

BALLUFF

Easy to Use RFID Solutions

Read-only systems offer effortless integration



Easy to Use ID Systems

Effortless Integration

easy to use



RFID is a reliable method to track work-in-process (WIP).

Manufacturing plants have been using RFID to track work-in-progress and provide feedback on in-process testing for years. While the benefits are clear, the cost of integration has been a major hurdle – until now.

Read-only systems are ideal when product data is stored centrally in the control system and referenced by a code number contained on the RFID tag. All of the assembly, calibration, test data, and any other information that needs to be recorded is stored in the central data file during production.



Bar codes are not reliable on assembly pallets.

Balluff has developed a complete line of easy to use, read-only systems that interface directly into a PLC through discrete inputs or an RS-232 interface. Read-only RFID systems offer data reliability and environmental ruggedness not found with bar code systems. To make switching even easier, Balluff's RS-232 version offers compatibility with most bar-code systems.

Balluff offers two read-only RFID systems to cover a variety of application requirements:



Ultra Reliable, Heavy Duty Data

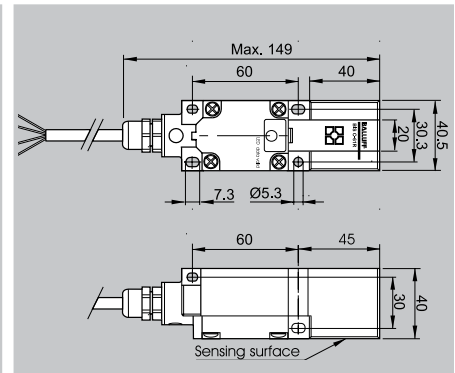
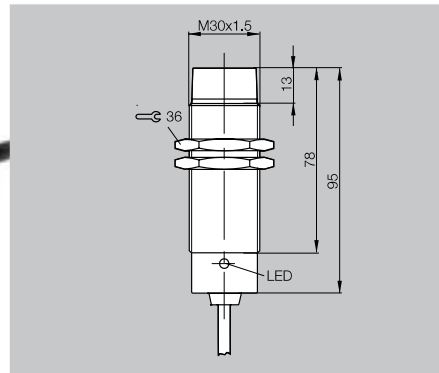
- Widest range of options
- Flush mount in metal
- Noise immune inductive based data transfer



Economical, Extended Range

- Lowest cost data carriers
- Read-only, 40-bit data carriers
- Write Once Read Many (WORM), 192-byte data carriers

Housing Size	30 mm	40x40 mm
Housing Material	Nickel-Plated Glass	Glass Fiber Reinforced ABS
Connection	Parallel	Parallel
Mounting (in steel)	Non-flush	Non-flush



Ordering Code		
1 byte	BIS C-60R-001-08P-PU-_-_-*	BIS C-61R-001-08P-PU-_-_-*
8 bytes	BIS C-60R-002-08P-PU-_-_-*	
Dynamic 2 bytes	BIS C-60R-003-08P-PU-_-_-*	
Output Current per Output	Max. 50 mA	Max. 50 mA
Supply Voltage	24 VDC = +10/-20% (including ripple)	24 VDC = +10/-20% (including ripple)
Current Draw	Max. 300 mA	Max. 300 mA
Voltage Drop	≤1.5 V	≤1.5 V
Leakage Current	≤0.08 V	≤0.08 V
Operating Temperature	0...+50° C	0...+50° C
Storage Temperature	0...+50° C	0...+50° C
Protection per IEC 529	IP67	IP67
Read Times	1st byte 0.5 sec., each additional 0.12 sec.	1st byte 0.5 sec., each additional 0.12 sec.
Read/Write Head Ports	1	1
Control Inputs	1 byte = 0, 2 bytes = 2, 8 bytes = 3	1 byte = 0, 2 bytes = 2, 8 bytes = 3
Control Outputs	1 & 2 bytes = 9, 8 bytes = 11	1 & 2 bytes = 9, 8 bytes = 11
Connection Type	Cable Out (*see below)	Cable Out (*see below)
No. of Wires & Gauge	Shielded PUR, Power 2x0.5 mm ² Data Signals = 9x0.18 mm ²	Shielded PUR, Power 2x0.5 mm ² Data Signals = 9x0.18 mm ²

*Please indicate cable length in ordering code:
 05 = 5 m length
 10 = 10 m length
 20 = 20 m length



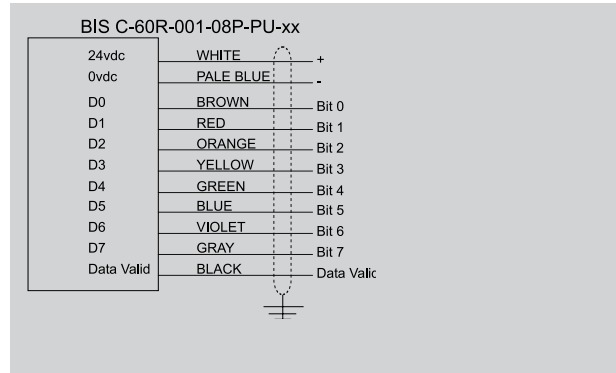
Hand held programmer for BISC

Data Carrier	Memory size	Part Number	Sensing Range	Allowed center offset (mm)		
				1 mm	3 mm	5 mm
Ø10x4.5	511 bytes	BIS C-122-04/L	2.5 mm	±2		
Ø16x7	1023 bytes	BIS C-130-05/L	6 mm	±5	±3	
Ø16x8	1023 bytes	BIS C-100-05/A	6 mm	±4	±2	
26x6	1023 bytes	BIS C-128-05/L	12 mm	±7	±8	±4
52x32x11	1023 bytes	BIS C-117-05/A	8 mm	±7	±6	±4

➔ 1 Byte

The 001 versions access only 1 byte (8-bits) of data. Data is transmitted to the control system via 8 discrete PNP output signals. An additional data valid PNP output is used to signal the control system that a valid tag is present, no errors have occurred, and the binary number can be read.

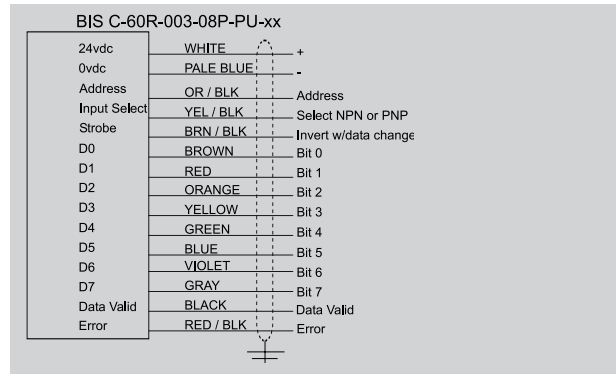
Error checking is built into the system by utilizing 2 additional bytes to store the check codes. When programming the tag, these check bytes must be correctly programmed. See note below.



➔ 2 Byte

The 003 versions can read 2 bytes of data (16-bits) while traveling at a maximum speed of 20 meters a minute. Data is transmitted to the control system via 8 discrete PNP output signals. An input signal is used to select the intended byte. An additional data valid PNP output is used to signal the control system that a valid tag is present, no errors have occurred, and the binary number can be read.

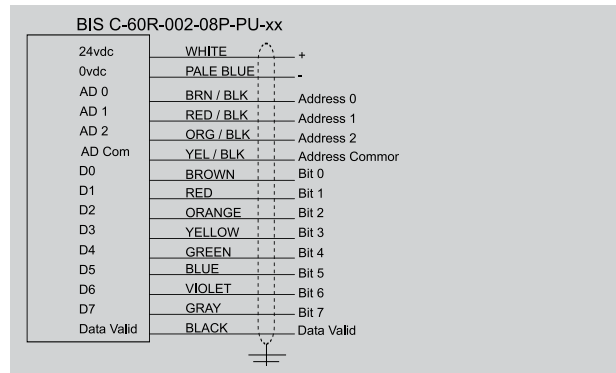
Error checking is built into the system by utilizing 4 additional bytes to store the check codes. When programming the tag, these check bytes must be correctly programmed. See note below.



➔ 8 Byte

The 002 versions are capable of reading 8 bytes of user data. Data is transmitted to the control system via 8 discrete PNP output signals. Three address inputs are used to select the intended byte. An additional data valid PNP output is used to signal the control system that a valid tag is present, address is correct, no errors have occurred, and the binary number can be read.

Error checking is built into the system by utilizing 16 additional bytes to store the check codes. When programming the tag, these check bytes must be correctly programmed. See note below.



Note

Programming the Data Tags:

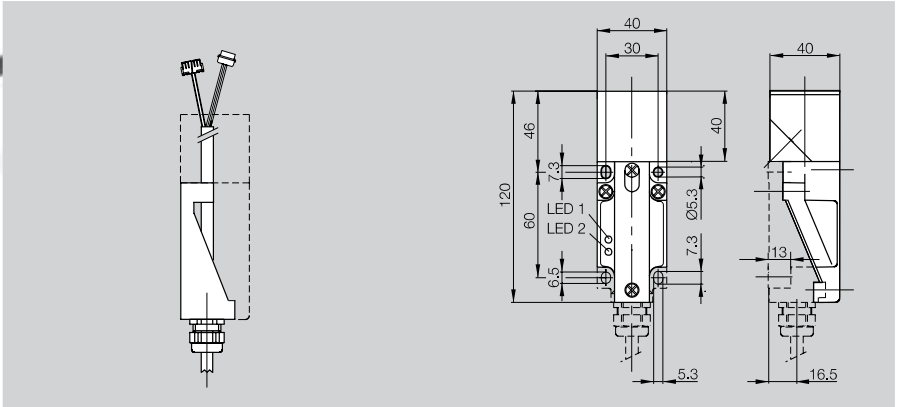
The data tags must be programmed correctly to operate with Balluff's read-only systems. Tags can be programmed by:

- Pre-programmed at the factory - for a nominal fee, your data can be loaded onto the tags.
- Hand held programmer - this option is preferred for user programming. It automatically handles the required check bytes.
- Programmed by a read/write system - care must be taken

LED Function Indicator

Output	LED Status	Data Valid
No DC	Off	Low
DC present	On	High
Data check error	Slow flashing	Low
Short circuit on Output	Rapidly flashing	Low

Housing Size	Mounting Base	40x40 mm
Housing Material	BPTP	Glass Fiber Reinforced ABS
Connector		Parallel
Mounting (in steel)	Non-flush	Non-flush



Ordering Code	BIS L-503-PU1-_-_*+		BIS L-405-033-001-05-MU+	
5 Bytes				
Supply Voltage	24 VDC = +10/-20% (including ripple)			
Current Draw	≤50 mA no-load			
Output Current per Output	Max. 50 mA			
Voltage Drop	≤1.5 V			
Leakage Current	≤0.08 V			
Operating Temperature	0...+60° C			
Storage Temperature	0...+50° C		0...+60° C	
Protection per IEC 529	IP67 when assembled		IP67	
Read Times	0.5 sec.			
Read/Write Head Ports	1			
Output Type	Parallel			
Control Inputs	2			
Control Outputs	9			
Connection Type	PUR cable, drag-chain compatible		Cable out	
No. of Wires & Gauge	14x0.15 mm ² /2x0.34 mm ²		Shielded PUR, 2x0.5 mm ² /9x0.18 mm ²	

*Please indicate cable length in ordering code:
 05 = 5 m length
 10 = 10 m length
 15 = 15 m length
 20 = 20 m length

*Must order two/both pieces

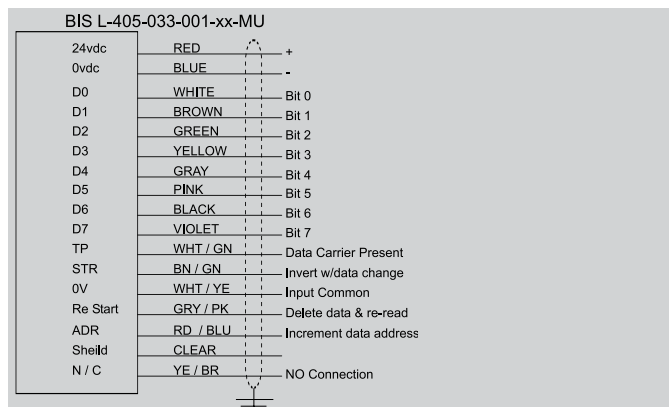


Hand held programmer for BIS L

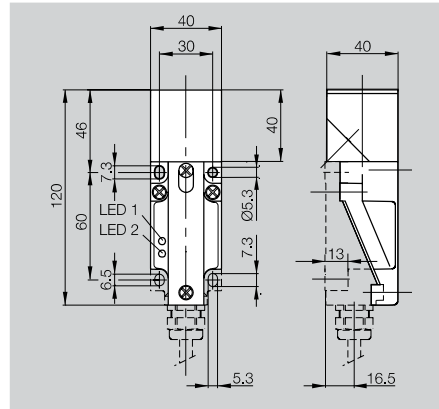


The BIS L-405-033-001 is a read head and processor combined into a 40x40 mm housing with a rotatable head. The BIS L-405 reads the 5 bytes of the carrier as soon as the data carrier is placed in the sensing field of the read head.

The ADR output is turned on to display the first byte. Each additional byte is displayed after each transition of the ADR output from off to on, or on to off. The data will be retained in the processor until the ADR output is energized or if a reset is issued. The data is retained even if the data carrier is removed from the sensing field.

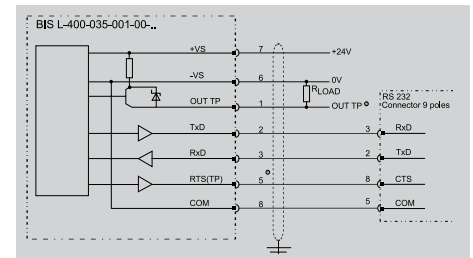


Housing Size	40x40 mm
Housing Material	BTPP
Connector	Serial
Mounting (in steel)	Non-flush



The BIS L-400 processor is also a read head and processor combined into a 40x40 mm housing. The BIS L-400 has a RS-232 interface that automatically reads 5 bytes of the data carrier. It is very similar to the way a barcode reader functions. There is also an option to continuously read the 5 bytes of the data carrier until the data carrier is removed from the sensing field.

Ordering Code	BIS L-400-035-001-05-S115
5 Bytes	
Supply Voltage	24 VDC = +10/-20% (including ripple)
Current Draw	<50 mA no-load
Output Current per Output	Max. 50 mA
Voltage Drop	≤1.5 V
Leakage Current	≤0.08 V
Operating Temperature	0...+70° C
Storage Temperature	-20...+50° C
Protection per IEC 529	IP67
Read Times	1st byte 0.5 sec., each additional 0.12 sec.
Read/Write Head Ports	1
Output Type	Serial, RS-232
Control Inputs	0
Control Outputs	1
Connection Type	Connector
No. of Wires & Gauge	Shielded PUR, 2x0.5 mm ² /13x0.18 mm ²



Data Carrier	Memory size	Part Number	Sensing Range	Allowed center offset (mm)		
				0...15 mm	0...25 mm	0...35 mm
12x2	5 bytes	BIS L-203-03/L BIS L-203-05/L	0...20 mm	10		
20x1.6	5 bytes	BIS L-200-03/L BIS L-200-05/L	0...30 mm		15	
30x1.6	5 bytes	BIS L-201-03/L BIS L-201-05/L	0...40 mm			20
50x1.6	5 bytes	BIS L-202-03/L BIS L-202-05/L	0...50 mm			30

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