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RF30 Series RFID

— UHF Solution
for Automation System



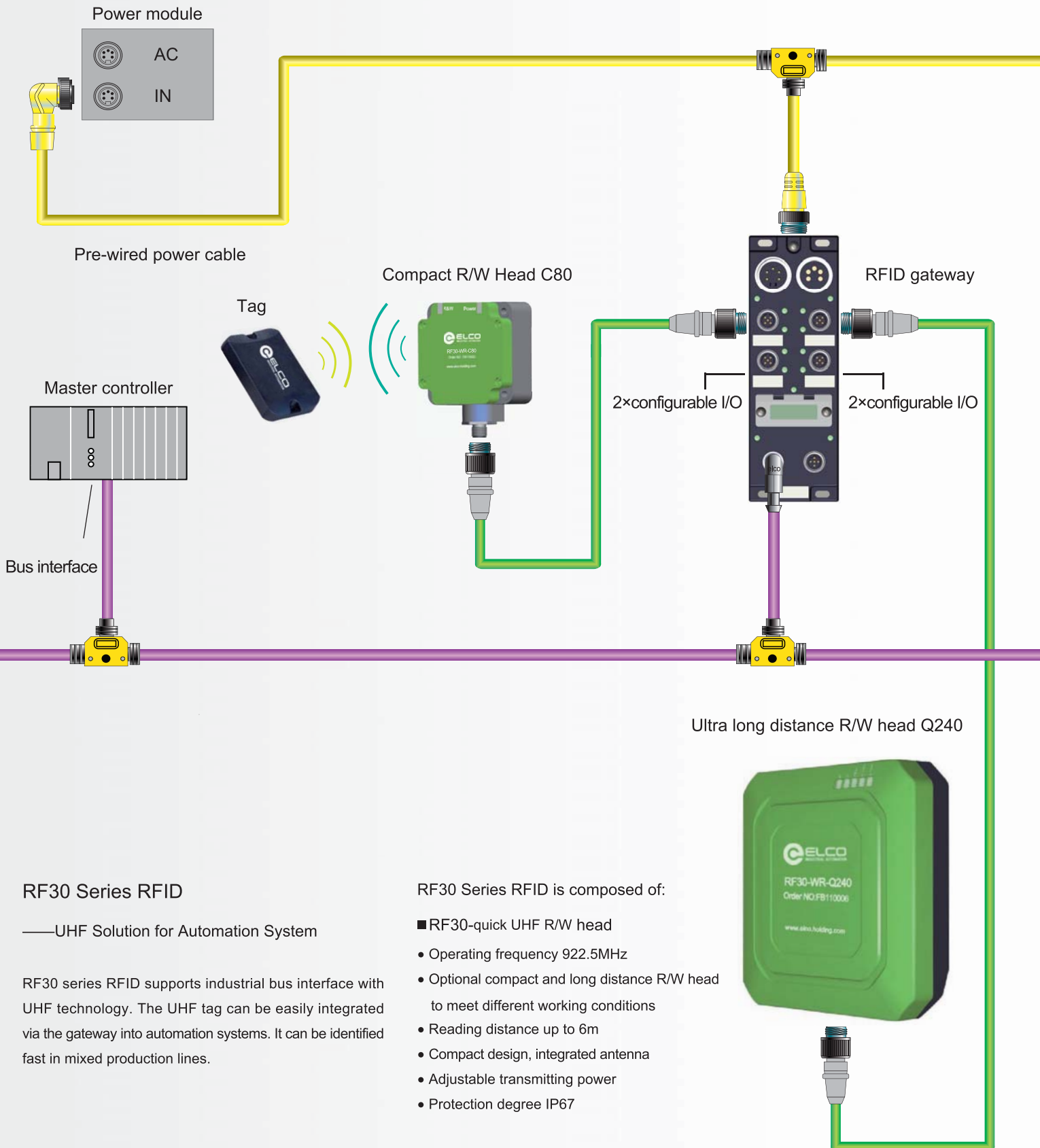
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<< RFID System



