

## Nano-iN

STANDARD

HIGH TEMPERATURE



### Functional Specifications

RF air protocol	EPC Class 1 Gen 2; ISO18000-6C
Operating frequency	UHF 902-928 MHz (US); 866-868 MHz (EU)
IC type	Alien Higgs-3
Memory configuration	96-bit EPC; 512-bit user memory; 64-bit TID
Functionality	Read / write (user programmed)
Memory – expected read / write cycles	100,000 cycles at 77°F (25°C)
Data retention	Up to 50 years <sup>1</sup>
Read rate	400 tags per second for 96-EPC bit number
Warranty (limited)	1 year

### Performance Characteristics

Read range in metal (2W ERP) <sup>2</sup>	Up to 13 ft (4 m)
Polarization	Linear

### Physical Specifications

Material	Ceramic
Color	White

### Environmental and Industry Compliance

RoHS	EU Directive 2002/95/EC
ATEX/IECEX	Certified



<sup>1</sup> The chip data retention is based on chip operating under general environment conditions.

<sup>2</sup> Actual read range may vary based upon use case and antenna power.

**Operational and Environmental Specifications**

Shock (drop)	3 ft (1 m) to concrete/granite up to 200 cycles
Vibration	MIL-STD-810F
Compression strength	Packaging dependent
IP classification	IP 68
Humidity	
Operational humidity	5%-95% non-condensing
Storage humidity	5%-95% non-condensing
Operational temperature	
Cold	-40°F (-40°C)
Dry heat	+185°F (+85°C)
Thermal shock	-22°F to 185°F (-30°C to +85°C); cycled

**STANDARD VERSION**

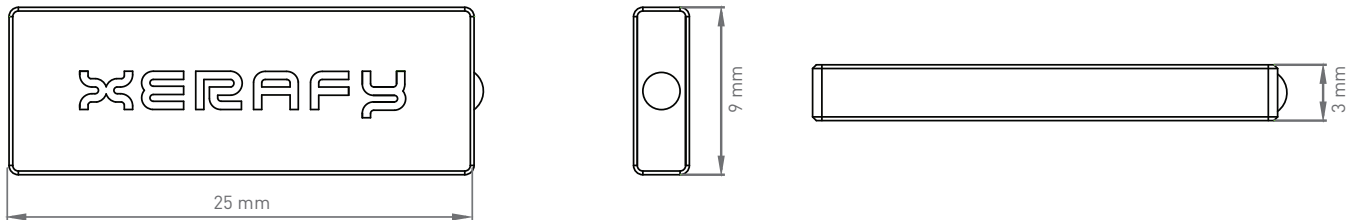
Application temperature	
Cold	-40°F (-40°C)
Dry heat	+302°F (+150°C)

**HIGH TEMPERATURE VERSION**

Application temperature*	
Cold	-40°F (-40°C)
Dry heat (Long term, hours/days)	+428°F (+220°C)
Dry heat (Short term, hours)	+482°F (+250°C) 6 hours
Peak temperature	+716°F (+380°C) less than 10 seconds

\*The tag performance in high temperature application depends on tag mounting method and environmental conditions.

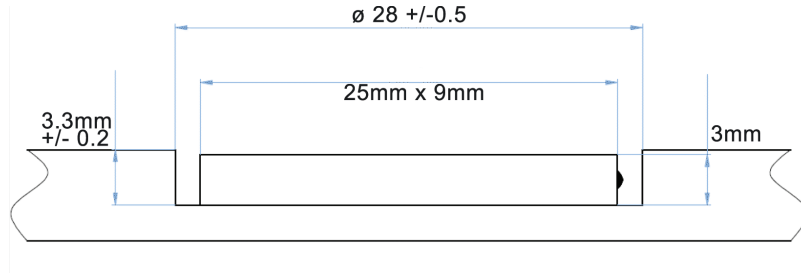
**Product Dimensions and Weight**



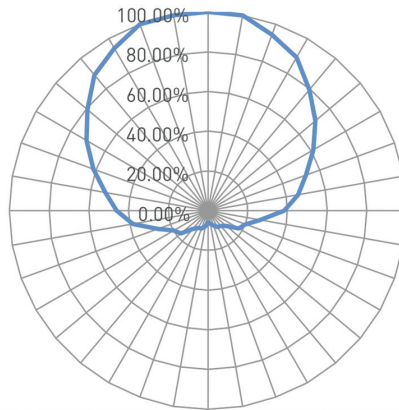
Dimensions (mm)	25 x 9 x 3
tolerance	+/- 0.3
Dimensions (in)	0.98 x 0.35 x 0.12
tolerance	+/- 0.012
Weight	0.13 oz (3.6 g)

**Cylindrical Socket Dimensions for Flush-mounting**

Cylindrical socket dimensions / tolerance (mm)	28 (+/- 0.5) x 3.3(+/- 0.2)
Cylindrical socket dimensions / tolerance (in)	1.10(+/- 0.02) x 0.13(+/- 0.008)



**Radiation Pattern**



**Order information**

X0220-US000-H3	Nano iN US Standard Version
X0220-EU000-H3	Nano iN EU Standard Version
X0220-US050-H3	Nano iN US High Temperature Version
X0220-EU050-H3	Nano iN EU High Temperature Version