

**2.45 GHz**

## **BDG\_1030**

**Tag at 2.45GHz - Semi-Passive****Applications - Laptop Anti-Theft Identification****DIRECT METAL MOUNT TAG****COMPACT PRACTICAL SIZE****RE PROGRAMMABLE****SIMULTANEOUS MULTIPLE TAG ID.**

### **I - INTRODUCTION**

HyperX™ BDG 1030 tags are specifically designed to be mounted directly on metallic surfaces. The tag is compact and light for easy use on laptop anti theft applications. It is composed of a rigid plastic credit card sized case containing a microwave antenna, a quartz crystal, an ASIC and a lithium battery. A polyester film hermetically seals the tag. The black colour of the BDG\_1030 ensures its discretion when fixed to a lap top or other metallic assets.

### **II - OPERATING PRINCIPLE**

Electromagnetic radiation characteristics in the 2.45 GHz frequency band allow high data transmission rates and directional antenna beams. Tag detection is therefore very rapid and relatively insensitive to environmental interference.

The HyperX™ tag is electro-magnetically inactive when outside of the reader's range. It's state-of-the-art feature (registered patent) is its capacity to reflect incident microwaves - a tag receiving a 2.45 GHz carrier will echo this signal, modulated by its individual identification code, back to the reader. The reader receives and processes this signal, sending the data to a host system via a standard serial interface.

### **III - TAG CONTENTS**

The HyperX™ tag can be programmed many times. Its memory capacity is 180 bits or 30 alphanumeric characters. The first 18 bits are reserved for use as an integrator code. This ensures that tags from different integrators do not have identical codes. The remaining 162 bits are available to be programmed freely as desired (e.g. as 27 6-bit characters).

The integrator can therefore select the coding scheme best adapted to Customer requirements.

### **IV - OPERATING MODES**

The HyperX™ tag can be read at a range of from a few cms to several meters. By using microwave-based communication, data transmission times are short, from 2 to 8ms, depending on the data stored. The data is emitted in bursts which are continually generated by the tag's electronics. There are two burst modes :

- "NORMAL" mode, in which the time interval between bursts is random, between 75 and 130ms. Using this mode, a reader can identify 5 tags in less than a second - It's ideal for pedestrian identification.

- "FAST" mode, in which the time interval between bursts is very short and constant - 20ms. Using this mode, a reader can identify a tag-equipped laptop travelling at speeds over 100Km/h.

### **V - DETECTION OF BATTERY FAILURE**

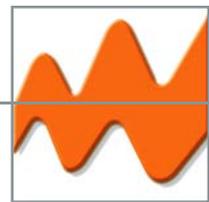
The HyperX™ tag emits no microwaves. As the tag electronics are always powered up and the power consumption is constant, the tag lifetime is a relatively well-known parameter.

Previous to battery failure the tag transmits a "battery low" signal to the readers which can inform the host systems and the holders.

### **VI - EXTRA FEATURES**

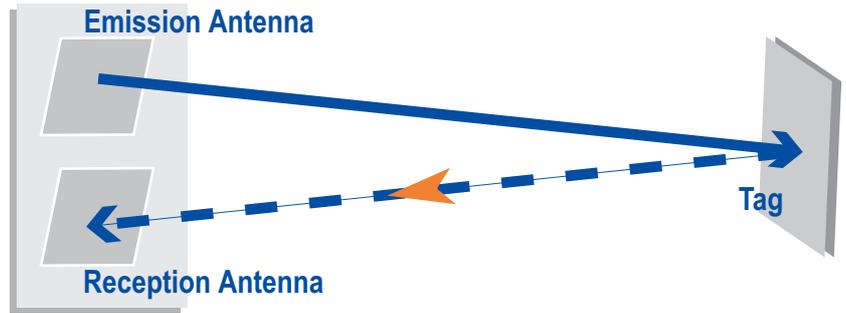
The BDG 1030 tags are specifically designed to be fixed directly on metallic objects. This tag can not be read through metal. It must be placed on the outside of the object to be tagged. To ensure 100% identification of the tag it is recommended to cover all possible tag positions by installation of readers each side of the identification zone.

Please contact your local sales office for further recommendations.



## OPERATING PRINCIPLE

The tag echoes its identification code when receiving a 2.45 GHz carrier emitted by the antenna



## TAG CONTENTS

Except for the first three characters (18bits), the HyperX™ tag is programmed according to customer's needs.

### Integrator Code User code

3 Figures

27 Alphanumeric Characters of 6bits

- Binary Format - WIEGAND 26bits
- Digital Format - ISO2
- ASCII Format (6bits)- Alphanumeric

## TECHNOLOGY

### SEMI PASSIVE TAG

HyperX™ tag is a semi passive technology. The tag reflect the incident beam generated by the reader, modulating it with its own unique code.

- There is no generation of RF energy.
- Therefore tag life time is long and constant. It is independant of tag utilisation. :

1- Total hands free guaranteed long distance read range for laptops and other metallic assets :

- Comfort of us

2 - Compact sized antenna dimensions

- Discreet and easy installation

3 - Readers Adapted to Environment

- Antenna Installation on metallic or semi metallic surfaces
- Multi antennas in same zone without perturbations

4 - Multi tag identification – anti-collision features

- True hands free in all situations

5 - Multi Application possibilities

- simultaneous identification of asset (laptop) and owner (person).

### STANDARD FEATURES

Dimensions	85.6x 54.0 x 3.5mm
Weight	15 g
Color	Black & White (Coverlay)
Operating temperature range	- 20C° to +70C°
Storage temperature range	- 25C° to +80C°
Protection level	I.P. 54
Service lifetime* (Normal/Fast)	> 7 years / > 5 years
Frequency	2.45 GHz
Data rate	30000 bauds
Burst transmission rate	3 to 8 ms
Id. burst rate (Normal/Fast)	100±30ms/20ms
Error protection	HDLC
Type de modulation	BPSK
(Error rate/No read rate*)	1E-7/1E-4*
Performance rate	100%
Multi-identification* (Normal mode )	> 5 tag/s
High Speed Identification (Fast mode)	> 100 km/h
Memory capacity	3+27 Characters

(\* Normal conditions of use

(\*\*) Specifications do not form part of any contract and may be changed without notice

### CAUTION

**Expect half of the nominal reader range only.  
One side only is designed for identification.**

Metallic surfaces or persons coming between tags and the reading antennas create shadow zones in the identification area. The proximity of a tag and a metallic surface or a person (<5mm) reduces the reading distance.

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