Instruction manual
MTL process alarm equipment

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INM UC625 rev 24

CROUSE-HINDS SERIES

RTK UC625

Compact alarm annunciator

Powering Business Worldwide

DECLARATION OF CONFORMITY

A printed version of the Declaration of Conformity has been provided separately within the original shipment of goods. However, you can find a copy of the latest version at

http://www.mtl-inst.com/certificates

GENERAL SAFETY INFORMATION

The following methods are used in this manual to alert the user to important information:-

WARNING !

Warnings are provided to ensure operator safety and MUST be followed.

CAUTION

Cautions are provided to prevent damage to the instrument.

NOTE

These are used to give general information to ensure correct operation.

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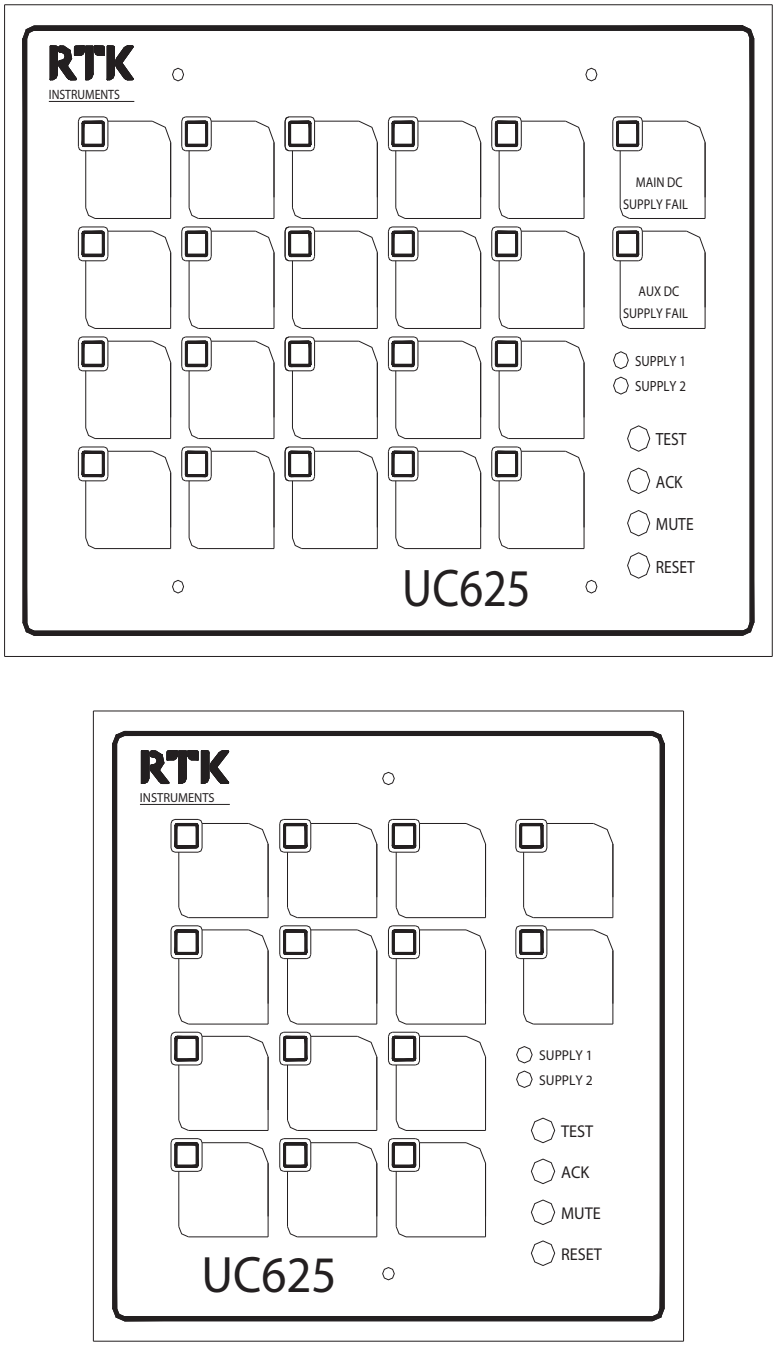


Figure 1 - Examples of a 20 and 12 way UC625 Alarm Annunciator

725B range of Alarm Annunciator

1 INTRODUCTION

The RTK UC625 range of Alarm Annunciator systems are designed to give LED indication of an alarm condition, where a high degree of reliability and flexibility is required.

Each system comprises a compact cabinet, removable legend plate, universal Alarm Cards and a Supply/Pushbutton/Relay (SPR) Card which gives maximum annunciator density whilst maintaining a practical legend area and neat front panel appearance.

DIL switches, situated on each of the Alarm Cards permit easy selection of annunciator sequences as listed in the ISA Publication "Alarm Sequences and Specifications S18.1 – 1979 (R1985)".

As the system is fully field-programmable on a per pair of alarm basis, the operating specification, of both alarm sequence and function, can be changed during commissioning, or at a later date after the equipment is installed. This means that stocking requirements may be minimised, since all annunciator cards are interchangeable.

Reliability of operation is increased over conventional annunciators by the use of application specific integrated circuits (ASIC's), which are capable of complete system control. When the annunciator is initially switched on, control is arbitrarily allocated to any one of the ASIC's on any of the Alarm Cards, hence the annunciator requires no control or master module, failure of which could jeopardise the whole system.

If the Alarm Card is removed or an ASIC goes faulty then control is randomly allocated to another ASIC on another Alarm Card, hence the worst fault that could normally occur is the loss of one card. The use of ASIC's also results in a very low component count, again improving system reliability.

The UC625 features an integral, dual power supply capable of accepting a supply voltage from either 88-265VAC OR 88-300VDC which allows the user to connect the unit directly to a main and aux supply to provide redundant operation.

As an option, if specified at time of order, the second supply voltage can be manufactured to allow direct operation from an Aux.24VDC Supply Voltage in the range 19 to 31VDC.

As standard an internally generated 24VDC is used as a signal supply voltage, which is used for distribution to the associated field contacts. The 24VDC signal supply is designed to be present if either the primary or secondary supply is available to ensure 100% redundancy.

NOTE

When using the direct powered input options the signal supply voltage is derived from outside the unit, by others, and redundancy is therefore dependent on the signal supply voltage being available at all times.

On systems supplied after January 1st 2008 the signal supply voltage is provided with a monitor relay.

Two alarm channels are dedicated to monitor the dual supply Inputs and alert the operator if there is a loss or failure of either.

Accessibility for servicing is excellent, being accomplished from the front of the panel with only a screwdriver required to access the alarm or Supply / Pushbutton / Relay card.

MODEL NUMBER DESCRIPTION

UC625	=	Model no prefix
**	=	Number of available alarm channels [Not including the 2 power failure alarms]
**	=	LED colour RD = Red (Standard)
H	=	Input supply 1 universal (88-300VDC or 88-265VAC)
**	=	Input supply 2 specify option H or L
024D	=	24VDC signal supply voltage OR Options for 48/110/250VAC/DC signal supply inputs
R	=	Individual channel signal duplicating relays fitted

MODEL	NO. OF ALARMS	LED COLOUR	SUPPLY 1	**SUPPLY 2	SIGNAL SUPPLY	REPEAT RELAYS
UC625	12	RD = Red YL = Yellow AM = Amber GN = Green WH = White IN = Intermixed	H = Universal 88 to 265VAC or 88 to 300VDC	Optional L = 24VDC OR H = Universal 88 to 265 VAC or 88 to 300 VDC	Standard	R = Repeat Relay Option Fitted
	16				024D = 24VDC	
	20				Optional Externally Powered Inputs	
	24					
	28				048 = 48VAC/DC	
	32				110 = 110VAC/DC	
	36				250 = 250VAC/DC	
	40					

Typical Model No.

UC625 40 RD H H
024D R = M*

M* Option code see below

PLEASE NOTE:- If more than 40 ways are required as a single system expansion UC625 units can be connected via the expansion ribbon bus connector as detailed later in the manual on all units shipped after August 2004

Option Codes

These Codes are added as a suffix to the Model No and MUST be specified at the time of ordering.

M1 = Horn disabled on System Test

M2 = Modified Ringback sequence, disabled ring back audible and lamp test in place of system test.

M3 = ISA R12 Ringback sequence, disabled Ringback horn, lamp test in place of system test and response time changed to 5mS trip 5S pre-alarm.

M4 = ISA R12 Ringback sequence, disabled ring back audible, lamp test in place of system test, response time changed to 5mS trip and 5S pre-alarm and combined Lamp / Audible Test pushbutton function.

2 SYSTEM DESCRIPTION AND FEATURES

2.1 General

The units can be manufactured in a range of sizes to suit individual applications. All units are designed to be 4 alarm ways high but the number of windows wide is variable. This allows RTK to provide systems suitable for 12, 16, 20, 24, 28, 32, 36 or 40 channels and all units are provided with two additional channels used for monitoring the two integral supplies, Supply 1 and Supply 2

The annunciators are built up using variable size top / bottom plates, universal side plates to give a basic panel mounting framework, a rear mounting motherboard and removable Legend Plate. The universal Alarm Cards are of the plug in type and are easily accessed once the front legend plate has been removed. The Alarm Cards simply plug into the motherboard, which also houses the terminals for external connection by the customer. A removable legend plate is fitted over the front of the alarm boards containing film legends, which identify the individual alarm channels.

2.2 Alarm Card

Each active Alarm Card controls four alarm points. The Alarm Card has an Application Specific Integrated Circuit (ASIC), which controls the alarm ways. System control is arbitrarily allocated to one of the ASIC's on any one of the Alarm Cards, obviating the need for a master control module. Each Alarm Card is fitted with DIL switches, which are used to select the required features for each pair of alarms.

2.3 Reliable Annunciation

The fact that all the cards are identical means that in the RTK range of UC625 alarm systems there is no master or controlling card, failure of which could jeopardise the whole system. System control is arbitrarily allocated to any one of the alarm modules. Should this card be removed, damaged or fail for any reason, another card will take over system control. This method of operation results in a system with no single source of failure and multiple redundancies giving the most reliable form of annunciation possible.

2.4 Supply/Pushbutton/Relay Card (SPR)

This card is fitted in the right hand side of the annunciator and has 4 pushbuttons to cover all system functions and two "power on" LED's. The four pushbuttons are:- System Test, Acknowledge, Mute and Reset. The two green LED's are used to indicate "Power On" for Supply 1 (main) and Supply 2 (aux.).

2.5 Power Failure Monitoring

The SPR Card is fitted with two power failure alarms, which are used to monitor Supply 1 and Supply 2 and provide full alarm capability when either supply is not present on the unit.

The two supply inputs provide FULL redundancy of operation so that failure of a single supply input will have no affect on the overall operation of the unit.

The standard version which uses an internally generated 24VDC Signal Supply to provide a feed to the field contacts.

Powered input versions rely on the customer generated signal supply being available at all times.

The Power Failure alarm channels are fixed at alarm sequence ISA-M and are therefore controlled by System Test, Acknowledge and Reset Pushbutton inputs to allow full control over the alarms.

In sub station applications it is common for a number of annunciators to share a common set of controlling pushbuttons, the pushbutton inputs can therefore be connected between units as required.

In addition to the full alarm capability each power failure alarm channel is also equipped with a Signal Duplicating Relay to allow notification of power failure to 3rd party devices.

A volt-free contact is provided per supply input, which will change to abnormal on alarm and remain in the abnormal state until power is restored.

The output can be changed to normally open or normally closed as required.

PLEASE NOTE:- the Signal duplicating contacts are not affected by the System Test pushbutton and act as faithful slaves of the Signal Input.

2.6 Serviceability

All servicing is carried out from the front of the unit having first removed the legend plate.

The alarm boards are universal and thus fully interchangeable as required.

WARNING !

Installation, configuration and maintenance of this annunciator must only be performed by competent service personnel

2.7 No Special Service Tools Required

A screwdriver is the only tool required to remove the legend plate to access the alarm and power board, in order to replace or remove the circuit board to make adjustments to the DIL switches.

3 INPUTS & OUTPUTS

3.1 Customer Connections

All connections to the alarm board inputs and outputs are made via quick disconnect, rising clamp, two part plug-able connectors.

WARNING !

Power supplies using high voltage AC/DC primary sources and optional high voltage field contact voltages may be present.

Ensure that the annunciator is powered down before working on the unit or any connected apparatus.

3.2 Annunciator Inputs

The standard UC625 Annunciator operates from either a normally open or normally closed contact. Standard systems use an internally generated 24VDC as the signal supply voltage however options exist, if specified at the time of order, to allow the user to use direct powered inputs:-

NOMINAL VOLTAGE	MIN V	MAX V
24VAC/DC	13	100
48VAC/DC	24	120
110VAC/DC	56	220
250VAC/DC	120	300

Mains power supply inputs must be fused. Refer to instructions on page 28.

As field contacts are often great distances from the annunciator it is advisable to run the contact cables separately from circuits carrying heavy currents and/or high voltages so as to minimise the effects of induced voltages. A transient filter is built into the input circuitry so that low voltage interference will be ignored. Contacts may be continuous or fleeting, the annunciator can be selected to lock-in fleeting alarms if required.

3.3 Optically Coupled Inputs

All inputs from alarm contacts and external pushbuttons are optically coupled. This method of operation improves the system's tolerance to noise interference and allows operation from voltage sources as standard.

3.4 Signal Duplicating Relays

Integrally mounted signal duplicating relays are provided per channel. The standard mode of operation for the duplicating repeat relays is to activate when an alarm condition occurs and return to normal when the plant fault has returned to normal. (Contact-Follower). Each pair of signal duplicating relays can be set to operate as either normally de-energised or normally energised relays and the associated contact can be selected as normally open or normally closed.

3.5 Response Time

Each channel within the annunciator can have a pre-defined min response time set to one of the following times:- 5ms, 25ms, 50ms and 100ms using DIL switches mounted on each alarm card.

Unless otherwise requested at the time of order units are shipped with a factory setting of 25ms but can be easily changed to 5mS, 50mS or 100mS as described later in the manual.

If the UC625 is supplied with a suffix M3 or M4 in the model number the response times will be 5mS, 25mS, 200mS or 5S as described later in the manual

3.6 Common Alarm Group Relay [GP]

Alarm channels can be connected to an internal common alarm group relay (GP), which is normally used to indicate to remote equipment that an alarm has occurred in a local panel. The Relay output contact state is set using LK3 on the SPR card to be either normally open or normally closed. The contact will change state when an alarm occurs and remain in the alarm state until all faults have returned to normal.

3.7 Reflash Function

After acknowledge if a new alarm occurs the relay will momentarily drop out and re-activate to indicate that another alarm has occurred. The reflash function ensures that when monitoring the alarms from a remote location, users are fully aware of alarm activity on the unit.

3.8 Dual Audible Alarm Feature

UC625 systems are supplied as standard with two integral audible alarms designated critical audible and non critical audible. Each pair of alarms can be set to operate the associated audible.

3.9 Dual Horn Relays [HNA-HNB]

All units are supplied with dual integral horn relays one for critical alarms – HNA and one for non-critical alarms – HNB. Each pair of alarms within the unit can be set to operate either or both of the relays as required. When an alarm occurs the horn relay contact will change state and the contact will remain in the alarm state until the ack or mute pushbutton has been pressed or the automatic ack timer has activated. The Customer can disable the automatic timer circuit if required as described later in the manual.

3.10 Dual Power Monitoring Relays

Two integral power monitor relays are provided as standard, one monitors the primary supply and one monitors the secondary supply input. The power monitor relays are factory set to be normally energised and will de-energise if the primary or secondary supply fails. Each coil of the relay can be set to be normally energised if required and the relay contact can be set, using LK1 (Supply 1) and LK2 (Supply 2) on the SPR card, to normally open or normally closed.

