



TOC-30A-ANN



TOC-30A-AN1



TOC-30A-AN2



TOC-30A-AN3

# TOCSIN 30 SERIES ANNUNCIATORS

Operation and Maintenance

V1.02

## Introduction

TOC 30 Series Annunciators add extra flexibility to addressable gas detection systems, combining a colour alarm display with E-Stops, Key Switches or other inputs.

Displayed messages are programmable as:

Safe Message: Green Background: Display When not in Alarm

Alarm Message: Flashing Red Background: Address 42xx  
Displayed When Address is activated by control panel

Built in Relay & Sounder: Activated When Address is activated by control panel



There are three digital inputs which are used by the control panel in the same manner as other addressable inputs and have unique system addresses. Cause and Effect actions can then be programmed from the system controller.

TOC-30 Series Annunciators can be used for door entry control.

Use the digital inputs to interface with other systems such as fire alarms .

As with detectors in the TOC-30 series the annunciators will interface with any IGD addressable control panel.

TOC-30 Annunciators are standard 2 gang fitting and as such can be used with standard plaster boxes or dado rail to neatly fit into any environment.

### **Who should read this manual.**

This manual is intended for use by trained installers of gas detection systems who are technically competent and have all necessary tools to undertake installation and maintenance on this type of equipment.

Failure to install and maintain the equipment properly can render the system ineffective.

You should not undertake any of the procedures in this manual if you do not have access to the correct equipment, have not undertaken training on this or similar equipment or are not technically qualified to install this equipment.

Calibration gases and test equipment is available from IGD.

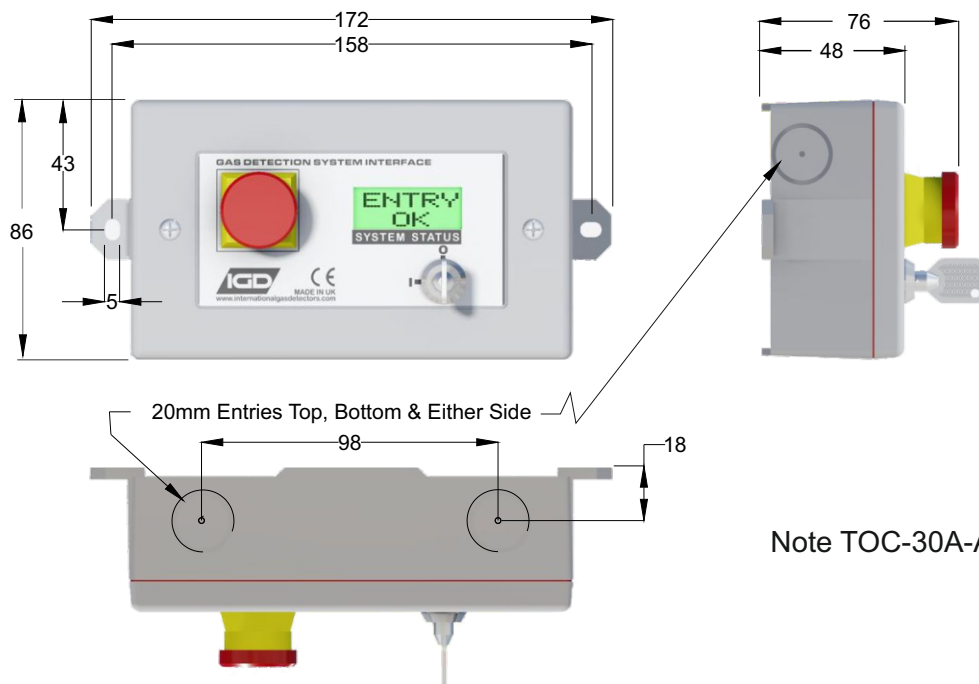
## Part Numbers & Features

Part Number	Description	Single Pole Relay	Sounder	Display	E-Stop	Key Switch	Digital Input	Digital Output	Pellistor Interface
TOC-30A-ANN	Base Unit	✓	✓	✓			1	1	✓
TOC-30A-AN1	With E-Stop	✓	✓	✓	✓		1	1	✓
TOC-30A-AN2	With Key Switch	✓	✓	✓		✓	1	1	✓
TOC-30A-AN3	With Key Switch & E-Stop	✓	✓	✓	✓	✓	1	1	✓

