

Installation Instructions

Telephone dialing and transmission device
DS 6700 / DS 6750
Item no. **057864 / 057865**



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without notice

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The following symbols are used in this document:



Warning.

Indicates risks to humans and/or the device. Failure to comply may pose a risk to humans and/or the device. The degree of risk is indicated by the warning word:

Caution!

Risk of damage to property and environment.

Warning!

Potential risk that could result in minor or moderate injury or substantial property damage.

Danger!

Potential risk that can result in serious injury or even death.



Indicates important information on a topic, a procedure or other important information.



Indicates important information pertaining to installation.



Notes concerning programming/installation in accordance with VdS guidelines.

EN Information on European standards.

Safety instructions

- * Read the instructions carefully and completely before installing and operating the device. They contain important information on installation, programming and operation.
- * The transmission device is constructed according to the state of the art of technology. It should only be used:
 - for its intended purposes and in accordance with regulations and
 - in good technical condition, properly installed and
 - according to specifications.
- * The manufacturer assumes no liability for damages arising from use which does not comply with regulations and the intended purpose of the device.
- * Keep the documentation provided with the product(s) and system-specific notes in a safe place.
- * Installation, programming, maintenance and repairs must only be performed by authorized technical personnel.
- * Soldering must be done only with a temperature-controlled, electrically isolated soldering iron.
- * VDE safety guidelines and local public utility regulations must be followed.
- * When connecting devices to a public telephone network, the provisions of the telecommunication network provider must be followed.
- * Water and liquids - keep water and other liquids away from the device.
- * Ensure proper protective grounding of the device. The layout of wiring of the protective conductor must be continuous up to the earthing/shielding connector of the potential equalization.

Danger:

The device should not be used in potentially explosive areas or in areas with gases corrosive to metals or plastics.



Soldering and connection work in the entire system should only be performed in a voltage-free state and when disconnected from the telecommunication network.

1. General information

1.1 Fields of application

The DS 6700 / DS 6750 transmission devices are used to send messages from hazard detection systems using public and private communication networks as well as an interface to decentralized systems, such as management systems linked via public or private networks. Furthermore, when used in compatible hazard detection systems, the devices can facilitate remote service and diagnosis.

Message transmission can take place using public or private analog telephone networks (analog telephone connection) or via Ethernet (IP connections) and in a manner appropriate for particular requirements. Thus, for example, connections to alarm receiving centers (e.g. DEZ 9000) can be dedicated lines or demand-actuated connections, with alarm and status information using VdS 2465 protocol, TELIM or Contact ID. At the same time or additionally, messages can be sent as plain text, voice message, SMS, e-mail or e*cityruf (e*message) to private individuals. A particularly important feature is the ability to establish and maintain several connections simultaneously. This enables, for example, the possibility of establishing several continuous connections to various control centers. Furthermore, demand-actuated connections can be established without interrupting existing connections.

The extensive possibilities of SMS transmission provided by the DS 6700 / DS 6750 transmission devices should also be noted. This allows for SMS transmission via GSM and also via dedicated lines to mobile phones and landline phones.

1.2 Transmission networks

The analog telecommunication network is used as a transmission system. The transmission device is used in main stations and substations of the public telephone network. Use within a substation in fault switching status is also possible.

The DS 6700 / DS 6750 transmission devices also provide the option of using private or public IP data networks for data transmission.

Furthermore, the devices have an interface that enables access to GSM networks in conjunction with RFW 3000 and RFW 4000.



The devices can only be used to a limited extent in conjunction with so-called "Next Generation Network" connections (NGN), because not every type of alarm signal can be transmitted via the emulated analog telephone connection (Voice over IP).

1.3 Integration in central control units for hazard detection systems

There are a number of standard or proprietary interfaces for integration with central control units for hazard detection systems which, in addition to alarm forwarding, enable remote service functions.

The connection to intruder alarm control panels via a serial interface using VdS protocol 2465 In addition to its 8 conventional inputs, the transmission device allows for up to 100 outputs of the intruder alarm control panel to transmit an alarm criterion to an ARC (alarm receiving center). It is also possible to define up to 100 function groups for the transmission of Contact ID messages (see "WINFEM Advanced" Programmer's Guide).

in addition to the 2 existing semiconductor outputs on the transmission device, up to 40 control outputs of the transmission device can be flexibly programmed as inputs for the intruder alarm control panel. These control inputs may be used by an emergency service control center for telemetry or remote control functions.

The device can also be operated in standalone mode if integration in a hazard detection system is not possible or required. The eight individually configurable inputs can be used for this purpose. Furthermore, there are 2 control outputs that can be remotely controlled by an emergency call and service control center, a standard telephone or a mobile telephone. If the number of inputs and outputs available is insufficient, the standalone device can be expanded with up to 80 additional inputs or outputs.



Regardless of the mode, the DS 6700 / DS 6750 transmission devices always have 8 detector group inputs and 2 semiconductor outputs, the activation- and response behavior of which can be individually adapted to the particular requirements.

All system-related data, and all object-specific programming can be configured using the "WINFEM Advanced" programming software.



Programming of the DS 6700 / DS 6750 transmission devices for all latest features requires the programming software "**WINFEM Advanced**": **Version V19.xx** or newer!

1.4 Transmission device features

	DS 6700	DS 6750
System features		
Connection to the intruder alarm control panel via serial, BUS-2 and I-BUS	✓	✓
Integration module or stand-alone device	✓	✓
Expanded BUS-2 interfacing for control panels without serial connection for alarm signaling via IP		✓
Automatic switching between standard and daylight savings time	✓	✓
Clock module with 48-hour power reserve	✓	✓
Selective remote maintenance authorization	✓	✓
Accumulator- and undervoltage monitoring	✓	✓
Flexible activation of the signaling relay	✓	✓
Fire alarm system connection with DIN14675 interface (with extension board 057655)	✓	✓
8 flexibly configurable inputs on the DS 6700 / DS 6750 transmission device	✓	✓
2 semiconductor outputs on the transmission device for remote control	✓	✓
Up to 16 input/output modules on BUS-2: • Thus, extensible to up to 80 inputs or outputs	✓	✓
With serial intrusion control panel connection: • 100 alarm criteria of the control panel • 40 control criteria for the control panel • 100 function group outputs as alarm criterion (Contact ID)	✓ ✓	✓ ✓ ✓
Detailed plain text transmission of the message criterion to the alarm receiving center	✓	✓
4 flexibly configurable routine calls	✓	✓
20 demand-actuated call numbers	✓	✓
10 email addresses	✓	✓
10 call numbers per dialing sequence	✓	✓
8 dialing sequences	✓	✓
Dialling device with voice transmission (Dialler and transmission device) • Recording and playback via headset • Saving voice on PC • Two combinable dialler and transmission device modes • Standard vocabulary • Location text (16 sec.) and 4 freely definable announcement texts (each 4 sec.)	✓	✓
Non-volatile parameter memory and event memory with at least 1000 events	✓	✓

	DS 6700	DS 6750
Integrated protocol analyzer of system states for service purposes	✓	✓
Remote maintenance via analog telephone line (V.32bis), Ethernet and GPRS/UMTS ¹	✓	✓
Remote maintenance via IP callback - Callback-trigger with password protected SMS	✓	✓
EN 54-21 approval	✓	✓
VdS approval	✓	✓
Performance features on an analog telephone line		
Permanent monitoring of availability of the telephone connection	✓	✓
Line monitoring with anti-block-function	✓	✓
Tone, pulse, and blind dialing	✓	✓
Connectible to trunk and extension lines	✓	✓
Configurable waiting time for calls	✓	✓
Telim and VdS 2465 (V.22) transmission protocol	✓	✓
Dialler and transmission device - voice alarm	✓	✓
Remote control and remote access via DTMF		✓
Contact ID transmission protocol		✓
SMS sending		✓
Email via PPP (up to 10 email addresses)		✓
VdS 2465 IP connection via PPP		✓
NTP over PPP (synchronization with the time server)		✓
WINMAG		✓
WINMAG "stand-alone" connection		✓
IQ MultiAccess		✓
Ethernet connectivity performance features		
Line monitoring of the Ethernet interface	✓	✓
DHCP or manual entry of the IP parameters	✓	✓
Remote maintenance via WINFEM	✓	✓
Dedicated line IP connections to alarm receiving centers (up to 4 simultaneously)	✓	✓
AES encryption of IP connections	✓	✓
Detection of DoS attacks	✓	✓
VdS 2465-S2 transmission protocol	✓	✓
IQ SystemControl	✓	✓
Email	✓	✓
Chiasmus encryption of IP connections		✓
NTP (synchronization with time server)		✓

	DS 6700	DS 6750
WINMAG over IP (up to 4 simultaneously)		✓
WINMAG over IP (up to 4 simultaneously) "stand-alone" connection		✓
Communication with smartphone app	✓	✓
Simulation of a operating device with smartphone app (only panels via serial connection)	✓	✓
IQ MultiAccess		✓
Video control panel connection over IP (up to 2 simultaneously)		✓
GSM / GPRS / UMTS connection performance features		
RFW 3000 or RFW-4000 adaptable	✓	✓
Optional remote antenna for RFW 3000 or RFW 4000	✓	✓
VdS 2465 transmission protocol	✓	✓
Dialler and transmission device - voice alarm via GSM with RFW 4000	✓	✓
Telim transmission protocol via GSM with RFW 4000	✓	✓
SMS messages via GSM	✓	✓
Contact ID transmission protocol with RFW 4000		✓
Email via GPRS/UMTS ¹		✓
Dedicated line connections via GPRS/UMTS ¹	✓	✓
Demand-actuated connections via GPRS/UMTS ¹	✓	✓
AES encryption of IP connections	✓	✓
Chiasmus encryption of IP connections		✓
NTP via GPRS/UMTS ¹ (synchronization with time server)		✓
Remote maintenance via IP callback - Callback-trigger with password protected SMS	✓	✓
Remote maintenance via GPRS/UMTS ¹	✓	✓

UMTS¹ **only** in conjunction with RFW-3000, Item no. 057575.10 or RFW-4000, Item no. 057590.10.



The transmission of alarm criteria with Contact ID protocol is **not** performed according to VdS regulations.

2. The program

2.1 Variants

DS 6700 PSTN/IP transmission device**Item no. 057864**

VdS approval pending
Information transmission via analog telephone network and Ethernet (TCP/IP).
Interface for connecting to GSM networks (in combination with RFW 4000 / RFW 3000). TAE connection cable included.

DS 6750 PSTN/IP transmission device for WINMAG, IQMA, Contact ID**Item no. 057865**

VdS approval pending
Information transmission via analog telephone network and Ethernet (TCP/IP).
Interface for connecting to GSM networks (in combination with RFW 4000 / RFW 3000). TAE connecting cable included.

Additional housing ZG 0 for transmission device**Item no. 057631**

Housing with hinged door made of 2 mm sheet steel, power coated, gray-white (similar to RAL 9002).
No room for emergency power supply.

Additional housing ZG 1 for transmission device**Item no. 057632**

Housing with hinged door made of 2 mm sheet steel, power coated, gray-white (similar to RAL 9002).
Room for emergency power supply item no. 057530.10 and rechargeable battery item no. 018002.10

2.2 Options/Accessories

WINFEM Advanced**Item no. 013498**

Programming software for:
DS 6700 / DS 6750

RFW-4000 GSM/GPRS/3G**Item no. 057590.10**

Redundant radio path, system with GSM/GPRS/3G terminal.
GSM and GPRS/UMTS(3G) information transmission system for transmission devices DS 7700, DS 7600, DS 6700, DS 6750.

RFW-3000 GSM/GPRS/3G**Item no. 057575.10**

Redundant radio path, system mit GSM/GPRS/3G-Terminal.
GSM and GPRS/UMTS(3G) information transmission system for transmission devices DS 7700, DS 7600, DS 6700, DS 6750.

ATS adapter for fire panels**Item no. 057655**

FDP connection pcb to extend the transmission devices DS 7700, DS 7600, DS 6700, DS 6750 for use in fire alarm systems.

High Speed Modem V.90, external**Item no. 058200**

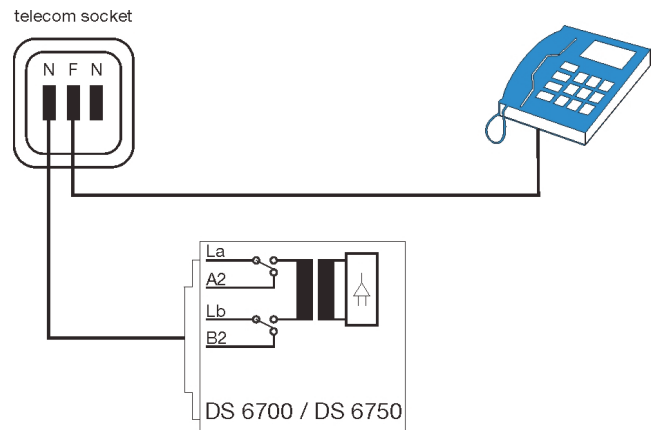
External modem with plug-in power supply

ADO8/TAE6/IAE Covering case**Item no. 057550**

3. Connection of the transmission devices DS 6700 / DS 6750

3.1 Analog telephone line

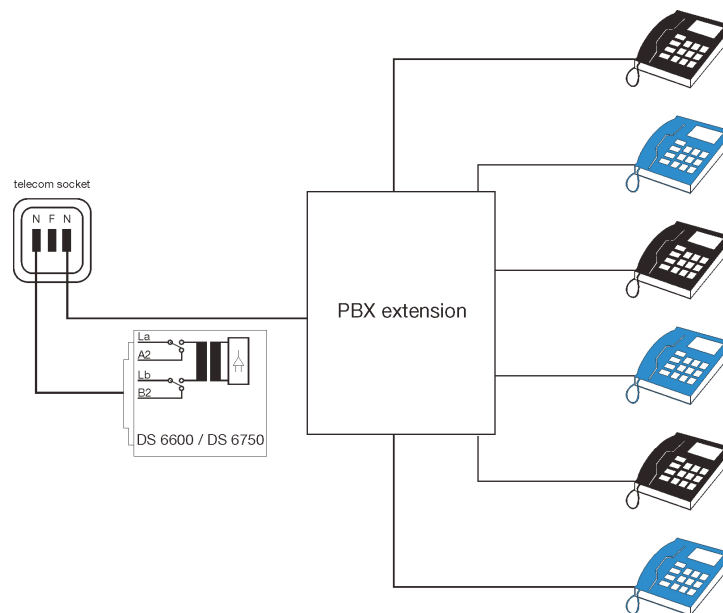
For the transmission of security messages, the transmission device is connected as the first node to the primary telephone socket. The primary telephone socket is the first terminal box after the demarcation point (DMARC).



