Operating Manual

iTAG X30

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Document Number X124749(1) (See DDM for the latest Version)

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

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1 Introduction

The iTAG X30 worker location tag with hybrid technology, allows for accurately locating workers in Hazardous and Non-Hazardous areas, anytime anywhere.
The iTAG X30 tag provides, audible, visual and tactile alerts and works with Stanley healthcare MobileView software to provide real-time alerting and reporting, for worker location solutions.

1.1 What is inside the box?

- iTAG X30
- iTAG X30 charging cable
- Quick start guide

1.2 Pre-requisites

Refer to iTAG X30 Compatibility Matrix (X124937) for compatible software required to be installed to use the iTAG X30.

1.3 Reference documentation

- ELS Deployment Guide
- ELS Datasheet
- iTAG X30 Datasheet
- MobileView Administrator guide from 5.4 and above
- Tag Management Standard (TED) User Guide

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2 Safety Information

2.1 Storage of this Manual

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

2.1 Special Conditions for Safe Use – ATEX IECEx

- Tag must only be charged in safe area only
- Tag must only be charged from a supply meeting the following requirements:
  - A SELV or PELV system, or
  - Via a safety isolating transformer complying with the requirements of IEC 61558-2-6, or technically equivalent standard, or
  - Directly connected to apparatus complying with the IEC 60950 series, IEC 61010-1, or a technically equivalent standard, or
  - Fed directly from cells or batteries.
- Tag charger input U_m = 6.5Vdc.
- Battery cells must not be replaced in a hazardous area.

2.2 Warnings

Warning!	**The iTAG X30 should only be cleaned with a damp cloth.**

Warning!	**Do not open the iTAG X30. There are no user-serviceable parts inside.**

Warning!	**Any repairs or replacement of parts MUST be performed by the manufacturer or its nominated sub-contractor or agent.**

Warning!	**This product can be delivered in a number of different variants; each variant has restrictions on where it can be used. Please read the information in the type codes section fully and ensure that your iTAGX30 is suitable for the hazardous area in which it is to be used.**

Warning!	**Before setting the units to work, read the technical documentation carefully.**

Warning!	**The iTAG X30 contains a lithium ion battery. Do not force open, heat excessively or dispose of in fire.**

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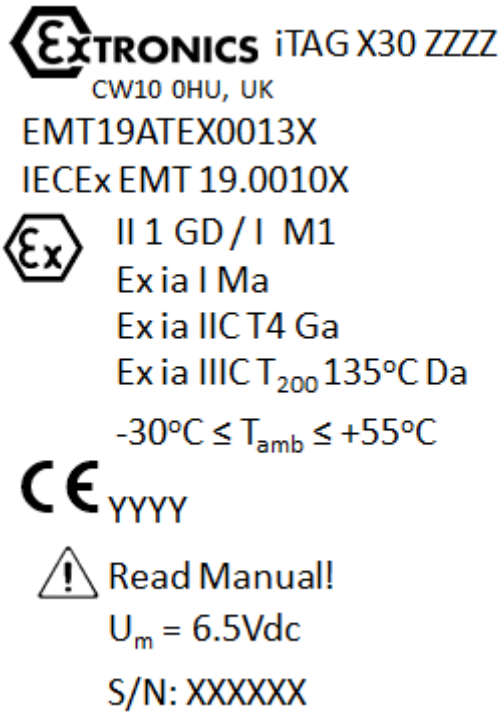
2.3 Marking Information



Where:

- YYYY is the Notified Body for production
- XXXXXX: is the serial number
- ZZZZ is a code to identify model variants

Exact layout of markings may differ from that shown.

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3 Tag Features

Emergency Call Button

The iTAG X30 features a call button which can be activated in the case of an emergency, which triggers an event in MobileView to show the location of the worker in need of assistance.

Visual, Audible and tactile indication

The iTAG X30 features multiple LED's to indicate to the worker the tag is running, the call button has been activated and when the tag has a low battery. Tactile and audible indications occur to inform the wearer that the call button has been activated.

Wi-Fi Security

The iTAG X30 supports 802.1x Enterprise security networks with PEAP-MSCHAPv2 protocol.

Beaconing

The tag utilises lightweight beaconing communication.

Wi-Fi/GPS

The iTAG X30 features hybrid technology which includes Wi-Fi and GPS to accurately locate workers in all areas of the site, whether there is a dense Wi-Fi infrastructure or not.

LF Radio

The iTAG X30 sends out specific location reports upon arrival at a chokepoint or gateway where an LF exciter is positioned. The tags behaviour can be automatically modified whilst in certain areas after passing through a chokepoint such as a doorway or gate.

OTA (Over the Air) Updates

The tag has firmware over-the-air update capability which can be used when new functionality becomes available. This eliminates the need to return the tag to the factory to enable new features.

Battery and Battery Life

The iTAG X30 is powered by rechargeable lithium ion battery.

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Mounting

The iTAG X30 comes complete with a stainless-steel clip which can be used to clip to PPE or used with a lanyard.

Simple configuration

The iTAG X30 Firmware contains 7 pre-defined configurations, which can be activated quickly and easily using the TED and Tag Manager BD.

Motion sensor

The iTAG X30 contains on-board motion sensors. When the tag is configured to a profile which utilises the motion sensor it will enable different transmission intervals of the tags whether the tag is stationary or in motion, reducing unnecessary network traffic and conserving battery.

Integrated access control

Minimise the number of ancillary products being carried by using integrated access control to gain access to site. Easily identify workers due to Photo ID being visible on the front of the tag.

Rugged performance

The iTAG X30 tag enclosure has been designed for durability with IP rating of IP65 and IP67 to ensure complete confidence in the product when in harsh environments.

4 Tag usage instructions

4.1 Before using the tag

Please check for damage to the tag, clip and charging cable prior to using the tag.

