

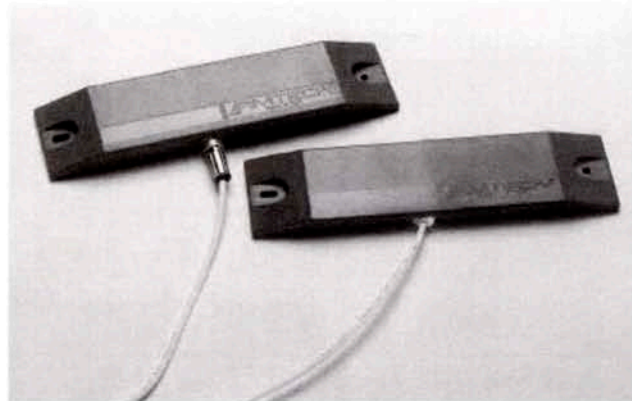
Appendix E

TSP Tag Data Sheet

AT5704/AT5707 Dynamic Tag

FEATURES

- Selectable fixed data field size, ranging from 0 bits up to the maximum number of available bits (896 for the AT5704 and 214 for the AT5707). The remaining data fields are available for variable data.
- Increased uniformity of quality and improved reliability provided by surface mount construction of tag circuitry. Inherently resistant to shock and vibration.
- May be programmed using a wire interface



The AT5704 and AT5707 Dynamic Tags are extended-memory, field disturbance, backscatter devices. The memory of the tags can be written to using an asynchronous wire interface. Data written to the tag can then be retrieved remotely by radio frequency from roadside or rail wayside readers.

The user can designate frames as either fixed or dynamic data frames. Data may be configured as either fixed or variable data using as many available bits as desired, provided the designated fixed bits are contiguous and are sequenced from the beginning of the first frame. Bits designated for fixed

data are electronically locked to prevent overwriting from onboard sensors.

Fixed data is programmed to the tag's nonvolatile memory and will remain in memory even if the tag loses power. Dynamic data is stored in RAM and may be written over in subsequent transmissions from the onboard sensor.

Both the AT5704 and AT5707 send data across the interface as a string of hexadecimal characters. Each hex character represents four bits in the tag's data field and is sent over the interface in 7-bit ASCII character code.

These tags are designed to work with either AI1200 or AI1603 readers.

Available From:



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10G-11

AT5704/AT5707 Dynamic Tag

COMMUNICATIONS

Frequency Range

904 to 928 MHz

Working Range (Typical)

0 to 9 m (0 to 30 ft)

Polarization

Parallel with long axis

Wire Interface Protocol

Model specific

HARDWARE FEATURES

Interface Cable

AT5704: 5 m (16.4 ft), 4-wire serial, half duplex, asynchronous, TTL

AT5707: 5 m (16.4 ft), 3-wire serial, half duplex, asynchronous, TTL

SOFTWARE FEATURES

Data Capacity

AT5704: Up to 256 frames (128 bits each, 108 available)

AT5707: 256 bits configured as two frames (128 bits each, 107 available)

POWER REQUIREMENTS

Power Source

AT5704: 8 to 24 V DC external

AT5707: Internal battery

LIFE EXPECTANCY

Expected Battery Life

AT5707 - 8 years

PHYSICAL

Dimensions

Size: AT5704: 23.6 x 6.1 x 2 cm (9.3 x 2.4 x 0.8 in.)

AT5707: 23.6 x 6.1 x 2.4 cm (9.3 x 2.4 x 0.95 in.)

Weight: 10.6 oz (300 g) maximum

Case

Weatherproof

ENVIRONMENTAL

Operating Temperature

-40°C to +85°C (-40°F to +185°F)

OPTIONS

Connector or Wired

The AT5707 is available with a connector for the cable, with a cable and connector, or with the cable built into the tag.

Custom Colors and Labels

The AT5704 and AT5707 may be custom-ordered in a range of colors. Custom labels are also available.



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For more information on Amtech® products, call: 1.800.923.4824 or 972.733.6600 (outside the U.S.) Fax 972.733.6699

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