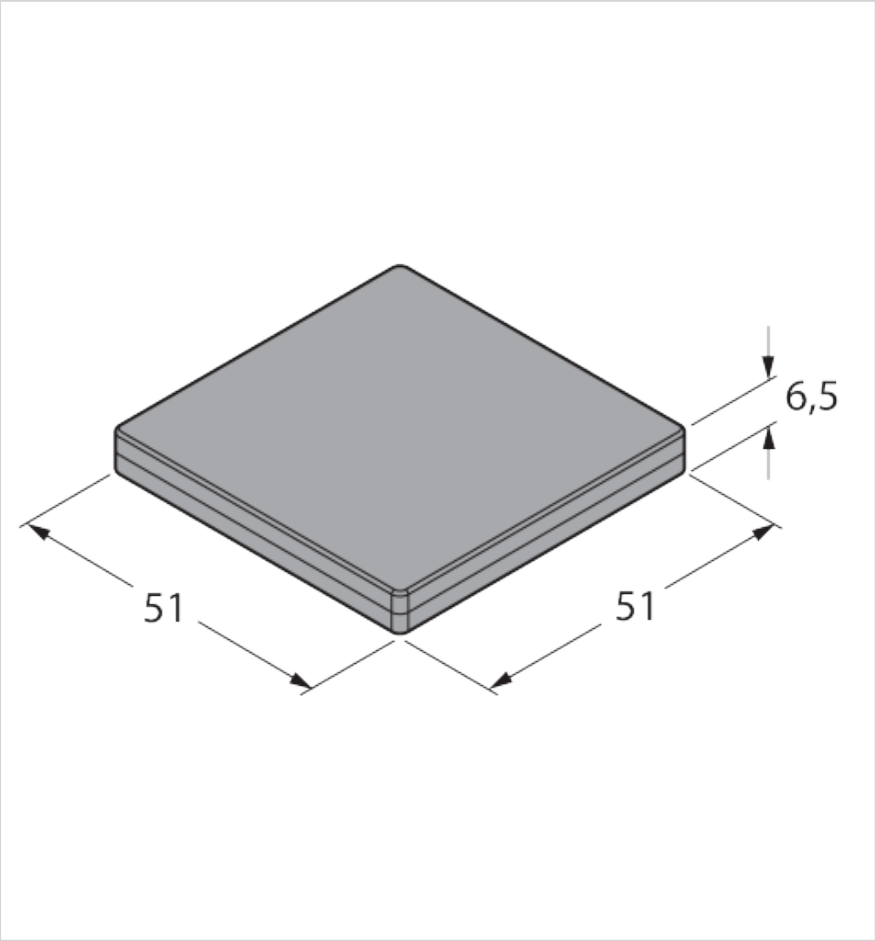
TW-Q51WH-HT-B128

HF Tag
High Temperature



Typ	TW-Q51WH-HT-B128
Ident-No.	7030661

Technical data

Electrical data	
Chip	NXP I-Code SLI-X
Data transfer	Inductive coupling
Freely usable memory	112 Byte
Memory	128 Byte
Memory	Read/Write
Memory type	EEPROM
Number of read operations	unlimited

Features

- The high-temperature 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: 20 min. at 20 °C – 20 min. at 220 °C.
  Number of tested cycles: 1500
  This successfully performed test does not imply suitability for a specific high-temperature application, but merely serves as proof of the basic usability.
- The TH-Q51S-HT and TH-Q51T-HT brackets protect the tag from mechanical loads and allow the mounting on metal.
- EEPROM, memory size 128 bytes

Technical data

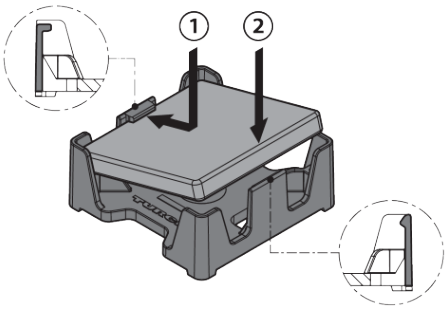
Number of write operations	10^5
Operating frequency	13.56 MHz
Technology	HF RFID
Typical read time	2 ms/Byte
Typical write time	3 ms/Byte
Mechanical data	
Design	Hard tag, Q51
Construction type designation	Q51
Housing length	51 mm
Housing width	51 mm
Housing height	6,5 mm
Dimensions	51 mm x 51 mm x 6,5 mm
Housing color	Black
Housing material	Plastic
Active area material	Plastic, PPS, black
Minimum distance to metal	10 mm
Mounting	Metal-free
Ambient conditions	
Temperature during read/write access	-25...+85 °C
Temperature outside detection range	-55...+240 °C
	Applicable to the HF part
Extended storage temperature	200 °C, 60 min
Extended storage temperature	220 °C, 45 min
Extended storage temperature	240 °C, 30 min
Protection class	IP68
Tests/approvals	
MTTF	259 Years acc. to SN 29500 (Ed. 99) 20 °C
Comments	
Packaging unit	1
Remark to product	High Temperature

- Not for direct mounting on metal

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 listed maximum read/write distances only represent typical values under laboratory conditions without the effect of 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 location in the application, ambient conditions and the effect of materials (especially metal).
Testing of the application under real operating conditions is therefore essential, especially with on-the-fly reading and writing!

Installation instructions

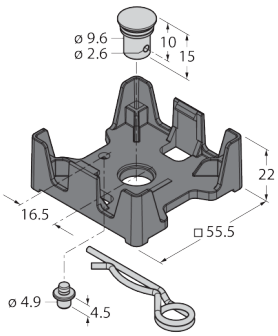
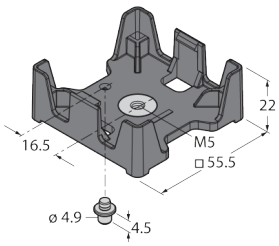


Installation information:

Mounting the tag properly in the retainer

To avoid damage to the retainer, follow the instructions below.
Carefully push both sides of the tag in the retainer until they latch (the latches are designed differently):
1. Insert tag
2. Latch tag

Mounting accessories

TH-Q51S-HT	7030541	TH-Q51T-HT	7030540
	Retainer with spring cotter for Q51 tag. The use of the 4.5 mm lock pin ensures protection against twisting of the retainer or the tag For mounting on metal. Suitable for repeated use in high-temperature. Only suitable for a single assembly (engage the tag in the retainer). The use of the retainer results in a clearance of 12 mm between metal to tag.		Retainer with M5 threaded bush to screw on Q51 tags. The use of the 4.5 mm lock pin ensures protection against twisting of the retainer or the tag For mounting on metal. Suitable for repeated use in high-temperature. Only suitable for a single assembly (engage the tag in the retainer). The use of the retainer results in a clearance of 12 mm between metal to tag.

Instructions for use

Intended use	This tag corresponds to the requirements for simple apparatus according to EN 60079-14, 5.12.2 and may, under certain conditions, be used in the Ex area. The requirements of EN 60079-14 must be observed in this case.