4 MECHANICAL DETAILS

4.1 Alarm Card

Each alarm card provides all common alarm sequences as listed in the ISA specification "Alarm Sequences and Specifications S18.1 1979 (R1985"). The universal alarm card plugs into the edge connectors mounted on the inside of the motherboard, the size of motherboard being determined by the total number of alarms required.

4.2 SPR Card – Supply / Pushbutton/Relay

This module is the same size, shape and fixing as an alarm card and is equipped with System Test, Acknowledge, Mute, & Reset pushbuttons necessary for all of the available operating sequences.

This module is fitted in the extreme right hand edge connector within the annunciator and is polarised to ensure it cannot be placed into the wrong card slot.

4.3 System Assembly

Systems are supplied pre-assembled with motherboards used to match each system configuration (i.e. number of ways high is always 4 x number of cards wide, plus a Supply/Pushbutton/Relay (SPR) Card with 2 ways always used for power failure monitoring. The cards required (alarm ways divided by 4, plus "Alarm Sequences and Specifications S18.1 1979 (R1985)". Are plugged into the motherboard and the appropriate legend plate is then fixed to the front of the unit.

4.4 UC625 Dimensions

NUMBER OF ALARM WAYS	OVERALL SIZE (H X W) MMS	CUT-OUT SIZE (H X W) MMS
12	154 x 152	141 x136
16	154 x 180	141 x 164
20	154 x 208	141 x192
24	154 x 236	141 x 220
28	154 x 264	141 x 248
32	154 x 292	141 x 276
36	154 x 320	141 x 304
40	154 x 348	141 x 332

Table 1

Please note:- Cut-Out Dimensions have a tolerance of plus or minus 0.5 mm.

Unit Depth

All UC625 Units are 130 mm Deep

5 SEQUENCES

5.1 Summary

From the sequence tables shown later in the manual, it will be evident that an alarm occurring causes a flashing visual indication with audible.

Mute is used to silence the audible only.

Acknowledge stops the flashing and audible.

Please note:- If a new alarm occurs on an already acknowledged system, the horn will re-sound and the new alarm will flash in accordance with the selected sequence.

Reset will return the alarm to the normal off state only when the unit has been acknowledged and the associated alarm contact has returned to normal.

5.2 First-up Sequences

When a group of alarms is initiated, it is often important to know which of them was the first to occur. This is achieved by having the first-up alarm flashing in a different manner compared to the subsequent alarms. Three different first-up sequences are available F0, F1, F2 as detailed below and in the following sequence tables. First-up operation should be used with care with the auto-reset sequence and non-latch sequence as momentary alarms can cause ambiguity.

F0 The standard mode adopted by RTK Instruments, which indicates the first-up alarm by flashing at twice the rate of subsequent alarms.

F1 In this mode subsequent alarms appear in the acknowledged state, hence they do not flash. The audible device does not operate when subsequent alarms occur, unless still operating from the first alarm. The acknowledge pushbutton will reset the first-up indication.

F2 In this mode all subsequent alarms do not flash, they will however operate the audible device. The acknowledge pushbutton will reset the first-up indication.

5.3 Automatic Reset

In this mode, any signal contact which returns to normal after the acknowledge pushbutton has been pressed will automatically reset. If the alarm contact returns to normal prior to acknowledge the alarm will reset immediately after the acknowledge pushbutton has been operated.

5.4 Non-latch Sequence (No lock-in)

In this mode alarms will automatically reset as soon as the signal input returns to the normal state. It is therefore possible that a fleeting alarm will occur and return to the off state without operator intervention. Whilst the alarm is in the abnormal state the operator can silence or acknowledge the alarm in the normal way.

5.5 Reflash Feature

In the standard mode, when an alarm has occurred and the acknowledged pushbutton activated, any further changes of state to the alarm contact will not affect the alarm window display. With reflash enabled any alarm that returns to normal and re-occurs will re-initialise the window.

5.6 Ringback Sequence

This mode uses visual and audible signals to indicate that the alarm has returned to normal and the operator can reset the alarm. When an alarm contact returns to normal the ringback circuit will pulse the audible alarm and the associated LED will flash at approx half the speed of the normal alarm flash rate. Ringback operation may be used with all but non-latched and auto reset sequences and operates in the same way for all first-up sequences F0 to F2.

5.7 Two Pushbutton Operation

In certain circumstances using remote pushbuttons, it may be desirable to use only two pushbuttons: Reset and Lamp Test. The Reset pushbutton is used to Acknowledge an alarm if the contacts are in the alarm condition and to Reset it if the contacts are clear.

5.8 Status Only Operation

In applications where the user wishes to indicate the current status of plant machinery the channel can be set to status only. In this Mode the associated LED will be either on or off as the Input changes state. Example:- alarm normal = PUMP ON : alarm abnormal = PUMP OFF. Please note:- This feature is only selectable in pairs (Channel 1 & 2 or Channel 3 or 4).

Please refer to the last page of the manual for details of the switch settings required for each of the following sequences.

5.9 Option M4

When option M4 is specified in the Model No a combined Lamp / Audible Test is provided in place of Lamp Test

5.10 Sequence Configuration and Tables

Each pair of alarm channels can be configured to suit the operating sequence required, as listed in the ISA publication "Alarm Sequences and Specifications" S18.1 1979 (R1985)". Systems can be configured with different features on each pair of alarms and there is no need to switch the power off. Different operating modes can be selected using the on board DIL switches. The following tables show the most commonly used examples.

5.10.1 Manual Reset ISA-Sequence M

PROCESS	PUSHBUTTON	VISUAL	AUDIBLE
Normal		OFF	OFF
Abnormal		Flashing	ON
Abnormal	Acknowledge	ON	OFF
Normal	Reset	OFF	OFF

Table 2

Sequence features

1. System test simulates an abnormal plant state on all alarms
2. Alarms must be set to lock-in of momentary
3. Manual reset of acknowledged alarms is only possible after process conditions return to normal

5.10.2 Automatic Reset ISA-Sequence A

PROCESS	PUSHBUTTON	VISUAL	AUDIBLE
Normal		OFF	OFF
Abnormal		Flashing	ON
Abnormal	Acknowledge	ON	OFF
Normal		OFF	OFF

Table 3

Sequence features

1. System test simulates an abnormal plant state on all alarms
2. Alarms must be set to lock-in of momentary

5.10.3 Non Lock-in Function ISA-A-4 Sequence

PROCESS	PUSHBUTTON	VISUAL	AUDIBLE
Normal		OFF	OFF
Abnormal		Flashing	ON
Normal	Before Ack	OFF	OFF
Abnormal	Acknowledge	ON	OFF
Normal		**OFF**	OFF

Table 4

Sequence features

1. System test simulates an abnormal plant state on all alarms
2. Alarms should be set to non-lock-in
3. Alarms will automatically return to the off state as soon as the input returns to the normal

5.10.4 Ringback ISA-R Sequence

PROCESS	PUSHBUTTON	VISUAL	AUDIBLE
Normal		OFF	OFF
Abnormal		Flashing	ON
Abnormal	Acknowledge	ON	OFF
Normal		Slow Flash	Pulsing
	Reset	**OFF**	**Off**

Table 5

Sequence features

1. System test simulates an abnormal plant state on all alarms
2. Alarms should be set to lock-in
3. Only available in first-up modes F1, F2

5.10.5 Automatic Reset First-up ISA-F1A Sequence

PROCESS	PUSHBUTTON	VISUAL	AUDIBLE
Normal		OFF	OFF
1st Alarm Abnormal		Flashing	ON
Subsequent Abnormal		ON	ON
	Acknowledge		
1st Alarm Abnormal		ON	OFF
Subsequent Abnormal		ON	OFF
Normal		OFF	OFF

Table 6

Sequence features

1. System test simulates an abnormal plant state on all alarms
2. Subsequent alarms do not lock in
3. Once acknowledged the first up alarm is reset.

5.10.6 Manual Reset First-up ISA-F2M-1 Sequence

PROCESS	PUSHBUTTON	VISUAL	AUDIBLE
Normal		OFF	OFF
1st Alarm Abnormal		Flashing	ON
Subsequent Abnormal		ON	ON
	Acknowledge		
1st Alarm Abnormal		ON	OFF
Subsequent Abnormal		ON	OFF
Normal	Reset	OFF	OFF

Table 7

Sequence features

1. System test simulates an abnormal plant state on all alarms
2. Subsequent alarms do not lock in alarms must be reset after inputs return to normal

5.10.7 Status Only ISA-A-4-5-6 Sequence

PROCESS	PUSHBUTTON	VISUAL	AUDIBLE
Normal		OFF	OFF
Abnormal		ON	OFF
Return to Normal		OFF	OFF

Table 8

6 FEATURES

6.1 Input Configuration

Each pair of alarm inputs can be configured to operate from either a normally open or normally closed Input Contact.

FUNCTION	ALARM CARD CHANNEL	
	1 - 2	3 - 4
	SW3.S8	SW5.S8
Normally Open	OFF	OFF
Normally Closed	ON	ON

Table 9

6.1.1 Signal Duplicating Relays

The alarm and SPR cards are supplied with an integral repeat relay per channel, which can be configured to operate as:-

1. Normally de-energised or normally energised
2. Normally open or normally closed contact
3. Input follower or logic follower

De-Energised (Energise On Alarm) or Energised (De-Energised on Alarm)

FUNCTION	ALARM CARD CHANNEL		SPR CARD
	1 - 2	3 - 4	1 - 2
	SW4.S2	SW6.S2	SW5.S1
De Energised Relays	ON	ON	ON
Normally Closed	OFF	OFF	OFF

Table 10

Relay Contact Normally Open or Normally Closed (De-Energised Relay State)

Please Note:- LK1 to LK4 refer to the 3 pin headers and 2 way shorting links which are used to select contact state.

FUNCTION	ALARM CARD CHANNEL								SPR CARD			
	1		2		3		4		1		2	
	RLY 1		RLY 2		RLY 3		RLY 4		RLY 1		RLY 2	
Open	LK1	N/O	LK2	N/O	LK3	N/O	LK4	N/O	LK1	N/O	LK2	N/O
Closed	LK1	N/C	LK2	N/C	LK3	N/C	LK4	N/C	LK1	N/C	LK2	N/C

Table 11

6.1.2 Repeat Relay Mode Of Operation

The repeat relays can be configured to operate as:-

6.1.3 Input Follower

The relay will activate when an alarm occurs and automatically return to normal when the alarm returns to the normal state.

6.1.4 Logic Follower

The individual relay will activate when an alarm occurs and only return to normal when the alarm has returned to the normal state and the logic has been reset.

FUNCTION	ALARM CARD CHANNEL		SPR CARD
	1 - 2	3 - 4	1 - 2
Input Follower	SW4.S1 = ON	SW6.S1 = ON	Automatic
Logic Follower	SW4.S1 = OFF	SW4.S1 = OFF	

Table 12

6.1.5 Operation of Repeat Relays During Test

Repeat Relays configured to Logic Follower Mode can be set so that they will not operate when the System Test Pushbutton is pressed.

FUNCTION	ALARM CARD CHANNEL		SPR CARD
	1 - 2	3 - 4	1 - 2
Disable	SW4.S6 = ON	SW6.S6 = ON	SW5.S4 = ON
Enable	SW4.S6 = OFF	SW6.S6 = OFF	SW5.S4 = OFF

Table 13

6.1.6 System Test

System test simulates a full alarm condition on all channels therefore the associated LED's will flash and the audible alarm will sound. The appropriate pushbuttons, Ack, Mute & Reset will need to be pressed, depending on the selected alarm sequence, to return the alarms to their normal off state.

6.1.7 Disable Horn On System Test Option "DHT" (Model Suffix Code M1)

As an option it is possible to provide the UC625 Unit so that the horn outputs are disabled during system test if required. Option DHT must be specified at time of order placement if this feature is required.

6.1.8 LED Indication

The UC625 Alarm Annunciator is supplied with 8mm super bright LED's mounted in the left hand corner of the associated window. The LED is normally supplied in red but other colours are available on request.

6.1.9 Dual Audibles And Dual Horn Relays

Two audible alarms and two horn relays designated critical and non-critical are fitted to the SPR card as standard.

FUNCTION	CRITICAL HORN			NON CRITICAL HORN		
	Alarm Card Channel		SPR Card	Alarm Card Channel		SPR Card
	1 - 2	3 - 4	1 - 2	1 - 2	3 - 4	1 - 2
	SW4.S7	SW6.S7	SW5.S5	SW4.S8	SW6.S8	SW5.S6
Enable	ON		ON	ON		ON
Disable	OFF		OFF	OFF		OFF

Table 14

The Audible Alarm Relay Contact can be set to N/O or N/C as follows:-

Please Note:- LK4 and LK5 refers to the 3 pin headers and 2 way shorting links located on the SPR card used to select the contact state.

FUNCTION	SET	CRITICAL HORN RELAY		NON CRITICAL HORN RELAY	
Normally Open	N/O	RL4	LK4	RL5	LK5
Normally Closed	N/C				

Table 15

6.1.10 Integral Horn Disable

The two integral horns designated critical and non-critical fitted to the SPR card can be enabled or disabled using the following configurations:-

CARD	CRITICAL HORN		NON CRITICAL HORN	
SPR	SW6.S4		SW6.S3	
	Enable	Disable	Enable	Disable
	ON	OFF	ON	OFF

Table 16

6.1.11 Auto-Acknowledge Feature

The critical and non-critical horns / horn relays can be automatically acknowledged after a pre-set time period using the following configurations.

CARD	SWITCH	DELAY TIME BEFORE AUTOMATIC ACKNOWLEDGE			
SPR		Disabled	15 seconds	50 seconds	170 seconds
	SW6.1	OFF	ON	OFF	ON
	SW6.2		OFF	ON	

Table 17

6.1.12 Common Alarm Relay

Each unit is equipped with a common alarm relay RL3 to allow a summary alarm contact to be wired to 3rd party devices.

FUNCTION	ALARM CARD CHANNEL		SPR CARD
	1 and 2	3 and 4	1 and 2
Enable	SW4.S3 = ON	SW6.S3 = ON	SW5.S2 = ON
Disable	SW4.S3 = OFF	SW6.S3 = OFF	SW5.S2 = OFF

Table 18

The Common Alarm Relay Contact can be set to N/O or N/C as follows:-

CONTACT STATE	RELAY	LINK	SETTING
Normally Open	RL3	LK3	N/O
Normally Closed	RL3	LK3	N/C

Table 19

Please Note:- LK3 refers to the 3 pin header and 2 way shorting link located on the SPR card used to select the contact state.

6.1.13 Reflash Option

If a standing alarm is present on the unit and another alarm occurs this option allows the common alarm relay to change state for 500mS and re-activate hence the term reflash.

FUNCTION	ALARM CARD CHANNEL		SPR CARD
	1 - 2	3 - 4	1 - 2
Reflash	SW4.S5	SW6.S5	SW5.S3
Enable	ON	ON	ON
Disable	OFF	OFF	OFF

Table 20

Common Alarm Relay Mode of Operation

6.1.14 Input Follower.

The common alarm relay will active when an alarm occurs and automatically return to normal when all alarms have returned to the normal state.

6.1.15 Logic Follower.

The common alarm relay will active when an alarm occurs and only return to normal when all alarms have returned to the normal state and the logic has been reset.