3.2 Analog telephone line and private branch exchange system

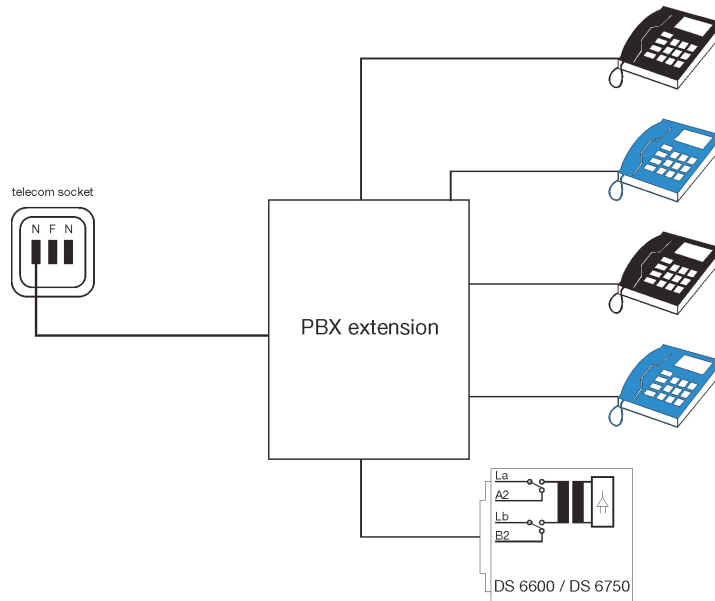
3.2.1 Connection DS 6700 / DS 6750 before the private branch exchange system

In conjunction with a telecommunications system, the transmission device should always be installed prior to the telecommunication system if possible. This type of connection allows for the highest possible security in function in case of errors.



3.2.2 DS 6700 / DS 6750 connection within private branch exchange system in fault switching status

If installation before the telecommunications system is not possible, the transmission device can be installed as a node within the telecommunications system. It should be noted, however, that the transmission device is installed on the fault circuit connection. This means on the connection which, after loss of power or operating voltage of the telecommunications system, is connected directly to the trunk (fault circuit connection). Therefore, for this type of malfunction, it must be ensured that no PBX numbers are dialed and that no trunk line criteria occur.



VdS

Only if installation is not carried out according to VdS guidelines, can the transmission device also be operated within a telecommunications system. The performance features of the tamper and anti-block-function are then not fully available. Likewise, the availability of the trunk (line monitoring) is not checked (monitored). In the case of power failure of the telecommunications system, transmission may no longer be possible.

3.3 Performance features of activation and line monitoring

When connecting the transmission device to the analog telecommunication network, the following performance features are available:

3.3.1 Anti-block-function (this performance feature is always active)

If the telephone line is in use at the time that an activation criterion occurs, then the transmission device unblocks the line, i.e., the current call is disconnected. The transmission device can then transmit the appropriate message.

3.3.2 Tamper function (this performance feature is always active)

The transmission of alarm messages by means of the transmission device is to be ensured at all times. In case of fault (e.g. short circuit) or tampering with the (looped through) telephone line from the transmission device, physical separation of the downstream devices is performed. Therefore, the transmission device must be connected as the first node to the primary telephone outlet. If the transmission device is not connected as the first node, then the tamper and anti-block-function performance features will not be fully available.



The system operator must be informed about the tamper and anti-block performance features. In some circumstances, it may be necessary to obtain the operator's consent before commissioning of the transmission device.

3.3.3 Line monitoring (active only if line monitoring is programmed!)

The transmission device checks the presence of the telephone line's open circuit voltage at defined intervals (if line monitoring is programmed). If the minimum requirements are no longer fulfilled, the LED "RDT fault" lights up and the positive-acting relay opens (forced actuation of the connected intruder alarm control panel).

VdS

In case of older PBX systems or with telephone lines where the no-load voltage is below 20 V, it is recommended to make the programming without line monitoring. Programming in accordance with the VdS-guidelines includes line monitoring.

3.3.4 Possibility of remote interrogation and remote parameterization via control center or installer

Note on the Calling Line Identification (CLIP) performance feature: During the ringing phase, the caller's number is transmitted to the called party (e.g. is shown on the display of a phone suitable for this function). This feature is important for data transmission, because identification and corresponding access admittance can be performed based on the transmitted telephone number.

The transmission device checks call authorization based on the phone number and releases remote interrogation if programmed accordingly.

3.4 Project planning information

- If the transmission device is connected to the analog telecommunication network according to the connection diagram.
(1. node of the primary telephone outlet), connection in the case of tampering is possible.
- When using the transmission device, calls in progress are interrupted when the transmission device uses the trunk line connection.
- When a connection is used by the transmission device, no connections from other nodes can be accepted or established.

3.5 Use of the DS 6700 / DS 6750 transmission device in IP networks

The transmission devices can use private or public IP data networks for data transmission. Companies with branch offices in particular have recognized the opportunities of using existing data networks. The use of IP technology bears potential for reducing costs and other innovative performance features can be implemented such as a dedicated line connection to the control center.

Pay attention to the technical features of the alarm receiver:

- VdS approved alarm receiver.
- Support of the TCP/IP transmission procedure using the protocol defined by VdS "VdS 2465 - S2" for TCP/IP.
- Fallback in case of failure of the control center.
- Possibility of encryption of IP connections (also in accordance with BSI).



Neither does connection via public IP networks pose a problem for the DS 6700 / DS 6750, because encryption in accordance with VdS can be performed. It is possible to store an individual key for each IP connection.

3.5.1 Guidelines for IP data transmission (as of August 2008)

VdS 2471 (transmission in alarm transmission systems)

Appendix A13 interface S2 / S3 for connection to IP -networks using the TCP protocol - approved.

VdS 2465 (transmission protocol for hazard alarm systems)

Supplement S2: Protocol extension for connecting to TCP protocol networks.

Supplement S3: Connection of video surveillance equipment to hazard alarm systems.

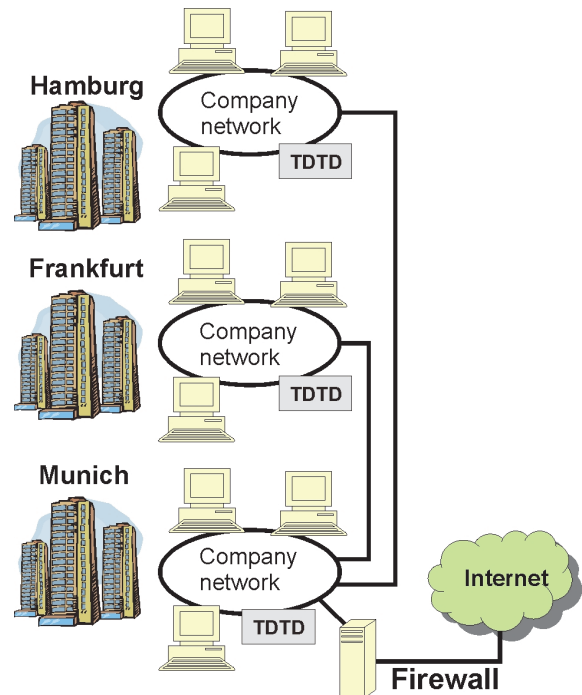
VdS 2311 (planning and installation)

Transmission via IP networks.

3.5.2 Intranet - the internal data network

Example of an Intranet: company with branch offices

- A company's internal data network is referred to as its Intranet.
- An IP based Intranet is equivalent to the Internet in its functionality.
- Intranets are separate networks, which are decoupled from the Internet .
- Usually the public Internet can be accessed from within an Intranet. Access to an Intranet from the Internet is prevented using the appropriate protective measures (firewall).



Configuration notes:



In any case, the network administrator is to be consulted as to which IP address, gateway address and port numbers can be used. The network administrator is the primary contact for all network issues.



Suitable IP network access (Ethernet 10 Mbps or 100 Mbps) is required to operate the transmission device in an IP network. To prevent network-related problems due to lack of bandwidth, we recommend a minimum bandwidth of 500KBit/s to be available.

Either a static IP address or an address assigned automatically by DHCP is used. A static IP address is always required for the alarm receiving center.

It may be necessary to ask the network administrator whether a specific port number should be used for outgoing transmission. If so, this is to be entered during programming with "WINFEM Advanced" for the DS 6700 / DS 6750 (local port). If the network administrator has no issues with this, "0" should be selected as the local port. The transmission device will then automatically search for an available usable port.

3.5.3 Local infrastructure for Internet usage

3.5.3.1 Selection of the appropriate DSL access

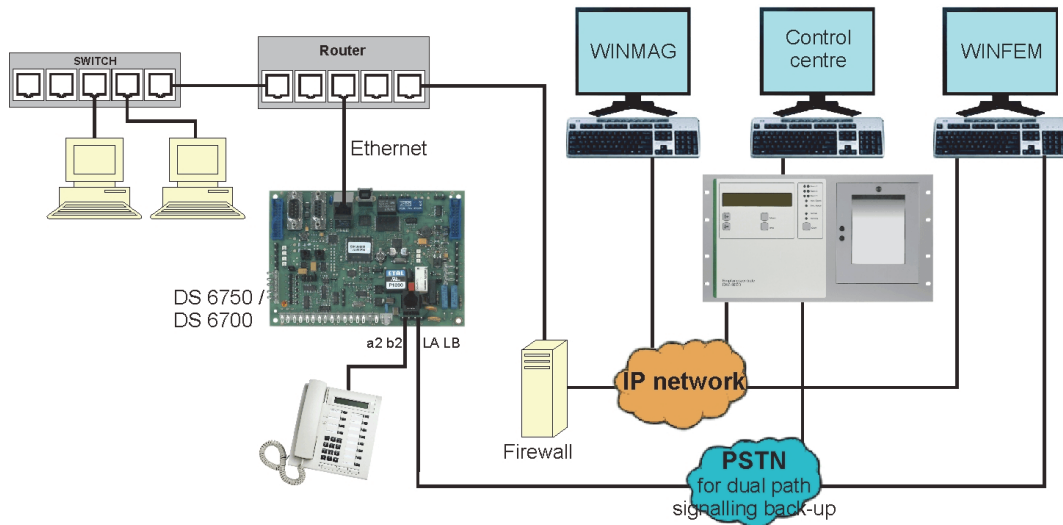
In order to use the Internet, appropriate broadband access is required, e.g. Telekom DSL products. Products differ with regard to the download speed (downstream) and upload speed (upstream). A product specific characteristic of all types of DSL network access is different upload and download speeds, the download speed is generally much higher than the upload speed.

When choosing the appropriate DSL product for technical alarm applications, the upload speed is of primary importance.

When using the DS 6700 / DS 6750 transmission devices as alarm transmitters, broadband access of 1024 kbit/sec. download and 128 kbit/sec. upload is usually sufficient. A "flat rate" contract is to be selected if possible so that the connection between the transmission device and the control center has properties similar to those of a dedicated line. If a continuous online connection is not possible, because the data volume or connection time is limited for example (by volume or time rates), then the transmission device can be programmed so that a demand-actuated connection is established. The connection to the receiving device is then only briefly established to transmit messages.

3.5.3.2 DSL connection overview

The transmission devices have no DSL modem functionality. If the connection is to be established via a public IP network (e.g. Internet), then the connection has to be made via a local network, which is connected to the DSL modem using a corresponding router (e.g. DSL router).



Configuration notes:

The information and parameters can be requested from the responsible network administrator and need to be programmed on the transmission device:

- IP address of the transmission device (own IP address).
- Subnet gateway
A gateway is used for connections to nodes in an external network or in a different subnet. The IP address of the gateway has to be communicated to the transmission device so that data can be transferred to nodes in remote networks.
- The subnet mask
The IP address contains the address of the network, in which the network node is located and the local address reserved for the terminal device. The first part of the IP address is the network address and the last part is the user address (host address). Separation of the two address parts is not bound to a fixed location but can in theory be placed at any point in the 32-bit IP address.
The length of the network address results from the address class, which in turn depends on the size of the local network (number of network nodes).
A terminal device has to be able to decide whether a target IP address is in the local network or if the data packets have to be "routed out" of the network through the gateway. The subnet mask is used for this purpose.
A common value for the subnet mask is 255.255.255.0 (class C networks) for example. Other values are possible however. Check with the responsible system administrator.
- Port for TCP/IP connection
The port numbers via which the device is addressed are entered here. The value used should be above 5000 and the highest allowable value is 65535
The respective network administrator usually assigns the port number.
If the used IP network is not a self-contained network and allows connection from another network (e.g. via the Internet), then clarification may have to be carried out as to whether the firewall in the local network allows the selected port number.