Check firmware is latest version and update if required.

4.2 Configuring and updating the tags

Tag Manager BD is used to configure the tag. Refer to separate user guide for general instruction on the use of Tag Manager BD.

4.2.1 Initial Start

Detect tags etc…..

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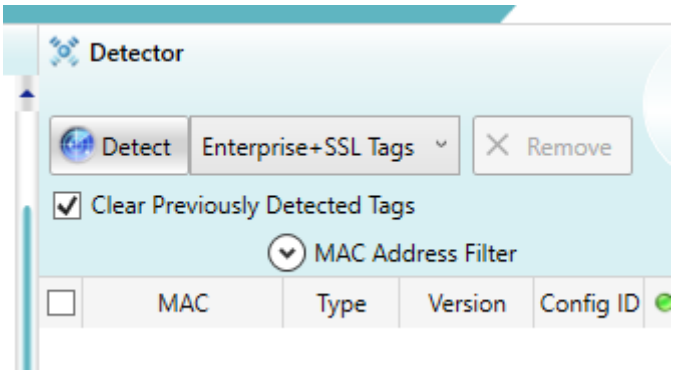
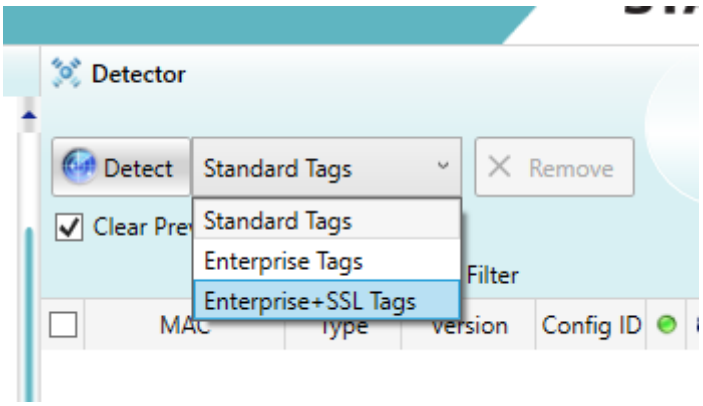
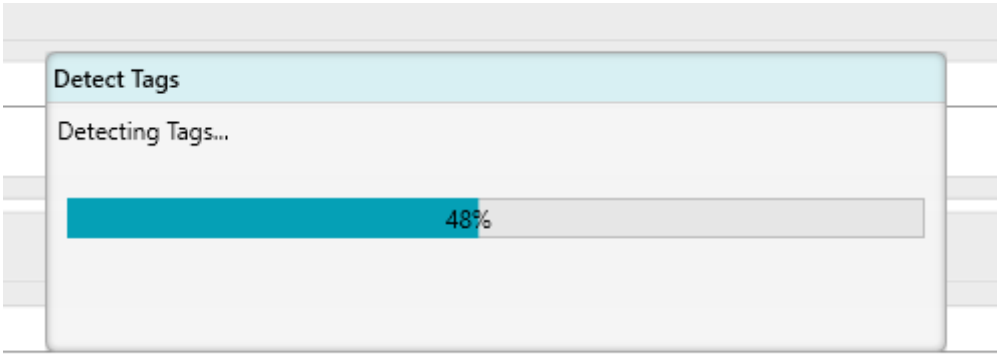
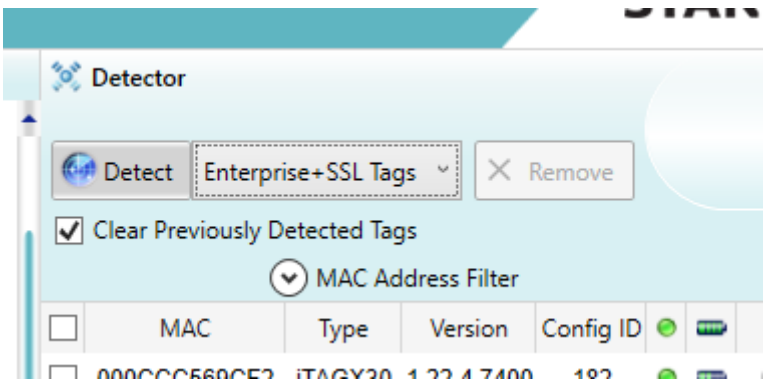






Click detect:



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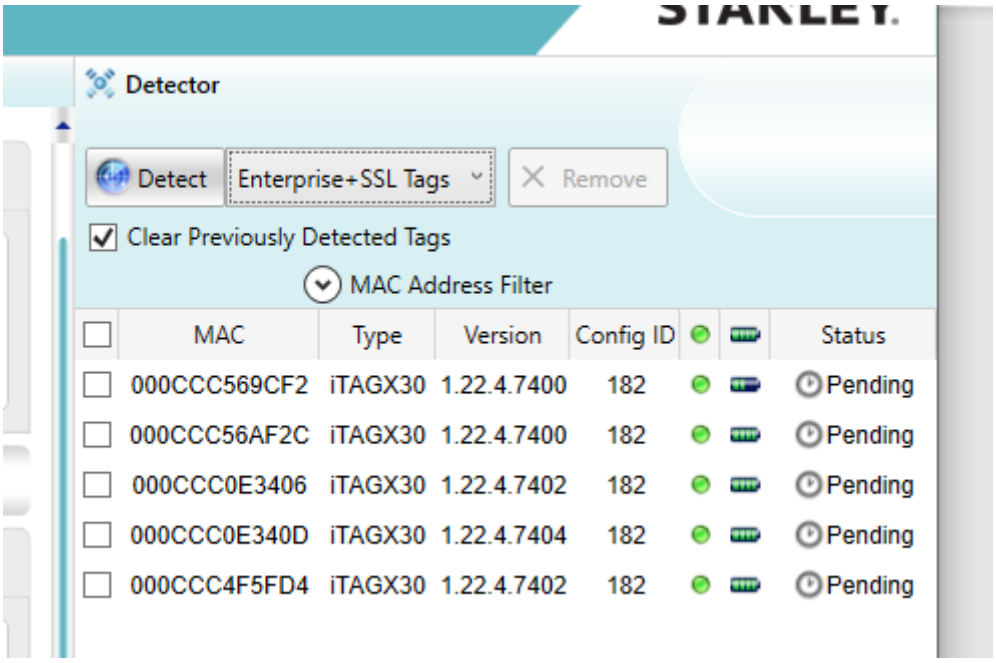

