



Dart UWB ATEX Products



ATEX Certified for Potentially Hazardous and Explosive Environments

Built on the current Sapphire UWB RTLS core capabilities, Zebra Dart Ultra-Wideband (UWB) RealTime Locating System (RTLS) enables fast, accurate location of personnel and equipment for operations in United States, Canada and the European Union markets. Dart UWB includes a full set of location products certified for use in potentially hazardous and explosive environments as defined by the ATEX Directive in Europe. These intrinsically safe location products have been designed for use in extreme, regulated environments such as petrochemical, and other process manufacturing industries.

The Dart UWB hazardous location products include a Dart Sensor with bulkhead connection preassembled in an ATEX enclosure and ATEX approved DartTags. The combination of these two products with a Dart Hub and Antennas provides unparalleled accuracy with operation over extremes of temperature, weather and challenging environments.

The preassembled ATEX Sensor consists of an internally mounted Dart bulkhead Sensor (UWC-1400-A-00AA) and AC power supply. The Sensor enclosure includes also includes a pre-installed RF antenna gland and mounts for installer selected data cable and AC power glands.

The Dart ATEX Sensor is designed to work exclusively with Dart external Antennas. There are currently three Antenna options available (High-Gain, Mid-Gain and Omni) to optimize the infrastructure required to achieve the high-level UWB location accuracy. This departed Antenna solution allows for hazardous location applications to experience the same long UWB range characteristics of the standard, integrated Sensor products. The Antennas can be replaced with simple hand tools with no need to open the enclosure. The ATEX Sensor enclosure offers three different antenna mounting locations to facilitate installation.

Operating similar to a standard Dart installation, the Dart ATEX Sensor can be wired in a daisy chain or star configuration for either location or presence detection. Shielded CAT5e cable delivers DC power and data to the Dart ATEX sensor. The internally mounted AC power supply can be used to boost the voltage over long cable runs, if required.

DartTag UWB transmissions are extremely short in duration providing excellent real-time location accuracy, long battery life and high tag throughput. Both the DartTag and DartTag Badge are offered as an ATEX option. These ATEX versions of the DartTags operate similar to the standard DartTag products and can be configured via the DartWand tool.



Dart UWB ATEX Features:

- ATEX Zone1, IIB+H2,T5 Sensor
- ATEX Zone1, IIC,T3 Tags
- FCC Part 15.250 and Draft ETSI EN 302 500-1 V2.1.1 compliant
- Exceptional performance – Performs in high multi-path environments
- Excellent real-time location accuracy - Better than 30cm (1 foot) line of sight
- Long tag battery life – Up to 7 years at 1 Hz blink rate
- Programmable, fast tag blink rates - Up to 200 times/ second
- Unmatched real-time location tag throughput - Up to 3500 1 Hz tags/ hub
- Long UWB Range provided by external antenna solution

Dart Sensor w/ Bulkhead in ATEX Enclosure*

Part Number	
Sensor w/ Bulkhead in ATEX Enclosure	UWC-1410-A-0AAA
Performance	
Frequency Range	6.35 to 6.75 GHz
Environmental/Physical/	
Operating Temperature	-40°C to 70°C (-40°F to 158°F)
Environmental Rating	IP66
Length	34.0 cm (13.4 in)
Width	31.8 cm (12.5 in)
Height	15.7 cm (6.2 in)
Weight	17.2 kg (38.0 lb)
Power	20 – 48 VDC (24mA @ 48VDC)
Power/Wired Communications Interface	
Power/Clock/Data	Shielded Cat 5e
Regulatory Approvals	
North America	FCC part 15 subpart B, ICES-003, UL60950-1, CAN/CSA-22.2 No. 60950-1-07
European Union	CE, EN55024, EN55022, IEC 60950-1
ATEX	CE 0539 Ex II 2 G Ex d [ia] IIB+H2 T5 -40C ≤ Ta ≤ 70C

*Specifications subject to change without notice.

Dart Antenna Specifications* (For use with Dart Sensor with Bulkhead in ATEX Enclosure)

	High-Gain	Mid-Gain	Omni
Part Number			
Antennas	UA-110-00	UA-120-00	UA-130-00
Performance			
Frequency Range	6.35 - 6.75 GHz		
Antenna Gain	12.9 dBi	5.6 dBi	2.6 dBi
Environmental/Physical			
Operating Temperature	-40°C to 70°C (-40°F to 158°F)		
Environmental Rating	IP66		
Length (with mount fully extended)	15.7 cm (6.2 in)	15.7 cm (6.2 in)	24.4 cm (9.6 in)
Width (with mount)	16.3 cm (3.4 in)	16.3 cm (3.4 in)	6.4 cm (2.5 in)
Height (with mount)	18.0 cm (3.5 in)	18.0 cm (3.5 in)	18.0 cm (3.5 in)
Weight (with mount and cable)	0.42 kg (0.93 lb)	0.42 kg (0.93 lb)	0.37 kg (0.81 lb)
Communications Interface			
RF	SMA connector		

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DartTag ATEX Specifications*

	DartTag ATEX	DartTag Badge ATEX
Part Number		
ATEX	UWT-1100-A-0AAA	UWT-1200-A-0AAA
Pre-Programmed Blink Rate		
Blink Rate (Hz)	Programmable: Iterations ranging from 0.01 to 200 Hz	
Performance		
Frequency Range	6.35 to 6.75 GHz	
Typical Battery Life	7 years @ 1Hz	
Locate, Indoors		
Typical Range	50 m (164 ft)	
Read (Presence), Indoors		
Typical Range	100 m (328 ft)	
Environmental/Physical/Power		
Operating Temperature	-40°C to 70°C (-40°F to 158°F)	
Environmental Rating	IP67	
Length	Ø4.0 cm (1.57 in)	4.22 cm (1.66 in)
Width		0.71 cm (0.28 in)
Height	2.0 cm (0.78 in)	7.42 cm (2.92 in)
Weight	20 gm (0.70 oz)	18 gm (0.63 oz)
Power	BR2335	
Regulatory Approvals		
United States	FCC Part 15 subpart C (15.250), ICES-003, RS-220, and RSS-GEN for indoor use only	
European Union	CE, EN50371, ETSI 301 489-1, ETSI 301 489-33, Draft ETSI EN 302 500-1 V2.1.1	
ATEX Option	CE 0035 Ex II 2 G Ex ib IIC T3 -40C ≤ Ta ≤ 70C	
Mounting Options		
Typical Mounting	Strap, Tie, Mounting tape; Optional screw mount	Badge Clip

*Specifications subject to change without notice.

About Zebra Enterprise Solutions

Zebra Enterprise Solutions, a division of Zebra Technologies Corporation, extends Zebra's reach beyond passive RFID by employing state-of-the-art software and hardware solutions to locate, track, manage, and optimize high-value assets, equipment and people across the world's largest supply chains. Whether tracking containers through a port, optimizing parts for manufacturing, or managing ground support equipment at an airport, the real-time asset management solutions from the combination of Navis, WhereNet, proveo, and Multispectral Solutions provide improved visibility and velocity to gain measurable business improvements. Utilizing products that are based on ISO/IEC 24730-2, Cisco CCX Wi-Fi, precision GPS, and UWB technologies, Zebra Enterprise Solutions offers a wide range of location solutions that are "application matched," enabling its customers to put the right asset in the right place at the right time.

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