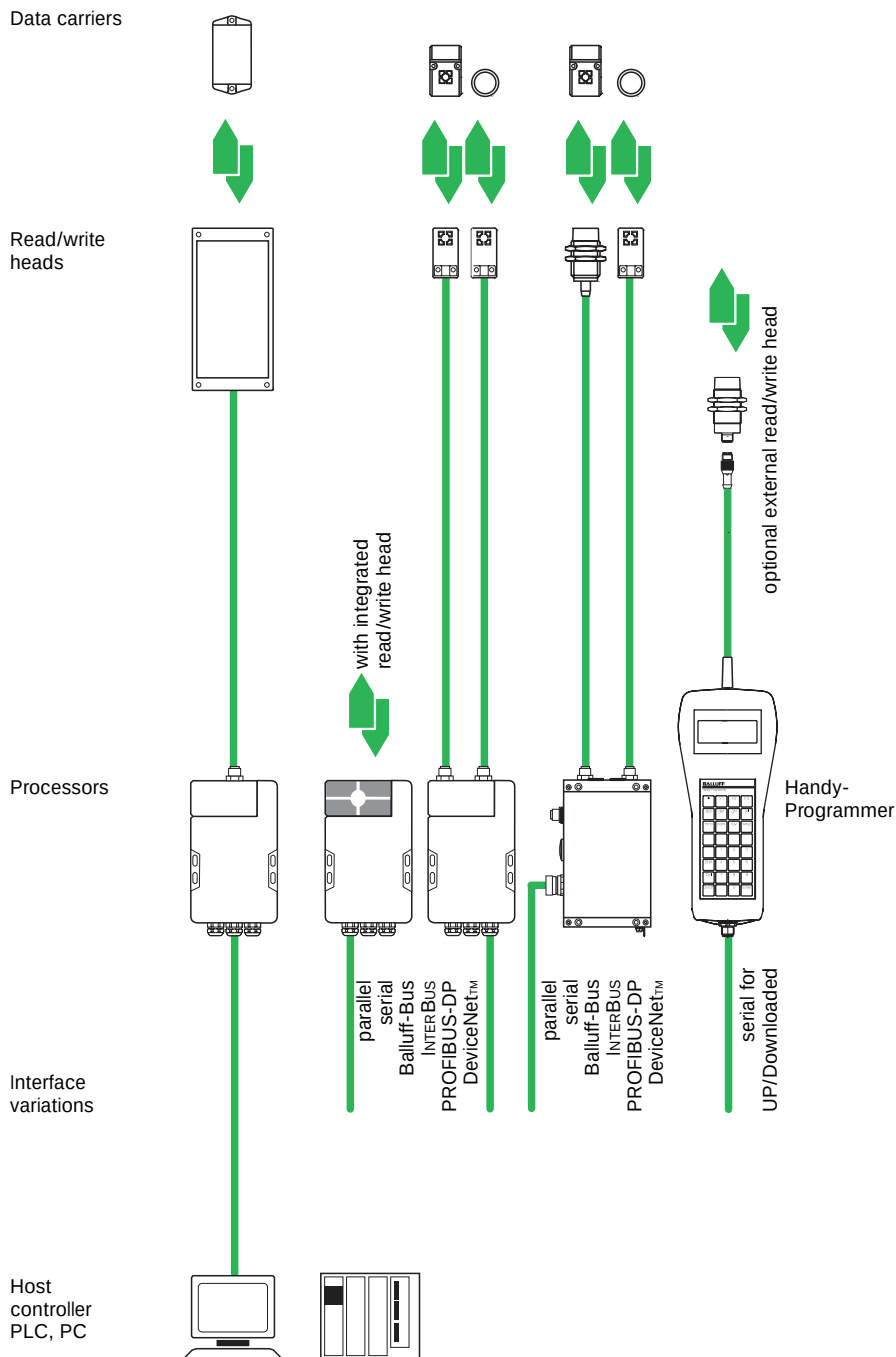


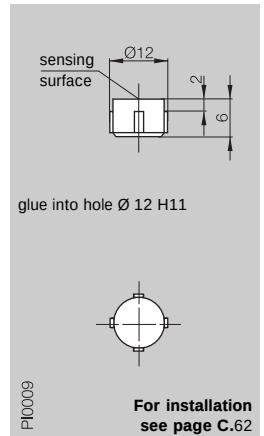
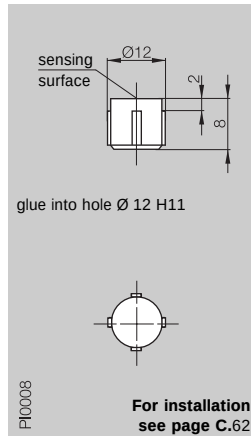
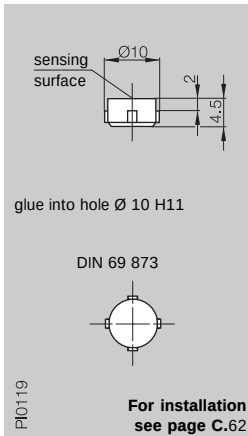
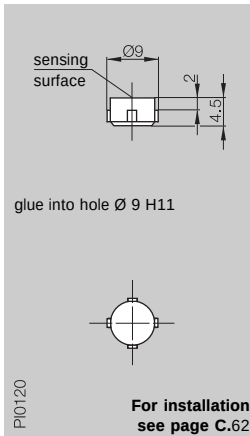
Read/Write Systems BIS C

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. The data carrier can also be read or programmed "on-the-fly". Data integrity is ensured by means of special checking software. No additional data security measures on the part of the user are required.

- C.2** Data Carriers
- C.8** Read/Write Heads
- C.20** Data Coupler
- C.22** Adapter and Read/Write Heads Integrated
- C.24** 8-bit Read-Only System
- C.26** Compact-Processors
- C.36** Metal Housing Processors
- C.40** Compact Processors for Simultaneous Mode
- C.46** Metal Housing Processors for Simultaneous Mode
- C.50** Handy Programmer
- C.52** Read/Write Guns, Mounting Cuffs
- C.54** Connector Cables with Connectors
- C.56** Connectors, Termination Resistor
- C.62** Installation Notes
- C.66** Read/Write Times Software, Service Tools



Dimensions	Ø 9×4,5	Ø 10×4,5	Ø 12×8	Ø 12×6	
Housing material	EP	EP	EP	EP	
Antenna type	round	round	round	round	
Weight	0.5 g	0.7 g	1.8 g	1.2 g	


BIS C Programmable

511 Byte	Order code	BIS C-121-04/L	BIS C-122-04/L	BIS C-103-05/A	BIS C-105-05/A
1023 Byte	Order code				
2047 Byte	Order code		BIS C-122-11/L		
8 kByte	Order code				

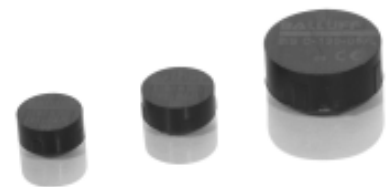
Operating temperature	0...+70 °C	0...+70 °C	-30...+70 °C	-30...+70 °C	
Storage temperature	-20...+85 °C*	-20...+85 °C*	-30...+85 °C*	-30...+85 °C*	
Protection per IEC 60529	IP 67	IP 67	IP 67	IP 67	

Mounting in steel

appropriate read/write head
with max. read/write distance

	flush	non-flush		flush	non-flush		flush	non-flush		flush	non-flush
BIS C-300	2 mm	2.5 mm	BIS C-300	2.5 mm	3 mm	BIS C-300	3.5 mm	4 mm	BIS C-300	3.5 mm	4 mm
BIS C-302	2 mm	2.5 mm	BIS C-302	2.5 mm	3 mm	BIS C-302	3.5 mm	4 mm	BIS C-302	3.5 mm	4 mm
BIS C-305	2 mm	2.5 mm	BIS C-305	2.5 mm	3 mm	BIS C-305	5 mm	5 mm	BIS C-305	5 mm	5 mm
BIS C-306	2 mm	2.5 mm	BIS C-306	2.5 mm	3 mm	BIS C-306	3.5 mm	4 mm	BIS C-306	3.5 mm	4 mm
BIS C-325	2 mm	2.5 mm	BIS C-325	2.5 mm	3 mm	BIS C-325	4 mm	4 mm	BIS C-325	4 mm	4 mm

*also available for up to
+120 °C on request


Read/Write Cycles

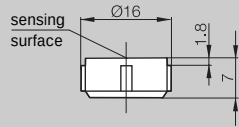
Data carriers	Memory type	Write cycles up to 30 °C	Write cycles up to 70 °C	Read cycles	Memory organization
511 Byte	EEPROM	1 000 000	500 000	unlimited	32 bytes per block
1023 Byte	EEPROM	1 000 000	500 000	unlimited	32 bytes per block
2047 Byte	EEPROM	1 000 000	500 000	unlimited	64 bytes per block
8 kByte	FRAM	unlimited	unlimited	unlimited	64 bytes per block

Data Carriers

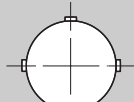
Read/Write
Heads
Data Coupler
Adapter and
Read/Write
Head
integrated
8-bit
Read-Only
System
Compact-
Processors
Metal Housing
Processors
Compact
Processors for
Simultaneous
Mode
Metal Housing
Processors
for
Simultaneous
Mode
Handy
Programmer
Read/Write
Guns,
Mounting
Cuffs
Connector
Cables with
Connectors
Connectors,
Termination
Resistor
Installation
Notes
Read/Write
Times
Software,
Service Tools

Ø 16×7

EP
round
2 g



glue into hole Ø 16 H11

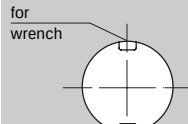
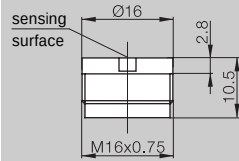


P10057

**For installation
see page C.62**

Ø 16×10.5

PA 6.6
round
3 g

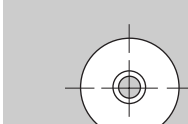
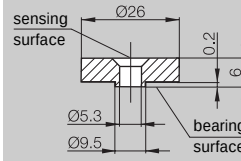


P10169

**For installation
see page C.62**

Ø 26×6

EP
round
6 g



P10042

**For installation
see page C.62**

BIS C-130-05/L
BIS C-100-05/A
BIS C-128-05/L
BIS C-128-11/L

-30...+70 °C
-30...+85 °C*
IP 67

0...+70 °C
-20...+85 °C
IP 67

-20...+70 °C
-20...+85 °C*
IP 67

flush

non-flush

flush

non-flush

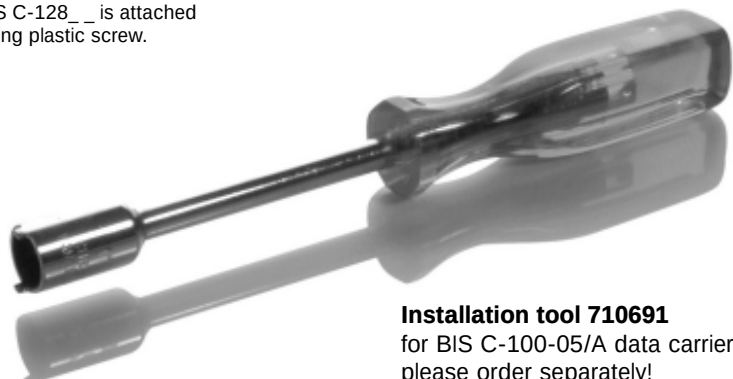
flush

non-flush

BIS C-300	4 mm	4 mm	BIS C-300	4 mm	4 mm	BIS C-305**		6 mm
BIS C-305	3.5 mm	6 mm	BIS C-302	4 mm	4 mm	BIS C-310	5 mm	12 mm
BIS C-306	4 mm	4 mm	BIS C-305	3 mm	3 mm	BIS C-315		17 mm
BIS C-310		10 mm	BIS C-306	4 mm	4 mm	BIS C-318		8 mm
BIS C-315		15 mm	BIS C-325	4 mm	4 mm	BIS C-323	5 mm	12 mm
BIS C-319	3.5 mm	10 mm				BIS C-324	5 mm	12 mm
BIS C-323		10 mm				BIS C-326		15 mm
BIS C-325	4 mm	4 mm						
BIS C-326		11 mm						

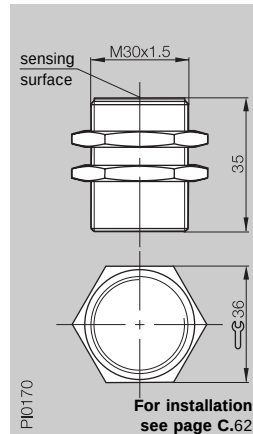
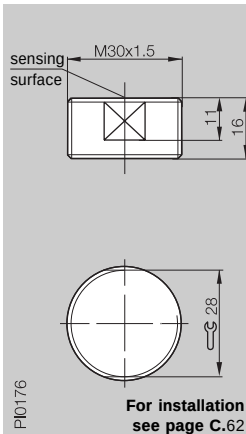
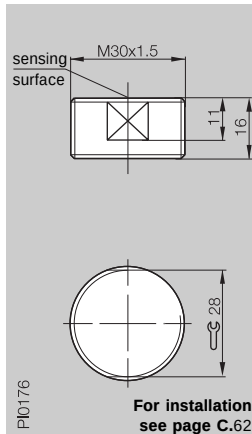
Compatible screws for
BIS C-128-...data carriers:
DIN EN ISO 2009 M5
(countersunk slot head
screw)
DIN EN ISO 7046-1 M5
(countersunk Philips head
screw)
Screw tightening torque
2.5 Nm

**BIS C-305, only if
BIS C-128 __ is attached
using plastic screw.



Installation tool 710691
for BIS C-100-05/A data carrier
please order separately!

Dimensions	Ø 30×16	Ø 30×16 air coil	Ø 30×35		
Housing material	PBT	PBT	CuZn nickel plated		
Antenna type	round	round	round		
Weight	23 g	5,5 g	54 g		


BIS C Programmable

511 Byte	Order code				
1023 Byte	Order code	BIS C-117-05/A	BIS C-117-05/L		
2047 Byte	Order code			BIS C-104-11/A	
8 kByte	Order code			BIS C-104-32/A	

Operating temperature	-30...+70 °C	-30...+70 °C	-30...+70 °C		
Storage temperature	-30...+85 °C	-30...+85 °C	-30...+85 °C		
Protection per IEC 60529	IP 67	IP 67	IP 67		

Mounting in steel

appropriate read/write head
with max. read/write distance

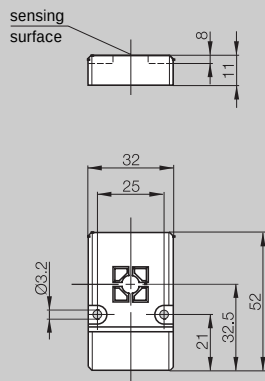
	flush	non-flush		flush	non-flush		flush	non-flush
BIS C-305	8 mm	9 mm	BIS C-305		6 mm	BIS C-310	7 mm	11 mm
BIS C-310	10 mm	12 mm	BIS C-310		12 mm	BIS C-315	13 mm	13 mm
BIS C-315	13 mm	15 mm	BIS C-315		17 mm	BIS C-323	7 mm	13 mm
BIS C-323	10 mm	12 mm	BIS C-318		8 mm	BIS C-324	8 mm	11 mm
BIS C-324	8 mm	12 mm	BIS C-319		13 mm			
			BIS C-323		12 mm			
			BIS C-324		12 mm			
			BIS C-326		13 mm			

Screw tightening torque
40 Nm

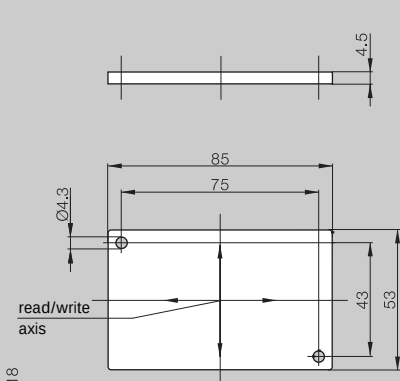

Read/Write Cycles

Data carriers	Memory type	Write cycles up to 30 °C	Write cycles up to 70 °C	Read cycles	Memory organization
511 Byte	EEPROM	1 000 000	500 000	unlimited	32 bytes per block
1023 Byte	EEPROM	1 000 000	500 000	unlimited	32 bytes per block
2047 Byte	EEPROM	1 000 000	500 000	unlimited	64 bytes per block
8 kByte	FRAM	unlimited	unlimited	unlimited	64 bytes per block

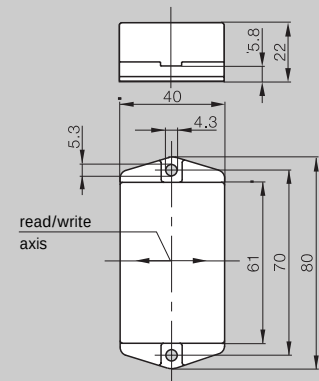
52×32×11

PBT
round
28 g

For installation
see page C.62

85×53×4,5

ABS
round
30 g

For installation
see page C.62

80×40×22

POM
rod
75 g

For installation
see page C.62

BIS C-108-05/L
BIS C-108-11/L
BIS C-108-32/L

-30...+70 °C
-30...+85 °C
IP 67

BIS C-127-05/L

0...+60 °C
-20...+60 °C
IP 67

BIS C-150-05/A
BIS C-150-11/A
BIS C-150-32/A

-30...+70 °C
-30...+85 °C
IP 67

	flush	non-flush
BIS C-305	5 mm	8 mm
BIS C-310	10 mm	11 mm
BIS C-315		16 mm
BIS C-318		8 mm
BIS C-319		18 mm
BIS C-323		11 mm
BIS C-324		11 mm

	flush	non-flush
BIS C-315	35 mm	35 mm
BIS C-318		35 mm

	flush	non-flush
BIS C-350	100 mm	100 mm
BIS C-351	50 mm	50 mm


BIS C
Data Carriers

Read/Write
Heads

Data Coupler

Adapter and

Read/Write

Head

integrated

8-bit

Read-Only

System

Compact-

Processors

Metal Housing

Processors

Compact

Processors for

Simultaneous

Mode

Metal Housing

Processors

for

Simultaneous

Mode

Handy

Programmer

Read/Write

Guns,

Mounting

Cuffs

Connector

Cables with

Connectors

Connectors,

Termination

Resistor

Installation

Notes

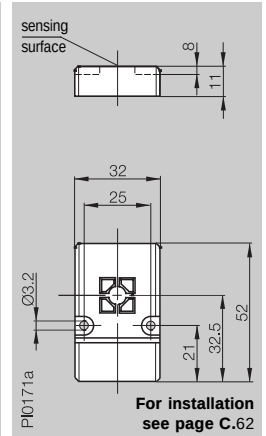
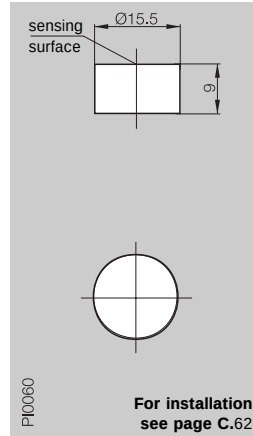
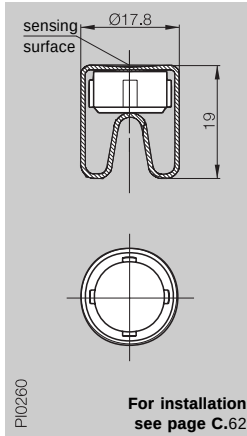
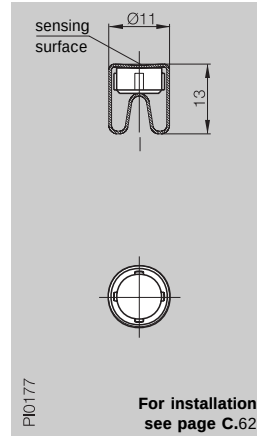
Read/Write

Times

Software,

Service Tools

Dimensions	Ø 11×13	Ø 17,8×19	Ø 15,5×7	52×32×11
Housing material	EP with glass sleeve	EP with glass sleeve	PA 6.6	PBT
Antenna type	round	round	round	round
Weight	1.1 g	4.5 g	2 g	28 g


BIS C Programmable

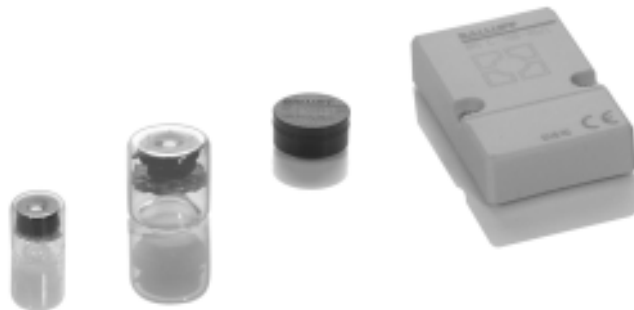
511 Byte	Order code	BIS C-121-04/L-SA1			
1023 Byte	Order code		BIS C-130-05/L-SA2	BIS C-130-05/L-SA1	BIS C-108-05/L-SA2
2047 Byte	Order code				BIS C-108-11/L-SA2
8 kByte	Order code				

Operating temperature	+10...+70 °C	+10...+70 °C	-30...+70 °C	-30...+70 °C
Storage temperature	+10...+126 °C	+10...+126 °C	-30...+85 °C	-30...+85 °C
Protection per IEC 60529	IP 68	IP 68	IP 68	IP 67

Mounting in steel

appropriate read/write head
with max. read/write distance

	flush	non-flush		flush	non-flush		flush	non-flush		flush	non-flush
BIS C-300	0.7 mm		BIS C-300	2.5 mm	3.7 mm	BIS C-300	4 mm	4 mm	BIS C-305		8 mm
BIS C-302	0.7 mm		BIS C-305		4.2 mm	BIS C-305	3.5 mm	6 mm	BIS C-310	4 mm	11 mm
BIS C-305	0.7 mm		BIS C-306	2.5 mm	3.7 mm	BIS C-306	4 mm	4 mm	BIS C-315	10 mm	16 mm
BIS C-306	0.7 mm		BIS C-310	3.2 mm	8.2 mm	BIS C-310	6 mm		BIS C-318		7 mm
BIS C-325	0.7 mm		BIS C-319		9 mm	BIS C-319		10 mm	BIS C-323	4 mm	11 mm
			BIS C-323	3.2 mm	8.2 mm	BIS C-323	6 mm		BIS C-324	4 mm	11 mm
			BIS C-324	3.2 mm	8.2 mm	BIS C-324	6 mm		BIS C-326		12 mm
			BIS C-325	3 mm	3 mm	BIS C-325	3 mm	3 mm			
			BIS C-326		11 mm	BIS C-326		11 mm			


Read/Write Cycles

Data carriers	Memory type	Write cycles up to 30 °C	Write cycles up to 70 °C	Read cycles	Memory organization
511 Byte	EEPROM	1 000 000	500 000	unlimited	32 bytes per block
1023 Byte	EEPROM	1 000 000	500 000	unlimited	32 bytes per block
2047 Byte	EEPROM	1 000 000	500 000	unlimited	64 bytes per block
8 kByte	FRAM	unlimited	unlimited	unlimited	64 bytes per block

Ø 60×21

POM

round

85 g

34×34

PBT

round/double

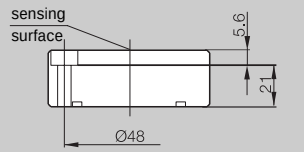
15 g

12,5×12,5

PBT

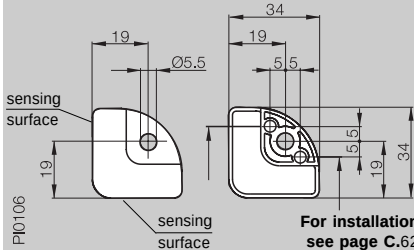
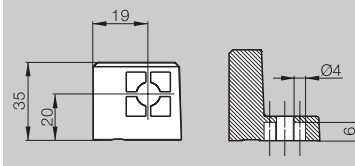
round/double

10 g

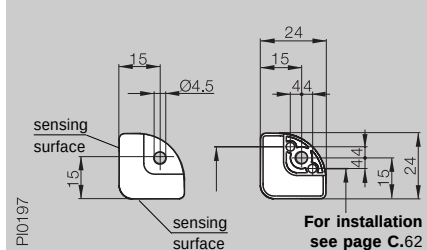
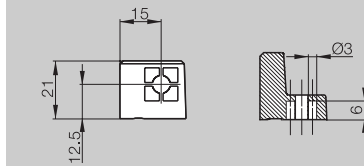


PI0178

For installation see page C.62



For installation see page C.62



For installation see page C.62

BIS C-133-05/L

BIS C-133-11/L

BIS C-190-05/L

BIS C-190-11/L

BIS C-190-32/L

BIS C-191-05/L

BIS C-191-11/L

-30...+70 °C

-30...+85 °C

IP 67

-30...+70 °C

-30...+85 °C

IP 67

-30...+70 °C

-30...+85 °C

IP 67

flush

non-flush

BIS C-310	9 mm	9 mm
BIS C-315	14 mm	14 mm
BIS C-323	9 mm	9 mm
BIS C-324	9 mm	9 mm
BIS C-326	10 mm	10 mm

flush

non-flush

BIS C-310	11 mm
BIS C-315	15 mm
BIS C-318	8 mm
BIS C-323	11 mm
BIS C-324	11 mm
BIS C-326	13 mm

flush

non-flush

BIS C-300	3.5 mm
BIS C-306	3.5 mm
BIS C-310	10 mm
BIS C-319	11 mm
BIS C-323	10 mm
BIS C-324	10 mm
BIS C-325	3.5 mm

Screw tightening torque 150 Ncm, anti-torquing installation provided by straight pin Ø 4 mm according to DIN EN 22338; DIN EN 28734

Screw tightening torque 150 Ncm, anti-torquing installation provided by straight pin Ø 3 mm according to DIN EN 22338; DIN EN 28734



Note!

Reading or writing can be performed on one active surface as desired.



BIS C

Data Carriers

Read/Write Heads

Data Coupler

Adapter and

Read/Write Head

integrated

8-bit

Read-Only

System

Compact-

Processors

Metal Housing

Processors

Compact

Processors for

Simultaneous

Mode

Metal Housing

Processors

for

Simultaneous

Mode

Handy

Programmer

Read/Write

Guns,

Mounting

Cuffs

Connector

Cables with

Connectors

Connectors,

Termination

resistor

Installation

Notes

Read/Write

Times

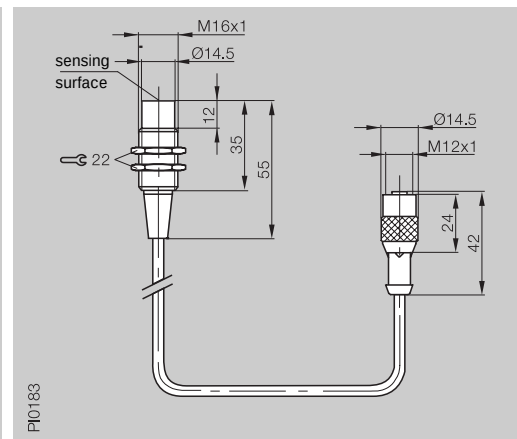
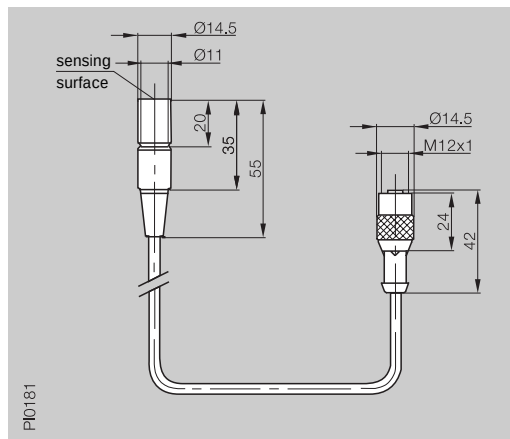
Software,

Service Tools

Dimensions
Housing material
Antenna type
Weight

Ø 14,5
nickel plated brass
round
210 g

M16
nickel plated brass
round
200 g



Order code

BIS C-300-__

BIS C-306-__

Mounting in steel
Operating temperature
Storage temperature
Protection per IEC 60529
Cable
Connection to

flush
0...+70 °C
-20...+85 °C
IP 67
1 m, 5 m or 10 m/PUR
processor

appropriate data carriers

Static mode

Write distance in mm
Read distance in mm
Offset in mm
at distance
0.7 mm
1 mm
3 mm
5 mm
7 mm
15 mm

BIS C-100-05/A flush	BIS C-103-05/A flush	BIS C-105-05/A flush	BIS C-121-04/L flush	BIS C-121-04/L-SA1 flush	BIS C-122-04/L flush	BIS C-130-05/L flush	BIS C-130-05/L non-flush	BIS C-130-05/L-SA1 non-flush	BIS C-130-05/L-SA2 non-flush	BIS C-191-__/L non-flush
0-4	0-3.5	0-3.5	0-1.5	0-0.7	0-2	0-3.5	0-4	0-4	0-3	0-3
0-4	0-3.5	0-3.5	0-2	0-0.7	0-2.5	0-3.5	0-4	0-4	0-3.7	0-3.5
±3	±3	±3	±1.5	±1	±2	±3	±5	±5	±4	±4
±2	±2	±2				±2	±3	±3	±2	±3
1	1	1	1		1	1-3	1-3	1-3		1-3
5	5	5	2		3	5	6-3	6-3		4-3
							8-5	8-5		6-5

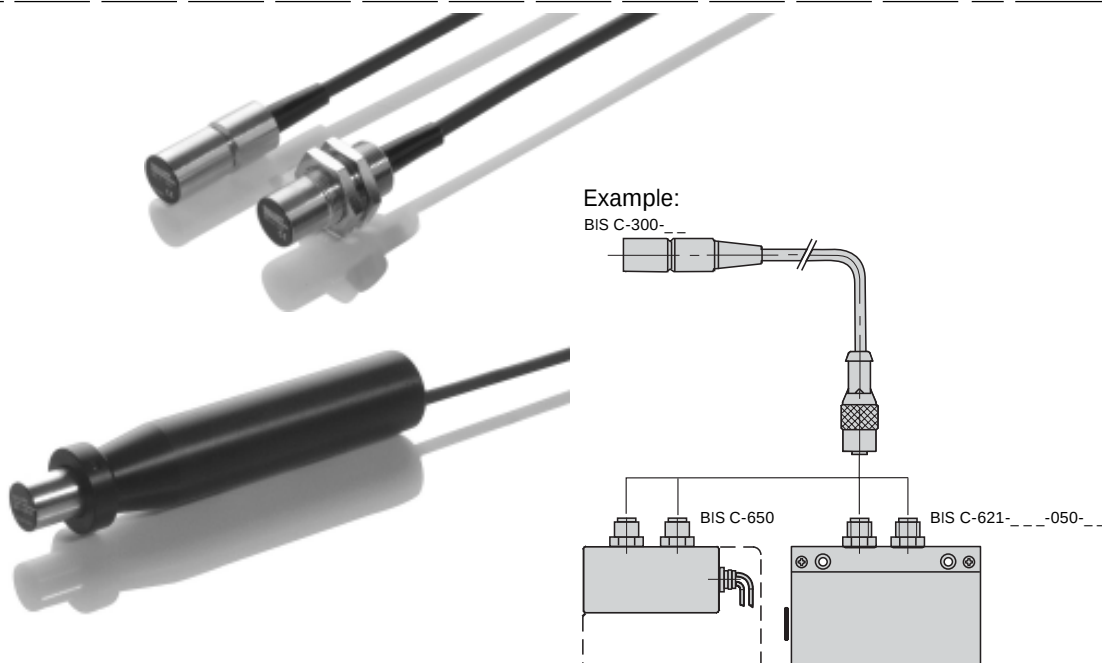
Dynamic mode

Read/write distance in mm
V _{max} to write bytes 0...3 in m/min
V _{max} to read bytes 0...3 in m/min

For read/write heads with connector, please append cable length to ordering code!
01 = Length 1 m, 05 = Length 5 m, 10 = Length 10 m.