As additional requirements for DSL access of the IP- receiving device:

- A flat rate is generally required for the receiving device.
- A static IP address is required for the receiving station.



In any case, the network administrator of the alarm receiver (control center operator) has to be consulted as to which IP address and port number can be used.

3.5.3.3 Establishing a connection via public IP networks

The transmission device also supports DHCP (Dynamic Host Configuration Protocol). DHCP allows dynamic assignment of an IP address using a respective DHCP server and other configuration parameters for computers in a network (such as Internet or LAN).

If the transmission device has to be accessed for remote maintenance or similar purposes, it makes sense to assign a static IP address to the transmission device within the local network. If the alarm receiver and the transmission device are within the local network and both communication partners have static IP addresses assigned, then there are no connection problems (configuration as in 3.6.2).

When connected to public IP networks, assignment of a static IP address is often not possible especially when using the Internet via DSL access as this type of access usually assigns new IP addresses every time you connect to the public network. To establish a connection to a remote site, the IP address has to be known. Therefore the following constellation results as seen from the perspective of the transmission device:

- Dynamic IP address in the public network, static IP address of the alarm receiver (control center operator), thus
 - > The IP address of the transmission device is not known to the alarm receiver.
 - > The alarm receiver (control center) has a static IP address, which is known to the transmission device.

This configuration means that the connection to the alarm receiver (control center) can only be initiated by the transmission device.

3.5.3.4 Connection with dedicated line online connection

Due to the fact that the DS 6700 / DS 6750 devices are used for alarm transmission, a continuous online connection in these devices also has the character of a dedicated line to the reporting office. The transmission devices "actively" attempt to establish a connection with the alarm receiving center (control center). If the connection is successful, then it is constantly maintained. If the connection is interrupted, then reconnection is attempted immediately following detection of the interruption.

This behavior is necessary if the IP address of the transmission device changes (e.g. forced separation after 24 hours with a DSL flat rate). In this case, the IP address of the reporting office is the only constant and therefore only the transmission device is capable of connecting again "actively".

An interruption can be caused by the following for example:

- Network problems such as line break
- Reset of the transmission device or remote station and the associated protocol interruption.
- Forced disconnection of T-DSL (24-hour).

3.5.3.5 Connection set-up with demand-actuated connection

The connection to the alarm receiver (control center) is only established when data is to be transmitted. After a short lag time (20 seconds), the connection will be cut if no more data is to be transmitted.

Failure of the transmission device can be detected by the control center only if the routine call (test message) fails.

3.5.3.6 Identification of the transmission device

Identification at the alarm receiver:

The transmission device is identified using the identification number (ID number). The IP address is not suitable for this, because as explained above, this may change. The remote station (alarm receiver) would have no way to clearly identify the sender in this case.

Identification is generally carried out using the identification number and for this reason the identification number has to be unique in the whole system.

Identification in WINMAG / WINFEM:

The transmission device is identified based on the transmitted password and identification number (ID number). The remote station has to identify or authenticate itself for the transmission device here. This is also carried out by exchanging the password and identification number.

3.5.4 GPRS / UMTS access with RFW-4000 GSM/GPRS/3G

In conjunction with the redundant radio path RFW-4000, the DS 6700 / DS 6750 can dial into the Internet using the GSM services GPRS (General Packet Radio Services) and also UMTS (3G). Thus dedicated line IP connections and demand-actuated IP connections to an alarm receiver can be realized.

These can be encrypted or unencrypted as with wired Ethernet IP connections. The alarm receiver has to be able to be configured to receive alarm messages from IP data networks.

Data volume of GPRS / UMTS transmission of an alarm signal

The following table shows the data volumes of a dedicated line online connection and encrypted connection at different polling times for the alarm receiver. The polling time is defined by the alarm receiver.

Polling time in seconds	Block size Poll and response	Data traffic in kbytes / min.	Data traffic in MB / month
0.5	552	approx. 64.7	approx. 2774.5
2	552	approx. 16.1	approx. 693.6
8	552	approx. 4.1	approx. 173.4

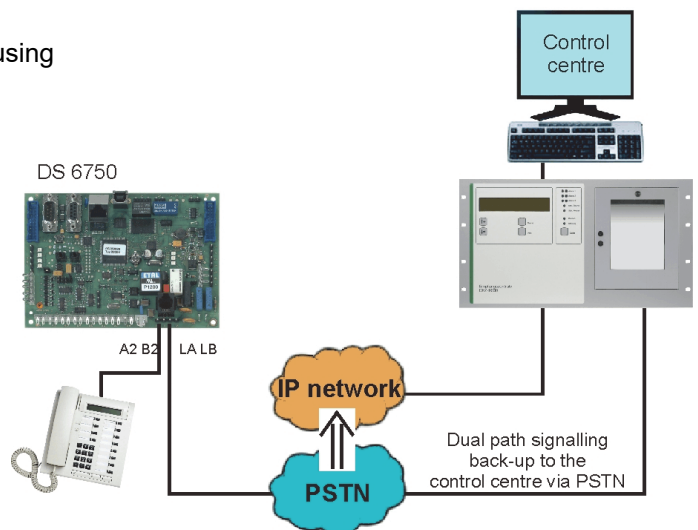


Due to the fact that the costs of a GPRS / UMTS connection are usually invoiced based on the transmitted data volume, a GPRS / UMTS "flat rate" is highly recommended for continuous online connections. No precise statements can be made pertaining to the amount of data of demand-actuated IP connections via GPRS / UMTS, and therefore we recommend a GPRS / UMTS "flat rate" here as well.

3.5.5 Internet dial-up via PPP protocol

The DS 6750 permits demand-actuated connections via Internet dial-up via the analog telephone network using the PPP protocol. The connection is made via direct dial-up to a public IP network (e.g. Internet) through which the IP receiving device is accessible.

This type of Internet dial-up via analog telecommunication network is preferentially used for demand-actuated connections and as a backup solution for existing dedicated line IP connections (via GPRS or permanent connection via public IP networks, see 3.5.3). Furthermore, this routeway is used to send email to service personnel or private individuals.



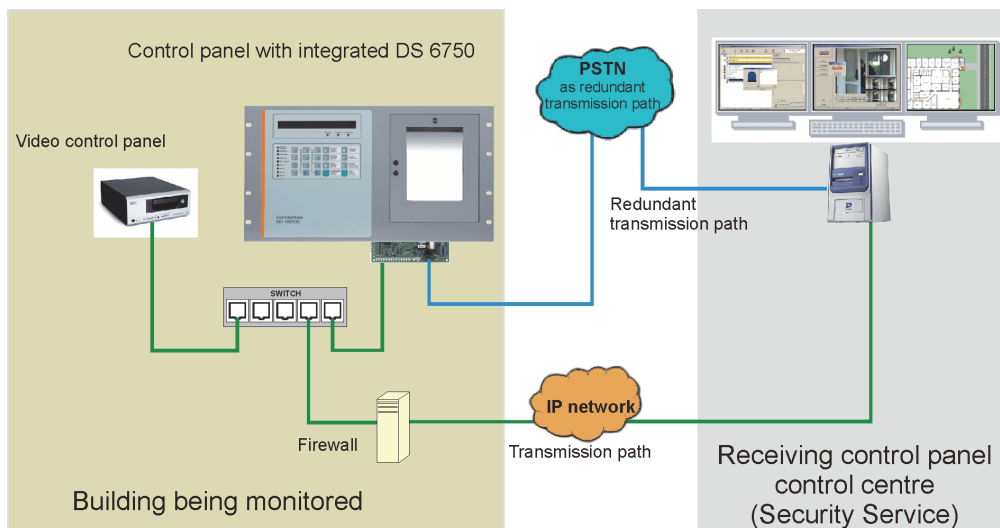
3.5.6 Connection of video surveillance systems

Video panels can be connected to the DS 6700 / DS 6750 via TCP/IP (Ethernet). Communication takes place by means of the VdS 2465-S2 protocol via a dedicated line TCP/IP connection. The video panel behaves like a transmission control device with the transmission devices in accordance with VdS 2471 and 2465-S2. The connection is always established via the transmission device. The basic requirements of the interface are stipulated in guidelines VdS 2465 VdS 2465-S2. It is possible to couple two video panels with the DS 6750 with continuous connections

Changes in state or controls of the intruder alarm control panel are communicated by the DS 6750 to the video panel with the intrusion control panel outputs. The video panel can also communicate changes in state or controls to the intruder alarm control panel using the intrusion control panel inputs and corresponding programmed macros. For more information on programming, refer to the WINFEM Advanced User Manual for DS 6750

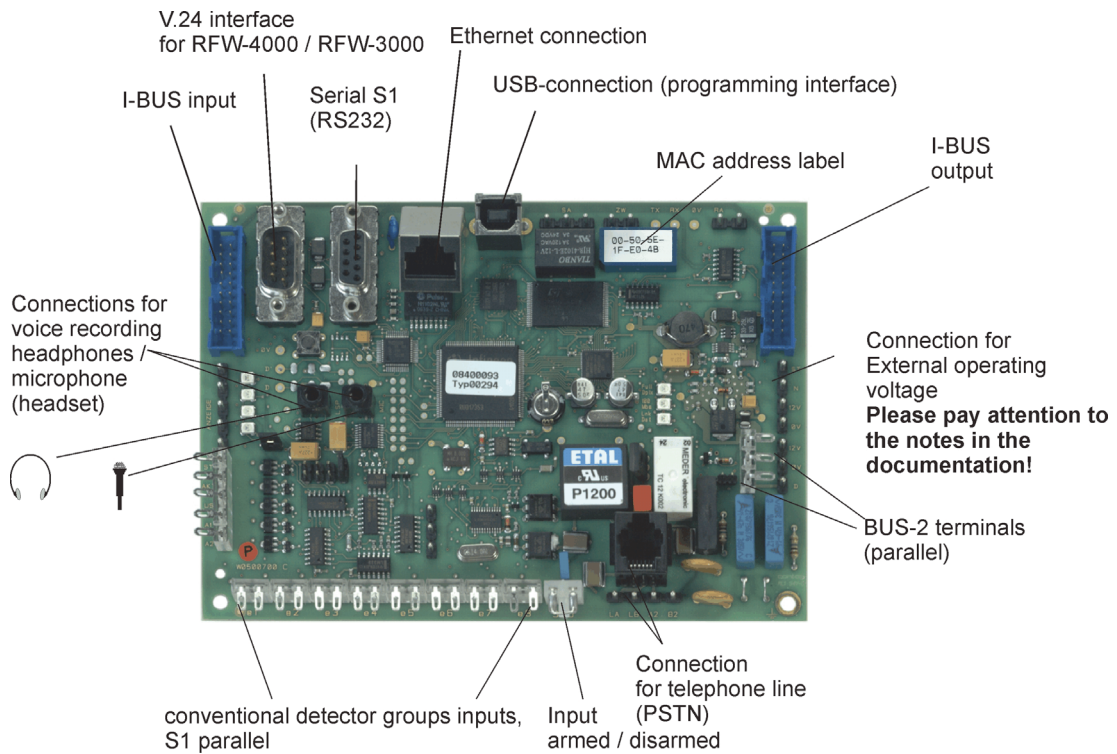
The connection of the intruder alarm control panel and the video panel permits functional integration of both systems and realization of cross-system interactions such as:

- Illustration of the functionality of both systems
- Integration of the system state of the video panel in the forced actuation of the intruder alarm control panel
- Transmission of system faults to the control center / security service
- Control of the video panel by operating conditions of the intruder alarm control panel
- Control the intruder alarm control panel by operating conditions of the video panel
- Overlaying of names in the video image for access control- and switching operations
- Dedicated line TCP/IP -connection with ongoing function monitoring



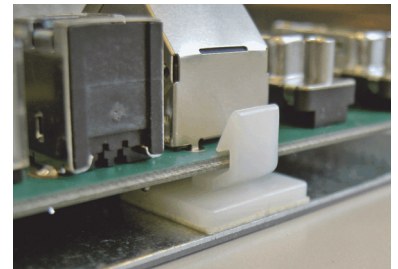
4. DS 6700 / DS 6750 overview

4.1 Computer pcb



4.1.1 Installing the computer pcb

The computer pcb is installed in the housing using plastic-studs (Lemosa PCB holders) in available installation space intended for this purpose. As an additional mechanical support for the computer pcb, a special PCB spacer is included in the device's accessory pouch. This spacer with an adhesive plate is to be attached to the floor of the housing near the Ethernet connection (see picture). This spacer is used for further mechanical fixation near the Ethernet and USB connectors.



