



Ironsides Classic™

The most durable tag for challenging industrial asset management applications.



Electrical Specification

- **Device type**
 - RAIN RFID / EPCglobal Gen2v2
- **Operational frequency**
 - Global: 865 - 928 MHz
- **IC options and memory configuration**
 - Impinj M780™ - EPC 496 bit; User 128 bit; TID 96 bit
- **EPC memory content**
 - Unique number encoded as a default
- **Read range (2W ERP)***
 - M780 (Global)
 - On metal up to 20 m / 65 ft
 - On plastic up to 8 m / 26 ft
- **Applicable surface materials***
 - Works on any material but optimized for metal.

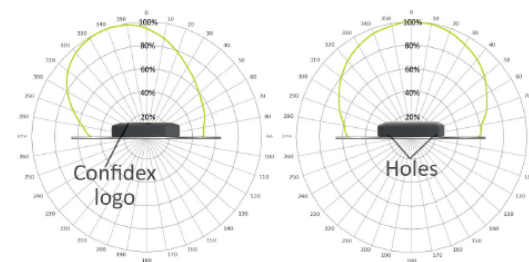
* Read ranges are theoretical values that are calculated for non-reflective environment. Different surface materials may influence performance.

Mechanical Specification

- **Tag materials**
 - High quality engineering plastics. Surface thermoplastic elastomer.
- **Weight**
 - 22 g
- **Delivery format**
 - Single
- **Amount in box**
 - 500pcs
- **Dimensions**
 - 51,5 x 47,5 x 10 mm / 2.03 x 1.87 x 0.39 in

Values in the table are the best recommendations; resistance against environmental conditions depends on the combination of all influencing factors, exposure duration and chemical concentrations. Thus, product's final suitability for certain environmental conditions is recommended to be tested. Contact Zebra for more specific information.

Radiation Patterns



Environmental Resistance

- **Operating temperature**
 - -40°C to +85°C / -40°F to +185°F
 - **Ambient temperature**
 - -55°C (for 3h) to +105°C / -67°F (for 3h) to +221°F
 - **Peak temperature**
 - +125°C / +257°F 1h duration
 - **IP classification**
 - IP68
 - **Weather ability**
 - Excellent, including UV-resistance and sea water
 - **Vibration resistance**
 - JESD22-B103B, service condition 2; vibration that is aligned with tag thickness (z-axis)
 - **Chemical resistance**
 - No physical or performance changes in:
 - 168 hour Motor oil exposure
 - 168 hour Salt water (salinity 10%) exposure
 - 168 hour Sulfuric acid (10%, pH 2) exposure
 - 24 hour NaOH (10%, pH 13) exposure
- Generally good against: Methanol (moderate concentrations), ethanol (moderate concentrations), glycerine, ethylene glycol, consistent grease, most acids, bases and tensides such as sulfuric acid 96%, nitric acid 10%, NaOH 50%, soap solution 30%. Testing recommended for hydrocarbons and carboxylic acids. Acetone should be avoided.
- **Expected lifetime**
 - Years in normal operating conditions

Personalization Options

- **Pre-encoding**
 - Customer specific encoding of EPC or user memory. Locking permanently or with password.
- **Customized laser engraving**
 - Customer specific layout including logo, text, numbers.

Installation Instructions

- **Ironsides Classic™ can be attached with several fixing methods:**
 - 3M 300LSE high performance acrylic adhesive

When background adhesive is ordered the tag is delivered with adhesive attached. Clean and dry the surface for obtaining the maximum bond strength. Ideal application temperature is from +21°C to +38°C (+70°F to +100°F), bond strength can be improved with firm application pressure and moderate heating from +38°C to +54°C (+100°F to +130°F). Installation at temperatures below 10°C (50°F) is not recommended.

- Structural adhesive

Structural adhesives such as 3M DP110 and SikaFast 5215 provide very high bond strength and resistance against mechanical stress. When tag is attached with structural adhesive, insert a layer of adhesive under the tag and press the tag on the surface. Increase the bond by adding extra sealant from the tag holes. Insert maximum 2mm layer of adhesive under the tag. Please contact adhesive supplier for exact fixing instructions.

- Mechanical fixing
 - Screws (size M4)
 - Pop rivets (size 4mm)

Mechanical fixing is always recommended for applications that includes risk for high mechanical stress or low temperature during the fixing. Make sure there is no air gap left in between the metal surface and tag.

- Additional fixing tools
 - Welding bracket

When the application is too demanding for adhesives, but the metal surface cannot be punched for screw or rivet fixing, welding the tag with special bracket is an option for attachment. Welding bracket is made of stainless steel and allows attachment on both flat and curved surfaces.

With all attachment methods the optimal performance is achieved when there is metal left above the tag. Tag orientation as shown with arrow should be considered when using linear reader antennas.

Order Information

- **Zebra part number:** 10041052
- **Product name:** Ironside Classic™ M780

Industry Compliance



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