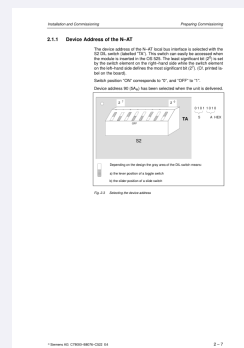


FIELD INSTALLATION QUICK GUIDE

Installation Instructions

6DS1222-8BA

CS 275 local bus interface



PRODUCT	6DS1222-8BA
FAMILY	TELEPERM M OS 525 N-AT
FUNCTION	CS 275 local bus interface
SOURCE	Siemens TELEPERM M OS 525 N-AT manufacturer documentation; applicable pages 41, 43, 44, 45, 139, 140, 141, 142, 224

01 OFFICIAL MOUNTING AND WIRING

- Disconnect the OS 525 base unit before working on its bus interface and follow the original manufacturer EMC instructions.
- Set the N-AT device address, bus selection and I/O allocation according to the documented configuration.
- Connect the CS 275 local-bus cable using the applicable pin assignment, shielding and grounding instructions.

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2.1 Preparing Commissioning of the N-AT CP5412-A1 bus interface

The preparatory settings of the OS 525 are restricted to the N-AT bus interface. The bus requires bus address, mode, and address of the N-AT bus interface to be selected. To do this you must open the housing of the OS 525 base unit. The individual steps are explained in the PC Manual. In addition, the EMC instructions given must be observed during this work.



Warning

Hazardous voltages always exist at certain elements inside an electrical device. Improper handling may therefore cause death, serious personal injury or significant damage to equipment.

Please observe all notes in this Manual before you start commissioning this product.

- Only qualified personnel may commission the OS 525.
- The OS 525 must be disconnected from the mains before any work on the base unit is started.
- The Safety Instructions in the first Section of this Manual must be observed.

The individual components of an operator communication and visualization system are connected via suitable interfaces to the local bus of the CS 275 bus system. The local bus is limited to a maximum of 9 devices and a length of 20 meters. The voltage difference on the M signal line may not exceed 0.2 V between the individual devices.

In addition, the Installation Instructions in Chapter 2.3.10 must be observed.

2.1.1 Device Address of the N-AT

The device address of the N-AT local bus interface is selected with the S2 DIL switch (labelled "TA"). This switch can easily be accessed when the module is inserted in the OS 525. The least significant bit (2^0) is set by the switch element on the right-hand side while the switch element on the left-hand side defines the most significant bit (2^7). (Cf. printed label on the board).

Switch position "ON" corresponds to "0", and "OFF" to "1".

Device address 90 ($5A_H$) has been selected when the unit is delivered.

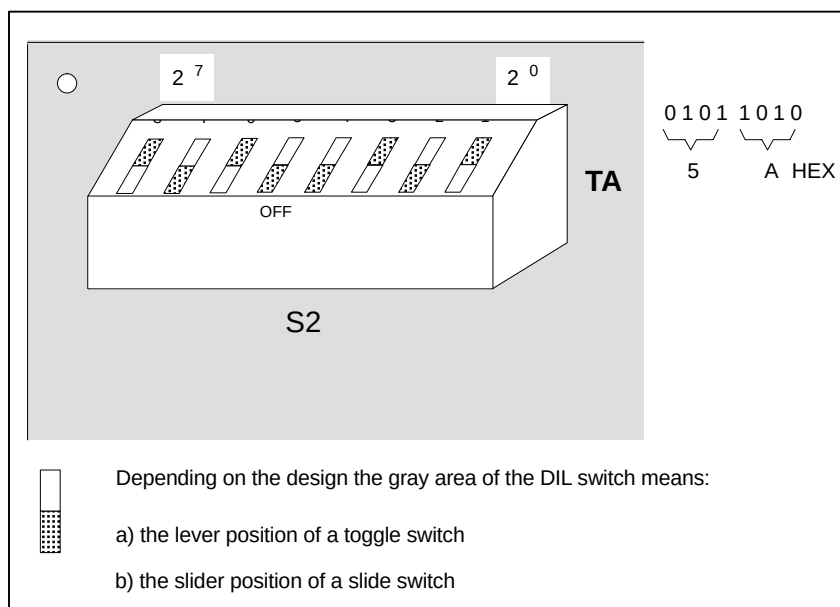


Fig. 2.3 Selecting the device address

2.1.2 Bus Address and Bus Mode of the N-AT

There is a combination element on the front panel of the N-AT that consists of an 8-way DIL switch (S1) and 6 LEDs. Meaning, arrangement and color of the LEDs correspond to the mode indicators of other CS 275 bus interfaces (such as N-8 and N-S5). Not all 8 DIL switch elements have been connected. Switches 1, 2, and 3 are used for setting the bus address (switch 1 selects bit 2⁰, position "OFF" means "1"): Any combination between 0 and 7 represents a valid bus address.

CS 275 protocol and bus hardware permit operation on a simple and on a redundant bus system. Switch 5 is used for telling the interface module whether it is connected to a simple or to a redundant bus system ("OFF" = non-redundant bus).