## TECHNICAL

Housing	ABS,
Sealing	IP65 (using suitable glanding)
Environment	0 -95% RH Non Condensing
Temperature	0-55 Deg C
Voltage	12-28V DC
Communication	RS485 IGD Data Highway 24V, 0V, A, B 4 Core Screened Cable
Relay	5A Non Inductive Loads 230V AC
Digital Output	24V DC 100mA (Typically for LED Beacon Sounders)
Digital Input	Suitable for use with TOC-10 Link Function
Pellistor Port	Option if fitted to Interface to MK6 or MK7 Pellistors
Sounder	85dB
Display	2 x 8 Programmable LCD with RGB Backlight

## MOUNTING DETAILS AND DIMENSIONS

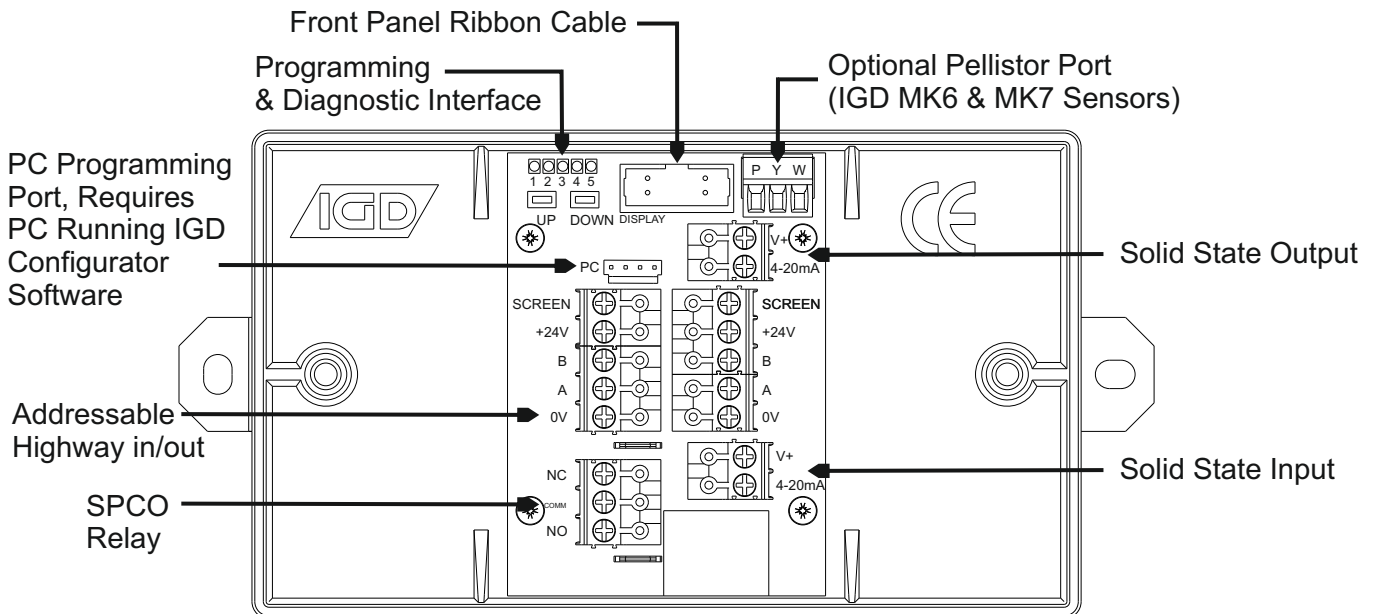
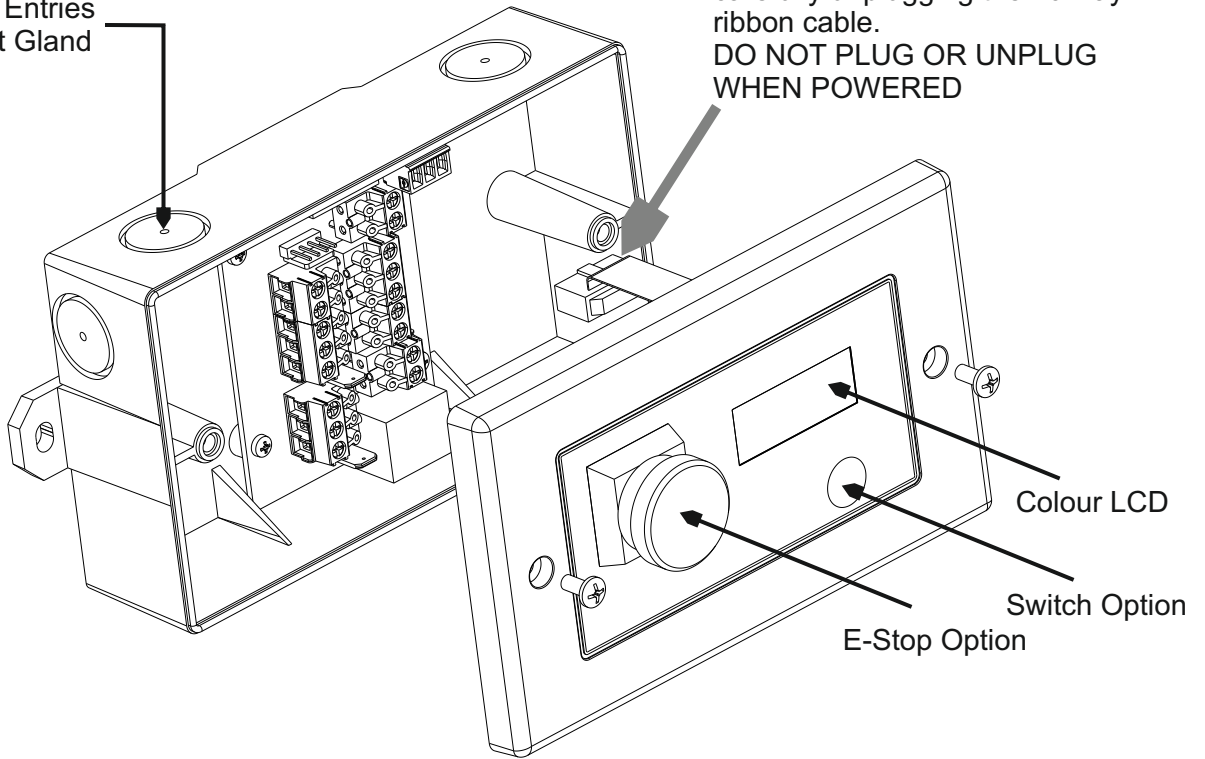


