Delphin Technology

Innovative hardware ...

TopMessage and TopLab devices

The perfect solution

Process engineering

Test engineering

Research and development

Delphin Technology – the trendsetter …

TopMessage for industry

Our technology – your benefits

- Uses existing company networks (TCP/IP data transfer) and doesn't require extra cabling
- Can operate independently without PC support guaranteeing data security and real time capability
- Existing PCs can be utilized – no need for additional PC investment
- Integrated measuring transducers
- Integrated potential isolation – no extra isolation amplifiers required
- Compact devices requiring little space
- Stand alone and intelligent using virtual channels such as calculation channels, limit values, counters, averages etc.
- Process signals attached using detachable clamps or laboratory plugs
- Optional Profibus DP slave interface
- Versatile use of Message devices in trials & test stand automation
- Suitable for both large and small numbers of channels
- Web server integrated

TopLab for the laboratory

… for measurement data acquisition via LAN

The software you need

Software for analysis, visualization, and monitoring can be installed on any PC within the network. This means you get the information where you need it.

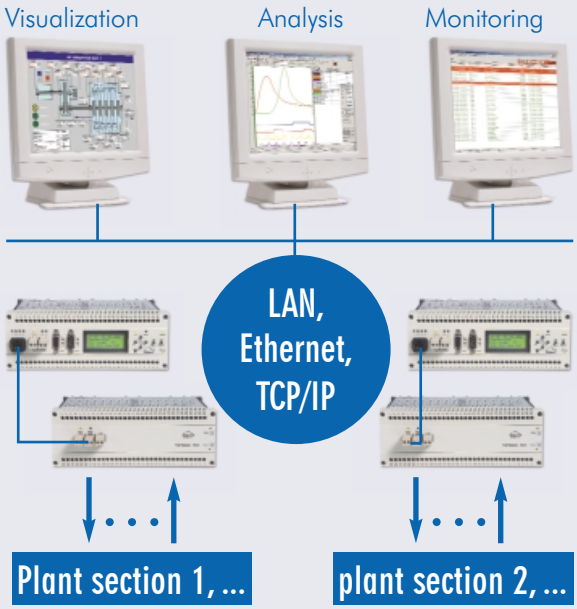
… exceptional and innovative products

A diverse range of uses – proof of our products

Well known clients trust and build on the solutions we can provide for a range of different applications, e.g. in process engineering, test engineering, research and development as well as the complete monitoring and acquisition of operational data of tanks, plant and machinery etc.

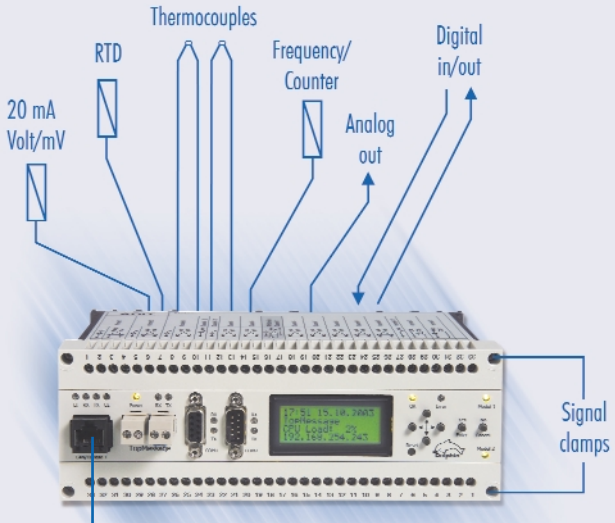
Using your existing PC you can analyze measurement data and operate and monitor your processes irrespective of where the Message devices are located.

