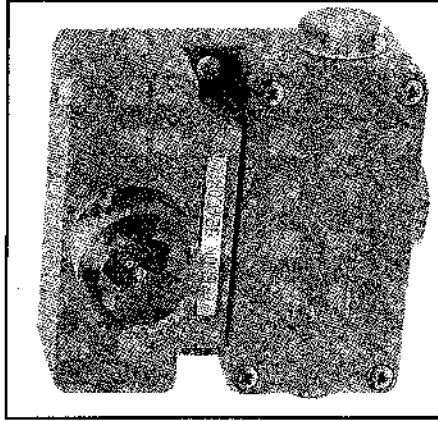




# INSTALLATION AND OPERATING DATA

## XENON FLASHING BEACON

TX5331 • TX5332 • TX5333



TROLEX LIMITED

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SYSTEM CERTIFICATION DIAGRAM

No. P5176.9

HAZARDOUS AREA

NON-HAZARDOUS AREA

**BARRIER 1 (D.C. DOUBLE BARRIER, POSITIVE POLARITY)**

ANY SHUNT ZENER DIODE SAFETY BARRIER CERTIFIED BY BASEEFA OR ANY EEC APPROVED CERTIFICATION BODY TO AT LEAST [Ex ia] IIB HAVING THE FOLLOWING OR LOWER OUTPUT PARAMETERS PER CHANNEL:

- Uz = 29.4V
- I<sub>max</sub> out = 112.5mA
- W<sub>max</sub> out = 0.827W

IN ANY SAFETY BARRIER USED THE OUTPUT CURRENT IN EACH CHANNEL MUST BE LIMITED BY A RESISTOR 'R' SUCH THAT:

$$I_{max\ out} = \frac{U_z}{R}$$

RECOMMENDED BARRIER:

ABB GHG 114 9140 V2422 RS STOCK No. 256-972 CERTIFICATE No. Ex 88B 2046X

**BARRIER 2 (D.C. SINGLE BARRIER, POSITIVE POLARITY)**

ANY SHUNT ZENER DIODE SAFETY BARRIER CERTIFIED BY BASEEFA OR ANY EEC APPROVED CERTIFICATION BODY TO AT LEAST [Ex ia] IIB HAVING THE FOLLOWING OR LOWER OUTPUT PARAMETERS:

- Uz = 29.4V
- I<sub>max</sub> out = 20mA
- W<sub>max</sub> out = 147mW

IN ANY SAFETY BARRIER USED THE OUTPUT CURRENT MUST BE LIMITED BY A RESISTOR 'R' SUCH THAT:

$$I_{max\ out} = \frac{U_z}{R}$$

RECOMMENDED BARRIER:

ABB GHG 111 9140 V241B CERTIFICATE No. Ex 88B 2046X

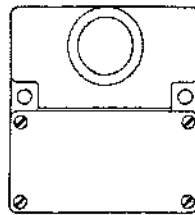
THE FOLLOWING TYPE IS ALSO ACCEPTABLE:

STAHL 8901/31 - 280/020/00 CERTIFICATE No. Ex 78/2007x

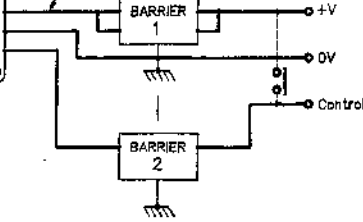
**CABLE PARAMETERS**

FOR GROUP IIB THE CAPACITANCE & INDUCTANCE OR INDUCTANCE TO RESISTANCE (L/R) RATIO OF THE CABLES INTO THE HAZARDOUS AREA MUST NOT EXCEED 0.44uF, 2.7mH AND 50uH/OHM RESPECTIVELY. FOR GROUP IIA THESE FIGURES MAY BE MULTIPLIED BY 2.67. THE CABLE IS TO BE INSTALLED AS A SEPARATE CABLE OR AS PART OF A TYPE A OR B MULTICORE CABLE AS DEFINED IN EN50 038(1990) THE INSTALLATION MUST COMPLY WITH NATIONAL INSTALLATION REQUIREMENTS (eg IN THE UK, BS5345 : PART 4 : 1977)

TX5332 XENON BEACON  
 Cert No. EX92C2319 EEXia II B T4



SEE CABLE PARAMETERS



SYSTEM CERTIFICATE No.