Note TOC-30A-AN3 Shown

TOC-30 INPUTS/OUTPUTS

Note when removing cover for interface wiring, disconnect by carefully unplugging the 10 way ribbon cable.  
**DO NOT PLUG OR UNPLUG WHEN POWERED**

20mm Cable Entries  
 IGD Quick Fit Gland  
 Option PN  
 Pack of 5

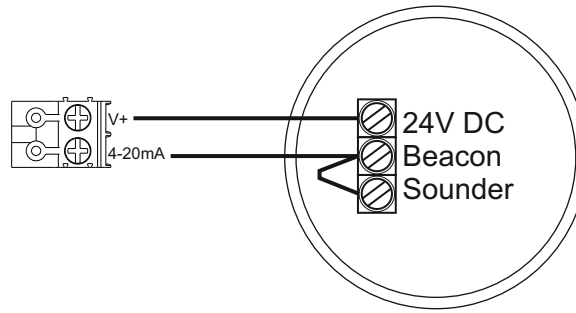


### Solid State Output

The Solid State Output Can be used to Switch LED Beacon Sounders if Required.

It is recommended to use IGD LED Beacon Sounders  
Part Number 5083101

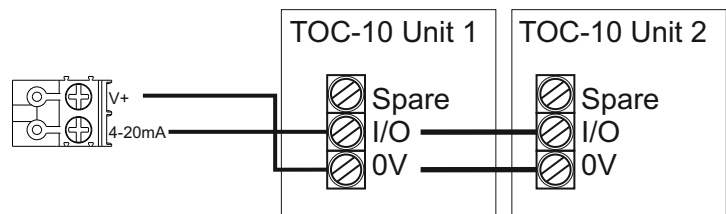
When using Other Manufacturers Devices do Not Exceed 100mA @ 24V DC



### Solid State Input From TOC-10 Gas Detector

The Solid State Input can be used to interface to IGD TOC-10 Series Flammable Gas Detectors. Wire as Indicated and the Input Will Read the Two Alarm Levels From the TOC-10. This will display on an Addressable Controller in the Same Manner as Any Other Gas Detector.