4.1.2 Note on recording voice messages

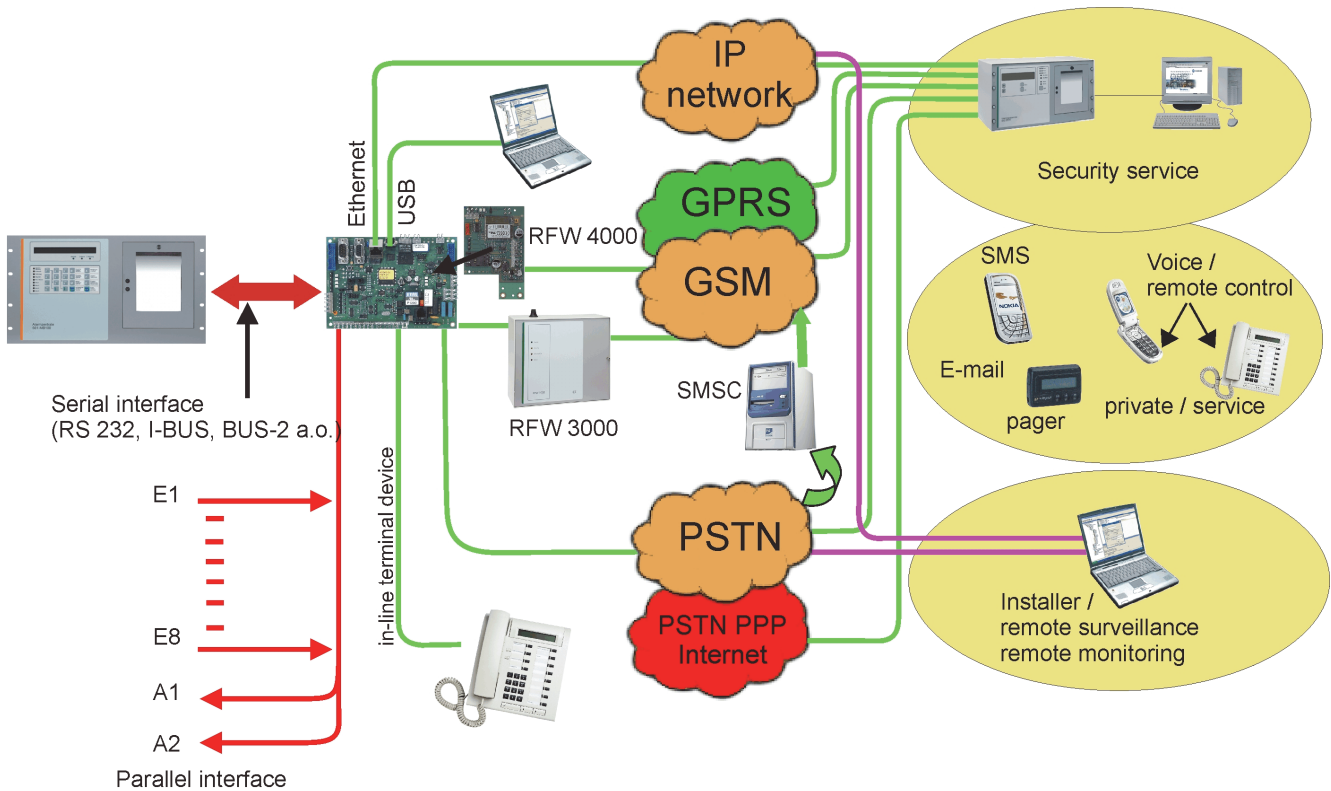
The voice messages to be transmitted can be recorded using the headset and the WINFEM Advanced Programming Software. You will find a description of this in the User Manual for WINFEM Advanced DS 6700 / DS 6750



Listening amplifier function: It is possible to perform acoustic monitoring of the telephone connection. For this purpose, the headphone jack can be used in combination with a headset (just insert headphone plug!) or standard powered speakers for PCs for error diagnosis with analog dial-up connections.

5. DS 6700 / DS 6750 connection options

5.1 Transmission options



The figure shows the connection and transmission options that are possible with DS 6700 and DS 6750 transmission devices. The transmission device serves as a central communication and transmission interface for all connectible devices.

As an integration module in conjunction with all of our control panels, the DS 6700 / DS 6750 serves as a transmission interface between the connected control panel (hazard detection control panel) and the PSTN (public switched telephone network = analog telecommunication network). Programming and storage of key data relevant to the control panel is carried out via the control panel or its operation and configuration elements (e.g. WINFEM Advanced). Message transmission via GSM networks is possible in connection with the RFW-3000 or RFW-4000. The RFW-3000 / RFW-4000 in combination with the DS 6700 / DS 6750 enables establishment of a dedicated line IP connection or demand-actuated connection via GPRS or UMTS(3G).



If the DS 6700 or DS 6750 transmission device is operated as an integration module, it is generally possible to also use the "stand alone" functions (activation inputs E1 ... E8) without restrictions regardless of the implemented control panel (only in conjunction with programming software WINFEM Advanced).

A USB interface is available for programming of the transmission device with a PC (directly on site). Remote parameterization and remote maintenance via PSTN and IP networks are provided to meet the growing demands for remote parameterization and remote maintenance.

The DS 6750 transmission device also permits direct Internet dial-up using the PPP PSTN protocol for demand-actuated IP connections. Transfer to email recipients using the PSTN PPP protocol is also possible.

5.2 Integrated interfaces

The transmission devices have the following integrated interfaces for connection to the various control panel systems:

1. 8 conventionally controllable, monitored detector group inputs (E1 - E8) (parallel interface S1).
2 semiconductor outputs (A1 and A2). - These inputs are always available regardless of the chosen bus integration in a control panel.
2. BUS-2 connection (only compatibility mode possible, see Section 5.3)
3. BUS-2 master functionality
As a "stand alone" device, the BUS-2 interface can be operated in master mode. Conventional BUS-2 nodes can be connected to the transmission device here (see Section 5.8).
4. I-BUS connection (only compatibility mode possible, see Section 5.3)
Interface for integration with intruder alarm control panels (e.g. 561-MB256).
5. IACP RS-232.
Interface for integration with intruder alarm control panels (e.g. MB-Secure, 561-MB24, 561-MB48, 561-MB100).
6. S1 interface, VdS interface with VdS protocol 2465 (serial interface S1).
Connection of control panels which provide an RS-232 interface with VdS protocol 2465 A GPS mouse (see Section 5.6) can also be connected to this interface.
7. V.24 interface for RFW-3000 / RFW-4000
This interface is used in conjunction with the redundant radio path RFW-3000 / RFW-4000 for message transmission via GSM cellular networks.
8. Ethernet port
The Ethernet port allows for integration of the transmission device in IP networks. Through this interface, video panel coupling (only DS 6750) is implemented via Ethernet.



The factory setting is IACP RS-232. To select a different interface and activate it, it is to be programmed on commissioning using the PC program WINFEM Advanced.

9. USB port
This port is used as a programming interface in conjunction with WINFEM Advanced (see Kap.5.4).

5.3 Integration in Novar intruder alarm panels in compatibility mode

5.3.1 Compatibility mode for the DGA 2400 transmission device

Compatibility mode means that the DS 6700 / DS 6750 transmission devices are handled and programmed in conjunction with the corresponding control panel like the DGA 2400 transmission device. Connection is made via BUS-2 or I-BUS and only the relevant 2400 DGA performance features can be programmed.



The following DGA 2400 performance features are not supported in compatibility mode:

- no IGIS frame bus connection possible,
- no programming possible using a portable programmer,
- no trunk line request with "Flash" criterion of trunk line possible,
- no connection to European radio paging service possible
- no AWUG remote interrogation possible -> remote maintenance and WINMAG connection is supported.



The type of connection has to be reprogrammed as part of "stand alone" programming using the programming software WINFEM Advanced. For more information, see BUS type in the the System parameters section of the WINFEM Advanced User Manual.

Control panel type	Can be integrated starting with software version	BUS system		
		Fire I/O-BUS	BUS 2	I-BUS
561-MB8	V01.xx		X	
561-MB16	V01.xx		X	
561-HB48	V07.xx		X	
561-MB100	V01.xx		X	
561-HB24	V01.xx		X	
561-MB24	V02.xx		X	
561-HB48 (Index .10)	V02.xx		X	
561-MB100 (Index .10)	V02.xx		X	
561-MB256	V01.xx			X
BMC 1024-F	V07.xx	X		

Another combination is not possible!



When using the 561-MB256 control panel, multiple instances of the DS 6700 / DS 6750 can only be used in compatibility mode.

For all other control panels in the table, up to two transmission devices (primary and secondary transmission devices) can be used with BUS-2 integration!

In compatibility mode, no IP and voice functions are directly programmable via the control panel's programming unit! The input criteria in this case are to be connected via the conventional detector group inputs (E1 - E8) and the transmission device is to be programmed with "WINFEM Advanced".

5.3.2 Extended compatibility mode (DS 6750)

When using this option, MB control panels connected via BUS 2 and I-BUS can transmit alarms via IP connections. Email and dialler and transmission device functionalities can also be used.

Due to the fact that these transmission paths with BUS-2 and I-BUS connectivity as found in older hazard alarm systems, are not configurable in the respective hazard alarm system, this is achieved using a conversion table in the DS 6750 transmission device. Both devices must be configured separately even with different versions of WINFEM in some cases (e.g. for older MB control panel types). For more information on programming and the conversion table, refer to the WINFEM Advanced User Manual for DS 6750.

5.3.3 Installation of the circuit board (pcb)

The transmission device is mounted in available installation space in the control panel housing of the intruder alarm control panel (see installation instructions for the intruder alarm control panel). 3 plastic studs (Lemosa) and the existing metal studs on the housing base serve as mechanical supports for the transmission device. The circuit board is screwed to the fixing hole, comprising the contact area with the metal studs. This also establishes the ground connection to the housing. The connection to the reference potential of the system operating voltage is established via the ground connection of the control panel housing.



If mounted according to VdS, then it should not be possible to alter the connections between the transmission device and the control panel, i.e. if the transmission device is mounted in an additional housing, then it has to be mounted directly on the control panel (see Section 5.5).



When using the redundant radio path RFW-3000, then it is to be mounted directly adjacent to the control panel (pay attention to the minimum distance). The connection lines are generally only to be installed in the secure area. For more information, refer to the Installation Instructions of the RFW-3000.

5.3.4 Connection instructions

When connected to the I-BUS system, the connection is made via the I-BUS input and the I-BUS output using a 20-pin flat-band cable. It is possible to loop the transmission device into the bus or install it as a node (see also note in Section 6.1). With BUS-2 connection is made via the 3-pin BUS-2 solder strips. The two terminals are connected in parallel, so that here too it is possible to loop the transmission device into the bus or to install as the end node.

The connection to the analog telecommunication network is made in accordance with the connection diagram in Section 12.



For more information on installation guidelines for wiring, refer to the installation instructions for the control panel in the "Installation - Lines" section. Follow the instructions for jumper 1 in Section 6.1.

5.3.5 Power supply

When integrated in a BUS system, the operating voltage is supplied via the used bus (I-BUS or BUS-2). The bridge DB3 remains closed. With I-BUS integration, voltage +12 V DC and 0 V can be supplied externally via the operating voltage terminal (only wire 12 V and 0 V connections) and bridge DB3 is to be opened in this case. Pay attention to the installation notes in the installation instructions for the respective control panel!



When using the transmission device in control panel 561-MB256 via the I-BUS, the supply voltage must be externally supplied and bridge DB3 is to be opened!

5.3.6 Integration with BMC 1024-F via fire I/O BUS

For integration in the fire detection computer 1024-F this connection is used. Use the I-BUS adapter board (item no. 070780.02) to integrate the DS 6700 / DS 6750 (in compatibility mode!) directly as I-BUS member to FDC 1024-F. For wiring and electrical connection of the transmission device to BMC 1024-F, see the FDC 1024-F installation instructions.

5.4 Integration in Novar intruder alarm panels in IACP RS-232 mode

This mode allows the connection of control panels with an RS-232 interface. The connection between the control panel and the transmission device is made using the 9-pin connection cable accompanying the transmission device.

Control panel type	Connection		
	integrated from software version	DS 6700 / 6750 software version	IACP RS-232
561-MB12	V15	V03	X
561-MB24	V13	V03	X
561-MB48	V13	V03	X
561-MB100 with item no. index .10	V13	V03	X
MB-Secure	V03	V06	X

With this control panel / software combination, all programmable functions can be programmed directly using "WINFEM Advanced" respectively "IQ PanelControl (with MB-Secure) !



For control panel / software combinations other than those listed in the table above, the transmission devices DS 6700 / DS 6750 can be used only in compatibility mode. Only one transmission device can be used with the control panels listed in the table!

5.4.1 Installation of the circuit board (pcb)

The transmission device is mounted in available installation space in the control panel housing of the intruder alarm control panel (see installation instructions for the intruder alarm control panel). 3 plastic studs (Lemosa) and the existing metal studs on the housing base serve as mechanical supports for the transmission device. The circuit board is is screwed to the fixing hole, comprising the contact area with the metal studs. This also establishes the ground connection to the housing. The connection to the reference potential of the system operating voltage is established via the ground connection of the control panel housing.



If mounted according to VdS, then it should not be possible to alter the connections between the transmission device and the control panel, i.e. if the transmission device is mounted in an additional housing, then it has to be mounted directly on the control panel (see Section 5.5).



When using the redundant radio path RFW-3000, then it is to be mounted directly adjacent to the control panel (pay attention to the minimum distance). The connection lines are generally only to be installed in the secure area. For more information, refer to the Installation Instructions of the RFW-3000.

