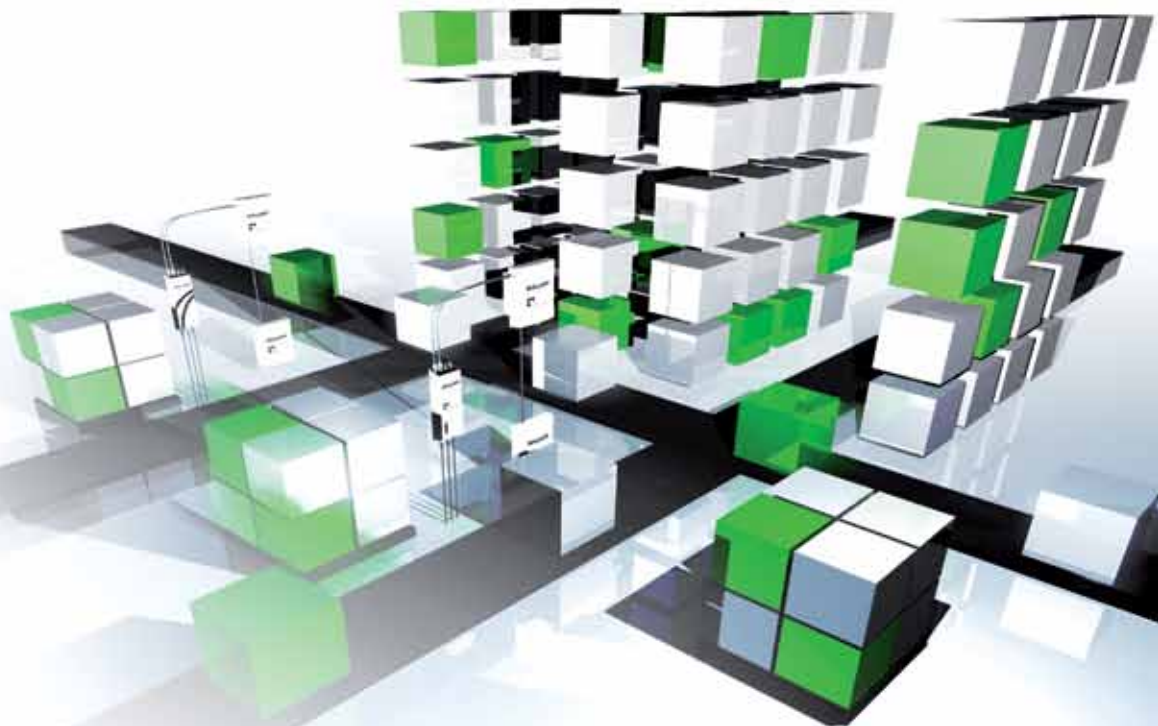




## UHF Industrial Identification

BIS U RFID for manufacturing and logistics



## BIS U RFID Series

UHF based RFID can track assets with greater range and flexibility

In today's manufacturing environments, knowing where both parts and assets are can be key to maintaining continuous operation and preventing production delays. Assets like containers, totes and skids are as critical to maintain a smoothly running manufacturing process as the parts themselves. Knowing where these assets are in the supply chain provides significant visibility into where the process is now and where problems may arise. Being able to track assets and the parts they contain can help prevent shortages at manufacturing lines and create real-time visibility into the state of the process, providing a means for greater efficiency and process improvement that can translate into real cost savings.

