INSTRUCTIONS FOR USE

FAIL TO SAFE BOX

VERSION 5.0

SYMBOLS

Caution / Warning

INTRODUCTION
These instructions are intended for use by qualified electricians.

This unit must be installed by a qualified registered electrician in accordance with the current edition of the IET Regulations for Electrical Installations (BS7671 Requirements for Electrical Installations).

This FTS unit consists of a non-combustible enclosure which includes a relay that connect to a photo sensor which regulates the power supply to the x-ray generator unit.

The FTS units has been tested by an independent and qualified third party laboratory. Those tests will guarantee the performance and the safety requirements of this device.

This unit is designed to be used with the following warning lights:
RO2874SL*

INTENDED USE
The fail to safe box is intended to be used along with the warning light: RO2874SL* its purpose is to detect a fault with the warning light and in the event of a failure, cut off the power to an x-ray generator.

This is to prevent exposure when safety signs are not working.

SAFETY WARNING
For your safety, this product must be installed in accordance with local Building Regulations. This product MUST be installed by a competent person who is registered with an electrical self-certification scheme. Further information is available online or from your Local Authority. Please read carefully and use in accordance with these safety wiring instructions.

Before commencing any electrical work ensure the supply is disconnected, and securely locked off. Wiring should be in accordance with the latest edition of the IET regulations (BS 7671).

SPECIFICATIONS

INPUT:	230V 50Hz 13A max.
OUTPUT:	230V 50Hz 13A max.
SUPPLY TO LIGHT BOX:	1A max.
SENSOR WIRING:	0.5mm2 min.
EARTH REQUIRMENTS:	Earthed

FUSE RATINGS AND CHARACTERISTICS

Rated Current:	13A
Rated Voltage:	0.5kV (AC) 0.4 kV (DC)
Rated Breaking Capacity:	1500 A
Characteristic:	T

OPERATION

When the main isolator is turned on, the light box will illuminate and the supply to the X-ray machine will become live.

If the Light Box fails to illuminate for any reason then the output to the X-Ray machine will turn off

If the Light Box fails to illuminate there is a replaceable fuse within the control box and also another within the Light Box which should be checked

ENVIRONMENTAL CONDITIONS

Maximum altitude. <2000m
Operating temperature range. 5 C to 40 C
Relative humidity. 80% for temperatures up to 31 C and decreasing linearly to 50% at 40 C
Mains supply fluctuations. ±10%
Overvoltage category: II
Pollution degree. PD2

ENVIRONMENTAL PROTECTION

This symbol is known as the “Crossed-out Wheelie Bin Symbol”. When this symbol is marked on a product or battery. It means that it should not be disposed of with your general household waste. Some chemicals contained within electrical/electronic products or batteries can be harmful to health and the environment.

Only dispose of electrical/electronic/battery items in separate collection schemes, which cater for the recovery and recycling of materials contained within. Your co-operation is vital to ensure the success of these schemes and for the protection of the environment.

This FTSB device complies with the following regulations and Harmonised Standards:

ELECTRICAL EQUIPMENT (SAFETY) REGULATIONS 2016 - 2014/35/EU

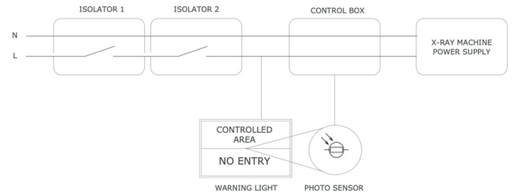
STANDARD	DESCRIPTION
BS EN IEC 61326-1:2021	Electrical equipment for measurement, control and laboratory use. EMC requirements General requirements
EN 61010-1:2010/A1:2019/AC:2019-04	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements
EN IEC 63000:2018	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

PRECAUTIONS AND WARNINGS

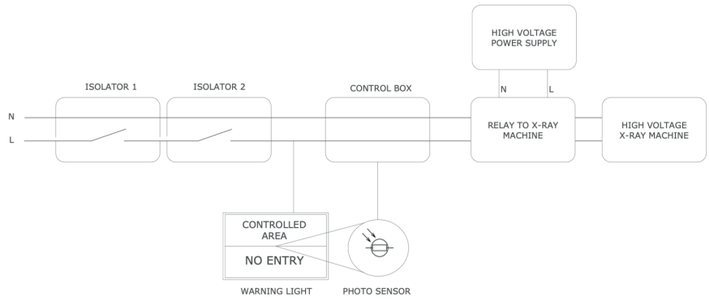
FOR INDOOR USE ONLY
INSTALL THE EQUIPMENT IN A LOCATION THAT IS EASY TO ACCESS
IF THE EQUIPMENT IS USED IN A MANNER NOT SPECIFIED BY THE MANUFACTURER, THE PROTECTION PROVIDED BY THE EQUIPMENT MAY BE IMPAIRED
EQUIPMENT OPERATES WITHIN A TEMPERATURE RANGE OF 5 C to 40 C.
DETERMINE THE TEMPERATURE RATING OF THE CABLES BEFORE CONNECTION