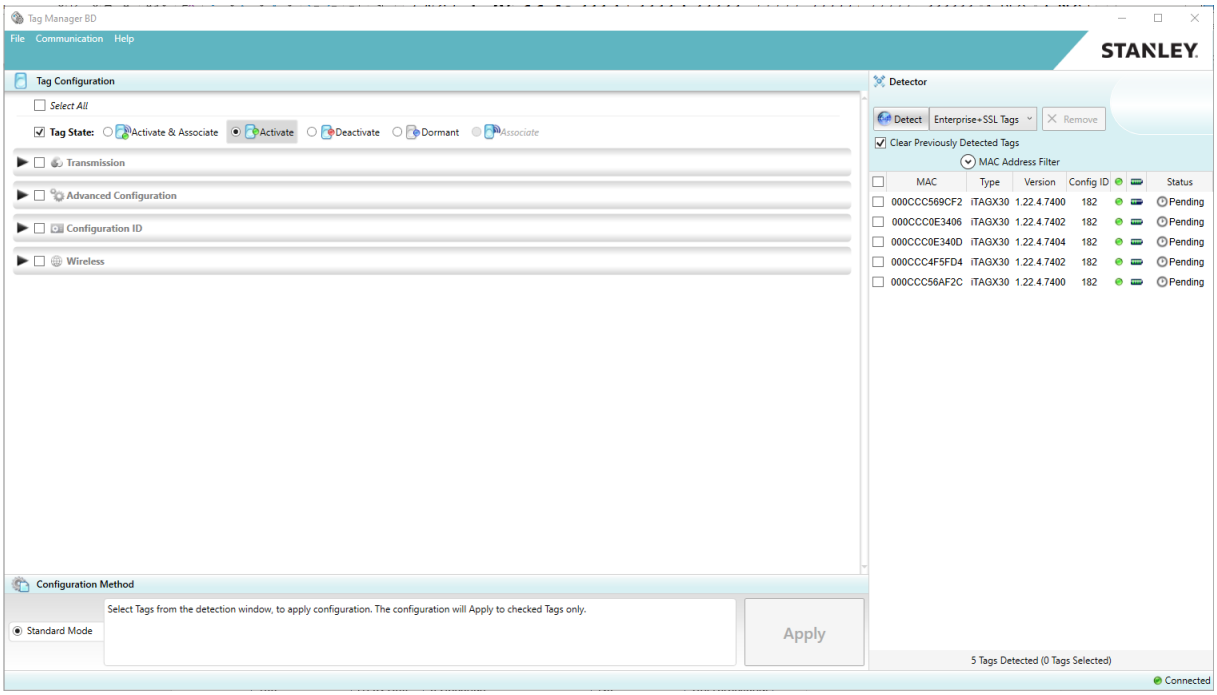

4.2.2 Activating the iTAG X30

On delivery from the factory, tags must be activated before configuring and use. A single tag or multiple tags can be activated simultaneously.

To Activate a tag:

Confirm the tag is detected. See ***Detecting Tags***

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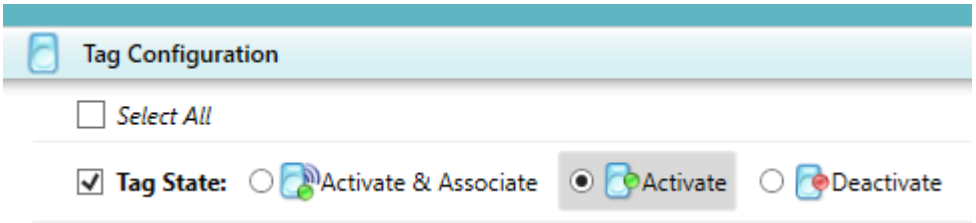
- From the **Detected Tags** list, right click on the tag and select **Activate**. The tag colour indicator changes to green (Activated Tag). The tag LED will flash to indicate communication.
-