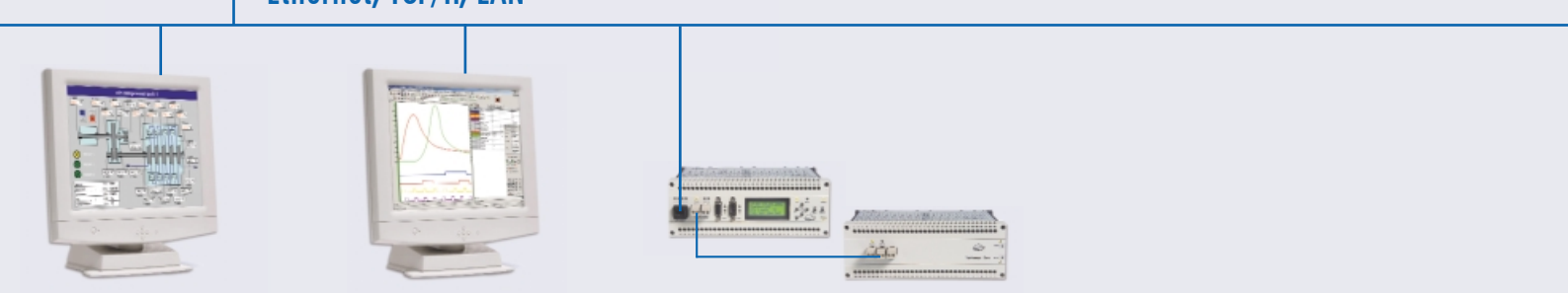
Message devices can operate as stand alone and are not dependent on PCs and networks. The 1 GB data storage ensures no loss of data even in the event of a power failure. Data can be transferred off line via file transfer; online functioning used for operation, monitoring and analysis.



Highlights

- Message devices are compact and practical.
- They can be installed onto networks in the same way as PCs. Just connect the signals, configure the software and you're up and running.
- DELPHIN Message devices provide a unique link between analog and digital technology.
- Potential isolation means no need for isolating amplifiers giving cost and space benefits. No more disruptions due to earth loops.
- Unbeatable flexibility. Each analog input can be connected with RTD, thermocouple, volt or 20 mA signals providing savings on expensive measurement transducers. Increased reliability is also provided.
- 24-bit resolution provides a high level of measurement accuracy.





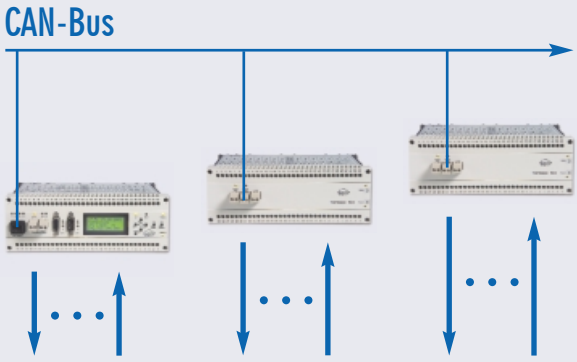
TopMessage devices – Modular, practical, scalable

Flexible use for both large and small numbers of channels

The benefits of a modular system become really apparent when planning applications. Delphin's engineers are available with advice and support and will provide you with a personal quote.

Equally effective for both large and small numbers of channels. A TopMessage master device can have up to 30 analog channels.

Modules can be combined as required. Any number of slave devices can be connected to the master. Slaves are of the same casing design and each can be equipped with 2 modules. Data transfer between master and slave takes place via a CAN bus.



Pressure · Temperature · Rotations · Vibrations · Flow · Digital I/O · Meter reading

Module	Analog-inputs	Analog-outputs	Frequency status-inputs	Status-inputs	switch-outputs	Sum Samplingrate
ADGT	8 channels Volt/mV,20mA,RDT, thermocouples					60 Hz
ADIT	10 channels Volt/mV,20mA,RDT, thermocouples	1 channel 20mA			1 channel	600 Hz
ADVT	15 channels Volt/mV,20mA, thermocouples					600 Hz
ADFT	8 channels Volt/mV,20mA	2 channels 0...10 V	2 channels	2 channels	4 channels	10 kHz
AMDT	8 channels Volt/mV,20mA	2 channels 0...10 V	2 channels	2 channels	4 channels	10 ... 160 kHz
AAST	4 channels Volt/mV,20mA,RDT, thermocouples	4 channels 20mA		2 channels	2 channels	600 Hz
IOIT				24 channels	1 channel	
OTPT				1 channel	24 channel	
DIOT			11 channels	1 channel	16 channel	

Precise measurement data

Measurement data is saved as scaled and linearised (e.g. bar, litre/sec, °C, ...).

Very precise measurements, 24-bit resolution, auto-calibration.

AMDT module

For transient measurements and vibration analysis. All the functions for frequency spectrum acquisition and fast analog signals, with a sampling rate of up to 20 kHz per channel, in one small package.

Virtual channels – for your benefit

DELPHIN-products enable you to efficiently set up your own applications. The following features provided by Message devices can be configured from your own PC using the Busmanager software.

High measuring rates through parallel processing
The design of the devices provides fast measurement of large numbers of channels via parallel processing. This makes possible the analysis of dynamic events.

Connecting measuring devices
Serial ports for connecting weighing machines, large displays etc. via RS232, RS422, RS485, protocol generator for ASCII protocols, modbus.

