lokale Netzwechselspannung	Stellung des Spannungswählers
110 ~ 120 V	110
220 ~ 240 V	220

Für alle Geräte:
Keine Wartung innerhalb des Gerätes notwendig. Reparaturen nur durch einen Fachmann!

Für Geräte mit interner oder externer Sicherung:
Für dauernden Schutz gegen Feuergefahr darf die Sicherung nur gegen eine andere gleichen Typs und gleicher Nennleistung ausgewechselt werden.

Für IN2001 / IN3234 / IN3236 / IN3502 / IN3504 / IN3506 / IN3562 / IN3564 / IN3566 / IN3572 / IN3574 / IN3576:
Achtung: Allpolige Absicherung

Für alle Geräte mit eingebauter Lithium Batterie:
Achtung: Explosionsgefahr bei falschem Batterieeinsatz. Batterie nur erstzen durch den gleichen oder entsprechenden Typ wie vom Hersteller empfohlen. Entsorgung verbrauchter Batterien nur nach den Anweisungen des Herstellers.

Instalacion E Instrucciones de Seguridad

Modelos Sin Interruptor:
La conexión debe ser instalada cerca del equipo y debe ser accesible.

Modelos con Selector de Voltaje de 110/220V:
Precaución: Antes de operar esta unidad, el selector de voltaje debe instalarse de forma que corresponda a la linea de voltaje local. Instalación inadecuada del selector de voltaje puede causar daño a la unidad y originar un incendio.

El selector de voltaje es un cambia vía redondo localizado cerca de la conexión electrica, como se ve en el dibujo:

Use un destornillador comun o una moneda pequeña, mueva el selector a la posición correcta, de forma que las flechas indiquen 110 o 220 de acuerdo con el voltaje local, como esta indicado a continuación.

Voltaje Local A/C	Selector de Voltaje
110 ~ 120 VAC	110
220 ~ 240 VAC	220

Para Todos Los Modelos:
Dentro de la unidad , no hay partes para reparar. Llame un tecnico calificado.

Modelos con Fusibles Internos o Externos:
Para prevenir un incendio, reemplace solo con el mismo tipo de fusible.

Modelos IN2001 / IN3234 / IN3236 / IN3502 / IN3504 / IN3506 / IN3562 / IN3564 / IN3566 / IN3572 / IN3574 / IN3576:
Precaución: Double Polo / Fusible Neutral.

Modelos con Bateria de Lithiun Interna:
Precaución: Peligro de explosión si la batería es reemplacada incorrectamente. Reemplace solamente con la misma clase de batería, o una equivalente recomendada por el fabricante. Deseche las baterías usadas de acuerdo con las instrucciones del fabricante.

CE COMPLIANCE

All products exported to Europe by Inline, Inc. after January 1, 1997 have been tested and found to comply with EU Council Directive 89/336/EEC. These devices conform to the following standards:

EN50081-1 (1991), EN55022 (1987)
EN50082-1 (1992 and 1994), EN60950-92

Shielded interconnect cables must be employed with this equipment to ensure compliance with the pertinent Electromagnetic Interference (EMI) and Electromagnetic Compatibility (EMC) standards governing this device.

CE

FCC COMPLIANCE

This device has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide against harmful interference when equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at their own expense.

DESCRIPTION

The **IN3213 / IN3262** are dedicated video distribution amplifiers designed to work with specific computer graphic signals. Since the units have two buffered outputs, they permit the signal from one computer graphics card to be split out to two display devices. The **IN3213 / IN3262** are frequently used to amplify and split the computer's video signal so it may be viewed on the local monitor and a second data display device such as an LCD panel, data projector or presentation monitor. These units do not alter the video or sync signals, but merely amplify the signals to a level needed to extend the external display(s) as far as 100 feet away. The **IN3213 / IN3262** distribution amplifiers are fully automatic, offering easy operation and the following features:

- Two Buffered Outputs for Maximum Performance and Flexibility - Input and Output Cables May Be Extended as Needed Using High Resolution Coaxial Cables (**IN8000 Series / IN8400 Series**)
- High Resolution Coaxial Input Cable with Molded Connector
- Units Maintain Sync Polarities - Ideal for Use with LCD Panels and LCD Projectors
- 400 MHz bandwidth for superb performance with video signals at any resolution and refresh rate

INPUT COMPATIBILITY

The **IN3213 / IN3262** distribution amplifiers operate with specific video signals as detailed below:

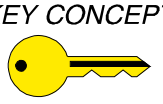
IN3262 - operates with analog video input from a wide variety of IBM and compatible computer video signal formats including VGA, SVGA, XGA, and 8514A. Input signals to the **IN3262** must be in the RGBHV format and provided on a 15 pin HD connector. All sense pins are passed from the input connector to Output #1 to ensure proper sensing of a local monitor.