FUNCTION	ALARM CARD CHANNEL	
	1 - 2	3 - 4
Input Follower	SW4.S4 = ON	SW6.S4 = ON
Logic Follower	SW4.S4 = OFF	SW6.S4 = OFF

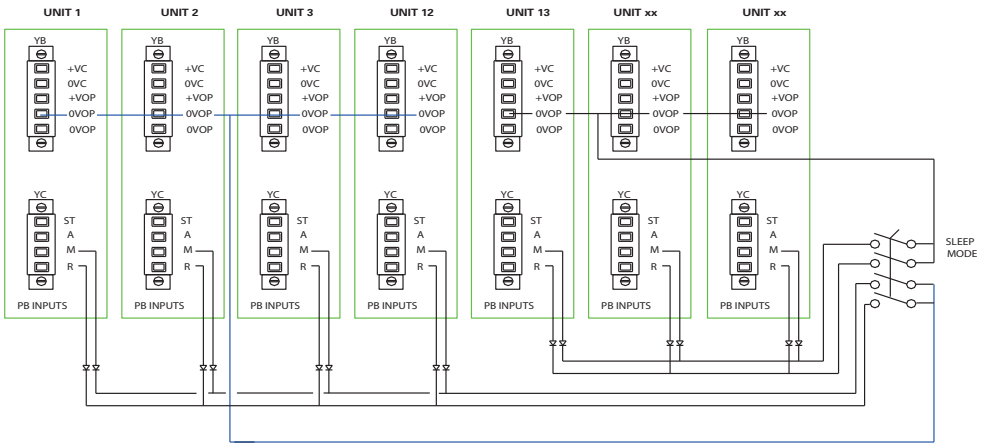
Table 21

6.1.16 Sleep Mode

(Available on All units supplied after April 5th 2004)

Sleep mode is typically used in sub station applications where the visual and audible outputs are disabled during unmanned periods to reduce the drain on the associated station batteries. Whilst in sleep mode the logic of the annunciator will continue to react in the normal way including the operation of common alarm relays and individual channel signal duplicating relays only the drive signals to the LED's and audibles are disabled. An externally mounted two-pole switch is required to activate sleep mode with 1 pole connected to the mute pushbutton input and the other pole connected to the reset pushbutton input on the rear of the unit. The common return for both poles is OV-OP.

Please Note:- In typical Sub Station multiple UC625 Annunciators share a common sleep mode switch. In these instances RTK recommend that general purpose isolation diodes are added in line to the remote pushbutton inputs, additional poles are added to the sleep mode switch and inter panel links should be divided equally as typically shown below.



7 SPECIFICATION

7.1 Optically Coupled Inputs

Input Types	Volt-Free Contacts		Normally Open	Normally Closed
Field Contact Voltage	Standard • 24VAC/DC		Optional • 48VAC/DC • 110VAC/DC • 250VAC/DC	
Contact Resistance N/C	Series Resistance of contact cables 5k ohm maximum			
Contact Resistance N/O	Parallel Resistance of contact cables 150k ohm minimum			
Response Time Std Version	5 mS	25 mS	50 mS	100 mS
Response Time M3 Version	5 mS	25 mS	200 mS	5 S
Surge Withstand Transient To IEC 255.4 1.2/50mS	Common Mode: 1kV		Series Mode: 2kV	
Input Protection	PSU Reverse Polarity Protection.		Inputs protected against accidental connection to 240VAC, 50Hz or 1000V Megger testers	
First-up Discrimination	10ms ±5ms			

WARNING !

Fit external fusing to 250V field contact voltage supply connection in accordance with the table below.

Where 250V Field Contact Voltage inputs are used, the FCV supply line must be externally fused according to the current consumption based on the no of ways used.

Typical load for 125VDC shown.

No of Ways	Current in mA
8	60
12	72
16	85
20	96
24	108
28	120
32	140
36	146
40	160

The maximum fuse value to be used is 500mA.

7.2 Outputs

Visual	8mm Super Bright LED	
Audible	Dual Integral Audibles	
Horn Relays	Dual Integral Horn Relays Contact Rating (resistive) • 125VDC max • 24VDC @ 2A • 125VDC @ 0.5A	
Common Alarm Relay	Contact Rating (resistive) • 125VDC max • 24VDC @ 2A • 125VDC @ 0.5A	
Individual Channel Repeat Relays	Contact rating: (resistive) • 125VDC max • 24VDC @ 2A • 125VDC @ 100mA	Relay outputs may be normally energised or de-energised on fault as required.
Signal Supply Monitor Relays	On systems supplied after 1st January 2008 a signal supply monitor relay is provided to indicate loss of the supply	

7.3 Pushbuttons

Pushbuttons	System Test	Mute
	Acknowledge	Reset

7.4 General

Supply Voltage	Supply 1 - 88-265VAC or 88-300VDC	
	Supply 2 - 88-265VAC or 88-300VDC	Option Supply 2 - 24VDC (19-31VAC/DC)

WARNING !

Mains supply lines to Supply 1 and Supply 2 (if mains type fitted) must be protected by external 1A/T fuses.

Supply Current	Alarm Card 2mA Each Quiescent
	Alarm Card 140mA Each Full Load
	Pushbutton Module Each 100mA
Fuses	Signal Supply Fuse 125mA – Mounted on Cabinet Rear
	24VDC Aux Supply Fuse 1A – Mounted on SPR Card
Terminals	Rising clamp type terminals. Maximum cable size 2.5mm^2
EMC Compliance	Immunity to BS EN61000-6-2:2005
	Emissions to BS EN61000-6-4:2007
LVD Compliance	EN61010-1:2010 and IEC61010-2-201
Operating Temp	-10°C to 60°C
Storage Temp	-20°C to 80°C
Humidity	0-95% RH, non-condensing
Protection	IP51

8 INSTALLATION

WARNING !

Installation, configuration and maintenance of this annunciator must only be performed by competent service personnel

WARNING !

The UC625 is designed for panel mounting. The rear portion of the annunciator must be protected by an enclosure that is at least IP30 and can only be accessed using a key or tool. Access to the rear enclosure must be limited to service personnel only.

8.1 Cut-out dimensions

Only one cut-out is required to mount the alarm annunciator. The size of this cut-out is dependent on the number of alarms fitted as shown in the table below

ALARM WAYS	OVERALL SIZE (H X W) mm	CUT-OUT SIZE (H X W) mm
12	154 x 152	141 x136
16	154 x 180	141 x 164
20	154 x 208	141 x192
24	154 x 236	141 x 220
28	154 x 264	141 x 248
32	154 x 292	141 x 276
36	154 x 320	141 x 304
40	154 x 348	141 x 332

Please note:- Cut-Out dimensions have a tolerance of plus or minus 0.5 mm.

Table 22

Unit Depth

For standard units depth = 130 mm

8.2 Cabinet Fixing

The annunciator system as received will be ready to install into the panel cut-out.
Firstly remove the frame clamps, the unit is then passed through the panel cut-out as far as the 'picture frame' trim and is secured from behind with the frame clamps and screws which are located into the frame extrusion as shown in the drawing below.. To ensure the screw cannot shake loose a locking nut is provided. Maximum panel thickness 6mm

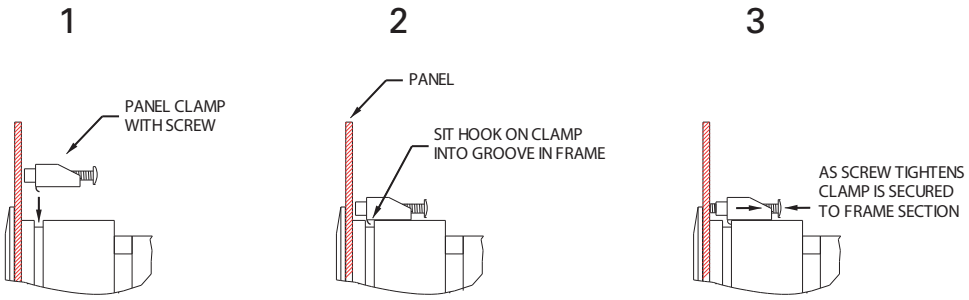


Figure 2 - Panel Fixing Arrangement

8.3 Channel Numbering

For ease of wiring and configuring of the required sequences and legends, the following numbering method should be used. Any wiring diagram supplied or list of film legends should refer to this numbering scheme.

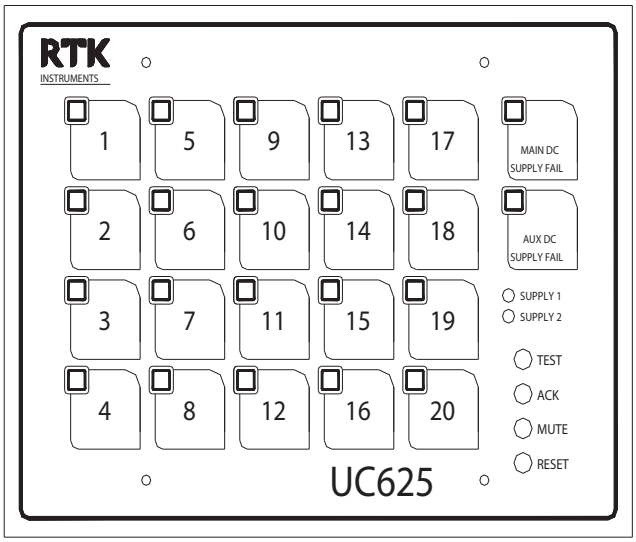


Figure 3 - Channel Numbering

8.4 Connection Details

WARNING !

Hazardous voltages may exist on the rear connections of the annunciator. Remove all power before removing any cover or connector. Ensure all covers and connectors are fully secured before restoring power.

All Customer connections are available on the rear of the Motherboard mounted on the back of the annunciator as shown on the figure below.

Each system will consist of a single SPR Card (supply, pushbuttons and relays) and multiple four-channel alarm cards.

The SPR card is always situated on the far left, when viewed from the rear, and provides all the common connections for both inputs and outputs.

The number of four channel alarm cards fitted will depend on the system size but these all have exactly the same connections for the four alarm contact inputs and four volt-free relay outputs.

At the top of each alarm card there is a label referring to the channel numbers for that card, these channels refer to the numbering scheme for all the inputs as shown above.

All terminals are of the rising clamp type and are suitable for cable of up to 2.5mm^2

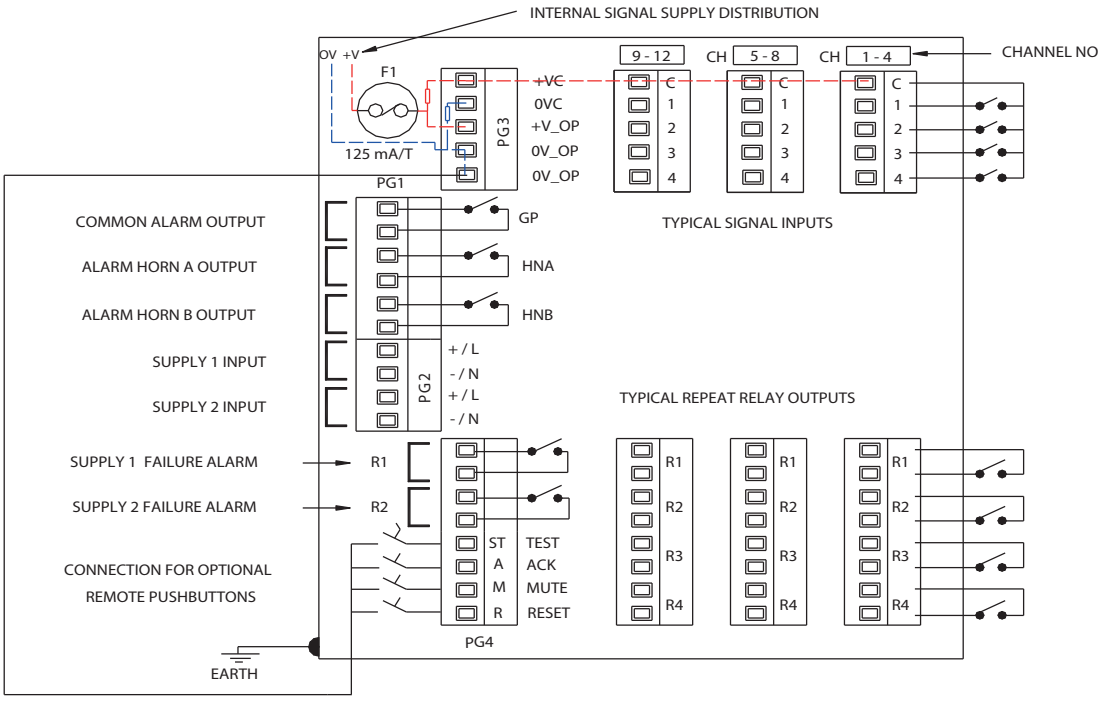


Figure 4 - Typical Connection Details

Please Note:- Systems supplied after January 1st 2008 are fitted with quick disconnect terminals

complete with **locking screws** suitable for a max of 2.5mm2 cables per the revised layout shown below

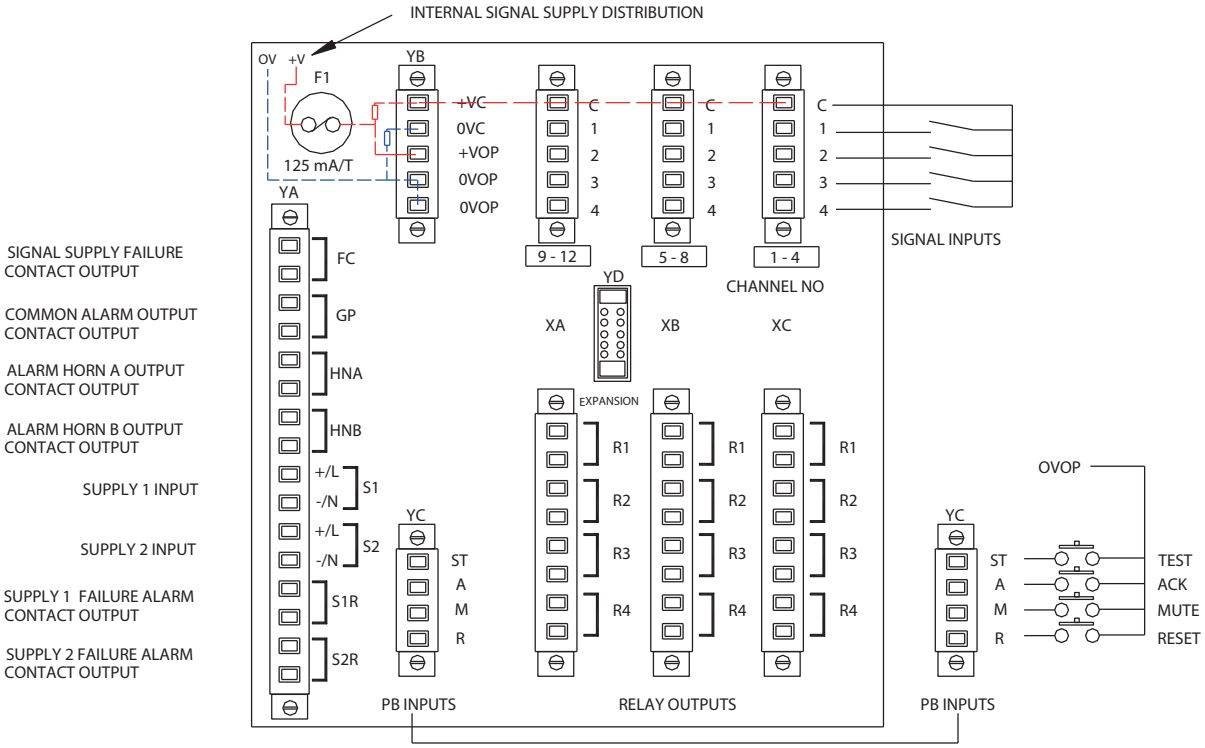


Figure 5 - Typical Connection Details (revised layout post January 1st 2008)

8.5 Power Connections

RTK range of UC625 annunciators are supplied as standard with two integrally mounted universal Input power supplies (supply 1 and 2) capable of accepting either

SUPPLY	VOLTAGE	TERMINAL BLOCK	TERMINALS
1	88-265VAC or 88-300VDC	PG2 Supply 1	+/L and -/N
2	88-265VAC or 88-300VDC	PG2 Supply 2	+/L and -/N

Mains power supply inputs must be external fused.

