



ascos ED

The real-time service for single frequency receivers with carrier phase attenuation gives measurement accuracies of ± 30 to ± 50 cm.



The real-time service.

ascos ED provides correction data for GPS and GLONASS positioning in real-time, everywhere in Germany. Using a geodetic single frequency receiver with carrier phase attenuation of any major brand, location coordinates can be determined with accuracies of ± 30 to ± 50 centimetres.

Coordinate determination is easy and reliable, and does not require any additional device.

ascos maintains an infrastructure of GPS and GLONASS reference stations across Germany. This network of reference stations is the basis for supplying code corrections in real-time at intervals of one second. Real-time links between reference stations and the computing centre ensure that satellite signal errors are modelled and corrected. Most signal errors are caused by imprecision of satellite orbits and clocks, and delays of the navigation signals during their passage through the ionosphere and troposphere.

Users connect to **ascos** via GSM or GPRS and transmit their approximate location in standard NMEA format to the ascos computing centre. In return, **ascos** computes correction models based on reference station data, and makes them available to users. Every user will receive correction data tailored to his or her individual position. Correction data is transmitted to users via GSM at intervals of one second in standard RTCM 2.3 data format. The user's satellite receiver uses ascos correction data to rectify its original, approximate GNSS coordinates.

Optionally, virtual reference stations (VRS) are generated, or area correction parameters (FKP) are calculated. Using either correction model, systematic errors can be removed completely. The process of computing virtual reference stations (VRS) is performed individually for every user.

In addition to GNSS correction data, **ascos** provides expert support regarding all positioning applications. A team of experts develops customised services – made for users by users.

Industries already implementing differential GNSS with ascos ED today range from forestry (track planning, determination of tree locations, etc.) to construction, agriculture and marine surveying, where ascos optimises the work of hydrographic survey ships (bathymetry).

In the utilities sector, **ascos** ED helps saving around 60 percent of the time required for planning and construction of gas pipelines. In agriculture ascos services are used in combination with autopilot systems on tractors and combine harvesters to optimise agricultural processes.

We will be pleased to answer your request regarding your specific application! – For free calls from Germany please dial our service number +49 (0) 800 11 27 267.

Your **ascos** team

| Overview of ascos services | | |
|----------------------------|-------------------------------------|-------------------------|
| | | Measurement accuracy |
| PED | Dual frequency receivers | ± 2 cm |
| ED | Single frequency receivers | ± 30 to ± 50 cm |
| NET | Broadcast service via the Internet | ± 1 m |
| net4free | Free broadcast service | > 1 m |
| ViPP | Virtual RINEX via the Internet | < 1 cm |
| Trans | Real-time coordinate transformation | |

ascos – satellite positioning services

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certified according ISO 9001:2000