

# ALMEMO® Network technology

10/2013 • We reserve the right to make technical changes.



Mobile Internet and terms such as UMTS (universal mobile telecommunications system) and GPRS (general packet radio service) are on everyone's lips. Our solutions access ALMEMO® measuring technology over a mobile Internet connection (GPRS). It makes no difference whether our measuring technology is being used on a mobile basis or is installed in the remote locations. Operation may involve measuring instruments all over the world but it will be as though they were set up right next to your computer.

## Mobile communication via GSM

- + The meas. instrument is accessed via the telephone network.
- + Connection setup is controlled by schedule and the measuring instrument memory is read out automatically.
- Given the costs structure communication with the measuring instrument will be limited basically to reading out from the measuring instrument memory at fairly infrequent intervals.
- An additional modem is required at the computer end.
- Connection is set up via a conventional telephone line and for a limited period of time.
- It is not possible to scan multiple devices simultaneously because the number of telephone lines / modems is limited.
- Charges are calculated according to connection duration.

## Mobile Internet via GPRS

- + The measuring instrument is accessed via the Internet.
- + Connection setup is controlled by schedule and the measuring instrument memory is read out automatically.
- + The measuring instrument is connected with the computer online. The measuring instrument on site can save measured values and simultaneously these can be read out at regular, frequent intervals.
- + No additional computer hardware is required.
- + The measuring instrument connects to your network automatically and is then available continuously.
- + Measured data can be acquired simultaneously from an unlimited number of devices.
- + Connection charges are calculated on a real utilization basis, i.e. according to the volume of data transmitted.

## GPRS mobile communications modem ZA 1709 GPRS



- Remote interrogation and remote control of ALMEMO® devices
- Ideal for measuring operations at remote sites
- Automatic memory readout or inexpensive 24-hour online measuring - thanks to a charges structure according to actual data usage.

### Technical data

Frequency range	Quad band 850 / 900 / 1800 / 1900 MHz
Output power	2 W for EGSM 850 / 900 1 W for GSM 1800 / 1900
Connections	RS-232 (9600 baud, 9-contact, sub-D socket) FME antenna connection (male) Power supply, SIM card reader
Power supply	8 to 30 V, via mains unit, included in delivery
Current consumption	30 mA at 12 V (basic consumption) maximum 190 mA at 12 V (sending)
Operating temp.	-30 to +65 °C (mains unit 0 to +40 °C)
Dimensions	65 x 74 x 33 mm
Weight	approx. 110 g
Mains unit	Input voltage 110 to 240 VAC Output voltage 10.5 to 13.5 VDC Operating temperature 0 to +40 °C



#### Advisory note

For technical reasons a special data tariff and a VPN access are required; these can be arranged via „akrobit software GmbH“. Akrobit software GmbH offers various tariffs for VPN and mobile communications; depending on the tariff chosen, the GPRS modem can be used within Germany, within Europe, or worldwide.

A VPN client software must also be installed on the computer used for evaluation. The VPN client software is included in delivery free-of-charge.

For automatic memory readout the software AMR WinControl is required together with additional module „Automatic ALMEMO® memory readout“ SW5600WCZM9.

#### Accessories

Additional protocol „Automatic memory readout“ for WinControl (SW5600WC1/2/3/4)

#### Order no.

**SW5600WCZM9**

#### Variants

GPRS mobile communications modem for connecting to ALMEMO® devices, including data cable ZA1909DK5, adapter ZA1709AS, mains unit, documentation, antenna with magnetic base Cable approx. 2.5 meters.

#### Order no.

**ZA1709GPRS**

Other variants are available on request:

GPRS modem for texting SMS, with digital inputs, alarm-driven by the ALMEMO® device.

## GPRS connections and cost accounting - examples

### Advisory note

These cases are provided as examples only; the number of VPN1 accesses is for illustration purposes and can be modified as required. However, at least two accesses are always required (1x PC + 1x modem).

The software AMR WinControl can, depending on requirements, normally be used. The modem option is not always necessary; however, if several modems / devices need to be addressed simultaneously, at least one WC2 (standard) will be required. For device-internal data recording (especially with a memory card) we strongly recommend the optional software module for automatic memory readout (SW5600WCZM9).

The costs incurred as per the mobile communications tariff Vodafone and by Telekom Deutschland depend on actual data usage. All data tariffs permitting use of an alternative APN<sup>2</sup> are supported. Prepaid cards are not supported. A suitable tariff can be arranged by akrobit software GmbH. Customers preferring to make their own arrangements must have set up the mobile communications contract before ordering the modem. Rental solutions for modem, VPN, and mobile communications accesses, and provision of a test access by akrobit software GmbH are all available on demand.