RF30 Series RFID

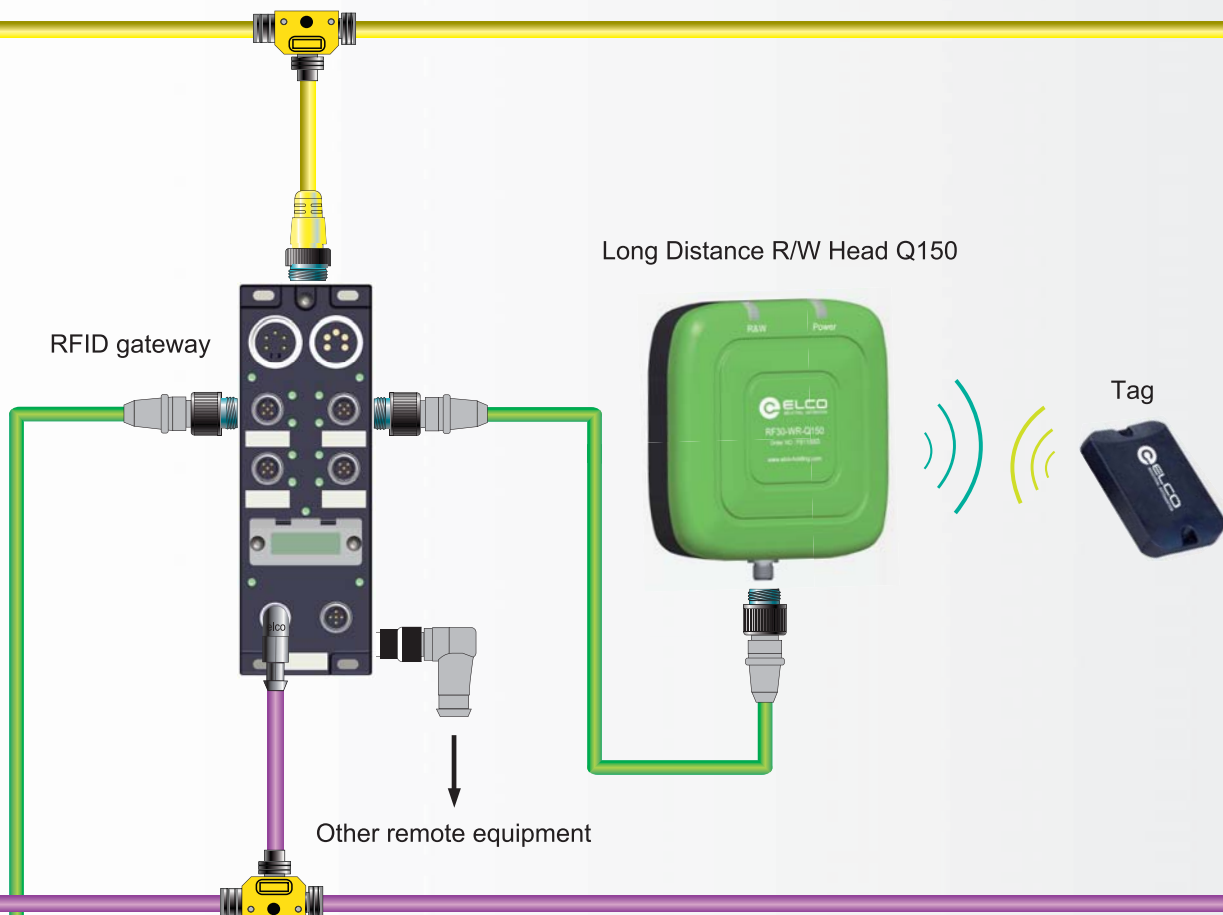
—UHF Solution for Automation System

RF30 series RFID supports industrial bus interface with UHF technology. The UHF tag can be easily integrated via the gateway into automation systems. It can be identified fast in mixed production lines.