Table 23

8.6 Aux Supply Option

The second power supply input (Supply 2) can be suitable for connection to a nominal 24VDC (19-31VDC) supply as an option.

SUPPLY	VOLTAGE	TERMINAL BLOCK	TERMINALS
1	88-265VAC or 88-300VDC	PG2 Supply 1 I/P	+/L and -/N
2	24VDC or (19-31VDC)	PG2 Supply 2 I/P	+/L and -/N

Table 24

Please note:- Systems supplied after January 1st 2012 have additional labelling on the Relay Outputs to allow the Customer to define the powered side of each contact.

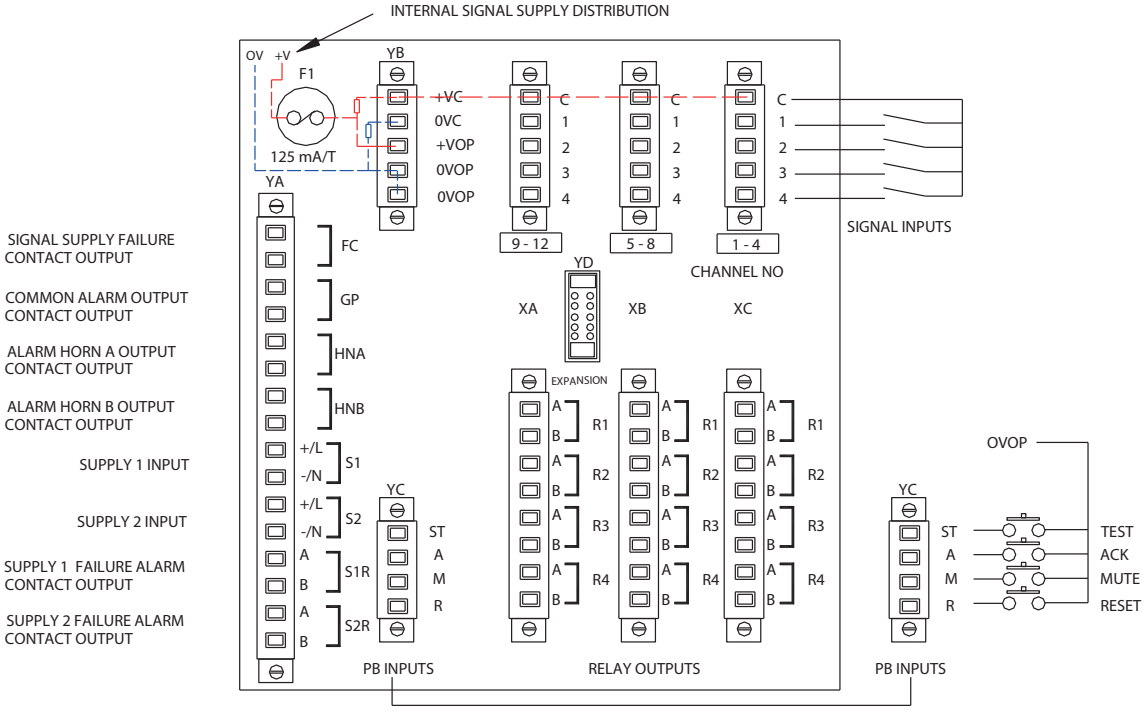


Figure 6 - Power Connection Details (revised labelling post January 1st 2012)

8.7 Signal Supply

The standard UC625 generates an internal redundant +24VDC for use as the signal supply voltage. In this instance the signal supply voltage is protected by fuse F1 located in the top left hand corner on the rear of the enclosure and internally linked to all of the "C" terminals of the UC625 for distribution to the associated signal input contact.

8.7.1 Signal Supply Monitor Relay

On systems supplied after January 1st 2008 a field contact supply monitor relay has been added to provide remote indication of loss of the field contact voltage. The monitor relay output contact is available on the rear of the unit in terminal row YA terminals FC.

8.7.2 Signal Supply Options

As an option, which must be specified at the time of order, the UC625 can be supplied suitable for use with direct powered inputs using 48VAC/DC, 110VAC/DC or 250VAC/DC. Please note:- 48VAC/DC, 110VAC/DC and 250VAC/DC signal supply versions use external voltages derived by others from outside the annunciator.

Full redundancy of operation is therefore dependent on the signal supply voltage being available if either primary or secondary supply inputs are present.

8.7.3 Earthing

All UC625 alarm annunciators are fitted with a separate earth stud, which is located on the left hand side of the enclosure when viewed from the rear. Warning:- To ensure the final installation meets all relevant safety standards and EMC directives this earth must be connected

8.7.4 Remote Pushbutton Connections

Standard units are supplied with customer terminals which allow connection of remote pushbuttons which can be set via on board DIL switches to operate in one of two ways as described below.

WARNING !

Remote pushbuttons must only be installed in the same enclosure as the UC625 annunciator.

The UC625 annunciator must be de-powered before working on remote pushbuttons or other connected equipment powered from the 24V supply provided by the UC625.

Option 1

In sub-station applications it is common for a number of annunciators to be wired to one common set of Test, Acknowledge and Reset pushbuttons which only control the power failure alarms fitted within individual annunciators.

Option 2

In other applications both alarms and power failure alarms are to be linked to a common set of Test, Acknowledge and Reset pushbuttons.

FUNCTION	CARD	CHANNELS	SWITCH	SETTING
Enable Option 1	SPR	ALL	SW5.S7	OFF
Enable Option 2	SPR	ALL	SW5.S7	ON

Table 25

In either case remote pushbuttons should be momentary type with normally open contact. Switches of almost any type can be used and should be wired as shown in the following diagram.

Figure 7 - Optional Remote Pushbutton Connections

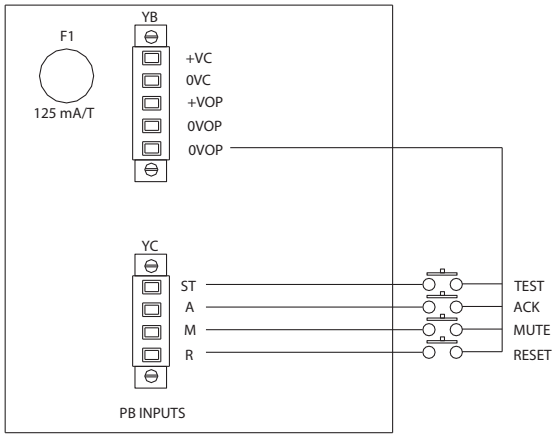
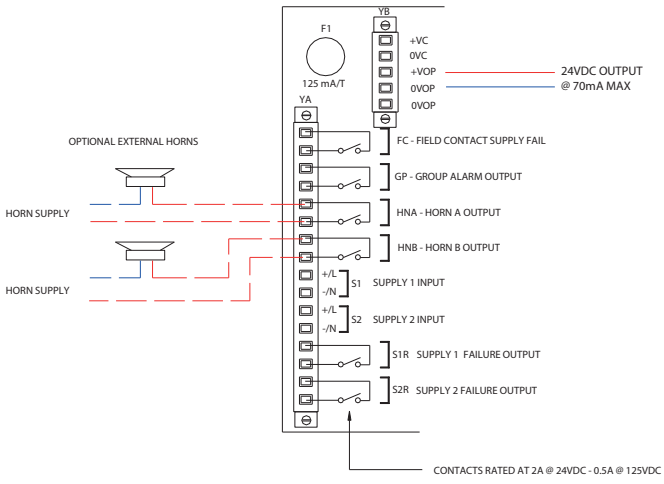


Figure 8 - Optional Remote Horn Connections



8.7.5 Standard Inputs Connections

In standard systems +24VDC is provided by the annunciator for use as a signal supply. In this instance +VC is internally linked by the motherboard to fuse F1 and then distributed to ALL of the "C" terminals within the annunciator.

The "C" terminal is provided for Customer use to distribute the signal supply to the associated field contacts.

Terminal OVC is internally linked as a common return for all channels

All UC625 models are provided with 2 x internal power supplies and the +24VDC signal supply is available if either supply 1 or supply 2 are present.

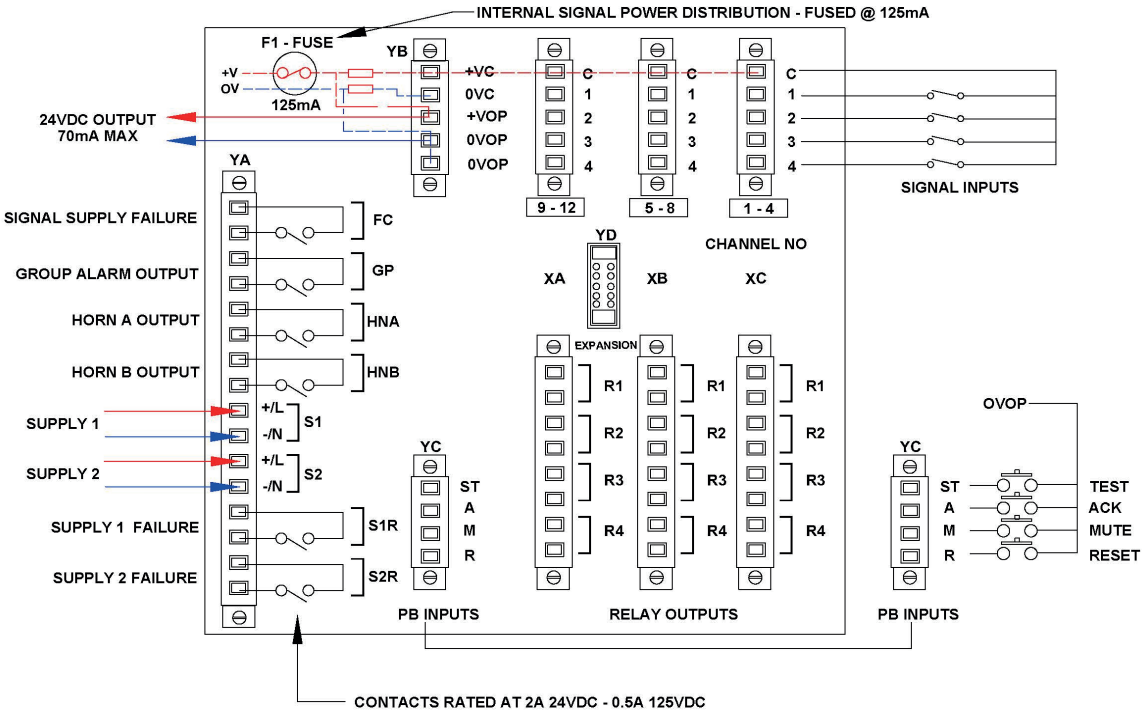


Figure 9 - Standard Signal Input Connections

8.7.6 Powered Inputs @ 24VDC

If required, the standard unit can be wired to accept +24VDC customer powered inputs.

This is achieved by connecting the OV of the customers signal supply to terminal OVC on the UC625.

Terminal OVC is internally linked as a common return for all channels.

+24VDC can then be used as a direct connection to the associated Input or it can be +VC and internally linked to the common "C" terminals to signal contacts as typically shown below.

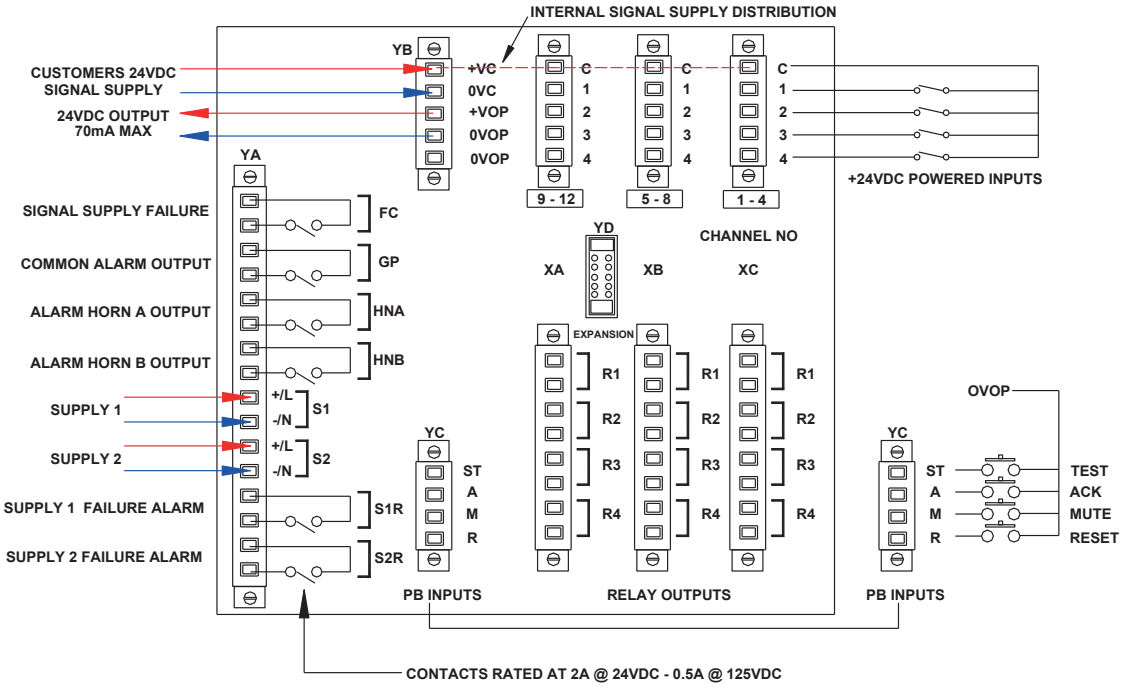


Figure 10 - 24VDC Powered Signal Input Connections

Important note:- In standard UC625 Models RTK provide +24VDC as a signal supply voltage and this voltage is available if either the primary or aux supply is present on the annunciator.

If the Customer is using an external signal supply this supply must be available for use when either the primary and aux supply is available for the unit to function correctly.

8.7.7 Higher Voltage Powered Inputs

If specified at the time of order RTK can supply the unit suitable for use with high voltage signal inputs there are 3 options available

- 48VAC/DC
- 110VAC/DC
- 250VAC/DC.

Where 250V Field Contact Voltage inputs are used, the FCV supply wiring must be externally fused according to the details on page 27.

Fuse F1 on the rear of the annunciator is used to protect the internal 24V supply.

+VC is internally linked to ALL of the "C" terminals within the annunciator.

The "C" terminal is provided for Customer use to distribute the + H.V. signal supply to the associated field contacts.

The user is able to wire a powered Input direct to the associated input terminal as long as the OV of the Customers supply is connected to terminal OVC on the UC625 annunciator.

Terminal OVC is internally linked as a common return for all channels.

