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CE

INSTALLATION AND OPERATING MANUAL

iCAM100

Ex

Document Number 405214 (See Last Page for Revision Details)

For warranty information, refer to Terms and Conditions at http://www.extronics.com

Extronics reserve the right to change this manual and its contents without notice, the latest version applies.

Contents

1 Introduction

The iCAM100 is designed for use in hazardous areas where a method of surveillance is required and space is at a premium. It is also ideal for monitoring plant or areas which are difficult to view due to its compact size. The iCAM100's design means that it is suitable for use in both Zone 1/21 and Zone 2/22 environments.

Please read the **installation and operating instructions** from cover to cover before installing and commissioning the iCAM100. Only qualified personnel who are authorised by the operating company should install the iCAM100 unit.

2 Safety Information and Notes

2.1 Storage of this Manual

Keep this user manual safe and in the vicinity of the device. All persons required to work on or with the device should be advised on where the manual is stored.

2.2 Special Conditions for Safe Use

2.2.1 ATEX

2.2.1.1 Camera Module (taken from Sira 01ATEX1366X)

- The free end of the permanently connected cable shall be protected in accordance with EN60079-0:2006 Clause 14.1.
- In accordance with EN 60079-1:2007 Clause C.2.1.4, the rear end of bushing shall be protected by fitting it into a suitably certified enclosure. In addition, the bushing must not be subject to torque during installation.
- The product shall not be connected to portable equipment.
- The product that is fitted with a window has only been subjected to reduced risk impact tests in accordance with EN 60079-0:2006 Clause 26.4.2; therefore it shall not be mounted in an area where there is a high risk of impact.
- The product shall be earthed in accordance with EN 60079-0:2006 Clause 15 when fitted to a suitably certified enclosure.

2.2.1.2 Cable Gland (taken from Sira 01ATEX1272X)

- The Gland is only suitable in the temperature range of -60°C to +90°C
- The Gland is only suitable for fixed installations. Cables must be effectively clamped to prevent twisting or pulling.
- The Gland is capable of providing ingress protection of IP66.

2.2.1.3 Ex e enclosure (taken from Sira 99ATEX3200X)

- None

2.3 List of Notes

The notes supplied in this chapter provide information on the following.

- Warning!
  - Possible hazard to life or health.
- Caution
  - Possible damage to property.
- Important
  - Possible damage to enclosure, device or associated equipment.
- Information
  - Notes on the optimum use of the device

Installation of the iCAM100 must be performed in accordance with EN 60079-14. Maintenance and inspection must be performed in accordance with EN 60079-17.	

Warning!	**Installation of the iCAM100 is only to be performed by skilled electricians and instructed personnel in accordance with national legislation.**

Warning!	**The iCAM100 enclosure is not to be opened if the camera is live; wait 1 minute after de-energising before opening.**

Warning!	**The iCAM100 enclosure is not to be opened if an explosive atmosphere is present.**

Important	**Changes to the design and modifications to the equipment are not permitted.**

Important	**Before setting the unit to work, read the technical documentation carefully. Only the latest version is valid.**

Important	**If it can be assumed that safe operation is no longer possible, switch off the unit and secure it against being used again.**

3 Installation

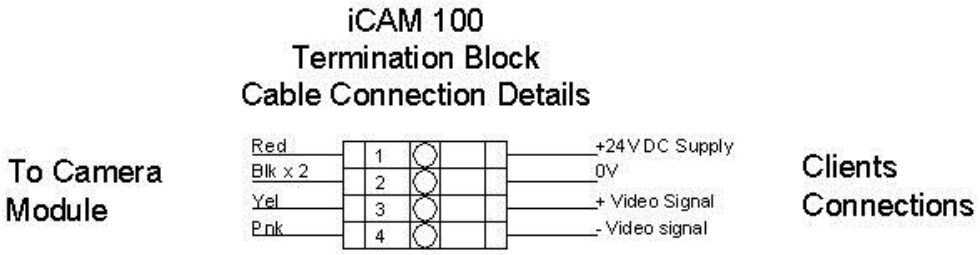
The iCAM100 is very simple to install and can either be secure directly to suitable surface using the mounting holes on the module, or using the included wall bracket

3.1 Wiring

Remove the iCAM100 lid by undoing the four screws (being careful not to loose the washers).