RF30 Series RFID is composed of:

- RF30-quick UHF R/W head
- Operating frequency 922.5MHz
- Optional compact and long distance R/W head to meet different working conditions
- Reading distance up to 6m
- Compact design, integrated antenna
- Adjustable transmitting power
- Protection degree IP67





Ultra long distance R/W head Q240



■ RF30-Gateway

- Standard module, circuits encapsulated
- Standard bus interface, compatible with standard field bus protocol: ProfiBus DP, ProfiNet, DeviceNet etc.
- Max. 2 R/W heads, 2 I/O points
- Diagnostic function for easy installation and commissioning
- IP67 protection degree suitable for field installation

■ RF30-Tag

- Outstanding stability
- Conforming to ISO 18000-6C standard
- Working temperature up to 250°C
- IP68 protection degree

<< RFID

RF30 Series RFID – UHF Solution for Production Automation System

With the improved level of automation and increased efficiency in production lines, fast and reliable product identification has become significantly important. RFID (Radio Frequency Identification) has the advantage of a contact free and non-visible, reliable, high speed data exchange between a data carrier (Tag) and a reader. The Tag with electronic information is attached to the tracking object. The data is transmitted without interferences up to a distance of 6m by electromagnetic radiations.

The Gateway supports standard bus protocols and can be integrated easily into PLC network.

The protection degree IP67 makes the RFID system - "RF30 series" especially suitable for industrial applications in rough environments. Customized connection cables ready for plug-in makes the field installation fast and easy.

Typical applications can be found in automotive industry, assembling tracking and identification of parts as well as logistic handlings.

Composition

- RFID R/W head: writes and reads data into/from Tag
3 types of R/W heads: C80, Q150 and Q240;
reading distance from 0.3m to 6m; multiple output interfaces for more applications.
- RFID Gateway: data transmitting interface for PLC network. Supports ProfiBus DP, ProfiNet, DeviceNet
- RFID Tag: UHF data carrier, for data storage and transmission to R/W head
- Accessories: as requested

Features

- UHF R/W head, quick and accurate reading and writing
- Standard industrial bus interfaces, facilitates integration with control system
- Optional compact and long distance R/W head, covers various requirements on site
- Protection grade IP67, suitable for industrial environment
- LED status indicator, quick on-line diagnosis function

Communication Interface

RF30 series RFID is compatible with major Fieldbus systems. It can be easily integrated into networking and control system. RF30 series provides an effective solution for identifying and tracking parts.



Application



Automotive industry

Conveyor monitoring in auto-welding and coating workshops. The Tag is mounted on the conveyor skid and identifies the car body. The C80 R/W head accurately reads and writes the data from/into the tag on the skid. The tag remains on the skid during the whole assembling process. Optional Q240 R/W head is for long distance of up to 6m.



Auto parts production line

Data of engine and gearbox are read from the tag attached to the pallet for processing.



Customized automation equipment

Employment in assembly line of 3C products(Computer, Communication and Consumer electronic) with compact R/W head type "C80" for data reading from the conveyor and with R/W head "Q150" for part identification coordinated with a flexible mechanical robot arm.



Intelligent manufacture

Smart tool identification and supervision of automatic tool changer to ensure the use of the correct moulding tool.

Gateways



Features:

- Standard ProfiBus , DeviceNet, ProfiNet gateway
- 2 R/W connection points
- Diagnosis data output
- Protection degree IP67

Type	SPDP-RF30-001 SPDP-RF30-002	SPDN-RF30-001 —	SPPN-RF30-001 SPPN-RF30-002
	ProfiBus DP	DeviceNet	ProfiNet
Operating Voltage	24V±10%		
Static Working Current	100mA		
Max. Operating Current	200mA		
Power Connection	Male, female 7/8" connector, mis-plug proofing design		
Bus Connection	Standard bus interface		
R/W Head Connection	RS485 for communication, 5-pin M12 A-code socket, mis-plug proofing design		
Qty.of R/W Head Connected	Configurable, up to 2		
Distance to R/W Head	Max. 30m		
Max. Output Current /Channel	1A, protection of short-circuit and reversed polarity		
Protection Degree	IP67		

Ultra Long Distance R/W Head Q240



Features:

- Compact design, integrated antenna
- UHF R/W head, reading distance up to 6m
- Standard industry Fieldbus connection by gateway module
- Protection degree IP67
- Optional output interfaces: RS485, TCP/IP, CANopen

