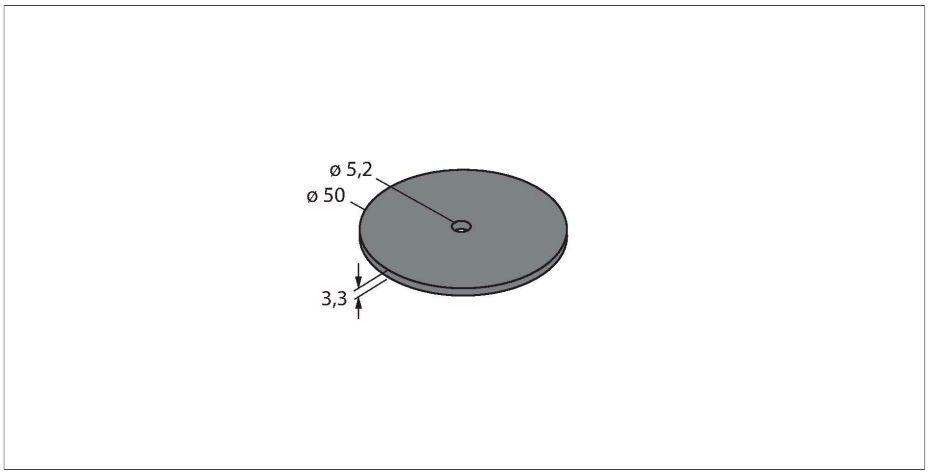
In TAG 500 2K FRAM
HF Tag



Technical data

Type	In TAG 500 2K FRAM
ID	100002360
Remark to product	Not suitable for direct mounting on metal
Device marking	II 1G Ex ia IIC T6 Ga II 1D Ex ia IIIC T85 °C Da I M1 Ex ia I Ma
Approval acc. to	Ex Veritas 21ATEX1101X Ex Veritas 21UKEX1103X IECEx EXV 21.0082X
Data transfer	Inductive coupling
Technology	HF RFID
Operating frequency	13.56 MHz
Radio communication and protocol standards	ISO 15693 NFC Typ 5
Read/Write distance max.	405 mm
	For explosion hazardous areas see instruction leaflet
Design	Hard tag, R50
Housing material	Plastic, PA6
Active area material	Plastic, PA6, black
Protection class	IP69K
Tightening torque	≤ 6.5 Nm
Packaging unit	1

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Features

- The tags must undergo adequate stress tests within the proposed temperature processes before deployment.
- The following stress test was performed on this tag:
  Cyclic temperature stress: 5 min at -40 °C – 5 min at 90 °C
  Number of tested cycles: 100, transition period: 30 seconds
  Continuous load: 140 °C for 100 hours
- This successfully performed test does not imply suitability for a specific application, but merely serves as proof of the basic usability.
- FRAM memory 2 kB
- Not for direct mounting on metal
- ATEX category II 1 G, Ex Zone 0
- ATEX category II 1 D, Ex Zone 20
- ATEX category I M1, mining

Functional principle

The HF read/write devices operating at a frequency of 13.56 MHz form a transmission zone the size of which (0…500 mm) varies, depending on the combination of read/write head and tag used.
The read/write distances mentioned here only represent standard values measured under laboratory conditions, free from any influences caused by surrounding materials.
The read/write distances of tags suitable for mounting in/on metal were determined in/on metal.
Attainable distances may vary by up to 30 % due to component tolerances, mounting conditions, ambient conditions and material qualities (especially when mounted in metal). Testing of the application under real operating conditions is therefore essential, especially with on-the-fly reading and writing!

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Technical data

Memory type	FRAM
Chip	Fujitsu MB89R118
Memory size	2048 Byte
Memory	Read/Write
Freely usable memory	2000 Byte
Number of read operations	unlimited
Number of write operations	10^{10}
Typical read time	0.5 ms/Byte
Typical write time	0.5 ms/Byte
Radio communication and protocol standards	ISO 15693 NFC Typ 5
Minimum distance to metal	10 mm
Temperature during read/write access	-25…+85 °C
Temperature outside detection range	-45…+85 °C
	140 °C, 1 × 100 h
	For explosion hazardous areas see instruction leaflet
Device marking	II 1G Ex ia IIC T6 Ga II 1D Ex ia IIIC T85 °C Da I M1 Ex ia I Ma
Approval acc. to	Ex Veritas 21ATEX1101X Ex Veritas 21UKEX1103X IECEx EXV 21.0082X
Design	Hard tag, R50
Diameter	50 mm +/- 0.5 mm
Internal diameter	5.2 mm +/- 0.3 mm
Housing height	3.5 mm +/- 0.5 mm
Housing material	Plastic, PA6
Active area material	Plastic, PA6, black
Tightening torque	≤ 6.5 Nm
Protection class	IP69K
Packaging unit	1

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