

SINUMERIK 840/840C  
SINUMERIK 880/880 GA2  
Computer Link  
SINPS 231 Software Package

Planning Guide

09.95 Edition

Manufacturer Documentation

# **SINUMERIK 840/840C SINUMERIK 880/880 GA2 Computer Link SINPS 231 Software Package**

**Planning Guide**

**Manufacturer Documentation**

**Application to:**

*Control*

SINUMERIK 840  
SINUMERIK 840C  
SINUMERIK 880  
SINUMERIK 880 GA2

*Software Version*

ab 01  
01  
ab 03  
01

**September 1995 Edition**

# SINUMERIK® documentation

## Printing history

Brief details of this edition and previous editions are listed below.

The status of each edition is shown by the code in the "Remarks" column.

*Status code in "Remarks" column:*

**A** . . . New documentation            **B** . . . Unrevised reprint with new Order No.  
**C** . . . Revised edition with new status. If factual changes have been made on the page since the last edition, this is indicated by a new edition coding in the header on that page.

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Other functions not described in this documentation might be executable in the control. This does not, however, represent an obligation to supply such functions with a new control or when servicing.

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# Preliminary Remarks

**Notes for the reader**

This documentation has been written for installation engineers and users of the SINUMERIK 840/880 computer link who wish to configure message frames on a CP 231 A interface.

The planning guide for the SINPS 231 configuring software should always be regarded in conjunction with SINEC NM(L) and other documentation on the computer link.

The documentation on the SINUMERIK 840/880 computer link is organized in three parts:

- General documentation
- Configuring
- Installation and Service Documentation

First-time users of the computer link are recommended to refer to the Description "SINUMERIK 840/880 Computer Link" as it includes basic information on configuring the data exchange.

For users who merely use the standard configuring data, it is sufficient to be familiar with the Start-Up Guide and the NML downloading.

Users who want to configure message frames themselves are requested to refer to Chapter 5, which includes a flow chart and serves, together with the relevant documentation, as an introduction.

SINUMERIK 840/880 is designated as 8x0 in the following sections.

Notes on Configuring the CP 231 A

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1

Installation of SINEC NML and SINPS 231 on the PG 685 (T)

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2

General Description of the Operator Interface

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3

Description of the Screen Forms

---

4

Configuring Examples of User Message Frames

---

5

## Contents

	Page
<b>1</b>	<b>Notes on Configuring the CP 231 A</b> ..... 1-1
<b>2</b>	<b>Installation of SINEC NML and SINPS 231 on the PG 685/PG 750</b> . 2-1
<b>3</b>	<b>General Description of the Operator Interface</b> ..... 3-1
3.1	Overview of screen forms ..... 3-1
3.2	General structure of screen forms ..... 3-3
3.3	Global function keys F6 to F8 ..... 3-4
3.4	Cursor control ..... 3-5
<b>4</b>	<b>Description of the Screen Forms</b> ..... 4-1
4.1	Screen form 1: Initial form ..... 4-1
4.2	Screen form 2: VB data table ..... 4-3
4.3	Screen form 3: Interface configuring ..... 4-5
4.4	Screen form 4: Standard data table ..... 4-7
4.5	Screen form 5: Input list 1 - Configuring ..... 4-11
4.6	Screen form 6: Output list - Configuring ..... 4-13
4.7	Screen form 7: Format list - Configuring ..... 4-15
<b>5</b>	<b>Configuring Examples of User Message Frames</b> ..... 5-1

# 1 Notes on Configuring the CP 231 A

These introductory remarks shall provide an overview of the various configuring levels. Details are therefore not dealt with.

Fig. 1.1 is a schematic representation of the 8x0 computer link.

The - - - lines delimit the modules whereas the - - - - lines show the software levels for initializing the CP 231 A.

The SINEC NML software is also used to generate a "local data base". The "local data base" includes:

- Description of nodes and interfaces
- Transport link
- Application relation

Node: Symbolic name for Ethernet address

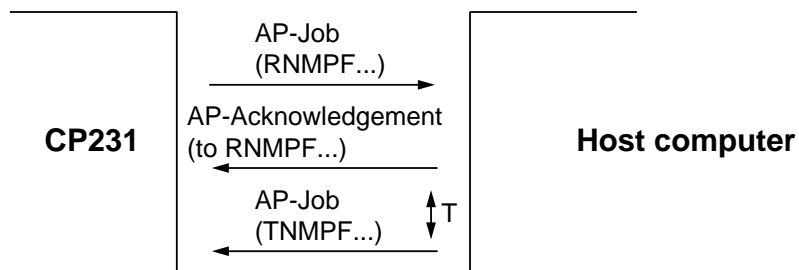
Transport link name: The transport link is the assignment of the "local TSAP" to the "remote TSAP".

Application relation name: Here the transport link is assigned a logic "SINUMERIK" partner (see Description "Computer link SINUMERIK 8x0", Sections 1.1.6 and 1.1.7).

The message frame data is generated by SINPS 231 and stored in input and output list 1, analogously to the CP 315.

## Note:

In order to ensure correct data transfer between the CP 231A communications processor and the host computer, the minimum time between two message frames, i.e. between AP acknowledgement and AP new job, should be approx. 30 to 50 ms.



