## BALLUFF

# Identification Systems BIS M ... non-contact data communication at 13.56 MHz



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

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



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

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









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

It's not always easy to make the right choice. But practice has shown that inductive identification systems are often the preferred solution, especially in production and assembly technology. The inductive principle guarantees ruggedness and resistance to ambient effects, and makes these non-contacting systems extremely reliable and function-secure. Use in harsh industrial environments is therefore never a problem.



Gitterbox identification

Material and information flow are inseparable in computer controlled assembly and manufacturing. The consistent coupling of these two flow elements is required today for flexibility and cost effectiveness in automation.

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

- workpiece transport in conveying systems
- FTS and pallet transport systems
- warehousing
- assembly
- flexible manufacturing cells and many others

The advantage to you is cost reduction through:

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

The components of a BIS Identification System are:

#### The data carrier receives

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

### The read/write head

is the communications partner of the data carrier. It sends a 125 kHz energy signal out and receives the data signal transmitted back from the data carrier. The energy signal, since it is pulsed, is also used for programming the data carrier memory.

The processor supervises the bi-directional data transfer between data carrier and read/write head and serves as buffer storage. It is the link between the host system and the data carrier.

To allow for adapting to various computer and controller designs, numerous software packages are available. A sophisticated checking algorithm assures safe and reliable data transmission.





### Features

- non-contact and wear-free
- miniature data carriers
- safe data transfer
- immune to dirt and liquids
- adaptable to virtually any existing control
- interface versions for virtually any control
- maintenance-free
- high mechanical strength

## Identification Systems BIS M at Work, Principles of Operation





Assembly line identification

Warehouse identification



Processor





## Identification Systems BIS M The Relationship between Read/Write Heads and Data Carriers

Spatial Arrangement of Read/Write Head resp. Read Head and Data Carrier The key to reliable data exchange between the read/write head resp. read head and the data carrier is maintaining sufficent dwell time of the data carrier within a specified spatial distance from the read/write head resp. read head. The drawing illustrates this relationship.

#### For a static read/write

**resp. read operation** the data carrier stops completely in front of the read/write resp. read heads; this permits a greater distance between the two.

#### For dynamic operation

the data carrier is read or programmed on the fly. The shorter distance is necessary in order to achieve as large a read/write resp. read path as possible.

Each read/write head or read head has certain data carrier which can be used with it (the pairing is based on physical size and antenna field configuration).



Spatial arrangement of read/ write head resp. read head and data carrier for directional read/write heads resp. read heads (circular antenna).

## Identification Systems BIS M | Contents



### **BIS M**

Data exchange between the data carrier and read/write head is non-contact and therefore wearfree. The data and necessary power for the data carrier are inductively coupled by the read/write head. The data carrier requires no battery for operation or data retention. Exact positioning is not necessary. Data integrity is ensured by means of special checking software. No additional data security measures on the part of the user are required. Data Carriers

- **M.**2 **M.**4 Read/Write Heads **M.**6 **Compact Processors** for Simultaneous Mode
- **M.**12 Connectors, Termination Resistor M.18 Installation Notes
- **M.**20 Read/Write Times Software, Service Tools

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

BIS



Identification Data Carriers Systems BIS M read/write

Dimensions		Ø 12×6		Ø 30	0×1.6	Ø <b>50</b> ×	1.6	
Housing material		EP		E	P	EP		
Antenna type		round		rou	und	runc	k	
Weight		< 1.5 g		< 1	.6 g	< 2.5	g	
	CE	sensing 012 surface		sensing surface	030 03.2 0	sensing surface	<u>04.3</u> 	
		glue into hole Ø 1	-					
	09a			64a		65a		
	PiOO	F	or installation	PIO2	For installation see page M.4/18!	- DIO	For installation	
BIS M Programmable						_		
752 bytes Orde	er code	BIS M-105-0	01/A	BIS M-1	101-01/L	BIS M-102	2-01/L	
Operating temperature		-25+70	°C	-25	+70 °C	-25+7	0 °C	
Storage temperature		-25+85	°C	-40	+85 °C	-40+8	5 °C	
Protection per IEC 60529		IP 67		IP	67*	IP 67	·*	
Installation type			non-metal		ion-metal		non-metal	
annronriate read/write head		4-300	0_9 mm	BIS M-300	<u></u>	BIS M-300		
with max read/write distance		vi-000	0-91111	BIS M-301		BIS M-301	-0.50  mm	
WILLI MAX. TEAU/ WHILE UISLAHUE	RIC I	4-302	0-6 mm	BIS M-302	0-16 mm	BIS M-302	-0.20  mm	
* The hydrosconicity of the data carrie	<u>ו טוט</u>	VI-002	0-0 11111			Tiahtar		
material depends on the ambient temperature.	/			torque m	nax. 1 Nm	torque max	«. 1 Nm	



All data carriers have a 4-byte unique ID contained in the read/write memory. This number is read-only.