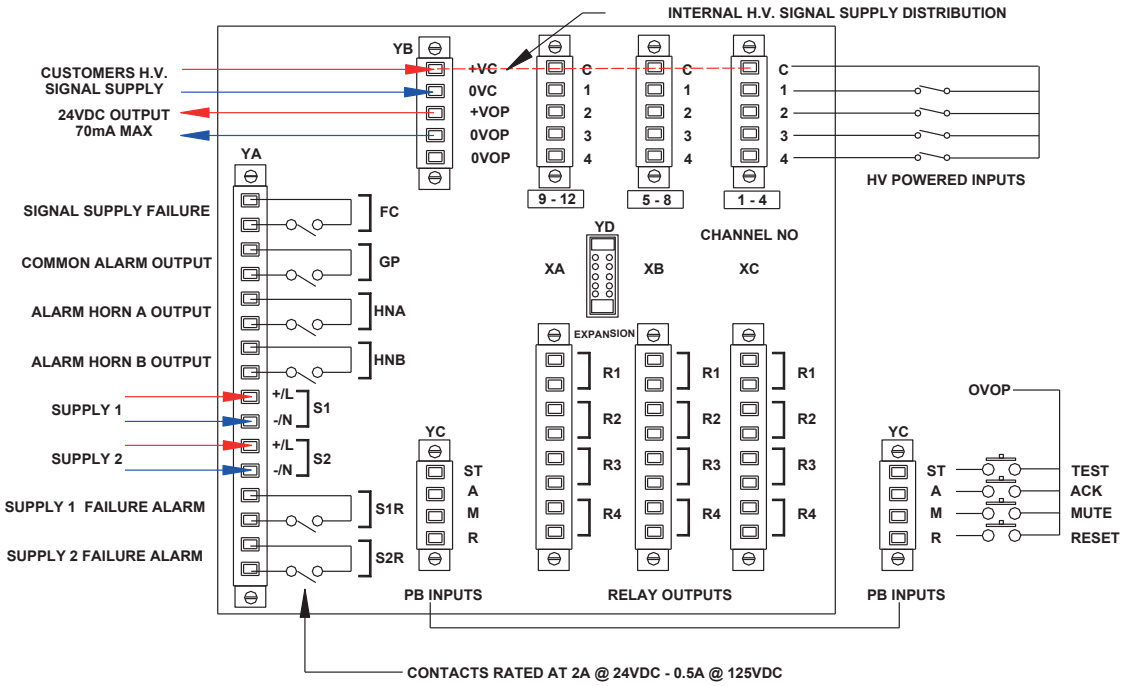


Figure 11 - 48/110/250 VAC/DC Powered Signal Input Connections

Important note:- In standard UC625 Models RTK provide +24VDC as a signal supply voltage and this voltage is available if either the primary or aux supply are present on the annunciator.

If the Customer is using an external H.V. signal supply this supply must be available for use when either the primary and aux supply is available for the unit to function correctly.

8.7.8 Sleep Mode

Sleep mode is typically used in sub station applications where the visual and audible outputs are disabled during unmanned periods to reduce the drain on the associated station batteries. Whilst in sleep mode the logic of the annunciator will continue to react in the normal way including the operation of common alarm relays and individual channel signal duplicating relays only the drive signals to the LED's and audibles are disabled. An externally mounted two- pole switch is required for sleep mode connected as shown below. Sleep mode is active when the switch is in the closed position.

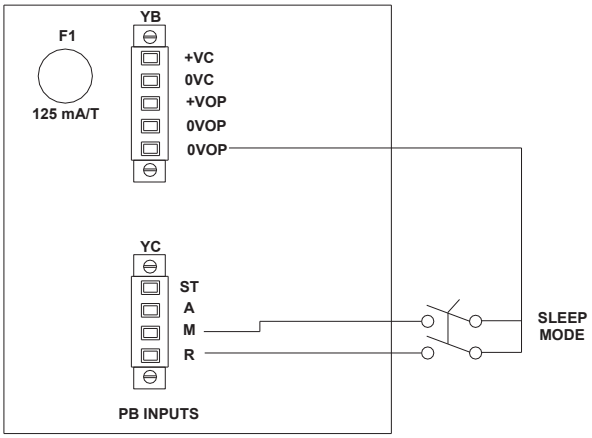
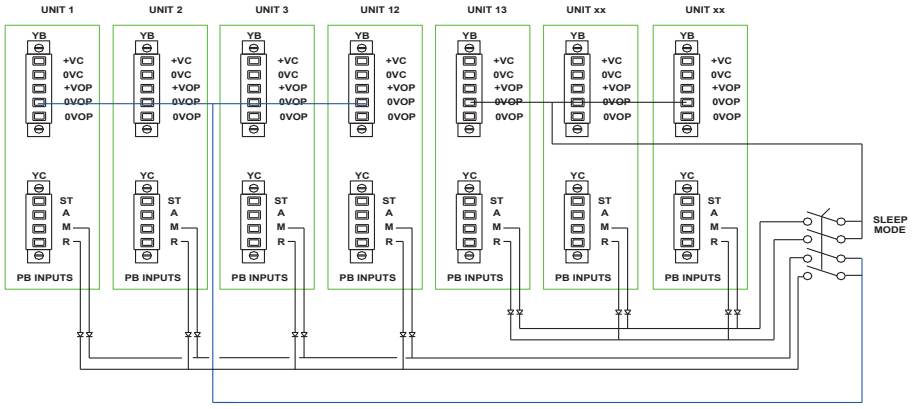


Figure 12 - Connection for Sleep Mode

Please note:- In typical Sub Station applications multiple UC625 Annunciators share a common sleep mode switch. In these instances RTK recommend that general purpose isolation diodes are added in line to the remote pushbutton inputs, additional poles are added to the sleep mode switch and inter panel links should be divided equally as typically shown below.



9 SYSTEM DIL SWITCH LOCATION AND FUNCTIONS

WARNING	**WARNING !** Remove ALL power from the unit and fully remove the card before changing any jumpers or switches

The (4) channel alarm cards part no CB5303POP* can be accessed after removal of the front panel legend plate. Each (4) channel alarm card is equipped with six DIL switches which are used to select various options as detailed in the following section. For further details on the operation of the alarm sequences refer to the section headed sequences or the last page which summarises the switch setting required for each ISA sequence.

Layout applies to pre NOV 2012 UC625 Annunciators

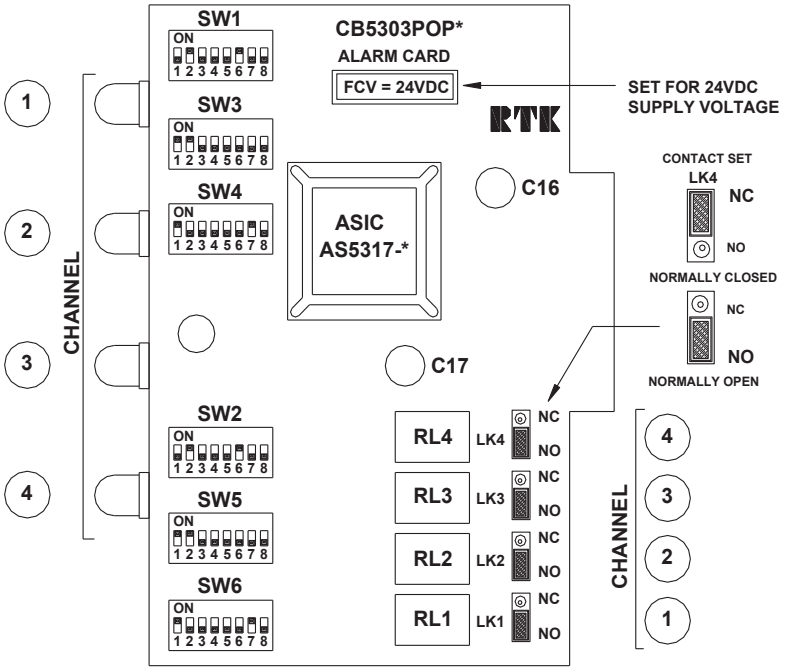


Figure 13 - Alarm Card DIL Switch Location (ASIC version)

On UC625 Annunciators supplied **after Nov 2012** the ASIC has been replaced by an FPGA device, see **diagram 14** on page 33

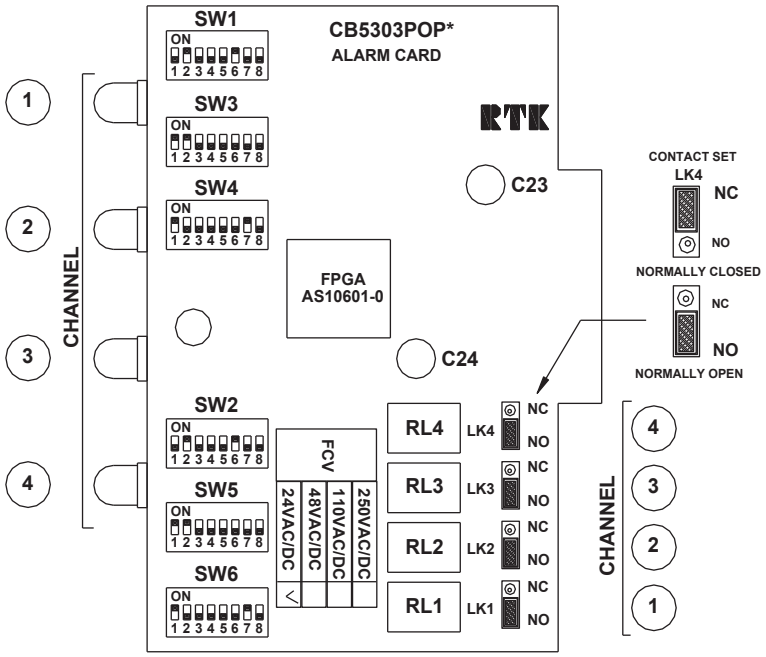


Figure 14 - Alarm Card DIL Switch Location (FPGA version)

9.1 DIL Switch Functions On Alarm Cards

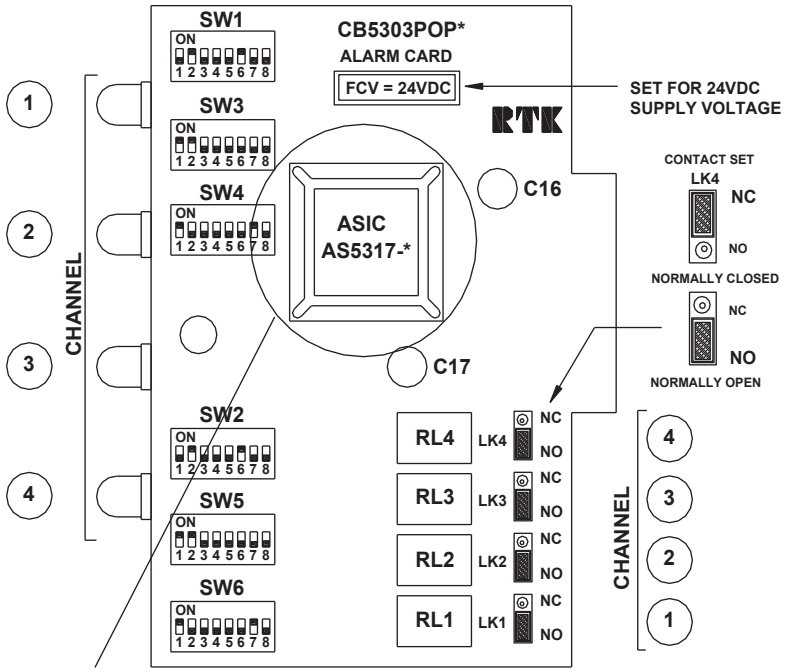
Sleep mode is typically used in sub station applications where the visual and audible outputs are disabled during unmanned periods to reduce the drain on the associated station batteries. Whilst in sleep mode the logic of the annunciator will continue to react in the normal way including the operation of common alarm relays and individual channel signal duplicating relays only the drive signals to the LED's and audibles are disabled. An externally mounted two- pole switch is required for sleep mode connected as shown below. Sleep mode is active when the switch is in the closed position.

FUNCTION	CARD	CHANNELS	SWITCH
Input Response	Alarm	1 and 2	SW1 Refer To Table 27
	Alarm	3 and 4	SW2 Refer To Table 27
Channel Features	Alarm	1 and 2	SW3 and SW4 Refer To Fig 10
	Alarm	3 and 4	SW5 and SW6 Refer To Fig 11

Table 26

9.2 Identifying Card Types – UPTO NOV 2012

The Applications Specific Integrated Circuit (ASIC) used on the UC625 annunciator varies depending on the options specified at the time of order



The following ASIC versions are used in UC625 models

Version	Alarm Card ASIC	SPR Card ASIC	SPR ETN ASIC
Standard	AS5317	AS5378	AS6521
M2	AS6247	AS6250	AS6522
M3	AS6454	AS6250	AS6522
M4	AS6454	AS7827	AS6522

Table 27

The Applications Specific Integrated Circuit (ASIC) used on the UC625 annunciator varies depending on the options specified at the time of order

The optional functions are defined below

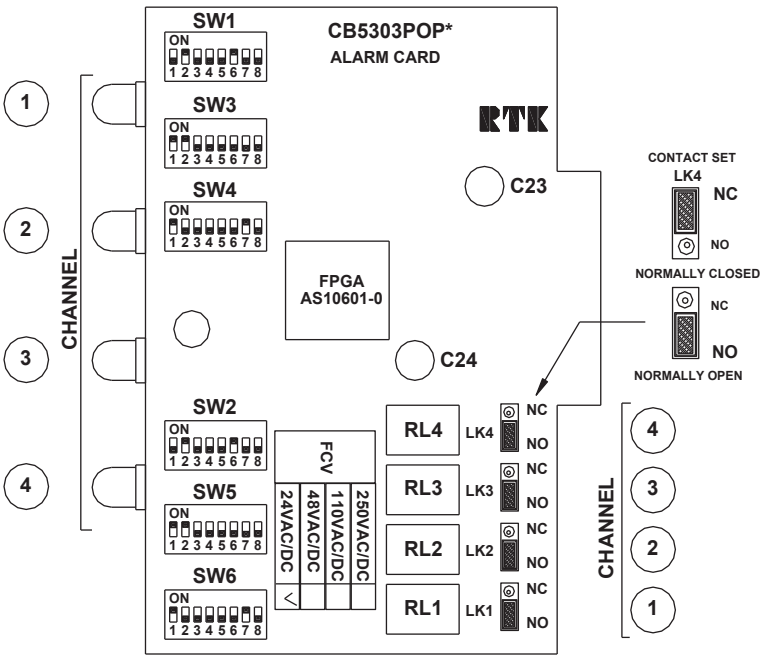
M2 = Modified Ringback sequence, disabled ring back audible and lamp test in place of system test.

M3 = ISA R12 Ringback sequence, disabled Ringback horn, lamp test in place of system test and response time changed to 5mS trip 5S pre-alarm.

M4 = ISA R12 Ringback sequence, disabled ring back audible, lamp test in place of system test, response time changed to 5mS trip and 5S pre-alarm and combined Lamp / Audible Test pushbutton function.

9.3 Identifying Card Types – AFTER NOV 2012

On UC625 annunciators supplied after Nov 2012 the ASIC has been replaced by an FPGA



The following FPGA Card versions are used in UC625 models

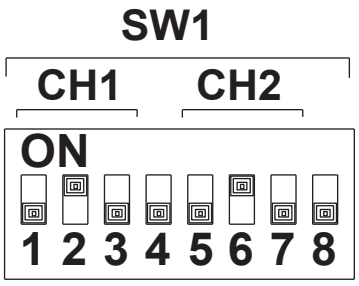
Version	Type
CB5303POP51	(4) Channel Alarm Card 24VAC/DC Signal Input Version
CB5303POP52	(4) Channel Alarm Card 110VAC/DC Signal Input Version
CB5303POP53	(4) Channel Alarm Card 220VAC/DC Signal Input Version
CB5303POP54	(4) Channel Alarm Card 48VAC/DC Signal Input Version

Table 28

9.4 Alarm Card Input Response Settings STANDARD VERSIONS – UPTO Nov 2012

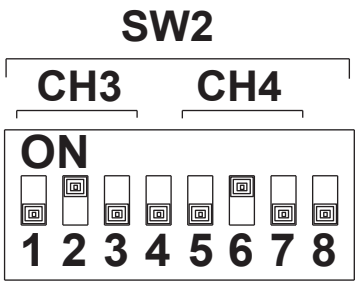
On standard versions of the UC625 Annunciator Switch SW1 & SW2 are used to set the response time for each channel as detailed below.