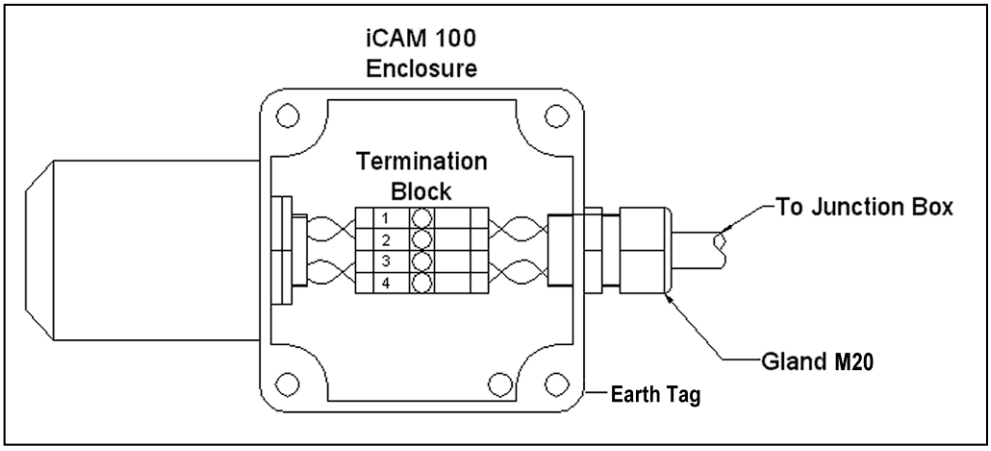
Inside you will find a terminal block with four wires going to the camera unit, one twisted pair for power to the camera & one twisted pair for the video signal.

Using a suitable cable feed through the gland connect the wires to the terminal block as shown in the diagram.



Note:	**For 3 wire Camera Modules the Black wire is common for both the 0V Supply and the –Video Signal**
	Yellow & Black for composite output
	Pink & Yellow for Differential output
	Earth terminal for incoming earth on some models

Once the terminal wires have been connected, tighten the gland and replace the lid accordingly.



Important **Ensure the correct Cable and Cable Gland are used and that the unit is suitably earthed for your particular application**

Caution **Check wiring before switching on.**

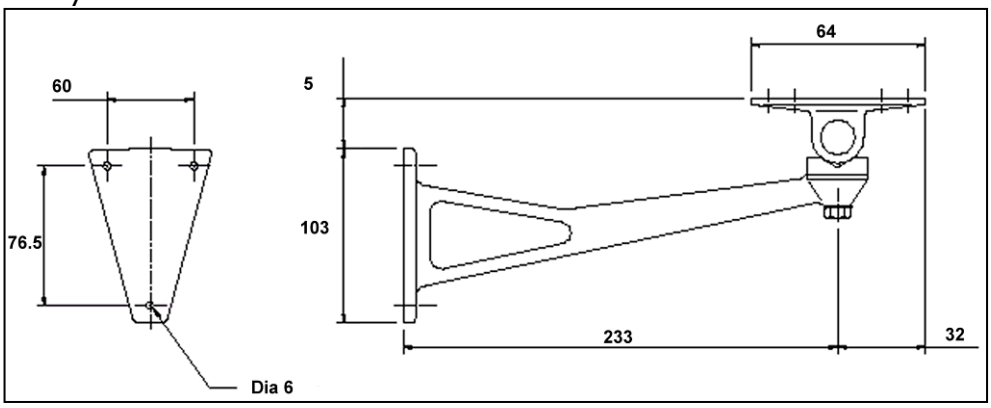
3.2 Mounting

3.2.1 Mounting the Camera using the Wall Bracket

Using the template supplied with each bracket, drill 3 x 7 mm Diameter holes each 45mm deep and clean out the holes.