Type	RF30-WR-Q240	RF30-WR-Q240/EN01	RF30-WR-Q240/RS01	RF30-WR-Q240/CO01
Operating Voltage	24V			
Max. Operating Current	1000mA			
Standard	EPC global UHF Class 1 Generation 2, ISO/IEC 18000-6 C			
Communication	RS485 (to Gateway)	TCP/IP	RS485	CANopen
Operating Frequency	920...925MHz (typical 922.5MHz)			
Antenna Gain	8dbi			
Max. Transmitting Frequency	1W			
Half Power Beam Angle	30°			
Identification Distance	Max. 6m (depends on type of tag and application condition)			
Polarization	Circular			
Number Of R/W Byte	<256byte (depends on tag memory)			
Protection Degree	IP67, Water-proof			
Operating Temperature	-25...+70°C			
Humidity	90 %, No Condensation			
Dimensions	240mm × 240mm × 60mm			
Weight	0.8kg			
Mounting	Fixed by 4×M5 Screw			

Long Distance R/W Head Q150



Features:

- Compact design, integrated antenna
- Fast UHF R/W
- Reading distance up to 1.8m
- Protection degree IP67
- Optional RS485 or TCP/IP output

Type	RF30-WR-Q150	RF30-WR-Q150/EN01	RF30-WR-Q150/RS01	RF30-WR-Q150/RS02
Operating Voltage	24V			
Max. Operating Current	1000mA			
Operating Frequency	920...925MHz (typical 922.5MHz)			
Communication	RS485	TCP/IP	RS485 Direct Output	RS485 Encrypted Output
Communication Address Set	By Gateway	Assigned IP	By Software	By Software
Antenna Gain	4dbi			
Max. Transmitting Frequency	1W			
Identification Distance	Type 1.5m, Max. 1.8m			
Dimensions	150mm × 150mm × 40.5mm			
Number Of R/W Byte	<256byte (depends on type of tag)			
Operating Temperature	-25...+70°C			
Protection Degree	IP67, Water-proof			
Polarization	Circular			
Special Function	None	EtherNet communication	RS485	Encrypted R/W

Compact R/W Head C80



Features:

- Compact design, integrated antenna
- Quick UHF R/W
- Adjustable transmitting power
- Protection degree IP67
- Optional RS485 output

Type	RF30-WR-C80	RF30-WR-C80/RS01
Operating Voltage	24V	
Max. Operating Current	1000mA	
Operating Frequency	920...925MHz	
Communication	RS485	RS485 direct output
Communication Address Set	By gateway	By software
Antenna Gain	1dbi	
Max. Transmitting Frequency	1W	
Identification Distance	300mm	
Dimensions	80mm × 80mm × 40mm	
Min. R/W Interval	10s	
Number Of R/W Byte	Depends on type of tag, no limit to length	
Operating Temperature	-25...+70°C	
Protection Degree	IP67, Water-proof	
Connection	M12 5-pin Connector	
Operating Status Indication	Indication light	

Accessories



Length instruction:

M006=0.6m
M010=1m
M020=2m
.....


Type	Description
RF30-CB-W00-12.5/S-P1-M020	Double-ended connection cable for R/W head
105006A01M006	Power cable, male single-ended
105000A01M006	Power cable, female single-ended
115030A01M006	Power cable, pre-wired double-ended
B05S06PP4M010	DP bus cable, male single-ended
B05S00PP4M010	DP bus cable, female single-ended
BB5S30PP4M010	DP bus cable, pre-wired double-ended
DN01A-M010	DN bus cable, male single-ended
DN10A-M010	DN bus cable, female single-ended
DN11A-M010	DN bus cable, pre-wired double-ended
E11A06003M010	PN bus cable, M12/M12
E16A06003M010	PN bus cable, M12/RJ45
E66A06003M010	PN bus cable, RJ45/RJ45

(For more cable specifications, please refer to Catalogue of Fieldbus)