Caution!
At 10 m cable length, read/write distance is reduced by 10 %.

Handle BIS C-300-HG1
for read/write head BIS C-300-__
Material: POM



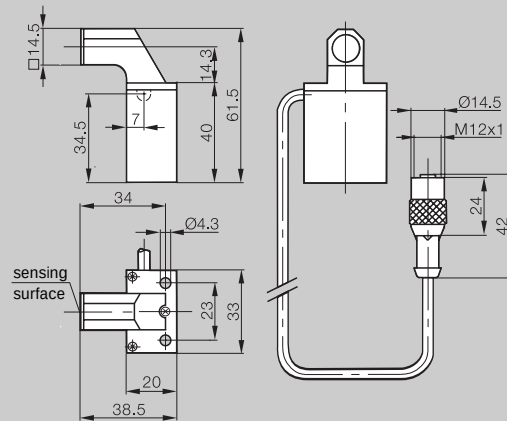
angle

AI/PA 6.6

round

270 g

P10445



BIS C-302-

flush

0...+70 °C

-20...+85 °C

IP 67

5 m or 10 m PUR

processor

BIS C-100-05/A flush	BIS C-103-05/A flush	BIS C-105-05/A flush	BIS C-121-04/L flush	BIS C-121-04/L-SA1 flush	BIS C-122-04/L flush	BIS C-130-05/L flush	BIS C-130-05/L non-flush	BIS C-130-05/L-SA1 non-flush	BIS C-130-05/L-SA2 non-flush	BIS C-191-_-_-/L non-flush
0-4	0-3.5	0-3.5	0-1.5	0-0.7	0-2	0-3.5	0-4	0-4	0-3	0-3
0-4	0-3.5	0-3.5	0-2	0-0.7	0-2.5	0-3.5	0-4	0-4	0-3.7	0-3.5
±3	±3	±3	±1.5	±1	±2	±3	±5	±5	±4	±4
±2	±2	±2				±2	±3	±3	±2	±3
1	1	1	1		1	1-3	1-3	1-3		1-3
5	5	5	2		3	5	6-3	6-3		4-3
							8-5	8-5		6-5

Cables on read/write heads must not be shortened, since functionality can then no longer be ensured.



BIS C

Data Carriers

**Read/Write
Heads**

Data Coupler

Adapter and

Read/Write

Head

integrated

8-bit

Read-Only

System

Compact-

Processors

Metal Housing

Processors

Compact

Processors for

Simultaneous

Mode

Metal Housing

Processors

for

Simultaneous

Mode

Handy

Programmer

Read/Write

Guns,

Mounting

Cuffs

Connector

Cables with

Connectors

Connectors,

Termination

Resistor

Installation

Notes

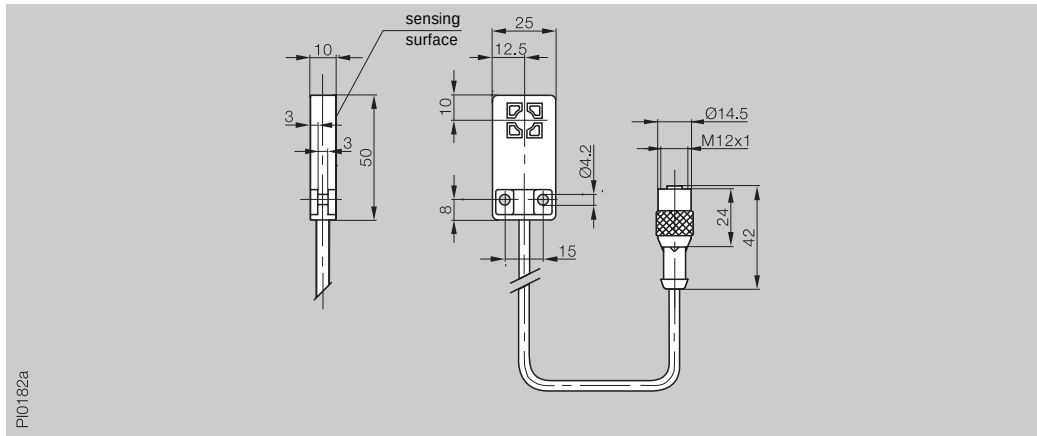
Read/Write

Times

Software,

Service Tools

Dimensions	50×25×10
Housing material	ABS
Antenna type	round
Weight	230 g



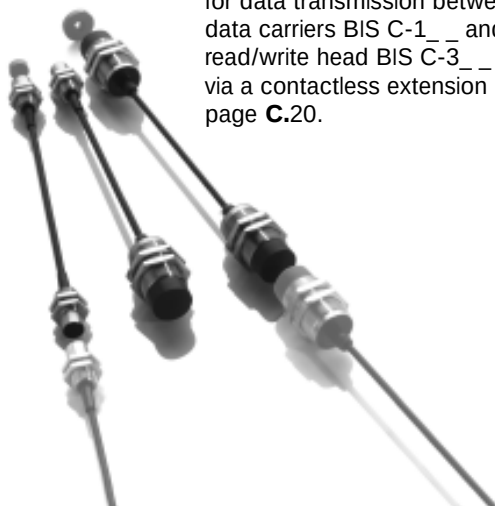
Order code	BIS C-305-__
Mounting in steel	flush
Operating temperature	0...+70 °C
Storage temperature	-20...+85 °C
Protection per IEC 60529	IP 67
Cable	1 m, 5 m or 10 m/PVC
Connection to	processor

appropriate data carriers		BIS C-100-05/A flush	BIS C-103-05/A BIS C-105-05/A flush	BIS C-108-__/L BIS C-108-__/L-SA2 non-flush	BIS C-117-05/A flush	BIS C-117-05/L non-flush	BIS C-121-04/L flush	BIS C-121-04/L-SA1 flush	BIS C-122-04/L flush	BIS C-128-05/L non-flush	BIS C-130-05/L non-flush	BIS C-130-05/L-SA1 non-flush	BIS C-130-05/L-SA2 non-flush
Static mode													
Write distance in mm		0-4	0-5	0-8	1-8	0-6	0-1.5	0-0.7	0-2	0-6	0-6	0-6	0-4
Read distance in mm		0-4	0-5	0-8	1-8	0-6	0-2	0-0.7	0-2.5	0-6	0-6	0-6	0-4.2
Offset in mm	0.7 mm							±1					
at distance	1 mm	±3	±3	±5	±5	±9	±1.5		±2	±7	±5	±5	±3
	3 mm	±2	±2	±5	±4	±8				±7	±3	±3	±2
	5 mm			±4	±3	±7				±5			
	7 mm					±4							
	10 mm												
	15 mm												
	20 mm												
Dynamic mode													
Read/write distance in mm		1	1	1-5	1-5	1-5			1	1-7	1-5	1-5	1-3
V _{max} to write bytes 0...3 in m/min				6-4	6-3	10-4				8-6	6-3	6-3	3-2
V _{max} to read bytes 0...3 in m/min		5	5	8-6	8-5	15-6			3	12-8	8-5	8-5	5-3

For read/write heads with connector, please append cable length to ordering code!
01 = Length 1 m, 05 = Length 5 m,
10 = Length 10 m.

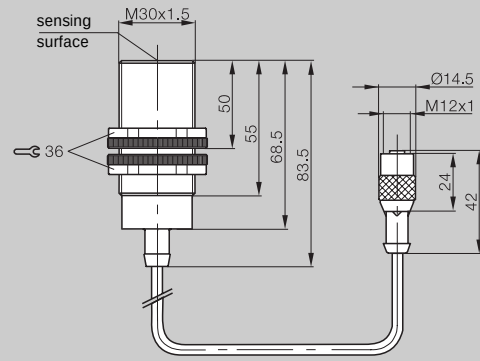
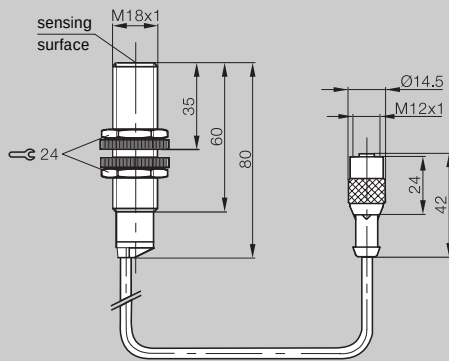
Caution!
At 10 m cable length, read/write distance is reduced by 10 %.

Data coupler BIS C-380-...
for data transmission between
data carriers BIS C-1__ and
read/write head BIS C-3__
via a contactless extension
page **C.20**.



M18
PBT
round
197 g

M30
PVDF
round
270 g



BIS C-319-

BIS C-326-

non-flush
0...+70 °C
-20...+85 °C
IP 67
1 m, 5 m or 10 m/PUR
processor

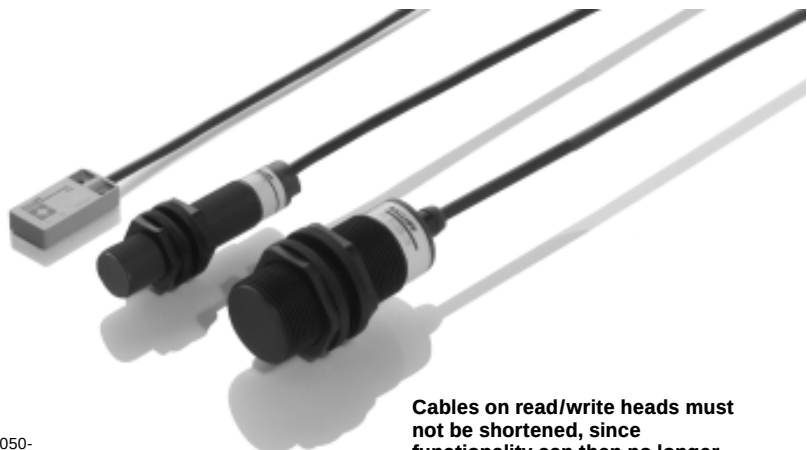
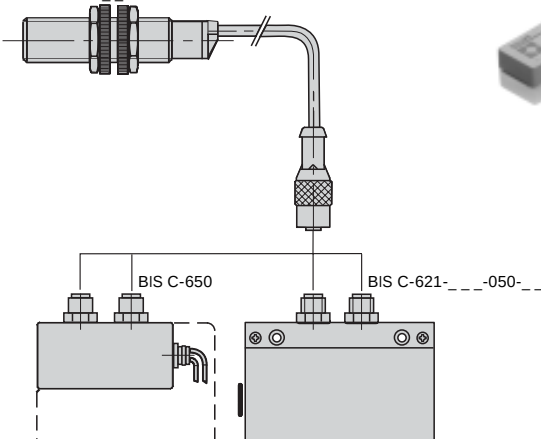
non-flush
0...+70 °C
-20...+85 °C
IP 67
5 m or 10 m/PUR
processor

BIS C-108-_/L non-flush	BIS C-117-05/L non-flush	BIS C-130-05/L non-flush	BIS C-130-05/L-SA1 non-flush	BIS C-130-05/L-SA2 non-flush	BIS C-191-_/L non-flush
0-13	0-13	0-10	0-10	0-6	0-8
0-13	0-13	0-10	0-10	0-6	0-11
±11	±13	±9	±7	±7	±9
±11	±13	±8	±5	±5	±8
±11	±13	±7	±4	±4	±7
±11	±13	±5			±5
0-10	0-10	0-7	0-5		0-7
13	15	10-6	8-4		10-6
18	22	15-8	12-6		15-8

BIS C-117-05/L non-flush	BIS C-128-_/L non-flush	BIS C-128-_/L on steel	BIS C-130-_/L non-flush	BIS C-130-05/L-SA1 non-flush	BIS C-130-05/L-SA2 non-flush	BIS C-133-_/L non-flush	BIS C-190-_/L non-flush
0-13	0-15	0-12.5	0-11	0-11	0-11	0-10	0-13
0-13	0-15	0-12.5	0-11	0-11	0-11	0-10	0-13
±15	±15	±12	±9	±9	±8	±10	±10
±15	±15	±12	±8	±8	±8	±10	±10
±15	±10	±12	±7	±7	±5	±8	±9
±15	±9	±12			±5	±7	±9
±10	±5						±5
0-15	0-10	0-7	0-5	0-5	0-7	0-7	0-10
18-10	18-6	14	10-8	10-8	9-6	12-8	12-6
25-15	25-8	20	15-12	15-12	13-8	17-12	17-8

Example:

BIS C-319-



Cables on read/write heads must not be shortened, since functionality can then no longer be ensured.

BIS C

Data Carriers
**Read/Write
Heads**

Data Coupler
Adapter and
Read/Write
Head
integrated

8-bit
Read-Only
System

Compact-
Processors

Metal Housing
Processors

Compact
Processors for
Simultaneous
Mode

Metal Housing
Processors
for
Simultaneous
Mode

Handy
Programmer

Read/Write
Guns,
Mounting
Cuffs

Connector
Cables with
Connectors

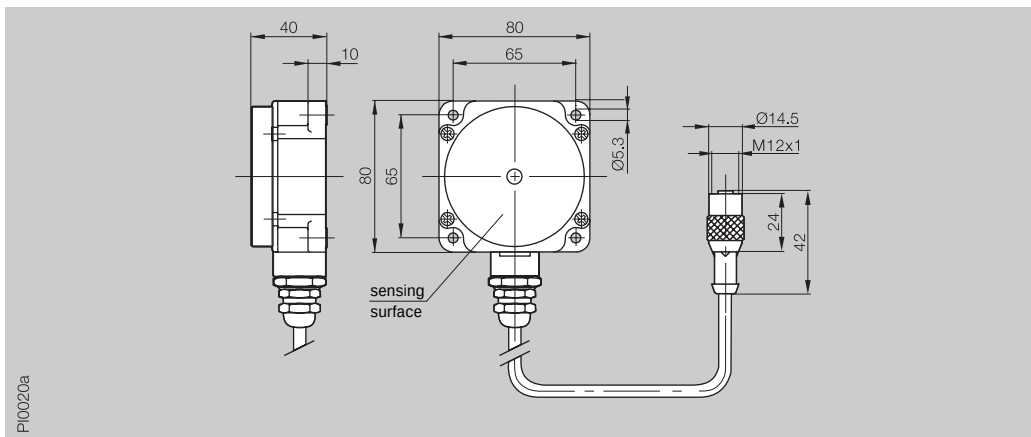
Connectors,
Termination
Resistor

Installation
Notes

Read/Write
Times

Software,
Service Tools

Dimensions	80×80×40
Housing material	PBT
Antenna type	round
Weight	510 g



Order code	BIS C-315-__
Mounting in steel	flush
Operating temperature	0...+70 °C
Storage temperature	-20...+85 °C
Protection per IEC 60529	IP 67
Cable	1 m, 5 m or 10 m/PUR
Connection to	processor

appropriate data carriers

Static mode

		BIS C-104-__/A flush	BIS C-108-__/_L non-flush	BIS C-108-__/_L-SA2 non-flush	BIS C-117-05/A flush	BIS C-117-05/L non-flush	BIS C-127-05/L non-flush	BIS C-128-__/_L non-flush	BIS C-130-05/L non-flush	BIS C-133-__/_L non-flush	BIS C-190-__/_L non-flush
Write distance in mm		1-13	2-16	2-16	3-13	0-17	10-35	0-16	0-15	0-14	0-15
Read distance in mm		1-13	2-16	2-16	3-13	0-17	10-35	0-16	0-15	0-14	0-15
Offset in mm	1 mm	±15	±15	±15	±15	±15	±20	±25	±12	±15	±15
at distance	3 mm	±14	±14	±15	±12	±15	±20	±25	±12	±15	±15
	5 mm	±11	±12	±12	±12	±15	±20	±15	±12	±12	±15
	7 mm	±10	±11	±10	±12	±15	±20	±12	±12	±10	±15
	10 mm	±8	±8	±8	±12	±15	±20		±10	±8	±15
	15 mm					±10	±20		±5		±10
	20 mm						±20				

Dynamic mode

Read/write distance in mm		1-7	2-10	2-10	3-10	1-15	10-20	1-15	1-15	1-10	1-10
V _{max} to write bytes 0...3 in m/min		18-9	18-9	18-9	18-14	18-12	24	30-14	14-6	18-9	18-12
V _{max} to read bytes 0...3 in m/min		25-13	25-13	25-13	25-20	25-17	34	42-20	20-8	25-13	25-17

For read/write heads with molded-in cable, please append cable length to ordering code !

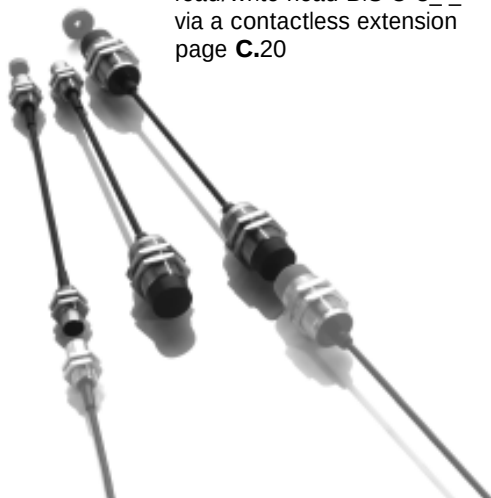
01 = Length 1 m, 05 = Length 5 m, 10 = Length 10 m.

Caution!

At 10 m cable length, read/write distance is reduced by 10 %.

Data coupler BIS C-380-...

for data transmission between data carriers BIS C-1__ and read/write head BIS C-3__ via a contactless extension page **C.20**

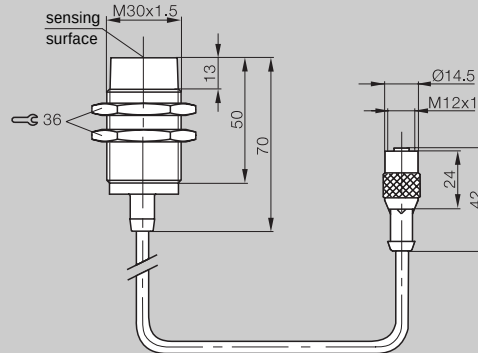


M30

nickel plated brass

round

314 g



P10184a

BIS C-310-__

non-flush

0...+70 °C

-20...+85 °C

IP 67

1 m, 5 m or 10 m/PUR

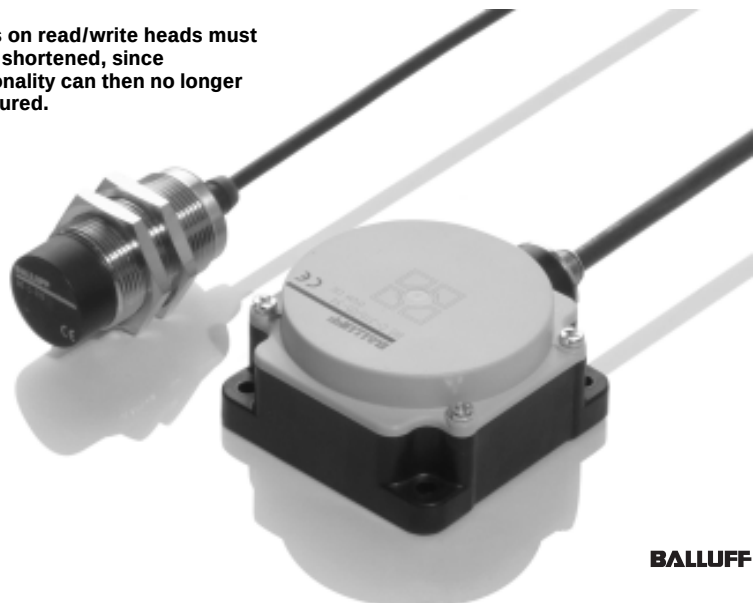
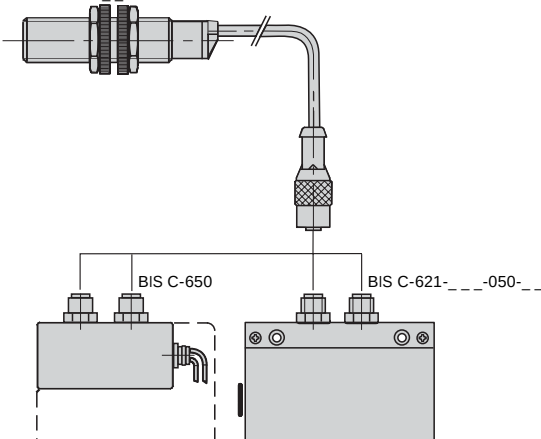
processor

BIS C-104-__/A flush	BIS C-104-__/A non-flush	BIS C-108-__/L non-flush	BIS C-108-__/L-SA2 non-flush	BIS C-117-05/A flush	BIS C-117-05/L non-flush	BIS C-128-__/L flush	BIS C-128-__/L non-flush	BIS C-130-05/L non-flush	BIS C-130-05/L-SA1 flush	BIS C-130-05/L-SA2 non-flush	BIS C-133-__/L non-flush	BIS C-190-__/L non-flush	BIS C-191-__/L non-flush
1-11	0-11	0-11	0-11	1-10	0-12	0-5	0-10	0-10	0-6	0-8	0-9	1-11	1-10
1-11	0-13	0-11	0-11	1-10	0-12	0-5	0-10	0-10	0-6	0-8.2	0-9	1-11	1-10
±7	±7	±9	±9	±7	±10	±8	±10	±9	±5	±7	±10	±10	±9
±6	±6	±9	±9	±6	±10	±6	±10	±8	±3	±5	±9	±10	±8
±4	±4	±8	±8	±4	±9	±5	±9	±7		±4	±9	±9	±7
±3	±3	±8	±8	±3	±9		±9	±5			±7	±9	±5
												±5	
1-5	1-5	1-7	1-7	1-5	1-7	1-5	1-7	1-7	1-5	1-7	1-7	1-10	1-7
8-3	8-3	10-9	10-9	8-3	12-10	9-6	12-10	10-6	6-3	8-4	12-8	12-6	10-6
12-5	12-5	15-13	15-13	12-5	17-15	13-8	17-15	15-8	8-5	12-6	17-12	17-8	15-8

Cables on read/write heads must not be shortened, since functionality can then no longer be ensured.

Example:

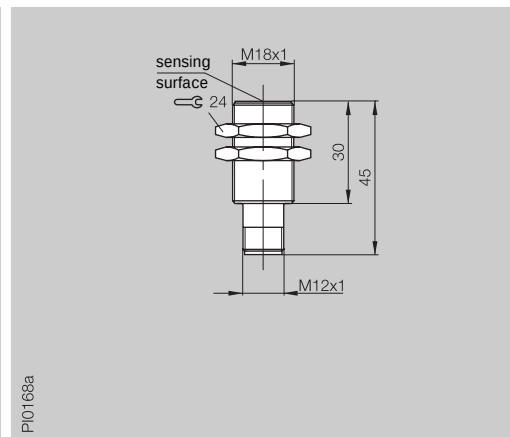
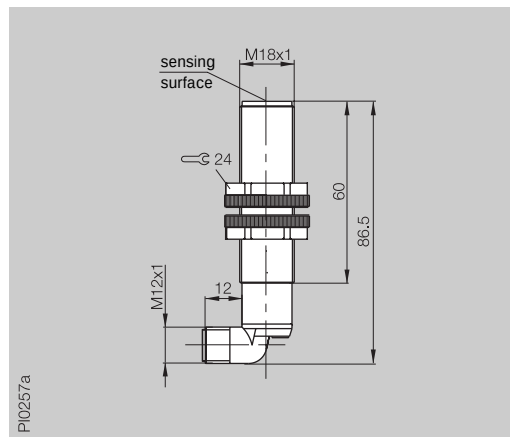
BIS C-319-__



Dimensions
Housing material
Antenna type
Weight

M18
PBT
round
40 g

M18
X6CrNiMoTi 17-12-2
round
26 g



Order code
Mounting in steel
Operating temperature
Storage temperature
Protection per IEC 60529
Connection to with connection cable
possible cable lengths

BIS C-319/_-S4
non-flush
0...+70 °C
-20...+85 °C
IP 67
processor
BIS C-505-PU-_/BIS C-506-PU-_ BIS C-517-PVC-_/BIS C-518-PVC-_-
1 m, 5 m or 10 m

BIS C-325/_-S4
flush
0...+70 °C
-20...+85 °C
IP 67
processor
BIS C-505-PU-_/BIS C-506-PU-_ BIS C-517-PVC-_/BIS C-518-PVC-_-
1 m, 5 m or 10 m

appropriate data carriers

Static mode

Write distance in mm
Read distance in mm
Offset in mm
at distance
0.7 mm
1 mm
3 mm
5 mm
7 mm
10 mm
15 mm
20 mm

BIS C-108-_-/_L non-flush	BIS C-117-05/L non-flush	BIS C-130-05/L non-flush	BIS C-130-05/L-SA1 non-flush	BIS C-130-05/L-SA2 non-flush	BIS C-190-_-/_L non-flush
0-18	0-13	0-10	0-6	0-6	0-8
0-18	0-13	0-10	0-6	0-6	0-11
±11	±13	±9	±7	±7	±9
±11	±13	±8	±5	±5	±8
±11	±13	±7	±4	±4	±7
±11	±13	±5			±5

BIS C-100-05/A flush	BIS C-121-04/L-SA1 flush	BIS C-130-05/L non-flush	BIS C-130-05/L-SA1 non-flush	BIS C-130-05/L-SA2 non-flush	BIS C-191-_-/_L non-flush
0-4	0-0.7	0-4	0-3	0-3	0-3
0-4	0-0.7	0-4	0-3	0-3.7	0-3.5
	±1				
±3		±4	±4	±4	±4
±3		±2	±2	±2	±3

Dynamic mode

Read/write distance in mm
V _{max} to write bytes 0...3 in m/min
V _{max} to read bytes 0...3 in m/min

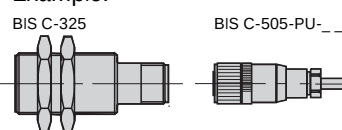
0-10	0-10	0-7	0-5		0-7
13	15	10-6	8-4		10-6
18	22	15-8	12-6		15-8

1		0-5	0-5	1	1
		4-2	4-2	4	4
5		6-3	6-3	6	6

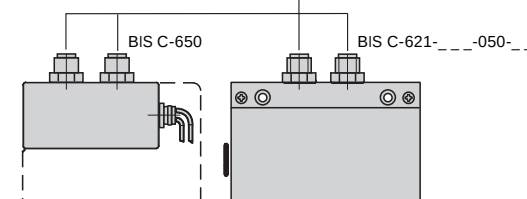
For read/write heads with connector, please append cable length to ordering code!
01 = Length 1 m, 05 = Length 5 m, 10 = Length 10 m.

Caution!
At 10 m cable length, read/write distance is reduced by 10 %.

