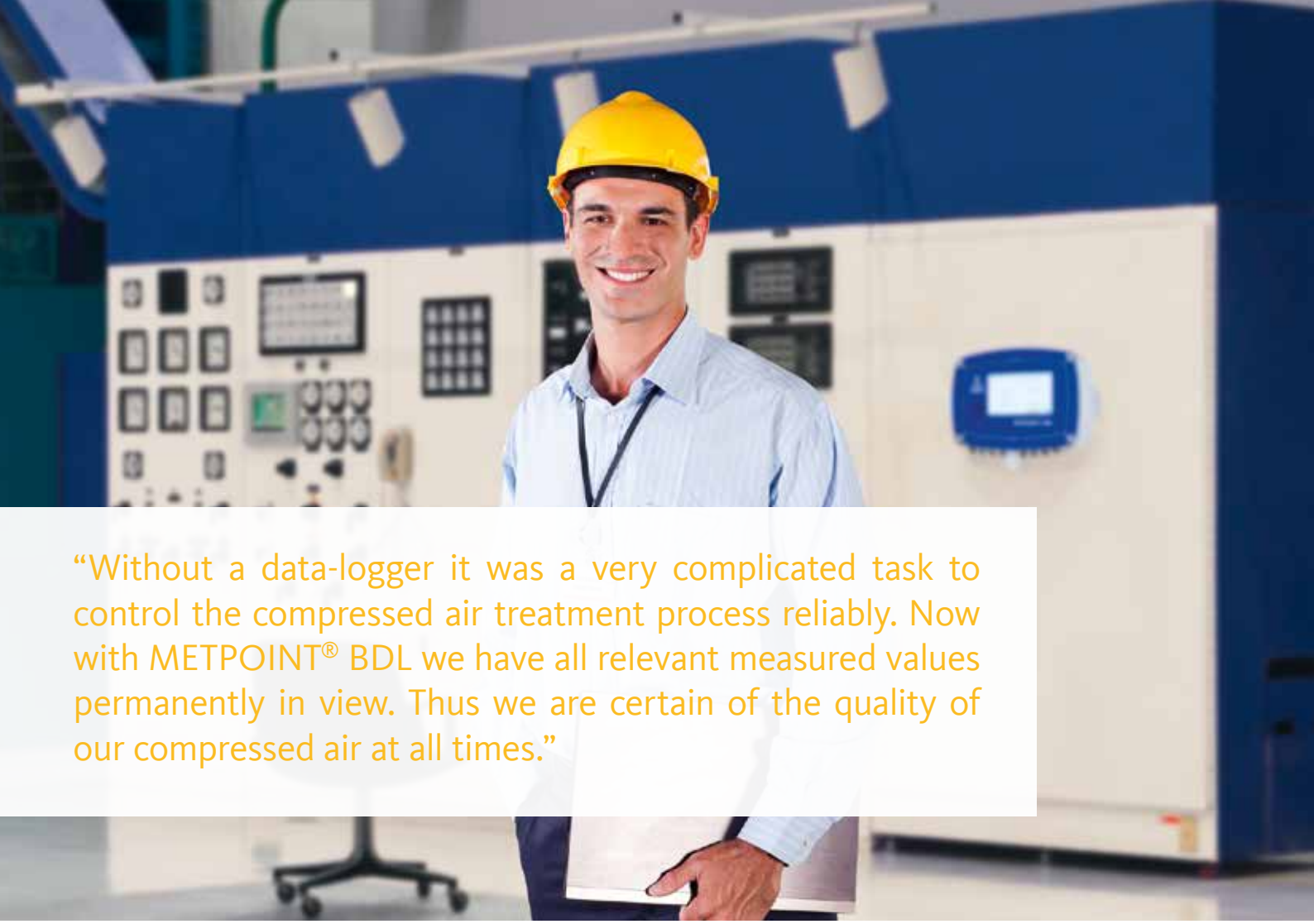
METPOINT® BDL


Measurement technology

# Measurement technology for maximum process transparency

## With METPOINT® BDL the quality of compressed air is made visible

BEKO



"Without a data-logger it was a very complicated task to control the compressed air treatment process reliably. Now with METPOINT® BDL we have all relevant measured values permanently in view. Thus we are certain of the quality of our compressed air at all times."

# METPOINT® BDL: the smart paperless recorder making the unseen visible

Quality is a sensitive factor and it should not be left to chance. Where quality involves processes that are largely hidden, then measurability acquires particular relevance. Precise values, automatic detection of limit violations and comprehensive data analyses are also – and particularly in compressed air treatment – of critical relevance. This is because optimal quality can only be guaranteed through detailed analysis of the composition of the compressed air.

Add to these an increasing demand for process efficiency. Rising energy costs pose new challenges to companies. In order to design energy-efficient production processes, every influential factor has to be monitored and analysed on an ongoing basis, because: Hidden cost drivers can be detected only if the data compiled are saved, processed and made easily available within the company. It goes without saying that energy management costs must not exceed the possible savings.
With the METPOINT® BDL data logger **BEKO** TECHNOLOGIES has developed a system solution that bundles every quality control and energy management requirement in one device – a real all-rounder that in terms of handling and process reliability leaves nothing to be desired. METPOINT® BDL translates every measured value that arises in the compressed-air treatment process into easily understandable statistics and graphs. Thanks to smart and user-friendly data processing, your employees gain assurance and the pressure on them is relieved considerably. Readily comprehensible, fast and reliable, METPOINT® BDL gives you certainty about the quality and operating efficiency of your compressed air at all times.

Place your trust in METPOINT® BDL when it comes to guaranteeing the control and security of quality and energy efficiency in equal measure: user-friendly, reliable and flexible.