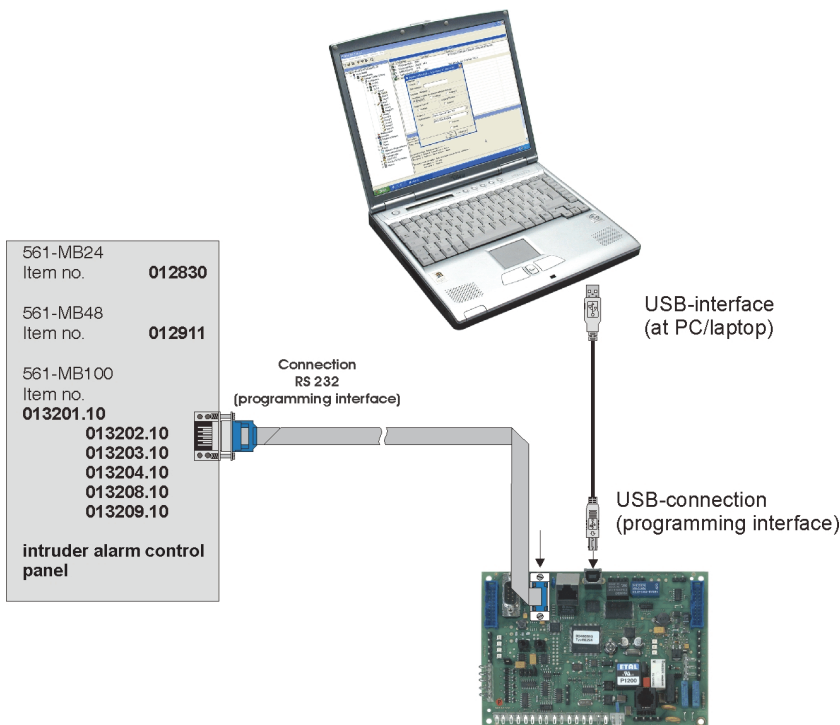
5.4.2 Connection instructions

In conjunction with the IACP RS-232 mode, the connection between the control panel and the transmission device is **only** made using the 9-pin connection cable accompanying the transmission device (see image below).



If possible, screw the connector plug to the connector socket using the provided plug screws.

The connection to the analog telecommunication network is made in accordance with the connection diagram in Section 12.



All parameters of the intruder alarm control panel and the parameters of the transmission device are programmed using the "Advanced WINFEM" software respectively "IQ PanelControl" with MB-Secure.

The programming tool ("WINFEM Advanced") for the entire hazard alarm system (intruder alarm control panel and transmission device) is connected to the transmission device's USB port.

The programming tool "IQ PanelControl" in conjunction with the panel MB-Secure is connected to the USB port of the panel MB-Secure.

5.4.3 Power supply

For integration in conjunction with IACP RS-232 mode, the operating voltage for the transmission device is supplied via the power supply unit (+12 V DC and 0 V) connection (e.g. from the power supply unit of the connected hazard alarm system). The bridge DB3 remains closed. Pay attention to the installation notes in the installation instructions for the respective control panel!

5.4.4 Standard time, daylight savings time and time synchronization in IACP RS-232 mode

If automatic switching between standard and daylight savings time is activated in the transmission device, then no time change will be accepted by the serially connected intruder alarm control panel between 2:00 and 4:00 a.m on the standard and daylight savings time changeover days.

If NTP time synchronization is activated (only DS 6750), no time settings of a connected intruder alarm control panel will be adopted. However, the time in the transmission device can be changed at any time using WINFEM Advanced.

Any time change in the transmission device is communicated to the serially connected intruder alarm control panel. The time can change in the transmission device due to the following events:

- Date/time setting with WINFEM Advanced.
- Automatic switching between standard and daylight savings time
- Activated NTP time synchronization (only DS 6750).
- Setting of the time on the operating module keypad of the serially connected IACP.

5.5 Use of additional external housing

If the transmission device is not integrated in the control panel housing, then the transmission device can also be mounted in an additional housing. In this case, the additional housing has to be mounted directly (without spaces) on the intruder alarm control panel. It should not be possible to tamper with the connecting lines without mechanically damaging the housing.

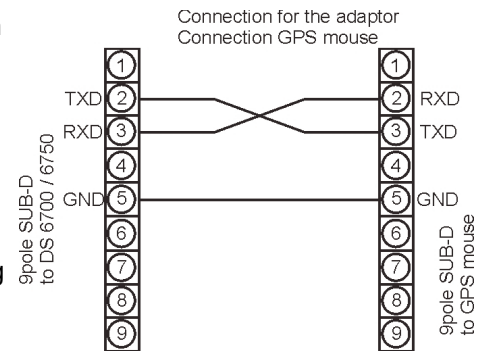
5.6 Connecting a GPS mouse

A GPS mouse can be connected to the serial port S1 of the transmission device. Preferably, a GPS-mouse is connected for "stand alone" usage of the transmission device.



When connecting, cable allocation is to be performed as shown here.

An appropriate adapter must be created using a self-made COM housing and two 9-pin SUB-D connectors. Alternatively, the connector on the GPS mouse can be replaced with a connector plug. The connections in this case are to be soldered directly.



Requirements for the GPS mouse:

Design:	Serial 9-pin Sub-D
Pin assignment:	acc. V.24
Used interface lines:	TXD, RXD, GND
Physical properties:	acc. V.28
Protocol:	NMEA-0183 standard (National Marine Electronics Association)

GGA strings are evaluated and transmitted. (GP GGA strings contain all the necessary information on position and accuracy).

5.7 Fire alarm system connection pcb (ATS adapter for fire panels)

The Fire alarm system connection pcb (ATS adapter for fire panels) serves to extend the transmission devices DS 6700 and DS 6750 for use in fire alarm systems in accordance with EN 54-21. The fire alarm system connection pcb is a fire alarm interface according to DIN 14675, Annex B, and VdS 2463 and allows for the transmission of fire and trouble alarms from fire alarm systems.



For more information on installation and connection, see the installation instructions for the fire alarm system connection pcb for transmission devices.

5.8 BUS-2 master function

When using the transmission device as a stand-alone device, the bus 2 interface located on the device can be operated in master mode. The interface functions are similar to the BUS-2 interface of an intruder alarm control panel in this case. This makes it possible to connect additional BUS-2 nodes to the transmission device.



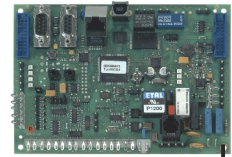
If the transmission device is operated in BUS-2 master mode, then it is not possible to use other bus interfaces (I-BUS, IPC RS-232) as well as the connection of a GPS-mouse or serial S1.



The following bus nodes are currently supported by the transmission on devices:

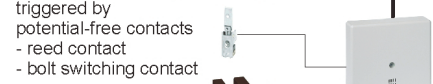
BUS 2 node	Item no.	Max.
5 input module	013130.10	16 units total
5 output module	013131.10	

Thus the number of activation criteria of the transmission device can be increased from 8 inputs to up to 88 inputs. Mixed operation is also possible. For example, up to 40 additional inputs (8 x 5 input modules) and 40 additional outputs (8 x 5 output modules) can be implemented. A different number of modules (e.g. 9 input modules and 7 output modules) is also possible.



Transmission unit DS 6700 / 6750

Example: Monitoring of opening triggered by potential-free contacts

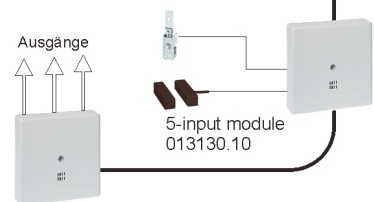


5-input module 013130.10

outputs

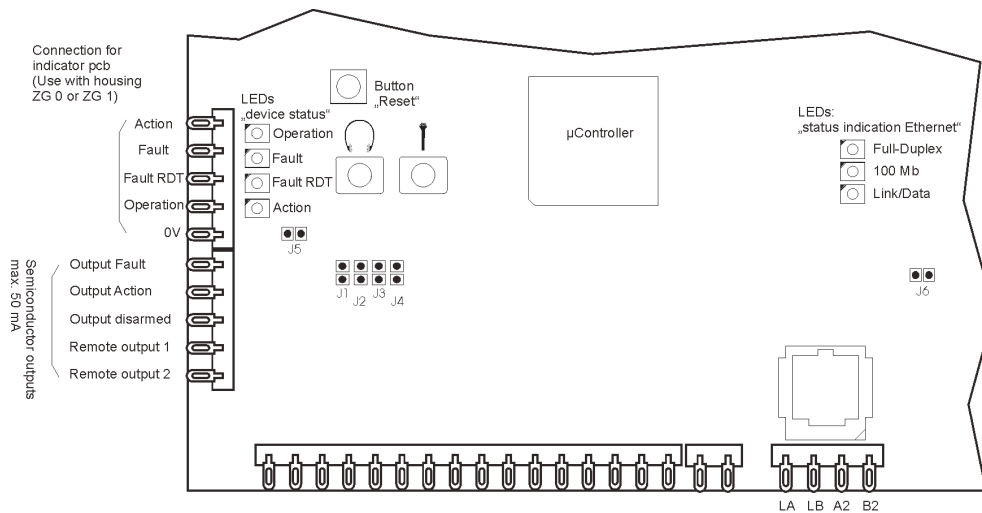
5-output module 013131.10

Example: Fill level indicator/temperature control, triggered by potential-free contacts



5-output module 013131.10

6. Description of the jumpers and LEDs



6.1 Jumper J1

Jumper plugged

The transmission device takes on the I-BUS address of the control panel in each case during the initialization phase (learning).

Jumper removed

After assigning the I-BUS address, this set in memory and saved even after resetting. By default, the transmission device is configured in IPC RS-232 mode. If the I-BUS learning mode

is not completed correctly or the jumper J1 is removed prematurely, then the interface is switched to BUS-2 Adr.63.

6.2 Jumper J2

Jumper plugged

Only the boot loader is started after resetting. A new firmware is waited for in the boot loader, which can be loaded in the transmission device using the programming tool FFAST (a component of WINFEM Advanced).

With this type of firmware update, possibly faulty firmware to be transferred again.



The firmware should be installed only by authorized technical staff. For more information, refer to the WINFEM Advanced User Manual for DS 6750

Jumper removed (default operating state)

The firmware is started after resetting.

6.3 Jumper J5

Jumper plugged

The LEDs for the device status (computer pcb) are actuated.

Jumper removed

The LEDs for the device status (computer pcb) are not actuated (energy-saving mode). The jumper has no effect on actuation of the LEDs of the indicator pcb.

6.4 Jumper J6

Jumper plugged

This jumper always has to be plugged for BUS-2 master mode (see User Manual for WINFEM Advanced for DS 6700 / DS 6750).

Jumper removed (default condition on delivery)

If the transmission device is operated in a mode other than master mode, the jumper must be removed.

6.5 Device status LEDs

The LEDs for the device status (computer pcb) are actuated in the same way as the outputs for the computer pcb (semiconductor outputs), see Section 8.1.

6.6 Ethernet status LEDs

Full-duplex

LED lights up in the presence of a full-duplex Ethernet connection.

100 mb

If the Ethernet access is a 100 megabit port, the LED is lit up constantly. In the case of a 10 megabit interface, the LED does not light up.

Link/data

Layer 1 Ethernet signals a connection to the Ethernet. When receiving and sending data packets over the Ethernet port, the LED flashes.

7. Programming

The DS 6700 / DS 6750 is programmed using the PC program "WINFEM Advanced" with a PC/laptop. In addition to programming features, the programming software offers convenient options for printing out the event memory, storing the programming data and remote configuration of the transmission device.

When using the DS 6700 / DS 6750 as an integration module in the bus system of a hazard alarm system, programming is carried out via the programming units of the connected intruder alarm control panel (e.g. PC program "WINFEM Advanced"). For more information, see the installation instructions of the intruder alarm control panel.



In order to prevent unintentional function sequences during programming, it is advisable to previously deactivate the transmission device (see connection diagram Section 12.1). After completing programming, it should be ensured that all input channels are in the projected state because otherwise transmission will be carried out when switching on the transmission device.

7.1 Initial operational setup

Initial operational setup is carried out with programming and transmission of system parameters using the "WINFEM Advanced" software package.

The factory settings permit remote parameterization via the telecommunication telephone network without approval by the operator (only for initial operational setup).

7.2 Approval of remote parameterization

In contrast to transmission of the system parameters directly from the transmission device to the PC, the system parameters can be transferred from a PC/laptop via the analog telecommunication network to the transmission device only with prior approval.

7.2.1 Programming of release for remote access

It is possible to release for remote access occasionally if desired by the operator. This can be programmed in the hazard alarm system using "WINFEM Advanced". If this function is programmed and activated, then the operator can allow release of remote parameterization for example.



Temporary release is limited to a period of about 60 minutes.

Important! The caller's number is compared with the 8 call numbers for the modem functions. If the call number matches, the corresponding ID number and password are used for identification. If no call number is displayed on the landline connection of the DS 6700 / DS6750 (e.g. clip function not active), the caller will be identified based on the password. After 3 incorrect calls (ID number - password error), the transmission device will not accept calls for 30 minutes!

7.2.2 Release with key switch / push button release

It is possible to release for remote access occasionally if desired by the operator. This can be programmed for DS 6700 / DS 6750 using WINFEM Advanced. If this function is programmed, time limited release for the remote parameterization can be performed by activating detector group 8 (e8). A key switch or button is connected or an output signal can be connected from an HAS to the detector group input (e8) of the transmission device for this purpose. The connections of the detector group input (e8) are to be joined together for about 0.5 seconds. The display LEDs "Operation", "Error", "RDT error" and "activity" light up if approval is received.