MAC	Type	Version	Config ID	Status
000CCC569CF2	iTAGX30	1.22.4.7400	182	Pending

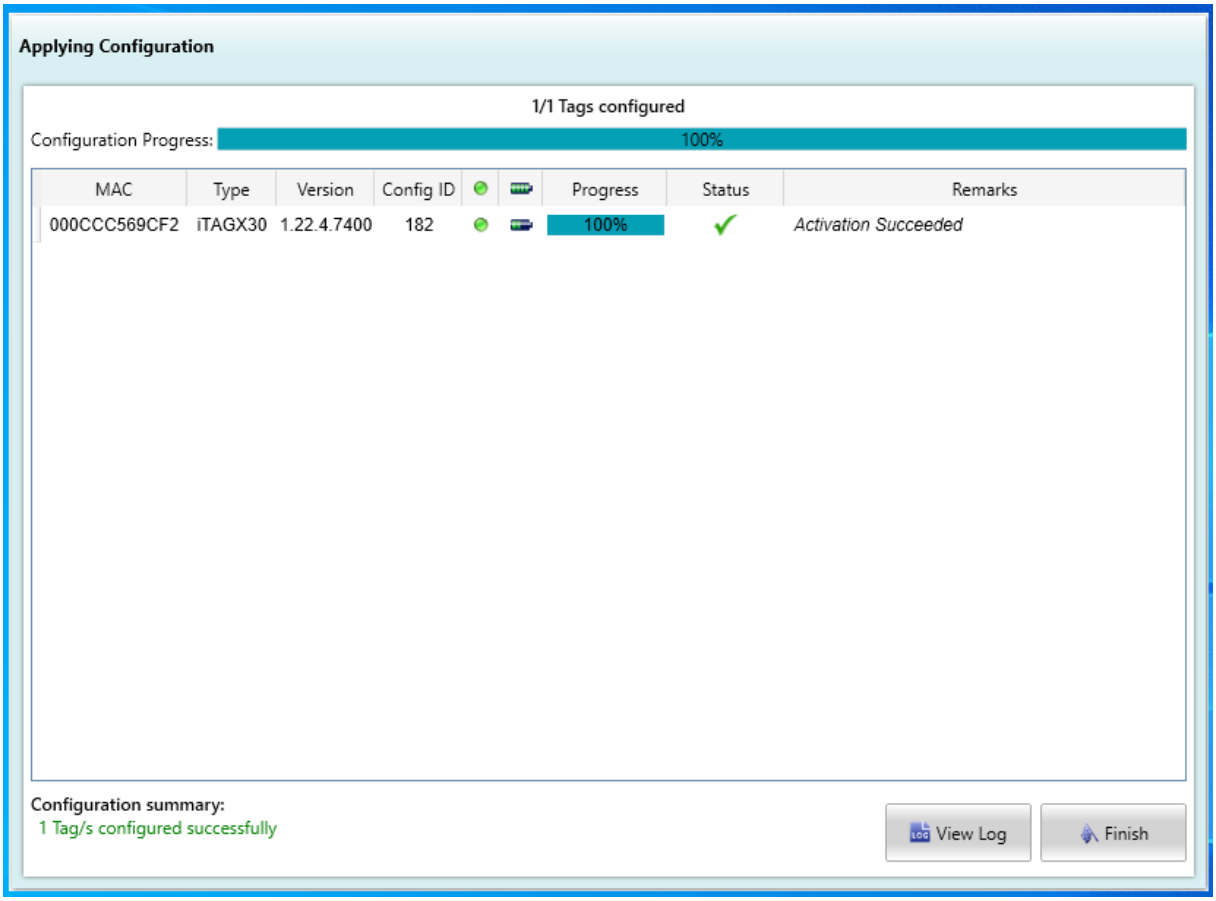
To activate multiple tags:

Confirm the tags are detected. See ***Detected Tags***

1. From the **Detected Tags** list, select the tags by checking their selection boxes (or check the box in the column header to select them all)
2. Under the selection **Tag Configuration**, select **Activate** and check the **Tag state** box.



3. Click **Apply.** The **Applying Configuration** window opens.



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The tag colour indicator changes to green (Activated Tag)

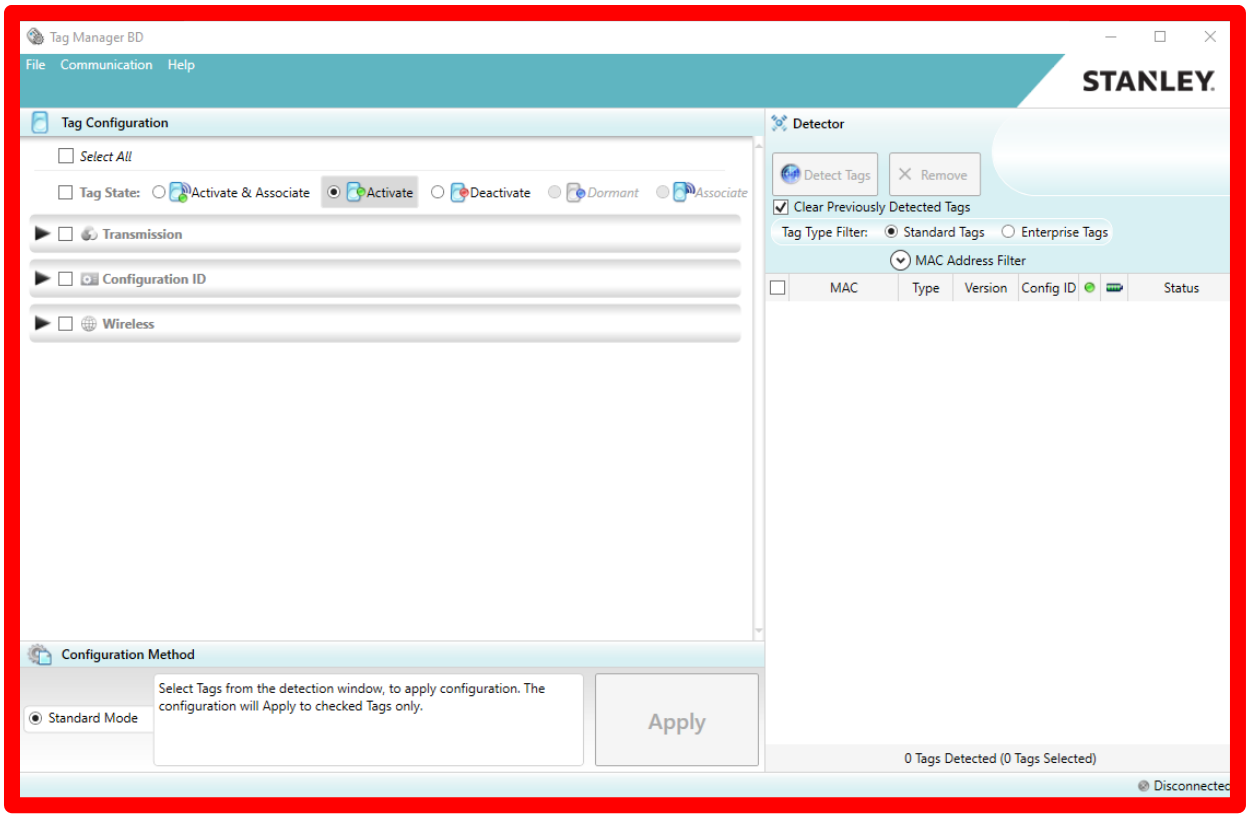
4. Click Finish.