IN3213 - operates with analog video signals from high resolution workstations such as the Sun SPARC family, most SGI workstations and many other workstations with a 13W3 video connector. The **IN3213** is compatible with signals in the RGBS or RGsB formats. All sense pins are passed from the input connector to Output #1 to enable communication between the computer video port and the attached local monitor if present.

OUTPUT COMPATIBILITY

The **IN3213 / IN3262** offer two buffered video output signals in the same format and using the same connector as the original input signal. This is ideal for use with devices such as LCD panels, LCD projectors and proprietary data monitors which often must see a certain type of connector and sync format in order to recognize and lock up to various frequencies. Since both outputs of the **IN3213 / IN3262** are buffered, the data display(s) may be located 100' or more away from the source computer by using high resolution coaxial extension cables. The maximum distance signals may be sent depends on the horizontal scan rate of the signal and the bandwidth capability of the cables.

KEY CONCEPT



VGA, SVGA, XGA, SUN, SGI and other workstation video cards operate in several different modes encompassing a wide range of resolutions and horizontal scan rates and vertical refresh rates. The IN3213 / IN3262 are <u>not</u> scan converters and the LCD panel/projector or data monitor must be compatible with the horizontal scan rate put out by the computer video card. Please check the documentation for both the computer video card and the data projection device in order to ensure compatibility.

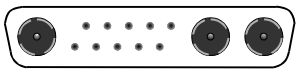
INSTALLATION

This section offers step-by-step instructions for installing the **IN3213 / IN3262.** A detailed application drawing showing all equipment connections is included on the next page.

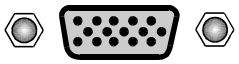
1. Turn the computer and computer monitor off. Disconnect the computer monitor (if present) from the video output port on the computer.

2. Connect **the IN3213 / IN3262** input cable to the computer's video output port.

   IN3213 - On Sun, SGI and many other high resolution workstations the video output port is a 13W3 connector which looks like this:

   IN3262 - On PC compatibles computers with VGA, SVGA or XGA output, the video output port is a 15-Pin HD connector which looks like this:

3. Connect the local computer monitor (if present) to Output #1 on the **IN3213 / IN3262** distribution amplifier. If no local monitor is connected to Output #1, a termination plug may be required as detailed below:

   IN3213 Used with Sun - The default mode is 61KHz if no local monitor is connected. If you wish to emulate a different mode, connect the appropriate Sun monitor to Output #1 or manually set the computer to a different resolution.

   IN3213 Used with SGI - An SGI local monitor must be connected to Output #1 for proper operation.

   IN3262 Use an **IN9031** 15-pin HD VGA terminator plug. This emulates a color VGA monitor.

4. Connect a second compatible data display to Output #2 using the appropriate high resolution coaxial extension cable as listed below:

   IN3213 **IN8412** - 13W3 Extension Cable, 12' long
   IN8425 - 13W3 Extension Cable, 25' long

   The following cable combinations are suggested to maintain video bandwidth on the longest cable runs:

   Cable run of 50' to 75': **IN9072** to **IN9070** to **IN7150-4** to **IN9070** to **IN9073**

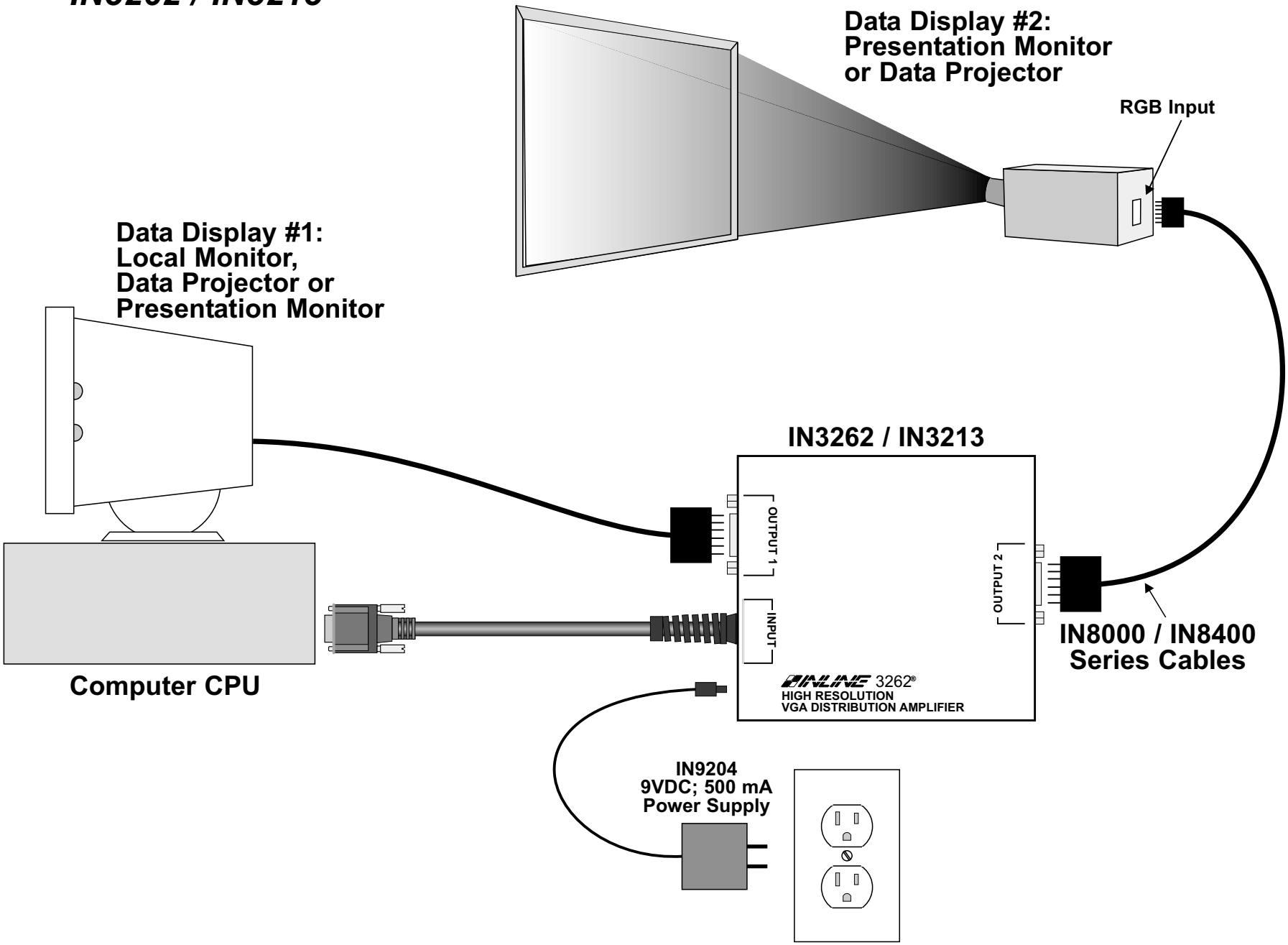
   Cable run of 100' or more: **IN9072** to **IN9070** to **IN7200-4 Series** Ultra High Resolution Cable (available in lengths up to 250') to **IN9070** to **IN9073**

   IN3262 **IN8000 Series** VGA Extension Cables, available in lengths from 3' to 100'.

5. Connect the round connector on the **IN9204** 9VDC, 500mA power supply to the POWER input jack (located on the end panel of the distribution amp, on the same end as the monitor loop cable.) Connect the power adapter box side of the power supply to the A/C power source.