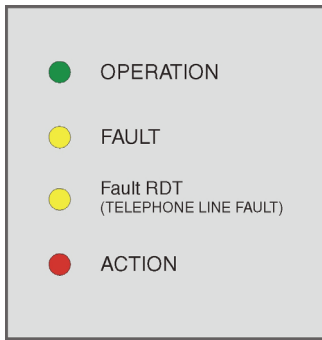


Occasional release is limited to a period of about 60 minutes.

No number check is carried out and every call is answered.

Important! The password used by the calling WINFEM Advanced and the identification number must however match the password and identification number, which was assigned to number 1 in the "modem functions number".

8. Indication elements



The indication elements (LEDs) show the current state of the transmission device.

The "device status" LEDs directly on the computer pcb show the device status in parallel with any existing display elements of an additional housing or a remote display unit.

The table shows the possible operating states. In the transmission device's projected state, only the operation LED lights up.

LED indicators	Abbreviation
Operation LED (green)	--> B
Error LED (yellow)	--> ST
RDT error LED (yellow)	--> ST-DFÜ
Activity LED (red)	--> A
Parallel output deactivated (see connection diagram)	--> U

8.1 Operating state indicator table:

e/on a/off b/blinking bb/flashing in 2 sec. rhythm

A	ST	ST-DFÜ	B	U	
		e			Transmission path error (telephone line, Ethernet, GSM)
	e				Parameter error
	e				Internal module error
	e				Power failure
	b				Serial interface error (BUS failure)
	b				Battery failure
	b		a		Undervoltage
			e	a	Transmission device is switched on (armed) projected state
			b	e	Transmission device switched off (disarmed)
bb					At least one dedicated line connection established and working properly
e					Connection set-up, DSQ started
b					Dialing sequence not successfully processed, no node reached.
b	b	b	b		Remote parameterization activated (see section 7.2)



Detailed error analysis can be performed using the debug mode integrated in "WINFEM Advanced" (see "WINFEM Advanced" User Manual).

8.2 Indicator table display during restart procedure:

When restarting the transmission device, the bootloader program, the firmware and the device ID are checked in succession. In the case of program errors or incorrect equipment identification, corresponding notification is issued via the indicator LEDs and the device status LEDs.

Bootloader OK Firmware OK Device ID OK	1st red activity LED blinks for approx. 2 sec. (bootloader and firmware is copied to RAM). Successful installation of firmware, the device is in normal operating state after resetting.
Bootloader OK Firmware Defective Device ID OK	1st red activity LED blinks for approx. 2 sec. (bootloader and firmware is copied to RAM) 2nd green operation LED lights continuously (device ID is OK) 3rd yellow error LED flashes several times per second. (jumper 2 plugged, there is no firmware, bootloader waits for data via USB from WINFEM) If this error occurs, the normal operating state can be achieved again by installing the firmware. Please refer to the instructions for firmware update in the WINFEM Advanced user manual for DS 6700 / DS 6750.
Bootloader OK Firmware Defective Device ID Defective	1st red activity LED blinks for approx. 2 sec. (bootloader and firmware is copied to RAM) 2nd Running light of the indicator LEDs
Bootloader OK Firmware OK Device ID Defective	The device must be transferred to the factory for renewed parameterization and inspection in the factory.

9. Installation

9.1 Mounting

The transmission devices can be integrated in ZG 0 and ZG 1 metal housings for use as stand-alone devices. There is a hole for cable entry and mounting strain relief in the floor of the housing. The computer pcb is connected to the indicator board on the control panel cover using a flat-band cable. The housing cover is hinged secured with a seal screw. For easier installation, it is possible to remove the housing cover from the housing.

The assembly site of the transmission device should meet the following conditions:

- within the secured area.
- in the interior of a building.
- easily accessible.
- no abnormal environmental conditions such as aggressive vapors, increased humidity, etc..
- at eye level.
- not visible from the outside.
- sufficient strength against break-off attempts.
- sufficient lateral distance to adjacent devices.
- an interior wall of the protection area; if mounting is only possible on an outside wall, break-through monitoring may be required.

The soldering and wiring work is carried out with the power off. Following installation, the control panel cover is to be closed and after commissioning the screw is to be sealed.



The data lines used for message transmission of the respective network are to be routed directly to the protection area underground and covered. The terminal network device (e.g. DSL router) must be located within the coverage area of an intrusion detector.

9.2 Power supply

The power supply of the transmission device has to be connected to the mains with a separate fuse (meter box, sub-distribution). No foreign consumers can be connected to this electric circuit.

If the electrical installation is equipped with a residual current device (RCD), the transmission device has to be connected to its own residual current device. The fuse and RCD should be located inside the security area if possible.

It must be ruled out that the circuit to the signal system can be cut off by switching off other devices.

Furthermore, the German electrical standards and local electricity supplier regulations are to be observed.

If an additional power supply is required, it has to be mounted in the immediate vicinity without spaces in between so that an attack on the connecting lines is impossible without causing mechanical damage to the housing. Preferably, the transmission device and additional power supply are to be screwed together.

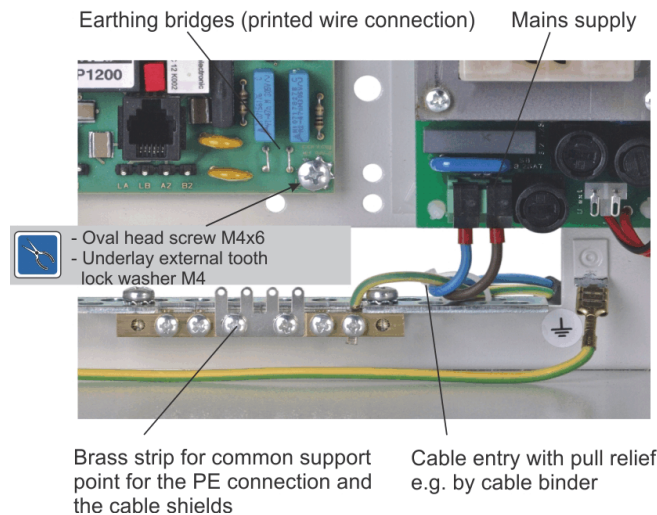
9.3 Maintenance

Each supplementary alarm system must be serviced in accordance with applicable regulations. This is at least required on an annual basis .

We recommend maintenance according to VDE 0833 as this is the only way to ensure the system's operational readiness.

9.4 Grounding/shielding

In order to protect against electromagnetic interference as can occur, for example, when switching electrical appliances on and off, shielded cables are installed and appropriate shielding circuitry has to be used. It should be noted that the cable shields are to be connected through the junction sockets so that they have no connection with other potentials. In the control panel or main distributor, all shielding is to be connected at a single point to (soldered shield terminal bar). **Cable shields should not be routed inside the housing! Use the shield terminal bar at the cable insertion opening to connect the shielding.** Mount the circuit board (pcb) on the mounting hole which has the contact area with the metal bolt (underlay external tooth lock washer). Thus, a conductive connection i.e. the non-fused earth conductor connection will be made to the housing.



The following options are available for additional shield circuitry:

9.4.1 Connect the shield terminal bar with the non-fused earth conductor and leave the earthing bridges closed

The brass bar (shield terminal bar) at the cable entry point is used as a base for connecting the non-fused earth conductor and the cable shields.

The earthing bridges (conductor connection on the board) establishes capacitive coupling between the non-fused earth conductor and the reference potential of the system operating voltage. This connection generally provides the best protection against mains-borne disturbances and faults resulting from cable shielding conduction. It may only be made performed if PE and N are routed separately (modern protective multiple earthing). Here it must be ensured that the non-fused earth conductor does not conduct low- frequency or high-frequency signals.

9.4.2 Connecting the shield terminal bar with the non-fused earth conductor and disconnecting the earthing bridges

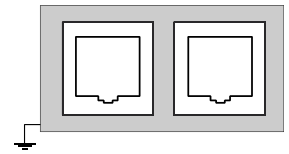
The brass bar (shield terminal bar) at the cable entry point is used as a base for connecting the non-fused earth conductor and the cable shields.

Capacitive coupling to the reference potential of the system operating voltage is cut off due to the disconnected earthing bridges. This connection may be required if the non-fused earth conductor is itself exposed to interference and there is reason for concern that the interference may be transferred to the system in the case of capacitive coupling.

Please note: VDE 0800 Part 2, July 1980 Issue
VDE 0800 Part 2AI, November 1982 Draft

9.4.3 Note on grounding/shielding Ethernet terminal boxes

The metal cover of the Ethernet terminal box is to be connected to the non-fused earth conductor or the operational earth. A **shielded data line** is to be used as the connecting cable to the Ethernet terminal boxes. During installation, the shielding of the data cable should be routed through the junction socket so that it has no connection with other potentials. In the main distributor (patch panel / patch distributor), all shielding is to be connected to a single point in as short a distance as possible. The length of the patch cable between the Ethernet terminal box and the transmission device must not exceed 3 m.



10. Specifications

Rated operating voltage	+12 V DC
Operating voltage range	10.5 V DC to 15 V DC
Current consumption:	
Current consumption when idle	135 mA / 150 mA (without Ethernet / with Ethernet)
Active current consumption	type 155 mA / type 170 mA (PSTN / PSTN+Ethernet)
Relay contact specifications	12 V DC / 100 mA
Parallel indicators	+12 V DC / Ri = 150 Ohm
Inputs	max. 15 V DC
Environmental class according to VdS	II
Operating temperature range	-10 °C to +50 °C
Storage temperature range	-25 °C to +70 °C
Circuit board dimensions (W x H in mm)	158 x 112
ZG 0 housing dimensions (W x H x D in mm)	230 x 150 x 90
ZG 1 housing dimensions (W x H x D in mm)	200 x 186 x 125
Housing color	gray-white (similar to RAL 9002)

Approvals

- VdS approval no.	G111803
- EN Conformity	according to EN 50136 SP 2 to 6 and DP 2 to 4



When using one of the optional GSM transmission modules RFW4000 ... 057590.10 or RFW 3000 057575.10 the RED Directive 2014/53 / EU must be applied, please refer to the respective valid Installation Instructions for the used transmission module apply for the DoC.

Novar GmbH, Johannes Mauthe Strasse 14, 72458 Albstadt hereby declares that the construction product DS6700 / DS6750 complies with Directive 305/2011/EU (Construction Products Directive). The full text of the DoP (declaration of performance) is available at the following Internet address:
<https://www.security.honeywell.de/> .

Registration No. Notified Certification Body	CE 0786	CE 0786
Manufacturer	Novar GmbH, Johannes-Mauthe-Straße 14, DE 72458 Albstadt (Germany)	
Year of marking	12	12
Declaration of Performance No.	0786-CPD-21106	0786-CPD-21106
Approved standard	EN 54-21:2006	EN 54-21:2006
Device type	DS 6700	DS 6750
Intended use	<ul style="list-style-type: none"> - Alarm transmission and fault warning routing equipment for use in fire detection and fire alarm systems, to be connected to telephone network with analogue connectivity. - networks using protocol type IP (TC-protocol) - D1 / D2-data radio network 	

Labeling of the device according to EN50136:

Manufacturer	Novar GmbH, Johannes-Mauthe-Straße 14, DE 72458 Albstadt	
Device type	DS 6700	DS 6750
Approved standard	EN50136-1 / EN50136-2	
Environmental class according to VdS	Class II	
ATS Categories	SP 2-6 DP 2-4	
Anforderung Energieversorgung der SPT	Operating voltage range 10,5V DC to 15V DC Current consumption max. 170 mA	
Support of AS interfaces	Protocol, parallel (low-level, high-level, end-of-line resistor) and serial interface (VdS 2465)	
Operating behavior at ATP breakdown	Line monitoring, message via dual path signalling back-up	
Mode of operation	pass-through	

11. Power supply

11.1 Power supply / charger unit 057530.10

The power supply / charger unit can be integrated as an additional option in the ZG 1 additional housing. It includes the power supply for the transmission device and external consumers as well as the battery charger for 1 accumulator of up to 7.2 Ah. The output for device supply and the output for external consumers can accommodate up to 500 mA together. The accumulator charge current is limited to 0.13 A. The accumulator charge voltage is factory set to 13.8 V. To measure the accumulator charging voltage, a resistance of 4.7 ohm parallel is to be soldered in accordance with the drawing below. The accumulator and the four-pin connector to the DS 6700 / DS 6750 has to be removed for this.