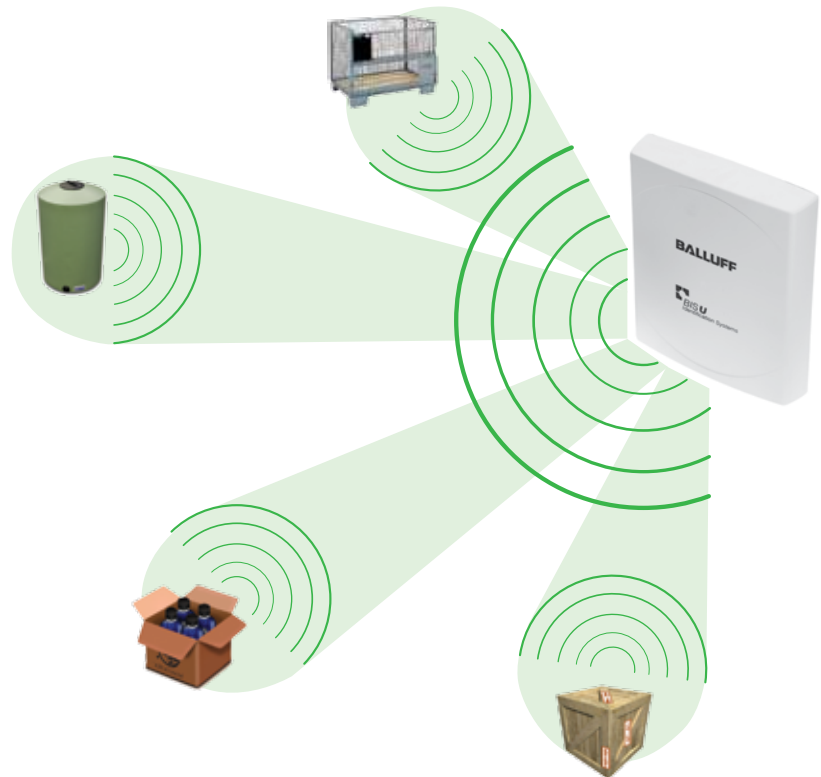
Balluff's BIS U series UHF or Ultra High Frequency RFID (Radio Frequency Identification) provides one of the most reliable and flexible tools to get visibility into your supply chain and manufacturing process. Because BIS U technology is passive, no expensive battery based tags are required. With the BIS U, non-contact read/write ranges as high as 6 meters can be achieved. BIS U RFID can not only be used with low cost paper tags, but also industrially hardened long life metal mount container tags and even high temperature tags.

### Benefits

- Enables real-time visibility for logistics and manufacturing
- Unlike bar codes, UHF does not require "line-of-sight"
- No batteries needed for long range transmission and lower cost

### Features

- Supports standard EPC Gen 2 tags
- RS232 Serial or Ethernet TCP/IP interface option
- Up to four antennas can be used on one controller



### Intra logistics





### Asset tracking

UHF-based RFID provides a means of identifying and tracking assets like office devices, tools, production equipment, medical devices, installed parts, logistic containers, and even reusable assets like totes, bins and skids.



### Logistics tracking

Tracking incoming and outgoing shipments of parts and products are key to the efficiency and operation of any production facility. UHF-based RFID enables a reliable, non-visual way to identify multiple containers and shipment information quickly and reliably.



### Closed loop and supply chain logistics

When moving parts from suppliers to main production facilities, UHF-based RFID can be a significantly more reliable and a faster way to identify incoming shipments, contents and reusable assets like totes, part containers, skids, and transport containers.



### Production tracking

During the production process, RFID can be used to track parts and enable visibility into the process itself. UHF-based RFID can provide a means to track parts or part pallets at greater distances allowing greater freedom of use.



# BIS U RFID Series

## Antennas



Dimensions	292×243×60.5
Housing material	PS
Weight	960 g
<b>Ordering code</b>	<b>BIS00MC</b>
Part number	BIS U-300-C1-TNCB
Frequency range	902...928 MHz
Approved radiated power	< 4 W EIRP FCC CFR47 Part 15
Range	up to 6M
Antenna gain	8.4 dBic
Antenna impedance	50 Ω
Connection type	TNC socket
Degree of protection	IP 54 (with connector)
Ambient temperature Ta	-25...+55°C
Dispersion angle	68° vertical, 70° horizontal
Cable requirement	BIS U-500-EF-xx*
Standards	EPC Global Gen2 ISO/IEC 18000-6C

\*Cable lengths available:

01 = 1 meter  
02 = 2 meters  
05 = 5 meters  
10 = 10 meters

## Tags or Transponders

### Transponder

- Fast mounting with two holes
- Mounts directly on metal with fasteners
- Rugged housing for closed-loop applications



Dimensions	127×37.2×7
Housing material	PA12-GF30
Weight	18 g
<b>Ordering code</b>	<b>BIS 00NL</b>
Part number	BIS U-100-01/CA
User data	512 bits
Frequency	840...960 MHz
Insulation class acc. to IEC 60529	IP 67
Memory capacity read/write	96...480 bit EPC
Memory capacity read-only	32-bit ID, 64-bit unique ID
Standards	EPC global™, Class 1, gen 2, ISO 18000-6C
Ambient temperature	-40...+85°C
Storage temperature	-40...+85°C

### Tag fasteners



**Ordering code BAM01LW**  
Part number BIS Z-SP-003

Fastener set consists of:  
2 plastic distance rollers  
2 socket cap screws with hexagon socket,  
ISO4762-M 5X22-8,8-A2B  
2 washers D 125-A 5,3-ST-A2P



