



Operating Manual

iSCAN301S

417535

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The Photograph on the front page shows the iSCAN301S Aluminium Enclosure.

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

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1 Introduction

The iSCAN301 unit consists of an Optical barcode scanner mounted inside an Ex d enclosure with a glass viewing window.

The unit has two M20 tapped holes in the base through which the user must supply power and data cables fitted through appropriately certified Ex d IIB / IIC cable glands.

2 Safety Information and Notes

2.1 Special Conditions for Safe Use –

The width of the flameproof joints is superior to those specified in tables of EN/IEC 60079-1 standard.

If fitted to the product; during the installation, the user will take into consideration that pilot light type EFL*PC* underwent only a shock corresponding to an energy of low risk at “J”.

The other conditions are as specified in the instructions.

2.2 Storage of this Manual

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

2.3 List of Notes

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

- Danger / 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

Warning Do not open the enclosure while the immediate area is classed as hazardous or explosive.

Important Read the manual completely and carefully before operation. Only the latest documentation is valid.

Important Installation, maintenance and cleaning of the units must only be performed by persons trained and authorized for this purpose, insofar as they are familiar with the units.

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

Important Modifications and conversions to the units are not permissible and will cause the Ex protection and the guarantee to become void. Extronics Ltd is not liable for any consequential damage.

Important The technical data specified for hazardous areas comply with the values certified in the European Ex approval. The user bears the sole responsibility of examining the equipment with regard to its suitability for the intended application and environmental conditions. Extronics Ltd accepts no liability for any lack of suitability

Important For installation, maintenance and cleaning of the units, it is important to observe the applicable standards and provisions concerned with explosion protection (EN 60079-14, EN 60079-0, EN 60079-1) as well as the Accident Prevention Regulations and codes of practice in your region.

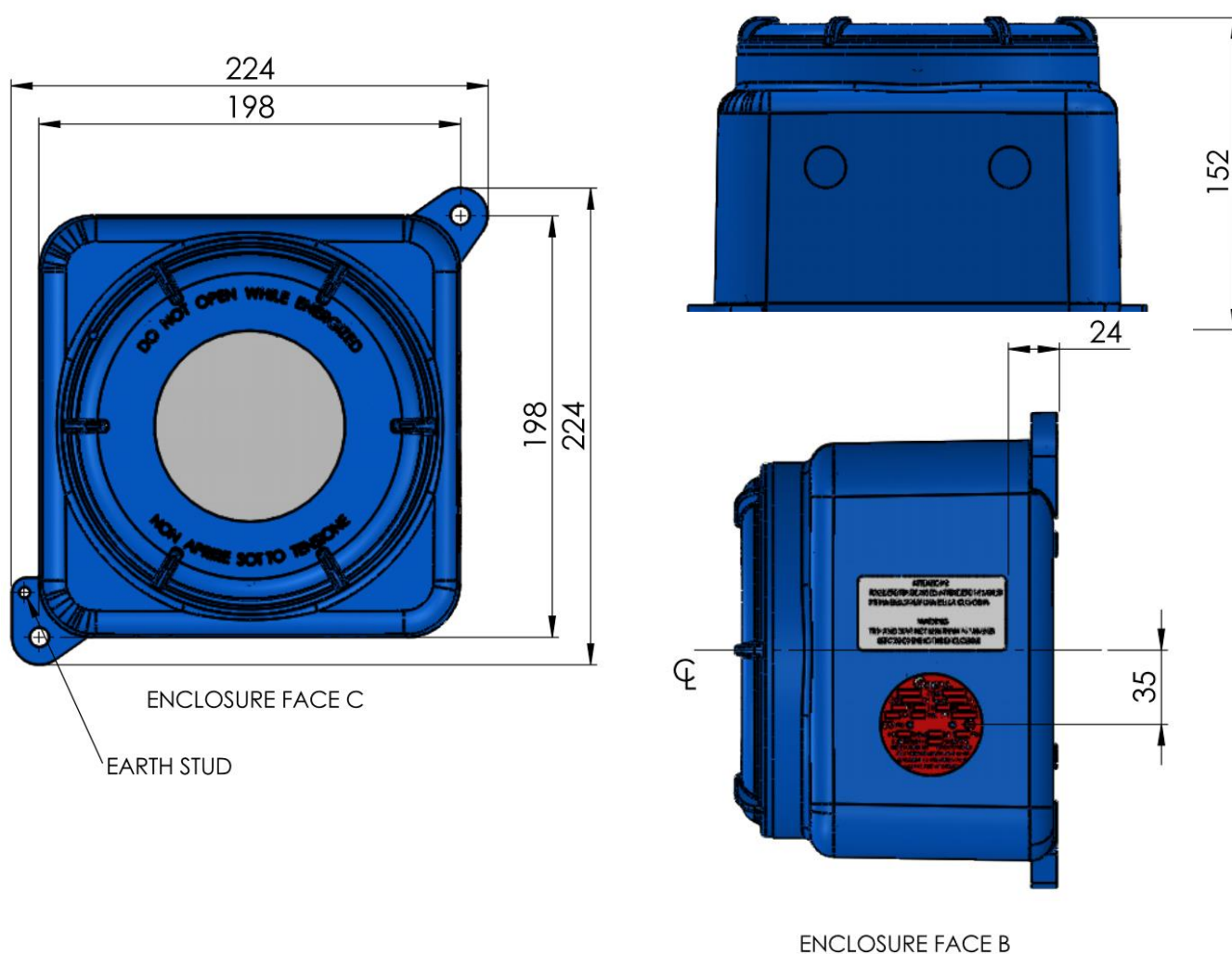
Information The EPL is Gb and Db, the laser is Class 1 in accordance with IEC 60825-1:2007-3, and the emission limits are below 15mW, therefore the equipment is outside of the scope of EN60079-28:2015.