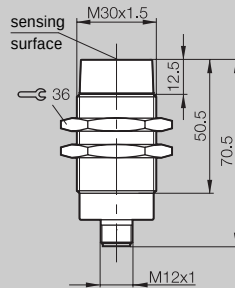
Example:



Connection cable
see page C.54/55



M30
X8CrNiS 18-9
round
90 g



P10166b

BIS C-323-/_ _S4

non-flush
-20...+70 °C
-20...+85 °C
IP 67

processor
BIS C-505-PU-/_/_/BIS C-506-PU-/_/_
BIS C-517-PVC-/_/_/BIS C-518-PVC-/_/_
5 m, 10 m

BIS C-104-/_/_/A flush	BIS C-104-/_/_/A non-flush	BIS C-108-/_/_/L non-flush	BIS C-108-/_/_/L-SA2 non-flush	BIS C-117-05/A flush	BIS C-117-05/L non-flush	BIS C-128-/_/_/L flush	BIS C-128-/_/_/L non-flush	BIS C-130-05/L non-flush	BIS C-130-04/L-SA1 flush	BIS C-130-04/L-SA2 non-flush	BIS C-133-/_/_/L non-flush	BIS C-190-/_/_/L non-flush	BIS C-191-/_/_/L non-flush
1-13	0-13	0-11	0-11	1-10	0-12	0-5	0-12	0-10	0-6	0-8	0-9	0-11	0-10
1-13	0-13	0-11	0-11	1-10	0-12	0-5	0-12	0-10	0-6	0-8.2	0-9	0-11	0-10
±7	±7	±9	±9	±7	±10	±8	±10	±9	±5	±7	±10	±10	±9
±6	±6	±9	±9	±6	±10	±6	±10	±8	±3	±5	±9	±10	±8
±4	±4	±8	±8	±4	±9	±5	±9	±7		±4	±9	±9	±7
±3	±3	±8	±8	±3	±9		±9	±5			±7	±9	±5
												±5	
1-5	1-5	1-7	1-7	1-5	1-7	1-5	1-7	1-7	1-5	1-7	1-7	1-10	1-7
8-3	8-3	10-9	10-9	8-3	12-10	9-6	12-10	10-6	6-3	8-4	12-8	12-6	10-6
12-5	12-5	15-13	15-13	13-5	17-15	13-8	17-15	15-8	8-5	12-6	17-12	17-8	15-8

Cables on read/write heads must not be shortened, since functionality can then no longer be ensured.



BIS C

Data Carriers
**Read/Write
Heads**

Data Coupler
Adapter and
Read/Write
Head
integrated

8-bit
Read-Only
System

Compact-
Processors

Metal Housing
Processors

Compact
Processors for
Simultaneous
Mode

Metal Housing
Processors
for
Simultaneous
Mode

Handy
Programmer
Read/Write
Guns,
Mounting
Cuffs

Connector
Cables with
Connectors

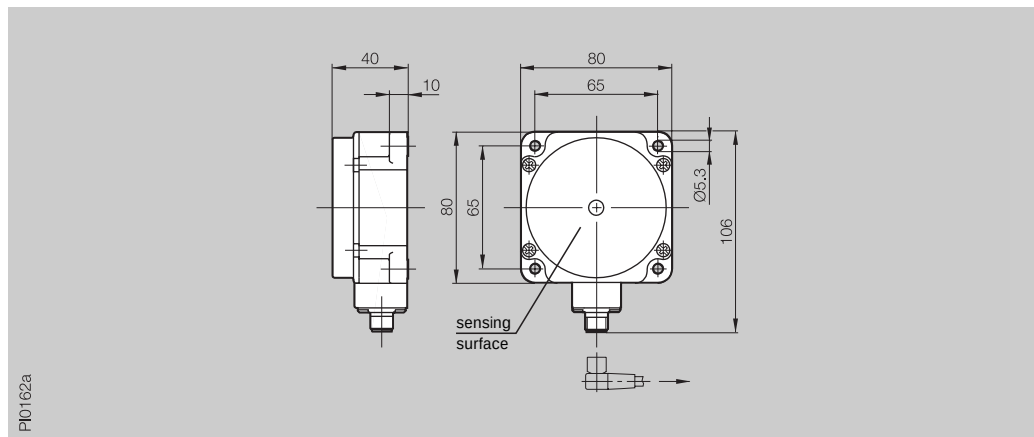
Connectors,
Termination
Resistor

Installation
Notes

Read/Write
Times

Software,
Service Tools

Dimensions	80×80×40
Housing material	PBT
Antenna type	round
Weight	410 g



Order code	BIS C-315/_/_-S4
Mounting in steel	non-flush
Operating temperature	0...+70 °C
Storage temperature	-20...+85 °C
Protection per IEC 60529	IP 67
Connection to with connection cable	processor BIS C-505-PU-/_/_/BIS C-506-PU-/_/_/ BIS C-517-PVC-/_/_/BIS C-518-PVC-/_/_/
possible cable lengths	5 m or 10 m

appropriate data carriers

Static mode

		BIS C-104-/_/_/A flush	BIS C-108-/_/_/L non-flush	BIS C-108-/_/_/L-SA2 non-flush	BIS C-117-05/A flush	BIS C-117-05/L non-flush	BIS C-127-05/L non-flush	BIS C-128-/_/_/L non-flush	BIS C-130-05/L non-flush	BIS C-133-/_/_/L non-flush	BIS C-190-/_/_/L non-flush
Write distance in mm		1-13	2-16	2-16	3-15	0-20	10-35	0-17	0-15	0-14	0-15
Read distance in mm		1-13	2-16	2-16	3-15	0-20	10-35	0-17	0-15	0-14	0-15
Offset in mm	1 mm	±15	±15	±15	±15	±15	±20	±25	±12	±15	±15
at distance	3 mm	±14	±14	±15	±12	±15	±20	±25	±12	±15	±15
	5 mm	±11	±12	±12	±12	±15	±20	±15	±12	±12	±15
	7 mm	±10	±11	±10	±12	±15	±20	±12	±12	±10	±15
	10 mm	±8	±8	±8	±12	±15	±20		±10	±8	±10
	15 mm					±10	±20		±5		
	20 mm						±20				

Dynamic mode

Read/write distance in mm		1-7	2-10	2-10	3-10	1-15	10-20	1-15	1-15	1-10	1-10
V _{max} to write bytes 0...3 in m/min		18-9	18-9	18-9	18-14	18-12	24	30-14	14-6	18-9	18-12
V _{max} to read bytes 0...3 in m/min		25-13	25-13	25-13	25-20	25-17	34	42-20	20-8	25-13	25-17

For read/write heads with connector, please append cable length to ordering code!
01 = Length 1 m, 05 = Length 5 m,
10 = Length 10 m.

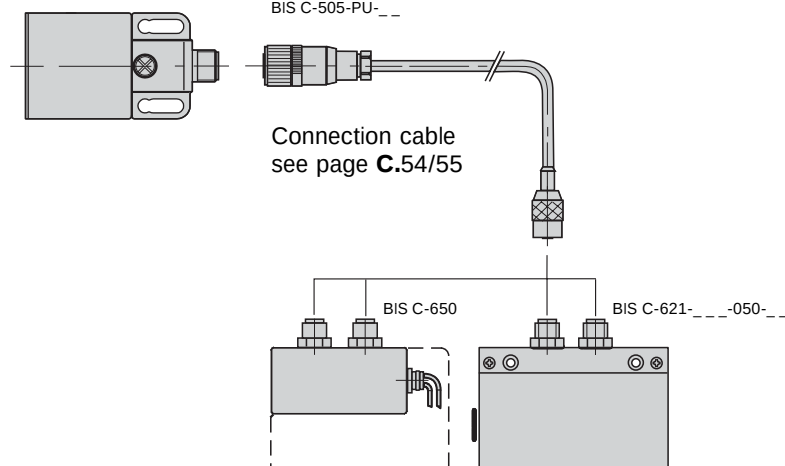
Caution!

At 10 m cable length, read/write distance is reduced by 10 %.

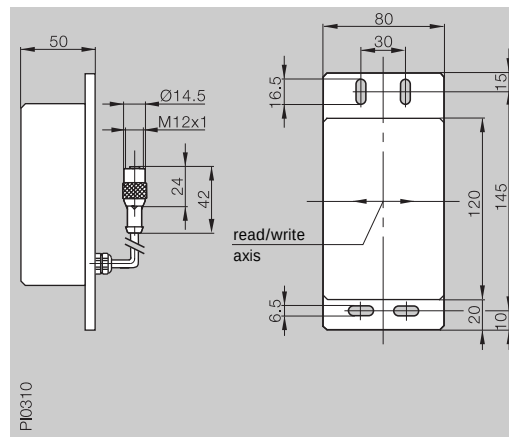
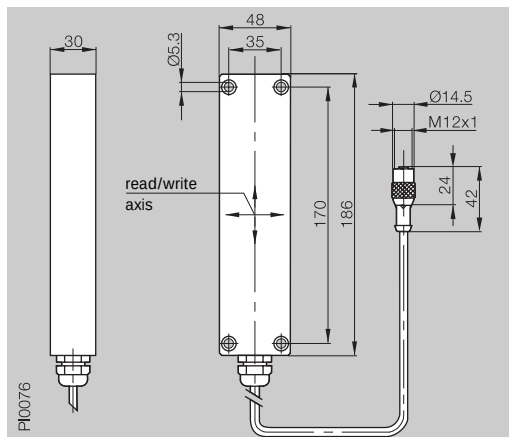
Example:

BIS C-324

BIS C-505-PU-/_/_



Dimensions	186×48×30	170×80×50
Housing material	PA 6.6	Polyacetat
Antenna type	round	rod
Weight	550 g	595 g



Order code	BIS C-318-	BIS C-351-
Mounting in steel	non-flush	non-flush
Operating temperature	0...+70 °C	-20...+80 °C
Storage temperature	-20...+85 °C	-20...+85 °C
Protection per IEC 60529	IP 65	IP 67
Cable	5 m or 10 m/PUR	5 m or 10 m/PUR
Connection to	processor	processor

appropriate data carriers

Static mode

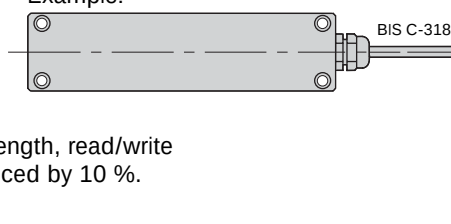
	BIS C-108-__/_L-SA2 non-flush	BIS C-108-__/_L non-flush	BIS C-117-05/L non-flush	BIS C-127-05/L non-flush	BIS C-128-__/_L non-flush	BIS C-190-__/_L non-flush	BIS C-150-05/A non-flush	BIS C-150-11/A non-flush	BIS C-150-32/A non-flush
Write distance in mm	0-7	8	8	35	8	8	40	40	40
Read distance in mm	0-7	8	8	35	8	8	50	50	50
Offset in mm	±8	±9	±9		±9	±9			
at distance	±5	±7	±7		±7	±7			
1 mm									
5 mm									
10 mm				±25			±15	±15	±15
20 mm				±25			±15	±15	±15
30 mm				±20					
35 mm									
42 mm									
60 mm									

Dynamic mode

Read/write path in mm	60/70	70/80	70/80	70/80	70/80	60	56/70	56-70	56/70
Read/write distance in mm	5	6	6	20	6	5	28/35	28-35	28-35
V _{max} to write bytes 0...3 in m/min	36	42	42	42	42	36	32	32	32
V _{max} to read bytes 0...3 in m/min	60	70	70	70	70	50	60	60	60

For read/write heads with integral cable,
please indicate cable length in ordering code!
01 = Length 1 m, 05 = Length 5 m, 10 = Length 10 m.

Example:

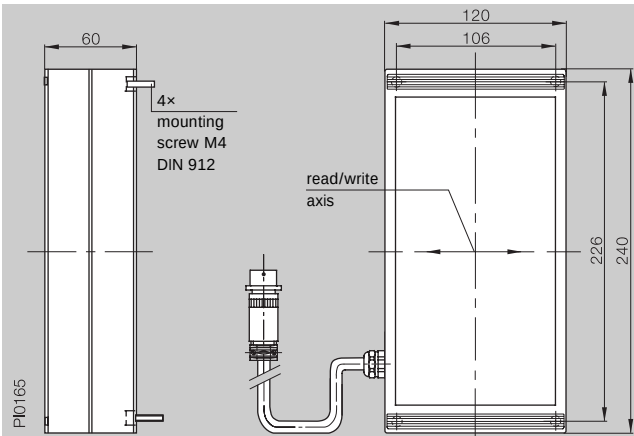


Caution!
At 10 m cable length, read/write
distance is reduced by 10 %.

Cables on read/write
heads must not be
shortened, since
functionality can then no
longer be ensured.

240×120×60

PC
rod
976 g



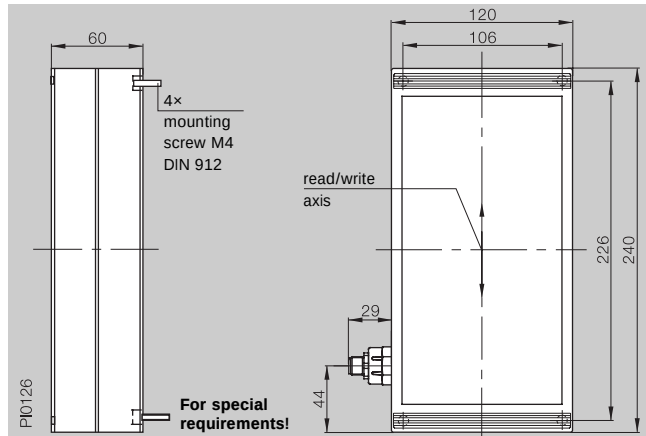
BIS C-350-00,3

non-flush
0...+40 °C
-20...+85 °C
IP 67
0,3 m/PUR

processor only with connection cable
BIS C-516-PU-__ (page C.54/55) please order separately

240×120×60

PC
rod/dual antenna for increased traverse speed
710 g



BIS C-355/05-S92

non-flush
0...+70 °C
-20...+85 °C
IP 65
5 m

processor only with connection cable
BIS C-520-PVC-05 (page C.54/55) please order separately

BIS C-150-05/A

BIS C-150-11/A

BIS C-150-32/A

90
100

90
100

90
100

±30
±30

±30
±30

±30
±30

±30

±30

±30

126/140
63/70
75
120

126/140
63/70
75
120

126/140
63/70
75
120

BIS C-150-05/A

BIS C-150-11/A

BIS C-150-32/A

0-35
0-40

0-35
0-40

0-35
0-40

±15
±5

±15
±5

±15
±5

260
1-35
150
220

260
1-35
150
220

260
1-35
150
220

BIS C

Data Carriers
Read/Write Heads

Data Coupler

Adapter and Read/Write Head integrated

8-bit Read-Only System

Compact-Processors

Metal Housing Processors

Compact Processors for Simultaneous Mode

Metal Housing Processors for Simultaneous Mode

Handy Programmer
Read/Write Guns, Mounting Cuffs

Connector Cables with Connectors

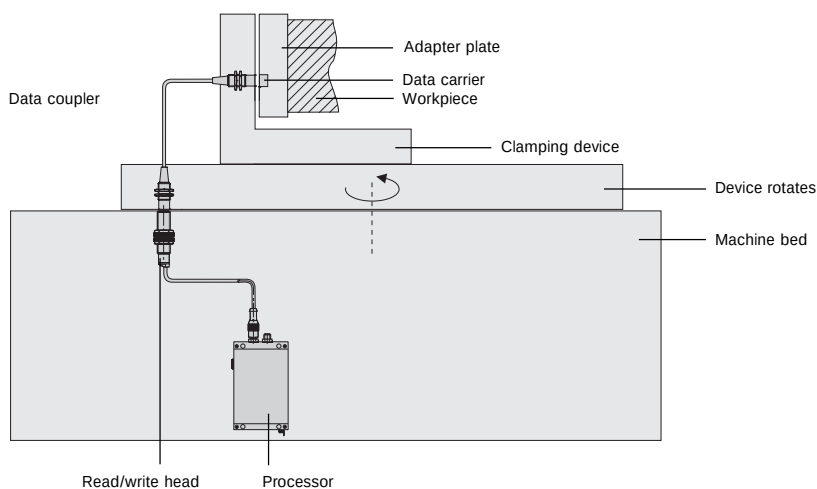
Connectors, Termination Resistor

Installation Notes

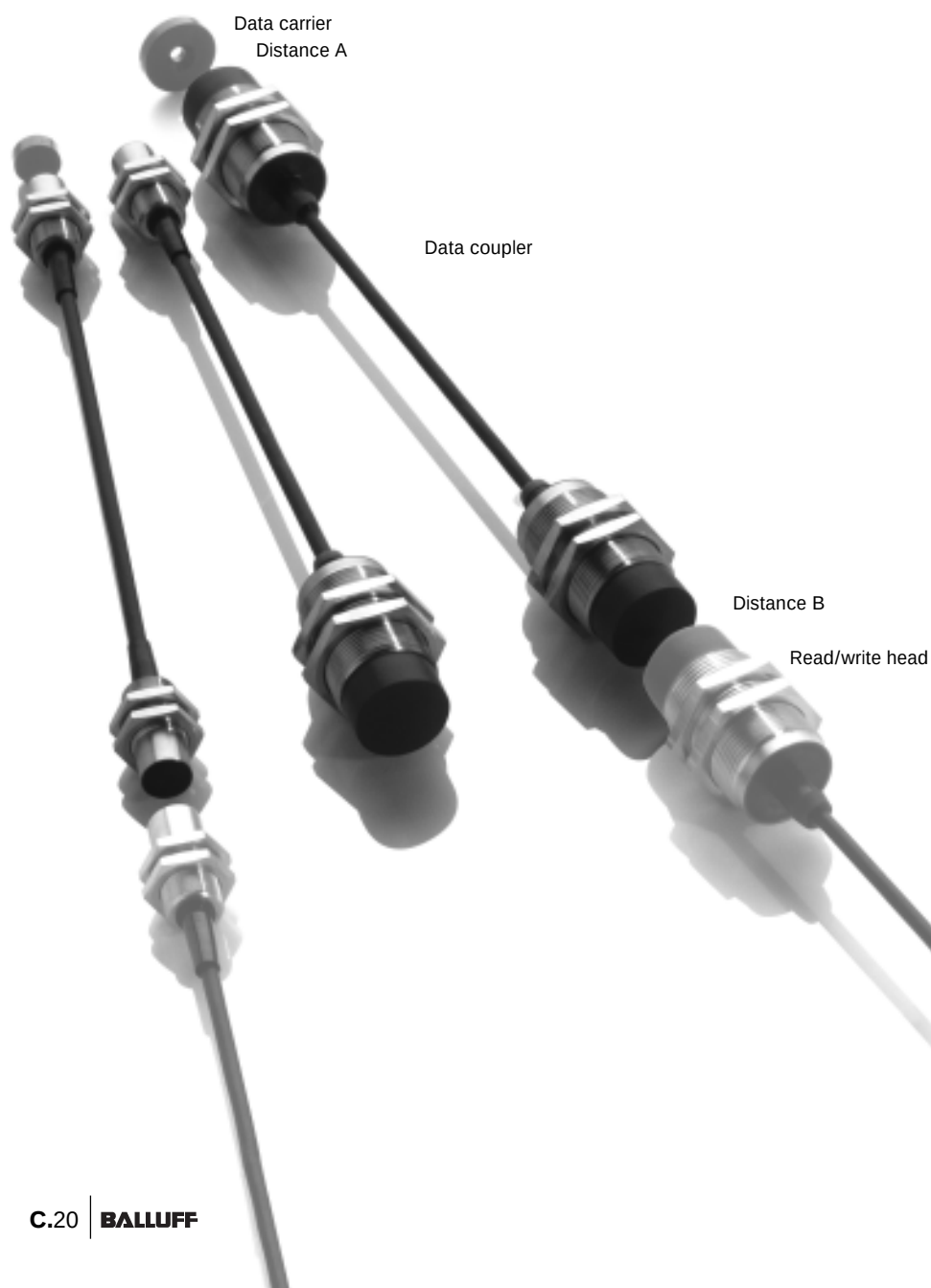
Read/Write Times

Software, Service Tools





Data couplers are used where there is a dual mechanical interface.



Dimensions

Housing material

Antenna type



Order code

Read head connection

Operating temperature

Storage temperature

Protection per IEC 60529

Cable

appropriate data carriers

appropriate read/write head

max. read/write distance

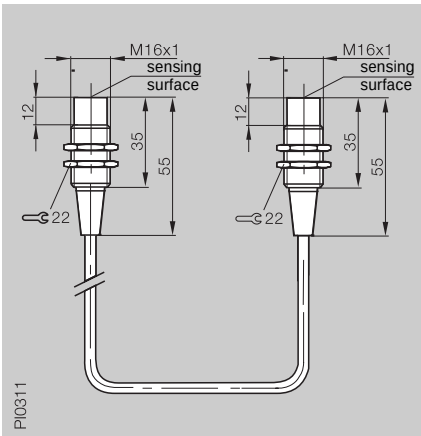
Please indicate cable length in
ordering code!

01 = Length 1 m, 02 = Length 2 m,
05 = Length 5 m.

Additional cable lengths on request!

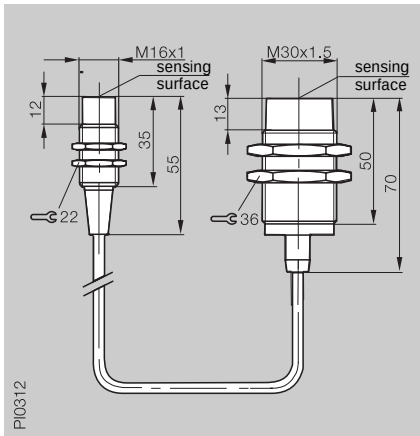
M16/M16

CuZn nickel plated
round/round



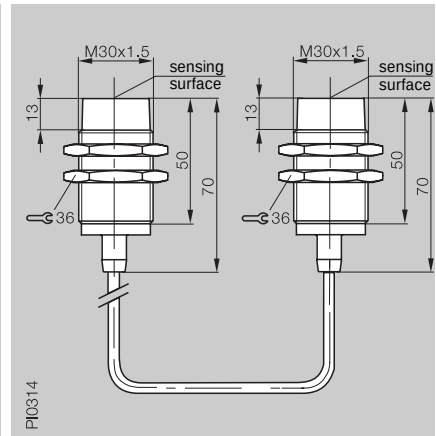
M16/M30

CuZn nickel plated
round/round



M30/M30

CuZn nickel plated
round/round



BIS C-380-06/06-__

contactless connection
0...+70 °C
-20...+85 °C
IP 67

BIS C-380-06/10-__

contactless connection
0...+70 °C
-20...+85 °C
IP 67

BIS C-380-10/10-__

contactless connection
0...+70 °C
-20...+85 °C
IP 67

BIS C-100-05/A
flush

BIS C-103-05/A
flush

BIS C-105-05/A
flush

BIS C-121-04/L
flush

BIS C-122-04/L
flush

BIS C-100-05/A
flush

BIS C-103-05/A
flush

BIS C-105-05/A
flush

BIS C-121-04/L
flush

BIS C-122-04/L
flush

BIS C-104-__/A
non-flush

BIS C-108-__/L
non-flush

BIS C-117-05/L
non-flush

BIS C-128-__/L
non-flush

BIS C-130-05/L
non-flush

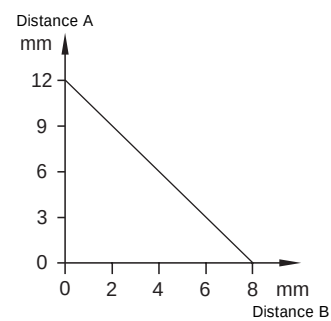
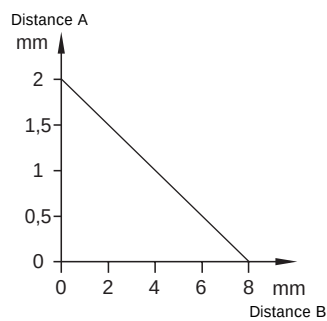
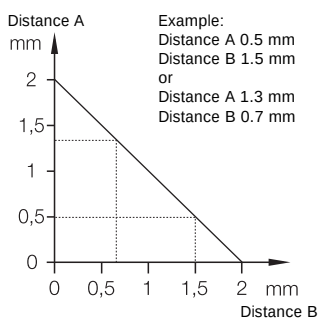
BIS C-300
BIS C-305
BIS C-306
see diagram

BIS C-310

see diagram

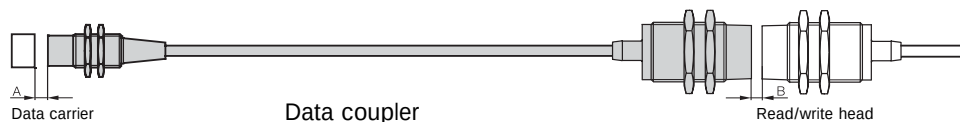
BIS C-310

see diagram



Type C-306

Type C-310



Data coupler
BIS C-380-06/10-__

BIS C

Data Carriers
Read/Write
Heads

Data Coupler

Adapter and
Read/Write
Head
integrated

8-bit
Read-Only
System

Compact-
Processors

Metal Housing
Processors

Compact
Processors for
Simultaneous
Mode

Metal Housing
Processors
for
Simultaneous
Mode

Handy
Programmer

Read/Write
Guns,
Mounting
Cuffs

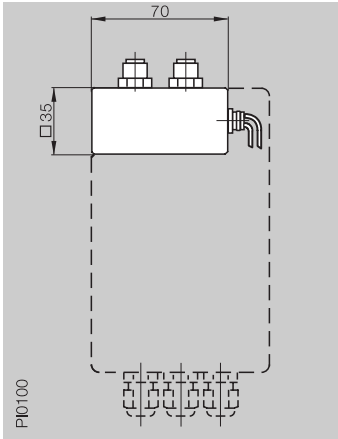
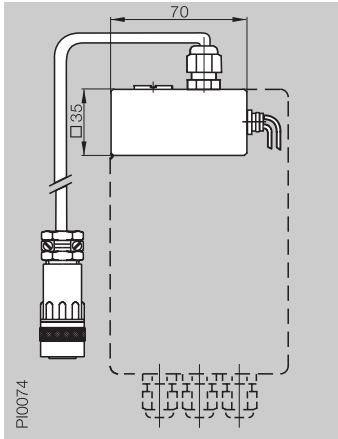
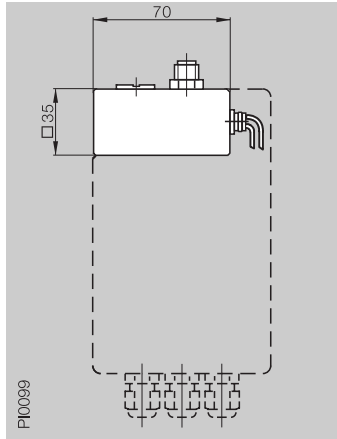
Connector
Cables with
Connectors

Connectors,
Termination
Resistor

Installation
Notes

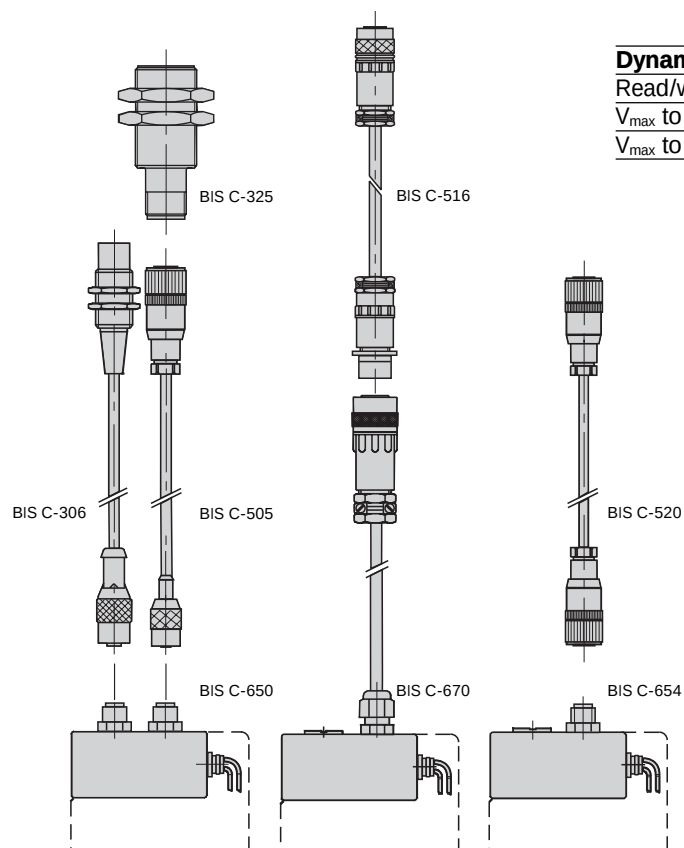
Read/Write
Times

Software,
Service Tools

Dimensions	70×35×35	70×35×35	70×35×35	
Housing material	ABS	ABS	ABS	
Antenna type				
Function	adapter	adapter	adapter	
   				
Order code	BIS C-650	BIS C-670	BIS C-654	
Mounting in steel			non-flush	
Operating temperature	0...+60 °C	0...+60 °C	0...+60 °C	
Storage temperature	0...+60 °C	0...+60 °C	0...+60 °C	
Protection per IEC 60529	IP 65 (when installed)	IP 65 (when installed)	IP 65 (when installed)	
Read head connection	2 built-in connectors 4-pin	1 coupling 8-pin	1 built-in connectors 5-pin	
Connection to	processors BIS C-60_, BIS C-600_ (page C.26-45)	processors BIS C-60_, BIS C-600_ (page C.26-45)	processors BIS C-60_, BIS C-600_ (page C.26-45)	
Connection for	read/write heads BIS C-3_ _ Exception: BIS C-350, and BIS C-355	read/write head BIS C-350	read/write head BIS C-355/05-S92 and Cable BIS C-520-PVC-05	



Example:



appropriate data carriers

Static mode

Write distance in mm

Read distance in mm

Offset in mm	1 mm
--------------	------

$$\frac{2 \text{ mm}}{3 \text{ mm}}$$
$$\frac{5 \text{ mm}}{5 \text{ mm}}$$
$$\frac{5 \text{ mm}}{7 \text{ mm}}$$