### Read/Write Cycles

Saturation in water at +20 °C/6 days = 0.3%Saturation in water at +70 °C/3 days = 3.0%

Data carriers	Memory type	Write	Read	Data retention
		cycles	cycles	time
752 Byte	EEPROM	100 000	unlimited	10 years

Identification Systems BIS M | read/write

Data Carriers



## Identification Systems BIS M Read/Write Heads

Dimensions	M18	
Housing material	CuZn nickel plated	
Antenna type	round	
Weight	52 g	

CE	sensing Image: Comparison of the sensing surface   Image: Comparison of the sensing surface Image: Comparison of the sensing surface   Image: Comparison of the sensing surface Image: Comparison of the sensing surface   Image: Comparison of the sensing surface Image: Comparison of the sensing surface   Image: Comparison of the sensing surface Image: Comparison of the sensing surface   Image: Comparison of the sensing surface Image: Comparison of the sensing surface   Image: Comparison of the sensing surface Image: Comparison of the sensing surface   Image: Comparison of the sensing surface Image: Comparison of the sensing surface   Image: Comparison of the sensing surface Image: Comparison of the sensing surface   Image: Comparison of the sensing surface Image: Comparison of the sensing surface   Image: Comparison of the sensing surface Image: Comparison of the sensing surface   Image: Comparison of the sensing surface Image: Comparison of the sensing surface   Image: Comparison of the sensing surface Image: Comparison of the sensing surface   Image: Comparison of the sensing surface Image: Comparison of the sensing surface   Image: Comparison of the sensing surface Image: Comparison of the sensing surface   Image: Comparison of the sensing surface Image: Comparison of the se	
Order code	BIS M-302-001-S115	
Mounting in steel	non-flush	
Operating temperature	0+70 °C	
Storage temperature		
Protection per IEC 60529	IP 67	
Connection to	processor	
with connection cable	BIS S-501-PU1*	
	BIS S-502-P01-25	
possible cable lengths	5 11, 10 11 01 25 11	
appropriate data carriers	BIS M-101 BIS M-102 BIS M-105	
Data carrier distance to metal in mm	>25 > 10 > 5 > 50 > 25 > 10 > 0	
Data carrier clear zone in mm	> 60 > 50 > 50 > 60 > 50 > 60 > 0	
Write distance in mm	0-160-150-100-200-180-100-70-6	
Read distance in mm	0-160-150-100-200-180-100-70-6	
Offset in mm <u>0 mm</u>	<u>±5_±4_</u> ±2_ <u>±9</u> _±7_ <u>±4</u> _ <u>±5</u> _±4	
at distance <u>5 mm</u>	<u>±5 ±4 ±2 ±9 ±7 ±3 ±4 ±3</u>	
<u>9 mm</u>	$\underbrace{\pm 5 \pm 3,5 \pm 1 \pm 8 \pm 6 \pm 2}_{\pm 7,5} \underbrace{\pm 1 \pm 8 \pm 6 \pm 2}_{\pm 7,5} =$	
<u>12 (()()</u>		
<u>16 mm</u>	<u> </u>	
18 mm	<u> </u>	
20 mm	<u>+2</u>	
22 mm		
25 mm		
30 mm		
<u>32 mm</u>		
<u>35 mm</u>		
_40 mm		
<u>43 mm</u>		
<u>45 mm</u>		
* Please indicate achie		
I IEASE II IUILALE LAUIE		

length in ordering code! 05 = Length 5 m10 = Length 10 m25 = Length 25 m





Distance to metal



Identification Systems BIS M

Systems BIS M | Read/Write Heads



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BALLUFF M.5

## IdentificationCompact ProcessorsSystems BIS M6T-Simultaneous Operation

#### 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 exchangeable memory
- Accepts all read/write heads
- Interface-compatible with BIS C, BIS L and BIS S identification systems



CE



### Supply voltage

RippleCurrent drawOperating temperatureStorage temperatureProtection per IEC 60529Read/Write Head portsService interface RS232Connection type