3 Installation and Setting-to-Work

3.1 Installation

The iSCAN301S is simple to install and can be secured directly to suitable surface using the built in mounting points of the aluminium enclosure.

3.1.1 Dimensions



3.1.2 Fitting the cables

Feed the power or data cable through the enclosure cable entries (see section 3.4.1)

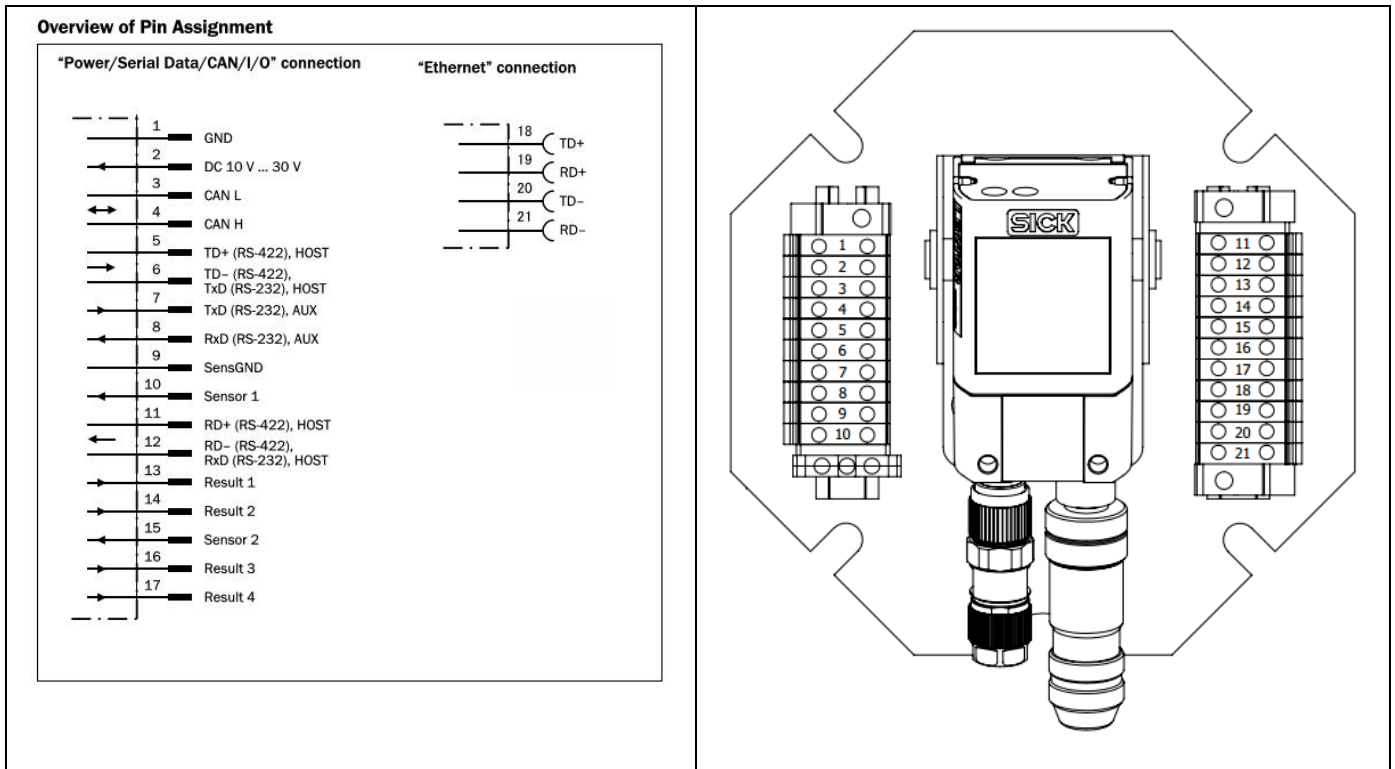
Important Ensure that the correct type of gland is used and that it is fitted by suitably competent personnel as per the manufacturer's instructions.