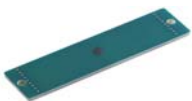


Tags

Series	UHF and High-duty Series			Embedded Tags Series for Identifying Products Information and Harsh Environment	
Products					
	RF30-TG-S300T	RF30-TG-S300N	RF30-TG-S300X	RF30-TG-Q1207	RF30-TG-Q0602
Tag Frequency	902-928 MHz (US) 866-868 MHz (EU)	902-928 MHz (US) 866-868 MHz (EU)	866-868 MHz (EU)	902-928 MHz (US) 866-868 MHz (EU)	866-868 MHz (EU)
Chip Type	Alien Higgs-3	Alien Higgs-3	Alien Higgs-3	Alien Higgs-3	Alien Higgs-3
Memory Configuration	96-EPC bits, Extended to 480-bit, 512-bit User Memory 64-bit TID	96-EPC bits, Extended to 480-bit, 512-bit User Memory 64-bit TID	96-EPC bits, Extended to 480-bit, 512-bit User Memory 64-bit TID	96-EPC bits, Extended to 480-bit, 512-bit User Memory 64-bit TID	96-EPC bits, Extended to 480-bit, 512-bit User Memory 64-bit TID
R/W Distance on Metal Surface	10m	6m	1.5m	Up to 2m as Embedded into Metal	Up to 1m as Embedded into Metal
R/W Distance on Non-metal Surface	Shorter	Shorter	Shorter	Shorter	Shorter
Tag Housing Material	Industrial Nylon	Industrial Nylon	Ceramic	Ceramic	Ceramic
Installation Methods	ø3.2mm Fixed with Rivet ; Optional Adhesive	High Performance Adhesive	Epoxy Glue	Embedded and Fixed by Epoxy Glue	Embedded and Fixed by Epoxy Glue
Operating Temperature	-30°C to +85°C	-30°C to +85°C	-40°C to +85°C	-30°C to +85°C	-40°C to +85°C
Application Temperature	-40°C to +250°C	-40°C to +150°C	-40°C to +150°C	-40°C to +250°C	-40°C to +150°C
Compressive Strength	1250kPa	1150kPa	5447kPa	Depends on Encapsulation	Depends on Encapsulation
Protection Degree	IP68	IP68	IP68	IP68	IP68
Tag Dimension	51mm x 36.3mm x 7.5mm	31.7mm x 12.8mm x 4.97mm	ø 6 x 2.5mm	12mm x 7mm x 3mm	ø 6 x 2.5mm
Weight	26g	5g	0.34g	1.4g	0.34g
Application Range	<ul style="list-style-type: none"> · Container Tracking · Vehicle Management · Automobile Coating Workshop · Medical Equipment Tracking 	<ul style="list-style-type: none"> · Tools Tracking · Production Line Equipment · IT/Telecommunications Management · Instrument Tracking · Weapons Tracking 	<ul style="list-style-type: none"> · Surgical Apparatus Management · Tools Tracking · Instrument Tracking · Products Information Tracking 	<ul style="list-style-type: none"> · IT Asset and Laptop Identification · Tools Management · Weapons Tracking · Products Information Tracking 	<ul style="list-style-type: none"> · Surgical Apparatus Management · Tools Tracking · Instrument Tracking · Products Information Tracking

Tags

Series	Multiple Metal and Non Metal Tags Series				
Products					
	RF30-TG-S310	RF30-TG-S330	RF30-TG-S311	RF30-TG-S313	RF30-TG-S314
Tag Frequency	902-928 MHz (US) 866-868 MHz (EU)	902-928 MHz (US) 866-868 MHz (EU)	902-928 MHz (US) 866-868 MHz (EU)	860-960 MHz (Global)	860-960 MHz (Global)
Chip Type	Alien Higgs-3	Alien Higgs-3	Alien Higgs-3	Impinj Monza 4E	Alien Higgs-3
Memory Configuration	96-EPC bits, Extended to 480-bit, 512-bit User Memory 64-bit TID	96-EPC bits, Extended to 480-bit, 512-bit User Memory 64-bit TID	96-EPC bits, Extended to 480-bit, 512-bit User Memory 64-bit TID	496-EPC bits, 480-bit TID Sequence Code,128-bit User Memory	96-EPC bits, Extended to 480-bit, 64-bit TID
R/W Distance on Metal Surface	12m	Up to 2.5m as Embedded into Metal	8m	2.5m	2m
R/W Distance on Non-metal Surface	6m	Shorter	4m	1.8m	1.5m
Tag Housing Material	ABS Plastic	Industrial Polypropylene	ABS Plastic	PC Plastic	FR4
Installation Methods	ø3.5mm Fixed with Rivet ; High Performance Adhesive	Embedded in the Groove, Fixed by Epoxy Glue	High Performance Adhesive	Tethering Hole ø2.6mm ; High Performance Adhesive	High Performance Adhesive and Epoxy Glue for Selection
Operating Temperature	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
Application Temperature	-40°C to +85°C	-40°C to +150°C	-40°C to +85°C	-40°C to +85°C	-40°C to +150°C
Compressive Strength	200kPa	1076kPa	180kPa	100kPa	731kPa
Protection Degree	IP68	IP68	IP54	IP54	IP68
Tag Dimension	100mm x 26mm x 8.9 mm	ø 24.2 x 6.2 mm/ ø 34.5 x 7.5 mm	50.3mm x 17mm x 5.3mm	38mm x 13mm x 4mm	56.5mm x 5.95mm x 1.3mm
Weight	17.2g	3.7g/ 10g	3g	2.6g	1g
Application Range	· Vehicle Chassis and Trailer Tracking · Unit Loading Devices Management · Yard Management	· Surgical Tray Tracking · Pump and Valve Management in the · Oil & Gas Development · Food Processing Workshop · Automobile Manufacturing	· Vehicle Chassis and Trailer Tracking · Unit Loading Devices Management · Storage Yard Management	· Logistics System of Global Supply Chain · IT Asset Management · Data Center Server Management	· IT Server Management · Military Asset Management · Tools Tracking