#### Connection for

Description Interface/Software: INTERBUS Remote bus station INTERBUS Remote bus station with 2M Baud INTERBUS Installation bus INTERBUS Installation bus with 2MBaud

Accessories (please order separately)

## The compact class **BIS M-6001** 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.



## INTERBUS Identification Systems BIS M Compact Processors 6T-Simultaneous Operation

BIS M-6001050-03-KI 2	BIS M-6021050-03-ST8	
ABS		
		—
24 V L	<u>JC ±20 %</u>	BIS
<u></u>	10 % 00 mΔ	_
	+60 °C	—
	+60 °C	—
IP 65/	NEMA 12	Data Carriers
2 e	xternal	Read/Write
	yes	Heads
terminals 1 × Pg 9	2 connector round 9-pin	Compact
terminals 2 × Pg 11	2 connector round 5-pin	for
		Simultaneous
BIS M-6001-023-050-03-KI 2	BIS M-6021-023-050-03-ST9	Mode
	BIS M-6021-023-050-03-ST9M	Termination
	BIS M-6021-023-050-03-ST8	Resistor
	BIS M-6021-023-050-03-ST8M	Installation
		NOTES
	BKS 23-CS-00	Times
	connector page MI. 15	Software,
		Service lools

The ruggedized version

BIS M-6021 is in spite of the mechanically rugged diecast aluminum housing a small, flexible processor which is available with various interface options.

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



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



## IdentificationCompact ProcessorsSystems BIS M6T-Simultaneous Operation

#### Cost-effective identification – operate 2 Read/Write Heads simultaneously

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



Description Function Housing material

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:	

CE

### PROFIBUS-DP Accessories included Accessories (please order separately)

## The compact class **BIS M-6002** with its

**BIS M-6002** 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.



Identification

DP

## **Compact Processors** Systems BIS M 6T-Simultaneous Operation

	BIS M-6002-019-050-03-ST11	BIS M-6022-019-050-03-ST14	
	read/write	read/write	
	ABS	AlSi 12	
			—
	24 V D0	2 ±20 %	BIS
	≤10	) %	
	<u>≤ 40</u>	) mA	
		30 °C	—
-	U+(	EMA 12	 Data Carriers
	2 ext	ernal	Bead/Write
	ує Уб	den la	Heads
	2 connector round 5-pin, B-coded	2 connector round 5-pin, B-coded,	Compact
	1 connector round 5-pin	2 connector round 5-pin	Processors
	2 read/write heads BIS M-3	2 read/write heads BIS M-3	Simultaneous
	DIS M 6002 010 050 02 ST11	DIS M 6022 010 050 02 ST14	Mode
	013 IVI-0UU2-0 19-000-03-5111	DI3 IVI-0U22-U19-U3U-U3-S114	Connectors,
	BKS 12-CS-01	BKS 12-CS-01	Resistor
	connector page M.15-17	connector page M.15-17	Installation
	· · ·	· · ·	Notes

PROFIBUS-I

The ruggedized version BIS M-6022 is in spite of the mechanically rugged die-

cast aluminum housing a small, flexible processor which is available with various interface options.

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





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

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BALLUFF M.9

Read/Write Times Software, Service Tools

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
- Accepts all read/write heads
- Interface-compatible with BIS C, BIS L and BIS S identification systems

Description Function Housing material

CE



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

## The compact class BIS M-6003 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.





The ruggedized version BIS M-6023 is in spite of the mechanically rugged diecast aluminum housing a small, flexible processor which is available with various interface options. BKS-S 79-00 This version is ideal where increased demands on BKS-S 98-00 mechanical stability or chemical resistance are made. BKS-S 99-00

BKS-S 98-R01

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Times Software. Service Tools

Systems BIS M	Connectors			
Order code	BIS S-501-PU1-	BIS S-502-PU1-25	BKS-S117-00	
Version	for read/write head	for read/write head with fixed cable length 25 m	for connecting read/write head to processor	 
	PLODS2b	PC0001	ULCO2030	
Connector type		N110	N/10	 
Vorsion		8-nin fomalo	 8-nin_malo	 
recommended cable			0-pin, maid	 
	8×0.25 mm <sup>2</sup>			 
Protection per IEC 60529	0X0.20 MillE	IP 67	IP 67	 
ambient temperature range				 
Accessories included	BKS-S117-00	BKS-S117-00		 
Cable	one end molded-in.	one end molded-in.		 
	other end pigtailed	other end pigtailed		