Dynamic mode

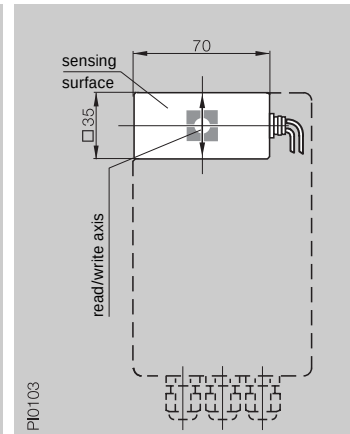
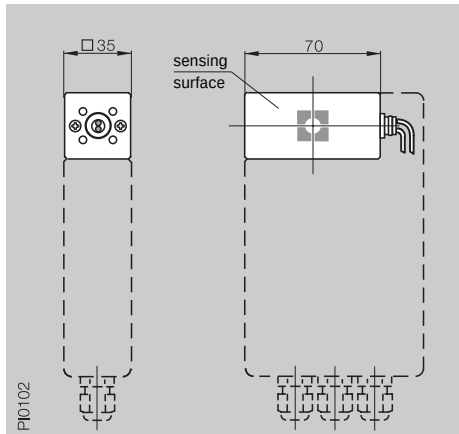
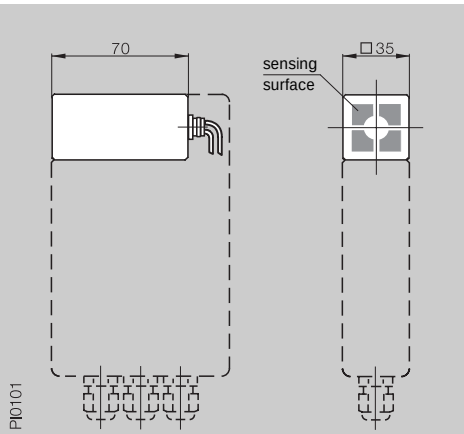
Read/write distance in mm

$V_{\max}$ to write bytes 0...3 in m/min

$V_{\max}$ to read bytes 0...3 in m/min

70×35×35
ABS
round
read/write head

70×35×35
ABS
rod
read/write head



BIS C-651

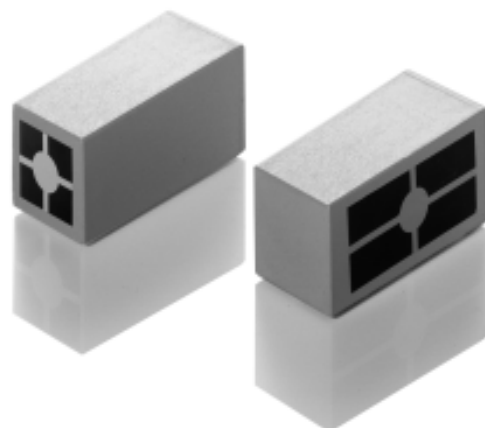
BIS C-652

BIS C-653

non-flush
0...+60 °C
0...+60 °C
IP 65 (when installed)
3-pin female
processors BIS C-60_ or BIS C-600_
(page C.26-45)

non-flush
0...+60 °C
0...+60 °C
IP 65 (when installed)
3-pin female
processors BIS C-60_
BIS C-600_ (page C.26-45)

BIS C-104-__/_A non-flush	BIS C-108-__/_L non-flush	BIS C-108-__/_L-SA2 non-flush	BIS C-117-05/L non-flush	BIS C-128-__/_L non-flush	BIS C-130-05/L non-flush	BIS C-130-04/L-SA2 non-flush	BIS C-133-__/_L non-flush	BIS C-190-__/_L non-flush	BIS C-191-__/_L non-flush	BIS C-150-05/A non-flush	BIS C-150-11/A non-flush	BIS C-150-32/A non-flush
1-11	0-11	0-11	0-12	0-12	0-10	0-8	0-9	1-11	1-10	35	35	35
1-13	0-11	0-11	0-12	0-12	0-10	0-8.2	0-9	1-11	1-10	40	40	40
±7	±9	±9	±10	±10	±9	±7	±10	±10	±9	±15	±15	±15
±6	±9	±9	±10	±10	±8	±5	±9	±10	±8	±15	±15	±15
±4	±8	±8	±9	±9	±7	±4	±9	±9	±7	±15	±15	±15
±3	±8	±8	±9	±9	±5		±7	±9	±5	±15	±15	±15
1-5	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-10	1-7	25/28	25/28	25/28
8-3	10-9	10-9	12-10	12-10	10-6	8-4	12-8	12-6	10-6	20	20	20
12-5	15-13	15-13	17-15	17-15	15-8	12-6	17-12	17-8	15-8	40	40	40



BIS C

Data Carriers
Read/Write
Heads
Data Coupler
**Adapter and
Read/Write
Head
integrated**
8-bit
Read-Only
System
Compact-
Processors
Metal Housing
Processors
Compact
Processors for
Simultaneous
Mode
Metal Housing
Processors
for
Simultaneous
Mode
Handy
Programmer
Read/Write
Guns,
Mounting
Cuffs
Connector
Cables with
Connectors
Connectors,
Termination
Resistor
Installation
Notes
Read/Write
Times
Software,
Service Tools

The BIS C-60R-001-08P-__ read-only system is designed for simple applications of the BIS C read/write system. It is supplied as a read-only system and provides the 8 bits of information without any additional components in parallel format.

Data carrier used are type BIS C-122, BIS C-130, BIS C-117 and BIS C-128. Only the first three bytes starting at Address 0 are always processed. The remaining bytes on the data carrier can be used for other purposes with the appropriate processors.

The three bytes on the data carrier (starting at Address 0) must be pre-programmed before a read operation can take place.

The first byte contains the data value and the next two bytes the binary negative value.

These two bytes are used for data checking and are processed by the system. If the check is positive, the first byte is output in parallel with the "data valid" message on a separate output.

If the reply is "Error" or "no data carrier present", the "data valid" signal is (Low inactive).

The integrated LED provides immediate information about the system status. The stored information is sent to the existing outputs as soon as the data carrier is within the active zone and the data check is positive. To easily program the data carrier a processor with serial port and Balluff 007 protocol are used. Programming is easy and fast using the free BIS007RW software downloadable from the Balluff Web site at www.balluff.com.

8 bit

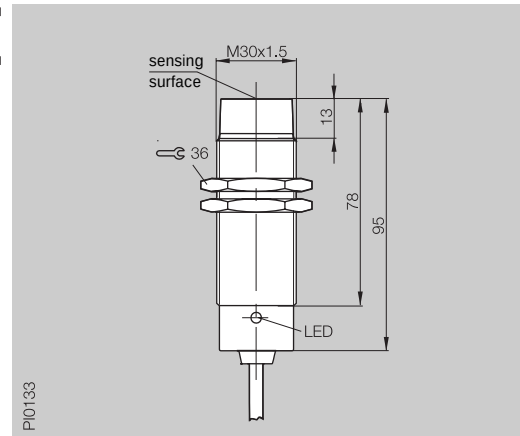


the simplest read-only system for 8 bits

Identification Systems BIS C

8-bit Processor
for read-only

Dimensions	M30
Function	read
Antenna type	round
Weight	330 g



Order code	BIS C-60R-001-08P-PU-
Supply voltage	24 V DC +10/-20 % (incl. ripple)
Current	max. 300 mA without load
Output current per output	max. 50 mA
Voltage drop	≤ 1,5 V
Leakage current	≤ 0,08 mA
Working temperature	0...+50 °C
Enclosure rating	IP 67
Tightening torque	20 Nm
Mounting in steel	non-flush
Housing material	CuZn nickel plated/PA
Conductor cross-sections	2 × 0.5 mm ² and 9 × 0.18 mm ²
LED function indicator	yes

appropriate data carriers

Static mode

		BIS C-117-05/A	BIS C-122-04/L	BIS C-128-05/L	BIS C-130-05/L
Read distance in mm		1-8	0-2,5	0-12	0-4
Offset in mm	1 mm	±7	±2	±10	±5
at distance	3 mm	±6		±10	±3
	5 mm	±4		±9	
	7 mm	±3		±9	

Dynamic mode

Read distance in mm		1-7	1	1-7	1-3
V _{max} to read 1 Byte in m/min		4-1	1	6-5	3-1

Please indicate cable length in
ordering code!

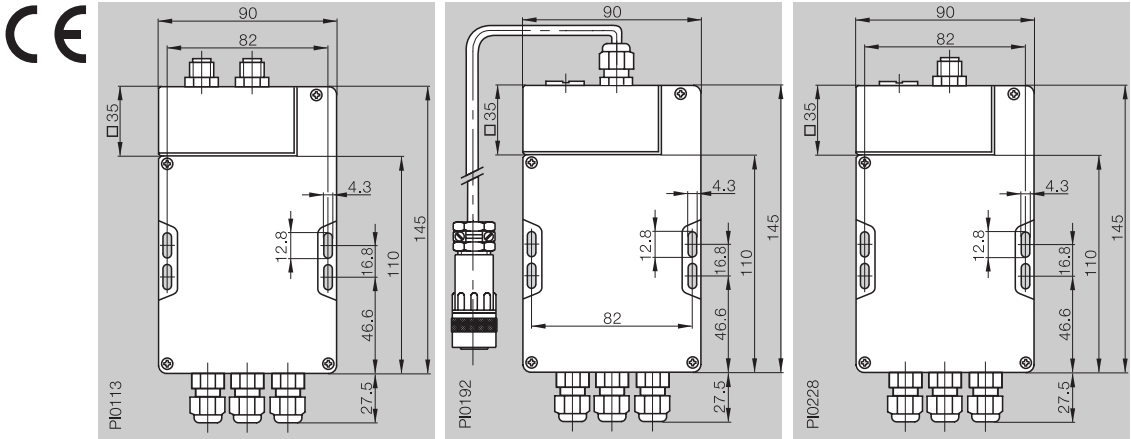
05 = Length 5 m, 10 = Length 10 m,
20 = Length 20 m

BIS C

Data Carriers
Read/Write
Heads
Data Coupler
Adapter and
Read/Write
Head
integrated

8-bit Read-Only System

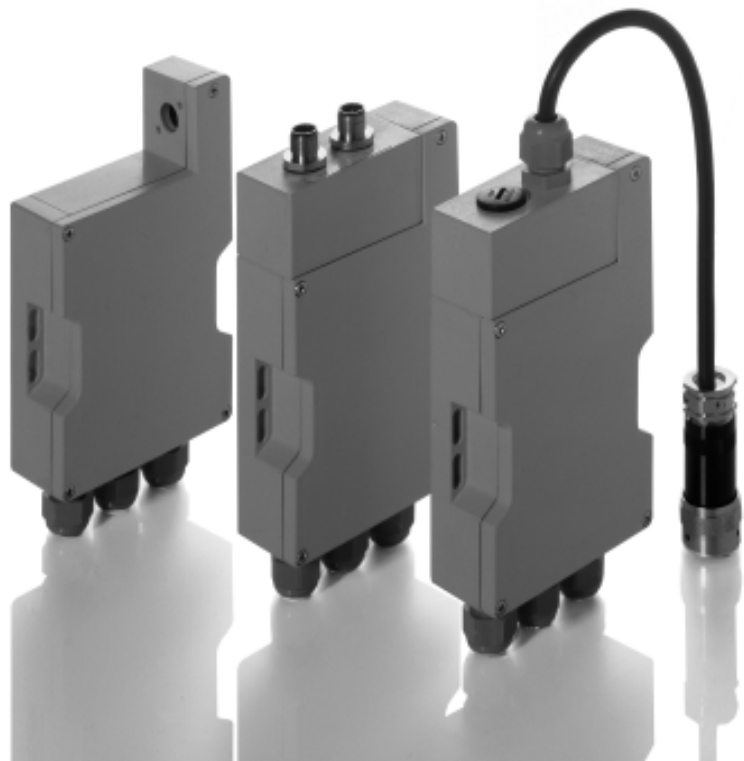
Compact-
Processors
Metal Housing
Processors
Compact
Processors for
Simultaneous
Mode
Metal Housing
Processors
for
Simultaneous
Mode
Handy
Programmer
Read/Write
Guns,
Mounting
Cuffs
Connector
Cables with
Connectors
Connectors,
Termination
Resistor
Installation
Notes
Read/Write
Times
Software,
Service Tools

Description	BIS C-600-__-650-__-KL1	BIS C-600-__-670-__-KL1	BIS C-600-__-654-__-KL1
Function	read/write	read/write	read/write
Antenna type			
			
Supply voltage	24 V DC $\pm 20\%$	24 V DC $\pm 20\%$	24 V DC $\pm 20\%$
Ripple	$\leq 10\%$	$\leq 10\%$	$\leq 10\%$
Current draw	$\leq 400\text{ mA}$	$\leq 400\text{ mA}$	$\leq 400\text{ mA}$
Operating temperature	0...+60 °C	0...+60 °C	0...+60 °C
Storage temperature	0...+60 °C	0...+60 °C	0...+60 °C
Protection per IEC 60529	IP 65/NEMA 12	IP 65/NEMA 12	IP 65/NEMA 12
Read/write head ports	2 external	1 external	1 external/special
Control inputs	1 (via opto-coupler), 24 V DC	1 (via opto-coupler), 24 V DC	1 (via opto-coupler), 24 V DC
Control outputs	4 (via opto-coupler), 24 V DC	4 (via opto-coupler), 24 V DC	4 (via opto-coupler), 24 V DC
Connection type	terminals 3 $\times$ Pg 9	terminals 3 $\times$ Pg 9	terminals 3 $\times$ Pg 9
Description interface/software:			
RS232/Balluff Dialog	BIS C-600-007-650-00-KL1	BIS C-600-007-670-00-KL1	BIS C-600-007-654-00-KL1
TTY/Balluff Dialog	BIS C-600-007-650-01-KL1	BIS C-600-007-670-01-KL1	BIS C-600-007-654-01-KL1
RS422/RS485, 4-wire, point-to-point/ Balluff Dialog	BIS C-600-007-650-02-KL1	BIS C-600-007-670-02-KL1	BIS C-600-007-654-02-KL1
RS485, 2-wire, Multidrop/Balluff BUS	BIS C-600-024-650-04-KL1	BIS C-600-024-670-04-KL1	BIS C-600-024-654-04-KL1
Accessories included	configuration software	configuration software	configuration software for read/write head BIS C-355/05-S92

The **compact class**
BIS C-6__ 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 PS plastic are present, this device family is the ideal solution. Small, compact, flexible and economical: these are the characteristics of this series.



Adapter or antenna can be rotated in 3 directions



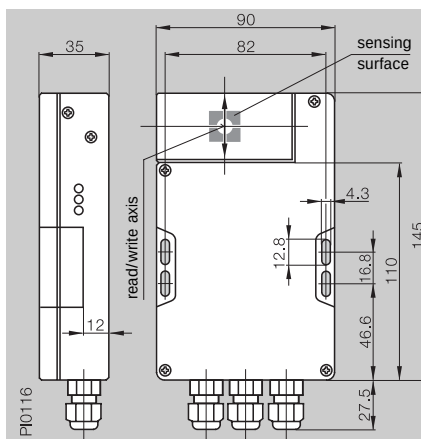
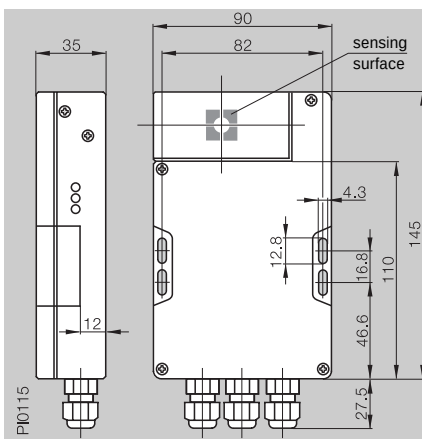
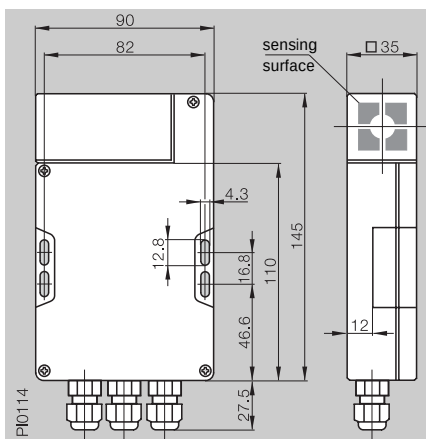
BIS C-600-__-651-__-KL1

 read/write
round

BIS C-600-__-652-__-KL1

 read/write
round

BIS C-600-__-653-__-KL1

 read/write
rod

 24 V DC $\pm 20\%$
 $\leq 10\%$
 ≤ 400 mA

0...+60 °C

0...+60 °C

IP 65/NEMA 12

1 internal, 1 external

1 (via opto-coupler), 24 V DC

4 (via opto-coupler), 24 V DC

 terminals 3 $\times$ Pg 9

 24 V DC $\pm 20\%$
 $\leq 10\%$
 ≤ 400 mA

0...+60 °C

0...+60 °C

IP 65/NEMA 12

1 internal, 1 external

1 (via opto-coupler), 24 V DC

4 (via opto-coupler), 24 V DC

 terminals 3 $\times$ Pg 9

 24 V DC $\pm 20\%$
 $\leq 10\%$
 ≤ 400 mA

0...+60 °C

0...+60 °C

IP 65/NEMA 12

1 internal, 1 external

1 (via opto-coupler), 24 V DC

4 (via opto-coupler), 24 V DC

 terminals 3 $\times$ Pg 9

BIS C-600-007-651-00-KL1

BIS C-600-007-651-01-KL1

BIS C-600-007-651-02-KL1

BIS C-600-024-651-04-KL1

BIS C-600-007-652-00-KL1

BIS C-600-007-652-01-KL1

BIS C-600-007-652-02-KL1

BIS C-600-024-652-04-KL1

BIS C-600-007-653-00-KL1

BIS C-600-007-653-01-KL1

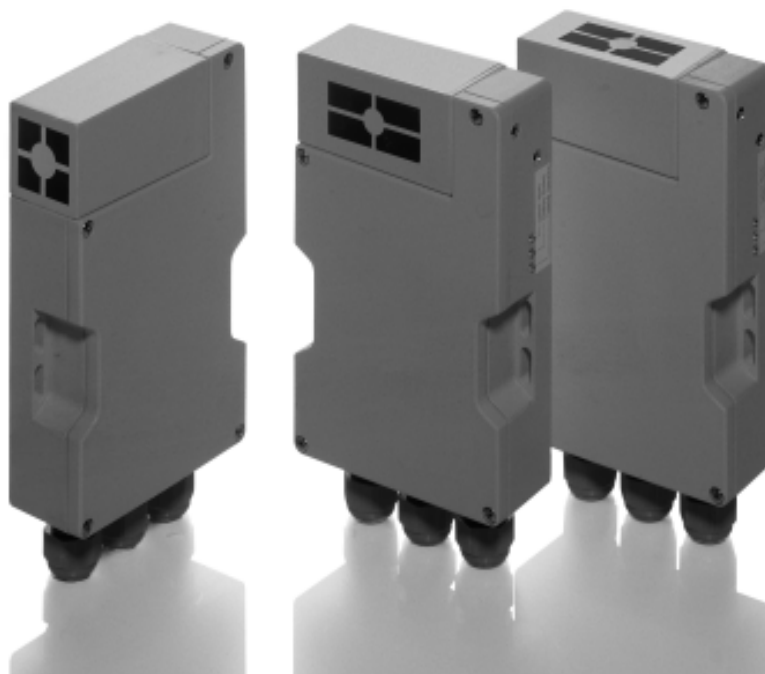
BIS C-600-007-653-02-KL1

BIS C-600-024-653-04-KL1

configuration software

configuration software

configuration software

 read/write head can be
rotated in 3 directions

BIS C

Data Carriers

 Read/Write
Heads

Data Coupler

 Adapter and
Read/Write
Head
integrated

8-bit

Read-Only

System

**Compact-
Processors**

 Metal Housing
Processors

 Compact
Processors for
Simultaneous
Mode

 Metal Housing
Processors
for
Simultaneous
Mode

 Handy
Programmer

 Read/Write
Guns,
Mounting
Cuffs

 Connector
Cables with
Connectors

 Connectors,
Termination
Resistor

 Installation
Notes

 Read/Write
Times

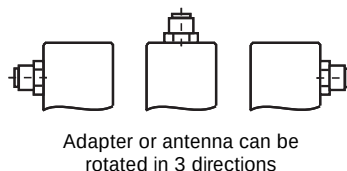
 Software,
Service Tools

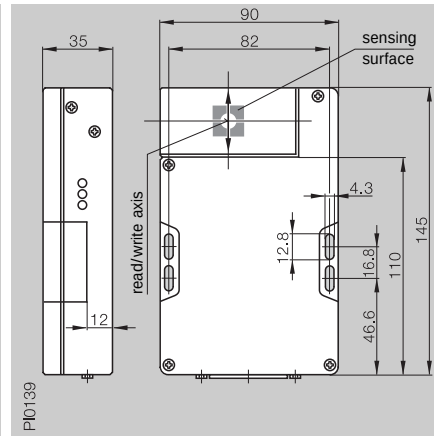
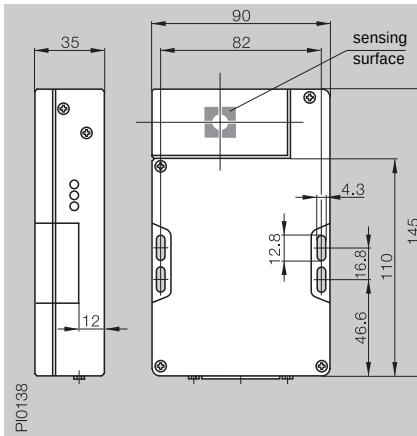
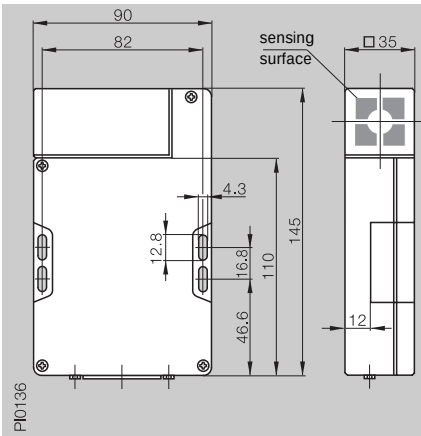
Description	BIS C-605-__-650-05-ST4	BIS C-605-__-670-05-ST4	BIS C-605-__-654-05-ST4	
Function	read/write	read/write	read/write	
Antenna type				
CE				
Supply voltage	24 V DC $\pm 20\%$	24 V DC $\pm 20\%$	24 V DC $\pm 20\%$	
Ripple	$\leq 10\%$	$\leq 10\%$	$\leq 10\%$	
Current draw	$\leq 400\text{ mA}$	$\leq 400\text{ mA}$	$\leq 400\text{ mA}$	
Operating temperature	0...+60 °C	0...+60 °C	0...+60 °C	
Storage temperature	0...+60 °C	0...+60 °C	0...+60 °C	
Protection per IEC 60529	IP 54/NEMA 12	IP 54/NEMA 12	IP 54/NEMA 12	
Read/write head ports	2 external	1 external	1 external	
Control inputs	4 (via opto-coupler), 24 V DC	4 (via opto-coupler), 24 V DC	4 (via opto-coupler), 24 V DC	
Control outputs	13 (via opto-coupler), 24 V DC	13 (via opto-coupler), 24 V DC	13 (via opto-coupler), 24 V DC	
Connection type	MIN Sub D 25-pin	MIN Sub D 25-pin	MIN Sub D 25-pin	
Description interface/software:				
Parallel and RS232/Balluff Dialog	BIS C-605-027-650-05-ST4	BIS C-605-027-670-05-ST4	BIS C-605-027-654-05-ST4	
Accessories included	configuration software	configuration software		
Accessories (please order separately)	connector page C.56	connector page C.56	connector page C.56 for read/write head BIS C-355/05-S92	

The **compact class BIS C-6__** with its reduced dimensions and various interface options can be used wherever ambient conditions do not require higher protection. Small, compact, flexible and economical: these are the characteristics of this series.

Advantages of the BIS C-605 parallel version

The BIS C-605 processor has both a parallel and a serial port. The parallel port is configured as a "read-only" interface. It is not possible to write data to the data carrier in parallel mode. You can however write a single bit datum (good/bad, large/small, Type 1/Type 2) through this processor to the data carrier. This bit information is also output as a separate output signal.



BIS C-605-__-651-05-ST4read/write
round**BIS C-605-__-652-05-ST4**read/write
round**BIS C-605-__-653-05-ST4**read/write
rod24 V DC $\pm 20\%$ $\leq 10\%$ $\leq 400\text{ mA}$

0...+60 °C

0...+60 °C

IP 54/NEMA 12

1 internal

4 (via opto-coupler), 24 V DC

13 (via opto-coupler), 24 V DC

MIN Sub D 25-pin

24 V DC $\pm 20\%$ $\leq 10\%$ $\leq 400\text{ mA}$

0...+60 °C

0...+60 °C

IP 54/NEMA 12

1 internal

4 (via opto-coupler), 24 V DC

13 (via opto-coupler), 24 V DC

MIN Sub D 25-pin

24 V DC $\pm 20\%$ $\leq 10\%$ $\leq 400\text{ mA}$

0...+60 °C

0...+60 °C

IP 54/NEMA 12

1 external

4 (via opto-coupler), 24 V DC

13 (via opto-coupler), 24 V DC

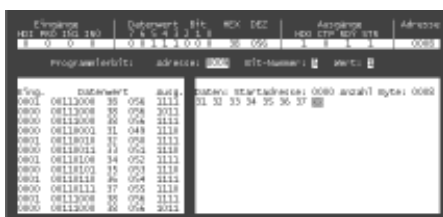
MIN Sub D 25-pin

BIS C-605-027-651-05-ST4configuration software
connector page **C.56****BIS C-605-027-652-05-ST4**configuration software
connector page **C.56****BIS C-605-027-653-05-ST4**configuration software
connector page **C.56**

At initializing the functionality of the processor with respect to parallel or serial operation is selected.



The configuration part is used for more exact specification with respect to data administration. Here you define how many bytes are read from the data carrier starting at which address. The I/O bit field is used to determine which bit is to be written as GOOD/BAD information from which address.

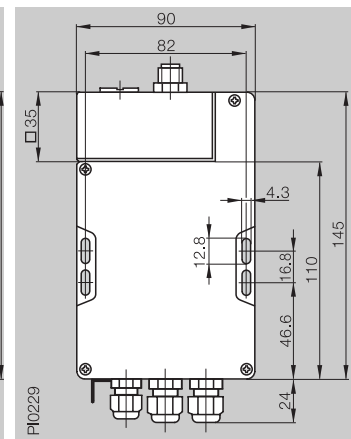
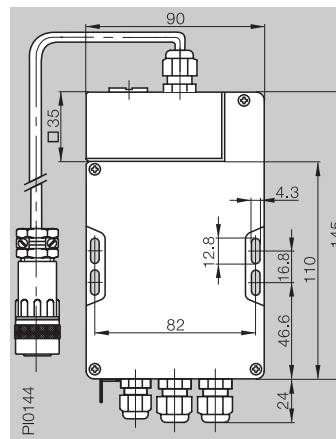
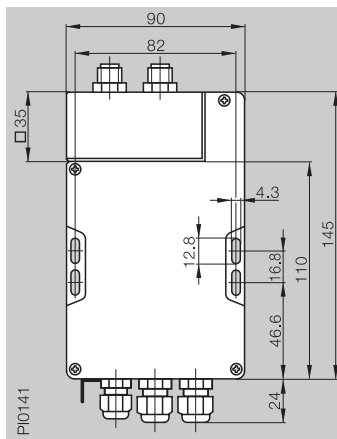


After starting up parallel mode, the serial port can be connected again to run the monitor function. Here the user can track the data as well as all state signals in a trace mode or store them in file format. This makes exact documentation of the data communication with the processor during startup possible.

Read/write head can be rotated in 3 directions

**BIS C**Data Carriers
Read/Write
HeadsData Coupler
Adapter and
Read/Write
Head
integrated8-bit
Read-Only
System**Compact-
Processors**Metal Housing
ProcessorsCompact
Processors for
Simultaneous
ModeMetal Housing
Processors
for
Simultaneous
ModeHandy
ProgrammerRead/Write
Guns,
Mounting
CuffsConnector
Cables with
ConnectorsConnectors,
Termination
ResistorInstallation
NotesRead/Write
TimesSoftware,
Service Tools

Description	BIS C-601-__-650-03-KL2	BIS C-601-__-670-03-KL2	BIS C-601-__-654-03-KL2
Function	read/write	read/write	read/write
Antenna type			



Supply voltage	24 V DC $\pm 20\%$	24 V DC $\pm 20\%$	24 V DC $\pm 20\%$
Ripple	$\leq 10\%$	$\leq 10\%$	$\leq 10\%$
Current draw	≤ 400 mA	≤ 400 mA	≤ 400 mA
Operating temperature	0...+60 °C	0...+60 °C	0...+60 °C
Storage temperature	0...+60 °C	0...+60 °C	0...+60 °C
Protection per IEC 60529	IP 65/NEMA 12	IP 65/NEMA 12	IP 65/NEMA 12
Read/write head ports	2 external	1 external	1 external
Control inputs	1 (via opto-coupler), 24 V DC	1 (via opto-coupler), 24 V DC	1 (via opto-coupler), 24 V DC
Connection type	terminals 1 $\times$ Pg 9 terminals 2 $\times$ Pg 11	terminals 1 $\times$ Pg 9 terminals 2 $\times$ Pg 11	terminals 1 $\times$ Pg 9 terminals 2 $\times$ Pg 11

Description interface/software:			
INTERBUS, remote bus subscriber	BIS C-601-023-650-03-KL2	BIS C-601-023-670-03-KL2	BIS C-601-023-654-03-KL2 for read/write head BIS C-355/05-S92

The **compact class** **BIS C-6__** 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 PS plastic are present, this device family is the ideal solution. Small, compact, flexible and economical: these are the characteristics of this series.