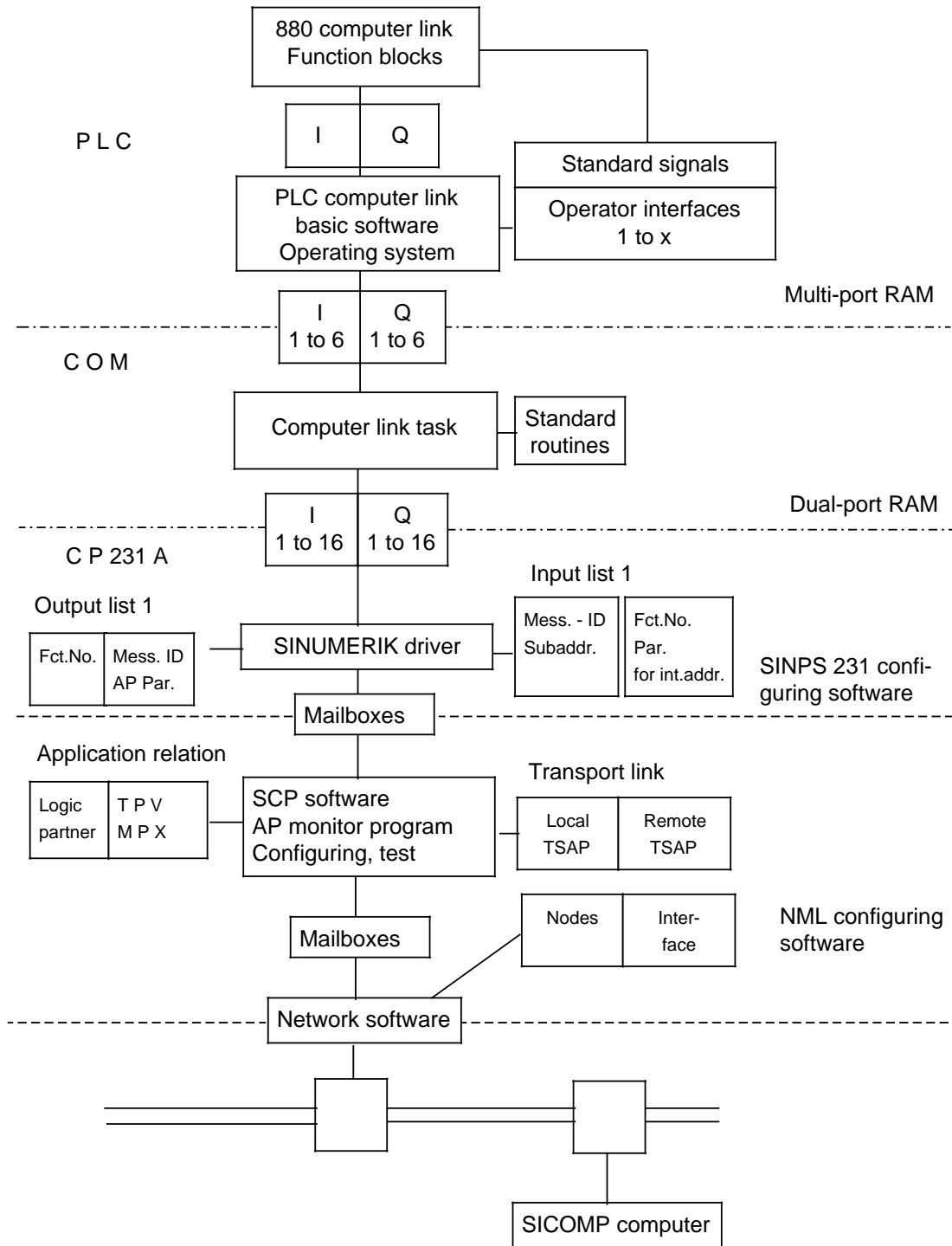


Fig. 1.1 "Comprehensive solution" for the SINUMERIK 8x0 computer link



## 2 Installation of SINEC NML and SINPS 231 on the PG 685/PG 750

Both software packages run under the PCP/M operating system on the PG 685/ PG 750. The NML software package is supplied on two diskettes. The SINPS 231 software package is available on one diskette. For installing the software care should be taken to load both packages in a user memory area where SINPS 315 has not been installed.

Procedure for installing the software on hard disk:

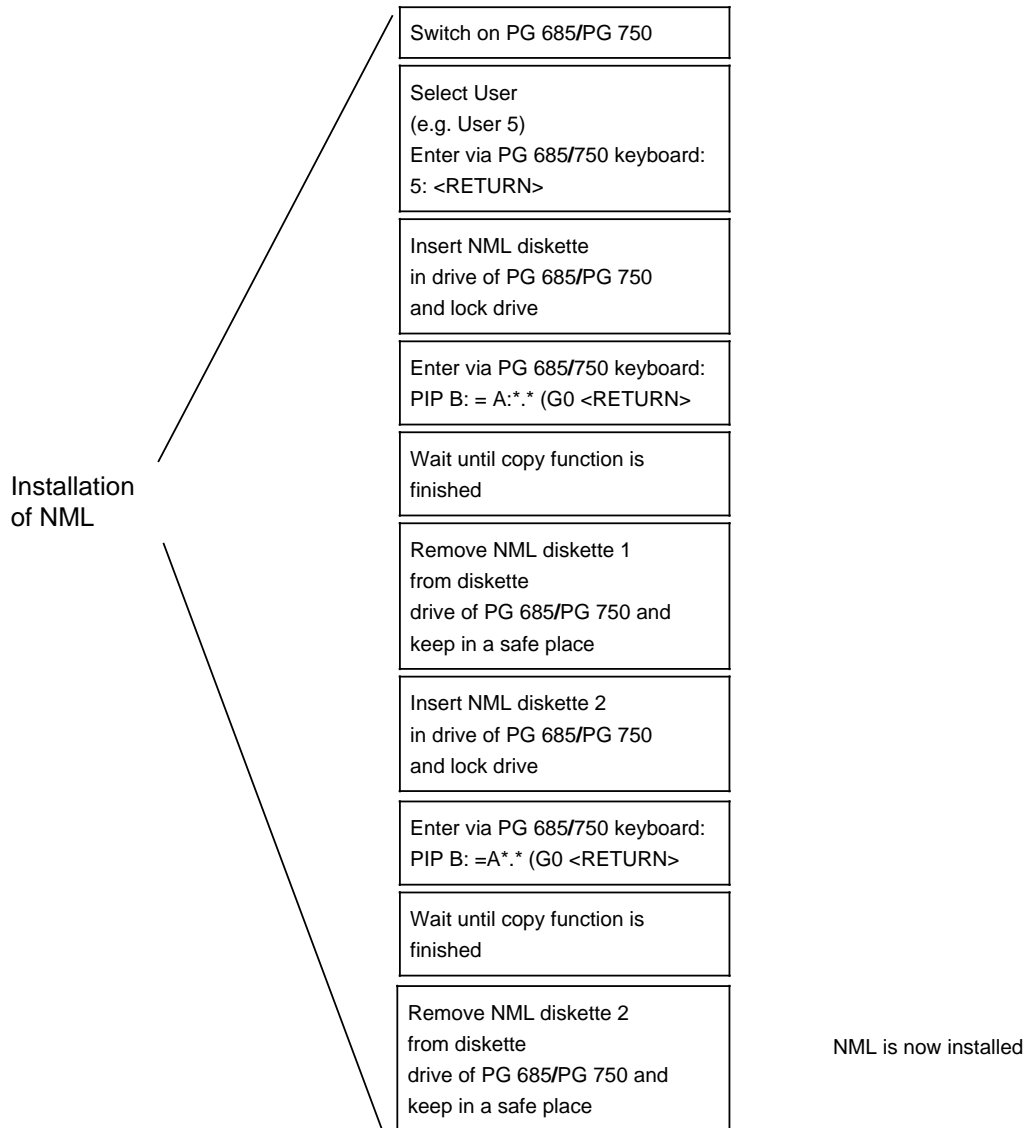


Fig. 2.1

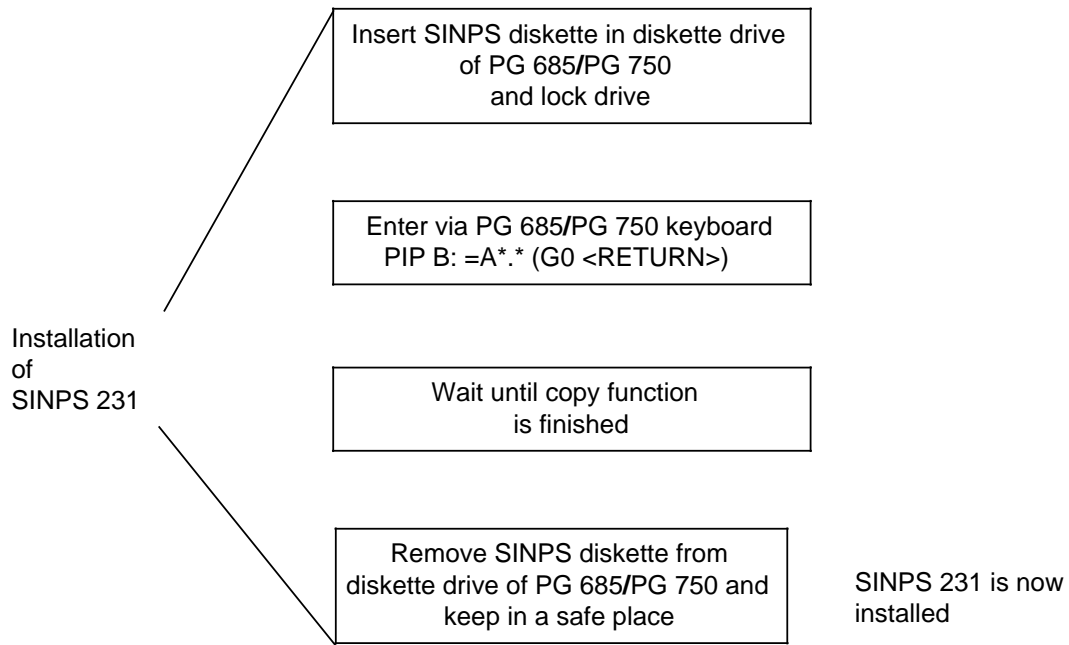


Fig. 2.2 Installation of SINPS 231

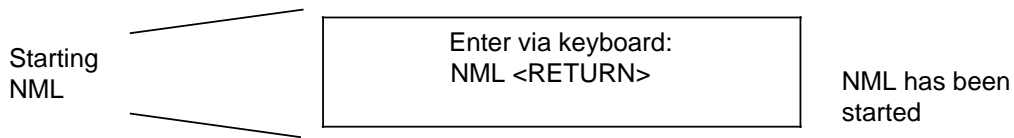


Fig. 2.3 Starting NML

## 3 General Description of the Operator Interface

### 3.1 Overview of screen forms

For configuring the various lists, the configuring data can be entered via menus. Fig. 3.1 gives an overview of the possible sequences of screen forms. Next to the connecting lines, the softkeys F1 to F8 appear which enable the user to proceed along the menu tree. Generally, F8 (RETURN) is used to return to the previous screen form.

