



Small Metal Mount RFID Tag

RFID Product • Versatile Attachment • Harsh Environment • Short Range RFID

Technical Data Sheet

Part: #WF- SM-75NW

General Description

Small Metal Mount RFID Tag

- Available without adhesive
- Versatile attachment
- Available with other inlays



The small metal- mount RFID tag (WF- SM-75NW) employs a rugged MSOP chip on board design for exceptional temperature and harsh environment performance. Excellent read/ write performance on any metal surface or embedded below the surface. The chip's dual antenna input maximizes range and assures indifference to orientation.

Also see the small metal mount RFID tag ([WF- SM-75HT](#)) for additional options.

Applications

Metal Mount, Container Tagging, Heavy Machinery, Harsh Environments, Outdoor Use, Power Tools Tracking, Construction, Manufacturing

Material Description

Small metal- mount tag stands up well to harsh environments

Impact Resistant Plastic

Size (LxWxH)	0.85" x 0.85" x 0.20"
Expected Outdoor Durability	Good
Water Resistance	Excellent
Chemical Resistance	Fair

Test*	Temperatures and Duration	Results
Maximum Temperature	Long- term at 10 hr: 170°F (77°C)	No effect on tag. Tag remained the same in appearance and RFID performance/ function. There was no sign of peeling, tearing or destruction. The tag read normal after the tests. *Test is not limiting.
	Standard at 5 min: 190°F (88°C)	
	Short- term at 90 sec: 204°F (93°C)	
Minimum Temperature	-40°F (-40°C)	
Temperature Cycling	The tag was cycled to 204°F at equilibrium for five times. Between each cycle, it was air cooled to room temperature and read with an RFID reader.	

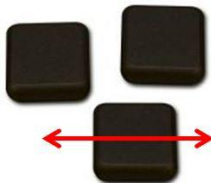
RFID Performance

RFID Protocol	UHF Class 1 Generation 2
Chip Manufacturer	Impinj Monza 3
Frequency	US 902-928*
Memory	96 bits

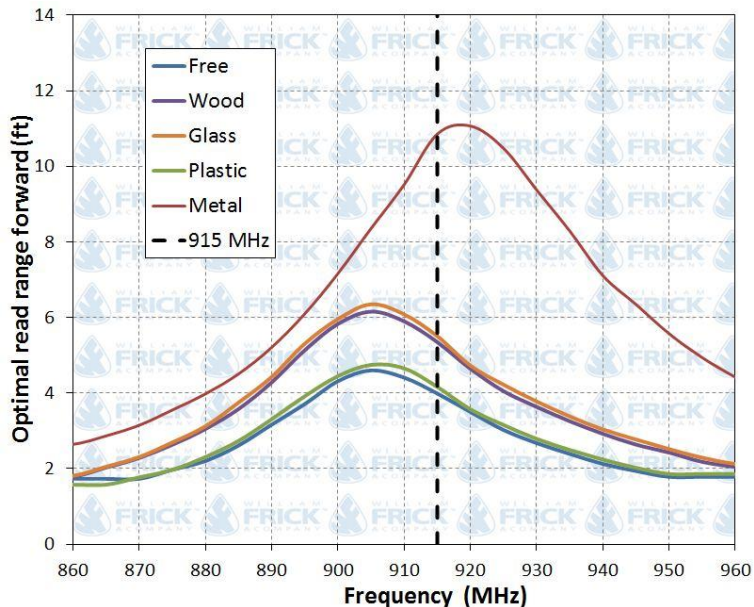
*Other frequencies available on request

Tested Polarization:

Tag performance was experimentally measured in an anechoic chamber and a known set of experimental variables. The antenna used for measurements was linearly polarized and of monostatic configuration. The direction of tested polarization is as follows.



Optimal Read Range* on Different Material Surfaces:



*Tag performance was measured free of material influence, on a dry wood, window glass, thermoplastic, and steel slabs. Actual read ranges may differ depending on conditions such as environment, tag placements, hardware, etc.

Adhesive

Also available without adhesive

Permanent Acrylic

Thickness	2.0 mil
Min App Temp	50° F
Service Temp	-40° F to 200° F
Adhesion to Steel at 72 hr. dwell	Excellent
Adhesion to LSE plastics	Fair
Adhesion to HSE plastics	Very Good

Shelf life

Stored at 70F and 50% Relative Humidity

Stable at room temperature

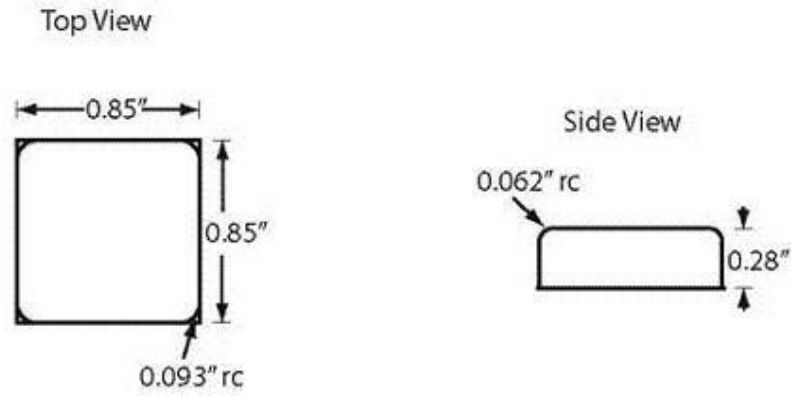
Test product for system compatibility as individual application conditions can impact results. William Frick Co. does not assume any responsibility or liability for any advice furnished by it, or for the performance or results of any installation or use of the product(s) or any final product into which the product(s) may be incorporated by the purchaser and/ or user. The purchaser and/ or user should perform its own tests to determine the suitability and fitness of the product(s) for the particular purpose desired in any given situation.



William Frick & Company

2600 Commerce Dr. Libertyville, IL 60048 Ph: (847) 918-3700

Email: sales@fricknet.com www.fricknet.com



ALL DIMENSIONS ARE IN INCHES
UNLESS OTHERWISE SPECIFIED

TOLERANCES

3 PLACE DECIMAL + OR-.005"

2 PLACE DECIMAL + OR-.02"

1 PLACE DECIMAL + OR-.1"

MAX SURFACE ROUGHNESS

ALL MACHINED SURFACES

EXCEPT AS NOTIFIED

BREAK SHARP EDGES AND CORNERS

.010" MAX

Contact No.

William Frick & Co.

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DWG.

Engr.

Chk.

Aprvd.

Small Metal Mount RFID Tag

Size.

DWG No.

WF- SM-75NW

Rev.