CERTIFIED SEALED DRAWING  
 MUST NOT BE MODIFIED  
 WITHOUT AUTHORISATION

FOR APPROVAL STAMP

<b>TROLEX</b>		CLIENT / PROJECT		TX5332 XENON FLASHING BEACON GPII	
		B	A	ISSUE	TITLE
		717		EL No	SYSTEM CERTIFICATION
		12.3.92		DATE	DIAGRAM
		ISTW		APP'D	
DRN	BR	15.8.91	CHKD	M.J	12.3.92
					No. P5176.9

The above data is given for guidance only. It does not constitute a specification or an offer of sale. The products are always subject to a programme of improvement and testing which may result in some changes in the characteristics quoted. P5176.1601 Issue E 03.96

## PRINCIPLE OF OPERATION

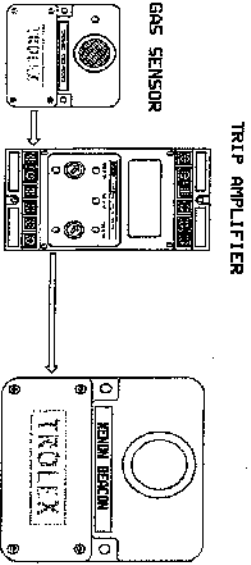
The TROLEX Xenon Flashing Beacon consists of four main stages:-

1. An input diode stage for I.S. protection.
2. A switch-mode power supply unit to convert the 12V (24V) supply voltage to about 220V necessary to operate the xenon flash tube.
3. A short-interval timer to trigger the xenon flash tube when in ALARM mode.
4. A long-interval timer to slow down the flash-rate when in STAND-BY mode.

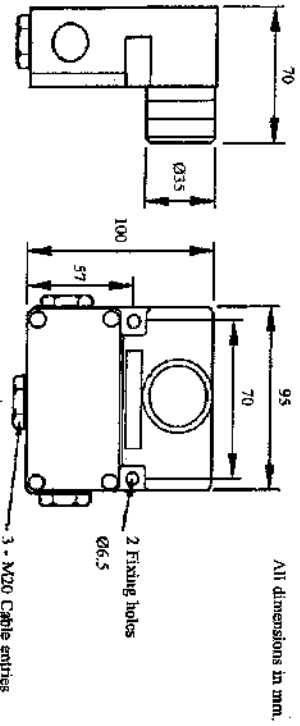
Power is supplied to the xenon flash tube by the switch-mode supply unit. In STAND-BY mode the short-interval timer

## APPLICATION

The unit is intended to be used as a visual indicator in areas with high noise levels are present. The high-intensity nature of the xenon flash will ensure good visibility in dusty environments.



## DIMENSIONS



## PREPARATION

After removing the unit from its packing, the terminal chamber cover can be removed to gain access to the mounting kit (contained in a small polythene bag).

- Mount unit in an area of high visibility
- Read and understand IOD before using unit.

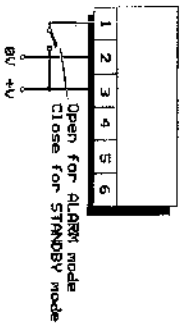
is gated off by the long-interval timer. This causes the Unit to flash about 4 times a minute to show that the unit is functioning. Once the unit is activated and is in ALARM mode the unit will flash about 1 per second.

The TX5331/TX5332 is certified Intrinsically Safe for use in Hazardous Areas and will operate from most type of standard Intrinsically Safe Power Supplies.

The TX5333 is for use with 24V dc supplies without zener barriers & is non-certified.

The unit can be activated via voltage-free contacts (e.g. relay) from a trip amplifier or similar. The unit may also be activated by a voltage signal between terminals 1 and 2.

## CONNECTIONS



For Gp II applications see system certification diagram P51 76.9 for details of recommended barriers.

## OPERATING DETAILS

Flash Rate - STAND-BY Mode 4 flashes per minute (nominal)

Flash Rate - ALARM Mode 1 flash per second (nominal)

Ambient Temperature Limits -5 to 40°C

Humidity 0 to 95% RH (non-condensing)

Protection Class IP65

Housing Material Glass reinforced Polycarbonate

Electrical Connections 4mm Barrier Terminals

Xenon Tube Life >5 million flashes

Nett Weight 250g

## ELECTRICAL DETAILS

TX5331 TX5332 TX5333

Supply Voltage 10.8 to 15.4V DC 24V (via barrier) 24V (nominal)

Supply Current 75mA at 12V nominal 75mA at 24V nominal

## ACCESSORIES

TX3294 DIN Mounting Rail Easy and Fast method of mounting Sensor system together.

TX3296 DIN Mounting Rail Nut For mounting Sensors onto rail.

## MAINTENANCE

**ENSURE LENS IS FREE OF DUST AND DIRT BUILD-UP  
CHECK AND CLEAN REGULARLY**

## CERTIFICATION AND APPROVAL

Approval HSE(MD) App No. BASEEFA No.  
EExia I MECS No. 92C7334 EE ia IIB T4 Ex 92C2319

Mining Acceptance BCEA No. 2265