

Smart Tag is an RFID (Radio Frequency IDentification) system that facilitates productivity management and real-time resource tracking.

SYSTEM COMPONENTS: The Smart Tag system is comprised of long-range RF tags, networked tag readers and the Smart Tag server. RF tags can be used to track resources such as vehicles, equipment and materials.

OPERATION: Resource tracking data is obtained

from networked readers that scan for tags on up to four antennas (maximum 100 m read range for each antenna). Tagging data can then be viewed from any Smart Tag client/server (multiple users may access/modify software).

SOFTWARE: Annual maintenance packages can be purchased to keep your site up to date with all product enhancements. Please contact us for more information.

SOFTWARE REQUIREMENTS

Smart Tag Server	
Hardware	2.0+ GHz processor, 1GB RAM recommended
OS	Windows 2000/XP
Database	SQL Server 2005 (please inquire about other databases)
Java SDK	Version 1.5.0
Network connection	TCP/IP (10 Mbit/s / 100 Mbit/s)
Smart Tag Client	
Any PC with Internet Explorer	

TAG READER SPECIFICATIONS

Tag Communication	
Max read range	100 m (328 ft) - adjustable
Max response time	< 150 ms (single tag)
Multi-tag-handling	Up to 2000 tags (simultaneous)
Read rate	50 tags at 50 km/h (31 mph)
RF Characteristics	
Frequency	915 MHz / 868 MHz
Number of antennas	4 read antennas (additional wakeup antenna – not used)
Transmitter output power	up to 23 dBm – adjustable (50 steps)
Receiver sensitivity	up to -85 dBm – adjustable (100 steps)
Antenna control	Independent antennas
Certification	FCC, part 15 (US) – EN 330 220 (EU)
User Interface	
Ethernet interface	10 Mbit/s / 100 Mbit/s
Input Control	4 digital inputs for process monitoring
Output Control	4 relay outputs for process control
Status Signals	19 status LEDs (for service and installation)
Electrical	
Input voltage	10-30 VDC / 100-240 VAC optional
Input Power	7.5W max
Standards/safety	CE and EN 330 220 / EN 301 489 / EN 60950 47 CFR Part 15.241
Environmental	
Operating temperature	0°C to 50°C (32°F to 122°F), optional -30°C to 70°C (-22°F to 158°F)
Storage temperature	-40°C to +80°C (-40°F to 176°F)

Physical	
Dimensions	394 mm x 343 mm x 159 mm (15.5 in. x 13.5 in. x 6.25 in.)
Enclosure rating	Nema 4X
Mass	5.76 kg (12.7lbs.)
Construction	Fiberglass reinforced polyester
Enclosure	Hinged, flush bonded window, latch closure

PERSONNEL TAG SPECIFICATIONS

General	
Identification code	48 bit fixed ID
Status Signal	1 Led (can be activated during scan)
RF Characteristics	
Frequency	915 MHz / 868 MHz
Max transmission power	0.75 mW ERP
Standards/Certification	EN 300 220 (EC), FCC Part 15 (US), Industry Canada
Electrical	
Power	3.6V Lithium battery (non replaceable)
Expected battery life	80 days @ 43200 scans/day, no LED (68 days w/ LED) 1 yr @ 8500 scans/day, no LED (0.9 yrs w/LED) 5 yrs @ 850 scans/day, no LED (4.7 yrs w/LED)
Environmental	
Operating temperature	-40°C to +85°C (-40°F to +185°F)
Shock	50G, 3 times DIN IEC 68-2-27 Multiple drops to concrete from 1m (3.3 ft)
Physical	
Dimensions	131 mm x 28 mm x 21 mm (5.2 in. x 1.1 in. x 0.85 in.)
Mass	50 grams (1.75 ounces)
Enclosure rating	IP 65 – Protected against dust and low pressure jets of water

VEHICLE TAG SPECIFICATIONS

General	
Identification code	48 bit fixed ID
Engine Hour Logging	
Interval	2 seconds
Accuracy	<2%
Resolution	0.1 hours
Connector	Integral DT-style automotive receptacle (DT06-8P)
RF Characteristics	
Frequency	915 MHz / 868 MHz
Max transmission power	0.75 mW ERP
Standards/Certification	EN 300 220 (EC), FCC Part 15 (US), Industry Canada
Electrical	
Power	Lithium battery (non replaceable)
Expected battery life	3 years @ 600 times 128 bit readings/day
Environmental	
Operating temperature	-40°C to +70°C (-40°F to +158°F)
Vibration	9.8 Grms
Physical	
Dimensions	178 mm x 76 mm x 44 mm (7 in. x 3 in. x 1.75 in.)
Mass	138 grams (4.8 ounces)
Enclosure rating	IP 65 – Protected against dust and low pressure jets of water

ANTENNAS**Yagi-Uda**

Frequency	866-960 MHz
Dimension (max)	381 mm x 254 mm (15 in. x 10 in.)
Gain	6dB

Hemispherical

Frequency	860-960 MHz
Dimension	178 mm x 178 mm x 152 mm (7 in. x 7 in. x 6 in.)
Gain	5 dBic (min)

Half - wave

Frequency	902- 928 MHz
Dimension (length)	241 mm (9.5 in.)
Gain	2.0 dBi

GENERAL**Antenna Connections**

Cable Type	LMR-400
Maximum Cable Length	45.7 m (150 ft)

Network Connections

Cable Type	CAT5
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ORDERING INFORMATION

Varis Part Number	Description
Software	
RFID-SW-FULL	Smart Tag Resource Tracking System
RFID-SW-MAINT	Smart Tag Annual Maintenance Package
Hardware	
RFID - READ2	Smart Tag Reader, 915 MHz (NA), 4-port, NEMA 4X Enclosure
RFID - READ3	Smart Tag Reader, 868 MHz (EU), 4-port, NEMA 4X Enclosure
RFID - ANT1	Antenna, UHF, 1/2 wave omni
RFID - ANT2	Antenna, UHF, hemispherical
RFID - ANT2-MNT	Swivel Camera Mount (hemispherical antenna)
RFID-ANT3	Antenna, 1/4 wave omni
RFID - ANT4	Antenna, Yagi
RFID-ANT5	Antenna, Ceiling Mount
RFID-TAG/NA	Personnel Tag 915 MHz c/w Pouch
RFID-TAG/EU	Personnel Tag 868 MHz c/w Pouch
RFID-TAG/CT	Vehicle Tag c/w mounting hardware (915 MHz / 868 MHz)

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