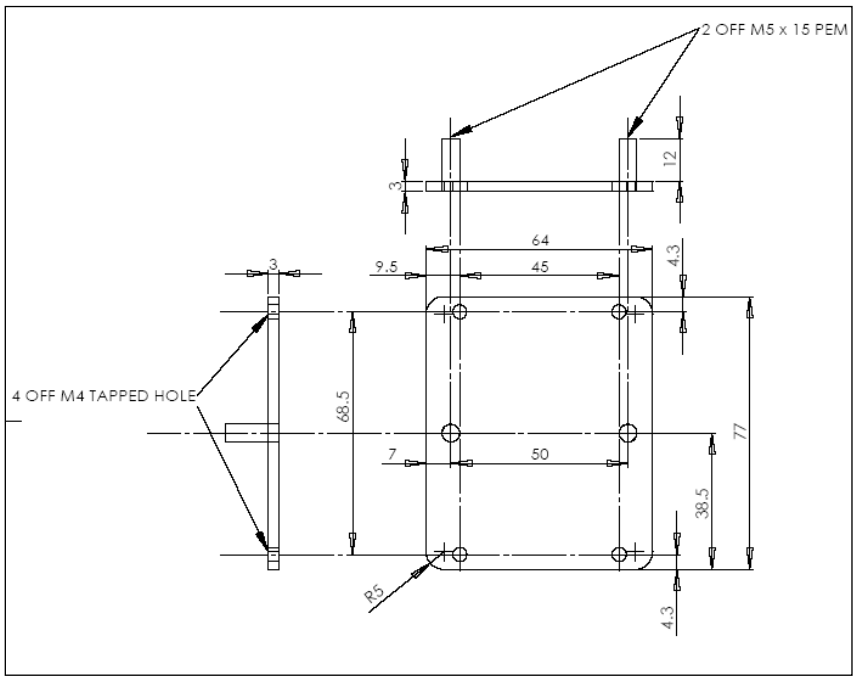
Insert one raw plug into each hole

Pass a screw through each hole in the bracket and into the raw plug. Tighten all screws firmly.



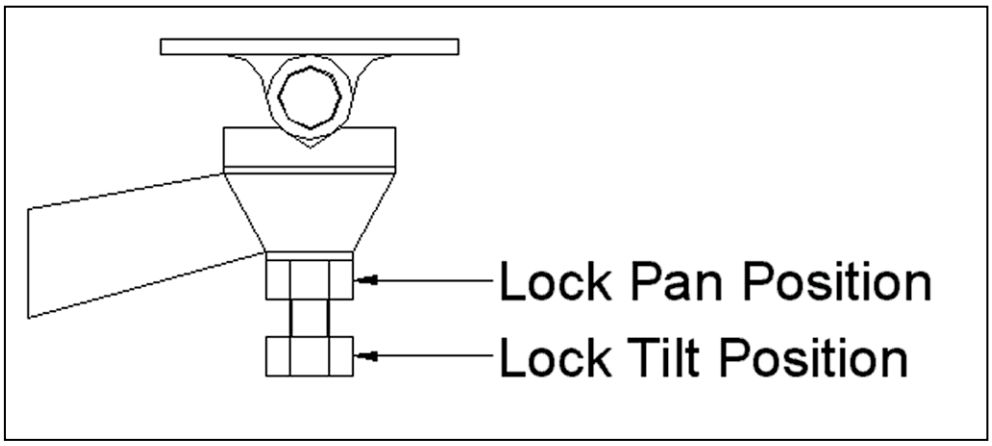
Attach the mounting plate to the iCAM100 module using the bolts and washers supplied

Then attach the plate to the Wall bracket, and tighten all nuts firmly.



3.2.2 Pan and Tilt Adjustment

To adjust the pan and tilt loosen the nut and bolt on the underside of the bracket, angle the camera to the required position and tighten the nut and bolt accordingly.



3.2.3 Mounting the Camera Directly

The iCAM100 enclosure has four mounting holes located on its underside, which can be used to mount the camera directly or to the mounting plate for use with the wall bracket.

4 Operation

Once the iCAM100 is wired up, the unit simply requires is power and a suitable monitor to view the picture. There are no other adjustments on the camera itself apart from pointing the camera in the required direction using the pan and tilt.

The iCAM100 does not require manual focusing, however it should be remembered that the optimal focal distance is dependent upon the lens used for the field of view.

The primary function of the camera is to provide video surveillance monitoring in classified hazardous areas, this is achieved by housing the camera electronics in an Ex de approved enclosure.

When power is applied to the camera it turns ON and immediately begins video transmission.