NML - Selection of functions

SINEC NML/Basic menu

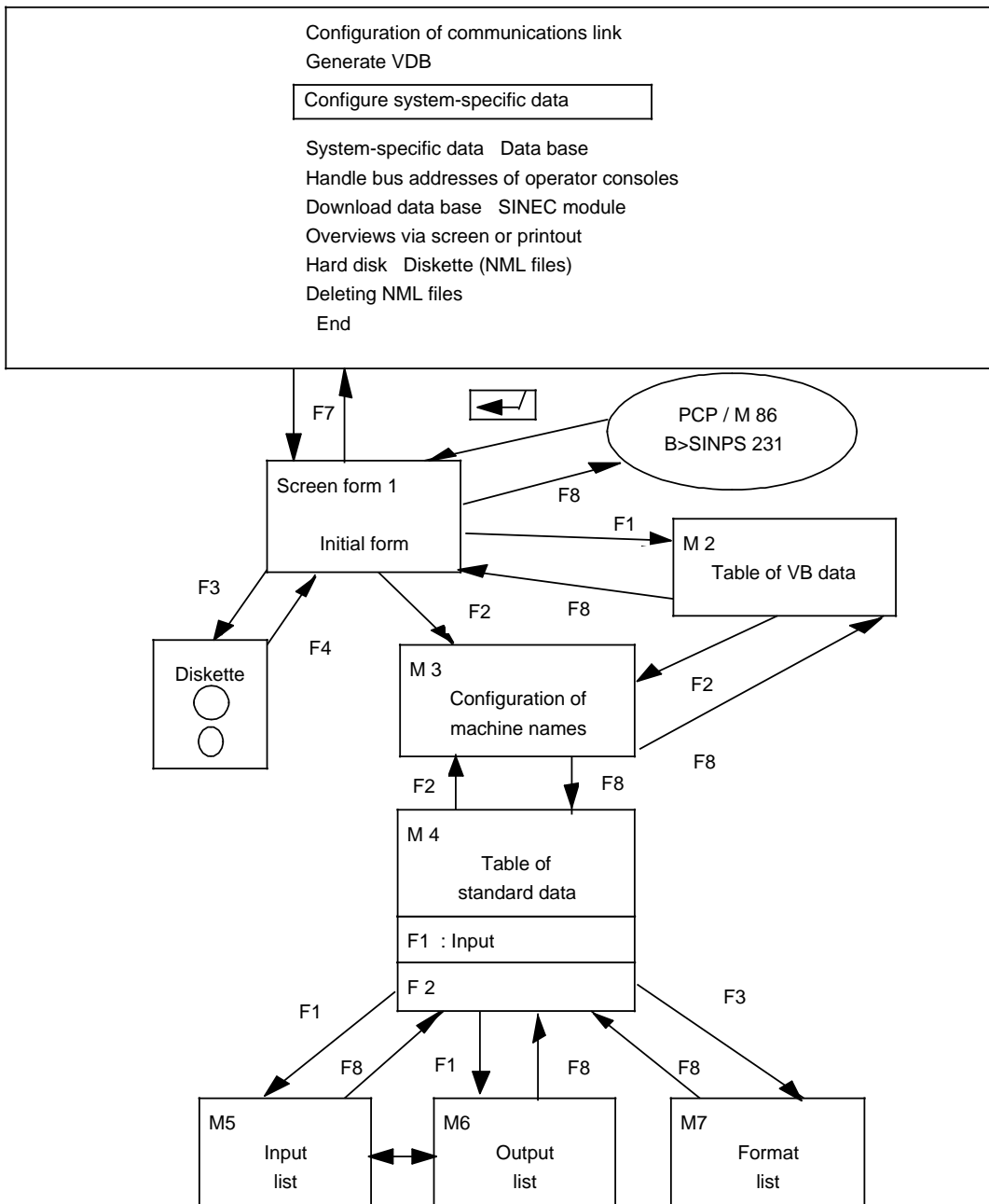


Fig. 3.1

### 3.2 General structure of screen forms

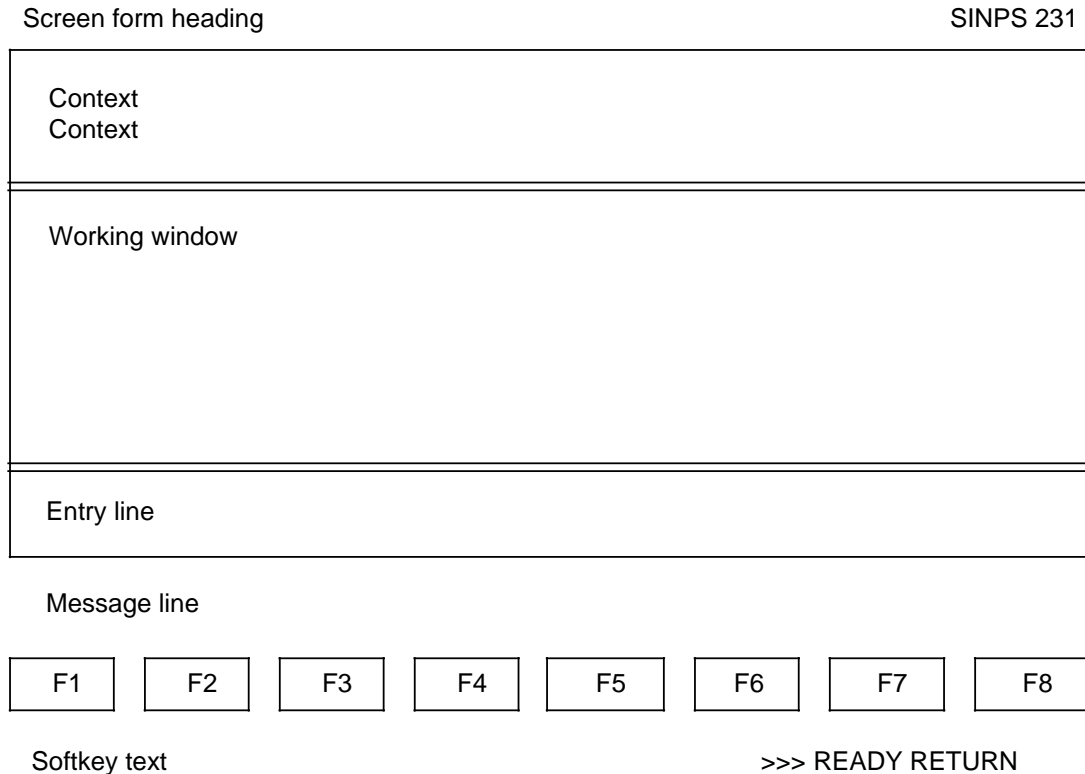


Fig. 3.2

The screen form is subdivided into five windows demarcated by horizontal lines.

The first window (one line) is a display window with two fixed entries: the program name on the right and screen form heading on the left. The second window (two lines) is also a display window. It is intended for the output of context information.

The working area is divided up into several entry/display windows or selection windows. Entries can thus be made direct or in the entry line.

The fourth window is the entry line which is not used in some screen forms.

This is followed by the message line which is also a display window for hints in response to operator entries.

The last three lines show the current assignments of function keys F1 to F8.

### **3.3 Global function keys F6 to F8**

The softkeys will be described in detail in the next chapter. At this point reference is made to softkeys F6 to F8 which contain global functions. The functions of keys F1 to F8 differ according to the screen form. F6 ( > > > ) indicates multiple assignments of keys F1 to F5 (number of functions to be controlled greater than 5).

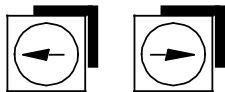
F7 is used for completing or transferring entries made in the entry line. Softkey F8 is used for going back in the sequence of screen forms.

### 3.4 Cursor control

Data can be selected and entered via the cursor (highlighted field).



The double-line arrow keys or the return key can be used to skip from one entry field to another.



Within an entry field, the cursor can be controlled via single-line arrow keys.

## 4 Description of the Screen Forms

The various screen forms with the relevant operator entries are described on the following pages. The following points are dealt with:

- Layout of the screen form
- Softkey assignments
- Functions of the data displayed or data to be entered

### 4.1 Screen form 1: Initial form

Screen form 1 is the starting point for configuring SINUMERIK-specific lists. When the user has finished configuring, the complete SINUMERIK data base can be saved or a backup version can be loaded.

SIEMENS AG				SINPS 231 bus interface							
Version of the global database: 1				Version of the SINUMERIK database: 8							
<table border="1"> <tr> <td>SINUMERIK PS</td> <td>Version : 7</td> </tr> <tr> <td></td> <td>Date: 24.11. 88</td> </tr> </table>								SINUMERIK PS	Version : 7		Date: 24.11. 88
SINUMERIK PS	Version : 7										
	Date: 24.11. 88										
F1	F2	F3	F4	F5	F6	F7	F8				
VB_TAB	CONFIG.	LOAD DB	SAVE DB			READY	END				

Fig. 4.1

#### Meanings of function keys

**F1 VB\_TAB**  
Go to screen form 2 "VB data table"

Screen form 2 provides the user with an overview of those modules transferred in the communication area to which machine types must be assigned.



**F2 Config.**

Go to screen form 3 "Configuring machine type".

The user skips screen form 2 and starts with screen form 3 to generate a new machine type, supplement or modify existing entries of machine types.

**F3 LOAD DB**

Load SINUMERIK database

or

**F4 SAVE DB**

Save SINUMERIK database

The user can create a backup copy of all the data configured and load this data again for making changes or additions.

After operating F1 or F2, the user is requested to enter drive and user area of the data volume.

## 4.2 Screen form 2: VB data table

In the VB data table, the interrelation between NML configuration (node name, TSAP, etc.) and SINPS configuration (input/output list) is defined. Here, each machine name is assigned a node (module).

In screen form 2, the user is provided with an overview of the modules (CP 231 A) for which he has already generated the necessary communication files. Window 2 additionally shows the machines that have already been configured.

Window 2 is a selection window.

Window 1 is an input window.

Layout of screen form:

VB data table		SINEC / SINUMERIK-PS					
Version of the global database: xxx		,					
Version of the SINUMERIK database: yyy							
Machine selection	TCon	Machine	Node name	Interface name	Icon		
1)	2)	1)	2)	3)	4)		
<Window 2>		<Window 1>					
==f 1 ==	==f 2 ==	==f 3 ==	==f 4 ==	==f 5 ==	==f 6 ==	==f 7 ==	==f 8 ==
MACHINE LIST	CONFIG.	LINE -	LINE +	>>>	READY	RETURN	
F 1 TRANSFER		LINE -	LINE +			RETURN	

Fig. 4.2

## Meanings of function keys

### **F 1 MACHINE LIST**

Assign machine to the module selected

In window 1, the user first positions the cursor on the node/interface name he wants to assign to a machine using the double-line arrow keys.