Adapter or antenna can be rotated in 3 directions



BIS C-601-__-651-03-KL2

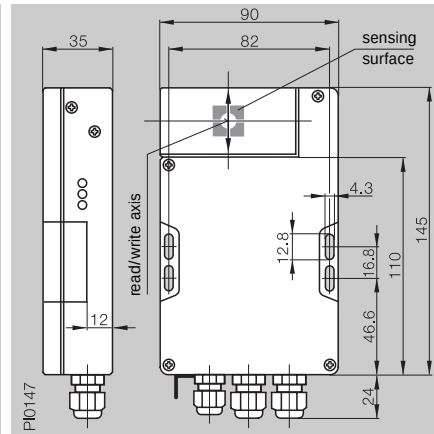
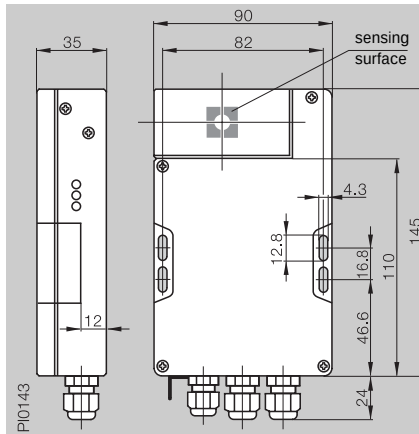
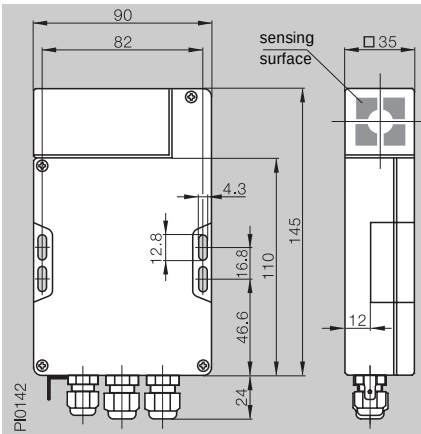
read/write
round

BIS C-601-__-652-03-KL2

read/write
round

BIS C-601-__-653-03-KL2

read/write
rod



24 V DC $\pm 20\%$

$\leq 10\%$

$\leq 400\text{ mA}$

0...+60 °C

0...+60 °C

IP 65/NEMA 12

1 internal

1 (via opto-coupler), 24 V DC

terminals 1 $\times$ Pg 9

terminals 2 $\times$ Pg 11

24 V DC $\pm 20\%$

$\leq 10\%$

$\leq 400\text{ mA}$

0...+60 °C

0...+60 °C

IP 65/NEMA 12

1 internal

1 (via opto-coupler), 24 V DC

terminals 1 $\times$ Pg 9

terminals 2 $\times$ Pg 11

24 V DC $\pm 20\%$

$\leq 10\%$

$\leq 400\text{ mA}$

0...+60 °C

0...+60 °C

IP 65/NEMA 12

1 internal

1 (via opto-coupler), 24 V DC

terminals 1 $\times$ Pg 9

terminals 2 $\times$ Pg 11

BIS C-601-023-651-03-KL2

BIS C-601-023-652-03-KL2

BIS C-601-023-653-03-KL2



Certified! No. 215

Read/write head can be
rotated in 3 directions



BIS C

Data Carriers

Read/Write

Heads

Data Coupler

Adapter and

Read/Write

Head

integrated

8-bit

Read-Only

System

Compact-

Processors

Metal Housing

Processors

Compact

Processors for

Simultaneous

Mode

Metal Housing

Processors

for

Simultaneous

Mode

Handy

Programmer

Read/Write

Guns,

Mounting

Cuffs

Connector

Cables with

Connectors

Connectors,

Termination

Resistor

Installation

Notes

Read/Write

Times

Software,

Service Tools

Description	BIS C-602-__-650-03-KL2	BIS C-602-__-670-03-KL2	BIS C-602-__-654-03-KL2
Function	read/write	read/write	read/write
Antenna type			
Supply voltage	24 V DC $\pm 20\%$	24 V DC $\pm 20\%$	24 V DC $\pm 20\%$
Ripple	$\leq 10\%$	$\leq 10\%$	$\leq 10\%$
Current draw	≤ 400 mA	≤ 400 mA	≤ 400 mA
Operating temperature	0...+50 °C	0...+50 °C	0...+50 °C
Storage temperature	0...+50 °C	0...+50 °C	0...+50 °C
Protection per IEC 60529	IP 65/NEMA 12	IP 65/NEMA 12	IP 65/NEMA 12
Read/write head ports	2 external	1 external	1 external
Control inputs	1 (via opto-coupler), 24 V DC	1 (via opto-coupler), 24 V DC	1 (via opto-coupler), 24 V DC
Connection type	terminals 1 $\times$ Pg 9 terminals 2 $\times$ Pg 11	terminals 1 $\times$ Pg 9 terminals 2 $\times$ Pg 11	terminals 1 $\times$ Pg 9 terminals 2 $\times$ Pg 11
Description interface/software:			
Profibus-DP	BIS C-602-019-650-03-KL2	BIS C-602-019-670-03-KL2	BIS C-602-019-654-03-KL2
Profibus-DP (with memory-optimized data carrier processing)	BIS C-602-028-650-03-KL2	BIS C-602-028-670-03-KL2	BIS C-602-028-654-03-KL2
Accessories included	software GSD-file	software GSD-file	for read/write head BIS C-355/05-S92

The **compact class BIS C-6__** 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 PS plastic are present, this device family is the ideal solution. Small, compact, flexible and economical: these are the characteristics of this series.



Adapter or antenna can be rotated in 3 directions



BIS C-602-__-651-03-KL2

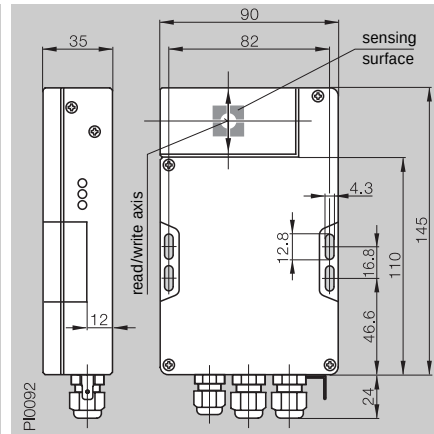
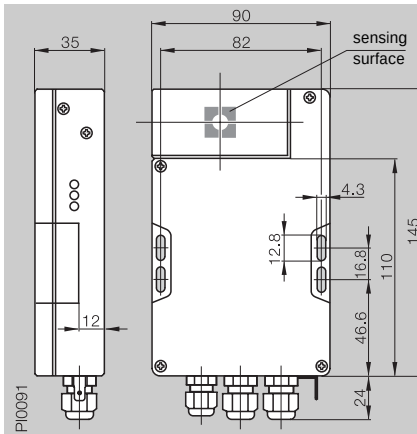
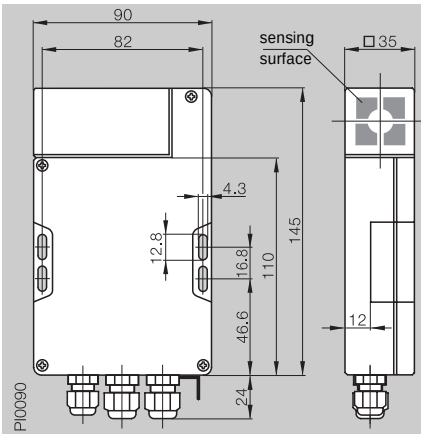
read/write
round

BIS C-602-__-652-03-KL2

read/write
round

BIS C-602-__-653-03-KL2

read/write
rod



24 V DC $\pm 20\%$
 $\leq 10\%$

≤ 400 mA

0...+50 °C

0...+50 °C

IP 65/NEMA 12

1 internal

1 (via opto-coupler), 24 V DC
terminals 1 $\times$ Pg 9
terminals 2 $\times$ Pg 11

24 V DC $\pm 20\%$
 $\leq 10\%$

≤ 400 mA

0...+50 °C

0...+50 °C

IP 65/NEMA 12

1 internal

1 (via opto-coupler), 24 V DC
terminals 1 $\times$ Pg 9
terminals 2 $\times$ Pg 11

24 V DC $\pm 20\%$
 $\leq 10\%$

≤ 400 mA

0...+50 °C

0...+50 °C

IP 65/NEMA 12

1 internal

1 (via opto-coupler), 24 V DC
terminals 1 $\times$ Pg 9
terminals 2 $\times$ Pg 11

BIS C-602-019-651-03-KL2
BIS C-602-028-651-03-KL2

BIS C-602-019-652-03-KL2
BIS C-602-028-652-03-KL2

BIS C-602-019-653-03-KL2
BIS C-602-028-653-03-KL2

software GSD-file

software GSD-file

software GSD-file

BIS C

Data Carriers
Read/Write
Heads

Data Coupler
Adapter and
Read/Write
Head
integrated

8-bit
Read-Only
System

**Compact-
Processors**

Metal Housing
Processors

Compact
Processors for
Simultaneous
Mode

Metal Housing
Processors
for
Simultaneous
Mode

Handy
Programmer

Read/Write
Guns,
Mounting
Cuffs

Connector
Cables with
Connectors
Connectors,
Termination
Resistor

Installation
Notes

Read/Write
Times
Software,
Service Tools



Read/write head can be
rotated in 3 directions



Description	BIS C-603-__-650-03-ST1	BIS C-603-__-670-03-ST1	BIS C-603-__-654-03-ST1	
Function	read/write	read/write	read/write	
Antenna type				



Technical drawings of three pressure washer models, showing dimensions in millimeters (mm).

PI0107: Dimensions include 90 (width), 82 (width of upper section), 35 (height of upper section), 145 (total height), 110 (height of lower section), 46.6 (height of lower section), 22 (height of lower section), 12.8 (height of lower section), 16.8 (height of lower section), 4 (height of lower section).

PI0201: Dimensions include 90 (width), 82 (width of upper section), 35 (height of upper section), 145 (total height), 110 (height of lower section), 46.6 (height of lower section), 22 (height of lower section), 12.8 (height of lower section), 16.8 (height of lower section), 4 (height of lower section).

PI0231: Dimensions include 90 (width), 82 (width of upper section), 35 (height of upper section), 145 (total height), 110 (height of lower section), 46.6 (height of lower section), 22 (height of lower section), 12.8 (height of lower section), 16.8 (height of lower section), 4 (height of lower section).

Supply voltage	24 V DC $\pm 20\%$	24 V DC $\pm 20\%$	24 V DC $\pm 20\%$	
Ripple	$\leq 10\%$	$\leq 10\%$	$\leq 10\%$	
Current draw	$\leq 400\text{ mA}$	$\leq 400\text{ mA}$	$\leq 400\text{ mA}$	
Operating temperature	0...+50 °C	0...+50 °C	0...+50 °C	
Storage temperature	0...+50 °C	0...+50 °C	0...+50 °C	
Protection per IEC 60529	IP 65/NEMA 12	IP 65/NEMA 12	IP 65/NEMA 12	
Read/write head ports	2 external	1 external	1 external	
Connection type	terminals 1 $\times$ PG 9 1 connector round 5-pin	terminals 1 $\times$ PG 9 1 connector round 5-pin	terminals 1 $\times$ PG 9 1 connector round 5-pin	

Description interface/software:	1 connector: round 5 pin	1 connector: round 5 pin	1 connector: round 5 pin	
DeviceNet™	BIS C-603-025-650-03-ST1	BIS C-603-025-670-03-ST1	BIS C-603-025-654-03-ST1	

Accessories included	software EDS-file	software EDS-file	software EDS-file
Accessories (please order separately)	connector page C.58	connector page C.58	BKS C-520-PVC-05

The compact class

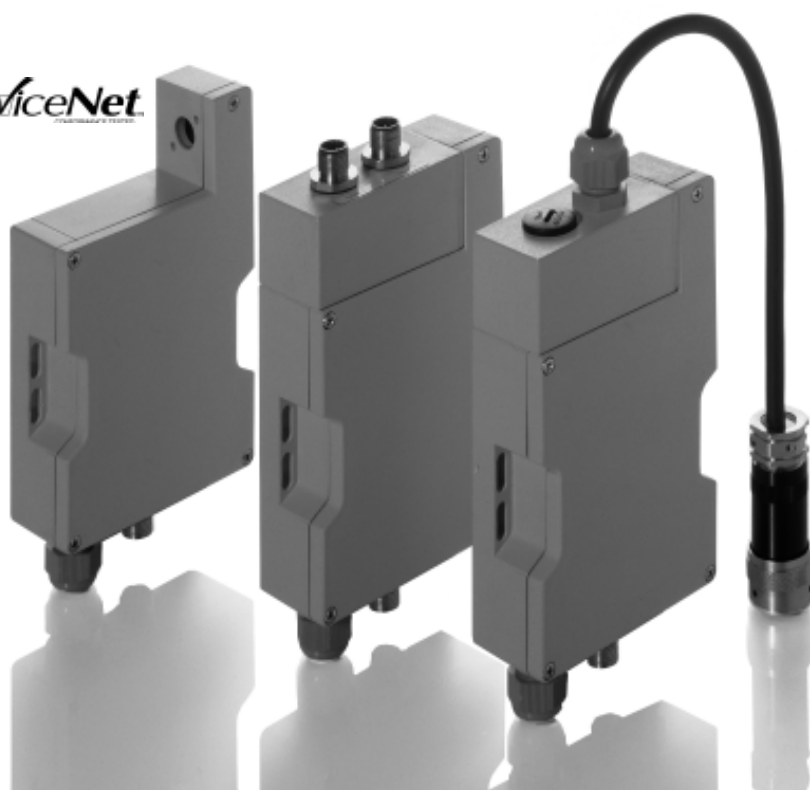
BIS C-6 with its reduced dimensions and various interface options can be used wherever ambient conditions do not require higher protection. If IP 65 is sufficient and no media aggressive to PS plastic are present, this device family is the ideal solution.

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



Adapter or antenna can be rotated in 3 directions

DeviceNet.



BIS C-603-__-651-03-ST1

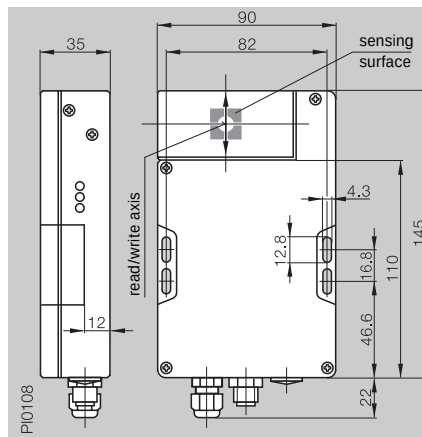
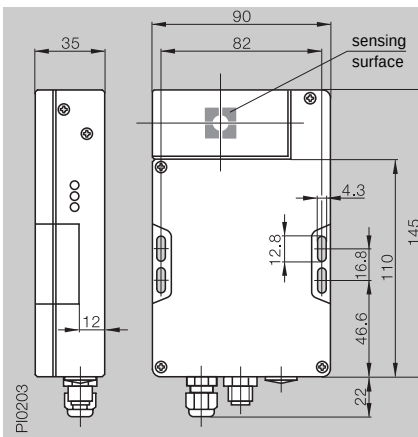
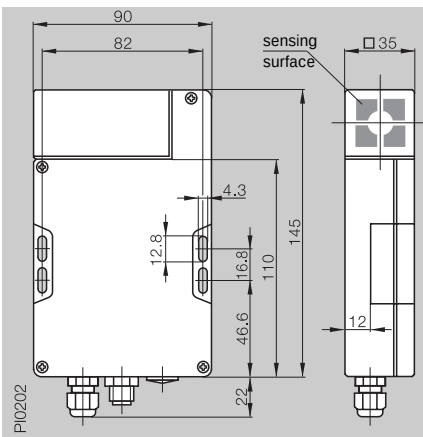
read/write
round

BIS C-603-__-652-03-ST1

read/write
round

BIS C-603-__-653-03-ST1

read/write
rod



24 V DC $\pm 20\%$

$\leq 10\%$

$\leq 400\text{ mA}$

0...+50 °C

0...+50 °C

IP 65/NEMA 12

1 internal

terminals 1 $\times$ PG 9

1 connector round 5-pin

24 V DC $\pm 20\%$

$\leq 10\%$

$\leq 400\text{ mA}$

0...+50 °C

0...+50 °C

IP 65/NEMA 12

1 internal

terminals 1 $\times$ PG 9

1 connector round 5-pin

24 V DC $\pm 20\%$

$\leq 10\%$

$\leq 400\text{ mA}$

0...+50 °C

0...+50 °C

IP 65/NEMA 12

1 internal

terminals 1 $\times$ PG 9

1 connector round 5-pin

BIS C-603-025-651-03-ST1

software EDS-file

connector page C.58

BIS C-603-025-652-03-ST1

software EDS-file

connector page C.58

BIS C-603-025-653-03-ST1

software EDS-file

connector page C.58

BIS C

Data Carriers

Read/Write
Heads

Data Coupler

Adapter and
Read/Write
Head
integrated

8-bit

Read-Only

System

**Compact-
Processors**

Metal Housing
Processors

Compact
Processors for
Simultaneous
Mode

Metal Housing
Processors
for
Simultaneous
Mode

Handy
Programmer

Read/Write
Guns,
Mounting
Cuffs

Connector
Cables with
Connectors

Connectors,
Termination
Resistor

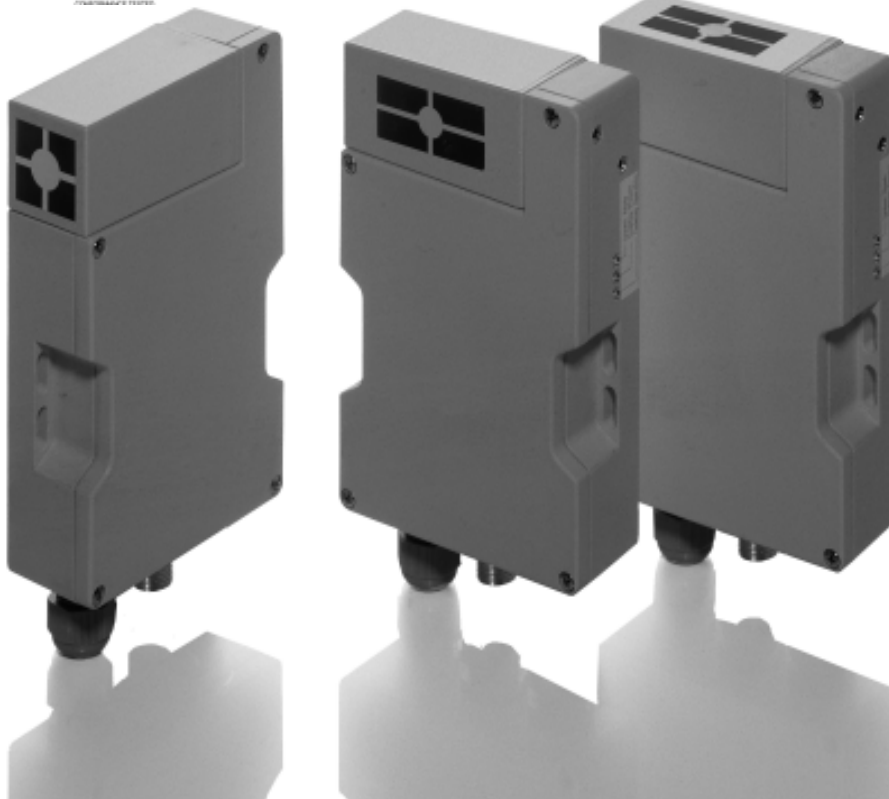
Installation
Notes

Read/Write
Times

Software,
Service Tools

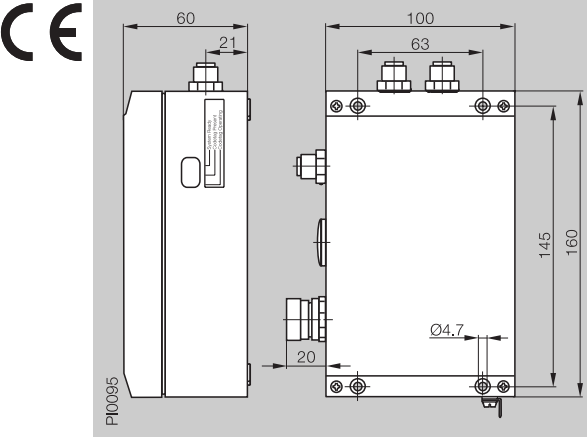
DeviceNet

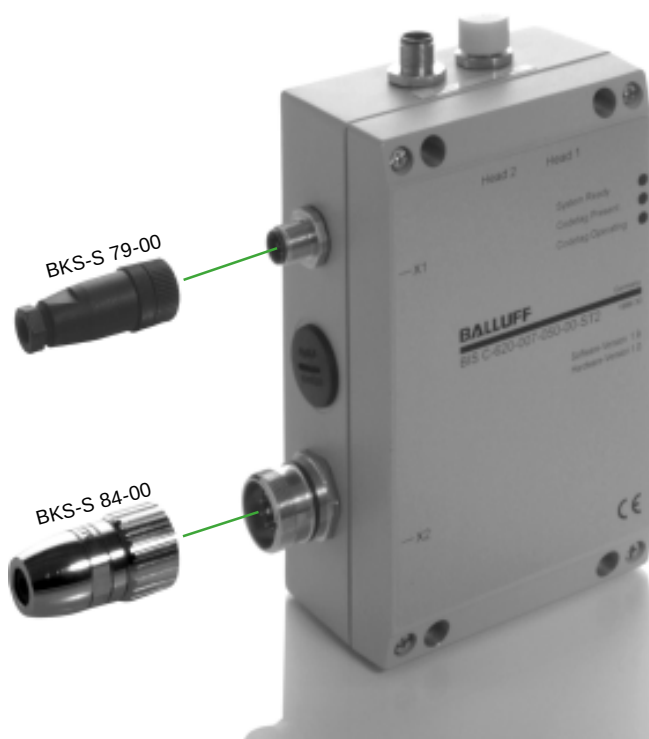
Read/write head can be
rotated in 3 directions



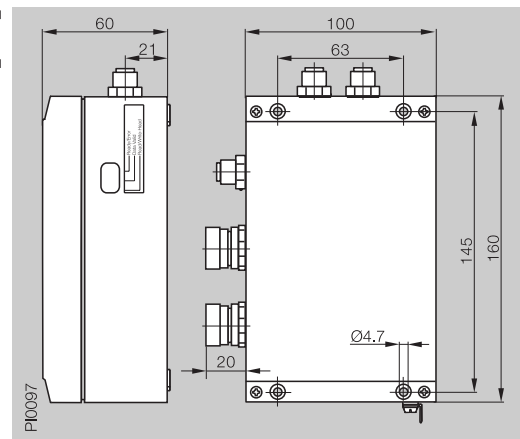
The series **BIS C-62** processor in a rugged metal housing is ideal for extreme demands with its IP 65 enclosure rating. The flexible interface variations as well as the ability to connect up to two read/write heads to a single unit makes this an ideal solution.

Environmental influences such as aggressive media have no effect on the specially designed housing. Shock and impact do not compromise the enclosure rating.

Description	BIS C-620-__-050-__-ST2
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/NEMA 12
Read/write head ports	2 external
Connection type	1 connector round 9-pin 1 connector round 5-pin
Connection for	read/write heads BIS C-3__ exception: BIS C-350
Description interface/software:	
RS232/Balluff Dialog	BIS C-620-007-050-00-ST2
TTY/Balluff Dialog	BIS C-620-007-050-01-ST2
RS422/RS485, 4-wire, point-to-point/Balluff Dialog	BIS C-620-007-050-02-ST2
RS485, 2-wire, Multidrop/Balluff BUS	BIS C-620-024-050-04-ST2
Accessories included	configuration software
Accessories (please order separately)	connector page C.58/59



Description	BIS C-625-__-050-05-ST6
Function	read/write

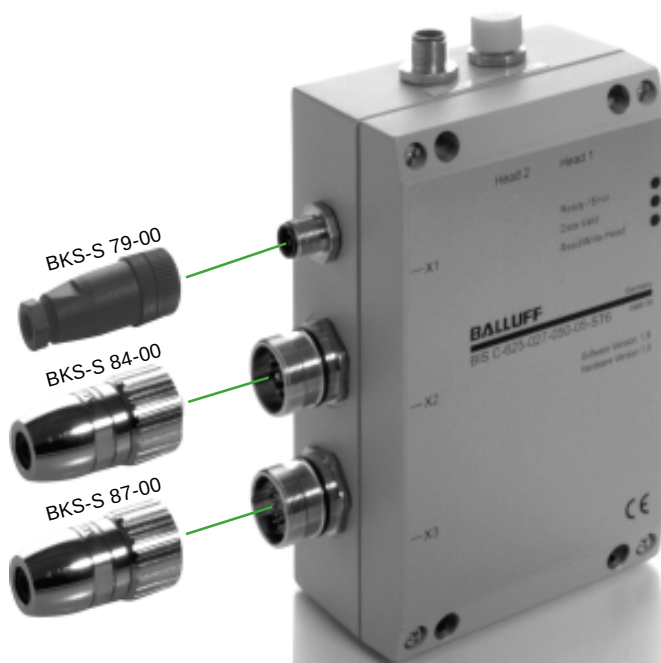


Supply voltage	24 V DC $\pm 20\%$
Ripple	$\leq 10\%$
Current draw	$\leq 400\text{ mA}$
Operating temperature	0...+60 °C
Storage temperature	0...+60 °C
Protection per IEC 60529	IP 65/NEMA 12
Read/write head ports	2 external
Connection type	1 connector round 5-pin 1 connector round 9-pin 1 connector round 19-pin
Connection for	read/write heads BIS C-3__ exception: BIS C-350
Description Interface/Software:	
Parallel and RS232/Balluff Dialog	BIS C-625-027-050-05-ST6
Accessories included	configuration software
Accessories (please order separately)	BKS 23-CS-00 connector page C.58/59

Data Carriers
Read/Write
Heads
Data Coupler
Adapter and
Read/Write
Head
integrated
8-bit
Read-Only
System
Compact-
Processors
**Metal Housing
Processors**
Compact
Processors for
Simultaneous
Mode
Metal Housing
Processors
for
Simultaneous
Mode
Handy
Programmer
Read/Write
Guns,
Mounting
Cuffs
Connector
Cables with
Connectors
Connectors,
Termination
Resistor
Installation
Notes
Read/Write
Times
Software,
Service Tools

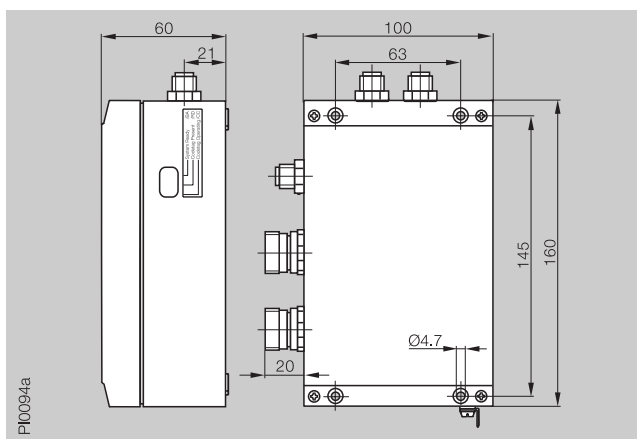


**Threaded cover
BKS 23-CS-00**
for M23 plug connection
IP 65 protective cover for
unused connectors!



The series **BIS C-62** processor in the rugged metal enclosure is designed for extreme demands, featuring IP 65 protection. The flexible interface variations as well as the ability to connect up to two read/write heads to one unit make this an ideal solution.

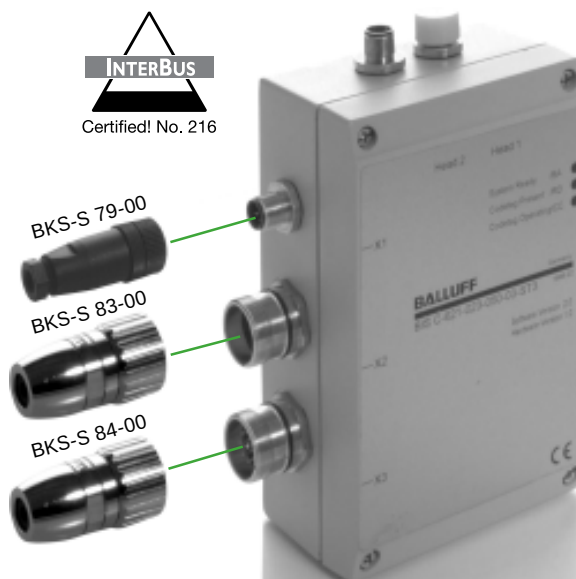
Environmental effects such as aggressive media are no problem for the specially constructed enclosure. Impact has no effect on the protection properties.



Supply voltage	24 V DC $\pm 20\%$
Ripple	$\leq 10\%$
Current draw	$\leq 400\text{ mA}$
Operating temperature	0...+60 °C
Storage temperature	0...+60 °C
Protection per IEC 60529	IP 65/NEMA 12
Read/write heads ports	2 external
Connection type	2 connector round 9-pin 1 connector round 5-pin
Connection for	read/write heads BIS C-3_ _ exception: BIS C-350
Description interface/software:	
INTERBUS	BIS C-621-023-050-03-ST3
Remote bus station or installation bus	
Profibus-DP	
Profibus-DP (with memory-optimized data carrier processing editing)	
DeviceNet	
Accessories included	
Accessories (please order separately)	BKS 23-CS-00 connector page C.58/59



Threaded cover
BKS 23-CS-00
for M23 connector
IP 65 protective cover for
unused connectors!