4.1 CCTV Colour Camera

The CCTV camera is a self-contained unit with integrated fixed focal length optical lens, imaging sensor, automatic IRIS and video image generator.

4.1.1 Power Supply Unit

The power supply converts a nominal 24Vdc into two voltage supplies (+/-9Vdc) used internally to energise the CCTV Colour Camera and Video Line Driver; all supplies have a common ground (GND) connection.

4.1.2 Video Line Driver

The video line driver converts the 1V composite video output from the CCTV Camera into a 2V differential composite video signal (balanced line) suitable for transmission over either a 75R coaxial cable or 150R twisted pair cable.

5 EC Declaration of Conformity

EXTRONICS

Wireless Vision Engineering Tracking

System EC Declaration of Conformity

Extronics Ltd, 1 Dalton Way, Midpoint 18, Middlewich, CW10 0HU, UK

Declare under sole responsibility that the product,

iCAM100 Flameproof Fixed Focus Camera Assembly iCAM100-X-X-X

Country of Manufacture: United Kingdom

Consisting of the following certified items:

TOCSIN 102 Camera Module Enclosure	**Sira 06ATEX1366X, latest supplement Issue 3**
Pepperl+Fuchs Terminal Box Series GL	**Sira 99ATEX3200X, latest supplement Issue 9**
Peppers Type A2LF Cable Gland	**Sira 01ATEX1272X, latest supplement Issue 10**

To which this declaration relates, is in accordance with the provision of the following directives:

94/9/EC Equipment and protective systems intended for use in potentially explosive atmospheres.

Provisions of the directive fulfilled by the equipment:

TOCSIN 102C Optical Assembly	Ⓔx II 2 GD Ex d IIC T6 Gb Ex tb IIIC T6 Db IP66 -20°C ≤ Ta ≤ +55°C
Pepperl+Fuchs Terminal Box Series GL	Ⓔx II 2 GD Ex e IIC T6 Gb Ex tb IIIC T80°C Db IP6X -50°C ≤ Ta ≤ +40°C Ex e IIC T5 Gb Ex tb IIIC T95°C Db IP6X -50°C ≤ Ta ≤ +50°C
Peppers Type A2LF Cable Gland	Ⓔx II 2 GD Ex e IIC Gb Ex ta IIIC Da -35°C ≤ Ta ≤ +90°C
Overall System Certification:	**Ⓔx II 2 GD** **Ex de IIC T6 Gb** **Ex tb IIIC T80°C Db IP6X** **-20°C ≤ Ta ≤ +40°C** **Ex de IIC T5 Gb** **Ex tb IIIC T95°C Db IP6X** **-20°C ≤ Ta ≤ +50°C**

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EXTRONICS

Wireless Vision Engineering Tracking

And is in conformity with the following harmonized standards or other nominative documents

EN60079-1:2007	Electrical apparatus for potentially explosive gas atmospheres – Flameproof enclosures 'd'
EN60079-7:2007	Explosive atmospheres - Part 7: Equipment protection by increased safety 'e'
EN60079-31:2009	Electrical apparatus for potentially explosive dust atmospheres – Protection by enclosure 't'

Non-harmonized standards used

EN60079-0:2006	Electrical apparatus for potentially explosive atmospheres. General requirements (A review against EN60079-0:2012 + A11:2013 shows no significant changes relevant to this equipment, so EN60079-0:2006 continues to represent 'state of the art').
EN61241-0:2006	Electrical apparatus for use in the presence of combustible dust – General requirements (superseded by EN60079-0:2012)
EN61241-1:2004	Electrical apparatus for use in the presence of combustible dust – Protection by enclosures "tD" (superseded by EN60079-31:2009)

Notified Body for Production: **SIRA, 0518, Chester, UK**

2011/65/EU Restriction of the use of certain Hazardous Substances (RoHS) Compliant

On behalf of Extronics Ltd, I declare that, on the date the equipment accompanied by this declaration is placed on the market, the equipment conforms with all technical and regulatory requirements of the above listed directives.

Signed

Nick Eardley
Senior Project Engineer

Date: 16/05/2014

405024 Rev 1.0

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6 Manual Revision History

Revision	Description	Date	By
1.0	Initial Release, replaces 302803_16	16/05/2014	BTS