ASIC version AS5317 is used on standard versions.



CHANNEL	SWITCH	5MS	25MS	50MS	100MS
1	SW1-S1	ON	OFF	OFF	OFF
	SW1-S2	OFF	ON	OFF	OFF
	SW1-S3	OFF	OFF	ON	OFF

CHANNEL	SWITCH	5MS	25MS	50MS	100MS
2	SW1-S5	ON	OFF	OFF	OFF
	SW1-S6	OFF	ON	OFF	OFF
	SW1-S7	OFF	OFF	ON	OFF



CHANNEL	SWITCH	5MS	25MS	50MS	100MS
3	SW2-S1	ON	OFF	OFF	OFF
	SW2-S2	OFF	ON	OFF	OFF
	SW2-S3	OFF	OFF	ON	OFF

CHANNEL	SWITCH	5MS	25MS	50MS	100MS
4	SW2-S5	ON	OFF	OFF	OFF
	SW2-S6	OFF	ON	OFF	OFF
	SW2-S7	OFF	OFF	ON	OFF

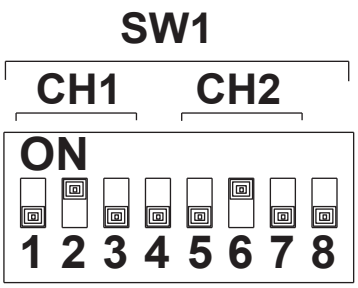
Switches SW1-S4, SW1-S8, SW2-S4 and SW2-S8 are not used

TABLE 29

9.5 Alarm Card Input Response Settings M3 / M4 OPTION VERSIONS

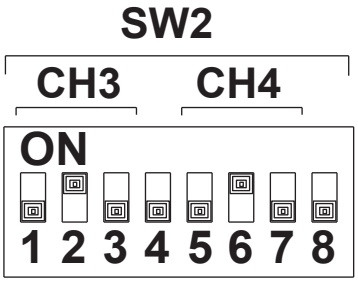
If specified at the time of order the UC625 Annunciator can be supplied with alternative response time settings as shown below. Suffix Code M3 or M4 in the Model No is used to signify that the alternative response times are available. Switch SW1 & SW2 are used to set the response time for each channel as detailed below

ASIC version AS6454 is used on M3 / M4 versions.



CHANNEL	SWITCH	5MS	25MS	200MS	5S
1	SW1-S1	ON	OFF	OFF	OFF
	SW1-S2	OFF	ON	OFF	OFF
	SW1-S3	OFF	OFF	ON	OFF

CHANNEL	SWITCH	5MS	25MS	200MS	5S
2	SW1-S5	ON	OFF	OFF	OFF
	SW1-S6	OFF	ON	OFF	OFF
	SW1-S7	OFF	OFF	ON	OFF



CHANNEL	SWITCH	5MS	25MS	200MS	5S
3	SW2-S1	ON	OFF	OFF	OFF
	SW2-S2	OFF	ON	OFF	OFF
	SW2-S3	OFF	OFF	ON	OFF

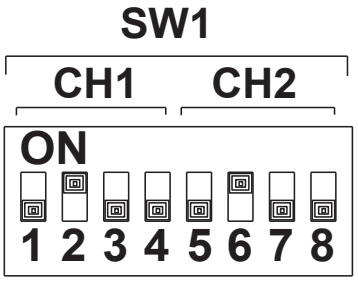
CHANNEL	SWITCH	5MS	25MS	200MS	5S
4	SW2-S5	ON	OFF	OFF	OFF
	SW2-S6	OFF	ON	OFF	OFF
	SW2-S7	OFF	OFF	ON	OFF

Switches SW1-S4, SW1-S8, SW2-S4 and SW2-S8 are not used

TABLE 30

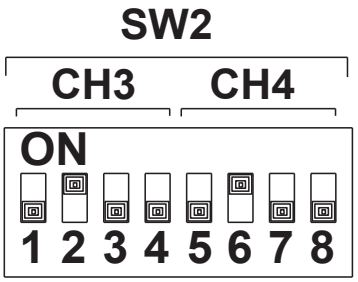
9.6 Alarm Card Input Response Settings STANDARD VERSIONS – AFTER Nov 2012

UC625 Annunciators supplied after Nov 2012 are equipped with the following response time settings ASIC version AS6454 is used on M3 / M4 versions.



CHANNEL	SWITCH	5MS	25MS	200MS	5S
1	SW1-S2	OFF	ON	OFF	ON
	SW1-S3	OFF	OFF	ON	ON

CHANNEL	SWITCH	5MS	25MS	200MS	5S
2	SW1-S6	OFF	ON	OFF	ON
	SW1-S7	OFF	OFF	ON	ON



CHANNEL	SWITCH	5MS	25MS	200MS	5S
	SW2-S2	OFF	ON	OFF	ON
	SW2-S3	OFF	OFF	ON	ON

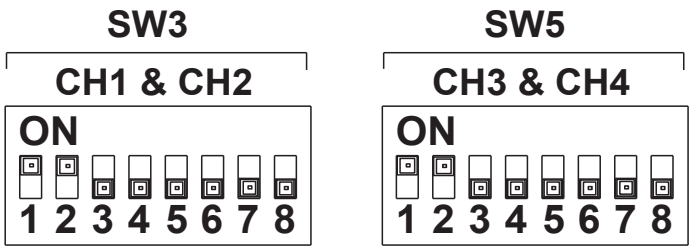
CHANNEL	SWITCH	5MS	25MS	200MS	5S
	SW2-S6	OFF	ON	OFF	ON
	SW2-S7	OFF	OFF	ON	ON

TABLE 31

9.7 Alarm Card Input & Sequence Settings (Set In Pairs) – Pre Nov 2012

Switch SW3 and SW5 are used to set the alarm sequence, Input reflash, Ringback, Automatic Reset, Non Lock In, First Up and inputs suitable for use with either Normally Open or Normally Closed Inputs.ASIC version AS6454 is used on M3 / M4 versions.

SW3 controls channel 1 & 2, SW5 controls channel 3 & 4



SWITCH	STATE	FUNCTION
SW*-S1	ON	SEE SEQUENCE SECTION (See Last Page)
SW*-S2	ON	SEE SEQUENCE SECTION (See Last Page)
SW*-S3	ON	INPUT REFLASH
	OFF	DISABLE INPUT REFLASH
SW*-S4	ON	RINGBACK SEQUENCE (See Last Page)
	OFF	DISABLE RINGBACK SEQUENCE
SW*-S5	ON	TWO PUSHBUTTON OPERATION
	OFF	DISABLE TWO PUSHBUTTON OPERATION
SW*-S6	ON	AUTOMATIC RESET
	0FF	MANUAL RESET
SW*-S5 SW*-S6	ON	NON LOCK IN
SW*-S7	ON	FIRST UP
	OFF	DISABLE FIRST UP
SW*-S8	ON	NORMALLY CLOSED INPUTS
	OFF	NORMALLY OPEN INPUTS

* = Switch SW3 is used to adjust channel 1 & 2 or SW5 is used to adjust channel 3 & 4 as required

Figure 15 - Alarm Card DIL Switch details (SW3 and SW5)

9.8 Alarm Card Relay And Horn Settings (Set In Pairs)

Switch SW4 and SW6 are used to control the operation of the individual channel repeat relays, group relays and audible alarms

SW4 controls channel 1 & 2, SW6 controls channel 3 & 4

SWITCH	STATE	FUNCTION
SW*-S1	ON	REPEAT RELAYS FOLLOW THE SIGNAL INPUT
	OFF	**REPEAT RELAYS FOLLOW THE ALARM LOGIC**
SW*-S2	ON	NORMALLY DE ENERGISED REPEAT RELAYS
	OFF	**NORMALLY ENERGISED REPEAT RELAYS**
SW*-S3	ON	ENABLE GROUP RELAY OUTPUT
	OFF	DISABLE GROUP RELAY OUTPUT
SW*-S4	ON	GROUP RELAY SIGNAL FOLLOWS INPUT
	OFF	GROUP RELAY FOLLOWS ALARM LOGIC
SW*-S5	ON	REFLASH SIGNAL TO GROUP RELAY
	OFF	DISABLE REFLASH SIGNAL TO GROUP RELAY
SW*-S6	ON	SYSTEM TEST WILL NOT OPERATE REPEAT RELAYS
	0FF	SYSTEM TEST WILL OPERATE REPEAT RELAYS
SW*-S7	ON	AUDIBLE SIGNAL TO HNA RELAY & AUDIBLE 1
	OFF	DISABLE AUDIBLE SIGNAL TO HNA RELAY & AUDIBLE 1
SW*-S8	ON	AUDIBLE SIGNAL TO HNB RELAY & AUDIBLE 2
	OFF	DISABLE AUDIBLE SIGNAL TO HNB RELAY & AUDIBLE 2

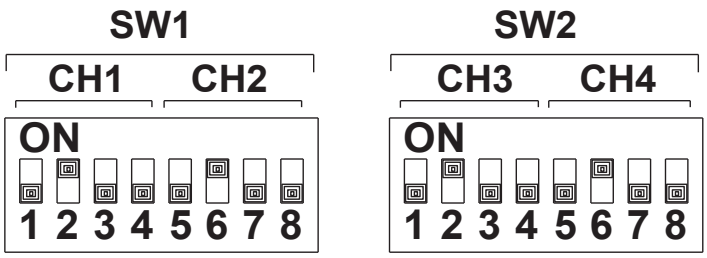
* = Switch SW4 is used to adjust channel 1 & 2 or SW6 is used to adjust channel 3 & 4 as required

Figure 16 - Alarm Card DIL Switch details (SW4 and SW6)

9.9 Alarm Card Settings for CARDS SUPPLIED AFTER Nov 2012

Switch SW1 (Channels 1 & 2) & SW2 (Channels 3 & 4) are used to set:-

- The Input State to either N/O or N/C
- The response time for each channel as detailed below
- 5mS Fast Return to Normal



CHANNEL 1 – INPUT STATE

SWITCH	STATE	FUNCTION
SW1-S1	ON	NORMALLY CLOSED INPUT
	OFF	NORMALLY OPEN INPUT

CHANNEL 1 – RESPONSE TIME

CHANNEL	SWITCH	5MS	25MS	200MS	5S
1	SW1-S2	OFF	ON	OFF	ON
	SW1-S3	OFF	OFF	ON	ON

CHANNEL 1 – FAST RETURN TO NORMAL

SWITCH	STATE	FUNCTION
SW1-S4	ON	5mS FAST RETURN TO NORMAL

CHANNEL 2 – INPUT STATE

SWITCH	STATE	FUNCTION
SW1-S5	ON	NORMALLY CLOSED INPUT
	OFF	NORMALLY OPEN INPUT

CHANNEL 2 – RESPONSE TIME

CHANNEL	SWITCH	5MS	25MS	200MS	5S
1	SW1-S6	OFF	ON	OFF	ON
	SW1-S7	OFF	OFF	ON	ON

CHANNEL 2 – FAST RETURN TO NORMAL

SWITCH	STATE	FUNCTION
SW1-S8	ON	5mS FAST RETURN TO NORMAL

CHANNEL 3 – INPUT STATE

SWITCH	STATE	FUNCTION
SW2-S1	ON	NORMALLY CLOSED INPUT
	OFF	NORMALLY OPEN INPUT

CHANNEL 3 – RESPONSE TIME

CHANNEL	SWITCH	5MS	25MS	200MS	5S
1	SW2-S2	OFF	ON	OFF	ON
	SW2-S3	OFF	OFF	ON	ON

CHANNEL 3 – FAST RETURN TO NORMAL

SWITCH	STATE	FUNCTION
SW2-S4	ON	5mS FAST RETURN TO NORMAL

CHANNEL 4 – INPUT STATE

SWITCH	STATE	FUNCTION
SW2-S5	ON	NORMALLY CLOSED INPUT
	OFF	NORMALLY OPEN INPUT

CHANNEL 4 – RESPONSE TIME

CHANNEL	SWITCH	5MS	25MS	200MS	5S
1	SW2-S6	OFF	ON	OFF	ON
	SW2-S7	OFF	OFF	ON	ON

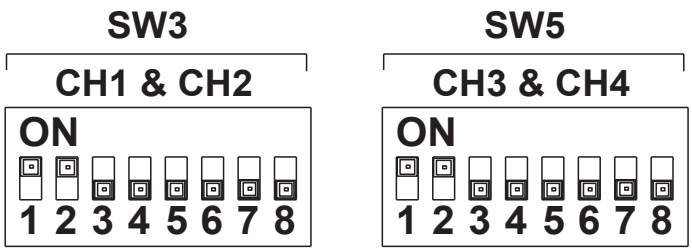
CHANNEL – FAST RETURN TO NORMAL

SWITCH	STATE	FUNCTION
SW2-S8	ON	5mS FAST RETURN TO NORMAL

Switch SW3 and SW5 are used to set the alarm sequence, Input reflash, Ringback, Automatic

Reset, Non Lock In, First Up and inputs suitable for use with either Normally Open or Normally Closed Inputs.

SW3 controls channel 1 & 2, SW5 controls channel 3 & 4

SWITCH	STATE	FUNCTION
		
SW*-S1	ON	SEE SEQUENCE SECTION (See Last Page)
SW*-S2	ON	SEE SEQUENCE SECTION (See Last Page)
SW*-S3	ON	INPUT REFLASH
	OFF	DISABLE INPUT REFLASH
SW*-S4	ON	RINGBACK SEQUENCE (See Last Page)
	OFF	DISABLE RINGBACK SEQUENCE
SW*-S5	ON	TWO PUSHBUTTON OPERATION
	OFF	DISABLE TWO PUSHBUTTON OPERATION
SW*-S6	ON	AUTOMATIC RESET
	0FF	MANUAL RESET
SW*-S5 SW*-S6	ON	NON LOCK IN
SW*-S7	ON	FIRST UP
	OFF	DISABLE FIRST UP
SW*-S8	ON	ISA-R RINGBACK SEQENCE
	OFF	ISA-R12 RINGBACK SEQUENCE (NO R.B. HORN)

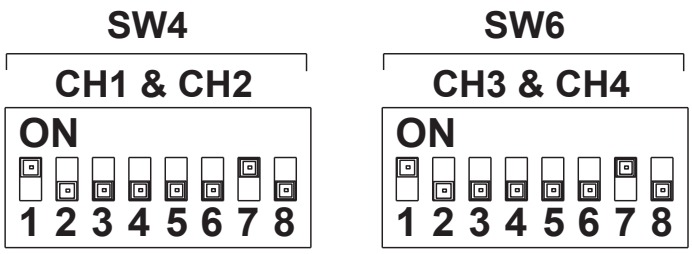
- Switch SW3 is used to adjust channel 1 & 2 or
- Switch SW5 is used to adjust channel 3 & 4 (SW5-8 IS UNUSED)

Figure 17 - Alarm Card DIL Switch details (SW3 and SW5)

9.10 Alarm Card Relay And Horn Settings (Set In Pairs)

Switch SW4 and SW6 are used to control the operation of the individual channel repeat relays, group relays and audible alarms

SW4 controls channel 1 & 2, SW6 controls channel 3 & 4



SWITCH	STATE	FUNCTION
SW*-S1	ON	REPEAT RELAYS FOLLOW THE SIGNAL INPUT
	OFF	**REPEAT RELAYS FOLLOW THE ALARM LOGIC**
SW*-S2	ON	NORMALLY DE ENERGISED REPEAT RELAYS
	OFF	**NORMALLY ENERGISED REPEAT RELAYS**
SW*-S3	ON	ENABLE GROUP RELAY OUTPUT
	OFF	DISABLE GROUP RELAY OUTPUT
SW*-S4	ON	GROUP RELAY SIGNAL FOLLOWS INPUT
	OFF	GROUP RELAY FOLLOWS ALARM LOGIC
SW*-S5	ON	REFLASH SIGNAL TO GROUP RELAY
	OFF	DISABLE REFLASH SIGNAL TO GROUP RELAY
SW*-S6	ON	SYSTEM TEST WILL NOT OPERATE REPEAT RELAYS
	0FF	SYSTEM TEST WILL OPERATE REPEAT RELAYS
SW*-S7	ON	AUDIBLE SIGNAL TO HNA RELAY & AUDIBLE 1
	OFF	DISABLE AUDIBLE SIGNAL TO HNA RELAY & AUDIBLE 1
SW*-S8	ON	AUDIBLE SIGNAL TO HNB RELAY & AUDIBLE 2
	OFF	DISABLE AUDIBLE SIGNAL TO HNB RELAY & AUDIBLE 2

* = Switch SW4 is used to adjust channel 1 & 2 or SW6 is used to adjust channel 3 & 4 as required

Figure 18 - Alarm Card DIL Switch details (SW4 and SW6)

9.11 DIL Switch Settings SPR Card

The Supply / Power / Relay, (SPR), card is accessed after removing the front legend plate assembly by removing the associated screws.

