

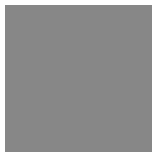
**BALLUFF**

# **Software- Description**

**Identification-System BIS**

**Sample program S7-300/400 Profinet**

**with BIS M-4008**



## Sample Program description for BIS M-4008

### 1 BIS M SAMPLEPROGRAMM

The S7 project „BIS\_M4008\_Sample“ contains in FB10 an example call of FB31 for BIS V6108-048-Cxxx. Configured is a S7 CPU 315-2PN/DP. I/O module length 64 Byte, Peripheral HW start address: E/A 256. All FB 31 input parameters are set suitable to hardware configuration. The FB is initialized automatically by the program. The memory bit M100.0 „BIS M Init“ is set in the OB100 at PLC startup. For controlling the example, the variable table „VAT\_BIS\_M4008\_IB “ is available.

#### 1.1 Sample functions

The following commandos are supported in the demo program:

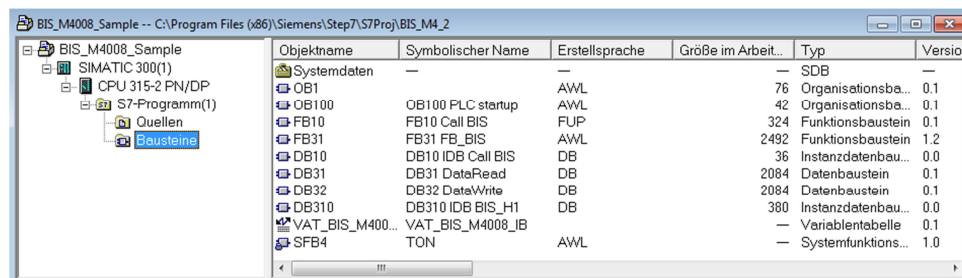
- Read data carrier (USER-data)
- Write data carrier (USER-data)
- Store Auto Read start address
- Type and serial number
- Initialize CRC\_16 data check
- Write constant value to data carrier

#### ATTENTION

**Please test carefully if the used commandos are supported by the processor and the read/write head! The maximum read/write length of the FB is 32,767 byte.**

#### 1.2 General Data

Program name:	BIS_M4008_Sample
Invoked blocks:	FB10, FB31, SFB4 TON
Reserved memory bits:	MW100-128
Reserved Timers:	none
Reserved Counters:	none
Configured I/O Range	64 Byte
Invoke:	absolute
Device compatibility:	Siemens Simatic® S7-300 CPU 315 2PN/DP with S7 V5.5



The screenshot shows the SIMATIC Manager interface. On the left, the project tree displays the hierarchy: BIS\_M4008\_Sample > SIMATIC 300(1) > CPU 315-2 PN/DP > S7-Programm(1) > Bausteine. The main window shows a table of objects:

Objektname	Symbolischer Name	Erstellsprache	Größe im Arbeit...	Typ	Version
Systemdaten	—	—	—	SDB	—
OB1	—	—	—	—	—
OB100	OB100 PLC startup	AWL	76	Organisationsba...	0.1
FB10	FB10 Call BIS	FUP	42	Organisationsba...	0.1
FB31	FB31 FB_BIS	AWL	324	Funktionsbaustein	0.1
DB10	DB10 IDB Call BIS	DB	2492	Funktionsbaustein	1.2
DB31	DB31 DataRead	DB	36	Instanzdatenbau...	0.0
DB32	DB32 DataWrite	DB	2084	Datenbaustein	0.1
DB310	DB310 IDB BIS_H1	DB	2084	Datenbaustein	0.1
VAT_BIS_M400...	VAT_BIS_M4008_IB	—	380	Instanzdatenbau...	0.0
SFB4	TON	AWL	—	Variablenabelle	0.1
			—	Systemfunktions...	1.0

## Sample Program description for BIS M-4008

### 1 BIS M SAMPLEPROGRAMM

#### 1.3 Control and watch options with the variable table

Description of FB input parameters:

- „M100.1 BIS M Start“ starts commando
- „M100.2 BIS M ProcReset“ resets processor and FB
- „M100.3 BIS M HeadOff“ disables the R/W head
- „M100.4 Default BIS M“ sets FB parameters to default values
- „MW104 CommandNo“ pretends the actual command
- „MW106 BIS M Offset Send“ Offset in send data block
- „MW108 BIS M Offset Rece“ Offset in receive data block
- „MW110 TAG\_StartAddr“ pretends start address
- „MW114 TAG\_NumbOfByte“ pretends number of bytes to read/write

	Operand	Symbol	Anzeigeformat	Statuswert	Steuerwert
3	M 100.2	"M100.2 BIS M ProcReset"	BIN		
4	M 100.3	"M100.3 BIS M HeadOff"	BIN		
5	M 100.4	"M100.4 Default BIS M"	BOOL		
6					
7	// FB input parameter word				
8	// CommandNo: 1 Read, 2 Write, 7 Store "Auto Read" addr. , 9 Typ and serial No, 12 CRC init				
9	MW 104	"MW104 CommandNo"	HEX		W#16#0001
10	MW 106	"MW106 BIS M Offset Send"	DEZ		0
11	MW 108	"MW108 BIS M Offset Rece"	DEZ		0
12	MW 110	"MW110 TAG_StartAddr"	DEZ		0
13	// ! DB length == max. numb of byte == 2047 byte!				
14	MW 114	"MW114 TAG_NumbOfByte"	DEZ		1000
15					
16	// FB output parameter bit				
17	M 101.0	"M101.0 BIS M Ready"	BOOL		
18	M 101.1	"M101.1 BIS M Error"	BOOL		
19	M 101.3	"M101.3 BIS M DatCarrPres"	BOOL		
20	// FB output parameter word				
21	MW 122	"MW122 BIS M ErrorCode"	HEX		

Description of FB output parameters:

- „M101.0 BIS M Ready“ job or reset done
- „M101.1 BIS M Error“ job done with errors
- „M101.3 BIS M DataCarrPres“ data carrier present
- „MW122 BIS M ErrorCode“ error number processor and FB

# 1 BIS M SAMPLEPROGRAMM

## 1.4 Disclaimer of Liability sample program

This demo program is free of charge and is a universal application example. This demo program shall help program and configure PLC applications and shall provide possible solutions.

The user is not entitled to claim for warranty, error correction and updates. In particular there is excluded any claims against Balluff GmbH for damages that might result from the use of this demo program. Excluded from this limitation of liability shall be (a) those damages that are based on injury to life, limb or health, (b) a liability according to the Produkthaftungsgesetz (German Product Liability Law) and (c) cases of willful intent.

Please check if the demo program is intended for your application before adapting it in plants and machineries.

By using the S7 sample, made available free of charge you accept the limitation of warranty and liability!

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