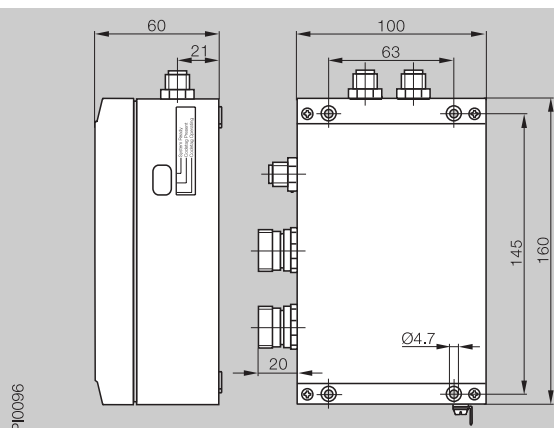


BIS C-622-__-050-03-ST5

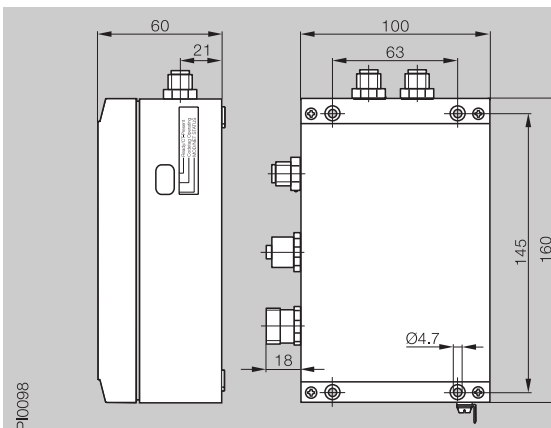
read/write

BIS C-623-__-050-03-ST7

read/write



P10096



P10098

24 V DC $\pm 20\%$

$\leq 10\%$

$\leq 400\text{ mA}$

0...+50 °C

0...+50 °C

IP 65/NEMA 12

2 external

2 connector round 12-pin

1 connector round 5-pin

read/write heads BIS C-3_

exception: BIS C-350

24 V DC $\pm 20\%$

$\leq 10\%$

$\leq 400\text{ mA}$

0...+50 °C

0...+50 °C

IP 65/NEMA 12

2 external

3 connector round 5-pin

read/write heads BIS C-3_

exception: BIS C-350

BIS C-622-019-050-03-ST5

BIS C-622-028-050-03-ST5

BIS C-623-025-050-03-ST7

software GSD-file

BKS 23-CS-00

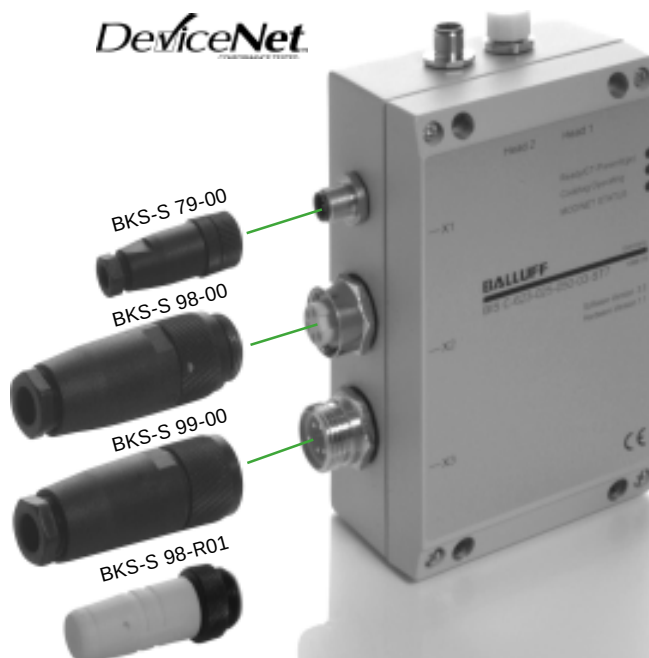
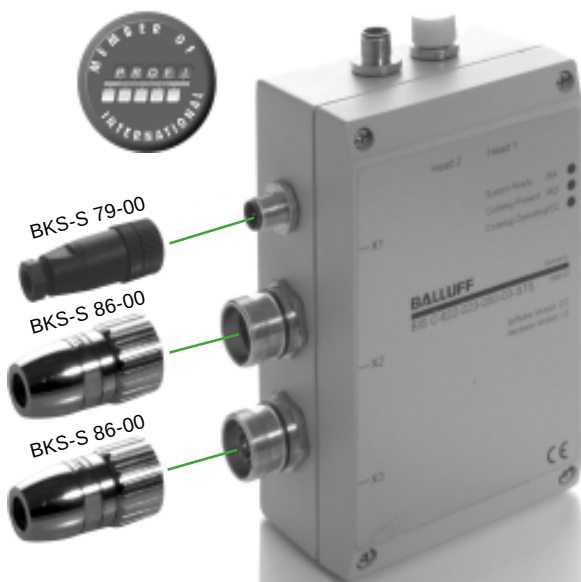
connector page C.58/59

software ESD-file

BIS-C 623 threaded cover 7/8"

connector page C.58/59

termination resistor page C.59



Description	BIS C-6001-__-650-03-KL2	BIS C-6001-__-670-03-KL2	BIS C-6001-__-654-03-KL2
Function	read/write	read/write	read/write
Antenna type			
Supply voltage	24 V DC $\pm 20\%$	24 V DC $\pm 20\%$	24 V DC $\pm 20\%$
Ripple	$\leq 10\%$	$\leq 10\%$	$\leq 10\%$
Current draw	$\leq 400\text{ mA}$	$\leq 400\text{ mA}$	$\leq 400\text{ mA}$
Operating temperature	0...+50 °C	0...+50 °C	0...+50 °C
Storage temperature	0...+50 °C	0...+50 °C	0...+50 °C
Protection per IEC 60529	IP 65/NEMA 12	IP 65/NEMA 12	IP 65/NEMA 12
Read/write head ports	2 external	1 external	1 external
Control inputs	1 (via opto-coupler), 24 V DC	1 (via opto-coupler), 24 V DC	1 (via opto-coupler), 24 V DC
Connection type	terminals 1 $\times$ Pg 9 terminals 2 $\times$ Pg 11	terminals 1 $\times$ Pg 9 terminals 2 $\times$ Pg 11	terminals 1 $\times$ Pg 9 terminals 2 $\times$ Pg 11
Description interface/software:			
Service interface RS232	yes	yes	yes
INTERBUS	BIS C-6001-023-650-03-KL2	BIS C-6001-023-670-03-KL2	BIS C-6001-023-654-03-KL2
INTERBUS (with memory-optimized data carrier processing editing)	BIS C-6001-029-650-03-KL2	BIS C-6001-029-670-03-KL2	BIS C-6001-029-654-03-KL2

The **compact class BIS C-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 PS plastic are present, this device family is the ideal solution. Small, compact, flexible and economical: these are the characteristics of this series.

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

- Data width on the bus, 16 bytes
- Service-friendly, all parameter data are stored in an interchangeable memory
- Compatible with BIS C-601 device family
- Accepts all read/write heads
- Compatible with entire BIS C system



Adapter or antenna can be rotated in 3 directions



for read/write head
BIS C-355/__-S92



BIS C-6001-_-_-651-03-KL2

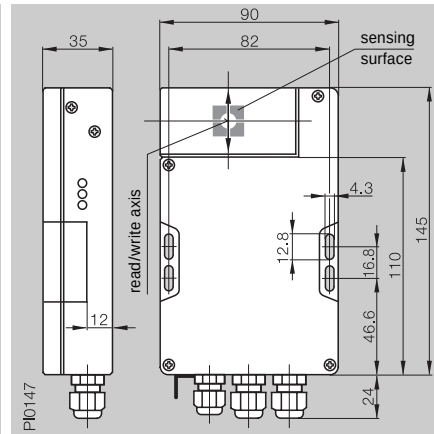
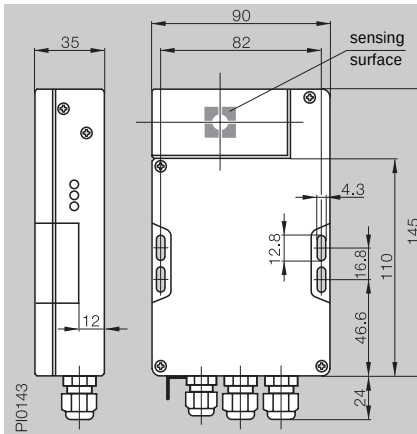
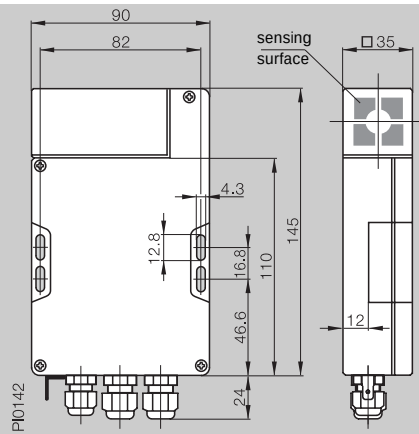
read/write
round

BIS C-6001-_-_-652-03-KL2

read/write
round

BIS C-6001-_-_-653-03-KL2

read/write
rod



24 V DC $\pm 20\%$

$\leq 10\%$

≤ 400 mA

0...+50 °C

0...+50 °C

IP 65/NEMA 12

1 internal

1 (via opto-coupler), 24 V DC

terminals 1 $\times$ Pg 9

terminals 2 $\times$ Pg 11

24 V DC $\pm 20\%$

$\leq 10\%$

≤ 400 mA

0...+50 °C

0...+50 °C

IP 65/NEMA 12

1 internal

1 (via opto-coupler), 24 V DC

terminals 1 $\times$ Pg 9

terminals 2 $\times$ Pg 11

24 V DC $\pm 20\%$

$\leq 10\%$

≤ 400 mA

0...+50 °C

0...+50 °C

IP 65/NEMA 12

1 internal

1 (via opto-coupler), 24 V DC

terminals 1 $\times$ Pg 9

terminals 2 $\times$ Pg 11

yes

BIS C-6001-023-651-03-KL2

BIS C-6001-029-651-03-KL2

yes

BIS C-6001-023-652-03-KL2

BIS C-6001-029-652-03-KL2

yes

BIS C-6001-023-653-03-KL2

BIS C-6001-029-653-03-KL2



Certified! No. 376

Read/write head can be
rotated in 3 directions



BIS C

Data Carriers

Read/Write

Heads

Data Coupler

Adapter and

Read/Write

Head

integrated

8-bit

Read-Only

System

Compact-

Processors

Metal Housing

Processors

Compact

Processors

for

Simultaneous

Mode

Metal Housing

Processors

for

Simultaneous

Mode

Handy

Programmer

Read/Write

Guns,

Mounting

Cuffs

Connector

Cables with

Connectors

Connectors,

Termination

Resistor

Installation

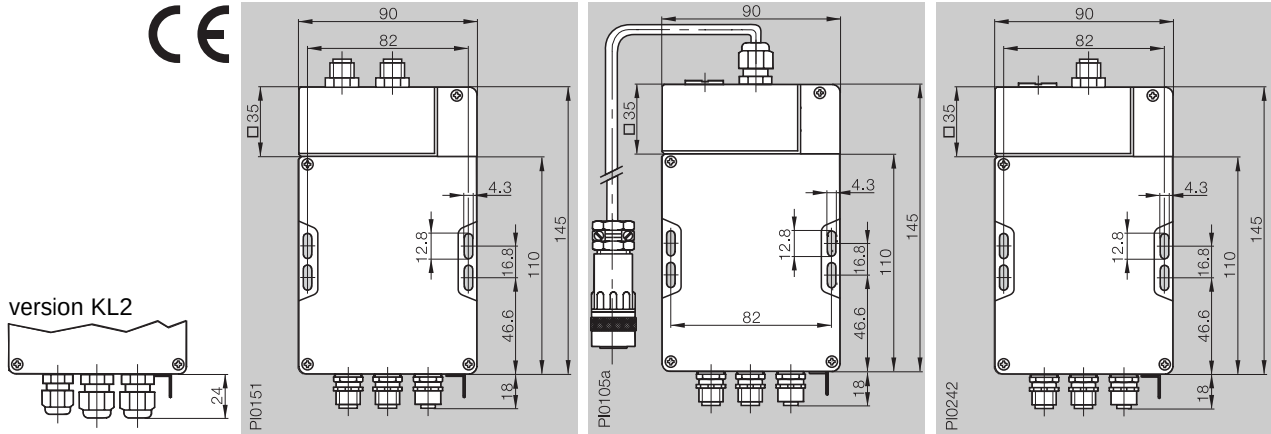
Notes

Read/Write

Times

Software,

Service Tools

Description	BIS C-6002-__-650-03-__	BIS C-6002-__-670-03-__	BIS C-6002-__-654-03-__
Function	read/write	read/write	read/write
Antenna type			
			
Supply voltage	24 V DC $\pm$ 20 %	24 V DC $\pm$ 20 %	24 V DC $\pm$ 20 %
Ripple	$\leq$ 10 %	$\leq$ 10 %	$\leq$ 10 %
Current draw	$\leq$ 400 mA	$\leq$ 400 mA	$\leq$ 400 mA
Operating temperature	0...+50 °C	0...+50 °C	0...+50 °C
Storage temperature	0...+50 °C	0...+50 °C	0...+50 °C
Protection per IEC 60529	IP 65/NEMA 12	IP 65/NEMA 12	IP 65/NEMA 12
Read/write head ports	2 external	1 external	1 external
Control inputs	1 (via opto-coupler), 24 V DC	1 (via opto-coupler), 24 V DC	1 (via opto-coupler), 24 V DC
Control outputs	2 (via opto-coupler), 24 V DC	2 (via opto-coupler), 24 V DC	2 (via opto-coupler), 24 V DC
Clamp connections	terminals 1 $\times$ Pg 9 terminals 2 $\times$ Pg 11	terminals 1 $\times$ Pg 9 terminals 2 $\times$ Pg 11	terminals 1 $\times$ Pg 9 terminals 2 $\times$ Pg 11
Connection version ST11	2 connector round 5-pin, B-coded 1 connector round 5-pin	2 connector round 5-pin, B-coded 1 connector round 5-pin	2 connector round 5-pin, B-coded 1 connector round 5-pin
Description interface/software:			
Service interface RS232	yes	yes	yes
PROFIBUS-DP	BIS C-6002-019-650-03-ST11	BIS C-6002-019-670-03-ST11	BIS C-6002-019-654-03-ST11
PROFIBUS-DP/memory optimization with connector	BIS C-6002-028-650-03-ST11	BIS C-6002-028-670-03-ST11	BIS C-6002-028-654-03-ST11
PROFIBUS-DP	BIS C-6002-019-650-03-KL2	BIS C-6002-019-670-03-KL2	BIS C-6002-019-654-03-KL2
PROFIBUS-DP/memory optimization with PG fitting	BIS C-6002-028-650-03-KL2	BIS C-6002-028-670-03-KL2	BIS C-6002-028-654-03-KL2
Accessories included	software GSD-file	software GSD-file	software GSD-file
Accessories (please order separately)	connector page C.57/58	connector page C.57/58	connector page C.57/58 for read/write head BIS C-355/ __ -S92

The **compact class BIS C-600** with its reduced dimensions and various interface options can be used wherever ambient conditions do not require higher protection. Small, compact, flexible and economical: these are the characteristics of this series.

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

- Selectable division of the data width on the PROFIBUS-DP, from 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 exchangeable memory
- BUS address selectable with switches
- Compatible with BIS C-602 device family
- Accepts all read/write heads
- Compatible with entire BIS C system



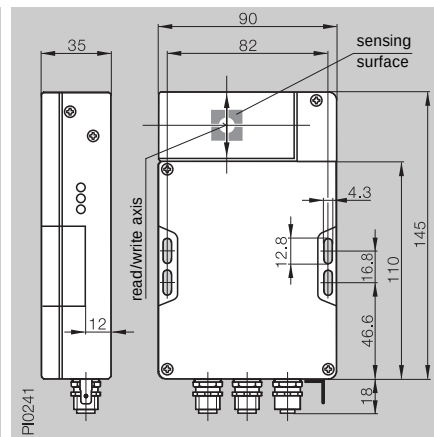
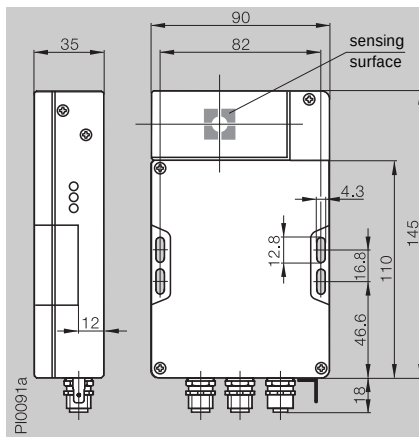
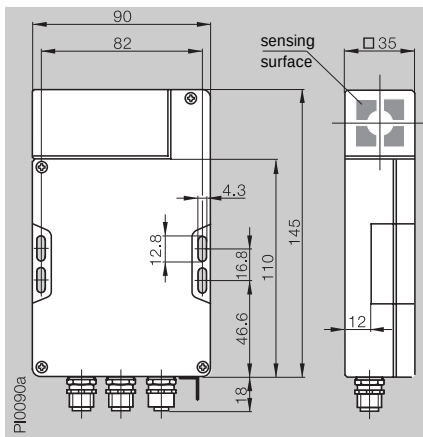
Adapter or antenna can be rotated in 3 directions



BIS C-6002- -651-03- - - -
read/write
round

BIS C-6002- -652-03- - - -
read/write
round

BIS C-6002- -653-03- - - -
read/write
rod



24 V DC $\pm 20\%$

$\leq 10\%$

≤ 400 mA

0...+50 °C

0...+50 °C

IP 65/NEMA 12

1 internal

1 (via opto-coupler), 24 V DC

2 (via opto-coupler), 24 V DC

terminals 1 $\times$ Pg 9

terminals 2 $\times$ Pg 11

2 connector round 5-pin, B-coded

1 connector round 5-pin

24 V DC $\pm 20\%$

$\leq 10\%$

≤ 400 mA

0...+50 °C

0...+50 °C

IP 65/NEMA 12

1 internal

1 (via opto-coupler), 24 V DC

2 (via opto-coupler), 24 V DC

terminals 1 $\times$ Pg 9

terminals 2 $\times$ Pg 11

2 connector round 5-pin, B-coded

1 connector round 5-pin

24 V DC $\pm 20\%$

$\leq 10\%$

≤ 400 mA

0...+50 °C

0...+50 °C

IP 65/NEMA 12

1 internal

1 (via opto-coupler), 24 V DC

2 (via opto-coupler), 24 V DC

terminals 1 $\times$ Pg 9

terminals 2 $\times$ Pg 11

2 connector round 5-pin, B-coded

1 connector round 5-pin

yes

BIS C-6002-019-651-03-ST11

BIS C-6002-028-651-03-ST11

yes

BIS C-6002-019-652-03-ST11

BIS C-6002-028-652-03-ST11

yes

BIS C-6002-019-653-03-ST11

BIS C-6002-028-653-03-ST11

BIS C-6002-019-651-03-KL2

BIS C-6002-028-651-03-KL2

BIS C-6002-019-652-03-KL2

BIS C-6002-028-652-03-KL2

BIS C-6002-019-653-03-KL2

BIS C-6002-028-653-03-KL2

software GSD-file

connector page **C.57/58**

software GSD-file

connector page **C.57/58**

software GSD-file

connector page **C.57/58**



Recommended type ST11



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



Read/write head can be
rotated in 3 directions

BIS C

Data Carriers
Read/Write
Heads

Data Coupler
Adapter and
Read/Write
Head
integrated

8-bit
Read-Only
System

Compact-
Processors

Metal Housing
Processors

**Compact
Processors
for
Simultaneous
Mode**

Metal Housing
Processors
for
Simultaneous
Mode

Handy
Programmer

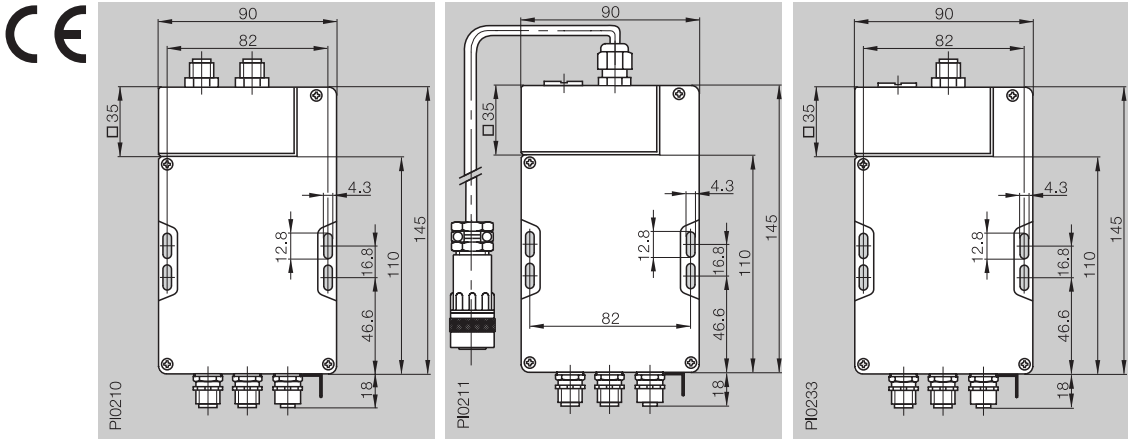
Read/Write
Guns,
Mounting
Cuffs

Connector
Cables with
Connectors

Connectors,
Termination
Resistor

Installation
Notes

Read/Write
Times
Software,
Service Tools

Description	BIS C-6003-__-650-03-ST12	BIS C-6003-__-670-03-ST12	BIS C-6003-__-654-03-ST12
Function	read/write	read/write	read/write
Antenna type			
			
Supply voltage	24 V DC $\pm 20\%$	24 V DC $\pm 20\%$	24 V DC $\pm 20\%$
Ripple	$\leq 10\%$	$\leq 10\%$	$\leq 10\%$
Current draw	$\leq 400\text{ mA}$	$\leq 400\text{ mA}$	$\leq 400\text{ mA}$
Operating temperature	0...+60 °C	0...+60 °C	0...+60 °C
Storage temperature	0...+60 °C	0...+60 °C	0...+60 °C
Protection per IEC 60529	IP 65/NEMA 12	IP 65/NEMA 12	IP 65/NEMA 12
Read/write head ports	2 external	1 external	1 external
Connection type	3 connector round 5-pin	3 connector round 5-pin	3 connector round 5-pin
Description interface/software:			
Service interface RS232	yes	yes	yes
DeviceNet™	BIS C-6003-025-650-03-ST12	BIS C-6003-025-670-03-ST12	BIS C-6003-025-654-03-ST12
Accessories included	software EDS-file	software EDS-file	software EDS-file
Accessories (please order separately)	connector page C.58/60	connector page C.58/60	connector page C.58/60 for read/write head BIS C-355/_-S92

The **compact class BIS C-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 PS plastic are present, this device family is the ideal solution. Small, compact, flexible and economical: these are the characteristics of this series.

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 exchangeable memory
- Compatible with BIS C-603 device family
- Accepts all read/write heads
- Compatible with entire BIS C system



Adapter or antenna can be rotated in 3 directions

DeviceNet
PROFIBUS-DP

BIS C-6003-__-651-03-ST12

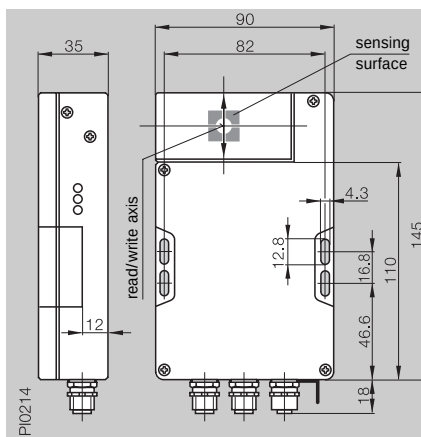
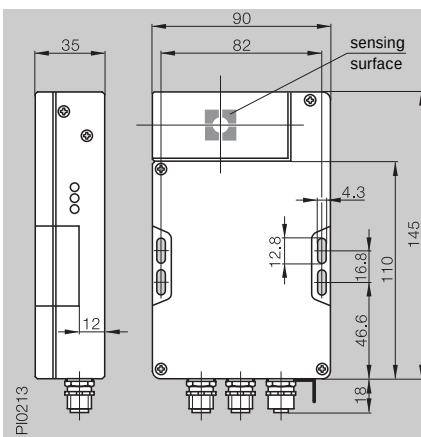
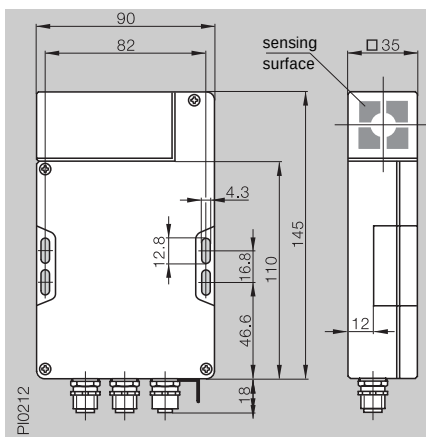
read/write
round

BIS C-6003-__-652-03-ST12

read/write
round

BIS C-6003-__-653-03-ST12

read/write
rod



24 V DC $\pm 20\%$

$\leq 10\%$

$\leq 400\text{ mA}$

0...+60 °C

0...+60 °C

IP 65/NEMA 12

1 internal

3 connector round 5-pin

24 V DC $\pm 20\%$

$\leq 10\%$

$\leq 400\text{ mA}$

0...+60 °C

0...+60 °C

IP 65/NEMA 12

1 internal

3 connector round 5-pin

24 V DC $\pm 20\%$

$\leq 10\%$

$\leq 400\text{ mA}$

0...+60 °C

0...+60 °C

IP 65/NEMA 12

1 internal

3 connector round 5-pin

yes

BIS C-6003-025-651-03-ST12

yes

BIS C-6003-025-652-03-ST12

yes

BIS C-6003-025-653-03-ST12

software EDS-file

connector page C.58/60

software EDS-file

connector page C.58/60

software EDS-file

connector page C.58/60

BIS C

Data Carriers

Read/Write
Heads

Data Coupler

Adapter and
Read/Write
Head
integrated

8-bit

Read-Only

System

Compact-

Processors

Metal Housing

Processors

Compact

Processors

for

Simultaneous

Mode

Metal Housing

Processors

for

Simultaneous

Mode

Handy

Programmer

Read/Write

Guns,

Mounting

Cuffs

Connector

Cables with

Connectors

Connectors,

Termination

Resistor

Installation

Notes

Read/Write

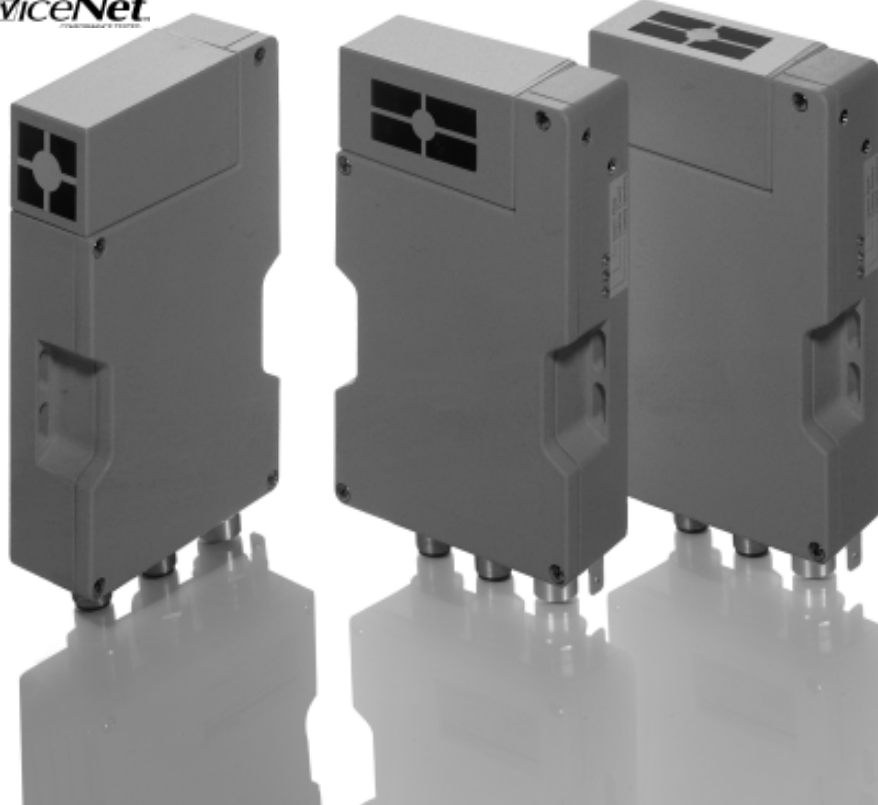
Times

Software,

Service Tools

DeviceNet

Read/write head can be
rotated in 3 directions



Description	
Function	



Supply voltage	
Ripple	
Current draw	
Operating temperature	
Storage temperature	
Protection per IEC 60529	
Read/write head ports	
Service interface RS232	
Connection type	

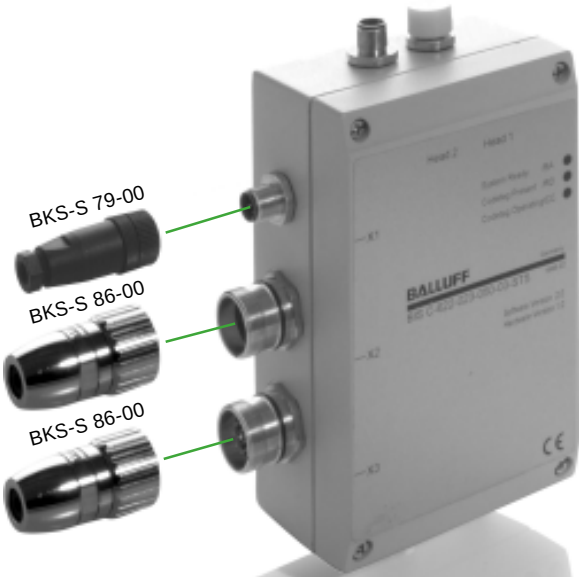
Connection for	
----------------	--

Description interface/software:	
PROFIBUS-DP	
PROFIBUS-DP (with memory optimized data carrier processing)	
Accessories included	
Accessories (please order separately)	