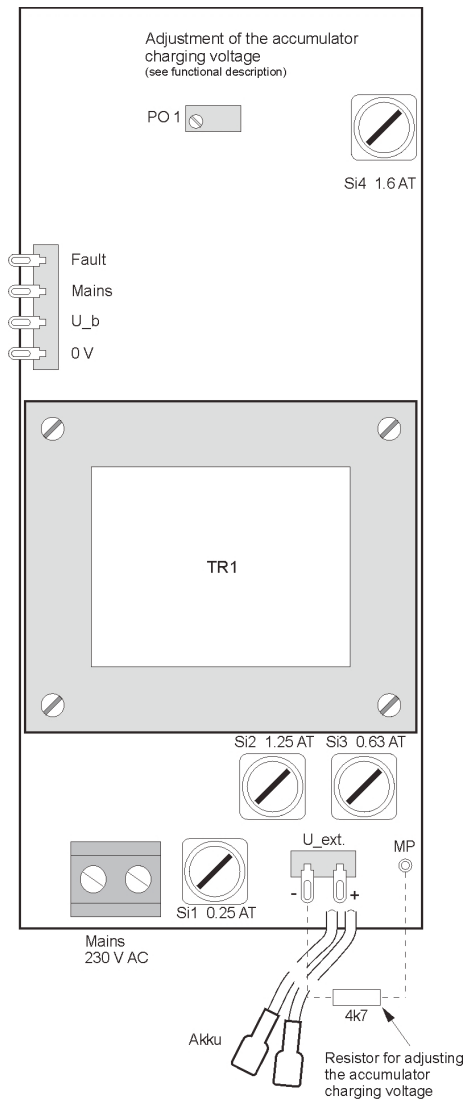
The supply voltage for the transmission device and additional external consumer does not have to be compared. If the power supply / charger unit is operated without an accumulator for testing purposes, then an electrolytic capacitor > 100 uF has to be attached in place of an accumulator.

Fuses:

Si1	0.25 AT	mains fuse
Si2	1.25 AT	accumulator fuse
Si3	0.63 AT	Ext. consumer 12 V DC
Si4	1.6 AT	secondary fuse, transformer

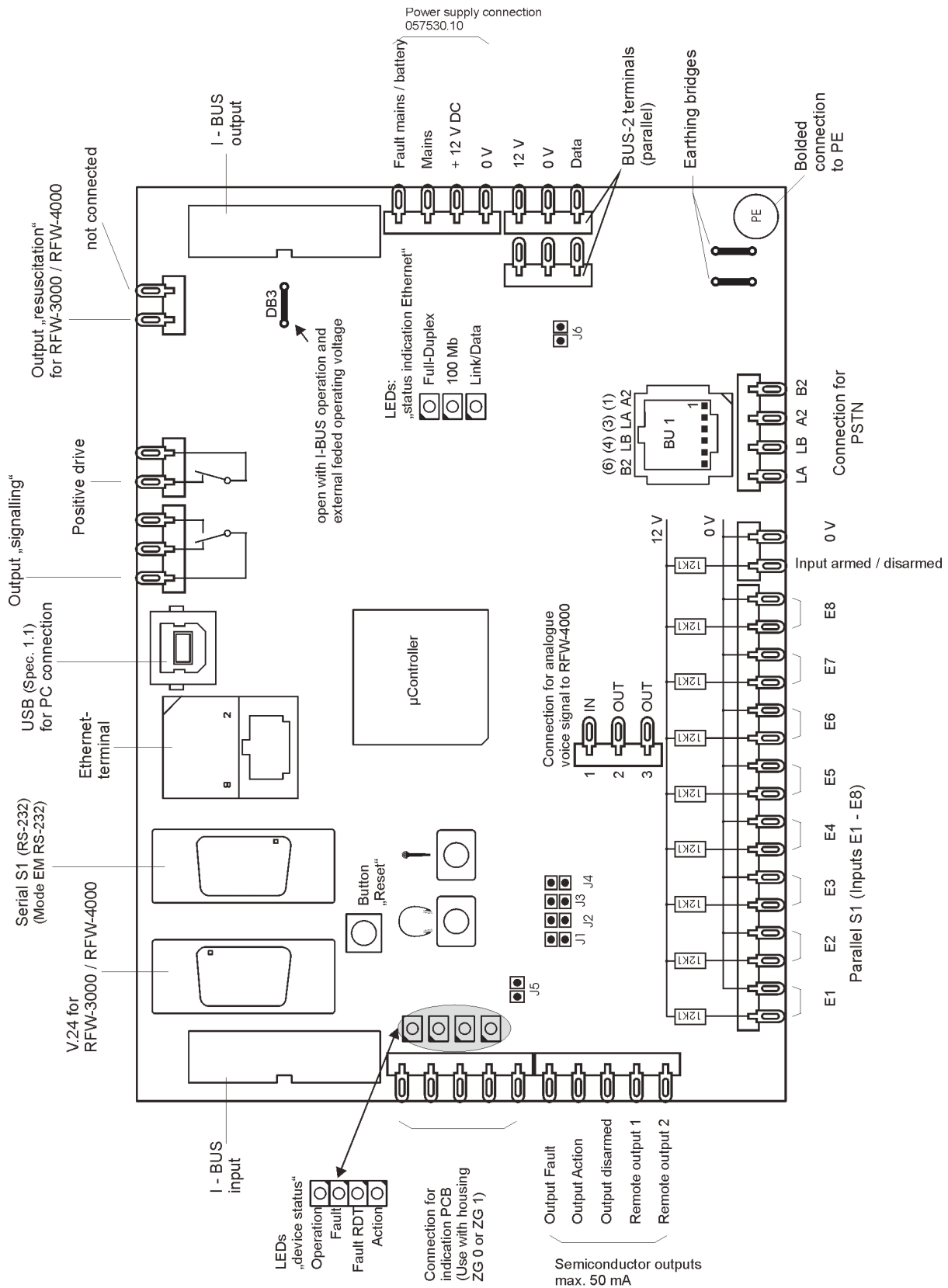


Note:
 When using a power supply unit other than item no. 057530.10, ensure correct power supply unit connection!
 The power supply unit 057530.10 can only be used for VdS class A systems.
 For class B or C systems, the transmission device has to be supplied with power from the intruder alarm control panel with the appropriate power supply unit.



12. DS 6700 / DS 6750 connection diagram

12.1 Overview



12.2 Description of the connection points

Connector pin	Function
E1 - E8	Input channels 1 - 8 (see 12.4 for actuation examples and notes)
Input armed/disarmed	Status input armed/disarmed The transmission device has to be armed for messages to be transmitted. The transmission device is to be disarmed if no messages are to be transmitted, e.g. for revision/maintenance.
Telephone line connection	
1	LA - Incoming telephone line
2	LB - Incoming telephone line
3	A2 - Outgoing telephone line
4	B2 - Outgoing telephone line
BU 1	Western socket - connection for telephone line, parallel to 1 - 4
BUS-2 connection	2 parallel connected BUS-2 connections (+12 V DC / 0 V / D data)
Power supply unit connection	Connection for operating voltage / power supply unit connection for power supply unit 057530.10
I-BUS output	I-BUS output to the next I-BUS user
Resuscitation output	Output only used in connection with RFW-3000 / RFW-4000
Positive drive	Relay contact for integration in positive drive actuation detector group
Signaling output	Relay changeover contact
- USB	USB interface (programming interface) for PC / laptop connection
Ethernet port	Connection to IP network via Ethernet
Serial S1 (RS-232)	Interface serial S1 / IACP connection via IACP RS-232 mode
V.24 interface for RFW	Interface for connecting a RFW-3000 or RFW-4000 redundant radio path
I-BUS input	I-BUS input from previous user or control panel
Indicator pcb	Connection for LED indicator pcb (parallel displays):
1	"Activity" indicator
2	"Fault" collective indication
3	"RDT fault" indicator
4	"Power on" indicator
5	0 V
Semiconductor outputs	Parallel output "Fault" Parallel output "Activity" Parallel output "Disarmed" Output "Remote output 1 / Control channel 1" Output "Remote output 2 / Control channel 2"
Voice signal connection	Interface for connecting the analog voice signal to RFW-4000
Headphone connection	Headphones impedance approx. 30 Ohms
Microphone connection	Microphone impedance approx. 1.5 kOhm



Note on the headphone / microphone combination (headset): Use a commercially available headset with volume control for the headphones. After programming the language texts (see WINFEM Advanced user manual), the headset is to be disconnected from the transmission device.

Note:

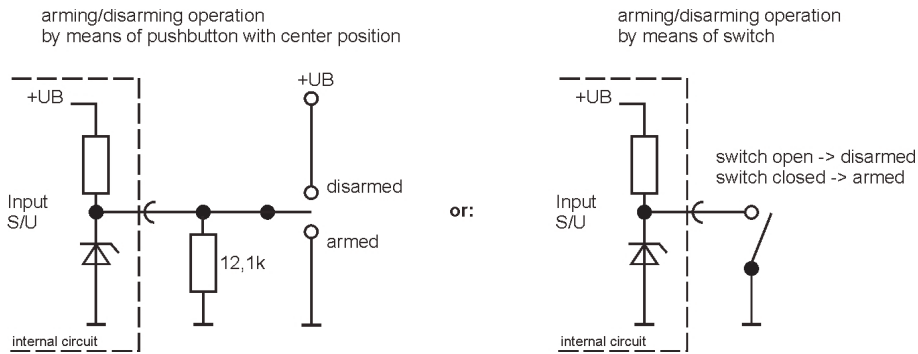
All parallel indicators: +12 V DC / $R_i = 150 \Omega$
 Relay contact specifications: Positive-drive relay 12 V DC / 100 mA
 Signaling relay 12 V DC / 100 mA

Status input armed/disarmed:

0 V and "input armed/disarmed" connected -> armed
 "Input armed/disarmed" not connected -> disarmed



Connection options of the armed/disarmed status input:



Positive drive connection:

The "Positive drive" relay contact is looped through the positive drive actuation detector group (bolt switching group) of the intruder alarm control panel. In non-operative status, the relay contact is closed. It opens if the the following faults / operating states occur:

- RDT fault as a collective fault for (telephone line, PSTN, IP, GSM)
- Operating voltage failure
- Undervoltage
- Battery failure
- BUS failure
- Parameter error
- Firmware for language faulty
- Firmware faulty
- Transmission device disarmed (inactive)
- Watchdog actuation (processor failure)
- Jumper 1 plugged

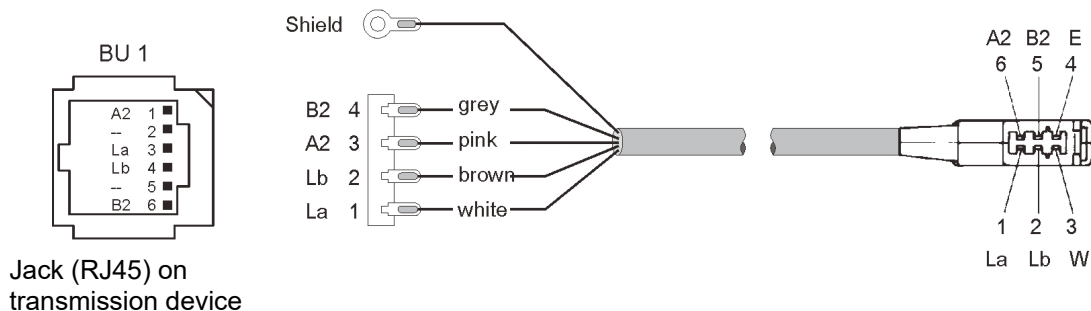


The readiness for operation of the transmission device must included in the forced actuation of the intruder alarm system.

Remote outputs / Control channels

In conjunction with a suitable receiving control panel or with a mobile phone app it is possible to remotely control these 2 control channels for switching functions.

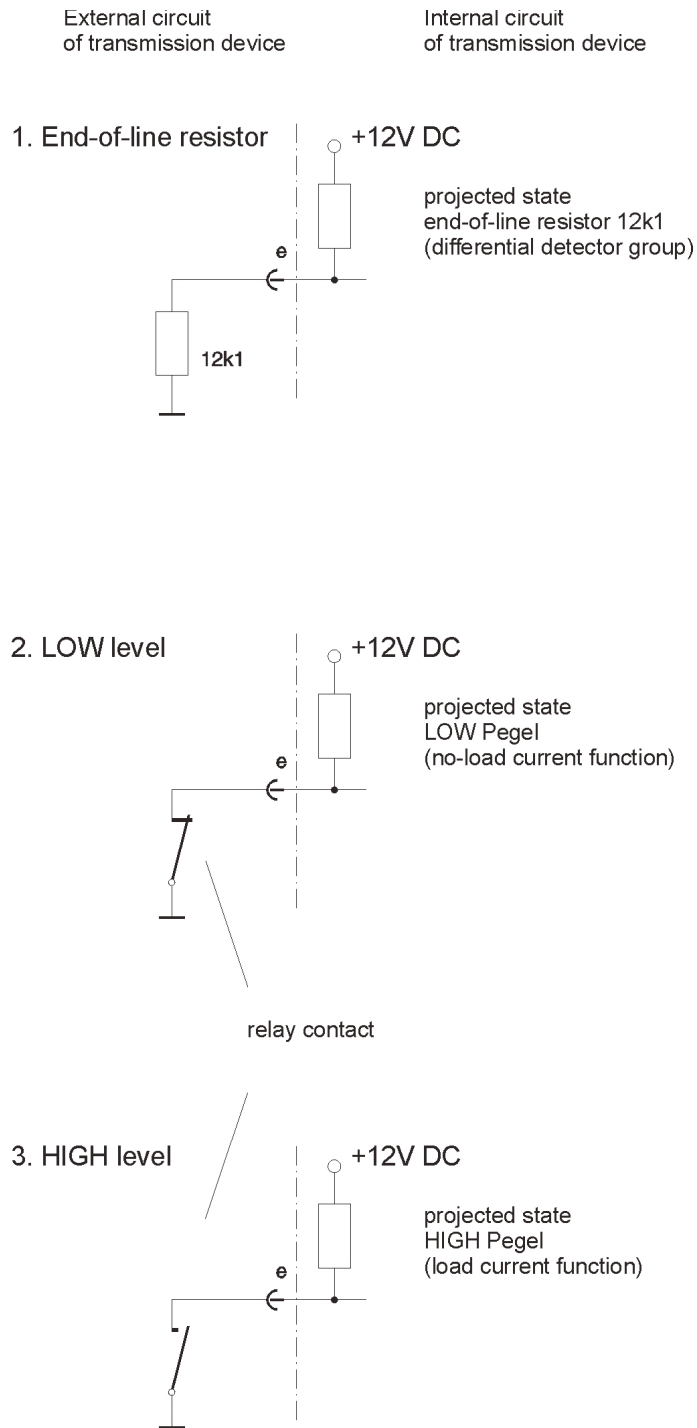
12.3 TAE 6 connecting cable (wire assignment)





In system installations according to VdS, the TAE terminal box has to be protected with the ADO8/TAE Covering case (Item no. 057550).