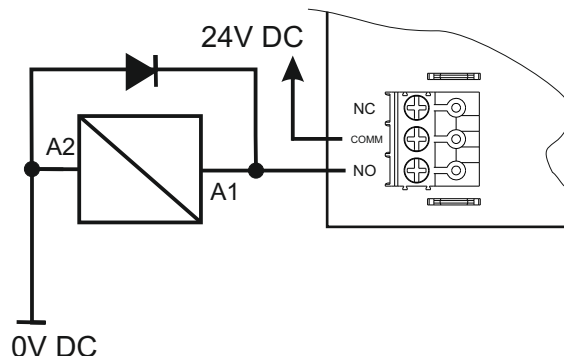
Up to 6 TOC-10 Detectors can be Daisy Chained to the Input



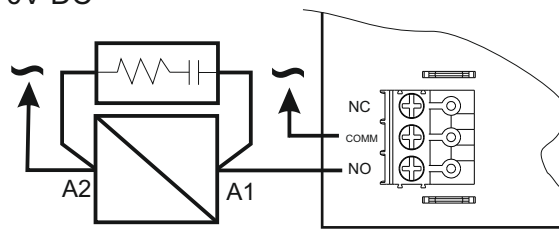
### Relay Output

The Annunciator relay output can be used as an alarm interface to external systems, run additional audio visual alarms or directly control other devices. Typical applications could be gas solenoid valves, boiler shut down interfaces or similar. When switching external loads it is important to consider the nature of the load being switched. For inductive loads suitable protection from induced back EMF must be fitted. Many modern devices conforming to the European EMC Directive may already have devices fitted as part of their design to limit in-rush currents and back EMF. Where these are not fitted the following two diagrams provide guidance. Failure to observe this may result in damage to the Annunciator.

Example fit protection diodes when switching external DC loads.

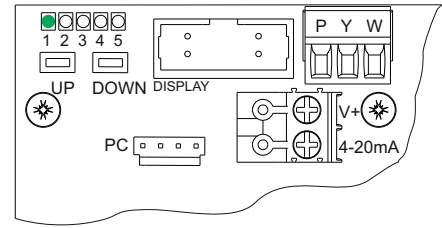


Example fit protection suppressors when switching external AC loads typical device Farnell Ref 1438460

