

TRAM-208

Remote Multiplex Annunciator Panel

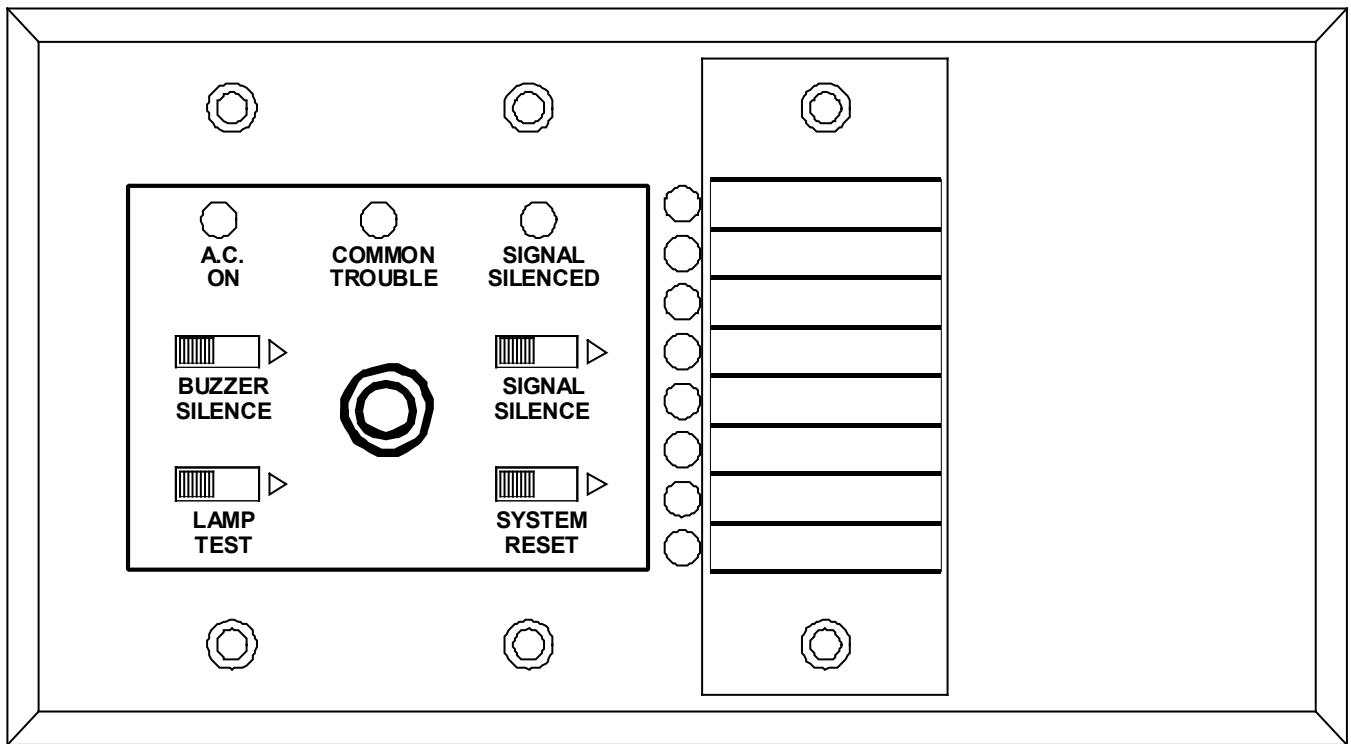




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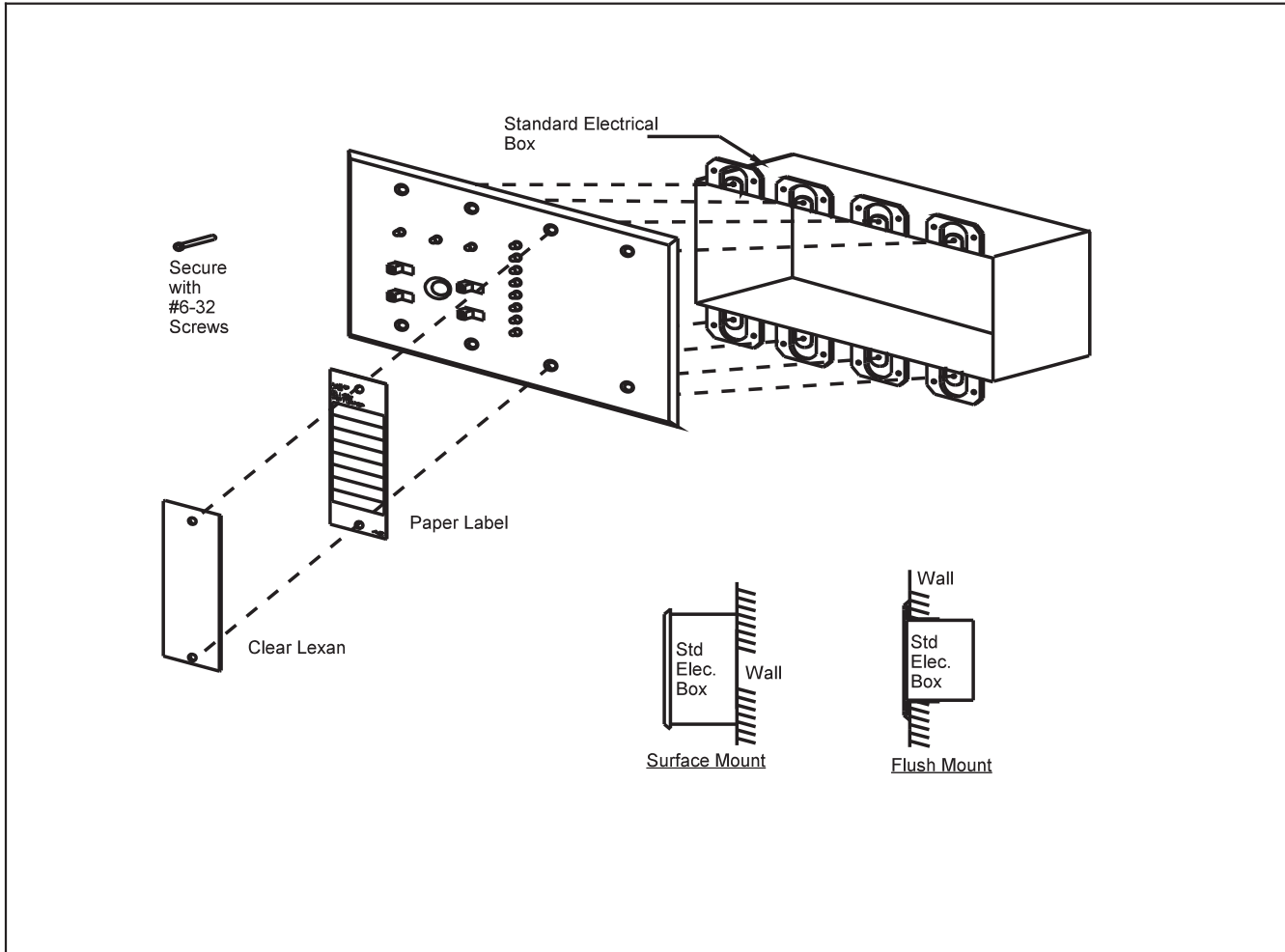
Introduction

Siemen's TRAM-208 Annunciator is an 8-circuit annunciator for use with Siemen's TXR-320. The annunciators mount into standard 4-gang electrical boxes, and may not be expanded. Control access is by a keyswitch. Each Circuit Indicator is a bi-colour LED that is automatically configured to match the Fire Alarm Control Panel configuration.



Note: For ULC S527 applications the TRAM-208 is an ancillary display device.

Installation Instruction



Notes:

- The TRAM-208 is supplied with NP-386 paper labels for zone identification.
- This annunciator displays initiating circuit status only (no individual circuit troubles). Indicating and relay circuits are not remotely displayed. For more details, refer to the manual of the fire alarm control panel that the annunciator will be connected to.
- The TRAM-208 has a keyswitch to enable the four slide-switch controls. The key should be appropriately secured.

Controls & Displays

For precise definitions of Control & Display operation, refer to the manual for the Fire Alarm Control Panel that the Annunciator is being connected to.

Controls

System Reset, Signal Silence
Buzzer Silence, Lamp Test

Displays

AC On, Common Trouble, Signal Silence,
8 Circuit Status LED's.