The SPR card is equipped SW5 & SW6 DIL switches, which are used to select various options as detailed on the following pages.

The SPR card is also equipped with 5 x 3 way header pins and 2 way shorting bars which allow the user to set the horn, group and power failure relay contacts to Normally Open or Normally Closed as required.

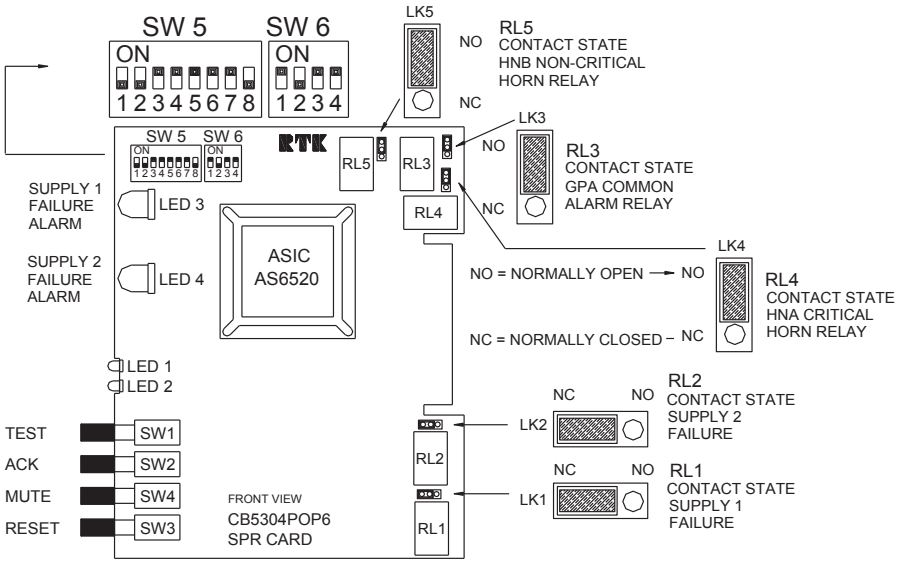


Figure 19 - SPR (Supply, P/B's and Relays) Card showing DIL switches

The following ASIC versions are used in UC625 models

Version	Alarm Card ASIC	SPR Card ASIC	SPR ETN ASIC
Standard	AS5317	AS5378	AS6521
M2	AS6247	AS6250	AS6522
M3	AS6454	AS6250	AS6522
M4	AS6454	AS7827	AS6522

The optional functions are defined below

M2 = Modified Ringback sequence, disabled ring back audible and lamp test in place of system test.

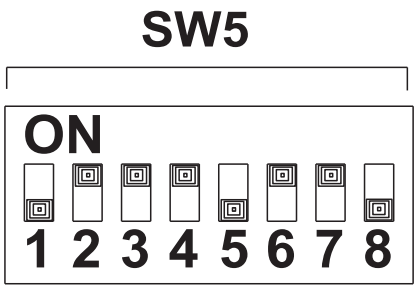
M3 = ISA R12 Ringback sequence, disabled Ringback horn, lamp test in place of system test and response time changed to 5mS trip 5S pre-alarm.

M4 = ISA R12 Ringback sequence, disabled ring back audible, lamp test in place of system test, response time changed to 5mS trip and 5S pre-alarm and combined Lamp / Audible Test pushbutton function.

WARNING	**WARNING !** Hazardous voltages may exist on the SPR card. Remove ALL power from the unit before removing the card or changing any jumpers or switches

9.12 SPR Card Horn, Relay And Pushbutton Settings

Switch SW5 on the common Supply / Power / Relay, (SPR), card allows the user to select options associated with relays, audibles and pushbuttons to suit individual applications



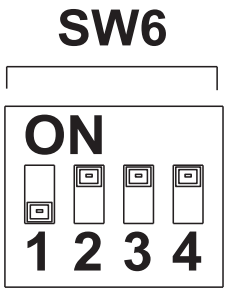
SWITCH	STATE	FUNCTION
SW5-S1	ON	NORMALLY DE ENERGISED POWER MONITOR RELAYS
	OFF	NORMALLY ENERGISED POWER MONITOR RELAYS
SW5-S2	ON	ENABLE GROUP RELAY OUTPUT SIGNAL
	OFF	DISABLE GROUP RELAY OUTPUT SIGNAL
SW5-S3	ON	ENABLE GROUP REFLASH SIGNAL TO GROUP RELAY
	OFF	DISABLE GROUP REFLASH SIGNAL TO GROUP RELAY
SW5-S4	ON	SYSTEM TEST WILL NOT OPERATE REPEAT RELAYS
	OFF	SYSTEM TEST WILL OPERATE REPEAT RELAYS
SW5-S5	ON	AUDIBLE SIGNAL TO HNA RELAY & AUDIBLE 1
	OFF	DISABLE AUDIBLE SIGNAL TO HNA RELAY & AUDIBLE 1
SW5-S6	ON	AUDIBLE SIGNAL TO HNB RELAY & AUDIBLE 2
	OFF	DISABLE AUDIBLE SIGNAL TO HNB RELAY & AUDIBLE 2
SW5-S7	ON	INTEGRAL PB TO OPERATE ALL ALARMS
	OFF	SPR CARD ALARMS CONTROLLED BY REMOTE PB
SW5-S8	OFF	UNUSED

Figure 20 - SPR Card DIL Switch details (SW5)

9.13 Automatic Acknowledge Timer (Located On SPR Card)

Switches SW6-S1 & SW6-S2 are used to control the integrated timer used to provide automatic acknowledge after a pre-set delay period.

The timer can be set to operate the automatic acknowledge after 15, 50 or 170 seconds or it can be disabled as required.

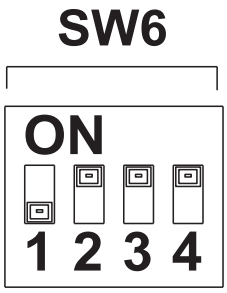


APPROX TIME	SPR Card	
	SW6.S1	SW6.S2
15 Seconds	ON	OFF
50 Seconds	OFF	ON
170 Seconds	ON	ON
Disabled	OFF	OFF

Table 32

9.14 Internal Horns Disable (Located On SPR Card)

Switches SW6-S3 & SW6-S4 are used to enable the two integral audibles as required.



FUNCTION	Critical Horn	Non Critical Horn
	SW6.S3	SW6.S4
Enable	ON	ON
Disable	OFF	OFF

Table 33

10 MAINTENANCE

WARNING !

Installation, configuration and maintenance of this annunciator must only be performed by competent service personnel

WARNING !

Power supplies using high voltage AC/DC primary sources and optional high voltage field contact voltages may be present.

Ensure that the annunciator is powered down before working on the unit or any connected apparatus.

10.1 No Special Tools Required

All maintenance is achieved from the front of the annunciator without the use of special tools. For Alarm Card or Supply/Pushbutton/Relay Card replacement or to change the mode of operation, only the front legend plate needs to be removed.

10.2 Legend Plate Removal

The legend plate is easily removed by undoing the associated fixing screws to reveal the plug in Alarm Cards and Supply/Pushbutton/Relay Card.

10.3 Film Legend Engraving

Film legends are accessed from the side of the legend plate and simply slide in place between the two layers used within the plate.

10.4 Alarm Card or SPR Card Removal

In the event of alarm card or SPR card failure or to change feature settings, the associated cards are easily removed for repair or configuration by simply pulling on the card edge to remove it from the associated edge connector. Replacement is the reverse of removal, note that care must be exercised when replacing the board to ensure that the card is properly located into the card guide runners before firmly pressing the module into the associated edge connector.

- Alarm Cards are designed to allow insertion and removal with power applied
- SPR Cards please note due to the high voltages present on the primary supply of the SPR module it is recommended that the power is isolated before the SPR is removed or inserted.

10.5 Super-Bright LED's

To obtain a virtually maintenance free alarm system the UC625 annunciator is fitted with super-bright LED's. These LED's can be supplied in different colours to suit alarm priorities if notified at time of order. Colours available are red, amber, yellow, white and green.

10.6 Fuse replacement

Each UC625 annunciator can contain a maximum of two fuses.

One is used to protect the signal supply voltage on standard 24VDC versions and Fuse F1 is situated on the rear of the enclosure in the top right hand corner as detailed below.

The second fuse is located in a surface mount socket on the Supply/Pushbutton/Relay (SPR) Card and is used to protect the power input on Supply 2 on versions where 24VDC is used as an aux supply. Replace fuse with a 1A/F surface mount fuse Type 451001

Rear Fuse F1- 125 mA/T Anti-surge (Used on standard 24VDC versions only)

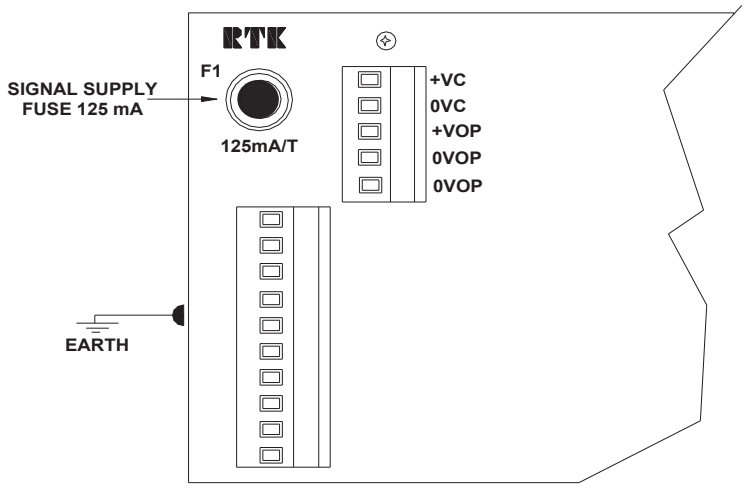


Figure 21 - Signal Supply Fuse Location

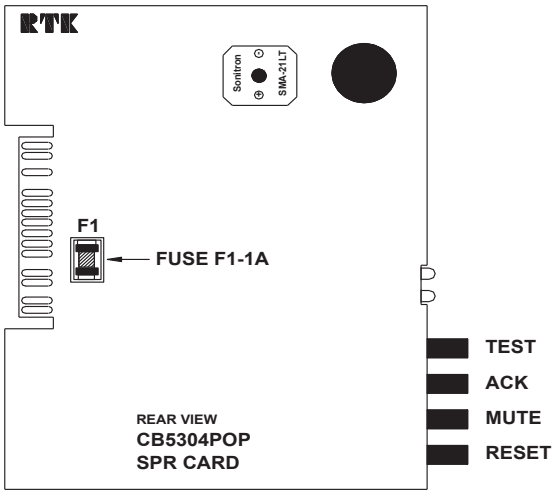


Figure 22 - Fuse Location For Systems Using AUX 24VDC Supply

11 EXPANSION UNITS

11.1 Master and Expansion UC625 Units

All UC625 units shipped after August 2004 are equipped with a 10 way ribbon connector that allows the user to connect either a single or multiple expansion UC625 units. Examples

If a user requires a 56-way alarm unit it is possible to Install

1 x 28 way UC625 master Unit and 1 x 28 way UC625 expansion unit

If a user requires a 84-way alarm unit it is possible to install

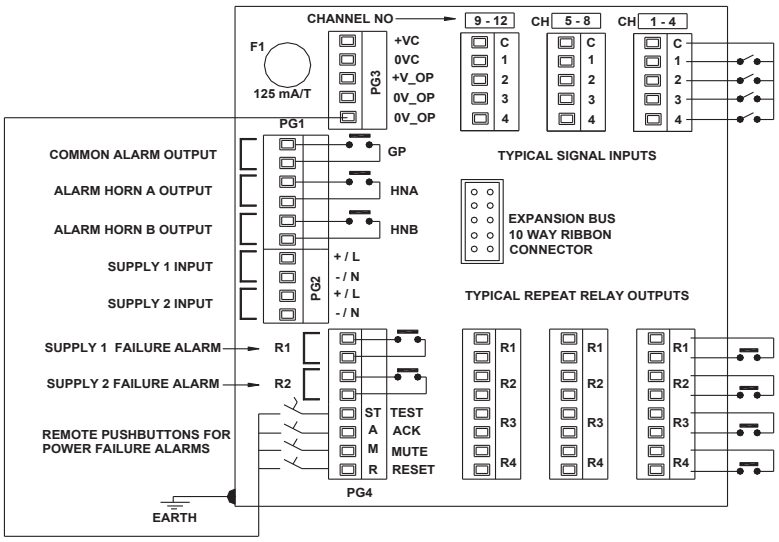
1 x 28 way UC625 aster Unit and 2 x 28 way UC625 expansion units

Note:-Integral pushbuttons, audible and common alarm relays are only fitted to the master unit and the control signals required between the master and expansion units are passed via the factory supplied 10 way ribbon cable. The following connections are made via the 10 way ribbon cable

PIN	REF	FUNCTION
1	OV	Common Reference
2	GP	Group Signal
3	GPR	Group Reflash Signal
4	HNA	Horn A Signal
5	HNB	Horn B Signal
6	RES	Reset Signal
7	ACK	Acknowledge Signal
8	ST	System Test Signal
9	First	First Reset Signal
10	Flash	Flash Synchronisation