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



**Threaded cover
BKS 23-CS-00**
for M23 connection
IP 65 protective cover for
unused connectors!

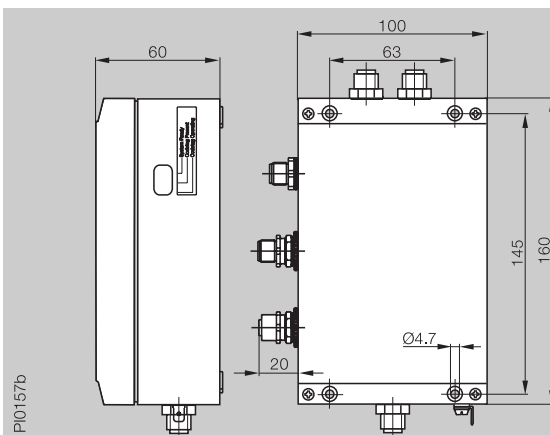
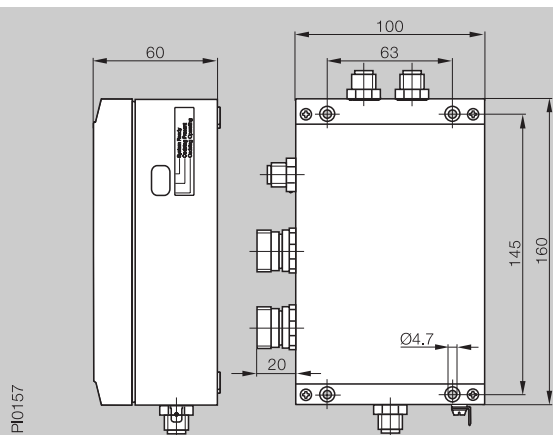


BIS C-6022-__-050-03-ST10

read/write

BIS C-6022-__-050-03-ST14

read/write



24 V DC $\pm 20\%$

$\leq 10\%$

$\leq 400\text{ mA}$

0...+50 °C

0...+50 °C

IP 65/NEMA 12

2 external

yes

2 connector round 12-pin,
1 connector round 5-pin
read/write heads BIS C-3_ _
exception: BIS C-350/BIS C-355

connector round 5-pin, B-codiert,
1 connector round 5-pin
read/write heads BIS C-3_ _
exception: BIS C-350/BIS C-355

BIS C-6022-019-050-03-ST10
BIS C-6022-028-050-03-ST10

BIS C-6022-019-050-03-ST14
BIS C-6022-028-050-03-ST14

software EDS-file
BKS 23-CS-00
connector page C.58

software EDS-file
BKS 12-CS-01
connector page C.57/58

BIS C

Data Carriers
Read/Write
Heads

Data Coupler
Adapter and
Read/Write
Head
integrated

8-bit
Read-Only
System

Compact-
Processors

Metal Housing
Processors

Compact
Processors for
Simultaneous
Mode

**Metal Housing
Processors
for
Simultaneous
Mode**

Handy

Programmer

Read/Write
Guns,
Mounting
Cuffs

Connector
Cables with
Connectors

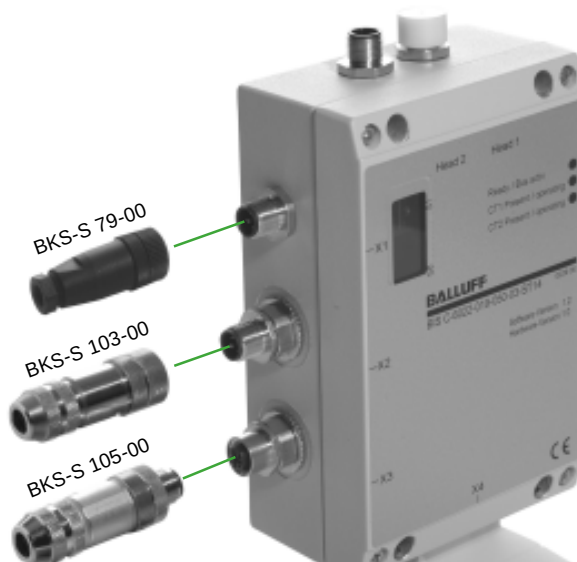
Connectors,
Termination
Resistor

Installation
Notes

Read/Write
Times

Software,
Service Tools

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

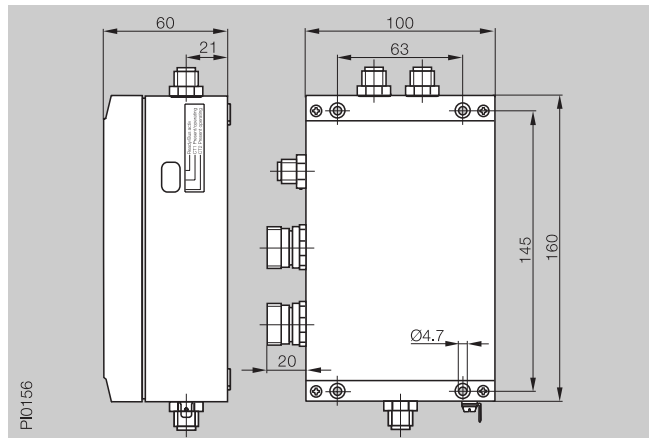


Description

Function

BIS C-6021-_-_-050-03-ST8

read/write



Supply voltage

24 V DC $\pm 20\%$

Ripple

 $\leq 10\%$

Current draw

 $\leq 400\text{ mA}$

Operating temperature

0...+60 °C

Storage temperature

0...+60 °C

Protection per IEC 60529

IP 65/NEMA 12

Read/write head ports

2 external

Service interface RS232

yes

Connection type

2 connector round 9-pin

2 connector round 5-pin

Connection for

read/write heads BIS C-3_

exception: BIS C-350/BIS C-355

Description interface/software:

INTERBUS, remote bus subscriber

BIS C-6021-023-050-03-ST9

INTERBUS, remote bus subscriber with 2M Baud

BIS C-6021-023-050-03-ST9M

INTERBUS, remote bus subscriber (with memory optimized data carrier processing)

BIS C-6021-029-050-03-ST9

INTERBUS, installation bus

BIS C-6021-023-050-03-ST8

INTERBUS, installation bus with 2M baud

BIS C-6021-023-050-03-ST8M

INTERBUS, installation bus (with memory optimized data carrier processing)

BIS C-6021-029-050-03-ST8

Accessories (please order separately)

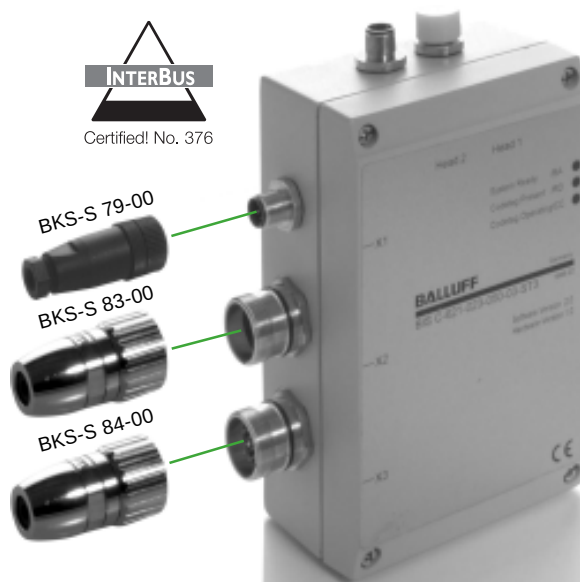
BKS 23-CS-00

connector page C.58/59

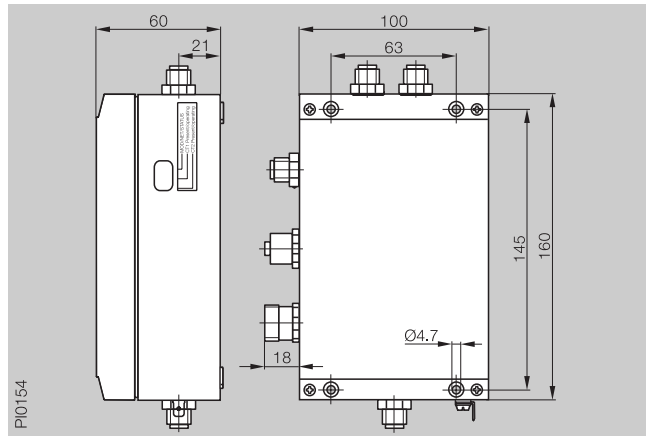
**Cost-effective identification –
operate 2 read/write heads simultaneously!**

Threaded cover
BKS 23-CS-00

for M23 connection

IP 65 protective cover for
unused connectors!


Description	BIS C-6023-__-050-03-ST13
Function	read/write



Supply voltage	24 V DC $\pm 20\%$
Ripple	$\leq 10\%$
Current draw	$\leq 400\text{ mA}$
Operating temperature	0...+50 °C
Storage temperature	0...+50 °C
Protection per IEC 60529	IP 65/NEMA 12
Read/write head ports	2 external
Service interface RS232	yes
Connection type	4 connector round 5-pin
Connection for	read/write heads BIS C-3__ exception: BIS C-350/BIS C-355
Description interface/software:	
DeviceNet	BIS C-6023-025-050-03-ST13
Accessories included	software EDS-file
Accessories (please order separately)	BIS-C 623 threaded cover 7/8" connector page C.58/59 termination resistor page C.59

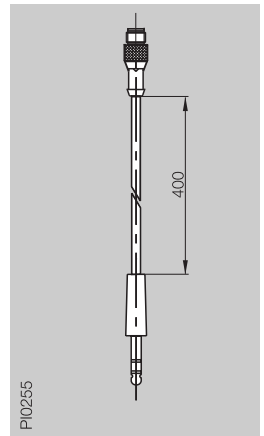
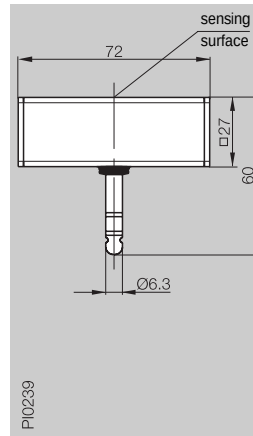
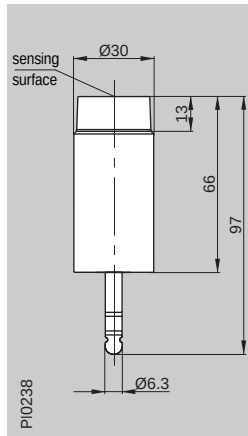
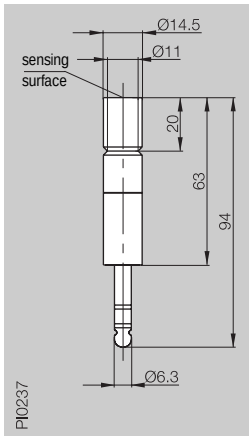
**Cost-effective identification –
operate 2 read/write heads simultaneously!**

BIS C

Data Carriers
Read/Write
Heads
Data Coupler
Adapter and
Read/Write
Head
integrated
8-bit
Read-Only
System
Compact-
Processors
Metal Housing
Processors
Compact
Processors for
Simultaneous
Mode
**Metal Housing
Processors
for
Simultaneous
Mode**
Handy
Programmer
Read/Write
Guns,
Mounting
Cuffs
Connector
Cables with
Connectors
Connectors,
Termination
Resistor
Installation
Notes
Read/Write
Times
Software,
Service Tools



Dimensions	Ø 14,5×63	Ø 30×66	72×27×27	
Housing material	CuZn	POM	PVC	
Antenna type	round	round	rod	
Function	read/write head	read/write head	read/write head	Adapter cable

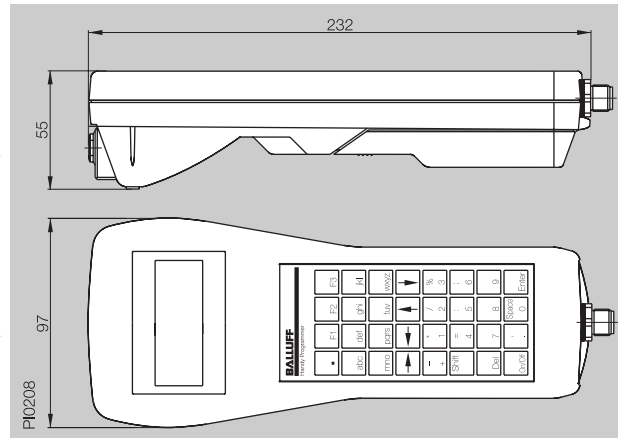
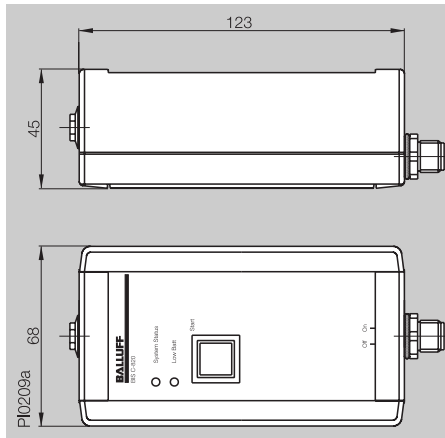


Order code	BIS C-851	BIS C-852	BIS C-853	BIS C-850
Operating temperature	0...+70 °C	0...+70 °C	0...+70 °C	0...+70 °C
Storage temperature	-20...+85 °C	-20...+85 °C	-20...+85 °C	-20...+85 °C
Protection per IEC 60529	IP 67	IP 67	IP 67	IP 67
Read head connection	6.3 mm jack socket	6.3 mm jack socket	6.3 mm jack socket	6.3 mm jack socket
Connection to	BIS C-810 BIS C-820 BIS C-720	BIS C-810 BIS C-820 BIS C-720	BIS C-810 BIS C-820 BIS C-720	BIS C-810 BIS C-820 BIS C-720
appropriate data carriers	BIS C-100 BIS C-103 BIS C-105 BIS C-121 BIS C-122	BIS C-100 BIS C-104 BIS C-108 BIS C-117 BIS C-128 BIS C-130 BIS C-190 BIS C-191	BIS C-150-__/A	

Adapter cable for handy programmer or portable device and all read/write heads with M12 connector.



Function	read/write	read/write
Housing material	ABS	ABS



Order code	BIS C-820	BIS C-810
Keyboard	1 key	32 buttons, alphanumeric
Display	2 LED status/battery	LCD-display, 20 characters/4 line
Supply voltage	2×R6 AA rechargeable NiMH	2.4 V rechargeable battery pack NiMH
Capacity	800 mA/h	1650 mA/h
Interface	RS232/Balluff Dialog	RS232/Balluff Dialog
Operating temperature	0...+50 °C	0...+50 °C
Protection per IEC 60529	IP 40	IP 40
Read head connection	1× 6.3 mm jack socket	1× 6.3 mm jack socket

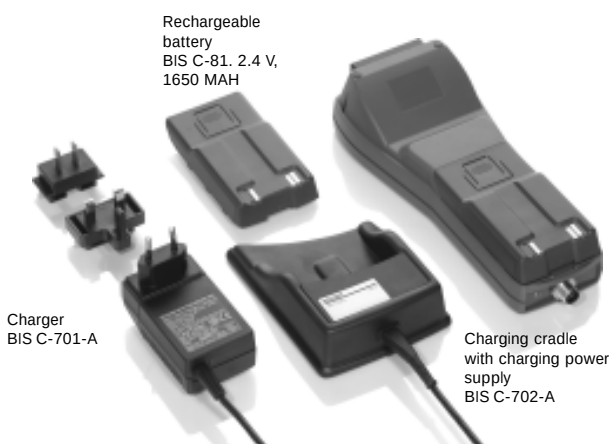
The handy programmer is a service and testing unit for checking and modifying data in data carriers. To operate, a read/write head is plugged into it.

Depending on the version, a particular data carrier type can be directly processed. A built-in RS232 port allows data exchange with a PC. The unit is equipped with a rechargeable battery for portable use on the plant floor.

Customer-specific menus are available. When ordering, please append a D (for German) or E (for English) to the part number.

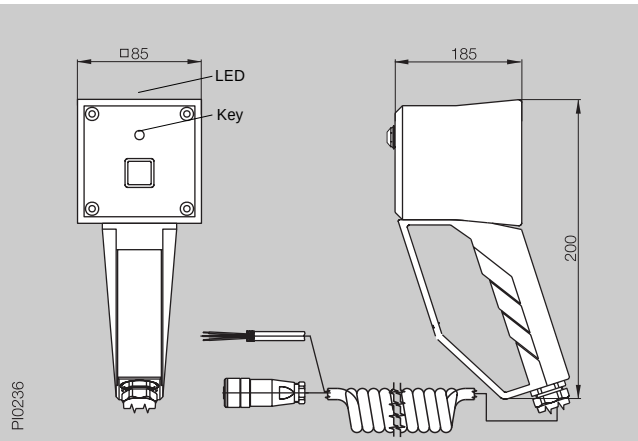


Order accessories separately!
RS232 adapter cable
BIS C-522-PVC-02
page C.55



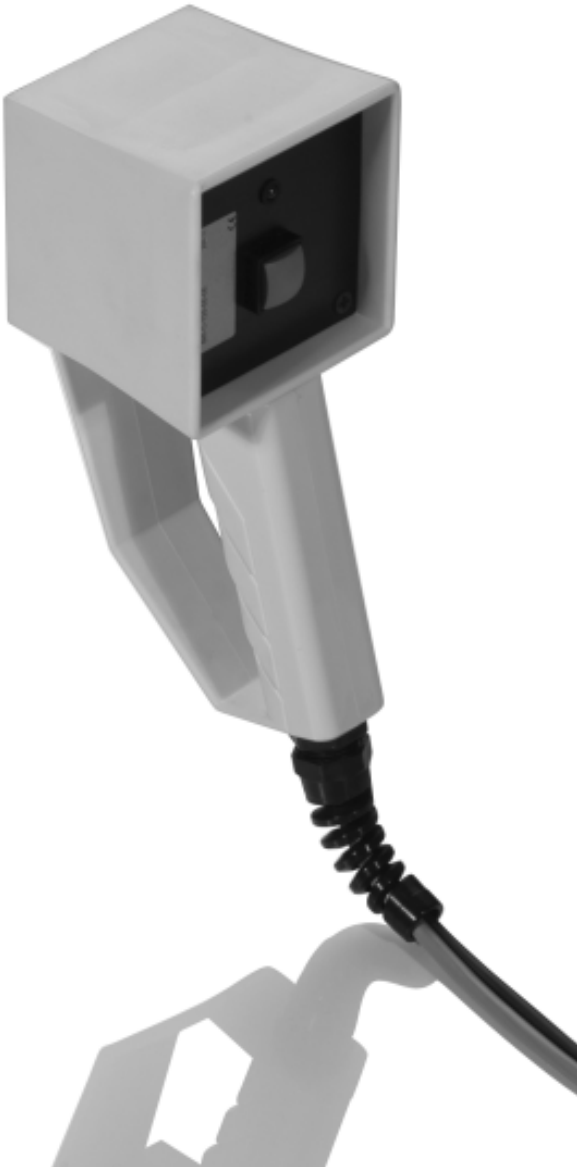
Read/Write Gun

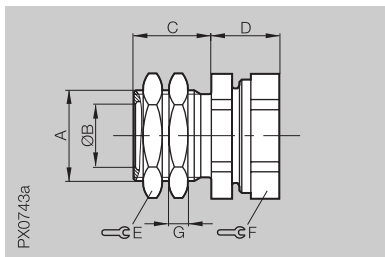
Housing material	PA 6.6



Order code	BIS C-720-01-03
Keyboard	1 key
Display	1 LED
Ambient operating temperature	0...+70 °C
Storage temperature	-20...+85 °C
Protection per DIN 40 050	IP 40
Read head connection	6.3 mm jack socket
Coiled cable extended	3 m
Connection to	Processor and PLC

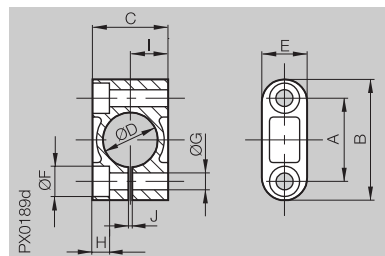
The read gun is very convenient for manual operation. 3 various read/write heads can be plugged in (page C.50). The key is used to start a read/write routine. The LED and integrated buzzer signal the end of the read/write action.





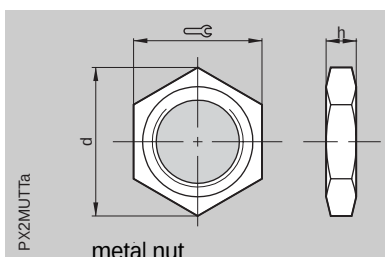
**Clamps with positive stop for read/write heads having
≥ 30 mm thread length (material: nickel plated brass)**

	A	Ø B	C	D max.	E	F	G
BES 18.0-KH-2S	M24×1.5	18	20.5	15.5	SW30	SW30	5
BES 30.0-KH-2S	M36×1.5	30	20.5	15.5	SW41	SW41	6

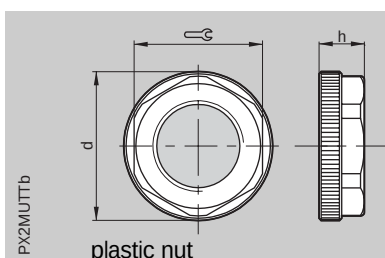


Clamping cuffs

	A	B	C	D	E	F	G	H	I	J
BES 14.5-BS-1	22	32	20	14.5	12	8	4.5	4.5	10	1
BES 16.0-BS-1	26	36	26	16	12	8	4.5	4.5	13	1
BES 18.0-BS-1	26	36	26	17.9	12	8	4.5	4.5	13	1
BES 30.0-BS-1	42	55	38	30	18	10	5.5	5.5	18	1.5



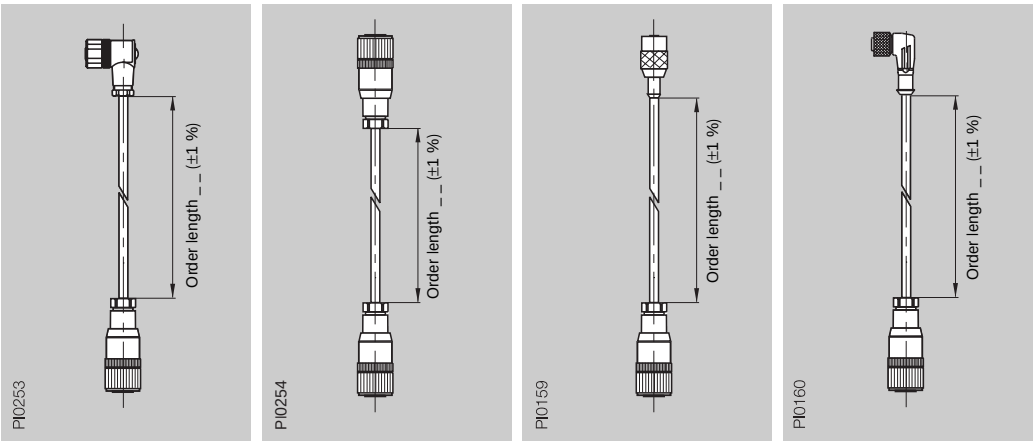
metal nut



plastic nut

	Part no. = Order code	Material	d	SW	h
Metal nuts					
M30×1,5	500252	Ms nickel plated	42	36	5
M16×1	500030	Ms nickel plated	25.5	22	4
Stainless steel nuts					
M18×1	636982	1.4301	28	24	4
M30×1.5	636983	1.4401	42	36	5
Plastic nuts					
M18×1	606841	PA 6.6	28	24	8

Order code	BIS C-517-PVC-__	BIS C-518-PVC-__	BIS C-505-PU-__	BIS C-506-PU-__	
Version	2 connectors M12	2 connectors M12	2 connectors M12	2 connectors M12	



Application	for read/write head with S4 connector	for read/write head with S4 connector	for read/write head with S4 connector also available suitable for use as trailing cable	for read/write head with S4 connector also available suitable for use as trailing cable	
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Please indicate cable length in ordering code!
The length varies with the read/write head used
(with S4 connector):
01 = Length 1 m, 05 = Length 5 m,
10 = Length 10 m.



BIS C-520-PVC-05	BIS C-521-PVC-02	BIS C-522-PVC-02	BIS C-516-PU-__	
2 connectors M12 with fixed cable length 5 m	MIN D with fixed cable length 2 m	connector M12 and MIN D with fixed cable length 2 m	BKS S 45-00 and BKS S 46-00 with variable cable length	
for read/write head BIS C-355 and adapter BIS C-654	for RS232 connection to PC	for RS232 connection to PC and BIS C-820/810 or BIS C-600-007-...-00 processor	for read/write head BIS C-350 to adapter BIS C-670	

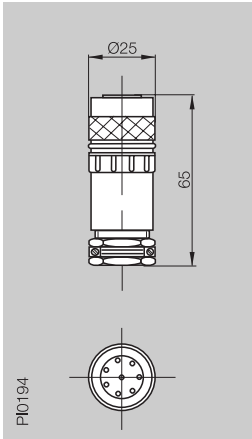
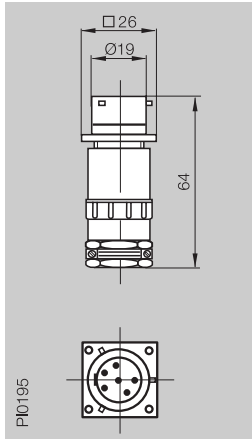
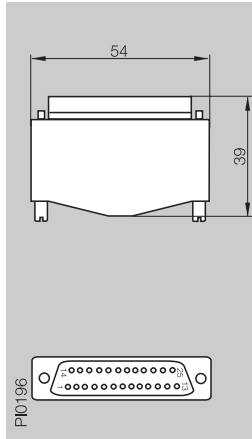
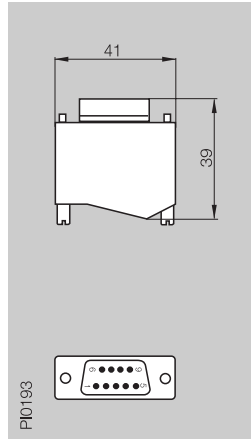
Please indicate cable
length in ordering code!

05 = Length 5 m,
10 = Length 10 m,
15 = Length 15 m,
20 = Length 20 m,
30 = Length 30 m,
40 = Length 40 m,
50 = Length 50 m,
75 = Length 75 m,
100 = Length 100 m.