Wiring Instruction

The **RS-485 Wiring** to the TRAM-208 Module is recommended to be Twisted Shielded Pair as shown in the diagram. The wire gauge may be;

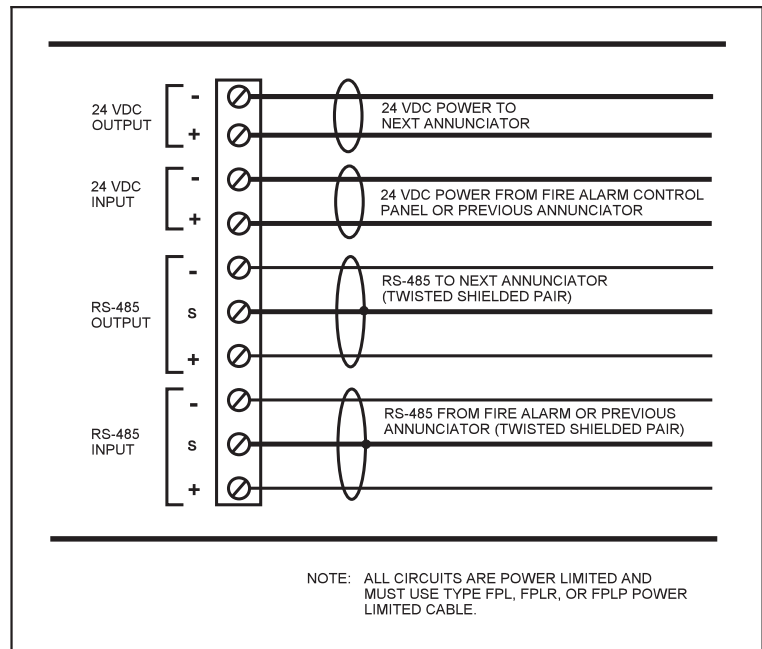
22 AWG up to 2000 ft.

20 AWG up to 4000 ft.

18 AWG up to 8000 ft.

The RS-485 wiring from the Fire Alarm Control Panel to the Annunciator(s) must be point-to-point from the FA Panel to the first Annunciator, then the next Annunciator, and so on. No star-wiring or T-tapping is allowed. Each TRAM-208 Annunciator Module 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. See the specifications section “*Current Drain for Battery Calculations*”, and calculate the maximum current for all Annunciators summed together.



WARNING: 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

Dip Switch Settings

Each annunciator needs to be assigned a unique, sequential address via DIP switches SW1-1, SW1-2, and SW1-3. DIP switch SW1-4 is used to allow disabling of some front panel slide switches.

SW1-1 = Address A0
 SW1-2 = Address A1 > Three digit address of the annunciator (address range 1 to 7 inclusive)
 SW1-3 = Address A2

SW1-4 = When SW1-4 is "off", the System Reset and Signal Silence slide-switches are always disabled, regardless of the operation of the keyswitch. The Buzzer Silence and Lamp Test slide-switches will operate with the use of the keyswitch.

When SW1-4 is "on", all four slide -switches on the front panel will operate with the use of the keyswitch.

Set the annunciator address (see the manual for the fire alarm control panel being used), as follows in the table below

Annunciator Address	SW1 DIP Switch Settings		
	SW1-1	SW1-2	SW1-3
1	ON	OFF	OFF
2	OFF	ON	OFF
3	ON	ON	OFF
4	OFF	OFF	ON
5	ON	OFF	ON
6	OFF	ON	ON
7	ON	ON	ON



Notes: Annunciators on a common RS-485 connection must be numbered sequentially; i.e.: 1,2,3,4, and not randomly such as 5,3,7!! Note that not all Annunciator "Addresses" are valid for all Fire Alarm Control Panels. Refer to the Fire Alarm Control Panel Manual for further information.

Jumper Selection

Jumper JP1 connects pins 1 and 2 and thus provides an eight bit checksum. The eight bit checksum is used for TXR-320.

JW4 (Orange Wire)

Jumper Intact = Buzzer silence & Lamp Test local function only. System Reset & Signal Silence are disabled.

Cut Jumper (Orange Wire) to have all remote functions operate.

Specifications & Features

Enclosure

A standard 4-gang Electrical Box is used.