For the power / data cables strip back the insulation, attach suitable crimps and connect to the terminal blocks indicated in section 3.3

3.2 Setting-to-work

The iSCAN301S can be set up by following the instructions in the ICR620S-T11503 Operating Instructions. These can be downloaded from https://www.sick.com/media/dox/6/36/436/Operating_instructions_LECTOR%C2%AE620_en_IM0038436.PDF

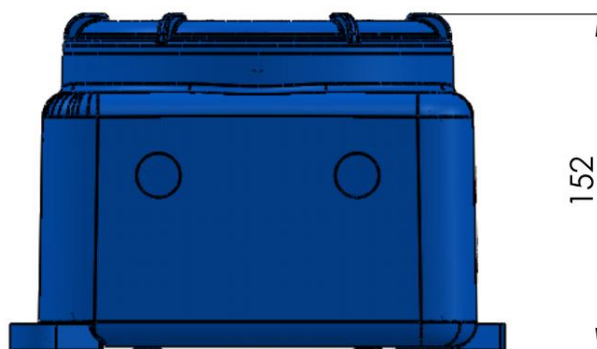
3.3 Wiring Schematics



3.4 Connecting the cables

3.4.1 Cable Gland Entry

Cable entries must be made by appropriately certified Ex d IIB / IIC cable glands via the cable entries shown below:



ENCLOSURE FACE A

Each cable entry is M20 type. No other type of cable gland entry is permitted. Any unused entries must be sealed using an appropriately certified Ex d IIB / IIC stopping plug.

4 Intended Purpose Usage

Important	Before setting the units to work, read the technical documentation carefully.
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Important	The latest version of the technical documentation or the corresponding technical supplements is valid in each case.
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The iSCAN301S is built using modern components and is extremely reliable in operation; however it must only be used for its intended purpose. Please note that the intended purpose also includes compliance with the instructions issued by the manufacturer for installation, setting up and service.

Any other use is regarded as conflicting with the intended purpose. The manufacturer is not liable for any subsequent damage resulting from such inadmissible use. The user bears the sole risk in such cases.

4.1 Transportation and Storage

All iSCAN301S devices must be transported and stored so that they are not subjected to any excessive mechanical stresses.

4.2 Authorized Persons

Only persons trained for the purpose are authorized to handle the iSCAN301S; they must be familiar with the unit and must be aware of the regulation and provisions required for explosion protection as well as the relevant accident prevention regulations.

4.3 Cleaning and Maintenance

The iSCAN301S and all its components require no maintenance. All work on the iSCAN301S by personnel who are not expressly qualified for such activities will cause the Ex approval and the guarantee to become void.