4.2.3 How to Configure

The iTAG X30 must be initially configured using the TMBD application (Tag manager BD application, which is part of the Hardware manager application)

The TMBD application allows you to activate and configure the following tag parameters according to sites infrastructure and use case. More information can be found in the Tag manager BD Guide.

- Transmission and Wireless:
  - Transmission Channels
  - IP Settings (Static IP/DHCP)
  - Application servers
  - Wi-Fi Security Settings (WPA2-PSK / 802.1 Enterprise security with PEAP-MSCHAPv2)



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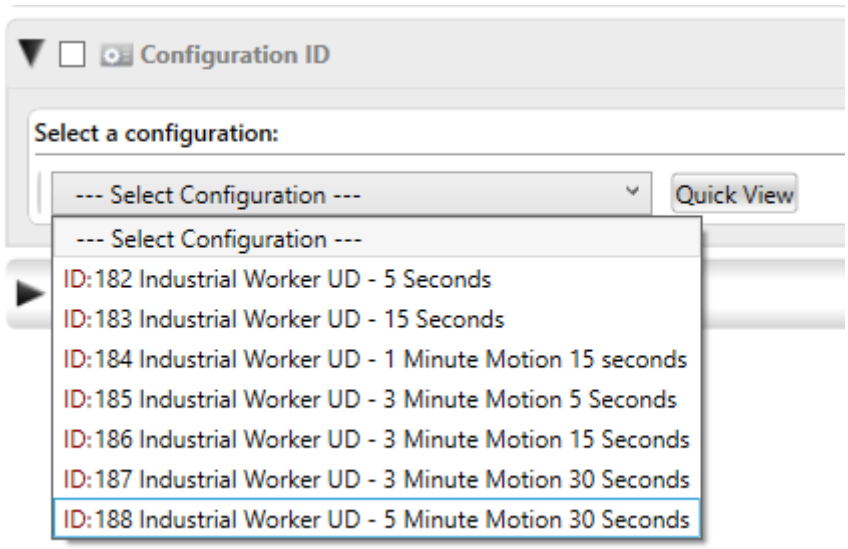

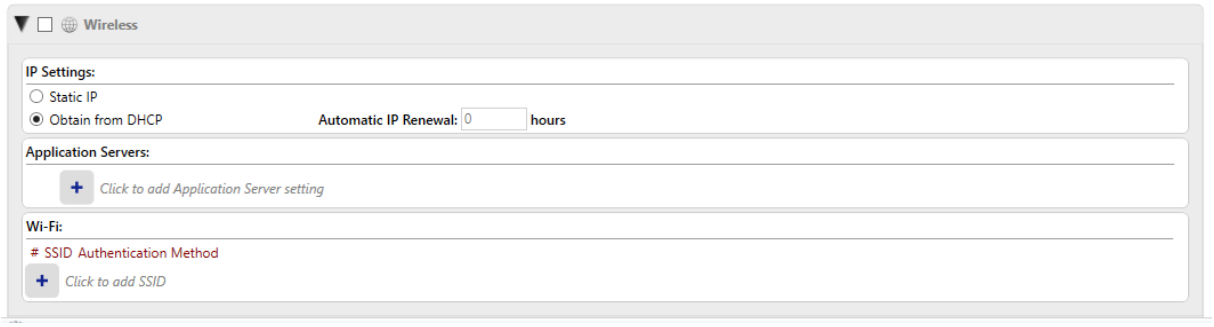

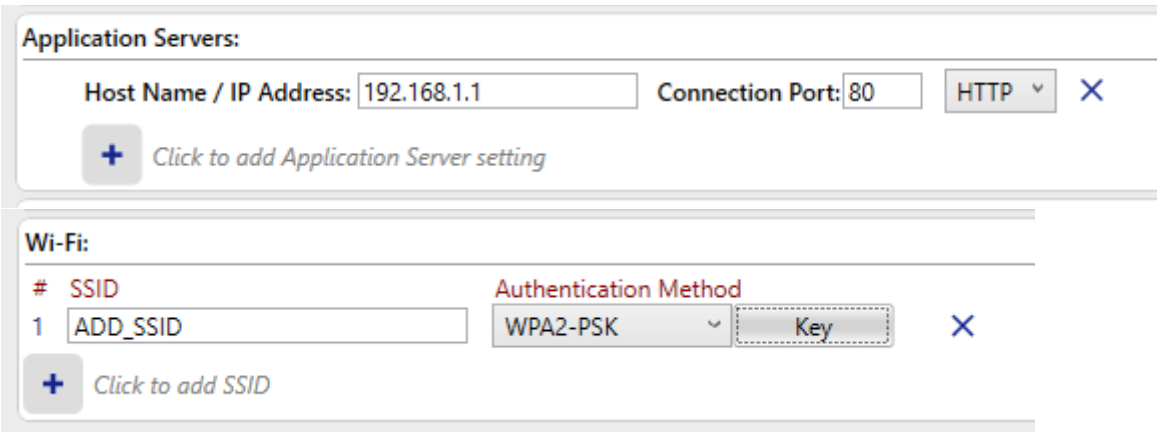

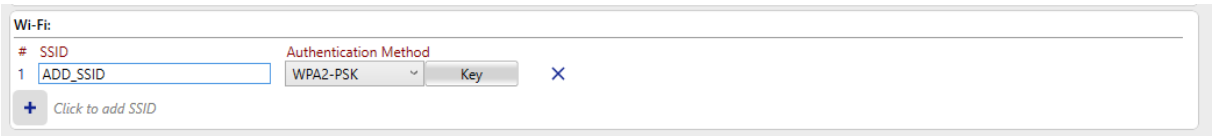

WPA-PSK:

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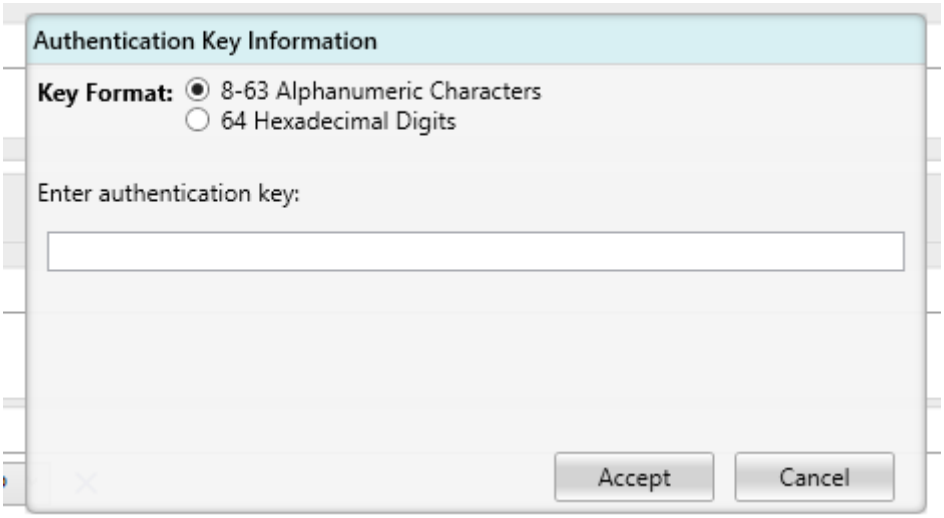

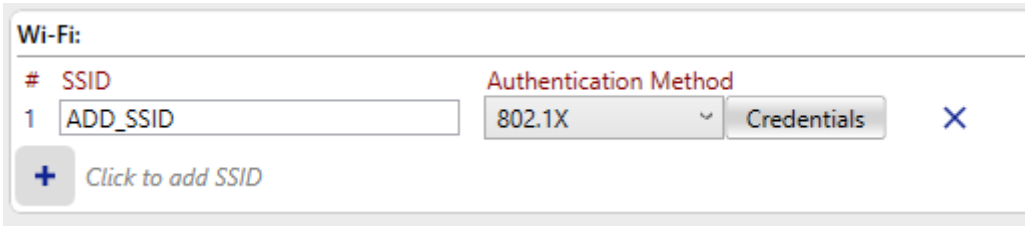

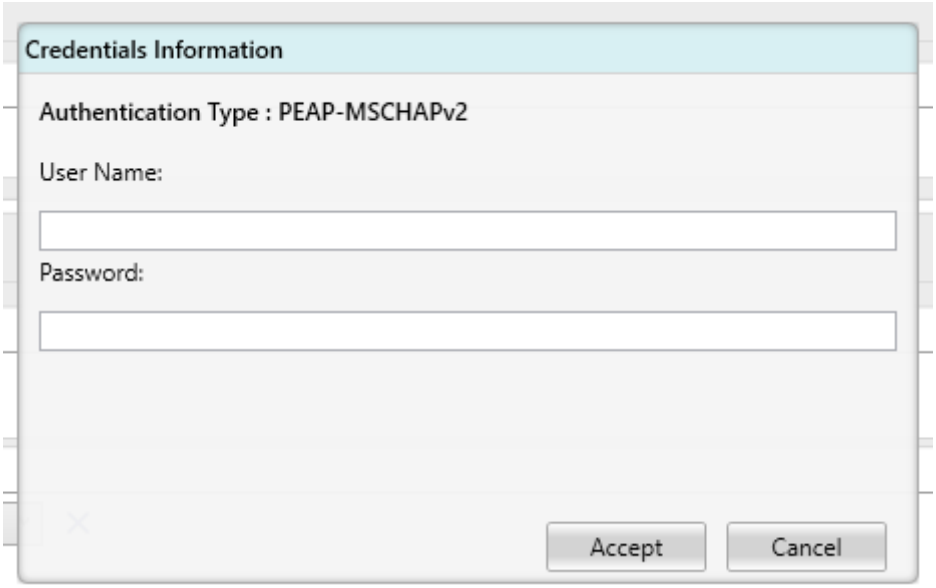

4.2.4 Available configurations

The tag firmware contains 7 pre-defined configurations. These configurations define the tag type and beacon rate behaviour. Each configuration has a unique ID number called a “Static Configuration” which cannot be edited. Only 1 configuration can be selected and used per tag.

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The following table shows the available configurations.

Tag Configurations TMBD FW Version XXX				
Configuration ID	**Badge Type**	**Beacon Rate**	**Motion enabled**	**Transmission**
166	iTAG X30	5 Seconds	No	Uni Directional
167	iTAG X30	15 Seconds	No	Uni Directional
168	iTAG X30	1 Minute / 15 seconds motion	Yes	Uni Directional
169	iTAG X30	3 Minute / 5 seconds motion	Yes	Uni Directional
170	iTAG X30	3 Minute / 15 seconds motion	Yes	Uni Directional
171	iTAG X30	3 Minute / 30 seconds motion	Yes	Uni Directional
172	iTAG X30	5 Minute / 30 seconds motion	Yes	Uni Directional