Electrical Specifications

- 24 VDC nominal voltage
- Slide-Switch Controls, LED indicators, and Keyswitch to enable Controls.
- Local Buzzer, Indicators (AC-On, Common Trouble, Signal Silence), and Controls (System Reset, Lamp Test, Buzzer Silence, Signal Silence).
- Annunciation of up to 8 Points.
- Not Expandable.
- Standby: 35 mA Max., All LED's "On": 90 mA Max.

Current Drain for Battery Calculations

The maximum normal current drain will be during Lamp Test when all lamps are illuminated on one chassis at a time. Thus the currents are as follows:

Normal Standby Current = 35 mA

Maximum Current = 90 mA

The **Normal Standby Current** is used for Battery Size Calculations (see the Fire Alarm Control Panel manual) and includes the current drain for the Trouble Buzzer, Trouble LED, and one Alarm LED. The **Maximum Current** is used to calculate the wire size (see the **Wiring Instruction**).

General Terms and Conditions of Sale

The following terms and conditions of sale shall apply to any sale of goods and services by Siemens Building Technologies, Ltd. (hereinafter called "Siemens"). Purchaser shall be deemed to have full knowledge of the terms and conditions herein and such terms and conditions shall be binding if either the goods or services referred to herein are requested, ordered or delivered to and accepted by Purchaser. Alternatively, if the Purchaser has not yet requested, ordered or received the goods or services, it shall be deemed to have accepted these terms and conditions of sale unless Purchaser delivers to Siemens within five days from the date hereof written objection to said terms and conditions or any part thereof. Buyer's issuance of a purchase order will constitute an acceptance of this offer on the terms hereof and Buyer agrees that Buyer's purchase order shall be for administrative purposes only.

1. GENERAL

In the event of any conflict or inconsistency between the terms and conditions of sale herein and the terms and conditions contained in Purchaser's order or in any other form issued by Purchaser, whether or not any such form has been acknowledged or accepted by Siemens, Siemens' terms and conditions herein shall prevail. No waiver, alteration or modification of these terms and conditions shall be binding upon Siemens unless made in writing and signed by a duly authorized representative of Siemens.

2. QUOTATIONS

Unless otherwise stated, Siemens' quotation shall be null and void unless accepted by Purchaser within thirty (30) days from the date of quotation.

3. PRICES / COST OF TRANSPORTATION

All quoted prices are based on the current exchange rates, tariffs and costs of manufacture and, where applicable, constitute List Prices from the applicable Siemens catalogue. Published prices do not include any additional services such as design layout, system drawings, installation drawings, jobsite labour or shop labour. Unless otherwise stated in the quotation, quoted prices are subject to change by Siemens with or without notice until Purchaser's acceptance. Prices are subject to correction for error. Unless otherwise stated, all prices are f.o.b. factory and include domestic packing. Customary methods of transportation shall be selected by Siemens and such transportation will be at Purchaser's expense. Special methods of transportation will be used upon Purchaser's request and at Purchaser's additional expense provided reasonable notice of Purchaser's transportation requirements are given by Purchaser to Siemens prior to shipment. For all goods furnished from local branch stock, applicable Siemens handling charges shall apply.

Sales of fire alarm equipment or products may be restricted and subject to code applications by local Authorities Having Jurisdiction and product listing requirements.

4. TAXES

Prices do not include goods and services tax, provincial or municipal sales, use, excise, value-added or similar tax. Accordingly, in addition to the price specified herein, the amount of any present or future sales, use, excise, value-added or similar tax applicable to the sale of the goods hereunder or to the use of such goods by Purchaser shall be paid by Purchaser to the entire exoneration of Siemens.

5. DELIVERY

Delivery schedules are approximate and are based on prevailing market conditions applicable respectively at the time of Siemens' quotation and Siemens' acceptance of Purchaser's order. Delivery shall also depend on the prompt receipt by Siemens of the necessary information to allow maintenance of the manufacturer's engineering and manufacturing schedules. Siemens may extend delivery schedules or may, at its option, cancel Purchaser's order in full or in part without liability, other than to return any deposit or prepayment which is unearned by reason of the cancellation.



