

In practice, the capture of meteorological data often proves to be more difficult than initially expected. The many reasons for this are briefly outlined below:

- No uniform sensor interfaces.
- Sensors and data logger are not optimally matched to each other.
- Surge and lightning protection must be correctly implemented.
- Sensors require many signal lines (e.g. PT100 sensors). As a lightning protection path is required for each signal line, lightning protection becomes complex and costly.
- Modern sensors often operate digitally and need to transform the measured values into analog signals so that they can be measured by data loggers.

Meteolabor has solved this problem with the new MeteoBus.

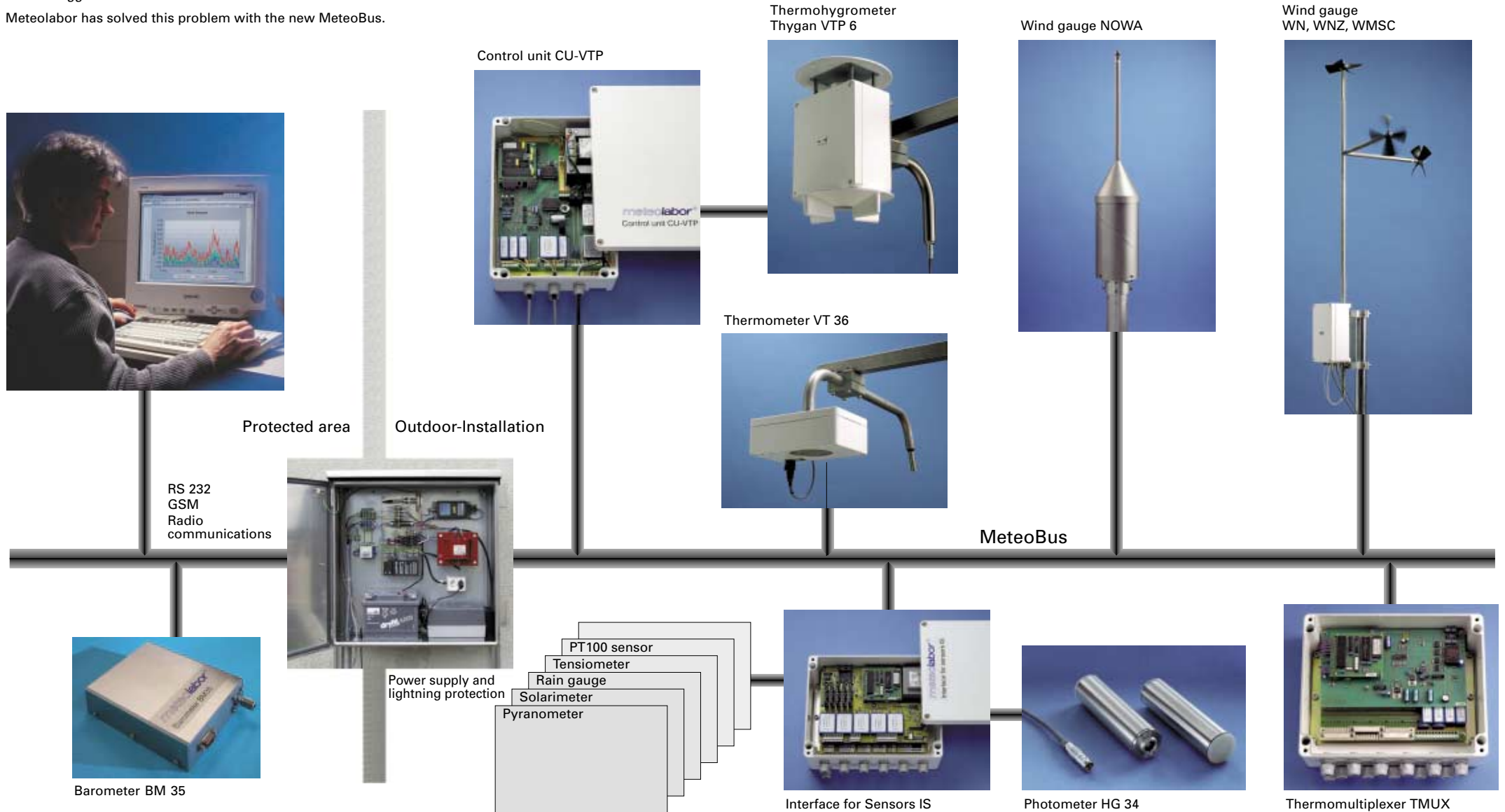
Data acquisition concept

The proven sensors of Meteolabor are equipped with a microcontroller that fulfils the following functions:

- Standard interface to PC or host system (RS232 or RS485).
- Processing of measured values into physical data.
- Storage of measured values over longer periods of time directly in the sensor.
- No data logger.

Benefits

- Sensors with standard interface.
- Flexible upgrading of the measuring station with new sensors.
- Simple lightning protection as only few lines need to be protected.
- Lightning protection for the sensor is integrated in the sensor itself.
- High redundancy as each sensor stores its own data over an extended period of time.
- Data evaluation and display can be implemented directly with a PC.



At present the following sensors are available for the MeteoBus

- Thermohygrometer Thygan with control unit CU-VTP
- Barometer BM35
- Anemometer WN, WNZ and WMSC
- Anemometer NOWA
- Thermomultiplexer TMUX
- Thermometer VT36
- **Sensor interface IS with connection for:**
 - Rain gauge
 - Thermometer VT 3
 - Brightness transmitter HG34 and HG1
 - Global radiation transmitter of various manufacturers

Outlook

In the future Meteolabor AG will equip the entire line of its reliable sensors as well as its new sensors with microcontrollers and the MeteoBus interface. For sensors that are well established in the market special interfaces have been developed that allow these units to be operated with our system.

Meteolabor MeteoBus

the sensor interface for the new millenium