Cable can be trailed and may also be shortened to the required length. For fixed routing the minimum bending radius is 16 mm at an ambient temperature of -40...+85 °C. When cable is trailed the min. bending radius is 80 mm at an ambient temperature of -25...+85 °C. Please indicate cable length in ordering code! 05 = Length 5 m 10 = Length 10 m

25 = Length 25 m



## INTERBUS Identification Systems BIS M Connectors







10 = Length 10 m

	Dev	/iceNet <sub>TM</sub>	Identification Systems BIS M	Connectors, Termination Resiste	or
BKS-S105-R01		BKS-S 98-00	BKS-S 99-00	BKS-S 98-R01	
PROFIBUS-DP termination resistor		for connection to processors BIS L-6023 DeviceNet	for connection to processors BIS L-6023 DeviceNet	termination resistor for processors BIS L-6023 DeviceNet	
PLOO		PIO2	PI022	PI02	
 M12 B-coded		round-connector	round-connector	round-connector	BISM
 5-pin, male		5-pin, male	5-pin, female	5-pin, male	
 		LiYCY-0	LiYCY-0		
 		0.5 mm <sup>2</sup>	0.5 mm <sup>2</sup>		
 IP 67		IP 67	IP 67	IP 67	
 -40+85 °C		-40+90 °C	–40+90 °C	-40+85 °C	Data Carriers





Read/Write Heads Compact Processors for Simultaneous Mode

Connectors, Termination Resistor

Installation Notes Read/Write Times Software, Service Tools

Identification Systems BIS M	Connectors				
Order code	BKS-S 92-00	BKS-S 94-00	BKS-S 93-00	BKS-S 95-00	
Version	BIS M-6003	BIS M-6003	BIS M-6003	BIS M-6003	
		PLO029	PL0027	PL0042	
Connector type	round-connector	round-connector	round-connector	ound-connector	
Version	5-pin, female	5-pin, male	5-pin, right angle, female	5-pin, right angle, male	
Cable diameter	68 mm	68 mm	68 mm	68 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	· · · · · · · · · · · · · · · · · · ·	`,			

	BKS- -S 94	-S 92-00/-S 93-00/ -00/-S 95-00	BKS-S 92 -S 94-R0	2-R01/ 1
Pin assignments	Pin	Signal	Pin	Signal
1 5 1	1	Drain	1	-
	2	V+	2	-
	3	V-	3	-
2 - 3 View of	4	CAN_H	4	
female coupling side	5	CAN_L	5	



## DeviceNet

## Identification Systems BIS M

## Connectors, Termination Resistor



## Identification Systems BIS M Installation Notes

Minimum distance		BIS M-101-01/L	BIS M-102-01/L	BIS M-105-01/A	BIS M-120-01/L
between two data	BIS M-300	> 100 mm	> 150 mm	> 100 mm	
carriers	BIS M-301	> 200 mm	> 200 mm		> 250 mm
	BIS M-302	> 100 mm	> 100 mm	> 100 mm	

Minimum distance	BIS M-300	200 mm
between two read/	BIS M-301	600 mm
write heads	BIS M-302	100 mm

## Mounting the read/ frames

If the read/write heads are mounted so that they are write heads on metal joined through an enclosed metal frame, mutual interference may result (conductor loop). This may reduce the read/write distances. The smaller the read/write head, the less the interference. This may result in a reduction of the maximum distance by 80 %. In such a case you should test the actual effective read distance.



## Mechanical

#### Data carriers and read/write heads

Strength

Order code	BIS M-1, BIS M-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, 102000 Hz per EN 60068-2-6
Processors	
110000010	
Order code	BIS M-6
Shock load	15 g/11 ms per EN 60068-2-27 and 15 g/6 ms per EN 60068-2-29
Vibration	5 g. 10150 Hz per EN 60068-2-6

Identification Systems BIS M | Installation Notes

Clear zone
dimensions for read/
write heads installed
in metal

Read/write head	Clear	zone dimension
BIS M-300 used	(in mr	n)
with data carrier		
	Ā	С
BIS M-101-01/L	100	30
BIS M-102-01/L	150	30
BIS M-105-01/A	100	20

Read/write head Clear zone dimension BIS M-301-... used (in mm) with data carrier

BIS M-101-01/L	A	С	
BIS M-102-01/L	200	70	
BIS M-120-01/L	200	70	
	250	70	

Read/write head	Clear	r zone c	limension
BIS M-302 used	(in m	m)	
with data carrier			
	A	С	
BIS M-101-01/L	60	30	
BIS M-102-01/L	60	30	