6. FORCE MAJEURE

Siemens shall not be responsible or liable for any loss or damage incurred by Purchaser herein resulting from causes beyond the reasonable control of Siemens including, but without limitation, acts of God, war, invasion, insurrection, riot, the order or act of any civil or military authority, fire, flood, weather, acts of the elements, delays in transportation, unavailability of equipment or materials, breakdown, sabotage, terrorist actions, lock-outs, strikes or labour disputes, faulty castings or forgings, or the failure of Siemens' suppliers to meet their delivery promises. The acceptance of delivery of the goods or services by Purchaser shall constitute a waiver of all claims for loss or damage due to any delay whatsoever. In the event of any delay or interruption in performance excusable under the terms hereof, the time of performance will be extended by a period of time reasonably necessary to overcome the effects of the delay.

7. SHIPMENT/DAMAGES OR SHORTAGES IN TRANSPORT/RISK

Except for obligations stated under Paragraph 10 "Warranty" herein, Siemens' responsibility for goods (including risk of loss) ceases upon delivery to the carrier. In the event of loss or damage during shipment, Purchaser's claim shall be against the carrier only. Siemens will, however, give Purchaser any reasonable assistance to secure adjustment of Purchaser's claim against the carrier provided immediate notice of such claim is given by Purchaser to Siemens.

Claims for shortages or incorrect items must be made in writing within ten (10) days after receipt of goods by Purchaser. If Siemens does not receive written notification of such shortages or incorrect items within such ten (10) days, it shall be conclusively presumed that the goods were delivered in their entirety. Unless agreed upon otherwise in writing, Siemens reserves the right to make partial shipments and to submit invoices for partial shipments.

Any item of the goods on which manufacture or shipment is delayed by Purchaser or by causes which affect Purchaser's ability to receive the goods may be placed in storage by Siemens for Purchaser's account and risk, and Purchaser shall pay all charges for storage, trucking and other incidental expenses incurred by Siemens.

8. TITLE

Title to the goods or any part thereof shall not pass from Siemens to Purchaser until all payments due hereunder have been duly made, except as otherwise expressly stipulated herein. The goods shall be and remain personal or moveable property, notwithstanding their mode of attachment to realty or other property. If default is made in any of the payments herein, Purchaser agrees that Siemens may retain all payments which have been made on account of the purchase price as liquidated damages, and Siemens shall be free to enter the premises where the goods may be located and remove them as Siemens' property, without prejudice to Siemens' right to recover any further expenses or damages Siemens may suffer by reason of such nonpayment.

Purchaser acknowledges that APOGEE automation products are proprietary to Siemens and not for resale.

9. LIABILITY

Notwithstanding any other provision herein or any applicable statutory provisions, Siemens shall not be liable to the Purchaser for loss of revenue or profit or indirect, special, consequential, incidental or punitive damages (including, without limitation, damages for or in relation to loss of use of facilities, lateness in delivery, downtime costs, the cost of capital or of substitute equipment or services) arising directly or indirectly from any breach of the terms hereof or from any warranties or indemnities contained herein or from any acts or omissions or its officers, employees or agents which may give rise to legal liability (whether in tort, including for negligence, strict liability or under any other theory of legal liability), even if either party has been advised of the possibility of such damages. In no event shall the aggregate liability of Siemens exceed the unit price of the defective services, products or parts or the defective components contained therein, provided hereunder, and all such liability shall terminate upon the earlier of the expiry of the warranty period or 2 years from the date of delivery of any goods or provision of any service.

The provisions of this paragraph and of all other sections of these General Terms and Conditions of Sale providing for limitation of or protection against liability of Siemens shall survive the termination, cancellation or expiration of this agreement, and shall also protect, to the full extent permitted by law, its direct and indirect suppliers and sub-contractors and their respective agents and employees.

10. WARRANTY

Goods sold hereunder are covered by a warranty against defects in material and workmanship provided the goods and services are subjected to normal use and service. The applicable warranty period is twelve (12) months from the shipping date to Purchaser of any item of the goods, or any other warranty period otherwise stipulated in writing by Siemens under this sale. In addition, where applicable, the warranty period for fire safety products is twelve (12) months from the date of the verification test or final inspection performed by Siemens. For components not supplied by Siemens, the original manufacturer's warranty shall apply to the extent assignable by Siemens. The obligation under this warranty is limited to the repair or replacement, at Siemens' option, of defective goods f.o.b. point of shipment provided that prompt notice of any defect is given by Purchaser to Siemens in writing within the applicable warranty period and that upon the Purchaser's return of the defective goods to Siemens or, if designated by Siemens, to the location where the goods are made, properly packed and with transportation charges prepaid by Purchaser, an inspection thereof shall reveal to Siemens' satisfaction that Purchaser's claim is valid under the terms of this warranty. Purchaser shall assume all responsibility and expense for dismantling, removal, re-installation and freight in connection with the foregoing. The same obligations and conditions extend to replacement parts furnished by Siemens hereunder. Siemens does not assume liability for installation, labour or consequential damages. Siemens makes no warranty other than the one set forth herein.