4.2.5 Setting the Configuration

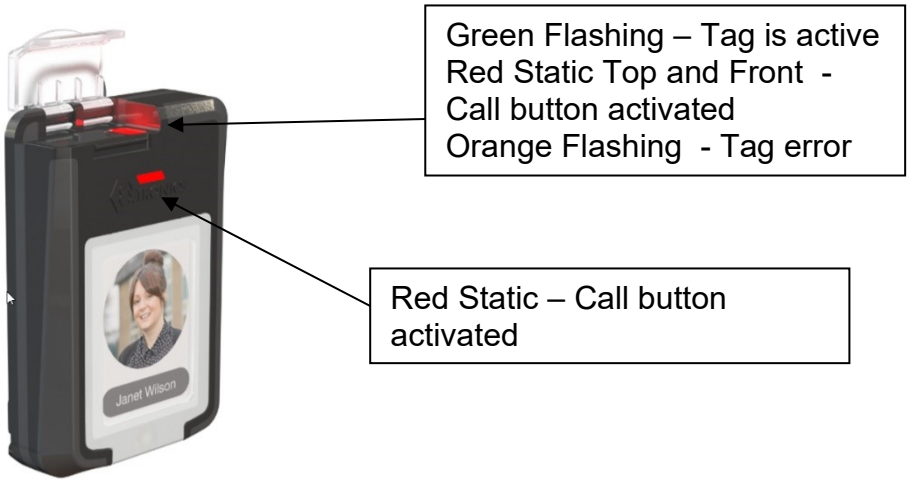
The tag configuration is set using Hardware Manager and Tag Manager BD.

4.2.6 Updating the Firmware

The iTAG X30 does not automatically check for Firmware and configuration updates. If a new version of tag firmware is available, you will be notified.

4.3 LED and Audio Indications

The iTAG X30 has multi-colour LED's on the top of the tag and on the front of the tag,



Update images with drawings from quick start guide

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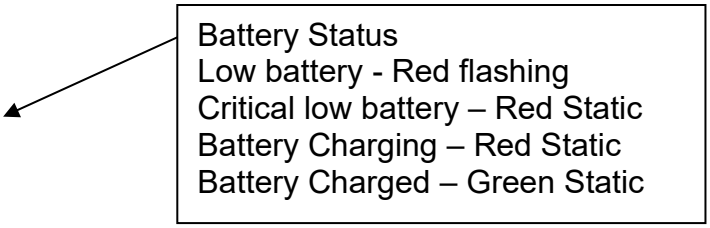

4.4 Mounting the tag

Ensure the tag is worn in an upright position. For best results wear the tag as high up your body as possible.

- Tag clipped to pocket
- Tag clipped to epilate
- Tag clipped to chest pocket

4.5 Battery

The iTAG X30 has a non-replaceable rechargeable Lithium Ion Battery and is charged using the Charging cable included.

*Battery life depends on configuration and use case.

4.5.1 Battery levels and charging

The iTAG X30 has the following 3 battery levels that are shown in MobileView:

- High – Indicate the tag has more than 75%
- Medium – Indicates the tag has between 75% and 30%
- Low – Indicates the tag has less than 30%

It is recommended to charge the tag daily.

4.5.2 Variances in Battery Life

Variances in battery life are based on usage and is calculated based on typical use cases in the table. Actual results may vary due to the following:

- Shift changes
- LF exciter usage
- Extensive LF environments – such as increased time under LF
- Changes in tag usage and time in storage before use

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- Changes in transmission interval
- Temperature
- Motion
- Indoor/Outdoor applications
- Time to receive firm GPS co-ordinates

4.5.3 Battery Capacity

The tag's battery capacity degrades over a period, depending on the number of charge cycles.

Number of Charges	Badge Battery Capacity
300	80%
400	75%
500	70%
600	65%

4.5.4 Charging the Battery

The iTAG X30 is charged using the USB Charging Cable provided. It its attached and detached from the rear of the tag as shown:

The charger input conditions listed in the Special Conditions of Safe Use must be observed.

Charging is only permitted between 0°C and 45°C. When connecting to a USB power supply, ensure the supply is rated less than 100W.

4.6 Transport

All iTAG X30 devices must be transported and stored such that they are not subjected to any excessive mechanical or temperature stresses.

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4.7 Authorized Persons

Only persons trained for the purpose are authorized to handle the iTAG X30; 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.

4.8 Cleaning and Maintenance

The iTAG X30 and all its components require no maintenance and are self-monitoring. All work on the iTAG X30 must be carried be performed by Extronics approved personnel.

4.8.1 Assembly and Disassembly

The iTAG X30 is provided ready assembled and should not be dismantled by the user.

4.8.2 Cleaning and Maintenance Intervals

The cleaning interval depends on the environment where the system is installed.

4.8.3 Aggressive substances

Some cleaning materials include aggressive ingredients that can harm tags. We recommend that you do not use compounds containing:

- Combinations of isopropyl alcohol and dimethyl benzyl ammonium chloride
- Combinations of ethylene Diamine Tetra Acetic Acid and Sodium Hydroxide
- Benzul-C12-16-Alkyl Dimethyl Ammonium Chlorides
- D-Limonene

4.9 Exposure to external stresses

The iTAG X30 is not designed to be subjected to excessive stresses e.g. vibration, heat, impact.