12.4 Control examples for the input channels (E1 - E8)



Hint: Not connected inputs (e) have HIGH level



Use shielded connecting cables to connect external sensors and contacts to the input channels of the transmission device. Follow the instructions for grounding/shielding in this documentation.

12.5 Notes concerning European standards (EN Conformity)

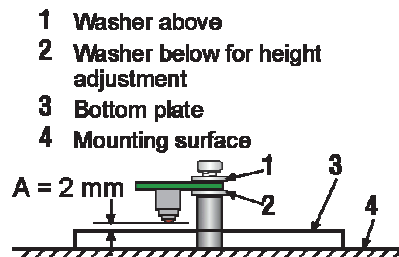
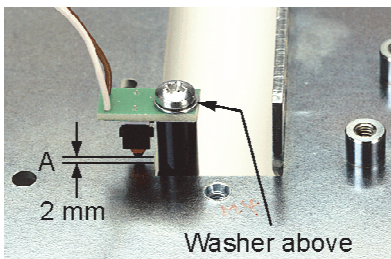
EN

- The indicator PCB must not be plugged in when the housing ZG0 or ZG 1 is used.
- Mode of acknowledgement operation to the panel (AS): pass-through.
- A serial or a parallel interface for connection to the alarm panel is available.
- In the case of failure of the interface to the transmission network the message to the alarm panel is transmitted via the parallel interface by use with positive-drive relay. If the serial interface is used, the message fault ATP and the message fault ATS are transmitted.
- Redundancy behavior: In case of a failure of the primary transmission path, the second transmission path is established and the message ATP is transmitted in this second path.
- Only EN compliant power supplies such as Item no. 013950 or 013960 are allowed to use.
- The following protocols can be used:
 - VdS2465 over Ethernet or
 - GPRS or
 - UMTS (3G), in the event recording classification SP2 also protocols: Telim and Contact ID.

12.6 Installing the tear-off monitoring contact

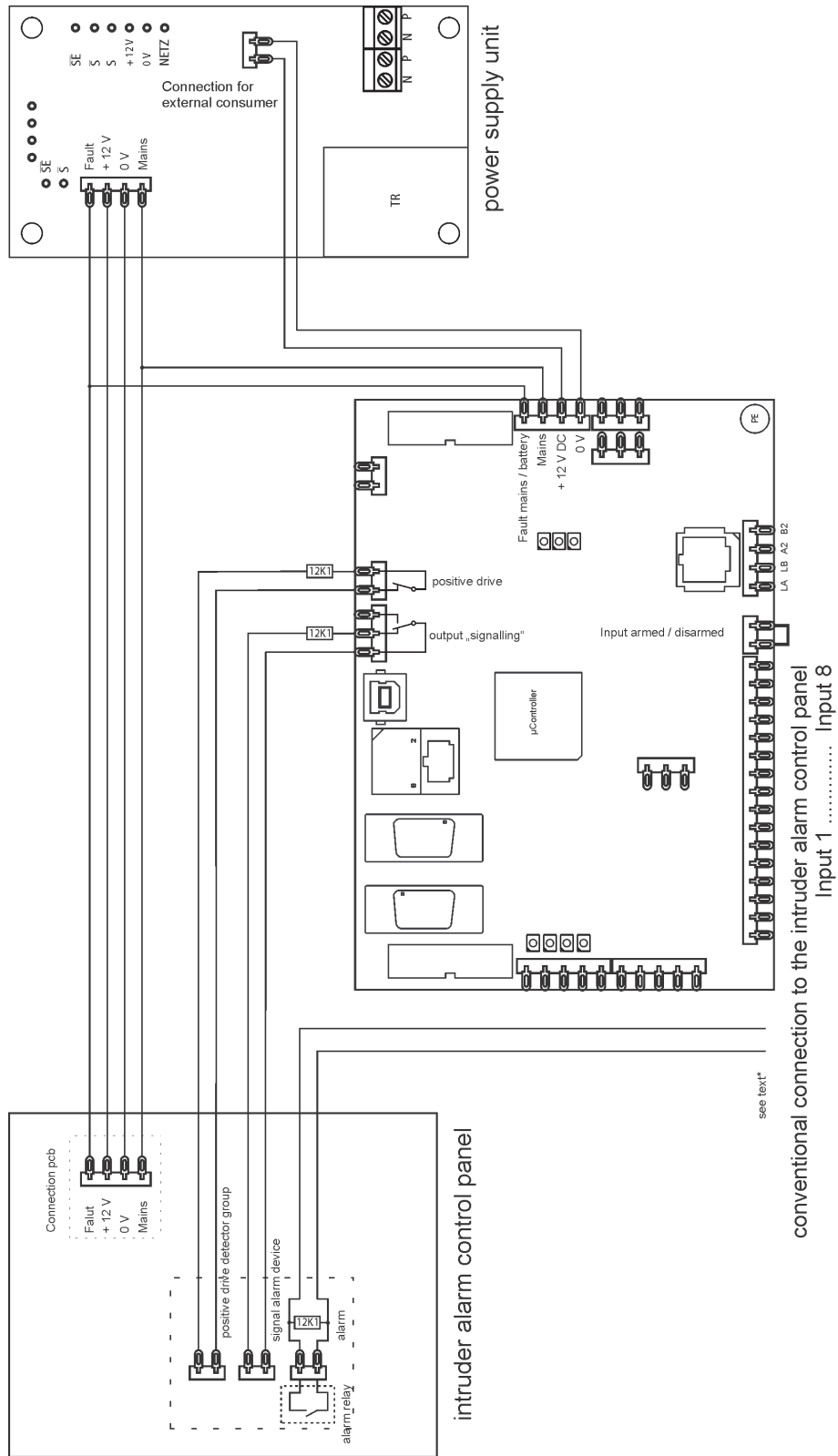
EN

According to European standards, tear-off monitoring contacts have to be installed in Class 3 devices.



Spacers and the board with the breakaway protection switch are screwed to the mounting surface as shown. The distance "A" between the switch and the back of the housing is approx. 2 mm and must be adjusted with washers if necessary.

12.7 Connection of DS 6700 / DS 6750 to an intruder alarm control panel (conventional)



conventional connection to the intruder alarm control panel
Input 1 Input 8

EN Connection* of the parallel interface according to European standards (EN):

- Output "Signalling" corresponds to: Alarm transmission fault.
- Output "positive drive" corresponds to: Alarm Transmission System (ATS) fault.
- Input* (one of the 8 possible to 12k1) corresponds to: Alarm input.

13. Connection to Ethernet / IP networks

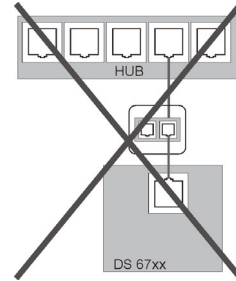


The transmission devices can use private or public IP data networks for data transmission. Please pay attention to the note on grounding/shielding Ethernet terminal boxes. The length of the patch cable between the Ethernet terminal box and the transmission device must not exceed 3 m.

Hub

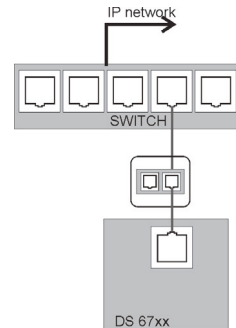
Ethernet-capable device to which computers and devices can be connected to a star-shaped network.

The transmission device must not be connected to a hub.



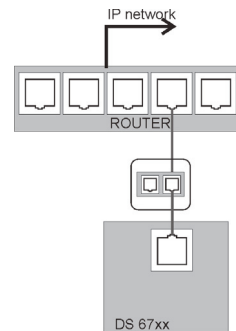
Switch

Coupling element to ensure the functionality in any connected network segment.

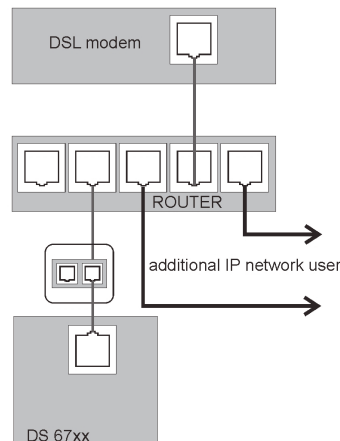
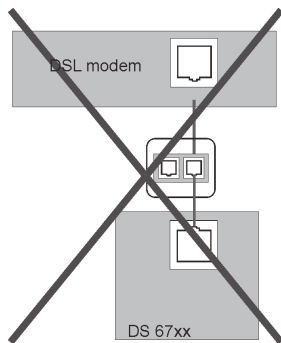


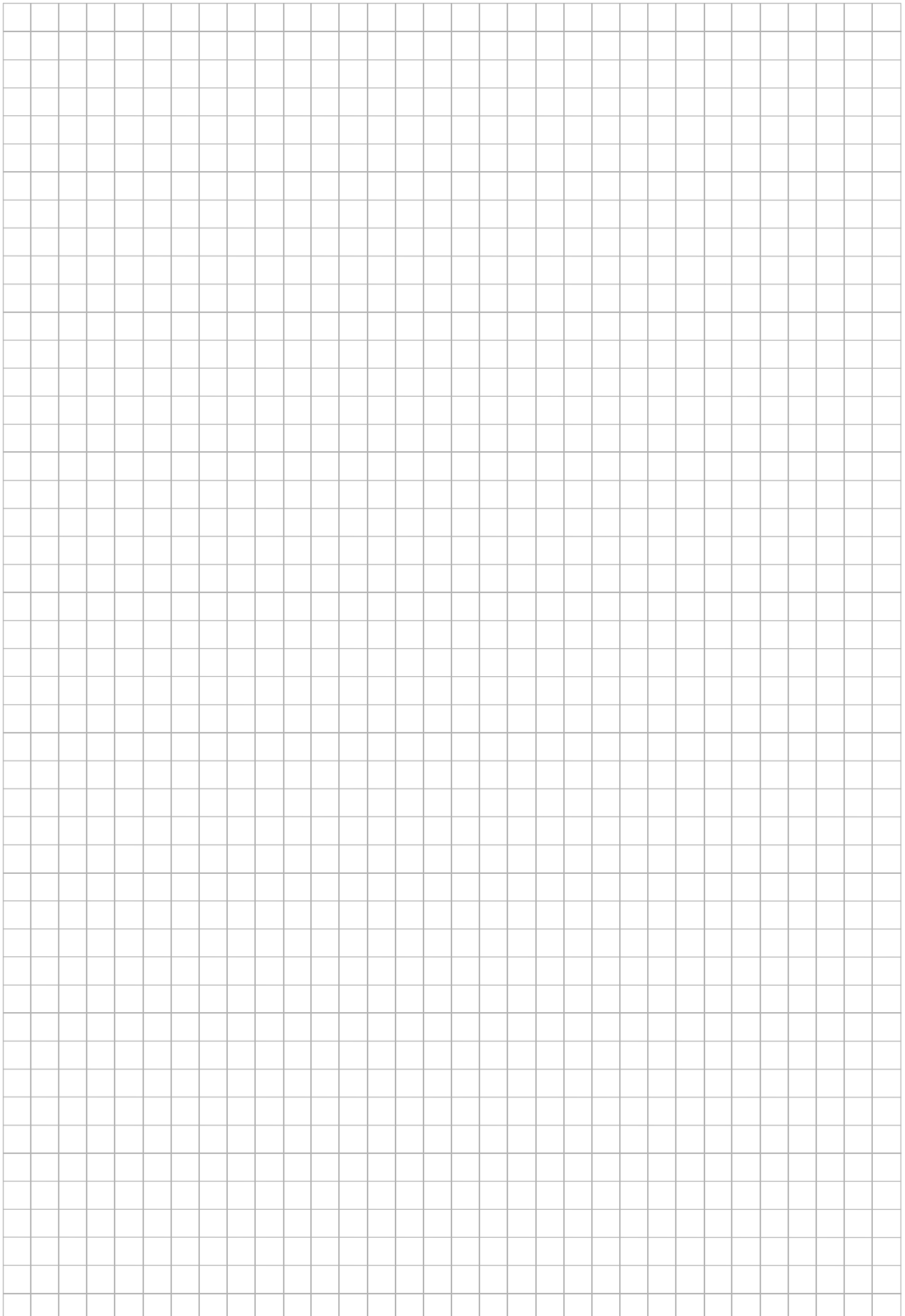
Router

Coupling element for connection to other networks. Data with a destination network address that is not in the local network is routed via the router.



13.1 Connection to a DSL modem





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