Connecting to Profibus DP
TopMessage can also be operated as a Profibus DP slave. Process data from PLC systems can then be stored in the TopMessage device or be subjected to calculations with results being returned to the process.

Remote data transfer
Direct connection to telephones, radio or GSM modem enabling remote monitoring. Just configure the system to transfer data either to a workstation on the local network or to a remote computer via a modem. Modems can be connected via a serial port. Message devices automatically generate the telephone connection and can send error messages as SMS's.

Networks and protocols
LAN, WAN, TCP/IP and UDP; standard services such as SMTP, Telnet, HTTP, NTP, DHCP, FTP, DNS

Limit values
Limit values can be set for any channel for issuing alarms and trigger outputs. Integrated wire breakage monitoring.

Calculation channels
Allow the mathematical assignment of channels. In this way calculations can be made for differentiation measurements, quotients, efficiency factors, capacities etc.. Calculation channels can be saved and evaluated just like measurement channels. Examples: calculating temperature differences, turning moments, capacities ...etc..

Linearisation channels
Additional to the built in fixed sensor linearisation, user-defined sensor characteristic curves (up to 8 000 value pairs) are also possible.

Email and SMS transmission with Message devices
Error messages can be issued independently by TopMessage devices via email and/or SMS.

Averaging channels, statistical functions
As well as the actual measurement value of an analog input, its average can also be calculated and then used as a further channel. Time referenced averages , moving averages, statistical functions.

PID controller
The AAST module, with 4 analog inputs/outputs enables the parallel operation of 4 controllers. Automatic and real time setting of standard parameters.

Integrator and differentiator channels
The value of an analog or status input can be integrated and differentiated over a time period and used as a further channel. This also includes flank and operation hour counters

Setpoint channels
Permits the generation of setpoints for internal and external use. This allows the management of external devices such as controllers and the observation of events from a PC.

Timer channels
For the generation of flanks and impulses for digital outputs. A simple tool to manage reset timer and alarming functions

- Pulse width modulator
- Timing relay function
- Timed alarm function
- Impulse provider (random or real time synchronized)

Delphin Technology – Vibration technology … exceptional and innovative

Applications

Monitoring and diagnosing:

- shaft vibrations
- bearing vibrations
- vibrations

in plant and machinery

Made possible by leading edge technology

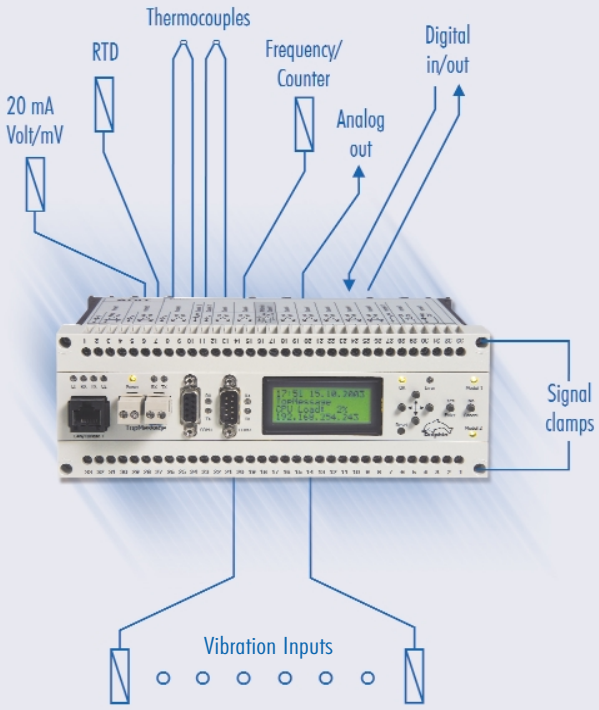
TopMessage's compact AMDT module provides vibration analysis and monitoring at an unbeatable price. The modular TopMessage system enables the simultaneous monitoring of machine vibrations and process values such as temperatures and pressures

All the functions in a compact module for the acquisition of fast analog signals and frequency spectrums:

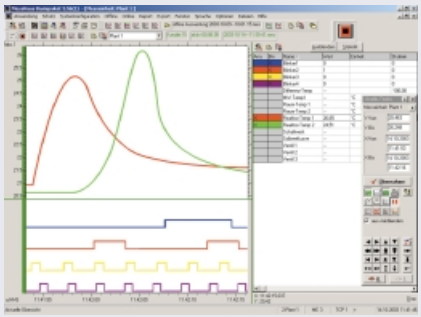
- 8 analog inputs
- parallel sampling rate of 20 kHz per channel
- 2 analog outputs
- 4 digital input/outputs