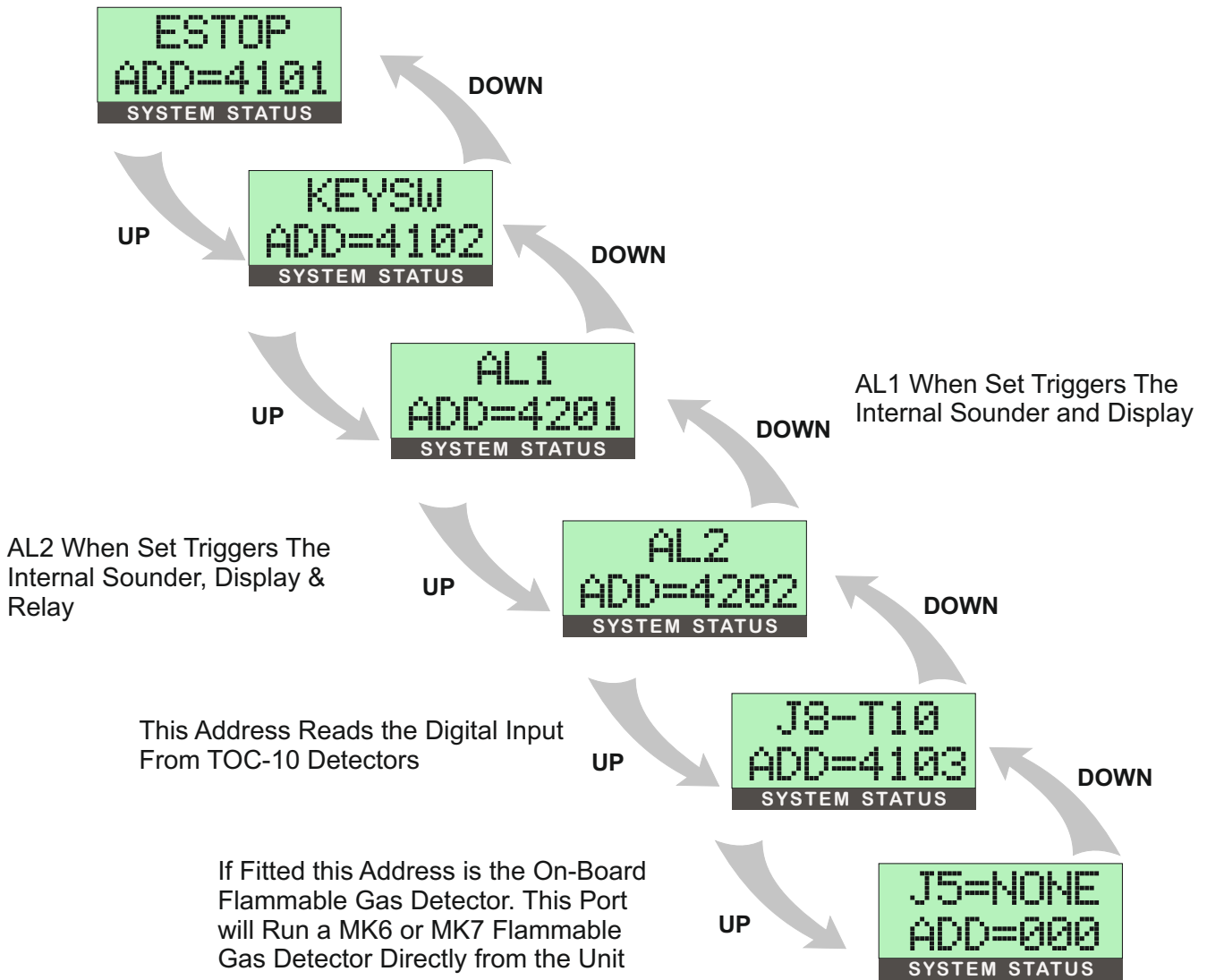




The Unit Base Address Can be Checked by Pressing the UP Button for More Than 2 Seconds. Now Each Button Press either UP or Down Will Sequentially Display Each Set Address on the Unit.

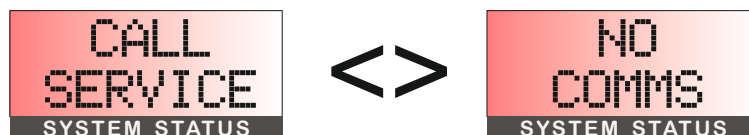


To Exit This Mode Press Either Button For More Than 2 Seconds



Fault Messages

In the event that the annunciator detects that it cannot communicate to its host control panel then the following alternating message will be displayed.