Tags

Series	Tags Series for Special Application	Flexible Tags Series	Economical Tags Series		
Products	 RF30-TG-P4828	 RF30-TG-F341	 RF30-TG-E8020	 RF30-TG-E9525	 RF30-TG-E9011
Tag Frequency	902-928 MHz (US) 866-868 MHz (EU)	860-960 MHz (Global)	860~960MHz	902~928MHz	902~928MHz
Chip Type	Alien Higgs-3	Impinj Monza 4E	Impinj Monza 2	Impinj Monza 2	Impinj Monza 2
Memory Configuration	96-EPC bits, Extended to 480-bit, 512-bit User Memory 64-bit TID	496-EPC bits, 48-bit TID Sequence Code, 128-bit User Memory	EPC≥96bits, User Momery 512 bits	EPC≥96bits, User Momery 512 bits	EPC≥96bits, User Momery 512 bits
R/W Distance on Metal Surface	5m	4m	6m (Fixed Type) ; 2-3m (Handset)	8m (Fixed Type) ; 2-3.5m (Handset)	3m (Fixed Type) ; 1.5m (Handset)
R/W Distance on Non-metal Surface	Shorter	5m	Shorter	Shorter	Shorter
Tag Housing Material	Stainless Steel/Aluminium Alloy	None	Polyester Fiber	Polyester Fiber	Polyester Fiber
Installation Methods	Welding, Fixed with Metal Belt, Fixed with 5mm Rivet	High Performance Adhesive	3m Adhesive, Installation Hole Diameter 3.5mm	3m Adhesive	3m Adhesive
Operating Temperature	-40°C to +85°C	-40°C to +85°C	-30°C to +85°C	-30°C to +85°C	-30°C to +85°C
Application Temperature	-40°C to +250°C	-40°C to +85°C	-40°C to +160°C	-40°C to +160°C	-40°C to +160°C
Compressive Strength	900kPa/793kPa	634kPa			
Protection Degree	IP69K	None	IP68	IP65	IP68
Tag Dimension	48mm x 28mm x 13.5mm	101.6mm x 38mm x 0.76mm	80mm x 20mm x 3.2mm	95mm x 25mm x 3mm	90mm x11mm x 3mm
Weight	44g/ 21g	2.2kg/500pcs. in roll	12.5g	20g	12g
Application Range	<ul style="list-style-type: none"> · Surgical Tray Tracking · Pump and Valve Management in the Oil & Gas Development · Food Processing Workshop · Automobile Manufacturing 	<ul style="list-style-type: none"> · Products Certification Management · Notebook Tracking · Logistic Management · Cylinder Tracking and Management · Tinsel Encapsulation 	<ul style="list-style-type: none"> · Logistic Management · Storage Management 	<ul style="list-style-type: none"> · Equipment Tracking 	<ul style="list-style-type: none"> · Asset Management

Accessories for R/W Heads Installation



Type:

Type	Ajustable Range	Installation Way	Material	Applicable R/W Heads
RF30-RH-001	Unidirection, $\pm 100^\circ$	Fixed with Screw	Cold-roll Steel Sheets	C80/Q150/Q240

Dimensions:

