

BALLUFF

sensors worldwide

Industrial RFID Systems BIS S

... Non-contact Data Communication with High Speed



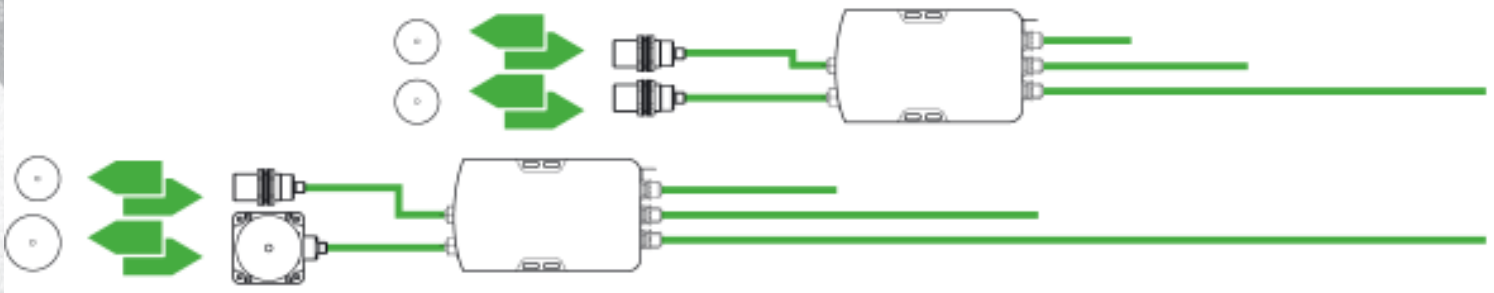
Balluff is a world leader in the field of sensor technology. Our product range includes electronic and electromechanical sensors, transducers and identification systems, as well as bus-compatible sensors.

Balluff products are found wherever precision, reliability, and highest quality are demanded. These indispensable components guarantee a successful installation in virtually any area of automation.



Whether it's automation, object detection, material flow control, linear or rotary motion – Balluff is the right partner.

We are DIN ISO 9001 certified. Statistical process control, the use of process controlled production and assembly equipment are standard at Balluff.

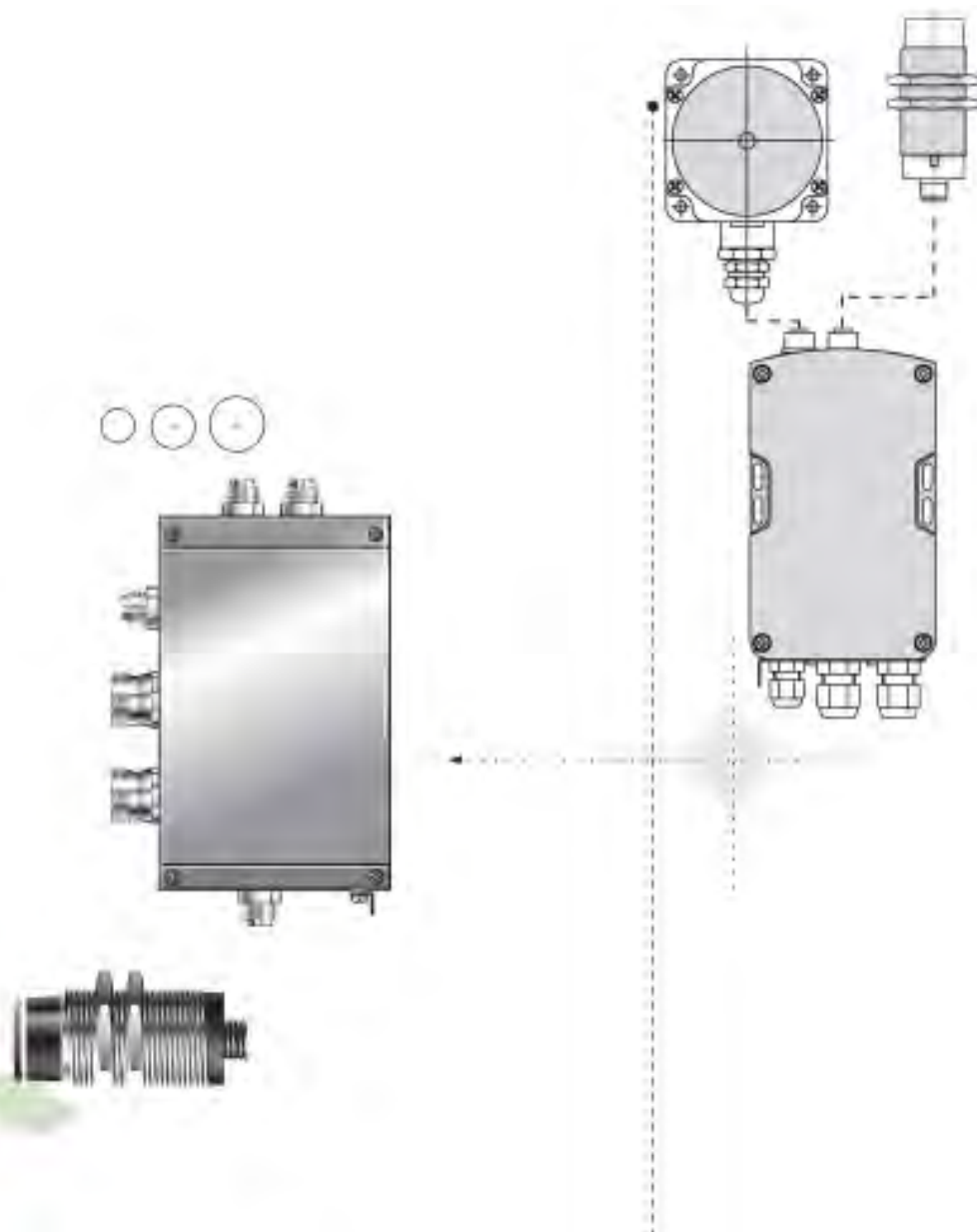


Description

i

Read/Write System

BIS



Modern automation technology without automatic identification has become unthinkable. Several approaches are available, including bar code labels, mechanical coding, transmitter/receiver systems using microwave, or inductive identification systems.

It's not always easy to make the right choice. But practice has shown that inductive identification systems are often the preferred solution, especially in production and assembly technology.

The inductive principle guarantees ruggedness and resistance to ambient effects, and makes these non-contacting systems extremely reliable and function-secure. Use in harsh industrial environments is therefore never a problem.



Assembly line identification

Material and information flow are inseparable in computer controlled assembly and manufacturing. This consistent coupling is required today for flexibility and cost effectiveness in automation.

Identification Systems BIS ensure a reliable exchange of information between material flow and data processing, including all areas of manufacturing where materials are being moved:

- Workpiece transport in conveying systems
- FTS and pallet transport systems
- Assembly

The advantage to you is cost reduction through:

- flexibility
- faster access to information
- shorter response times
- stock optimization

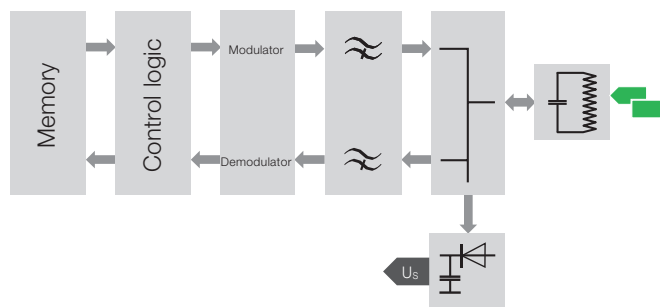
The components of a BIS Identification System are:

The data carrier receives the energy signal and uses it to create the supply voltage. It then sends its data to the read/write head.

The read/write head is the communications partner of the data carrier. It sends an energy signal out and receives the data signal transmitted back from the data carrier. The energy signal, since it is pulsed, is also used for programming the data carrier memory.

The processor supervises the bi-directional data transfer between data carrier and read/write head and serves as buffer storage. It is the link between the host system and the data carrier. To allow for adapting to various computer and controller designs, numerous software packages are available. A sophisticated checking algorithm assures safe and reliable data transmission.

Data Carriers

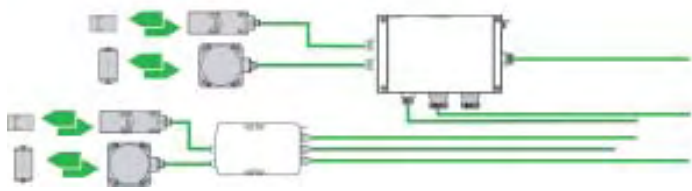


Features

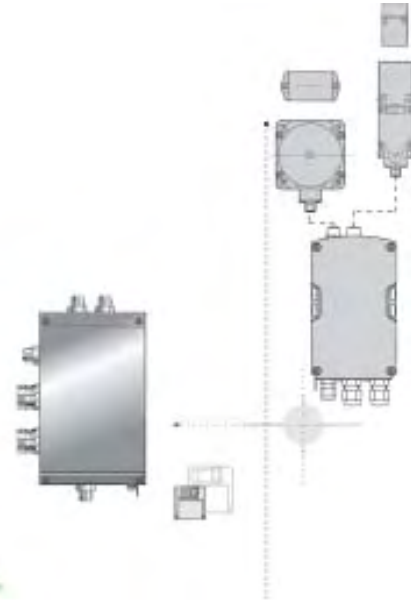
- Non-contact and wear-free
- Safe data transfer
- Immune to dirt and liquids
- Adaptable to virtually any existing control
- Interface versions for virtually any control
- Maintenance-free
- High mechanical strength



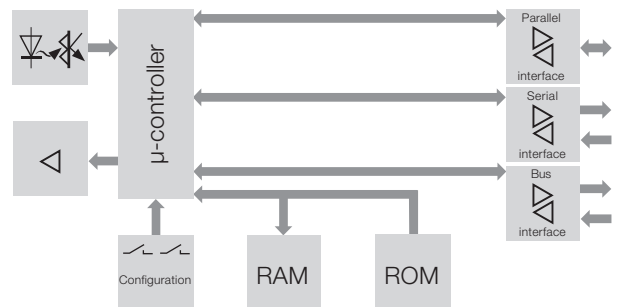
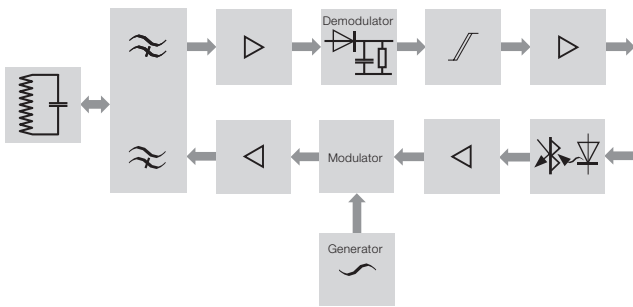
Box pallet identification



Read/Write Head



Processor

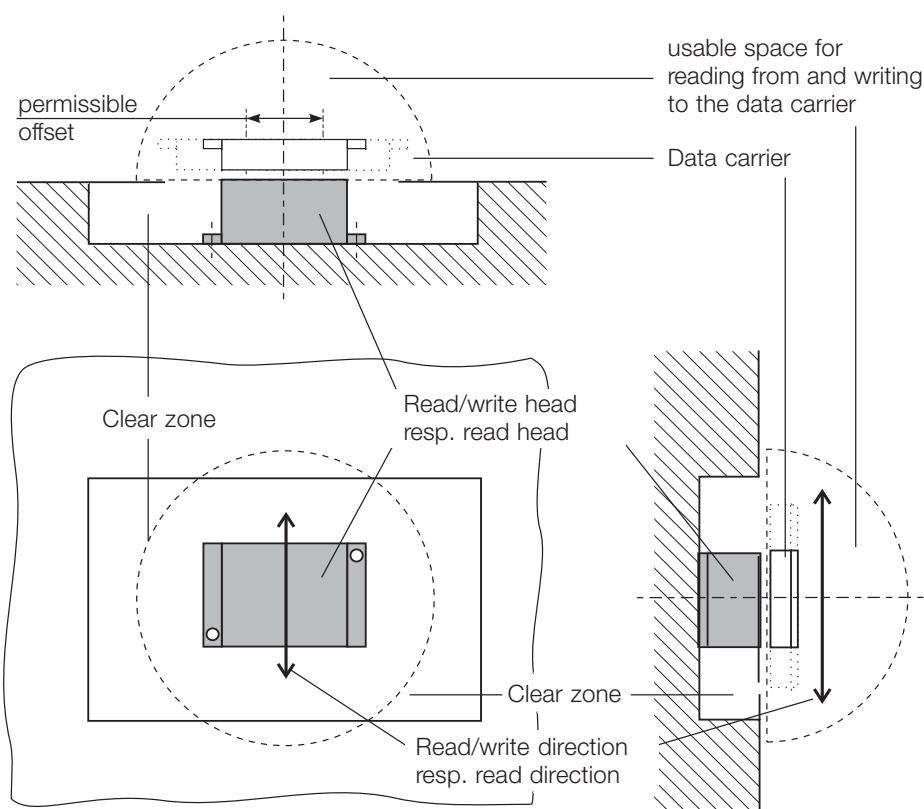


Industrial RFID Systems BIS S

The Relationship between Read/Write Heads and Data Carriers

Spatial Arrangement of Read/Write Head resp. Read Head and Data Carrier

The key to reliable data exchange between the read/write head resp. read head and the data carrier is maintaining sufficient dwell time of the data carrier within a specified spatial distance from the read/write head resp. read head. The drawing illustrates this relationship.



Spatial arrangement of read/write head resp. read head and data carrier for directional read/write heads resp. read heads and **non-flush mount** (circular antenna).



BIS S

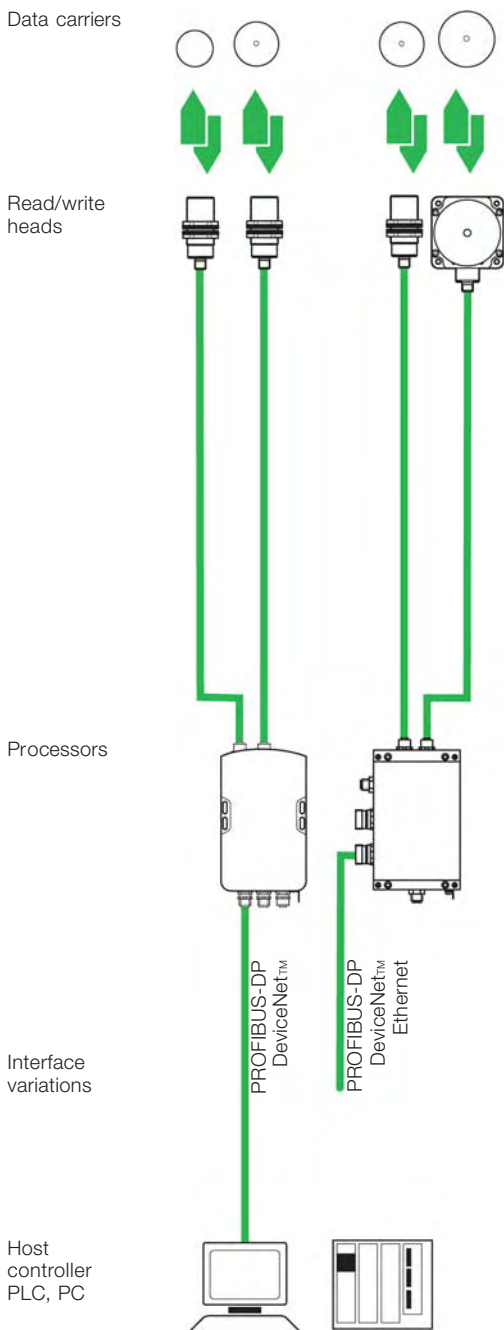
Data exchange between the data carrier and read/write head is non-contact and therefore wear-free.

The data and necessary power for the data carrier are inductively coupled by the read/write head.

The data carrier requires no battery for operation or data retention. Exact positioning is not necessary.

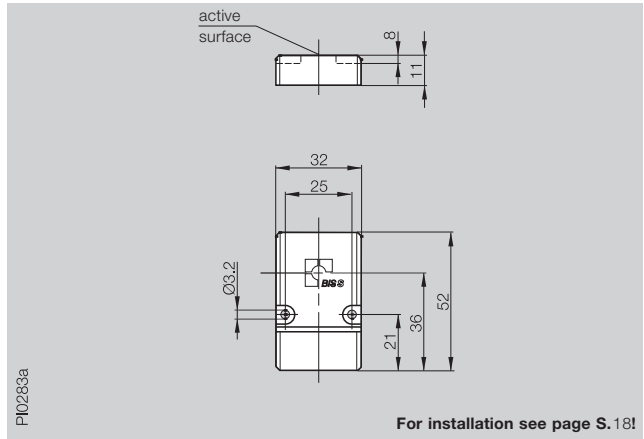
Data integrity is ensured by means of special checking software. No additional data security measures on the part of the user are required.

- S.2** Data Carriers
- S.4** Read/Write Heads
- S.6** Processors for Simultaneous Mode
- S.11** Processors
- S.12** Handy Programmer
- S.13** Connectors
- S.14** Connectors, Termination Resistor
- S.18** Installation Notes, Read/Write Times, Software, Service Tools



- Data Carriers
- Read/Write Heads
- Processors for Simultaneous Mode
- Processors
- Handy Programmer, Connectors
- Connectors, Termination Resistor
- Installation Notes, Read/Write Times, Software, Service Tools

Dimensions	52x32x11
Housing material	PBTP
Antenna type	round
Weight	27 g



BIS S Programmable

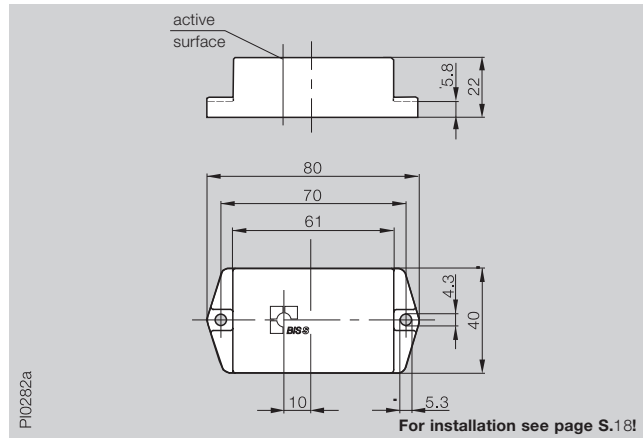
16 kBytes	Order code	BIS S-108-42/L
32 kBytes	Order code	BIS S-108-52/L

Operating temperature	-20...+70 °C
Storage temperature	-20...+70 °C
Protection per IEC 60529	IP 67

Mounting in steel		non-flush
Appropriate read/write head	BIS S-302	20 mm
with max. read/write distance	BIS S-303	20 mm



Dimensions	80×40×22
Housing material	POM
Antenna type	round
Weight	93 g



BIS S Programmable

16 kBytes	Order code	BIS S-150-42/A
32 kBytes	Order code	BIS S-150-52/A

Operating temperature	-20...+70 °C
Storage temperature	-20...+70 °C
Protection per IEC 60529	IP 67

Mounting in steel

Appropriate read/write head with max. read/write distance	BIS S-301	50 mm
---	-----------	-------

non-flush



Data Carriers

- Read/Write Heads
- Processors for Simultaneous Mode
- Processors
- Handy Programmer, Connectors
- Connectors, Termination Resistor
- Installation Notes, Read/Write Times, Software, Service Tools



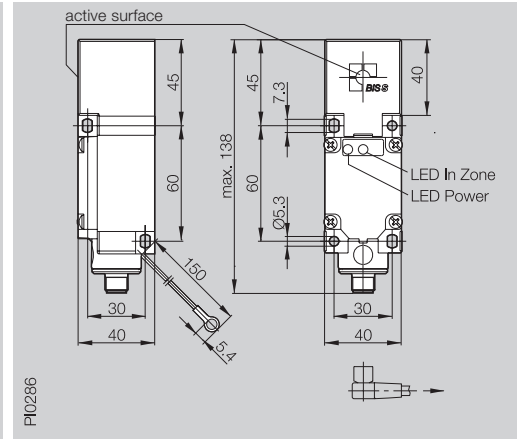
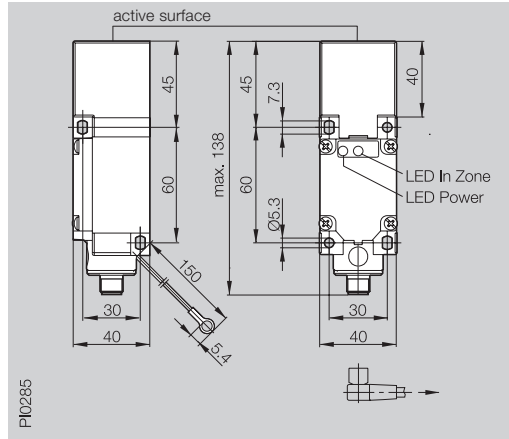
Read/Write Cycles

Data carriers	Memory type	Write cycles up to 30 °C	Write cycles up to 70 °C	Read cycles	Memory organization
16 Kbyte	FRAM	unlimited	unlimited	unlimited	64 bytes per block
32 kBytes	FRAM	unlimited	unlimited	unlimited	128 bytes per block

Dimensions	40x40x138
Housing material	ABS
Antenna type	round
Weight	220 g

Dimensions	40x40x138
Housing material	ABS
Antenna type	round
Weight	220 g

Dimensions	40x40x138
Housing material	ABS
Antenna type	round
Weight	220 g



Order code	BIS S-302-S115
Mounting in steel	non-flush
Operating temperature	0...+70 °C
Storage temperature	-20...+85 °C
Protection per IEC 60529	IP 67
Connection to	Processor
With connection cable	BIS S-501-PU1-25, BIS S-502-PU1-25

Order code	BIS S-302-S115
Mounting in steel	non-flush
Operating temperature	0...+70 °C
Storage temperature	-20...+85 °C
Protection per IEC 60529	IP 67
Connection to	Processor
With connection cable	BIS S-501-PU1-25, BIS S-502-PU1-25

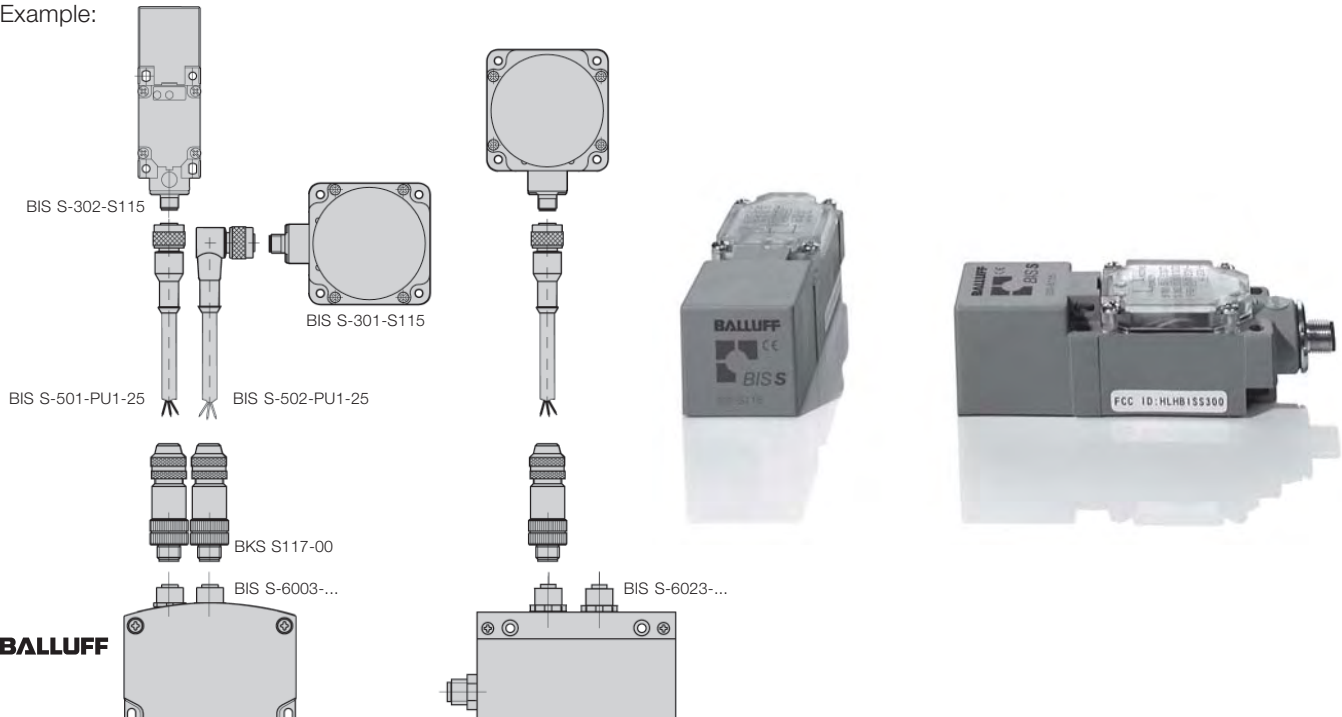
Order code	BIS S-303-S115
Mounting in steel	non-flush
Operating temperature	0...+70 °C
Storage temperature	-20...+85 °C
Protection per IEC 60529	IP 67
Connection to	Processor
With connection cable	BIS S-501-PU1-25, BIS S-502-PU1-25

Appropriate data carrier	
Static mode	
Write distance in mm	5-20
Read distance in mm	5-20
Offset in mm	5 mm
at distance	7 mm
	10 mm
	15 mm
	20 mm
	30 mm
	50 mm

Appropriate data carrier	BIS S-108- -- /L non-flush
Write distance in mm	5-20
Read distance in mm	5-20
Offset in mm	5 mm
at distance	7 mm
	10 mm
	15 mm
	20 mm
	30 mm
	50 mm

Appropriate data carrier	BIS S-108- -- /L non-flush
Write distance in mm	5-20
Read distance in mm	5-20
Offset in mm	5 mm
at distance	7 mm
	10 mm
	15 mm
	20 mm
	30 mm
	50 mm

Example:

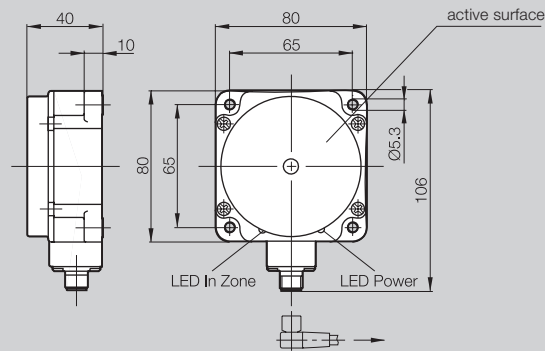


80x80x40

PBT

round

410 g



P10281

BIS S-301-S115

non-flush

0...+50 °C

-20...+85 °C

IP 67

Processor

BIS S-501-PU1-25, BIS S-502-PU1-25

BIS S-150-
non-flush

10-50

10-50

±5

±5

±5

±5

±5

±5

±5



Connector orientation



BIS S

Data Carriers
**Read/Write
Heads**

Processors for
Simultaneous
Mode

Processors

Handy
Programmer,
Connectors

Connectors,
Termination
Resistor

Installation
Notes,
Read/Write
Times,
Software,
Service Tools

**Cost-effective
identification – operate
2 read/write heads
simultaneously**

- Selectable division of the data width on the PROFIBUS-DP, 4 to 128 bytes
- Free assigning of the data width for each read/write head
- Optimum data speed, internal cycle time is shorter than the BUS activation time
- Service-friendly, all parameter data are stored in an interchangeable memory
- BUS address selectable with switches
- Accepts all read/write heads
- Interface-compatible with BIS C and BIS L identification systems



Description	
Function	

Supply voltage	
Ripple	
Current draw	
Operating temperature	
Storage temperature	
Protection per IEC 60529	
Read/write head ports	
Service interface RS232	
Connection type	
Connection for	
Description interface/software:	
PROFIBUS-DP	
Accessories included	
Accessories (please order separately)	

The **compact class BIS S-600** _ with its reduced dimensions and various interface options can be used wherever ambient conditions do not require higher protection.

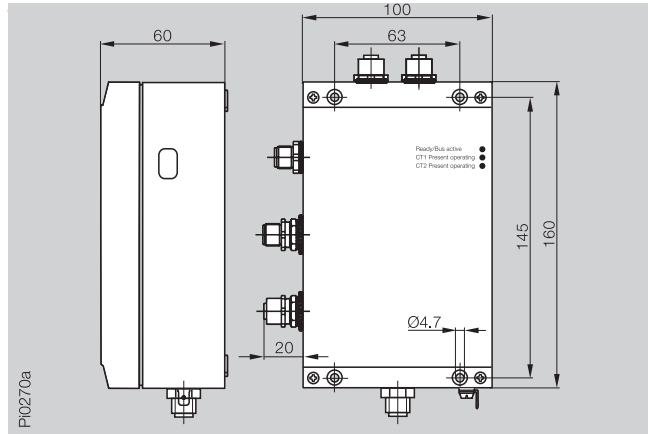
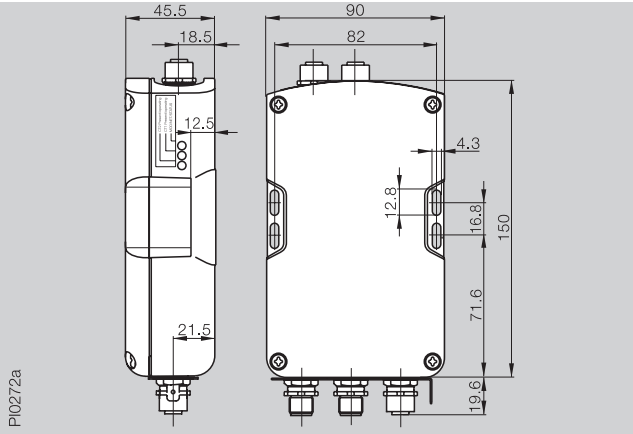
If IP 65 is sufficient and no media aggressive to ABS plastic are present, this device family is the ideal solution.

Small, compact, flexible and economical: these are the characteristics of this series.



BIS S-6002-019-050-03-ST11
read/write

BIS S-6022-019-050-03-ST14
read/write



24 V DC ±20 %
≤ 10 %
≤ 600 mA
0...+60 °C
0...+60 °C
IP 65/NEMA 12
2 external
yes

2 connectors round 5-pin, B-coded,
1 connector round 5-pin
2 read/write heads BIS S-3_ _

2 connectors round 5-pin, B-coded,
2 connector round 5-pin
2 read/write heads BIS S-3_ _

BIS S-6002-019-050-03-ST11
Software GSD file
BKS 12-CS-01
Connector page **S.13-15**

BIS S-6022-019-050-03-ST14
Software GSD file
BKS 12-CS-01
Connector page **S.13-15**

BIS S

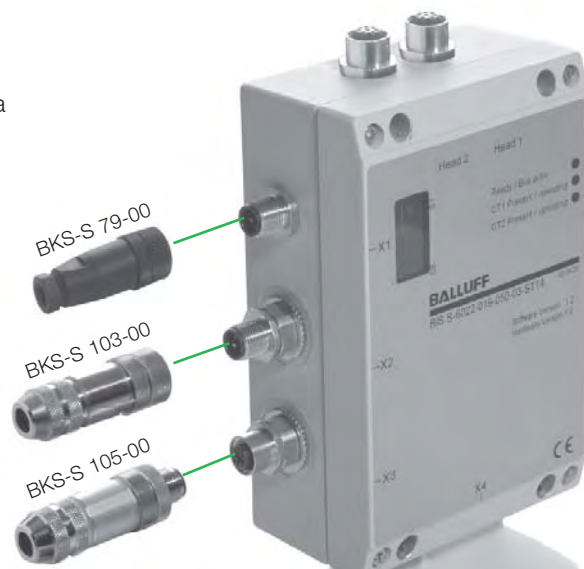
Data Carriers
Read/Write
Heads
Processors for Simultaneous Mode
Processors
Handy
Programmer,
Connectors
Connectors,
Termination
Resistor
Installation
Notes,
Read/Write
Times,
Software,
Service Tools

The **ruggedized version BIS L-602_** is in spite of the mechanically rugged die-cast aluminum housing a small, flexible processor which is available with various interface options.

This version is ideal where increased demands on mechanical stability or chemical resistance are made.



Threaded cover BKS 12-CS-01
coded for M12 B connector type



**Cost-effective
identification – operate
2 read/write heads
simultaneously**

- Freely selectable buffer size between 0 and 256 bytes
- Service-friendly, all parameter data are stored in an interchangeable memory
- Accepts all read/write heads
- Interface-compatible with BIS C and BIS L identification systems

Description	
Function	



Supply voltage	
Ripple	
Current draw	
Operating temperature	
Storage temperature	
Protection per IEC 60529	
Read/write head ports	
Service interface RS232	
Connection type	
Connection for	
Description interface/software:	
DeviceNet	
Accessories included	
Accessories (please order separately)	

The **compact class BIS S-600** _ with its reduced dimensions and various interface options can be used wherever ambient conditions do not require higher protection.

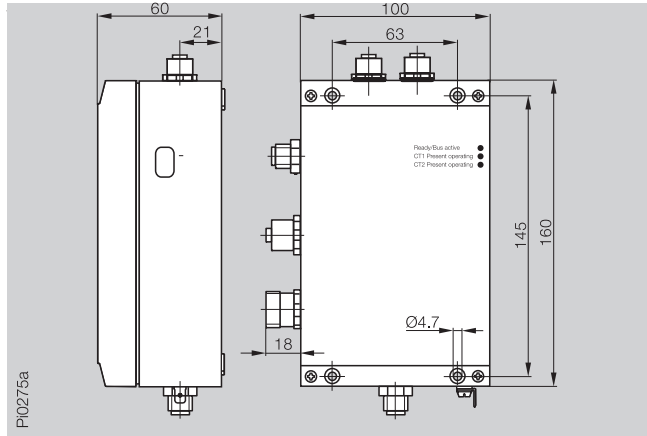
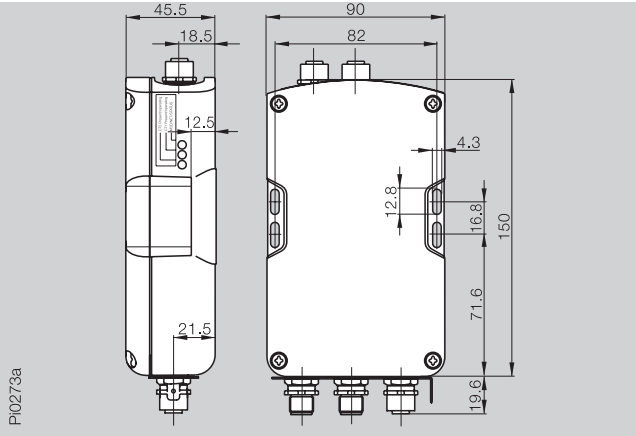
If IP 65 is sufficient and no media aggressive to ABS plastic are present, this device family is the ideal solution.

Small, compact, flexible and economical: these are the characteristics of this series.



BIS S-6003-025-050-03-ST12
read/write

BIS S-6023-025-050-03-ST13
read/write



24 V DC ±20 %
≤ 10 %
≤ 600 mA
0...+60 °C
0...+60 °C
IP 65/NEMA 12
2 external
yes

3 connectors round 5-pin

2 read/write heads BIS S-3_ _

BIS S-6003-025-050-03-ST12
Software EDS file

Connector page **S.13/16/17**

4 connectors round 5-pin

2 read/write heads BIS S-3_ _

BIS S-6023-025-050-03-ST13
Software EDS file

BKS 12-CS-01
Connector page **S.13/15**

BIS S

Data Carriers
Read/Write
Heads

**Processors
for
Simultaneous
Mode**

Processors

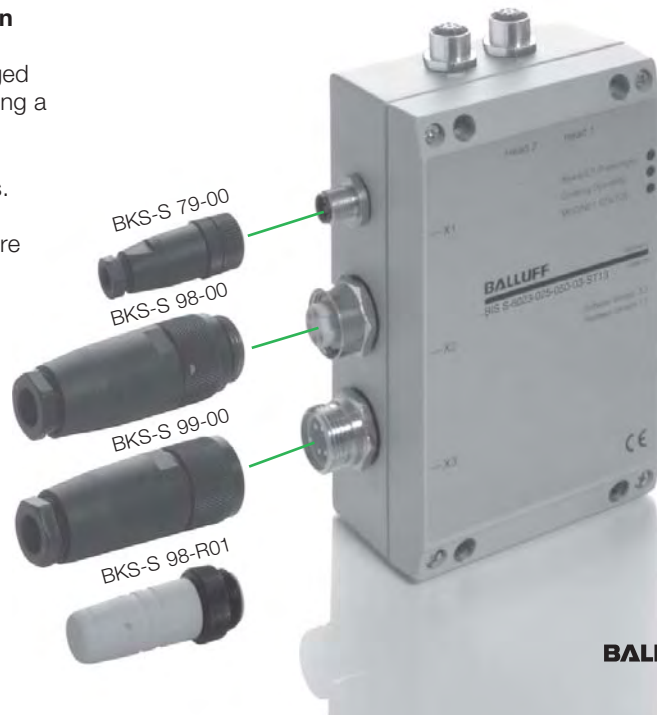
Handy
Programmer,
Connectors

Connectors,
Termination
Resistor

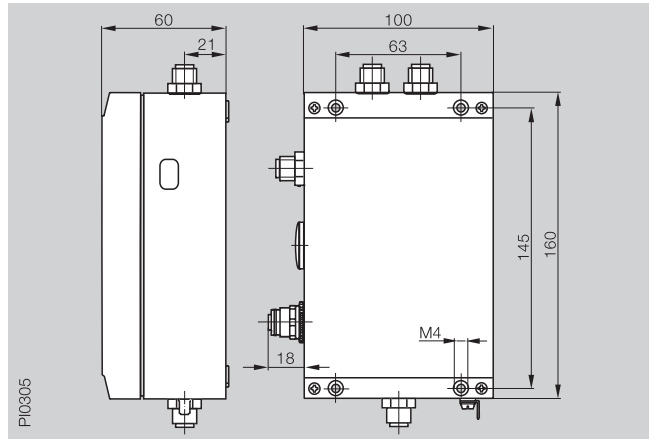
Installation
Notes,
Read/Write
Times,
Software,
Service Tools

The **ruggedized version** **BIS S-602_** is in spite of the mechanically rugged die-cast aluminum housing a small, flexible processor which is available with various interface options.

This version is ideal where increased demands on mechanical stability or chemical resistance are made.



Description	BIS S-6026-_-_-050-06-ST19
Function	read/write

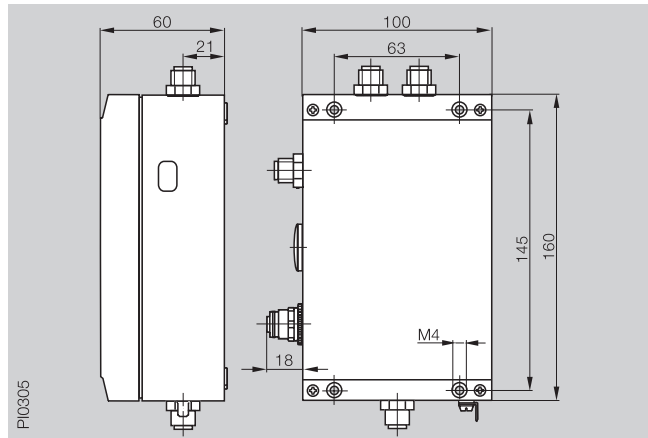


Supply voltage	24 V DC ±20 %
Ripple	≤ 10 %
Current draw	≤ 400 mA
Operating temperature	0...+60 °C
Storage temperature	0...+60 °C
Protection per IEC 60529	IP 65
Read/write head ports	2 external
Service interface RS232	yes
Connection type	Connector round 4-pin, D-coded 1 connector 5-pin 1 connector 4-pin
Connection for	Read/write heads BIS S-3_ _
Description interface/software:	
EtherNet/IP	BIS S-6026-034-050-06-ST19
Accessories included	Configuration software
Accessories (please order separately)	Connector page S.13/15

**Cost-effective identification –
operate 2 read/write heads simultaneously!**



Description	BIS S-6027-__-050-06-ST19
Function	read/write



Supply voltage	24 V DC \pm 20 %
Ripple	\leq 10 %
Current draw	\leq 400 mA
Operating temperature	0...+50 °C
Storage temperature	0...+50 °C
Protection per IEC 60529	IP 65
Read/write head ports	2 external
Service interface RS232	yes
Connection type	Connector round 4-pin, D-coded 1 connector 5-pin 1 connector 4-pin
Connection for	Read/write heads BIS S-3_ _
Description interface/software:	
EtherNet with standard TCP/IP protocol	BIS S-6027-039-050-06-ST19
Accessories included	Configuration software
Accessories (please order separately)	Connector page S.13/15



Data Carriers
Read/Write
Heads

**Processors
for
Simultaneous
Mode**

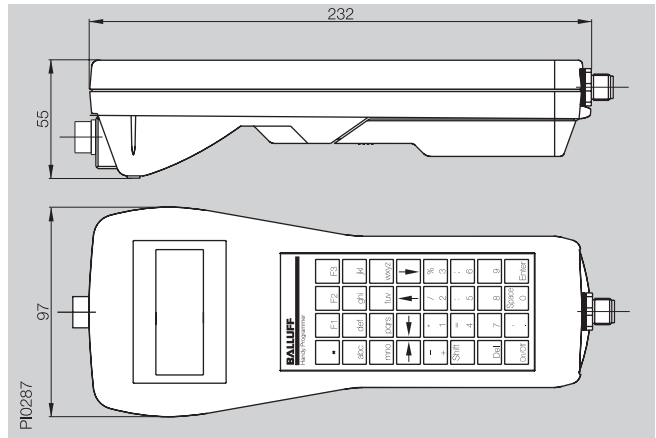
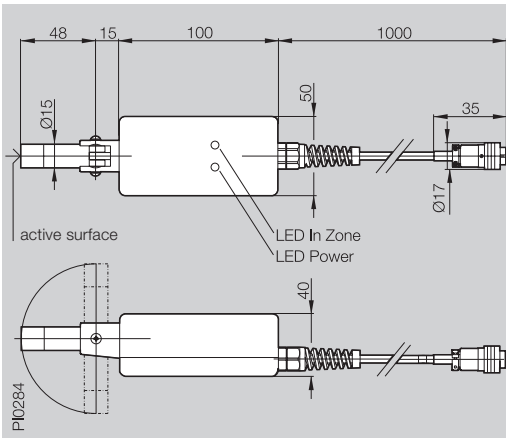
Processors
Handy
Programmer,
Connectors
Connectors,
Termination
Resistor
Installation
Notes,
Read/Write
Times,
Software,
Service Tools



Order accessories separately!
Adapter cable for EtherNet
from M12 D-coded to
coupling RJ45/RJ45
BIS C-526-PVC-00.5
page **S.15**



Function	Read/write heads	read/write
Dimensions	Ø 15x63	
Housing material	Plastic	ABS
Antenna type	round	



Order code	BIS S-850	BIS S-810-0-003
Keyboard		32 buttons, alphanumeric
Display		LCD-display, 20 characters/4 lines
Current draw		2.4 V rechargeable battery pack NiMH
Capacity		1500 mA/h
Interface		RS232/Balluff Dialog
Operating temperature	0...+40 °C	0...+50 °C
Storage temperature	-10...+50 °C	
Protection per IEC 60529	IP 54	IP 40
Read head connection	Fixed plug 6-pin	Fixed socket 6-pin
Connection to	BIS S-810	
Appropriate data carrier	BIS S-108_ _ BIS S-150_ _	
Accessories included		Carrying case

The handy programmer is a service and testing device for checking and modifying data in data carriers. A read/write head is plugged into the unit. A built-in RS232 port allows data exchange with a PC. The device is equipped with a rechargeable battery for portable operation.

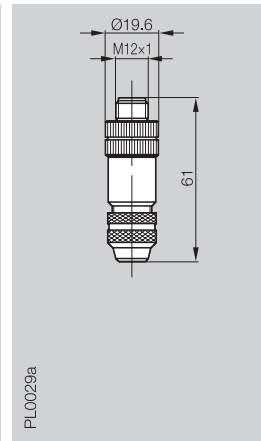
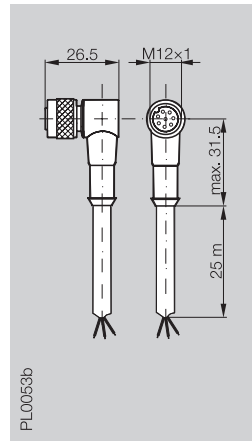
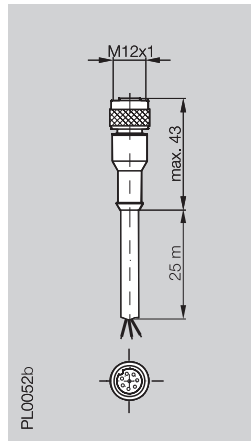
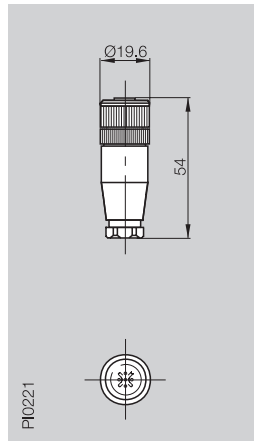


Charger
BIS C-701-A

Rechargeable
battery 125997

Charging cradle with
charging power supply
BIS C-702-A

Type	5-pin, female	8-pin, female	8-pin, female	8-pin, male
Version	for connection to processors BIS S-6_ _	for read/write head with cable length 25 m	for read/write head with cable length 25 m	for connecting read/write head to processor



Order code	BKS-S 79-00	BIS S-501-PU1- _ _	BIS S-502-PU1- _ _	BKS-S 117-00
Connector type	round connector	M12	M12	M12
Recommended cable	LiYCY-0			
Conductor cross section	0.34 mm ²	8 × 0.25 mm ²	8 × 0.25 mm ²	
Protection per IEC 60529	IP 67	IP 67	IP 67	IP 67
Ambient operating temperature	-40...+85 °C			-40...+85 °C
Accessories included		BKS-S117-00	BKS-S117-00	
Cable		one end molded-in, other end pigtailed	one end molded-in, other end pigtailed	

Please append cable length to ordering code!
 05 = Length 5 m
 10 = Length 10 m
 25 = Length 25 m

Cable can be trailed and may also be shortened to the required length. For fixed routing the minimum bending radius is 16 mm at an ambient temperature of -40...+85 °C. When cable is trailed the min. bending radius is 80 mm at an ambient temperature of -25...+85 °C.

Supply voltage for all BIS S-6_ _

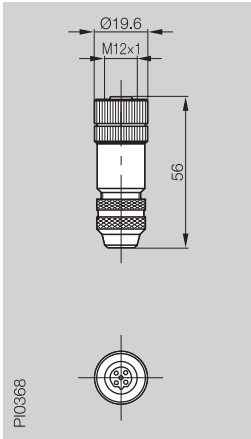
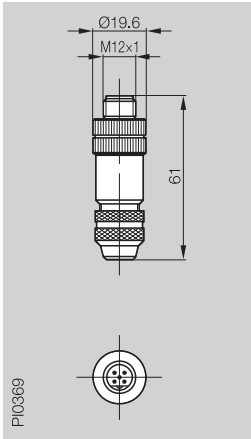
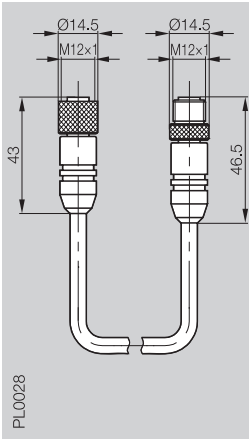
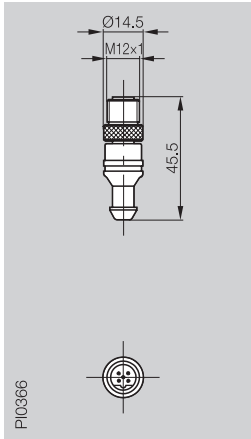


For BIS S-501-PU1- _ _ and BIS S-502-PU1- _ _ a BKS-S 117-00 is included.

Connectors read/write head



Data Carriers
 Read/Write Heads
 Processors for Simultaneous Mode
 Processors
Handy Programmer, Connectors
 Connectors, Termination Resistor
 Installation Notes, Read/Write Times, Software, Service Tools

Type Version	5-pin, female for PROFIBUS-DP	5-pin, male for PROFIBUS-DP	Male, female PROFIBUS-DP extension cable	5-pin, male PROFIBUS-DP termination resistor
				
Order code	BKS-S103-00	BKS-S105-00	BKS-S103/GS103-CP-__	BKS-S105-R01
Connector type	M12 B-coded	M12 B-coded	M12 B-coded	M12 B-coded
Recommended cable				
Conductor cross section			2 × 0.64 mm ²	
Protection* per IEC 60529	IP 67	IP 67	IP 67	IP 67
Ambient operating temperature	-40...+85 °C	-40...+85 °C	-40...+85 °C	-40...+85 °C

*only when connected

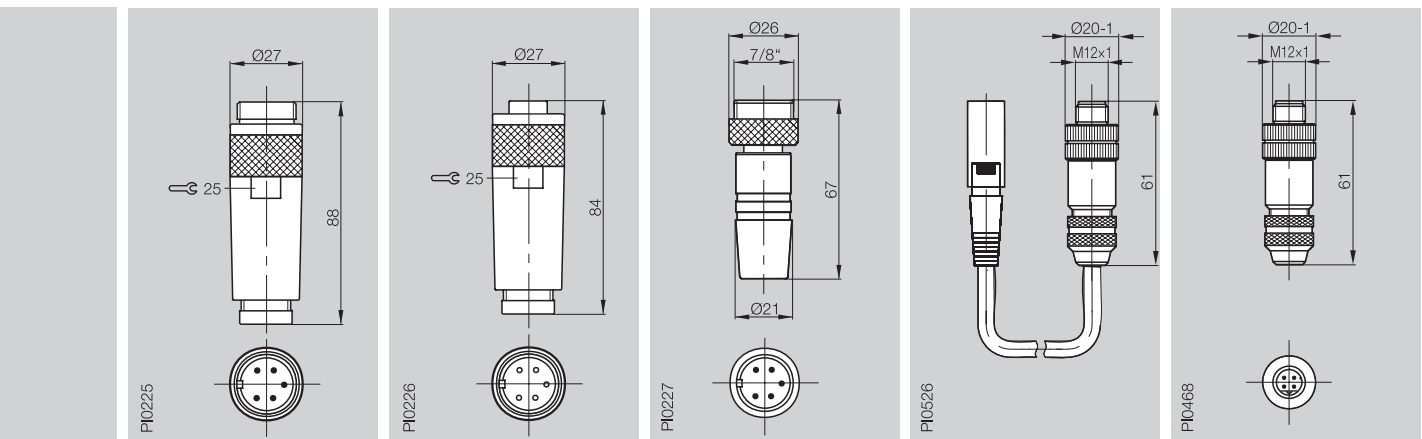
Please append cable length to ordering code!

00,3 = Length 0.3 m
02 = Length 2 m
05 = Length 5 m
10 = Length 10 m



**Threaded cover
BKS 12-CS-01**
coded for M12 B
connector type

5-pin, male for connection to processors BIS C-6023 DeviceNet	5-pin, female for connection to processors BIS C-6023 DeviceNet	5-pin, male Termination resistor for processors BIS C-6023 DeviceNet	Adapter cable for EtherNet from M12 D-coded to coupling RJ45/RJ45	4-pin, male for connection to processors BIS C-6026 and BIS C-6027, EtherNet
--	--	---	--	---



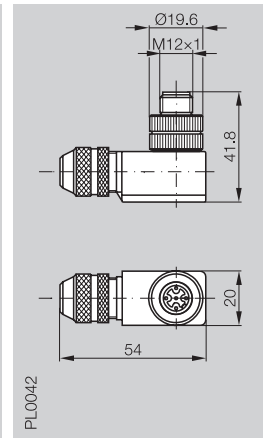
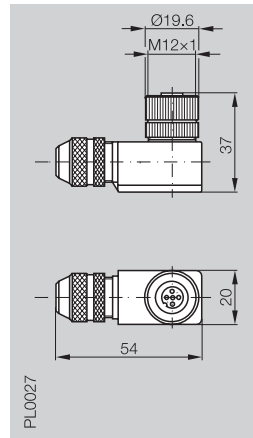
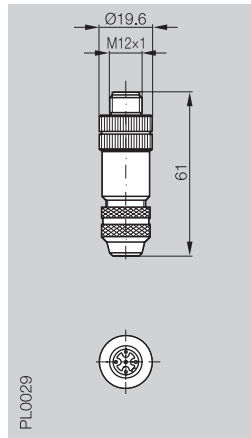
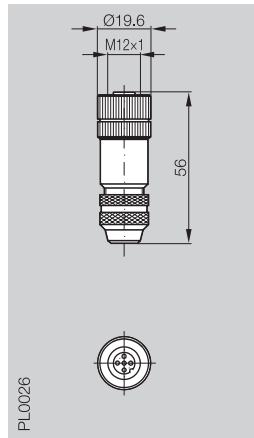
BKS-S 98-00 Round-connector LiYCY-0 0.5 mm ² IP 67 -40...+90 °C	BKS-S 99-00 Round-connector LiYCY-0 0.5 mm ² IP 67 -40...+90 °C	BKS-S 98-R01 Round-connector IP 67 -40...+85 °C	BIS C 526-PVC-00,5	BKS-S 182-00 M12 D-coded IP 67 -40...+90 °C
---	---	--	--------------------	--



Data Carriers
Read/Write
Heads
Processors for
Simultaneous
Mode
Processors
Handy
Programmer,
Connectors
**Connectors,
Termination
Resistor**
Installation
Notes,
Read/Write
Times,
Software,
Service Tools



Type	5-pin, female	5-pin, male	5-pin, right-angle, female	5-pin, right-angle, male
Version	BIS S-6003-...	BIS S-6003-...	BIS S-6003-...	BIS S-6003-...



Order code	BKS-S 92-00	BKS-S 94-00	BKS-S 93-00	BKS-S 95-00
Connector type	Round-connector	Round-connector	Round-connector	Round-connector
Cable diameter	6...8 mm	6...8 mm	6...8 mm	6...8 mm
No. of wires × conductor cross section				
Protection per IEC 60529	IP 67 (when attached)	IP 67 (when attached)	IP 67 (when attached)	IP 67 (when attached)
Resistor				

Pin assignments	BKS-S 92-00/-S 93-00/ -S 94-00/-S 95-00		BKS-S 92-R01/ -S 94-R01	
	Pin	Signal	Pin	Signal
<p>View of female coupling side</p>	1	Drain	1	-
	2	V+	2	-
	3	V-	3	-
	4	CAN_H	4	121 Ohm
	5	CAN_L	5	

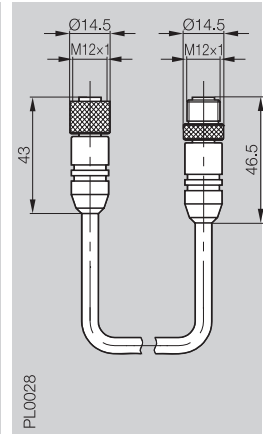
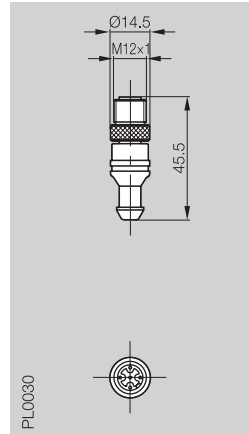
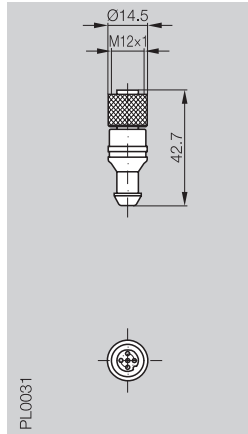
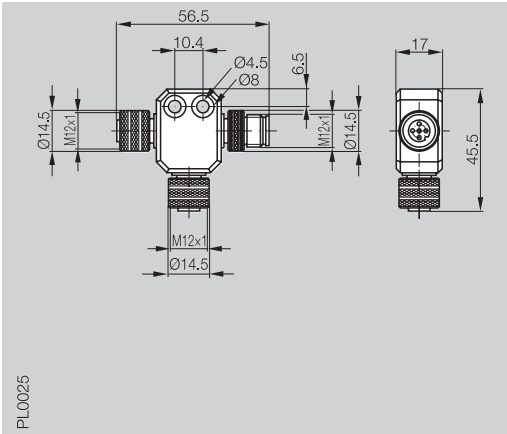


T-splitter, 2 × female, 1 × male
BIS S-6003-...

Termination resistor
BIS S-6003-...

Termination resistor, male
BIS S-6003-...

Male/female extension
BIS S-6003-...



BKS-S 92-TA1
Round-connector

BKS-S 92-R01
Round-connector
female

BKS-S 94-R01
Round-connector

BKS-S 92-16/GS92-_
Round-connector

IP 65

IP 68
121 Ohm

IP 68
121 Ohm

5 × 0.34 mm²
IP 67

Please append cable length to ordering code!

02 = Length 2 m

05 = Length 5 m

10 = Length 10 m

BIS S

Data Carriers
Read/Write
Heads

Processors for
Simultaneous
Mode

Processors
Handy
Programmer,
Connectors

**Connectors,
Termination
Resistor**

Installation
Notes,
Read/Write
Times,
Software,
Service Tools



DeviceNet
PERFORMANCE TESTED

Installation in Steel

Clear zone dimensions for components with rod antenna or air coil.

Data carriers	Fig.	Dimensions (in mm)		
		A	B	C
BIS S-108-_/L	1	10	10	11
BIS S-150-_/A	1	80	80	22

Read/write head	Fig.	Dimensions (in mm)		
		A	B	C
BIS S-301	2	80	80	40
BIS S-302	3	40	40	40
BIS S-303	4	40	40	40

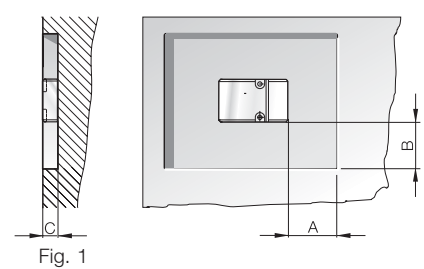


Fig. 1

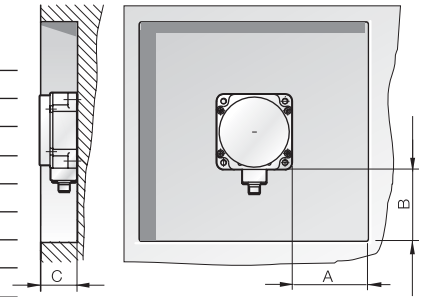


Fig. 2

Installation in Aluminum

Clear zone dimensions for components with rod antenna or air coil.

Data carriers	Fig.	Dimensions (in mm)		
		A	B	C
BIS S-108-_/L	1	10	10	11
BIS S-150-_/A	1	80	80	22

Read/write head	Fig.	Dimensions (in mm)		
		A	B	C
BIS S-301	2	80	80	40
BIS S-302	3	40	40	40
BIS S-303	4	40	40	40

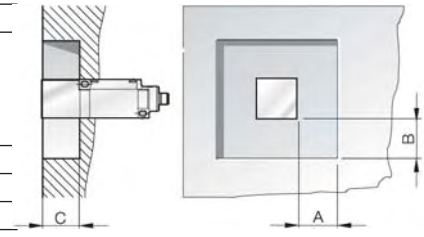


Fig. 3

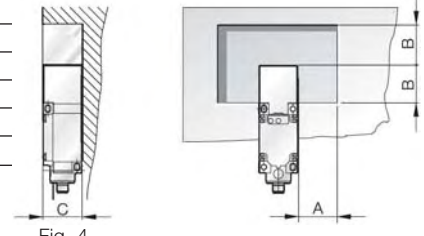


Fig. 4

Note

Depending on the combination of read/write head and data carrier, clear zone dimension A and B should always be selected for the larger of the components.

Read Times

Bytes	Read time [ms]
from 0 to 63	29
for each additional 64 bytes started	
add an additional	31
from 0 to 2047	990

Write Times

Byte	Write time [ms]
from 0 to 63	31 + n × 1.5
≥ 64	y × 31 + n × 1.5
from 0 to 2047	= max. 4064

n = Number of contiguous bytes to write

y = Number of blocks to process

Example:

Write 87 bytes starting with Address 187. Data carrier = 64-byte blocks.

Blocks 2 to 5 are processed, since start address 187 is in Block 2 and end address 274 is in Block 5.

$$t = 4 \times 31 + 87 \times 1.5 = \mathbf{255 \text{ ms}}$$

Mechanical Strength

Data carriers and read/write heads

Ordering code	BIS S-1_-, BIS S-3_-
Shock load	100 g/6 ms per EN 60068-2-27 and 100 g/2 ms per EN 60068-2-29
Vibration	20 g, 10...2000 Hz per EN 60068-2-6

Processors

Ordering code	BIS S-6_-
Shock load	15 g/11 ms per EN 60068-2-27 and 15 g/6 ms per EN 60068-2-29
Vibration	5 g, 10...150 Hz per EN 60068-2-6

BISCOMRW

This free software allows you to read or program a data carrier using any common PC.

Requirements:

PC:
Serial port or USB port using a USB to serial converter.
Windows XP or Windows 2000.
CD-ROM drive.

Processor:
Any processor using Balluff Protocol (-007) and built-in serial port.

Functions:

- Read data carrier and display the data in ASCII and hex format.
- Edit data and write data to the data carrier.
- Initialize data carrier for the CRC function.



**Software Coupling
BIS C-60_2 for Siemens
Simatic S7**

Function module for using processors with INTERBUS- or PROFIBUS-DP interface on a Simatic S7 controller.

The function module offers all the functionality provided by the processors for programming and reading a data carrier. Data are exchanged through the I/O section of the controller.

Features:

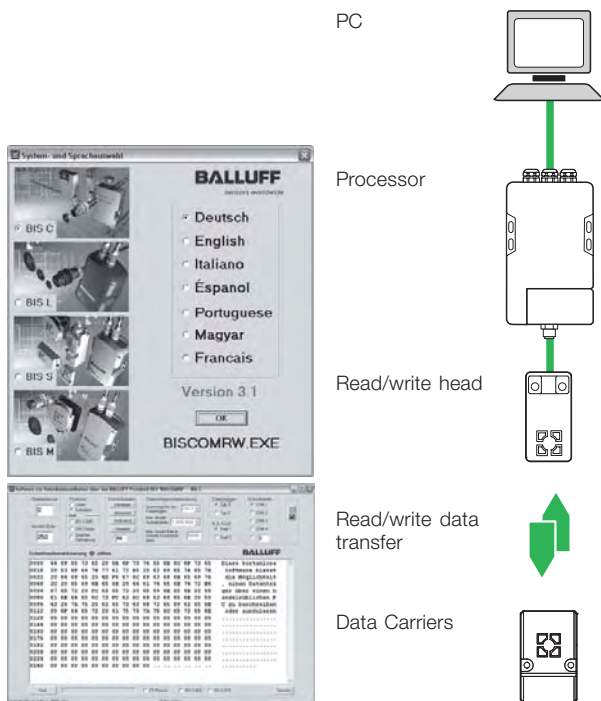
- short startup times
- easy to use the system

**PROFIBUS-DP Master
Simulator**

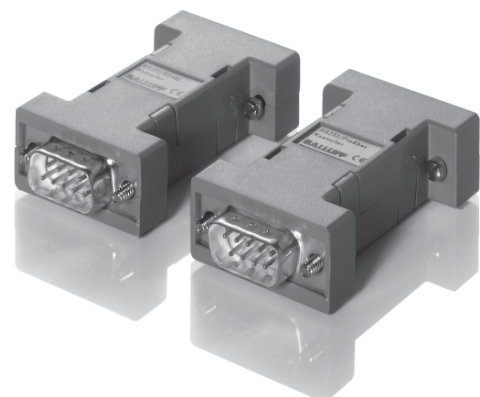
The PROFIBUS-DP Master Simulator is a simple, universal program for data exchange with PROFIBUS slaves from virtually any manufacturer over PROFIBUS-DP.

Included with delivery are:

- Software
- PROFIBUS-DP master simulator
- PROFIBUS-DP converter
- D-Sub data cable



**Adapter cable USB
to 9-pin RS232
serial converter 134092.**



Data Carriers
Read/Write
Heads
Processors for
Simultaneous
Mode
Processors
Handy
Programmer,
Connectors
Connectors,
Termination
Resistor
**Installation
Notes,
Read/Write
Times,
Software,
Service Tools**

BALLUFF

sensors worldwide



Balluff GmbH
Schurwaldstrasse 9
73765 Neuhausen a.d.F.
Germany
Phone +49 7158 173-0
Fax +49 7158 5010
balluff@balluff.com



 www.balluff.com