Operate F1 - the cursor jumps to window 2. Now the cursor must be positioned on the desired machine and the entry transferred using F1 (2nd softkey level).

### **F 2 CONFIG.**

Go to screen form 3 "Machine name configuration"

The user changes over to screen form 3 to start generating a new configuring data set from there.

### **F 3 LINE -**

The cursor jumps down one line

### **F 4 LINE +**

The cursor jumps up one line

2nd level

### **F 1 TRANSFER**

The desired machine assignment is transferred in window 1.

### 4.3 Screen form 3: Interface configuring

#### SINPS 231 bus interface

Version of the global database: _____ ,							
Version of the SINUMERIK database: 4							
Machine name		Date 1st change		Status			
Machine 1		04. 04. 89		okw/o			
Machine 2		04. 04. 89		okw/o			
Machine 3		04. 04. 89		illeg			
F1 NEW ENTRY	F2 PROCESS	F3 LINE -	F4 LINE +		F6 >>>	F7	F8 RETURN
F1	F2	F3 DELETE	F4	F5	F6 >>>	F7	F8 RETURN

Fig. 4.3

#### Description of the columns in the working window

##### Machine name

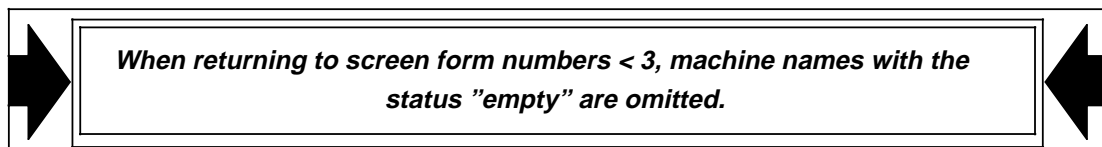
The machines equipped with a CP 231 are listed here (collective name for list files).

##### Date: 1st change

Date of last change.

##### Status

- okw/o - Entries in list OK, yet without format list
- okw - Entries in list OK, with format list
- illeg - Entries in lists illegal
- empty - No entry has yet been made in list



### Description of function keys

- F1**      **NEW ENTRY**  
A new entry can be made in the entry line.
- F2**      **PROCESS**  
Calling screen form 4, standard data table
- F3 /F4**   **LINE - /LINE +**  
Cursor control

Extended softkey bar

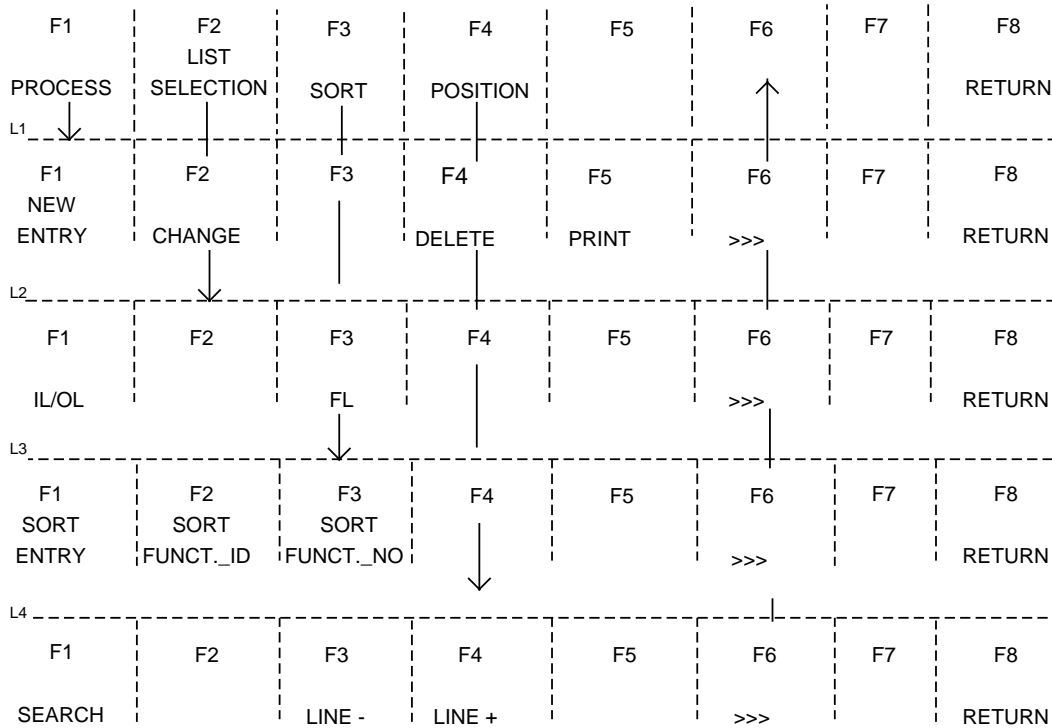
- F3**      **DELETE**  
Delete machine name selected with cursor:  
Acknowledge                      with F1 YES or  
abort DELETE function        with F3 NO.

### 4.4 Screen form 4: Standard data table

Standard data table

SINPS 231

Global SINUMERIK		DB : V DB : V	Current machine: IL : ? OL: + FL: ?						
No.	I / O	FNo	Identif.	Stat	Sa.- Pos.	-L	Cont.	Format name	Status
1	I	10	T OK	+	0	0		xxx	?
2	I	120	X RF	?	8	2	AA	xxx	?
3	I	121	X RF	?	10	2	BB	xxx	?
4	O	1	R NS	+				xxx	?
5	O	13	R OK	+				xxx	?



L=Level

### Description of 2nd context line

**IL : ?**    **OL : +**    **FL : ?**  
? = List not yet complete  
+ = List complete

### Description of columns in the working window

**No.**        Consecutive numbering of entries

**I/O**        Input or output message frame

**F No**        Function number  
A function number is assigned to each standard message frame which clearly identifies the frame. Numbers 101 ... 255 are reserved for user message frames.  
(For function number and the associated identifier for standard message frames see Chapter 6 of the SINUMERIK 8x0 Computer Link Planning Guide.)

**Identif.**    Identifier  
The first six characters of the message frame identification.  
(The structure of the user identification and the use of the wild card character "?" are explained in Chapter 6 of the SINUMERIK 8x0 Computer Link Planning Guide.)

**Stat.**        Status  
? List not complete  
+ List complete

The next three lines are available for configuring the subaddresses. They are required for describing functions in more detail, i.e. functions with the same identifier are classified according to the subaddress.