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5 Variants

Tag Variants	
iTAGX30AI	iTAG X30 Hazardous Area Hybrid technology tag with Wi-Fi and GPS, accommodates photo ID/access control. Certified to ATEX, IECEx Complete with USB charging cable
iTAGX30AI-HID	iTAG X30 Hazardous Area Hybrid technology tag with Wi-Fi and GPS, accommodates HID iClass tag and photo ID. Certified to ATEX, IECEx Complete with USB charging cable
iTAGX30USC	iTAG X30 Hazardous Area Hybrid technology tag with Wi-Fi and GPS, accommodates photo ID/access control. Certified to usMETc Complete with USB charging cable
iTAGX30USC-HID	iTAG X30 Hazardous Area Hybrid technology tag with Wi-Fi and GPS, accommodates HID iClass tag and photo ID. Certified to usMETc Complete with USB charging cable
iTAGX30AI-PK50	iTAG X30 Hazardous Area Hybrid technology tag with Wi-Fi and GPS, accommodates photo ID/access control. Certified to ATEX, IECEx, Complete with USB charging cable. Pack of 50
iTAGX30AI-HID-PK50	iTAG X30 Hazardous Area Hybrid technology tag with Wi-Fi and GPS, accommodates HID iClass tag and photo ID. Certified to ATEX, IECEx Complete with USB charging cable. Pack of 50
iTAGX30USC-PK50	iTAG X30 Hazardous Area Hybrid technology tag with Wi-Fi and GPS, accommodates photo ID/access control. Certified to usMETc Complete with USB charging cable. Pack of 50
iTAGX30USC-HID-PK50	iTAG X30 Hazardous Area Hybrid technology tag with Wi-Fi and GPS, accommodates HID iClass tag and photo ID. Certified to usMETc Complete with USB charging cable. Pack of 50
Accessories	
X124868	USB Charging Cable for iTAG X30
X124869	USB charging cables for iTAG X30 Pack of 10
X124870	iTAG X30 photo ID covers Pack of 10
X124871	iTAG X30 photo ID covers Pack of 50
X124907	iTAG X30 iCLASS HID photo ID covers Pack of 10
X124908	iTAG X30 iCLASS HID photo ID covers Pack of 50
X124872	iTAG X30 Protective cover for call button Pack of 10
X124873	iTAG X30 Protective cover for call button Pack of 50
X124874	PVC Kiss Cut Blank Photo ID Card for iTAG X30 Pack of 10
X124876	PVC Kiss Cut Blank Photo ID Card for iTAG X30 Pack of 50
X124875	DESFire EV1 RFID Photo ID Card for iTAG X30 Pack of 10
X124877	DESFire EV1 RFID Photo ID Card for iTAG X30 Pack of 50

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5.1 EU Declaration of Conformity

EU Declaration of Conformity

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

Equipment Type: **iTAG X30**

This declaration is issued under the sole responsibility of the manufacturer

Directive 2014/34/EU Equipment and protective systems intended for use in potentially explosive atmospheres (ATEX)

Provisions of the directive fulfilled by the equipment:

A II 1 GD / I M1
Ex ia I Ma
Ex ia IIC T4 Ga
Ex ia IIIC T_{200} 135°C Da
-30oC ≤ Tamb ≤ +55oC

Notified Body Element Rotterdam BV 2812 performed EU-Type Examination and issued the EU-Type Examination certificate.

EU-Type Examination Certificate: EMT19ATEX0013X

Notified Body for Production: ExVeritas 2804

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation.

Harmonised standards used:

EN IEC 60079-0:2018	Explosive atmospheres - Part 0: Equipment - General requirements
EN IEC 60079-11:2012	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i" Equipment protection by intrinsic safety "i"

Conditions of safe use:

- Tag must only be charged in safe area only
- Tag must only be charged from a supply meeting the following requirements:
  - a SELV or PELV system, or
  - via a safety isolating transformer complying with the requirements of IEC 61558-2-6, or technically equivalent standard, or
  - directly connected to apparatus complying with the IEC 60950 series, IEC 61010-1, or a technically equivalent standard, or
  - fed directly from cells or batteries.
- Tag charger input U_m = 6.5Vdc.
- Battery cells must not be replaced in a hazardous area.

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Directive 2014/53/EU Radio Equipment Directive

Standards used:

ETSI EN 300 328 V2.1.1	Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz band; Harmonised Standard for access to radio spectrum
ETSI EN 303 413 V1.1.1	Satellite Earth Stations and Systems (SES); Global Navigation Satellite System (GNSS) receivers; Radio equipment operating in the 1 164 MHz to 1 300 MHz and 1 559 MHz to 1 610 MHz frequency bands; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU
ETSI EN 300 330 V2.1.1	Short Range Devices (SRD); Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU

Directive 2014/30/EU Electromagnetic Compatibility (EMC) Directive

ETSI EN 301 489-1 V2.2.3	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements; Harmonised Standard for ElectroMagnetic Compatibility
ETSI EN 301 489-19 V2.1.1	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 19: Specific conditions for Receive Only Mobile Earth Stations (ROMES) operating in the 1,5 GHz band providing data communications and GNSS receivers operating in the RNSS band (ROGNSS) providing positioning, navigation, and timing data; Harmonised Standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU
ETSI EN 301 489-17 V3.2.2	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for Broadband Data Transmission Systems; Harmonised Standard for ElectroMagnetic Compatibility

Directive 2014/35/EU Low Voltage Directive

EN IEC 60950-1	Information technology equipment - Safety - Part 1: General requirements

Directive 2011/65/EU Restriction of the use of certain hazardous substances (RoHS)

Compliant

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For and 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:

Julian Poyner
Engineering Director
Date: 24th April 2020

X124611(1)

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6 Manufacturer

The iTAG X30 is manufactured by:

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CW10 0HU
UK

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Fax. +44(0)845 2774000
E-mail: info@extronics.com
Web: www.extronics.com

OR

Under licence by:

Omni-ID Inc.
333 West Commercial Street
Suite 333 – 1500
East Rochester N.Y.
14445
U.S.A

Tel. +1-585-299-5990
Fax. +1-585-672-4152
E-mail: sales@omni-id.com
Web: www.omni-id.com/

Or one of its affiliates.

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7 Radio Equipment – FCC and ISED Warning Statement

FCC & ISED Warning statement:

This device complies with Industry Canada's licence-exempt RSSs and Part 15 of the FCC Rules.

- Operation is subject to the following two conditions:
    - This device may not cause interference; and
    - This device must accept any interference, including interference that may cause undesired operation of the device.

  Please see Section 8.4 of RSS-Gen Issue 4 for further information.
- This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Extronics Work in Progress

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