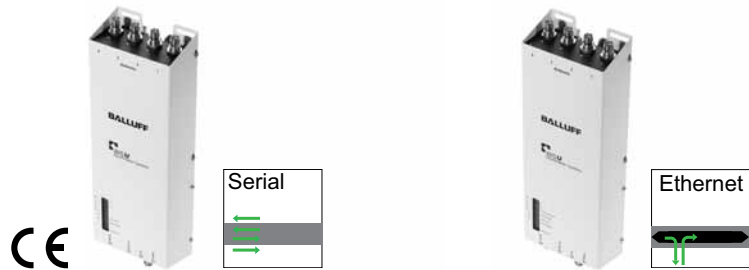
### Labels and Tags

The applications are as varied as the labels and tags that are used. A wide range of variants arise from the contact surface requirements, the maximum size, and even the required protection class. We will be happy to advise as to which labels or tags may be used in your application and possible label converting sources.



# BIS U RFID Series

## Controllers/Processors



Function	Read/write	Read/write
Housing material	AlMgSi 0.5	AlMgSi 0.5
Weight	2100 g	2100 g
Frequency range	<b>Ordering code</b> <b>BIS00R2</b>	<b>BIS00R1</b>
902...928 MHz	Part number BIS U-6020-053-114-00-ST26	BIS U-6027-054-114-06-ST27
Operating voltage	24 V DC $\pm$ 20 %	24 V DC $\pm$ 20 %
Ripple	$\leq$ 10 %	$\leq$ 10 %
Current consumption at 24 V DC	$\leq$ 1 A	$\leq$ 1 A
X3 service interface	RS232	RS232
X4 application interface	<b>RS232</b>	<b>Ethernet</b>
Characteristic impedance of antenna ports	50 $\Omega$	50 $\Omega$
Adjustable power at the antenna ports	17...30 dBm (50 mW...1 W)	17...30 dBm (50 mW...1 W)
X1 power supply	V <sub>s</sub> 24 V DC: panel connector M12, 5-pole	V <sub>s</sub> 24 V DC: panel connector M12, 5-pole
X2 control inputs / control outputs	M12 panel connector, 8-pin	M12 panel connector, 8-pin
X3 service interface	M12 panel connector, 4-pin	M12 panel connector, 4-pin
X4 application interface	M12 panel connector, 4-pin (BIS U-6020)	Bayonet connector RJ45 (BIS U-6027)
Antenna ports 1 - 4	Antenna socket R-TNC	Antenna socket R-TNC
Degree of protection per IEC 60529	IP 65	IP 65

Included with product:

- BIS U-602\_
- 5x closure cap
- BIS Software CD
- Condensed manual in printed form (DE/EN)

# BIS U RFID Series

## Handheld

Handheld Standard  
BIS U-870-1-008-X-000  
including charger and stylus



Function	Read/write
Housing material	ABS
Weight	585 g
<b>Ordering code</b>	<b>BAE00EE</b>
Part number	BIS U-870-1-008-X-000
Indicator	TFT touchscreen display
Power supply	3.7 V rechargeable battery pack
Capacity	4000 mA/h
Interface	Bluetooth and USB (requires docking station)
Operating temperature	-10...+50°C
Degree of protection per IEC 60529	IP 65
Accessories	Charging power supply and stylus included
Order accessories separately	Docking station and pistol grip

Multiple software packages and hardware options are available. Contact Balluff for more information.

## BIS U RFID Series

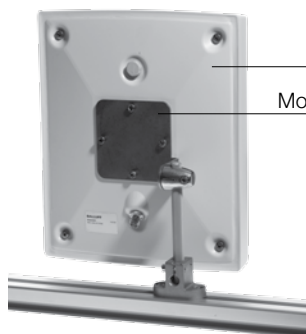
### Accessories



Description		
Type	5-pin, female	8-pin, female
Version	for connecting to controller supply voltage	for connecting to controller RS232 service interface
<b>Ordering code</b>	<b>BCC06ZN</b>	<b>BCC00YA</b>
Part number	BCC M475-0000-1A-000-01X575-000	BKS-S115-00
Connector	M12 - field-attachable	M12
Cable diameter	5...8 mm	6...8 mm
Conductor cross section	0.14 mm <sup>2</sup> ...0.75 mm <sup>2</sup>	
Degree of protection per IEC 60529	IP 67	IP 67
Ambient temperature	-25...+85 °C	-40...+85 °C