**Sa. - Pos.**  
Subaddress position        - Specifies the 1st byte of the subaddress within the standard data.  
Range:                    0                    No subaddress  
                              7 ... 255           Subaddress starts at x

**L**            Length of the subaddress  
Range: 0 ... 4

**Cont.**        Contents of the subaddress  
Range: A ... Z; ?; 0 ... 9;  
(Note: Justify entry to left margin).

These fields are unassigned for output message frames. In the case of identical identifiers, the values for the subaddress position and subaddress length must also be identical.

Example:  
Ident.    Sa-Pos.    L            Cont.  
XRF      10        2            AA  
XRF      10        2            BB

### Format name

The format name is a symbolic name under which a description of the message frame format can be entered in the format list.

The format list is used for analyzing the message frame transfer (precondition: text tools). It is only required by the SINT test software for displaying the recorded messages.

<b>Stat.</b>	Status	?	without format list
	+	with	format list

### Description of function keys

#### Level 0:

**F1 ... F4** Change over to other softkey levels

#### Level 1: Processing level

##### **F1 NEW ENTRY**

If entries have already been made, the entry from the internal input memory is displayed in the entry line. (This entry can be overwritten or acknowledged by F7 - a new line will be generated)

##### **F2 CHANGE**

Use cursor for selecting the line to be modified.

##### **F4 DELETE**

Use cursor to select line  
Acknowledge with F1 YES or  
abort with F3 NO.

##### **F5 PRINT**

All the data configured in the table of standard data are printed.

#### Level 2: List selection level

##### **F1 EL/AL**

Branching off to screen form 5 "Input list" or screen form 6 "Output list", depending on preselection through cursor.

##### **F3 FL**

Calling format list, screen form 8



**Level 3:** Sorting level

- F1      SORT ENTRY**  
The table of standard data is sorted into input and output messages.
- F2      SORT FUNCT.\_ID**  
Arranging in alphabetical order according to identifications
- F3      SORT FUNCT.\_NO**  
Listing function numbers in ascending order

**Level 4:** Position search level

- F1      SEARCH**  
In case of entries extending over several pages, a message frame can be searched for when specifying the function number and/or identification.
- F3/4    LINE - / LINE +**  
Cursor control

## 4.5 Screen form 5: Input list 1 - Configuring

Input list 1 - Configuring

Bus interface SINPS 231

Manufacturing island:	Cell 1	Jump back to:	2	X RF																
Current machine:	Machine 1	current:	2	X RF																
INPUT MESSAGE																				
Identifier:	X RF	Function number:	120																	
SUBADDRESS-POSITION:	8	SUBADDR.Length:	2 SUBADDR.-Cont.: AA																	
Format name:	xxx																			
SINUMERIK unit	: PLC1	Message type	: P																	
Interface number	: 1.																			
DB/DX address	: DB. 200	(DB/DX 0 to 255)																		
Logical Partner (target)	: MAG1																			
DW address	: DW 1..																			
	: .	Permissible data length	: 100																	
<table border="1"> <tr> <td>F1</td> <td>F2</td> <td>F3</td> <td>F4</td> <td>F5</td> <td>F6</td> <td>F7</td> <td>F8</td> </tr> <tr> <td></td> <td></td> <td>PREVIOUS</td> <td>NEXT</td> <td>PRINT</td> <td></td> <td>READY</td> <td>RETURN</td> </tr> </table>					F1	F2	F3	F4	F5	F6	F7	F8			PREVIOUS	NEXT	PRINT		READY	RETURN
F1	F2	F3	F4	F5	F6	F7	F8													
		PREVIOUS	NEXT	PRINT		READY	RETURN													

### Description of the working window

In this screen form, the working window is subdivided into two areas. Entries from the standard data table appear in the upper half of the window. The lower half is used for direct display of data.

#### SINUMERIK unit

COM

} Address of receiver of message frame

PLC 1 ... PLC 4 (only PLC 1 with SINUMERIK 840)

#### Message type

S = Standard (processed by standard software)

P = Configured user message frame (processed by user software)

#### Interface number

0 ... 31 UI for frame type P

UI = User interface (DB 101)

#### DB/DX address

DB 150 ... 255

DB or DX where net data is entered

DX 100 ... 255

**Logical partner (target)**

Symbolic name for destination of message frame (at present only evaluated in tool message frames)

**DW address**

Value: 1 ... 255 Start of net data in DB/DX

**Permissible data length**

Value: 0 ... 999 Byte equal to or greater than length of net data in message frame

**Description of function keys**

**F3 PREVIOUS**

Returns to previous entry from the standard data table

**F4 NEXT**

Next entry in standard data table (possible to proceed to output list)

**F5 PRINT**

Prints complete input list, arranged according to standard data and symbolic interface identifiers (machine names)

**F7 READY**

Transfers input

### 4.6 Screen form 6: Output list - Configuring

Output list 1 - Configuring	Bus interface	SINPS 231																		
<table border="0"> <tr> <td>Manufacturing island: Cell 1</td> <td>Jump back to: 4 R NS</td> </tr> <tr> <td>Current machine: Machine 1</td> <td>current: 4 R NS</td> </tr> <tr> <td colspan="2" style="text-align: center;">OUTPUT MESSAGE</td> </tr> <tr> <td>Identifier: R NS</td> <td></td> </tr> <tr> <td>Function number: 1</td> <td></td> </tr> <tr> <td>Format name: xxx</td> <td></td> </tr> <tr> <td>Repetition Flag: 0</td> <td>0 = default, 1 = do not repeat 2 = repeat once</td> </tr> <tr> <td>Time_Inst: 0</td> <td>0 = default, 1 to 254 Time in sec, 255 = endless</td> </tr> <tr> <td>Time_Resp: 0</td> <td></td> </tr> </table>			Manufacturing island: Cell 1	Jump back to: 4 R NS	Current machine: Machine 1	current: 4 R NS	OUTPUT MESSAGE		Identifier: R NS		Function number: 1		Format name: xxx		Repetition Flag: 0	0 = default, 1 = do not repeat 2 = repeat once	Time_Inst: 0	0 = default, 1 to 254 Time in sec, 255 = endless	Time_Resp: 0	
Manufacturing island: Cell 1	Jump back to: 4 R NS																			
Current machine: Machine 1	current: 4 R NS																			
OUTPUT MESSAGE																				
Identifier: R NS																				
Function number: 1																				
Format name: xxx																				
Repetition Flag: 0	0 = default, 1 = do not repeat 2 = repeat once																			
Time_Inst: 0	0 = default, 1 to 254 Time in sec, 255 = endless																			
Time_Resp: 0																				
F1	F2	F3	F4	F5	F6	F7	F8													
		PREVIOUS	NEXT	PRINT		READY	RETURN													

**Description of the working window**

As in case of the input list, the working window is subdivided into two areas. The upper half shows the entries made in the list of standard data. The lower half is intended for direct entries.