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## GPRS connection 1+1

Installation of the VPN software on one computer for the purpose of addressing one modem with one or more connected devices



Required	Costs (net)	Note
GPRS modem	see price list	Preconfigured with RS-232 connection
Data cable ZA1909-DK5	included	RS-232
Modem adapter	included	
VPN access	approx. EUR 15 / month	1x mobile + 1x PC (minimum contractual term 12 months)
Mobile communications card	approx. EUR 14 / month	m2m 5 MB included (minimum contractual term 24 months) <sup>3</sup>
AMR WinControl software	see price list	SW5600WC1 (Light version for 1 device, 20 meas. channels)
Automatic memory readout (option)	see price list	SW5600WCZM9

## GPRS connection 1+3

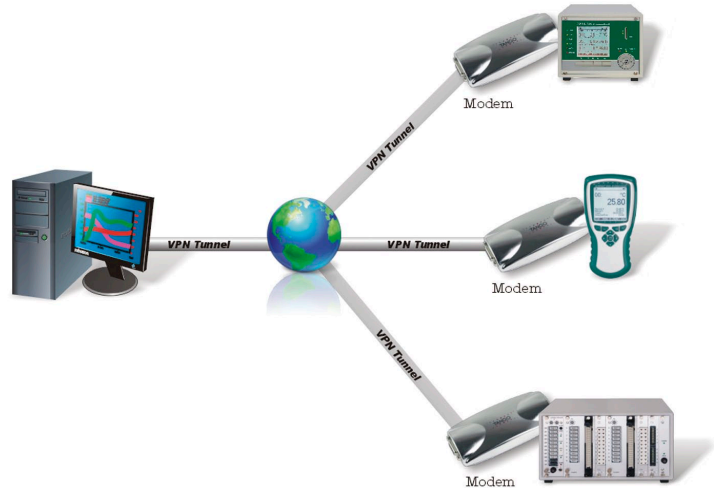
Installation of the VPN software on several computers for the purpose of addressing one modem with one or more connected devices. Each such computer is allocated a separate access with its own unique IP address; however, only one such computer can establish a connection to the modem at any one time.



Required	Costs (net)	Note
GPRS modem	see price list	Preconfigured with RS-232 connection
Data cable ZA1909-DK5	included	RS-232
Modem adapter	included	
VPN access	approx. EUR 30 / month	1x mobile + 3x PC (minimum contractual term 12 months)
Mobile communications card	approx. EUR 14 / month	m2m 5 MB included (minimum contractual term 24 months) <sup>3</sup>
3x AMR WinControl software	see price list	3x SW5600WC1 (Light version for 1 device, 20 meas. channels)
3x automatic memory readout (option)	see price list	3x SW5600WCZM9

## GPRS connection 3+1

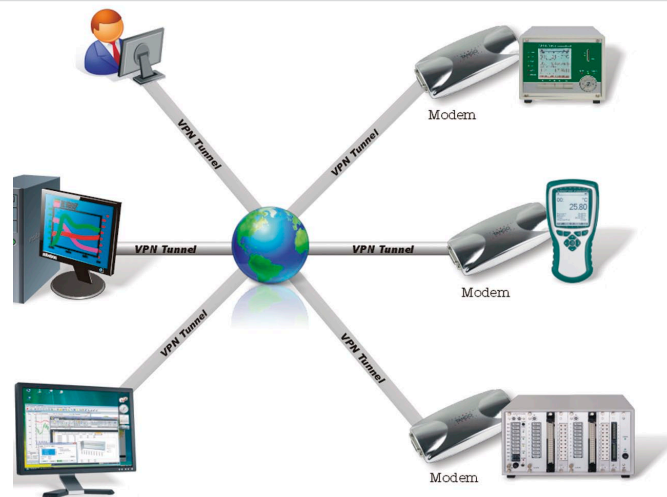
Installation of the VPN software on one computer for the purpose of simultaneously addressing several modems each with one or more connected devices. Each such modem is allocated a separate access with its own unique IP address; all connected devices can be interrogated simultaneously (requires at least SW5600WC2).



Required	Costs (net)	Note
3x GPRS modem	see price list	Preconfigured with RS-232 connection
3x data cable ZA1909-DK5	included	RS-232
3x modem adapter	included	
VPN access	approx. EUR 30 / month	3x mobile + 1x PC (minimum contractual term 12 months)
3x mobile communications card	approx. EUR 42 / month	m2m 5 MB included (minimum contractual term 24 months)
AMR WinControl software	see price list	SW5600WC2 (standard version)
Automatic memory readout (option)	see price list	SW5600WCZM9

## GPRS connection 3+3

Installation of the VPN software on several computers for the purpose of addressing several modems each with one or more connected devices. Each such computer and each such modem is allocated a separate access with its own unique IP address. Each computer can establish connections to several modems; however, one modem can only be connected to one computer at any one time.



Required	Costs (net)	Note
3x GPRS modem	see price list	Preconfigured with RS-232 connection
3x data cable ZA1909-DK5	included	RS-232
3x modem adapter	included	
VPN access	approx. EUR 45 / month	3x mobile + 3x PC (minimum contractual term 12 months)
3x mobile communications card	approx. EUR 42 / month	m2m 5 MB included (minimum contractual term 24 months) <sup>3</sup>
3x AMR WinControl software	see price list	3x SW5600WC2 (standard version)
3x automatic memory readout (option)	see price list	3x SW5600WCZM9

<sup>1)</sup> VPN (virtual private network) is a non-public network that uses the infrastructure of another - usually public - network (e.g. the Internet).

<sup>2)</sup> APN (access point name) is the name of a connection point in a GPRS network that permits access to an external packet data network (e.g. the Internet).

<sup>3)</sup> The prices quoted are examples only; real prices will fluctuate depending on terms currently offered by providers.