The N-AT transitions to an idle mode if the switch positions (1, 2, 3 or 5) are changed during operation. Actuating switch 8 (enter switch) after the change causes the N-AT to accept the newly set parameters.

The N-AT exits idle mode after this switch has been cycled ON-OFF-ON.

All switches are set to OFF when the system is delivered. This means that the parameters must be selected before commissioning is started.

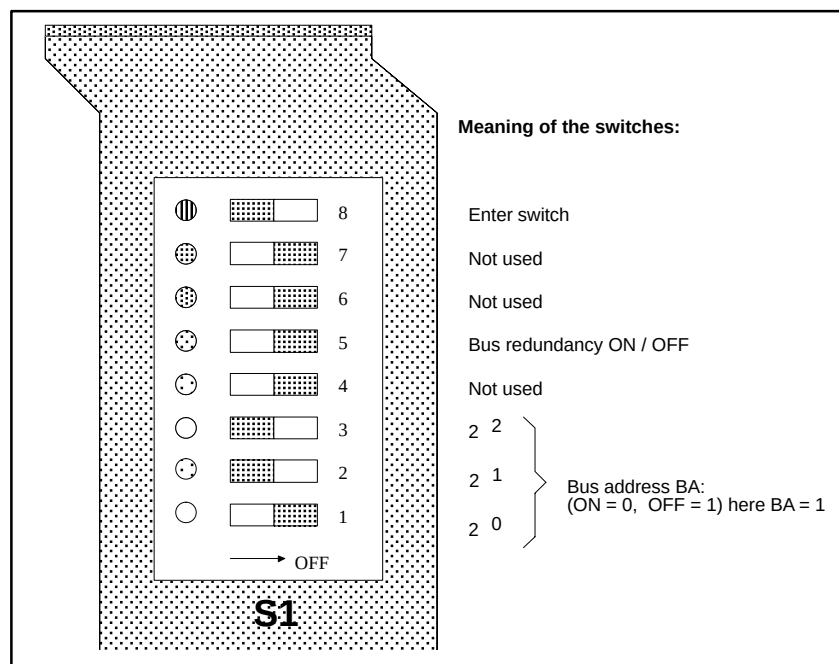


Fig. 2.4 Setting the bus address

2.1.3 Setting the Base Address and Interrupt Allocation

Upon delivery of the OS 525, the base address and the interrupt allocation are set to the following values:

- N-AT base address in the I/O address space: 310_H
- Interrupt allocation to IRQ signal 10

Base address

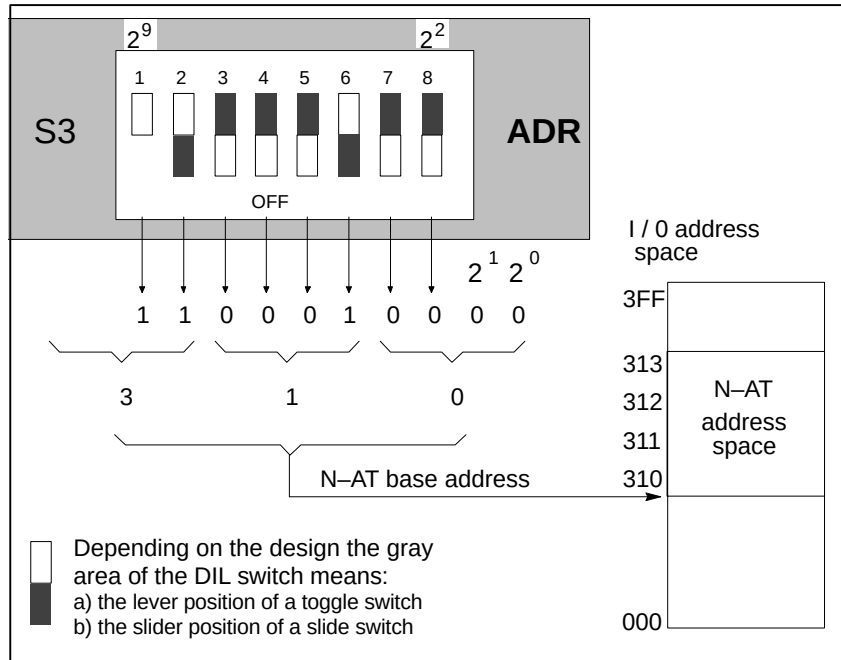


Fig. 2.5 Setting the base address on the N-AT module

Interrupt allocation

Plug-in jumper X100 (labelled "IRQ") selects IRQ 10 for the interrupt signal.

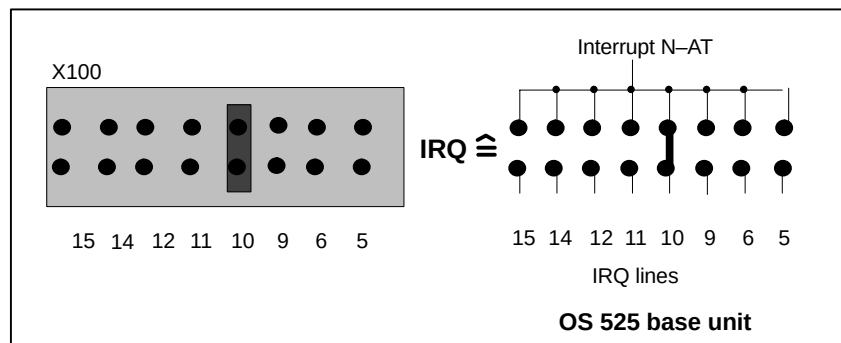


Fig. 2.6 Typical interrupt allocation on the N-AT: IRQ10



Caution

Duplicated allocation of an IRQ signal by several interface modules may cause defects.