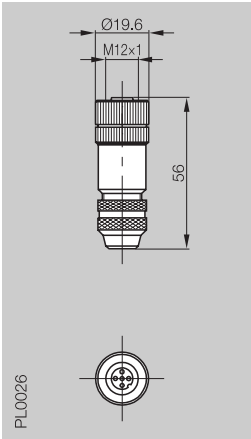
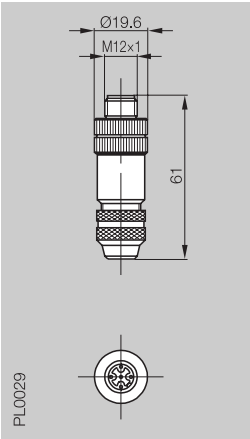
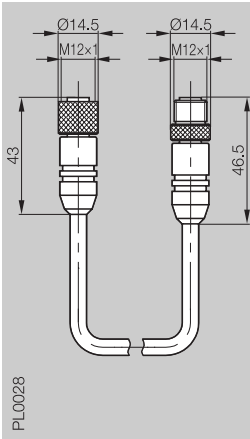
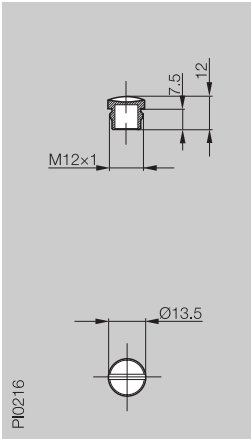
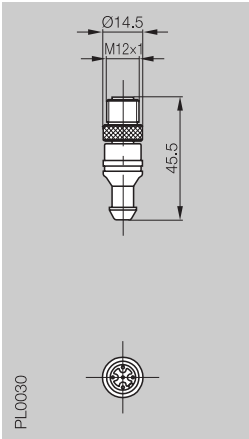


BIS C

Data Carriers
Read/Write
Heads
Data Coupler
Adapter and
Read/Write
Head
integrated
8-bit
Read-Only
System
Compact-
Processors
Metal Housing
Processors
Compact
Processors for
Simultaneous
Mode
Metal Housing
Processors
for
Simultaneous
Mode
Handy
Programmer
Read/Write
Guns,
Mounting
Cuffs
**Connector
Cables with
Connectors**
Connectors,
Termination
Resistor
Installation
Notes
Read/Write
Times
Software,
Service Tools

Order code	BKS-S 45-00	BKS-S 46-00	BKS-S 52-00	BKS-S 43-00	
Version	for connecting to read/write head BIS C-35_	for extension with BKS-S 45-00	for processors BIS C-605-...	for PC interface	
					
Connector type	round-connector	round-connector	MIN D-plug	MIN D-plug	
Version	8-pin, female	6-pin, male	25-pin, female	9-pin, male	
recommended cable	LiYCY-0	LiYCY-0	LiYCY-0	LiYCY-0	
Conductor cross section	0.52 mm ²	0.52 mm ²	0.5 mm ²	0.5 mm ²	
Protection* per IEC 60529	IP 65	IP 65	IP 40	IP 40	
ambient temperature range	-55...+125 °C	-55...+125 °C	-40...+85 °C	-40...+85 °C	
*only when connected					

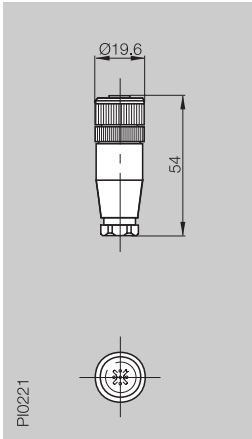
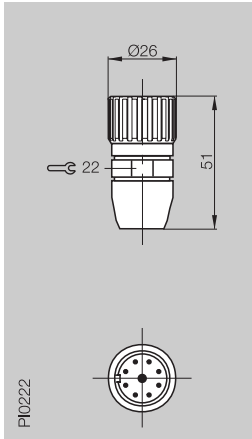
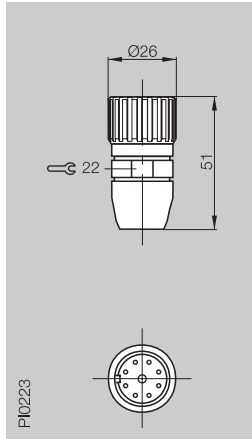
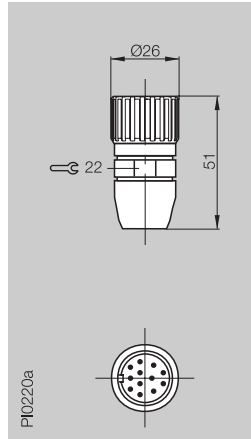


BKS-S103-00 for connecting PROFIBUS-DP	BKS-S105-00 for connecting PROFIBUS-DP	BKS-S103/GS103-CP- PROFIBUS-DP extension cable	BKS 12-CS-01 IP 65 protective cap for unused terminals	BKS-S105-R01 PROFIBUS-DP termination resistor
				
M12 B-coded 5-pin, female	M12 B-coded 5-pin, male	M12 B-coded male, female	M12 B-coded	M12 B-coded 5-pin, male
IP 67 -40...+85 °C	IP 67 -40...+85 °C	2 × 0.64 mm ² IP 67 -40...+85 °C	-40...+85 °C	IP 67 -40...+85 °C

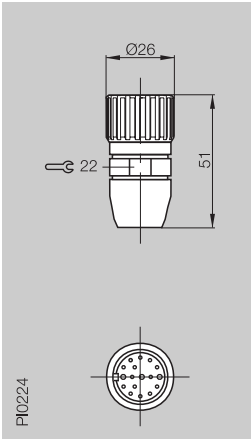
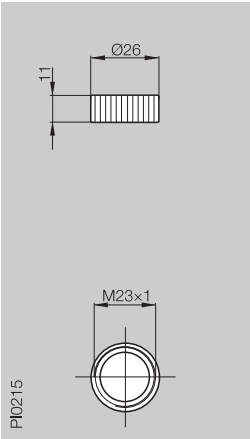
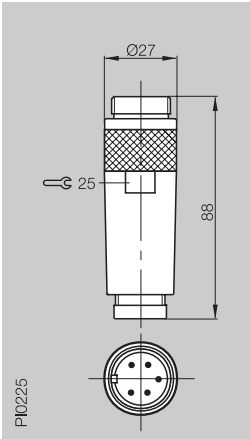
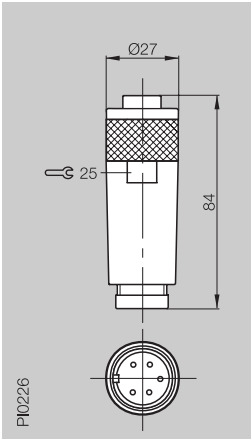
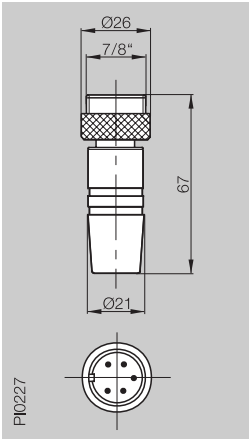
Please indicate cable
length in ordering code!
00.3 = Length 0.3 m
02 = Length 2 m
05 = Length 5 m
10 = Length 10 m


BIS C

Data Carriers
Read/Write
Heads
Data Coupler
Adapter and
Read/Write
Head
integrated
8-bit
Read-Only
System
Compact-
Processors
Metal Housing
Processors
Compact
Processors for
Simultaneous
Mode
Metal Housing
Processors
for
Simultaneous
Mode
Handy
Programmer
Read/Write
Guns,
Mounting
Cuffs
Connector
Cables with
Connectors
**Connectors,
Termination
Resistor**
Installation
Notes
Read/Write
Times
Software,
Service Tools

Order code	BKS-S 79-00	BKS-S 83-00	BKS-S 84-00	BKS-S 86-00	
Version	for connection to processors BIS C-** supply voltage or BIS C-603 DeviceNet	for connection to processors BIS C-621 output, BIS C-6021 output	for connection to processors BIS C-621 input, BIS C-6021 input, BIS C-620 or BIS C-625 serial data	for connection to processors BIS C-622, BIS C-6022 ... ST10 input or/and output	
					
Connector type	round-connector	round-connector	round-connector	round-connector	
Version	5-pin, female	9-pin, male	9-pin, female	12-pin, male	
recommended cable	LiYCY-0	LiYCY-0	LiYCY-0	LiYCY-0	
Conductor cross section	0.34 mm ²	0.5 mm ²	0.5 mm ²	0.5 mm ²	
Protection* per IEC 60529	IP 67	IP 67	IP 67	IP 67	
ambient temperature range	-40...+85 °C	-40...+85 °C	-40...+85 °C	-40...+125 °C	
*only when connected	** BIS C-620 BIS C-621 BIS C-622 BIS C-623 BIS C-625 BIS C-6002 BIS C-6003 BIS C-6021 BIS C-6022 BIS C-6023				



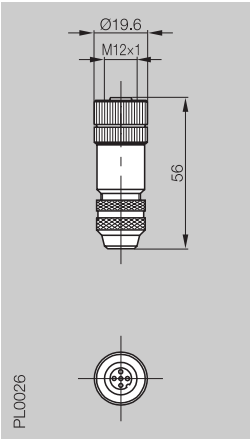
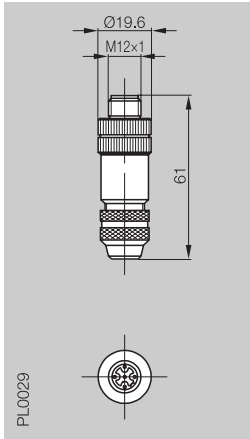
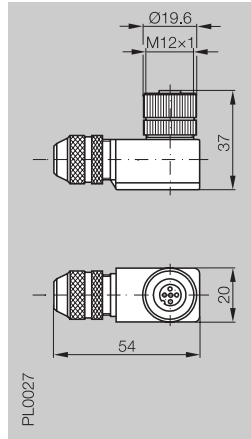
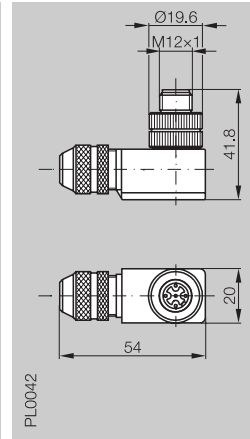
BKS-S 87-00	BKS 23-CS-00	BKS-S 98-00	BKS-S 99-00	BKS-S 98-R01
for connection to processors BIS C-625 serial data	IP 65 threaded cover for unused terminals!	for connection to processors BIS C-6023 DeviceNet	for connection to processors BIS C-6023 DeviceNet	termination resistor for processors BIS C-6023 DeviceNet
				
round-connector 19-pin, female LiYCY-0 0.5 mm ² IP 65 -55...+125 °C		round-connector 5-pin, male LiYCY-0 0.5 mm ² IP 67 -40...+90 °C	round-connector 5-pin, female LiYCY-0 0.5 mm ² IP 67 -40...+90 °C	round-connector 5-pin, male IP 67 -40...+85 °C

BIS C

Data Carriers
 Read/Write
 Heads
 Data Coupler
 Adapter and
 Read/Write
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 integrated
 8-bit
 Read-Only
 System
 Compact-
 Processors
 Metal Housing
 Processors
 Compact
 Processors for
 Simultaneous
 Mode
 Metal Housing
 Processors
 for
 Simultaneous
 Mode
 Handy
 Programmer
 Read/Write
 Guns,
 Mounting
 Cuffs
 Connector
 Cables with
 Connectors
**Connectors,
Termination
Resistor**
 Installation
 Notes
 Read/Write
 Times
 Software,
 Service Tools

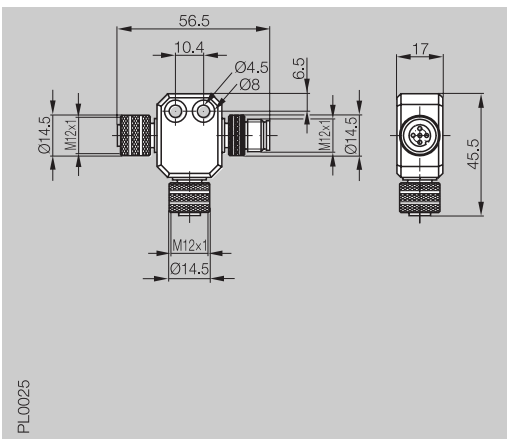


Order code	BKS-S 92-00	BKS-S 94-00	BKS-S 93-00	BKS-S 95-00	
Version	BIS C-6003-...	BIS C-6003-...	BIS C-6003-...	BIS C-6003-...	

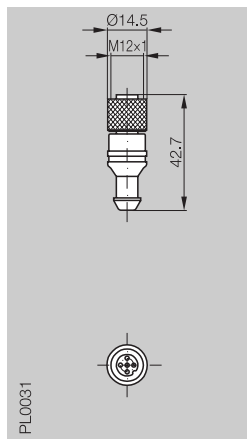
					
Connector type	round-connector	round-connector	round-connector	round-connector	
Version	5-pin, female	5-pin, male	5-pin, right angle, female	5-pin, right angle, male	
Cable diameter	6...8 mm	6...8 mm	6...8 mm	6...8 mm	
No. of wires × conductor cross section					
Protection per IEC 60529	IP 67 (when attached)	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
 View of female coupling side	1	Drain	1	—
	2	V+	2	—
	3	V-	3	—
	4	CAN_H	4	121 Ohm
	5	CAN_L	5	

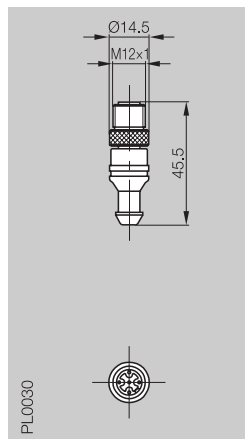


BKS-S 92-TA1
BIS C-6003-...

round-connector
T-splitter, 2 × female, 1 × male

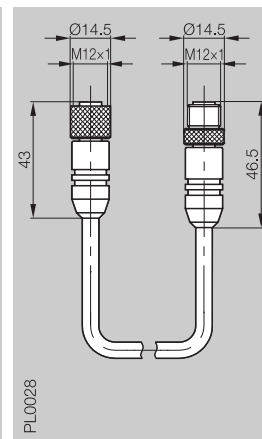
IP 65

BKS-S 92-R01
BIS C-6003-...

round-connector
termination resistor, female

IP 68
121 Ohm

BKS-S 94-R01
BIS C-6003-...

round-connector
termination resistor, male

IP 68
121 Ohm

BKS-S 92-16/GS92-
BIS C-6003-...

round-connector
male/female extension

 $5 \times 0.34 \text{ mm}^2$
IP 67

Please indicate cable
length in ordering code!
02 = Length 2 m
05 = Length 5 m
10 = Length 10 m

BIS C

Data Carriers
Read/Write
Heads
Data Coupler
Adapter and
Read/Write
Head
integrated
8-bit
Read-Only
System
Compact-
Processors
Metal Housing
Processors
Compact
Processors for
Simultaneous
Mode
Metal Housing
Processors
for
Simultaneous
Mode
Handy
Programmer
Read/Write
Guns,
Mounting
Cuffs
Connector
Cables with
Connectors
**Connectors,
Termination
Resistor**
Installation
Notes
Read/Write
Times
Software,
Service Tools



Installation in Steel

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

Data carriers	Fig.	Dimensions (in mm)			
		A	B	C	D
BIS C-100-05/A	–	0	0	0	0
BIS C-103- /A	–	0	0	0	0
BIS C-104- /A	–	0	0	0	0
BIS C-105- /A	–	0	0	0	0
BIS C-108- /L	–	0	0	0	0
BIS C-117-05/A	–	0	0	0	0
BIS C-117-05/L	5	60	–	–	20
BIS C-121-04/L	–	0	0	0	0
BIS C-122- /L	–	0	0	0	0
BIS C-127-05/L	4	30	30	–	30
BIS C-128- /L	5	60	–	–	20
BIS C-130-05/L	5	70	–	–	2
BIS C-133- /L	–	0	0	0	0
BIS C-150- /A	1	20	20	22	–
BIS C-190- /L	3	20	17	20	–
BIS C-191- /L	3	9	27	9	–

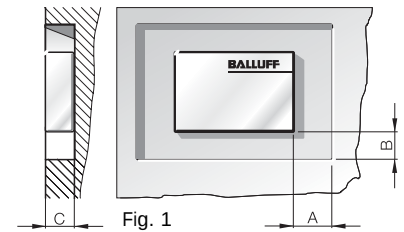


Fig. 1

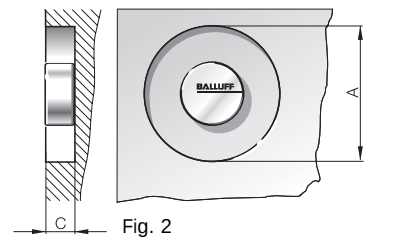


Fig. 2

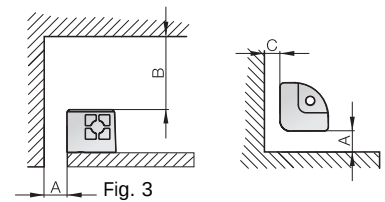


Fig. 3

Read/write heads	Fig.	Dimensions (in mm)		
		A	B	C
BIS C-300	–	0	0	0
BIS C-302	–	0	0	0
BIS C-305	–	0	0	0
BIS C-306	–	0	0	0
BIS C-310	2	60	–	13
BIS C-315	–	0	0	0
BIS C-318	1	50	50	30
BIS C-319	2	50	–	35
BIS C-323	2	60	–	13
BIS C-324	1	0	0	0
BIS C-325	2	0	0	0
BIS C-326	2	80	–	35
BIS C-350	1	60	50	60
BIS C-351	1	100	60	50

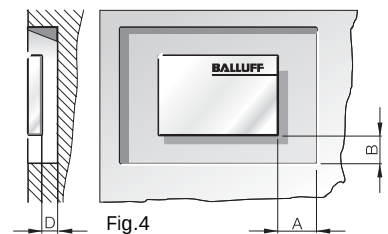


Fig. 4

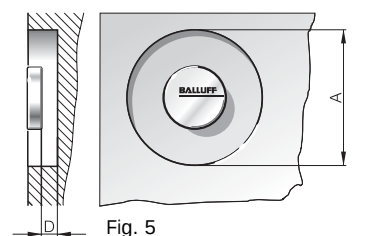


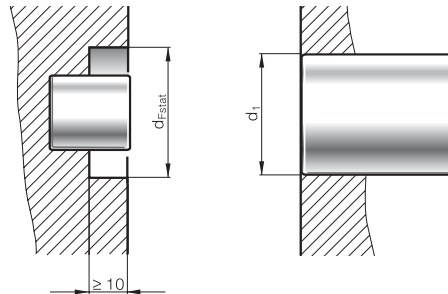
Fig. 5

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.

**Installation in
Aluminum**
**With clear Zone,
Static Operation**

In order to ensure static operation with no limitations, a clear zone around the smaller of the two communications partners must be created (data carriers or read/write head).



For the diameter of the clear zone, calculate
 $d_{Fstat} \geq d_1 + \Delta_M$

Example:

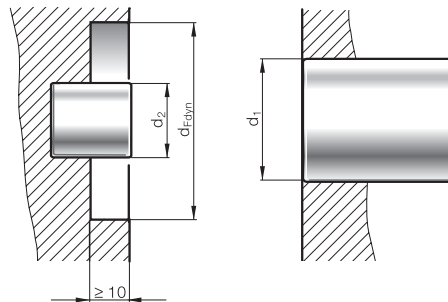
$$d_1 = 30 \text{ mm}$$

$$\Delta_M = \pm 3 \text{ mm} = 6 \text{ mm}$$

$$d_{Fstat} \geq 30 \text{ mm} + 6 \text{ mm} = 36 \text{ mm}$$

**With clear Zone,
Dynamic Operation**

In order to ensure dynamic operation with no limitations, a clear zone around the smaller of the two communications partners must be created (data carriers or read/write head).



For the diameter of the clear zone d_{Fdyn} calculate:

$$\text{in direction of motion: } d_{Fdyn} \geq 2d_1 + d_2$$

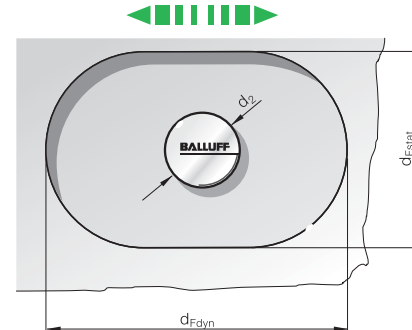
$$\text{in cross-direction: } d_{Fstat} \geq d_1 + \Delta_M$$

Example:

$$d_1 = 30 \text{ mm}$$

$$d_2 = 16 \text{ mm}$$

$$d_{Fdyn} \geq 2 \times 30 \text{ mm} + 16 \text{ mm} = 76 \text{ mm}$$


**No clear Zone,
Static Operation**

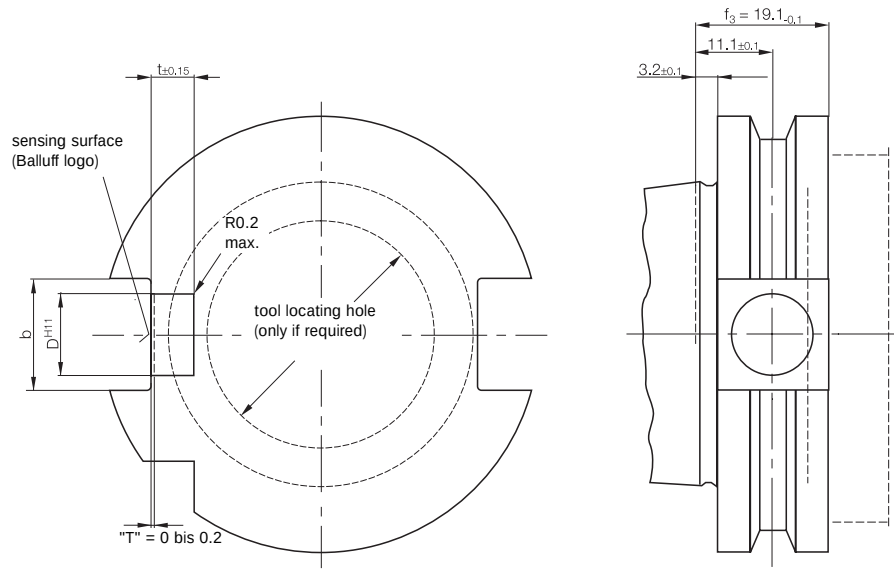
Permissible axial offset: $\pm 0.2 \text{ mm}$
 (no dynamic operation possible)

Note

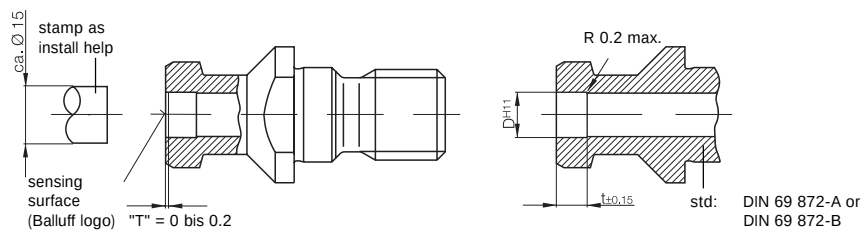
d_1 = diameter of the larger,
 d_2 = diameter of the smaller
 communications partner,
 Δ_M = axial offset

**Installation
in Taper**

	Data carrier BIS C-122			Data carrier BIS C-103			Data carrier BIS C-105		
	D ^{H11}	t±0.15	U/min. max.	D ^{H11}	t±0.15	U/min. max.	D ^{H11}	t±0.15	U/min. max.
Taper DIN 69 871-A									
Nr. 30	10	4.65	90000	12	6.15	68000	12	8.15	68000
Nr. 40	10	4.65	75000	12	6.15	54000	12	8.15	54000
Nr. 45	10	4.65	66000	12	6.15	43000	12	8.15	43000
Nr. 50	10	4.65	59000	12	6.15	33000	12	8.15	33000


**Installation
in Retention Knob**

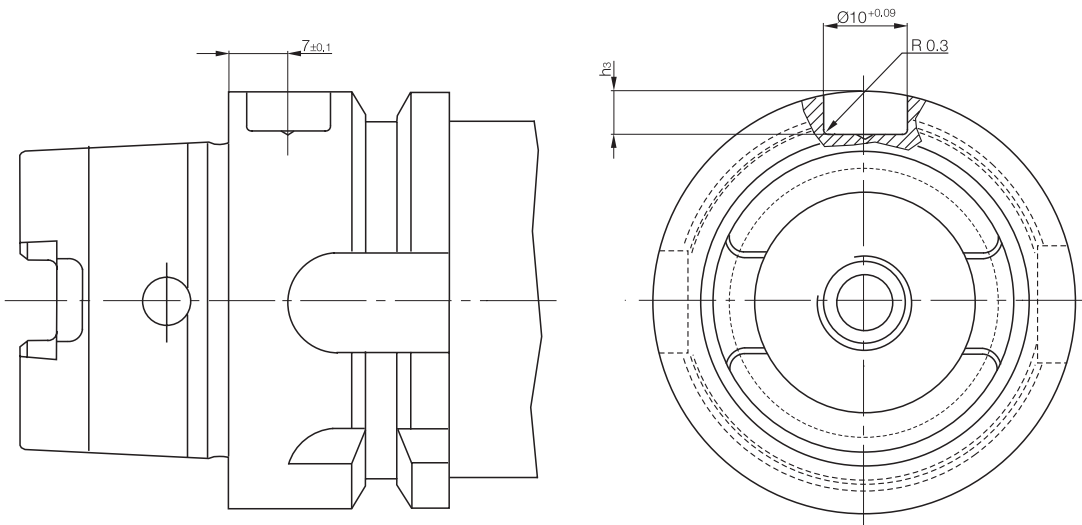
	Data carrier BIS C-122		Data carrier BIS C-103		Data carrier BIS C-105	
	D ^{H11}	t±0.15	D ^{H11}	t±0.15	D ^{H11}	t±0.15
Taper DIN 69 871-A						
Nr. 30	—	—	—	—	—	—
Nr. 40	10	4.65	—	—	—	—
Nr. 45	10	4.65	12	6.15	12	8.15
Nr. 50	10	4.65	12	6.15	12	8.15


Installation

1. Degrease gluing surfaces.
2. Apply a bead of glue (e. g. UHU-Plus 300) approximately 3 mm wide around the perimeter of the data carrier housing. Note manufacturer's instructions!
3. Press in data carrier housing by hand. Note dimension "T"!
4. Remove excess glue.
5. Allow to harden.

**Installation
in HSK Taper**

Data carrier BIS C-122		
HSK Form A ISO/DIS 12164-1	$h_3 + 0,20$	U/min. max.
32	5.4	96000
40	5.2	80000
50	5.1	75000
63	5	65000
80	4.9	57000
100	4.9	48000


Mechanical Strength

Data carriers and read/write heads

Order code	BIS C-1 __, BIS C-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
Values apply to data carriers BIS C-1__ and read/write heads BIS C-3__ except for the non-potted read/write heads BIS C-350, BIS C-351, BIS C-352 and BIS C-355.	

Processors and non-potted read/write heads

Order code	BIS C-6 ____, BIS C-350, BIS C-351, BIS C-352, BIS C-355
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

Data Carriers
 Read/Write
 Heads
 Data Coupler
 Adapter and
 Read/Write
 Head
 integrated
 8-bit
 Read-Only
 System
 Compact-
 Processors
 Metal Housing
 Processors
 Compact
 Processors for
 Simultaneous
 Mode
 Metal Housing
 Processors
 for
 Simultaneous
 Mode
 Handy
 Programmer
 Read/Write
 Guns,
 Mounting
 Cuffs
 Connector
 Cables with
 Connectors
 Connectors,
 Termination
 Resistor
**Installation
 Notes**
 Read/Write
 Times
 Software,
 Service Tools

**Read Times in
Static Mode**

For double read and compare:

Data carrier with 32-byte blocks	
Byte	read time [ms]
from 0 up to 31	110
for each additional 32 bytes started add an additional	120
from 0 up to 255	= 950

Data carrier with 64-byte blocks	
Byte	read time [ms]
from 0 up to 63	220
for each additional 64 bytes started add an additional	230
from 0 up to 2047	= 7350

**Write Times in
Static Mode**

Includes checking and comparing:

Data carrier with 32-byte blocks	
Byte	write time [ms]
from 0 up to 31	$110 + n \times 10$
≥ 32	$y \times 120 + n \times 10$
from 0 up to 255	= max. 3510

Data carrier with 64-byte blocks	
Byte	write time [ms]
from 0 up to 63	$220 + n \times 10$
≥ 64	$y \times 230 + n \times 10$
from 0 up to 2047	= max. 27830

n = number of contiguous bytes to be programmed
y = number of blocks to be processed

Example:

Write 17 bytes starting at address 187. Data carrier block size = 32 bytes.
Blocks 5 and 6 are processed, since the start address 187 is in block 5 and end address 204 is in block 6.

$$t = 2 \times 120 + 17 \times 10 = \mathbf{410 \text{ ms}}$$

**Read Times in
Dynamic Mode**

Read times within the 1st block for double read and compare:

The time indicated apply after the data carrier has been recognized. If the tag has not been recognized, an additional 30 ms must be added to allow for creating the energy field necessary to recognize the Data carrier.

Data carrier with 32-byte blocks	
Byte	read time [ms]
from 0 up to 3	14
for each additional byte	3.5
from 0 up to 31	112

Data carrier with 64-byte blocks	
Byte	read time [ms]
from 0 up to 3	14
for each additional byte	3.5
from 0 up to 64	224

Example:

Read 11 bytes starting at address 9, i. e. the highest address to be read is 20 (use for "m" in the formula).

$$t = 14 \text{ ms} + (m - 3) \times 3.5 \text{ ms} = \mathbf{73.5 \text{ ms}}$$

In the internal memory organization of the data carrier, a distinction is made between the two block sizes 32 and 64 bytes (also referred to as 'page size').

**Memory
organization**

Memory size up to 1023 bytes = 32 bytes per block
Memory size 2047 bytes and larger = 64 bytes per block

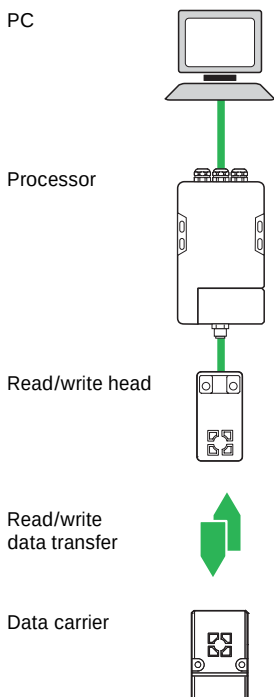
BISMASK/BISEDIT

The BISMASK/BISEDIT software package makes it possible to create a manual work station for the Balluff Identification System using a standard PC.

Requirements:
PC with a serial port,
Windows 95, Windows 98
or Windows NT, floppy drive,
hard drive.

The workstation consists of
a PC, a BIS C processor
with Balluff Dialog-Protocol
(-007), and a read/write
head.

The program package
consists of two program
sections:



BISEDIT

makes use of the mask file
created in BIS MASK and
outputs the data carrier data
with the assigned fixed texts
to the monitor screen or
a printer. There is also the
option of storing the data
carrier data on diskette or
hard disk, or downloading it
from those sources.

It is also possible to modify
the data carrier data.

A password can be assigned
to prevent data from being
changed.

BISMASK

enables the user to assign
certain fixed texts to the
various data on the data
carrier.

At the same time, the user
can define how the data
is represented and create
system settings for later use
with BISEDIT.

This organization is stored
in a mask which is used by
BISEDIT.



Software Coupling BIS C-6_1 and BIS C-6_2 for Siemens Simatic S5/S7 as well as BIS C-60_1 and BIS C-60_2 for Siemens Simatic S7.

Function modules for linking
a Processor with INTERBUS
or PROFIBUS-DP option to
a Simatic S5/S7 controller.

The function modules offer
the full functionality of the
Balluff Processors. Data are
exchanged through the I/O
section of the controller.

Features:

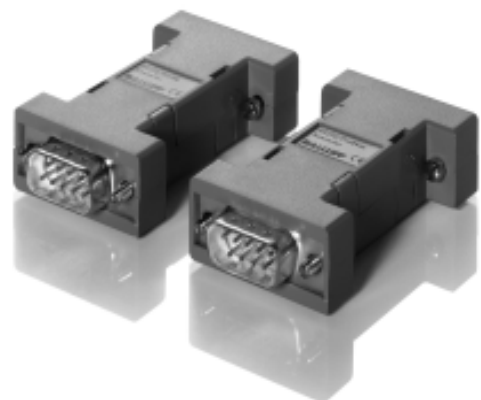
- short startup times
- easy system operation
- full command set

PROFIBUS-DP Master Simulator

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

Included with delivery are:

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



BIS C

Data Carriers
Read/Write
Heads
Data Coupler
Adapter and
Read/Write
Head
integrated
8-bit
Read-Only
System
Compact-
Processors
Metal Housing
Processors
Compact
Processors for
Simultaneous
Mode
Metal Housing
Processors
for
Simultaneous
Mode
Handy
Programmer
Read/Write
Guns,
Mounting
Cuffs
Connector
Cables with
Connectors
Connectors,
Termination
Resistor
Installation
Notes
**Read/Write
Times
Software,
Service Tools**