BIS M-105-01/A

60

20



## BIS

Data Carriers Read/Write Heads Compact Processors for Simultaneous Mode Connectors, Termination Resistor Installation Notes Read/Write

Times Software, Service Tools

### Dynamic mode

Read Write Head BIS M-300 with:	Data BIS	Data carrier Da BIS M-101 BIS		Data carrier BIS M-102		Data carrier BIS M-105	
	\//rito	Boad		Road	$-\frac{1}{\sqrt{rito}}$	Boad	
V <sub>max</sub> for processing the ID Nummer		120		144		78	
V <sub>max</sub> for processing 16 bytes in m/min	38	72	48	86	16	33	
V <sub>max</sub> for processing 32 bytes in m/min	25	50	34	65	10	24	
V <sub>max</sub> for processing 48 bytes in m/min	18	42	25	52	7	19	
V <sub>max</sub> for processing 64 bytes in m/min	12	33	18	44	4	15	

Read/Write Head BIS M-301 with:	Data	a carrier	Data carrier BIS M-102-		Data carrier BIS M-120-	
Read/write distance in mm		9-24		4-35		15-35
	Write	Read	Write	Read	Write	Read
V <sub>max</sub> for processing the ID Nummer		144		177		216
V <sub>max</sub> for processing 16 bytes in m/min	64	105	81	139	110	177
V <sub>max</sub> for processing 32 bytes in m/min	38	76	50	105	67	139
V <sub>max</sub> for processing 48 bytes in m/min	24	60	33	86	48	115
V <sub>max</sub> for processing 64 bytes in m/min	19	52	30	76	41	99

Read/Write Head BIS M-302 with:	Data BIS	Data carrier BIS M-101		Data carrier BIS M-102		Data carrier BIS M-105	
Read/write distance in mm	6-11		7-14		3,5-5		
	Write	Read	Write	Read	Write	Read	
V <sub>max</sub> for processing the ID Nummer		86		120		43	
V <sub>max</sub> for processing 16 bytes in m/min	32	48	43	69	13	24	
V <sub>max</sub> for processing 32 bytes in m/min	18	37	24	54	8	18	
V <sub>max</sub> for processing 48 bytes in m/min	13	28	20	45	5	14	
V <sub>max</sub> for processing 64 bytes in m/min	9	24	15	39	3	9	

All specifications are for metal-free installation (or greatest indicated clear zone) of the data carriers and read/write heads. The velocities refer to the indicated number of bytes, starting at address 0 in the data carrier.

## IdentificationRead/Write Times

Memory access	Our processors can read or write each individual byte in the data carrier. But since the data carrier is divided into 16-byte blocks, the actual reading and writing is done by blocks. Our processor electronics converts this time accordingly. To calculate the read/write times the block read or write time must however be used.				
Data carrier recognition	20 ms are required to reco	ognize a data carrier.			
Read Times	Data carrier with 16 byte b	locks			
BIS M-1	Byte	read time [ms]			
	from 0 to 16	20			
	for each additional				
	16 bytes started add				
	an additional	10			
	Data convicu with 10 by to b	laska			
	Data carrier with 16 byte b	NOCKS			
BI2 MI-1					
	for each additional	40			
	16 bytes started add				
	an additional	30			
Example	Dood and write 192 bytes	starting at address 40			
Example	Read and write 105 bytes	Starting at address 42			
	Address 42 is in Block 3 (4	2/16)			
	Address 224 is in Block 14 (224/16)				
	Therefore a total of 12 blocks will be processed, where the first block always has a slightly longer read or write time.				
	Read time $= 20 \text{ ms} + 1$ Write time $= 40 \text{ ms} + 1$	1* 10 ms = 130 ms 1* 30 ms = 370 ms			
	Note! Fluctuations in the m Electrical noise effects may	ns range are possible. y increase the read/write time.			

#### **BISMASK/BISEDIT**

#### 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:



Data carrier

The BISMASK/BISEDIT

makes use of the mask file

created in BISKMASK 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-60\_2 for Siemens Simatic S7

Function modules for linking a Processor with INTERBUS or PROFIBUS-DP option to a Simatic 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, universal 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

Data Carriers Read/Write Heads Compact Processors for Simultaneous Mode Connectors. Termination Resistor Installation

Notes

Read/Write Times Software. Service Tools