**Repetition - Flag:**

The job repetition flag indicates whether jobs are to be repeated.  
 Default value = 0

**Time - Inst**

The job handling time is the maximum permissible time that may be used for processing a job. If this time is exceeded, the job is rejected with a negative acknowledgement.  
 Default value:

**Time - Resp**

The job response time is the interval after which a job that has not been acknowledged is repeated.  
 Default value:

### Description of function keys

- F3      PREVIOUS**  
Returns to previous entry from the standard data table
  
- F4      NEXT**  
Next entry from standard data table
  
- F5      PRINT**  
Prints complete output list, arranged according to standard data and symbolic interface identifiers (machine names)
  
- F7      READY**  
Transfers input

## 4.7 Screen form 7: Format list - Configuring

The format list forms an auxiliary list for the SINT test software.

Format list - Configuring					Bus interface SINPS 231		
Manufacturing island		:	Cell 1	Jump back to:	1	T OK	
Current machine		:	Machine 1	Format:	LINK	Status:	+
No.	KF	Comment			NF	WF	
1	0	CASSETTE			F	1	
2		LOCATOR NUMBER			F	1	
3		TOOL TYPE			C	10	
F1	F2	F3	F4	F5	F6	F7	F8
INSERT	CHANGE	PREVIOUS	NEXT	PRINT	DELETE		RETURN

In the context line you will find:

Jump back to: message number and identifier

Format: format name from the standard data table.

### Description of the working window

**No.** Continuous numbers are automatically generated by the software.

**KF** Repetition factor for format display (not yet implemented)

#### Comment

Text describing message frame data which is output by the text software (when calling a message).

A maximum of 64 data records is possible.

**NF** Net data format

**F** 2 bytes are interpreted as 16-bit fixed point number

**D** 4 bytes are interpreted as 32-bit fixed point number



**H** 2 bytes are interpreted as hexadecimal number

**M** 2 bytes are interpreted as bit pattern

**C** xxx bytes are interpreted as ASCII characters

- O** 6 bytes are interpreted as BCD code (leading zeroes blanked)
- G** 6 bytes are interpreted as BCD code (with sign and decimal point)
- WF** Repetition factor of net data format

### Description of function keys

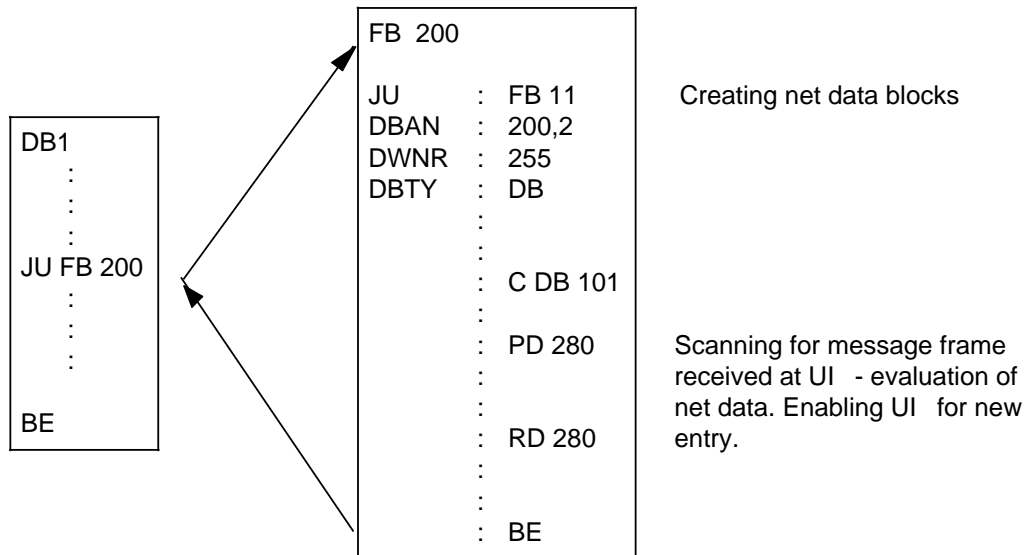
- F1 INSERT**  
Insertion or new entry depending on cursor position
- F2 CHANGE**  
Modify entry on which cursor is currently positioned
- F3 PREVIOUS**  
Cursor control 
- F4 NEXT**  
Cursor control 
- F5 PRINT**  
Prints a list containing all format names
- F6 DELETE**  
Note: Deletes the entire format list.  
Formatlink\_ERROR is entered in the table of standard data. This entry is, however, of no consequence and can be overwritten.

## 5 Configuring Examples of User Message Frames

### Tasks

A message frame is to be received from a partner station. The net data is stored (length 4 bytes) in data block 200 from DW 20 onwards. UI DB 101 are to be defined as the user interface.

PLC program



### Additional task

A message frame is sent to another node via user interface . The output list, together with the relevant message (standard data table) has already been configured. Therefore only the PLC program must be extended.