11.2 UC625 Master & Expansion Rear Terminal Views

REAR VIEW Units shipped August 2004 to Dec 2007



REAR VIEW Units Supplied from Jan 1st 2008

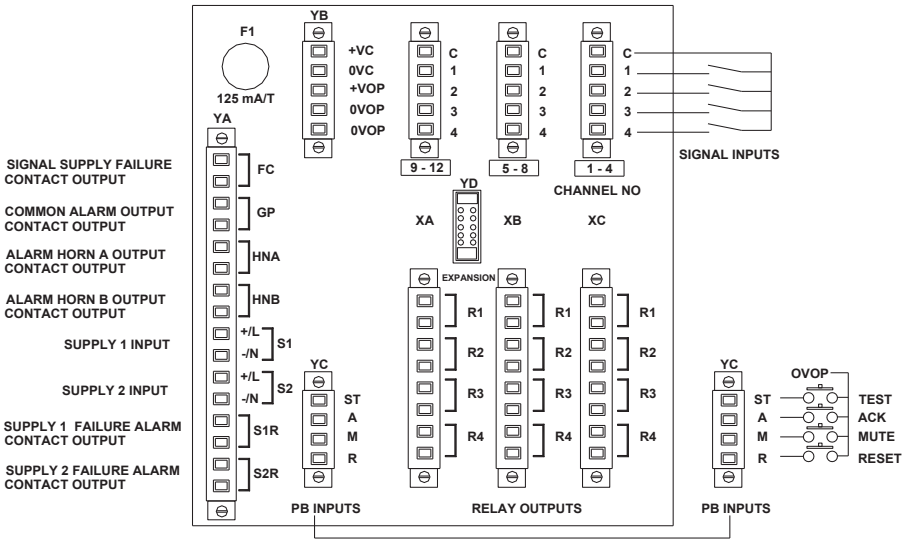


Figure 23 - UC625 Master Units with Ribbon Expansion Socket

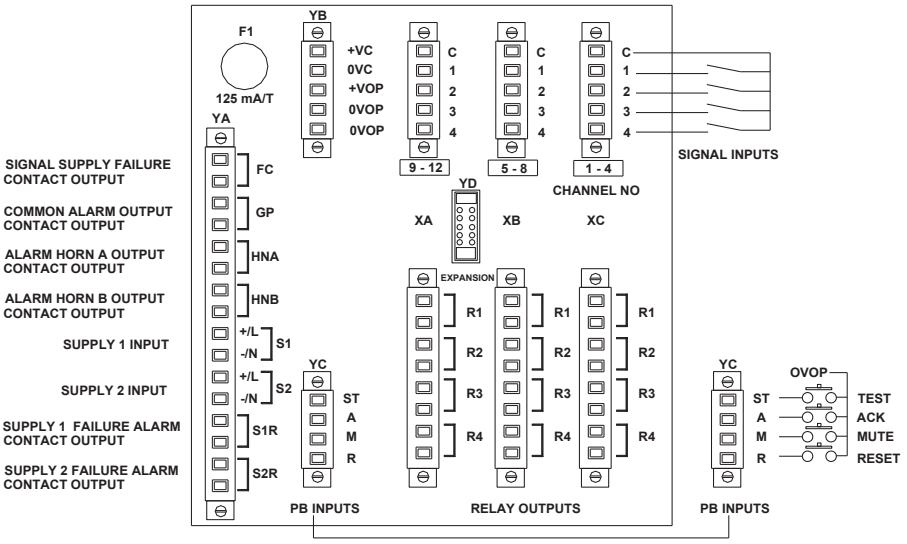


Figure 24 - UC625 Expansion Units with Ribbon Expansion Socket

12 OPTIONS

Additional options have been developed since the launch of the UC625 Alarm Annunciator but please note these options must be specified at the time of ordering.

12.1 Option 00 Horn Disable On System Test

When the system test pushbutton is pressed on standard UC625 units it simulates a full alarm state and verifies that the visual and audible circuits are operating correctly. When option 00 is specified the audible alarms are prevented from operating as a result of the system test pushbutton being pressed. Please note:- The audible alarms will operate in the normal manner as a result of an alarm input being abnormal.

12.2 Option 01 Lamp Test Instead of Functional Test

Pressing the test pushbuttons on standard UC625 units will simulate a full alarm condition requiring the operator to also press the mute, ack and reset pushbuttons to clear the alarms after the test has been activated. In certain applications lamp test is preferred over full functional test and option 01 is used to signify that pressing the test pushbutton will turn the lamps to steady on while the pushbutton is being pressed.

12.3 Option 02 Ringback Horn Disabled

The standard ISA ringback sequence employed by RTK provides a pulsing horn output to indicate to the operator that the alarm can be reset. In certain applications the ringback audible is not required and option 02 permanently disables the audible alarm on any channel returning to normal. Please note the audible will sound in the normal on alarm activation.

12.4 Option 03 ISA R12 Sequence

The standard UC625 provides ISA R sequence but in certain applications the user requires that the pushbutton functions are interlocked to ensure that the operator steps through the sequence in the correct order i.e. alarm, silence, acknowledge and reset. Option 03 provides the required pushbutton interlock, which prevents the pushbuttons operating unless they are pressed in the correct sequence.

12.5 Option 04 Response Times

The standard UC625 unit is equipped with DIL switches that allow the user to select each input to respond to an abnormal state if the contacts have remained in alarm for a minimum time period. Each alarm can be set to respond in 5, 25, 50 or 100ms on these units. In certain applications the user requires additional delay with regards to the response time and option 04 provides a minimum setting of 5ms and a maximum setting of 5 seconds.

12.6 Option 05 Lamp / Audible Test

In some applications Customers require the Lamp Test pushbutton to simulate the operation of the audible alarms whilst the pushbutton is being pressed. Option 05 adds horn test to the lamp test function.

12.7 Multiple Option Codes

To simply the ordering code on the UC625, units that require more than one of the above options use a suffix letter M and number to indicate which options are fitted.

M1 = Option 00 Fitted

M2 = Options 01 and 02 Fitted

M3 = Options 01, 02, 03 and 04 Fitted

M4 = Options 01, 02, 03, 04 and 05 Fitted

13 TROUBLE SHOOTING GUIDE

The following section is issued as a guide to aid fault finding on the UC625 alarm annunciator.

Units are shipped from the factory with the default settings highlighted in each section within this manual unless otherwise advised at the time of order. As a number of features can be enabled or disabled by the user using the DIL switches located on the alarm and SPR modules it is recommended that a note is made of any switch settings prior to fault finding.

WARNING !

Hazardous voltages may exist on the rear panel connections of the annunciator.

Take care when troubleshooting not to touch any exposed connections and use insulated tools wherever possible.

Installation, configuration and maintenance of this annunciator must only be performed by competent service personnel.

Symptom	Probable Cause
The green LED associated with supply 1 is not lit and the power failure alarm is active	Measure the voltage on the power input terminals marked supply 1 located on the rear of the unit and verify that the level matches the requirement and is connected in the polarity indicated.
The green LED associated with supply 2 is not lit and the power failure alarm is active	Measure the voltage on the power input terminals marked supply 2 located on the rear of the unit and verify that the level matches the requirement and is connected in the polarity indicated.
When the signal input contact closes or opens no alarm occurs on the annunciator	Check that the signal supply fuse F1 rated @ 125mA, located in the top right hand corner when viewed from the rear of the unit, is in working order and check that the corresponding signal supply voltage is present on the customer terminals on the rear of the unit which can be measured between terminals OVC and any of the terminals marked C (Common) located at the top of each row of signal input terminals. Caution:- Although 24VDC is the standard signal supply voltage options exist for 48VAC/DC, 110VAC/DC, 250VAC/DC.
Symptom	Probable Cause

Although the field contacts are known to be in the non alarm condition the alarms remain in the on state and cannot be reset	If alarms are set to operate from normally closed contacts and the signal supply fuse blows all alarms will operate as though an alarm has occurred and after the ack and reset pushbuttons have been pressed the alarms will remain in steady on state and cannot be reset until the supply is re-instated. Check that the signal supply fuse F1 (rated at 125mA) has not blown. Fuse F1 is located in the top right hand corner of the unit when viewed from the rear. Check that the Inputs have been correctly set to operate from either a normally open (N.O.) or normally closed (N.C.) and they have not been accidentally inverted. The following settings are used to set the input type **Cards Supplied Pre Nov 2012** **Channel 1 & 2 -** SW3-S8 ..... OFF = N/O ..... ON = N/C **Channel 3 & 4** SW5-S8 ..... OFF = N/O ..... ON = N/C **Cards Supplied Post Nov 2012** **Channel 1** SW1-S1 .....OFF = N/O ..... ON = N/C **Channel 2** SW1-S5 .....OFF = N/O ..... ON = N/C **Channel 3** SW2-S1 .....OFF = N/O ..... ON = N/C **Channel 4** SW2-S5 .....OFF = N/O ..... ON = N/C
When an alarm occurs the LED's operate correctly but the audible alarms do not sound	Each channel can be selected to operate either of the two integral horns / horn relays as required. Internal horns and horn relays are enabled by placing the following switches to the ON position on the SPR Card HNA – SW5- Position 5 HNB – SW5- Position 6 Each pair of channels can be set to activate either of the audibles using the following switches located on each alarm module **Channel 1 & 2** HNA – SW4 Position 7 set to ON HNB – SW4 Position 8 set to ON **Channel 3 & 4** HNA – SW6 Position 7 set to ON HNB – SW6 Position 8 set to ON
Module inter changeability	Alarm cards are designed to be able to be removed and installed with power applied. All Alarm Cards are universal in application and designed to be able to plug into any vacant card slot, however it is recommend that switch positions are noted prior to changing the location of any of the modules within the cabinet.
Symptom	Probable Cause

Individual channel repeat relays operate during Test	All UC625 alarm annunciators are equipped with Individual channel repeat relays, which are used to initiate 3rd party devices. The user can select whether each pair of repeat relays activate when the test pushbutton is pressed or if they should be inhibited. The following switch positions are used on the Alarm Cards to control this function **Channel 1 & 2** Repeat Relays Operate On Test– SW4 Position 8 set to OFF Inhibit Repeat Relays Operating On Test–SW4 Position 8 set to ON **Channel 3 & 4** Repeat Relays Operate On Test– SW6 Position 8 set to OFF Inhibit Repeat Relays Operating On Test–SW6 Position 8 set to ON
Signal Inputs that alarm and quickly return to normal are not being picked up by the annunciator	All UC625 Annunciators are equipped with switches that allow the user to select the response time of each channel to suit specific applications. Pre Nov 2012:- The response time of each channel can be set to 5mS, 25mS, 50mS or 100mS as required. Post Nov 2012:-The response time of each channel can be set to 5mS, 25mS, 200mS or 5S as required. Check that the response time has been set to suit the application. Please refer to section 10 Para 10.2 for full details
The Individual channel Repeat Relay contact is Normally Closed in the non alarm state but should be Normally Open	Each pair of repeat relays can be set to normally energised or normally de-energised using switches located on the Alarm Card and the contact state can also be selected as normally open or closed per the following details. **Channel 1 & 2** SW4 Position S2 – ON = Normally De-Energised SW4 Position S2 – OFF = Normally Energised **Channel 3 & 4** SW6 Position S2 – ON = Normally De-Energised SW6 Position S2 – OFF = Normally Energised Each relay is equipped with a 3 pin header and 2 way shorting bar that allows the user to select either a normally open or normally closed contact as required. Jumpers LK1 to LK4 refer. Please refer to Section 10 Para 10.5 for full details
Symptom	Probable Cause

Individual repeat relays do not act as slaves of the signal input	The operation of the repeat relays is selectable by the user to either follow the signal contact or to remain in the alarm state until the input has returned to normal and the operator has cleared the alarm. Each pair of channels can be set using switches located on the Alarm Card **Channel 1 & 2** SW4 Position 1 ON = Follow Input OFF = Follow Logic **Channel 3 & 4** SW6 Position 1 ON = Follow Input OFF = Follow Logic
After a short period of time the alarms revert to the acknowledged state even though the acknowledge pushbutton has not been pressed.	All UC625 annunciators are equipped with an automatic acknowledge timer facility typically used during commissioning or in un-manned applications. The common SPR card is equipped with switches that allow the user to set a defined time period of 15 Sec, 50 Sec or 170 Sec. This timer circuit can be disabled if required Please refer to Section 10 Para 10.7 for full details
When an alarm occurs the common alarm relay does not operate	All UC625 units are equipped with a common alarm relay, which changes state when any alarm occurs on the unit. Each pair of channels can be set to operate the common alarm relay if required using switches mounted on the Alarm Card **Channel 1 & 2** SW4 Position 1 ON = Enable common alarm signal SW4 Position 1 OFF = Disable Common alarm signal **Channel 3 & 4** SW6 Position 1 ON = Enable common alarm signal SW6 Position 1 OFF = Disable Common alarm signal The Common alarm relay can also be set to follow the signal input or follow the alarm logic. Please refer to Section 10 Para 10.4 for full details
The common alarm relay activates when I get one alarm but if another alarm occurs the relay remains in the alarm state	All UC625 units are equipped with switches that allow the user to select if the common alarm relay should reflash every time a new alarm occurs causing the contacts to drop out and re-activate typically within 500mS. Switches are provided on the Alarm Card to control this feature **Channel 1 & 2** SW4 Position 5 ON = Enable Reflash SW4 Position 5 OFF = Disable Reflash **Channel 3 & 4** SW6 Position 5 ON = Enable Reflash SW6 Position 5 OFF = Disable Reflash

14 OTHER MTL PROCESS ALARM EQUIPMEN PRODUCTS

Eaton produces a range of products for many applications in the Industrial Control and Instrumentation field, for both safe and hazardous areas, as listed below.

- Alarm Annunciators
- Remote Logic Alarm Systems
- Alarm Management software and Touch-screen Annunciators
- Lamp-boxes and Display Facias
- Sequence of Event Recorders
- Power Supplies
- Complete range of Hazardous Area products including:-
    - Intrinsically Safe Alarm Annunciators
    - Explosion Proof Alarm Annunciators
    - Intrinsically Safe LED Beacons
    - Intrinsically Safe LED Indicators
    - Intrinsically Safe Illuminated Switches and Pushbuttons
    - Intrinsically Safe Sounders
    - Intrinsically Safe Relays

Please ring our sales office or visit our web site at to obtain our latest product information.

Due to our policy of continuous product development, we reserve the right to amend these specifications without notice.

15 SWITCH SETTINGS PER ALARM SEQUENCE

Card Switch Settings Required To Set Alarm Sequences											
			Card Switch Settings Required To Set Alarm Sequences								
Sequence	Card	Channels	Switch	-S1	-S2	-S3	-S4	-S5	-S6	-S7	Page
ISA-MManual Reset	Alarm	1 - 2	SW3	ON ***	ON ***	OFF	OFF	OFF	OFF	OFF	18
		3 - 4	SW5	ON ***	ON ***	OFF	OFF	OFF	OFF	OFF	
	SPR	1 - 2	SPR Card is supplied in Sequence ISA-M ONLY								
ISA-A Automatic Reset	Alarm	1 - 2	SW3	ON ***	ON ***	OFF	OFF	OFF	ON	OFF	
		3 - 4	SW5	ON ***	ON ***	OFF	OFF	OFF	ON	OFF	
ISA-A-4 Non Lock In	Alarm	1 - 2	SW3	ON ***	ON ***	OFF	OFF	ON	ON	OFF	19
		3 - 4	SW5	ON ***	ON ***	OFF	OFF	ON	ON	OFF	
ISA-R Ringback	Alarm	1 - 2	SW3	ON	ON	OFF	ON	OFF	OFF	OFF	
		3 - 4	SW5	ON	ON	OFF	ON	OFF	OFF	OFF	
ISA A-5-6 Status Only	Alarm	1 - 2	SW3	ON	ON	OFF	OFF	ON	ON	OFF	
		3 - 4	SW5	ON	ON	OFF	OFF	ON	ON	OFF	
*** The above Sequences can be set to be FAST or SLOW FLASH using the following											
Flash Rate	Card	Channels	Switch	-S1	-S2						
Fast Flash	Alarm	1 - 2	SW3	ON	ON						
Slow Flash		1 - 2	SW3	OFF	OFF						
Fast Flash		3 - 4	SW5	ON	ON						
Slow Flash		3 - 4	SW5	OFF	OFF						
First-Up Alarm Sequences											
ISA-F1A	Alarm	1 - 2	SW3	ON	OFF	OFF	OFF	OFF	ON	ON	20
		3 - 4	SW5	ON	OFF	OFF	OFF	OFF	ON	ON	
ISA-F2M-1	Alarm	1 - 2	SW3	OFF	ON	OFF	OFF	OFF	OFF	ON	
		3 - 4	SW5	OFF	ON	OFF	OFF	OFF	OFF	ON	

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