2.3.7 Connection to the Local CS 275 TELEPERM Bus or SINEC Process Bus

2.3.7.1 CS 275 TELEPERM Local Bus

The connection between the N-AT interface module and the local TELEPERM bus is established via a connecting cable with a 25-way trapezoidal socket with metallic hood and screw locks at the N-AT end, and a TELEPERM ES 902 connector with metallic hood and screw locks at the local bus end.

Either connector must carefully be screwed on.



Note

Despite proper connection of central grounding point and mains protective ground there may still be potential differences between PC housing and screen/connector hood of the connecting cable. This will lead to touch potentials when the connecting cable is plugged in.

Please observe the Installation Instructions for the individual components when you install a CS 275 bus system. Power supply connection and grounding via the central grounding point are discussed in Section 2.2.11.

Ensure that proper contact exists between the screen of the connecting cable and the enclosure when you commission the N-AT in the base unit!

Additional cabling between personal computer and grounding bar or central grounding point is not necessary. Ground connection is established via the protective ground conductor of the mains cable.

The bus interface isolation on the N-AT module causes the module's ground potential to be floating with respect to the PC ground potential. The connecting cable pulls the 0-V level of the interface logic to the ground potential of the local bus. This enables the maximum potential difference of 0.2 V between bus ground and device ground to be maintained for each device.

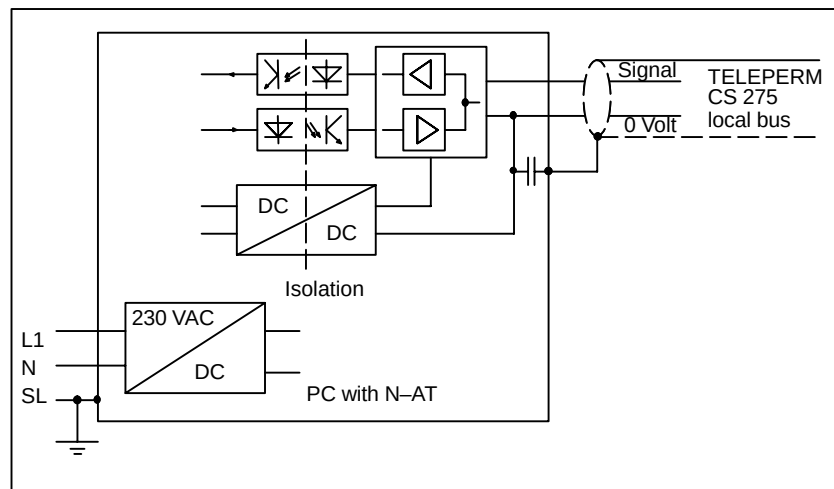


Fig. 2.9 Isolation of the N-AT module

2.3.7.2 SINEC L2 Process Bus

Connection to the SINEC L2 process bus takes place with the CP 5412 A1 communications module.

For more details about the SINEC L2 connection refer to

- SINEC IK10 Catalog
- Working Guideline for installing the SINEC L2 bus system (AR 463–02–220)
- SINEC I2/L2FO Manual (6GK1 970–5CA00–0AA0).

4.10.2 Installing the HIGRAPH 2 Graphics Interface

The supplementing of a host with an input channel means that it is also necessary to insert the HIGRAF 2 graphics interface. Insert the module into slot 4 (see Section 4.10.1 for slot assignments).

(For information on the internal VGA, please refer to the Technical Description SIMATIC PC RI45.)

**Settings required
on the HIGRAPH 2
module**

The S1 DIL switch on the graphics interface module is used for module identification. Only this switch need to be set on the module.

Fig. 4.6 shows the location of the S1 witch.
The functions of the individual switches S1_1 through S1_8 are described in Section 4.6.

**Software
configuration**

Perform the concerned settings with OS–SET after HIGRAPH 2 installing (see Section 3).

4.10.3 Installing the N–AT Local Bus Interface

The N–AT module is inserted in slot 1 (see Section 4.10.1 for slot assignments).

**Jumper and switch
settings**

For jumper and switch setting cf. Section 2.1.

**Software
configuration**

Perform the concerned settings with OS–SET after N–AT installing (see Section 3).

4.10.4 Installing the Signal Module

The signal module is inserted in a free AT slot.

Slot 2, 4 or 5 depending on configuration (see Section 4.10.1 for slot assignments).

**Jumper and switch
settings**

The functions of the jumpers and switches is described in Section 4.7.2 (signal module).

**Software
configuration**

Perform the concerned settings with OS–SET after the signal module installing (see Section 3).