4.4 Safety Precautions

Important	For the installation, maintenance and cleaning of the units, it is absolutely necessary to observe the applicable regulations and provisions concerned with explosion protection (EN 60079-14) as well as the Accident Prevention Regulations.
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4.5 Cleaning and Maintenance Intervals

The cleaning intervals depend on the environment where the system is installed.

4.6 Aggressive substances and environments

The iSCAN301S is not designed to come into contact with aggressive substances or environments, please be aware that additional protection may be required.

4.7 Exposure to external stresses

The iSCAN301S is not designed to be subjected to excessive stresses e.g. vibration, heat, impact. Additional protection is required to protect against these external stresses.

The iSCAN301S will require additional protection if it is installed in a location where it may be subjected to damage.

5 Code Reader Specification

Reading field	Side
Focus	Teach auto focus
Sensor	CMOS matrix sensor, grayscale values
Sensor resolution	752 px x 480 px (WVGA)
Internal lighting	Red, Blue
Light source	Illumination LEDs: visible red light ($\lambda = 617 \pm 15$ nm), visible blue light ($\lambda = 470 \pm 15$ nm) Feedback spot: visible green light ($\lambda = 525 \pm 15$ nm) Aiming laser: visible red light ($\lambda = 630 \dots 680$ nm)
MTBF	75,000 h
LED class	1 (IEC 62471 (2006-07) / EN 62471 (2008-09))
Laser class	1, complies with 21 CFR 1040.10 except for the tolerance according to "Laser Notice No. 50" from June 24, 2007 (IEC 60825-1 (2007-3))
Scanning frequency	60 Hz, WVGA resolution
Focal length	7 mm
Code resolution	≥ 0.1 mm ¹⁾
Reading distance	40 mm ... 1,500 mm ^{1) 2)}
Bar Code types	1D code types: GS1-128/EAN 128, UPC/GTIN/EAN, Interleaved 2 of 5, Pharmacode, GS1 Databar, Code 39, Code 128, Codabar, Code 32, Code 93 Stacked code types: PDF417, PDF417 Truncated 2D code types: Datamatrix ECC200, GS1 Datamatrix, QR code

6 Technical Data

Certification	Ⓢ II 2 G Ex d IIC T6 Gb Ⓢ II 2 D Ex tb IIIC T85°C 100°C Db, IP66
Dimensions	H224 x W224 x D152 mm (including mounting flanges) Mounting centres 198 x 198 mm (11mm diameter)
Weight	Approx. 5.5kg
Ingress protection	IP66
Enclosure material	Grade LM6 Cast Alloy Epoxy Coated
Ambient operating temperature	-20°C to +55°C
Humidity	90 %, non condensing
Ambient light resistance	2,000 lx
Image recording rate	60 Hz at 752px x 480px (WVGA resolution)
Light source	Illumination LEDs: visible red light ($\lambda = 617 \pm 15\text{nm}$) Visible blue light ($\lambda = 470 \pm 15\text{nm}$)
Electrical connection	21x 2.5mm terminals for power and data
Mechanical connection	2 off M20 cable entries in bottom face Cable glands quoted upon request (Cable spec required)
Host data interface	Serial: RS232 or RS422 300baud to 115.2 Kbaud CAN: 20kbit/s to 1Mbit/s
Configuration port	Ethernet: 10/100 Mbit/s
Operating voltage	10 – 30V
Power consumption	Max. 3W
Code qualification	ISO/IEC 16022, ISO/IEC 15415, ISO/IEC 18004, ISO TR 29158/AIM DPM
Scanning operation	Laser can operate as always on or via control signal. Control signal can be hardware or a software trigger. Client to configure - refer to user manual.

7 Manual Revision

Revision	Description	Date	By
1.0	First release	29/06/16	JR/PR
1.1	Added EU Manufacturers Declaration	14/07/16	SR
1.2	Revised EU D of C, include complete certificates and clarify 'special conditions of safe use' as per certificates.	08/12/16	TM
1.3	EU D of C and manual section 2.2 List of Notes includes clarification regarding exemption from EN 60079-28:2015	24/01/17	TM
2.0	Manual reviewed and updated	06/06/18	MH