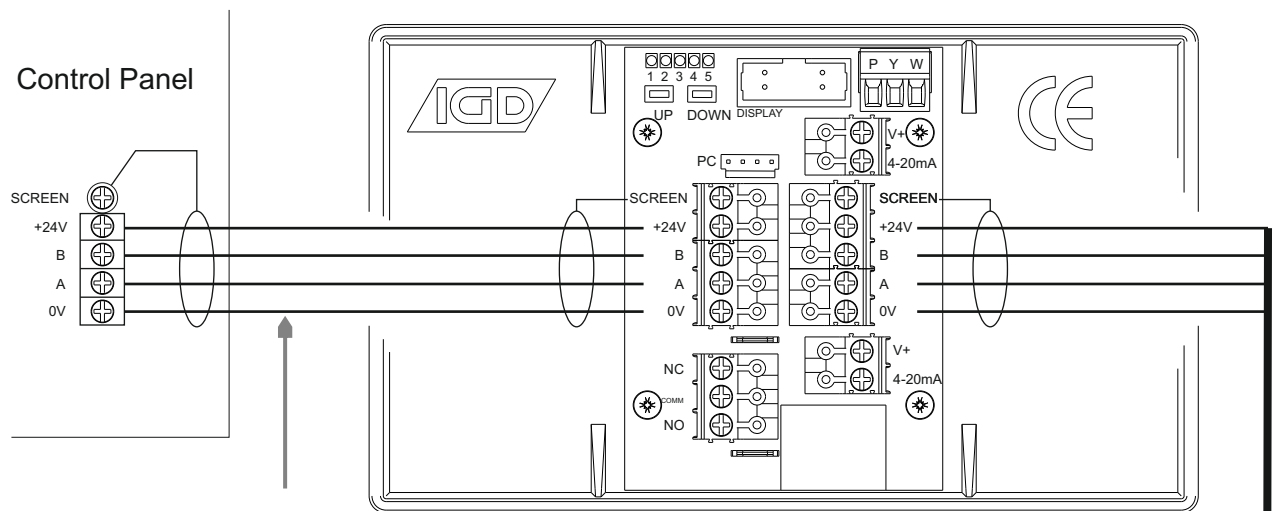




### Addressable Interface Wiring

IGD addressable systems use a 4 core cable or highway to connect all system devices. Typically an addressable highway will support up to 32 devices as any mix of gas detectors, addressable relays, addressable inputs. You must not have duplicate device addresses on the same highway cable. Some Controllers support more than one highway, in this case it is allowed to have the same addresses on different highway cables on the same controller. An addressable highway can run for up to 1000M but it must be ensured that the cable size is large enough to keep the supply voltage over 17V DC. Use the IGD cable sizing guide to check required cable sizes.

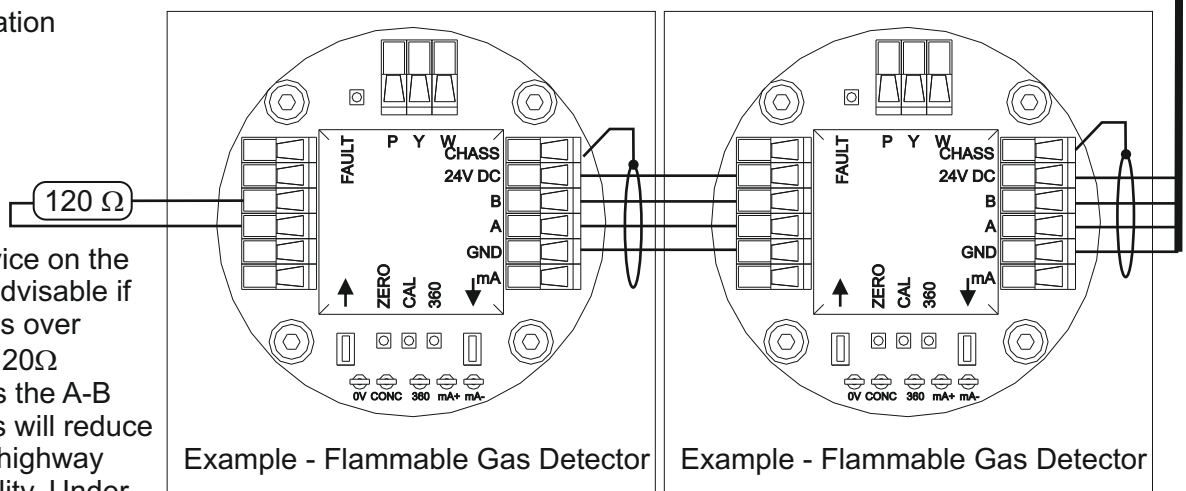
Note: It does not matter which connector is used as either the cable in or cable out connection



4 Core Screened Cable  
Typically FP200, SY or CY Style Cables.  
Refer to IGD Cable Sizing Guide For Further Information

Devices can be in any order on an addressable highway but it is advisable to install in address sequence as this will aid future servicing

At the last device on the highway it is advisable if the cable run is over 250M to fit a 120Ω resistor across the A-B terminals. This will reduce 'noise' on the highway and aid reliability. Under 250M of Cable This is Not Required.