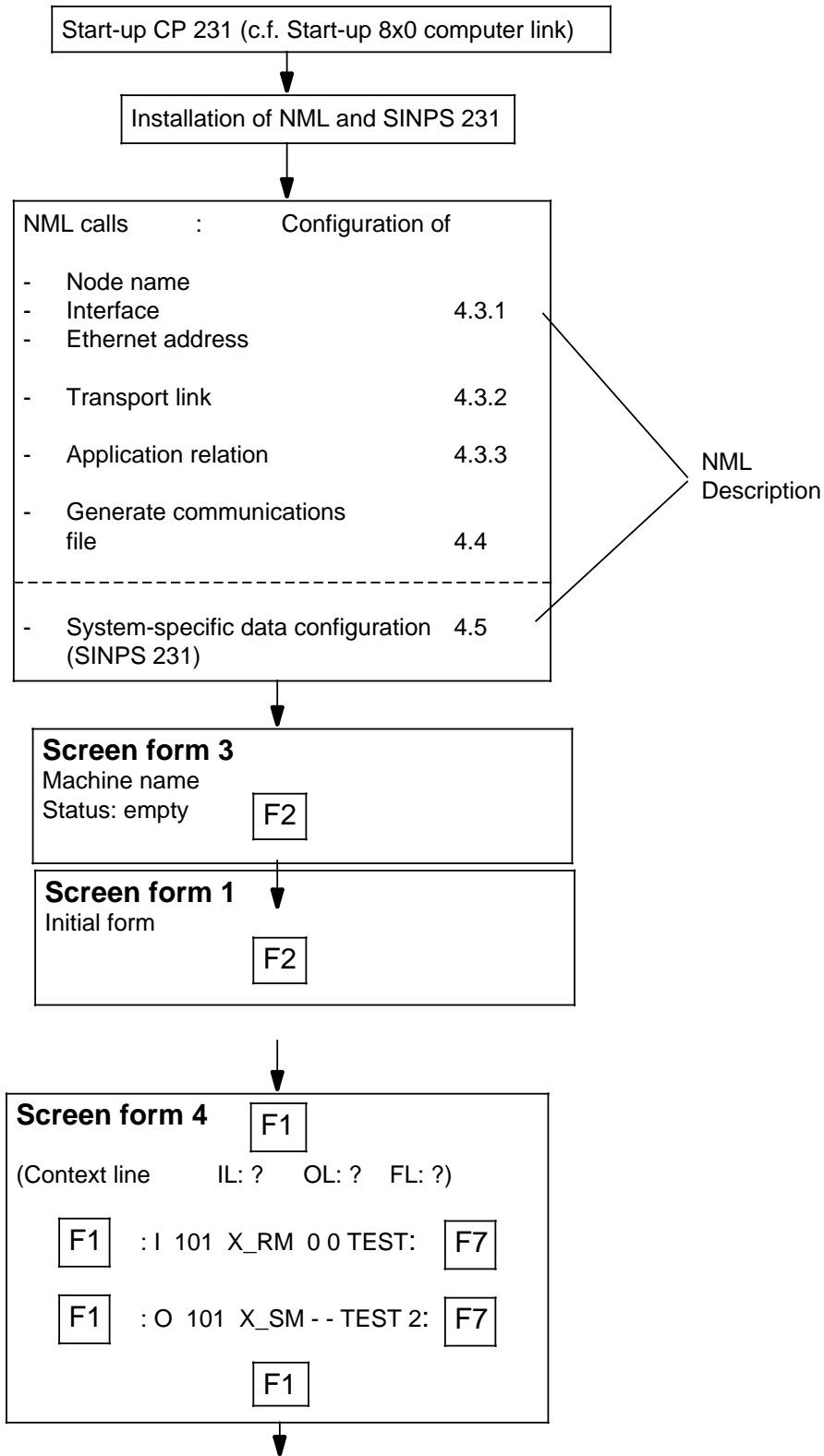
```

Net data    DB 201 from DW
            DB 102 UI
            DB 99 Set default for logic partner in
            OB 2
  
```

Structure of the user message frame:

```
X_ S M_ _ _ _ < > ANNA
```





**SCREEN FORM 5**

SINUMERIK unit	:	PLC1	<input type="checkbox"/>	Message frame type	:	P
Channel / Interface number	:	0.	"			
DB/DX address	:	DB. 200	"	(DB/DX 0 ... 255)		
Logical partner (target)	:	XXX.	"			
DW address	:	DW 20.	"			
	:	.		Permissible data length	:	4

F7 → F4

**Screen form 6**

It is sufficient to call and transfer the default values. Both an input list and an output list must be programmed even if only input message frames are to be processed.

F7  
F8

**Screen form 4**

(Context line IL: + OL: + FL: ? )

F8

**Screen form 3**

Machine / Status : okw/o

F8

**Screen form 2**

Machine name	Node name
<span style="border: 1px solid black; padding: 2px 5px;">F7</span>	
<span style="border: 1px solid black; padding: 2px 5px;">F8</span>	

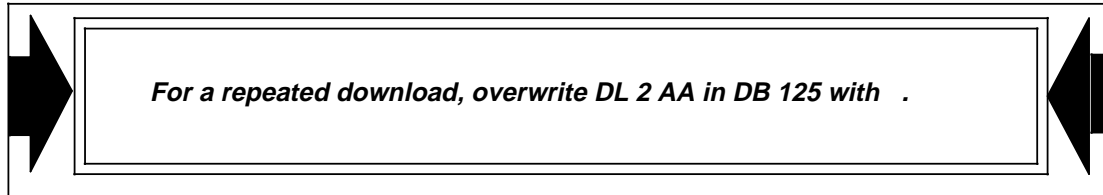
**Screen form 1**

Back to NML

F7

## Configuring with NML

- |  |     |                        |
|--|-----|------------------------|
| - Transfer system-specific data to local data base | 4.6 | } NML<br>} Description |
| - Download local database to CP 231 A module       | 4.8 |                        |



Now a test can be carried out using SIM 850.

Edit message frame:

TSAP name \_ X \_ RM \_ \_ \_

—  
A \_ 1 2 3 4

DB 200                      Net data DB

DW 20      0004              Data length

DW 21      3132              Net data

DW 22      3334

OB 1

```

                                LEN= 15      ABS
                                PAGE    1
SEGMENT 1      0000
0006           : JU FB 200      COMPUTER LINK
0007 NAME     : USER MESS.
0008           :
0009           : BE

```

OB 20

```

                                LEN= 31      ABS
                                PAGE    1
SEGMENT 1      0000
0000           :
0001           : JU FB 11
0002 NAME     : EINR-DB
0003 DBAN    :      KY 99,1
0004 DWNR    :      KF +255
0005 DBTY    :      KS DB
0006           :
0007           : C      DB 99
0008           : L      KS PL
000A           : T      DW 0
000B           : L      KS C1
000D           : T      DW 1
000E           : L      KS FL      LOGIC PARTNER - DESTINATION
0010           : T      DW 2      (Application relation)
0011           : L      KS R_
0013           : T      DW 3
0014           : L      KH 0011    1st INTERFACE
0016           : T      DW 4
0017           :
0018           :
0019           : BE

```

FB 200

LEN= 63      ABS  
PAGE    1SEGMENT 1      0000  
NAME : USER MESS.

```

0005      : JU FB          11
0006 NAME : EINR-DB
0007 DBAN :      KY 200,2      NET DATA DB
0008 DWNR :      KF +255
0009 DBTY :      KS DB
000A      :
000B      : C      DB 101      USER INTERFACE
000C      :
000D      : A      D 28.0
000F      : =      Q 15.0      MESSAGE FRAME PRESENT
0010      :
0011      : A      I 3.0      RESET UI 0
0012      : R      D 28.0
0014      :
0015      : C      DB 102      USER INTERFACE
0016      :
0017      : L      KH 6520
0019      : T      DW 32
001A      : L      KH 2020
001C      : T      DW 33
001D      : L      KH C900
001F      : T      DW 35
0020      :
0021      : C      DB 201      NET DATA DB
0022      :
0023      : L      KH 0004
0025      : T      DW 0
0026      : L      KS AN
0028      : T      DW 1
0029      : L      KS AN
002B      : T      DW 2
002C      :
002D      : C      DB 102      UI SEND
002E      :
002F      : AN     I 3.1      INITIATE
0030      : R      F 150.0
0031      : A      I 3.1
0032      : AN     F 150.0      EDGE EVALUATION
0033      : S      D 28.0
0035      :
0036      : A      I 3.1
0037      : S      F 150.0
0038      :
0039      : BE

```