Notes regarding specific signal cables and system components

Connection to the CS 275 bus system

The link between the OS 525 and the subordinate automation systems can be established via the local or the remote bus of the CS 275 bus system. The following requirements must be satisfied.

- Local bus link

The cable provided for local bus links should not be laid outside cabinets. If a cable route outside cabinets cannot be avoided (as for the OS 525), the unscreened length of the cable outside the cabinet may not exceed 2.5 meters. Longer distances require the cable to be laid in a metallic cable duct that should be connected at several points to the local ground and may only contain the local bus cable. The total cable length of the local bus is limited to 20 meters.

If several systems are linked via the 20–m local bus, it must be ensured that equipment ground and neutral conductor of all systems are on the same potential. Failure to do so will produce malfunctions caused by compensating current on the local bus cable. There are different requirements that depend on the power supply system of the communication partners:

- Local bus links with 230 V AC systems (such as AS 235 K):
  Local bus communication is permitted if the hot, neutral and protective ground conductors of the 230 V connection of all systems that are interlinked via the local bus are on the same respective potentials (”supply from one socket outlet”).

- Local bus links with 24 V DC systems (such as AS 235):
  Local bus communication between OS 525 and the systems of the 24 DC system is permitted if the central grounding point of the local bus island is referenced to the protective ground conductor potential of the floor panelboard. This structure requires a distributed floor–specific 24 V DC supply. Local bus communication across several floors is never permitted.

- Remote bus link

The remote bus connecting unit 6DS4425–8AA can be used for connecting the remote bus. This remote bus connecting unit should be equipped with the connection distribution unit for the 20–m local bus (6DS9207–8AA). The S5 remote bus connecting tier should be used instead of the remote bus connecting unit if the OS 525 is installed in a cabinet.

The following variants of this tier are available:

- Order no. 6DS4426–8AA (24 V DC, simple or redundant)
- Order no. 6DS4426–8BA (230 V AC, simple)
- Order no. 6DS4426–8CA (230 V AC, redundant)

Provided that the grounding instructions have been observed the OS 525 may also be connected to the remote bus via the remote bus connecting tier of an AS cabinet.

Connection to the SINEC L2 bus system

Connection is via the module CP 5412 A1.
Before fitting the module, check the setting of the interrupt vector and the address set on the DPRAM (see Section 4.5).

Connection to the SINEC H1 bus system

Connection is made via readily available connecting cables that have been fitted with connectors. The AR 463–220 Installation Instructions ’Installing the SINEC H1 bus system’ must be observed.

Audible indicator connecting cable

This cable can be used for outputting and interconnecting the audible indicator functions, and for outputting the watchdog signal. one end of this cable is open, i.e. without connector, thus enabling direct connection to a distributing unit. In order to prevent compensating current from flowing, the screen of this open end must be connected to a protective ground that must be on the same potential as the rest of the OS 525 system.

Note

Any inductivity that is switched by the output contacts (audible indicator, watchdog) must be equipped with a quenching diode.
AC voltages may not be switched by the output contacts.

Mains connections and grounding

Note

All units of the system may be connected to standard grounded power supply mains (known as TN mains, to VDE 0100, part 300 or IEC 364–4).
They are not suitable to be connected to a non–grounded mains or to a mains with impedance grounding (known as IT mains).

Protective ground and 0 V of the OS 525 are connected with each other inside the power supply unit.
All connecting cables are screened. At either end, the screen is connected to the connector shells. The connector shells are connected with the device enclosure and thus with the protective ground (PE).

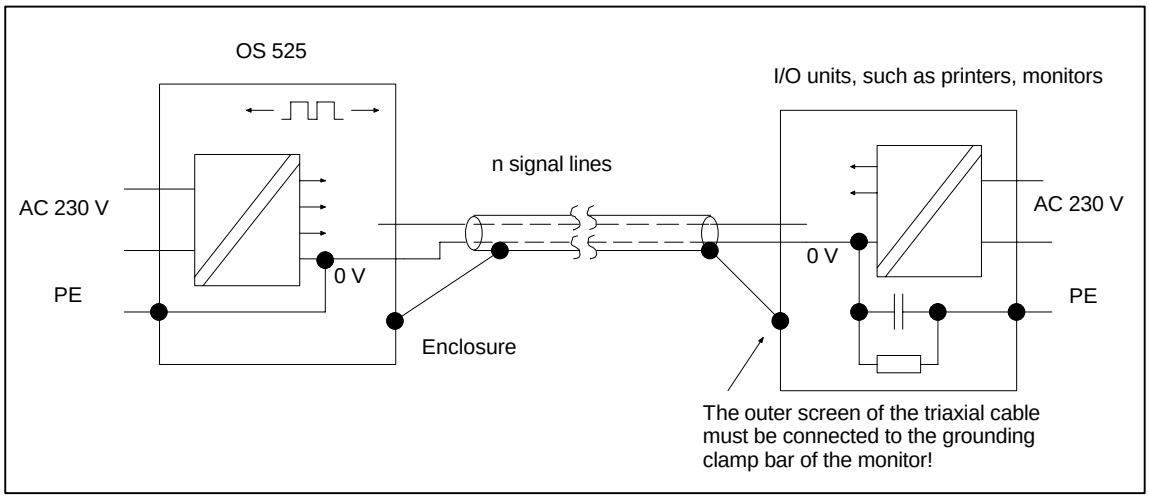

Fig. 2.13 Screening of I/O device connections