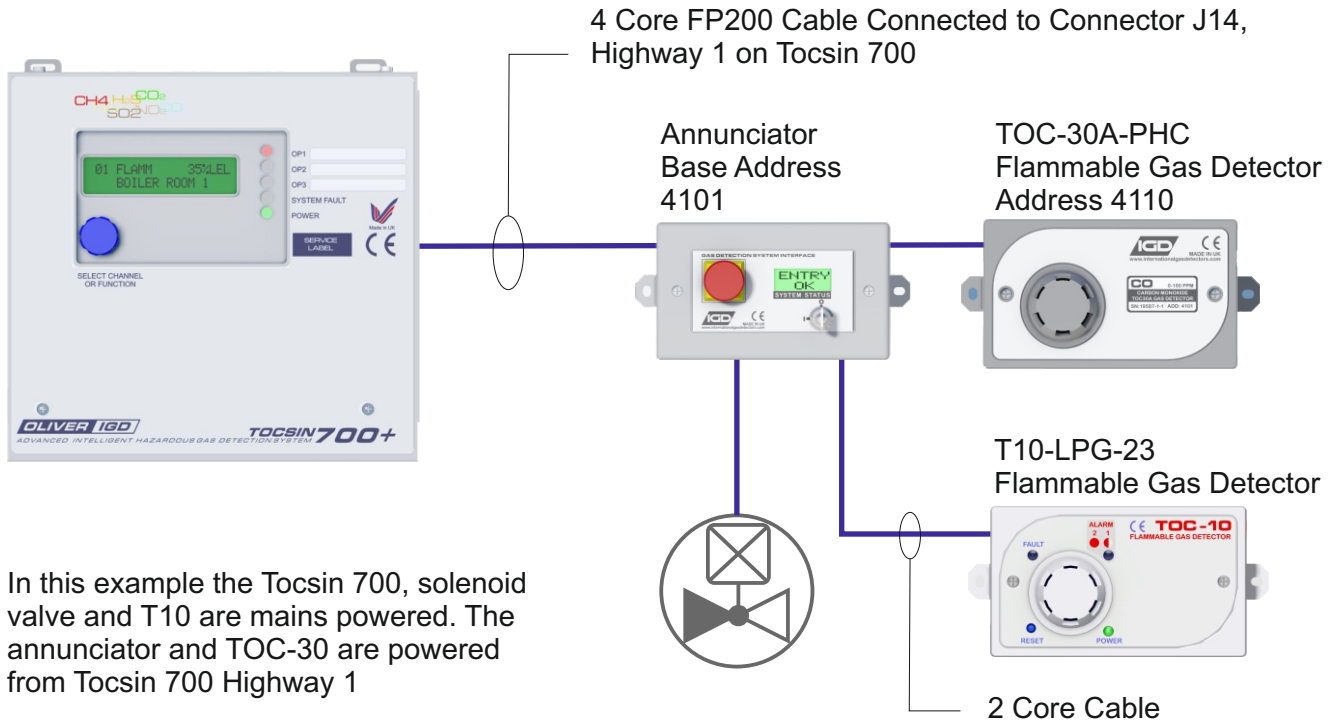


Example - Flammable Gas Detector

Example - Flammable Gas Detector

**NOTE: WHEN SETTING ADDRESSES YOU CANNOT HAVE TWO DEVICE ADDRESSES SET THE SAME ON THE SAME ADDRESSABLE HIGHWAY.**





In this example the Tocsin 700, solenoid valve and T10 are mains powered. The annunciator and TOC-30 are powered from Tocsin 700 Highway 1

The above system has the following device addresses available for use

Device	Address
Annunciator E-Stop (Base Address)	4101
Annunciator Digital Input (TOC-10)	4103
Annunciator Sounder/Display	4201
Annunciator Relay	4202
TOC-30A-PHC Flammable Gas Detector	4110

The following Cause and Effect Has:

First Level Alarm Activates Annunciator Display and Sounder to alert Users

Second Level Alarm Activates Annunciator Display, Sounder and Relay to Cut off the Gas Supply

Channel Number	Detector Address	Tag/Location	Type	Range	Alarms Levels	Output	Output Detail
1	4101	ESTOP	TOC-30A-AN1	NA	1 10	4202	ESTOP CUTS OFF GAS AND
					2 10	4202	SETS ALARMS
					3 Not Available on TOC-625	NOT USED	
1	4103	KITCHEN	T10-LPG-23	0-100 % LEL	1 10	4201	SET LOCAL ALERT
					2 20	4202	CUT OFF GAS
					3 Not Available on TOC-625	NOT USED	
1	4110	TANK	TOC-30A-PHC	0-100 % LEL	1 10	4202	SET LOCAL ALERT
					2 20	4202	CUT OFF GAS
					3 Not Available on TOC-625	NOT USED	