CABLE TEMP RATING SHOULD BE 0 to +90°C

WIRING DIAGRAM
WHEN USED WITH MONOBLOCK SYSTEM

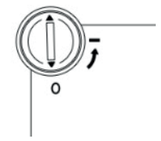


WIRING DIAGRAM
WHEN USED WITH HIGH VOLTAGE X-RAY MACHINE

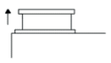


INSTALLATION

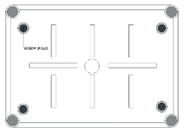
WALL MOUNTING



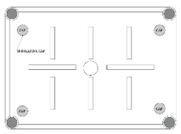
STEP 1
Rotate each of the locking grommets to the ‘0’ position.



STEP 2
As they rotate, the grommets will pop out of the casing and allow the cover to be removed.



STEP 3
Mount the unit to a suitable surface using the appropirate screws using the recessed attachment holes.



STEP 4
Place the insulating caps over the screw heads

Failure to place the caps may result in arcing.

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VERSION 6.0

February 2023 Update

MAINTANANCE INSTRUCTIONS

FIG 1

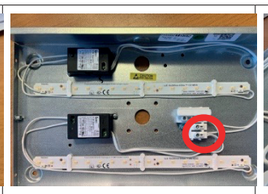


FIG 2

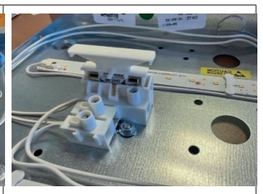


FIG 3

Regular checks must be carried out by a suitable trained technician to ensure the correct operation of the fail to safe light.

STEP 1

- Remove outer casing of X-Ray Warning Light RO2874SL*
- Remove the two screws on each side of the box to release the outer cover. (fig 1)
- Isolate the power to the warning light.
- Slide off the white casing.
- WARNING – THE CASING SECURES THE GLASS SCREEN AND IT WILL BECOME LOOSE.

*Please read associated instructions for this unit.

STEP 2

- Locate the lighting fuse. (fig 2)
- Pull out the fuse to disconnect power to the lamp (fig3)

STEP 3

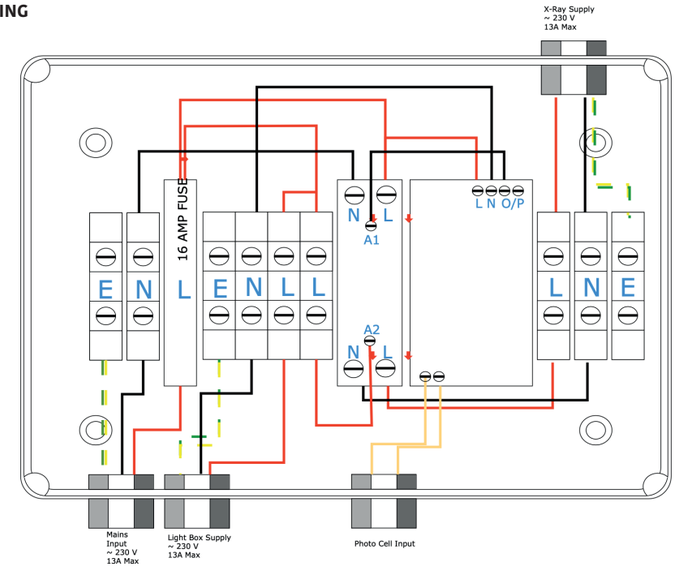
- Reassemble the light unit and assess whether power has been isolated from the x-ray generator.

STEP 4

- Reverse the process to re insert the fuse

INSTALLATION

WIRING



Step 1
Connect a mains supply to the Control Box through an isolator to E, N, & L fused terminal – MAINS INPUT
The mains input must go through a suitable switch or circuit breaker
The switch must be marked as the disconnecting device for the equipment.
The isolator switch/circuit breaker shall be accessible and positioned near the equipment.

Step 2
Connect the supply to the X-Ray machine from the labelled E, N, & L terminals – X-RAY SUPPLY

Step 3
Connect the supply to the Light Box from the labelled E, N & L terminals – LIGHT BOX SUPPLY

Step 4
Connect the two sensor terminals to the Sensor terminal in the Light Box – LIGHT BOX SENSOR

If a current and voltage of greater than 13A or 230v is required then a suitable contactor with a 230v coil should be connected to the X-Ray machine supply and wired according to the manufacturer's instructions

MANUFACTURED BY

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