TURCK

TW-R33
HF-RFID/Sensor Tag

Contactless Reading of Values

For interested customers, Turck can develop and produce application-specific RFID tags with an integrated sensor function. The sensor tags record and store process values such as temperature or pressure in moving components. The sensor element can be replaced and can also be used to measure humidity, magnetic fields, reed contacts or inductive sensors. The sensor tags are supplied with power and read via an HF-RFID read/write head. Even the data recording without contact to the read/write head is possible using a separate energy source. Depending on the frequency and type of measurement, as well as the ambient variables, measuring cycles can be run and recorded over several hours.

Turck's sensor tags are suitable, both for applications in which measuring values or other data have to be monitored and stored without contact, as well as for use on moving elements that previously had to be connected with slip ring solutions, which required a high degree of maintenance. One example is the identification of rollers, including the storage of process-specific parameters. Furthermore, they can also be used where data has to be collected without contact from sealed interiors or from inaccessible locations. The user can also use the conventional RFID function for the identification of objects in the usual way.

Your Benefits

- Wear-free monitoring of process parameters
- Increased operational reliability, because of no wire breakage
- Location-independent data storage
- Tags can be used for parts identification
- Automatic machine configuration thanks to storage of parameters on the tag

HF-RFID/Sensor Tag

Your customized solution

- Can be used for detection of tempera-
  ture, pressure, light, humidity, magnetic
  field, or as a binary switch (depending on
  hardware configuration)
- ISO 15693 (13.56 MHz)
- 2 sensors per tag possible (depending
  on type)
- Internal or external sensors possible
  (depending on type)
- Number of measuring points and mea-
  suring cycle can be configured
- Type of memorization: real, maximum
  value, minimum value or average

Type code	ID number	Description
TW-R33-13-1INT-TD-I-B1378	100000111	HF-RFID/Sensor tag with internal temperature sensor
TW-R33-13-1EXT-TD-I-B1378	100000110	HF-RFID/Sensor tag with an external temperature sensor

Technical Features	
Data transmission	Inductive coupling
Operating frequency	13.56 MHz
Memory type	FRAM
Freely usable memory	1378 byte
Location of sensor	Internal/External
Number of sensors	1
Sensor	Digital temperature sensor
Type of data recording	Autonomous recording
Accuracy without calibration/Temperature measuring range	0.5 °C (max) from 0 °C…+ 65 °C 1.0 °C (max) from -40 °C…+125 °C