Description	Adapter cable	Connection cable	RJ45 coupling
Type			
Version	for connecting to controller BIS U-6020-053-104-00-ST26 BIS U-6027-054-104-06-ST27	for connecting to controller and antenna	for Ethernet TCP/IP
<b>Ordering code</b>	<b>BCC00PL</b>	<b>BAM01HL</b>	<b>BCC09N2</b>
Part number	BIS-C-522-PVC-02	BIS U-500-EF-01	BCC E878-0000-Z1-41X8T4
<b>Ordering code</b>		<b>BAM01HM</b>	
Part number		BIS U-500-EF-02	
<b>Ordering code</b>		<b>BAM01HN</b>	
Part number		BIS U-500-EF-05	
<b>Ordering code</b>		<b>BAM01HP</b>	
Part number		BIS U-500-EF-10	
Connector	Serial interface RS232 to PC	TNC connector 7/16"	
Cable diameter	5.8 mm	5 mm	4.58 mm
Conductor cross section		0.94 mm	
Degree of protection per IEC 60529	IP 67	IP 68	IP 67
Ambient temperature	-5...+80 °C	-40...85°C	-20...60°C
Cable	PVC	FRPE	
Surge impedance		50 Ω	

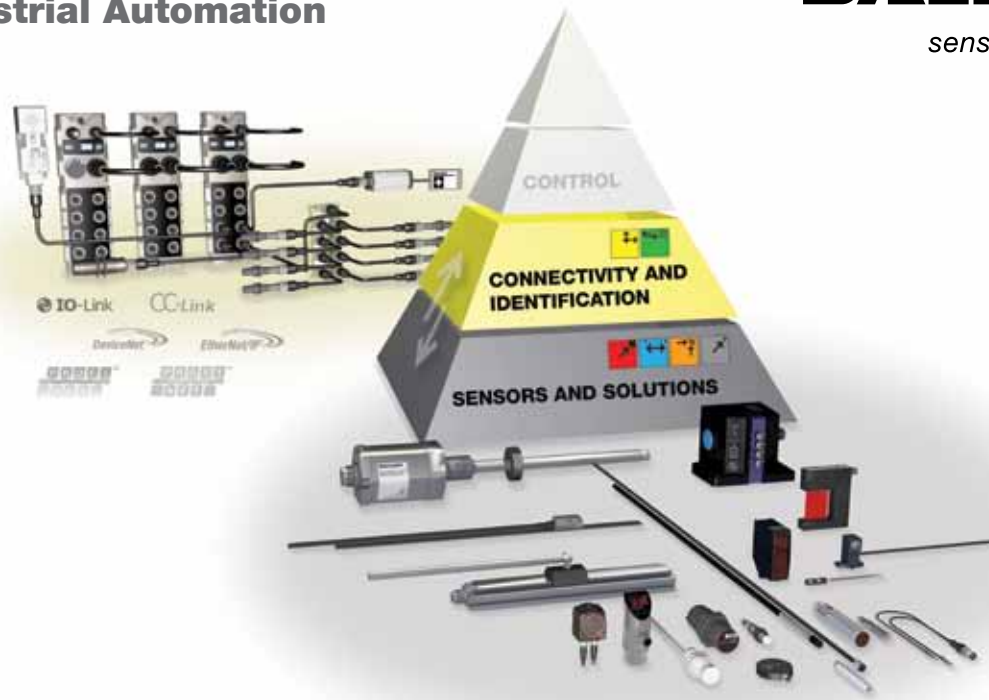


Antenna  
Mounting bracket



Description	Antenna BMS* bracket for BIS U-300...TNCB	Fastening plate for U-6020 and U-6027 controllers
Type		
Version		
<b>Ordering code</b>	<b>BAM01JK</b>	<b>BAM01KN</b>
Part number	BIS Z-HW-003	BIS Z-HW-004
Material	V4A (1.4571)	

\*Consult Balluff BMS catalog for additional mounting options.



## Object Detection

Inductive sensors, cylinder sensors, magnetic field sensors, capacitive sensors, ultrasonic sensors, photoelectric sensors, fiber optic devices, fiber optics, angle sensors, through-beam fork sensors, optical window sensors, light grids, contrast sensors, luminescence sensors, color sensors, mechanical and inductive single and multiple position switches



## Linear Position and Measurement

Micropulse® transducers, magnetic linear encoder system, inductive displacement system, inductive distance sensors, magnetoinductive distance sensors, capacitive distance sensors, photoelectric distance sensors, ultrasonic sensors



## Fluid Detection

Pressure sensors, capacitive sensors for level detection



## Industrial Identification

Industrial RFID systems, vision sensors



## Networking and Connectivity

Connectors and connection cables, valve connectors, passive splitter boxes, active splitter boxes, IO-Link, bus systems (Profibus, Profinet, CC-Link, DeviceNet, EtherNet), inductive couplers, power supplies, electrical devices



## Accessories

Brackets and mountings, assembly system BMS

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