The applicable warranty ceases to be effective if the goods are altered or repaired other than by persons authorized or approved by Siemens to perform such work. Repairs or replacement deliveries do not interrupt or prolong the term of the warranty. The warranty ceases to be effective if Purchaser fails to operate and use the goods sold hereunder in a safe and reasonable manner and in accordance with any written instructions from the manufacturers.

SIEMENS MAKES NO WARRANTY OTHER THAN THE ONE SET FORTH HEREIN. ALL OTHER WARRANTIES, LEGAL, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY EXPRESSED OR IMPLIED WARRANTY OR MERCHANTABILITY, OF FITNESS FOR THE INTENDED USE THEREOF OR AGAINST INFRINGEMENT ARE HEREBY EXPRESSLY EXCLUDED.

Siemens is not responsible for the installation or maintenance of any goods sold hereunder.

11. RETURNED GOODS

No goods may be returned to Siemens without Siemens' prior written permission and the completion of all requisite documentation by Purchaser. Siemens reserves the right to decline all returns or to accept them subject to a handling/restocking charge. Even after Siemens has authorized the return of goods for credit, Siemens reserves the right to adjust the amount of any credit given to Purchaser on return of the goods based on the conditions of the goods on arrival in Siemens' warehouse. Credit for returned goods will be issued to Purchaser only where such goods are returned by Purchaser and not by any subsequent owner of the goods. Goods will be considered for return only if they are in their original condition and packaging. Special goods fabricated to order are not returnable under any conditions.

12. TERMS OF PAYMENT

Unless otherwise stated, Purchaser shall pay invoices on "open account" shipment within thirty (30) days of invoice date. Unless specifically provided, no cash discount shall be available to Purchaser. When a cash discount is offered, the discount price is computed from the date of invoice. Siemens does not offer discounts on C.O.D. shipments. Should payment not be made to Siemens when due, Siemens reserves the right, until the payments due have been fully paid, to charge Purchaser with interest on such overdue payments at the rate of eighteen percent (18%) per annum. The charging of such interest shall not be construed as obligating Siemens to grant any extension of time in the terms of payment. In the event partial shipments are made at different times, pro rata payments shall be made therefor.

13. CHANGES AND CANCELLATION

Orders accepted by Siemens are not subject to changes or cancellation by Purchaser, except with Siemens' written consent. Where Siemens authorizes changes or cancellation, Siemens reserves the right to charge Purchaser with reasonable costs based upon expenses already incurred and commitments made by Siemens, including, without limitation, any labour done, material purchased, usual overhead and reasonable profit and any third party cancellation charges. This obligation shall survive termination of this order.



14. THE AGREEMENT

An acceptance and confirmation of Purchaser's order by Siemens shall constitute the complete agreement, subject to the terms and conditions of sale herein set forth, and shall supersede all previous quotations, orders or agreements. The law of the Province of Ontario and the laws of Canada applicable therein shall govern the validity, interpretation and enforcement of these terms and conditions of sale and of any contract of which these terms and conditions are a part.

15. ATTORNMENT

Purchaser agrees to bring any action against Siemens exclusively in the Courts of Ontario.

16. SEVERABILITY / NON-WAIVER

Failure or delay by Siemens in enforcing any right or provision hereof shall not be deemed a waiver of such provision or right with respect to the instant or any previous or subsequent breach.

The express provision herein for certain rights and remedies of Siemens shall not be construed to deprive Siemens of any other rights and remedies to which it would otherwise be entitled under applicable law. The invalidity of any provision of these terms and conditions shall not affect the remaining provisions hereof.

17. ASSIGNMENT

The rights and obligations of Purchaser hereunder may not be assigned by Purchaser without the prior written consent of Siemens.





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