6. Complete the installation by turning the computer and computer monitor on.

Application Diagram
IN3262 / IN3213



SPECIFICATIONS

	IN3213 13W3 Distribution Amplifier	IN3262 VGA Distribution Amplifier
Input		
Connector type	13W3 Male on 4' Cable	15-Pin HD Male on 4' Cable
RGB Signals	Analog Video 1.2V p-p max. / DC Coupled 75 ohm impedance	Analog Video 1.2V p-p max. / DC Coupled 75 ohm impedance
Sync Signals	TTL Composite Sync or Sync on Green	TTL H & V Sync
Outputs		
Connector type	(2) 13W3 Female	(2) 15-Pin HD Female
RGB Signals	Analog Video	Analog Video
Gain	1.0 (unity)	1.0 (unity)
Bandwidth	>400 MHz @ -3dB with .7 volt input signal	
Sync Signals	TTL Sync, both units pass sync in the same format as the input signal with sync polarities preserved	
Internal Jumpers	(3) Internal Jumpers to Set Input Termination:	Jumpers Closed (default): 75 ohm termination Jumpers Open - High Z
Dimensions		
Power	**IN9204**: 9VDC; 500 mA	**IN9204**: 9VDC; 500 mA
Size	Height: 1.25" / 3.2 cm Width: 4.6" / 11.7 cm Depth: 4.0" / 10.2 cm	
Shipping Weight	2 lb. / 1 kg.	
Regulatory Compliance		
Safety	UL 1950, 3rd Ed.; CE: EN60950-92; CAN/CSA-22.2 No. 950 3rd Ed.	
EMI	FCC class A; CE: EN50081-1, EN55022, EN50082-1	

Parts & Accessories Included		
	IN3213 High Resolution 13W3 Distribution Amp. **IN9204** - 9VDC; 500 mA Power Supply Operation Manual	**IN3262** High Resolution VGA Distribution Amp **IN9204** - 9VDC; 500 mA Power Supply Operation Manual

Optional Accessories		
Input / Output Extension Cables & Adapters	**IN8412** High Res. 13W3 Extension Cable, 12' **IN8425** High Res. 13W3 Extension Cable, 25' **IN9072** 13W3 Male to (4) BNC Male, 6' **IN9073** 13W3 Female to (4) BNC Male, 6'	**IN8000 Series** High Res. VGA Extension Cables w/ 15 Pin HD Connectors, Lengths from 3' to 100' **IN9045** 15-Pin HD Male to (5) BNC Male, 12' **IN9046** 15-Pin HD Female to (5) BNC Male, 12'
Mounting Brackets	**IN9127** Mounting Brackets - "L" brackets attach to sides of unit for mounting to a flat surface	**IN9127** Mounting Brackets - "L" brackets attach to sides of unit for mounting to a flat surface

TROUBLESHOOTING

The display device connected to the IN3213 / IN3262 output has a bad/scrambled image.

Solution 1: The display device connected to the output of the distribution amplifier may not be compatible with the computer output. ***Many LCD panels and data monitors will not display signals at resolutions higher than 640 x 480 or 800 x 600 or horizontal scan rates above 36 KHz or 48KHz.*** Make sure you know what resolution mode the computer video card is set to output. While basic 640 x 480 VGA at 60 Hz refresh rate runs at 31.5 KHz, SVGA modes can be as high as 48 - 58 KHz with the highest resolution settings such as 1600 x 1200 running at 80 KHz or higher depending on the refresh rate setting. Sun and SGI computers usually operate at 61KHz, 64KHz, or 71KHz at resolutions as high as 1280 x 1024.

Solution 2: The output cable may have a bad sync line. Try another cable.

The output image is missing a color.

Solution: The output cable may be bad. Check both ends of the cable to see if any of the pins are bent or missing. Also inspect the cable to see if the coax may have been pinched or severed internally. Try another cable.

When using the IN3262, the computer output is black and white when it should be color.

Solution: There needs to be a termination on the loop-through output. Use a local monitor or the **IN9031** termination plug.

The output image of the IN3213 / IN3262 is visible but has poor quality / low definition.

Solution: The output cable may be too long or of poor quality. INLINE offers several high resolution mini-coax cables for analog signals and a series of shielded twisted pair cables designed specifically for digital video signal transmission. See page 2 for specific recommendations.

The unit doesn't output any signal and the power light is not turning on.

Solution: The power adapter may have failed. The power adapter should feel warm to the touch after it has been plugged in for a few minutes. If the adapter feels cool it may have failed. Try another **IN9204** 9VDC; 500 mA power adapter.

WARRANTY

- INLINE warrants the equipment it manufactures to be free from defects in materials and workmanship.
- If equipment fails because of such defects and INLINE is notified within two (2) years from the date of shipment, INLINE will, at its option, repair or replace the equipment at its plant, provided that the equipment has not been subjected to mechanical, electrical, or other abuse or modifications.
- Equipment that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for ninety (90) days from the day of re-shipment to the Buyer.
- **This warranty is in lieu of all other warranties expressed or implied, including without limitation, any implied warranty or merchantibility or fitness for any particular purpose, all of which are expressly disclaimed.**

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