Main features

- precise monitoring system with early warning of impending damage
- easy analysis and diagnosis of actual condition of plant and machinery from any PC
- comprehensive quality assurance through longterm recording of data and automated data transfer
- incident inquiry capability based on facts and not speculation
- monitoring of limit values
- shaft vibration according to VDI 2059 standard
- vibration level measurement according to DIN ISO 10816 standard
- envelope curve frequency analysis for bearings



MHouse and ProfiSignal – software … intuitive and persuasive



Practical and value for money

Modular and flexible are the key words for the tried and tested MHouse software. You choose the module to meet your specific requirements and install the software on your existing PCs. You can then manage your measurement data using the TCP/IPP protocol and your existing company network. (Further information available by requesting our MHouse software brochure).

The following modules are available:

Basis package

- acquiring, observing, analyzing, archiving, monitoring and exporting of measurement data
- online and offline observation
- management of measurement data acquisition
- remote data acquisition, monitoring and diagnosis

Process visualization

- operating, observing, monitoring
- fast generation of process diagrams

VibroLab

- observing, analyzing, archiving, exporting of vibration measurement data
- immediate evaluation: time signal, FFT/ spectrum, orbit , cascade and polar graphs and diagrams

LabView, DasyLab, OCX drivers

- TopMessage with National Instrument's LabView software, the OCX driver for self programming

OPC-Server

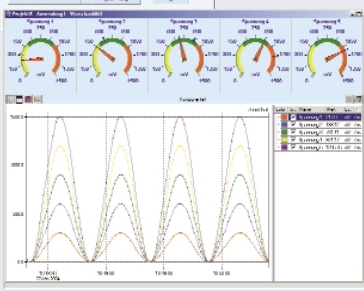
- interface between external software and Message devices

One system – many benefits

The new software significantly extends the range of applications available. Test, processing and trial procedures can now be generated much more easily than previously possible. ProfiSignal provides a complete solution.

Variability at a reasonable price

Quick to install, easy to use and cost factors make Delphin products an easy choice. The system provides the tools to meet your specific requirements, so that you get a quick return on your investment – (for further information ask for the ProfiSignal brochure).



The modules:

ProfiSignal Basic
Measurement data acquisition

- Measurement data acquisition
- Measurement data evaluation
- Quality assurance
- Monitoring

ProfiSignalKlicks
Measurement data & processing

- Visualization, operation & observation
- Setting parameters
- Testing , processing and trial procedures
- Recording and reporting

ProfiSignal CMS
Condition monitoring

- Predicative maintenance
- Crash avoidance
- Weak point analysis
- Cause investigation

Ready to use systems ...

Individuality for you

Specific solutions and mobile systems to your individual needs and requirements – proof of the flexibility of DELPHIN products.

DELPHIN plans and supplies complete and ready to use systems. Mobile measurement cases, 19" fitted or switch cabinets can be supplied to meet your exact needs. Installation and training provision complete the package.

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Measurement data acquisition, processing & more ...

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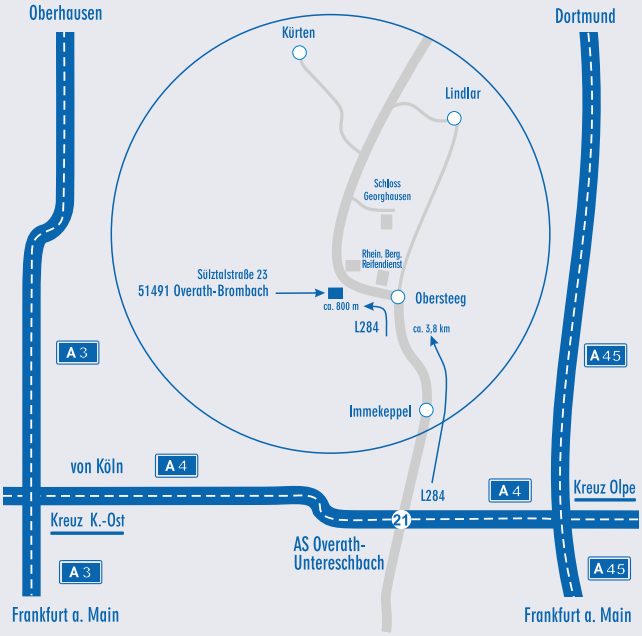

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