## The METPOINT® BDL Benefits at a glance

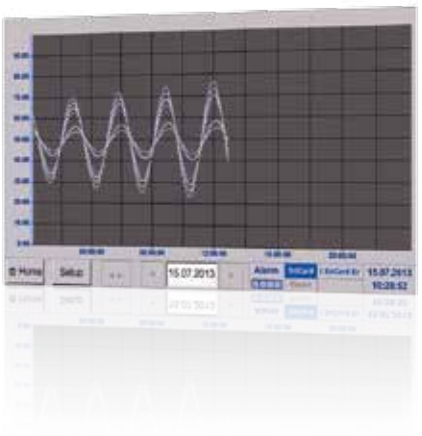
- Variable: Up to 12 sensors connectable, connections customised by the user
- Flexible: global data transfer via Ethernet, unrestricted network compatibility, integrated Webserver
- Valuations updated daily and regular weekly and monthly cycle also available, data output from all sensors in euros (costs) and m³ (count)
- Easily understandable: Graphic and tabular display and analysis of every measured value, 7” zoomable colour display
- Resilient: rugged metal housing
- Secure: Alarm in case limits exceeded, response via SMS and e-mail, every measured value stored

# Identify and exploit opportunities: For companies that understand quality as systematic involvement

With the graphics for the measured values that result in the compressed-air treatment process, the METPOINT® BDL is systematically oriented toward the needs of modern energy management. The tabular, graphic or combined displays give you certainty at a glance with respect to the energy efficiency of your compressed air. Deviations can be analysed with meticulous precision on the 7" colour screen featuring touchpanel. Daily, weekly and monthly reports render savings opportunities visible.

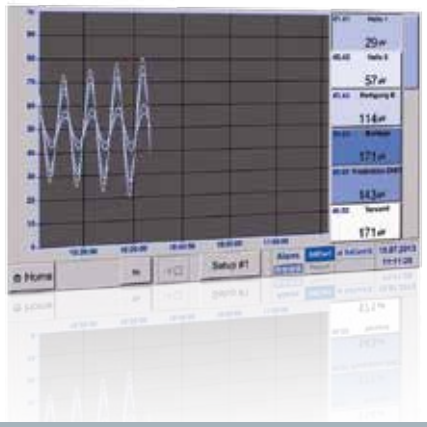
### Tabular display

- Every up-to-date measured value easily understandable at a glance
- Limits exceeded are highlighted in red
- A freely selectable measurement function can be assigned to each sensor



### Graphic display

- Analysis via paper recorder no longer necessary
- Time axis shift and zoom function via touchscreen



### Combined display

- Measured curves and up-to-date measured values easily understandable at a glance

### Statistics and analysis

**Analysis and evaluation of all consumption sensors, easily understandable display of measured values, costs and consumption, counts can be extracted via USB interface, imported in Excel and printed out, data output as daily, weekly or monthly reports as an option**

With METPOINT® BDL we get the greatest transparency possible for our compressed air treatment processes. We are therefore confident that quality is being consistently maintained and that we enjoy long-term reproducibility in our processes. This is particular important for our energy management programme.

**METPOINT® BDL: Maximally functional**

- Memory cycle freely definable
- Comprehensive reporting: Report on the number and points in time of alarm messages, breakdown into minimum and maximum values
- Alarm via SMS and e-mail (optional)
- Custom definable backup generation
- Fully automatic consumption analysis
- Easily understandable display: Measured values displayed as tables and charts, helpful zoom function in the graphics mode
- Automatic data storage: Archiving in My SQL database (optional)
- Flexible user administration:
  Freely selectable authorisation of employees, user-defined data release

# Sensitivity: precision occurs where METPOINT® BDL and sensor technology interact

Quality has a lot of control points: the precise measurement of leakage, dew point, pressure, current and temperature is critically important to compressed-air treatment. In the METPOINT® BDL precision is designed for the versatility appropriate to these different parameters: Up to any of 12 sensors can be connected and quickly and easily configured. Any of 32 limit values can be defined and four different alarm relays assigned. Automatic sensor detection guarantees maximum precision and process reliability too. Thanks to the internal power supply, wiring from external power supply units is done away with.


**METPOINT® FLM volume flow sensor:**

The METPOINT® FLM volume flow sensor is used for continuous volume flow monitoring in compressed-air applications and technical gases.

A PT1000 and a PT45 are used for measuring. Energy is measured during the course of a leak, which is necessary in order to keep a heated resistor at a constant temperature.

- Measurement range 0 ... 27,500 m³/h
- Rapid response
- Assembly and disassembly possible under pressure
- Plug & Play
- Various options available – tapping saddle, high-pressure clip, boring fixture

Supports:
- Dimensioning components and scaling to the actual volume flow
- Measuring/recording leakage volumes for optimising the compressed-air station
- Assigning consumption quotas to relevant consumers

**DPM pressure dew point transmitter:**

The METPOINT® DPM pressure dew point transmitter continuously records the moisture content for compressed-air quality and converts this measure value to a linear output signal 4...20 mA/0...10 V or RS485.

The stationary dew point measurement instrument precisely measures the critical parameters, including temperature, relative humidity and dew point (up to 60 °C DTP), in compressed air and other gases.

Sensors from polymer technology are used with the METPOINT® DPM.

- Measurement range -60 ... 30 °Ctd
- Capacitive polymer sensor
- Dew resistant
- Rapid response
- Mechanical ruggedness
- Stainless steel housing 1.4404
- Optional measurement chamber

**PRM pressure transducer:**

The METPOINT® PRM pressure transducer records the relative pressure (excess pressure) in gaseous and liquid media and converts this measure value to a linear output signal 4...20 mA or 0...10 V.

Sensors from thin film technology are used with the METPOINT® PRM.

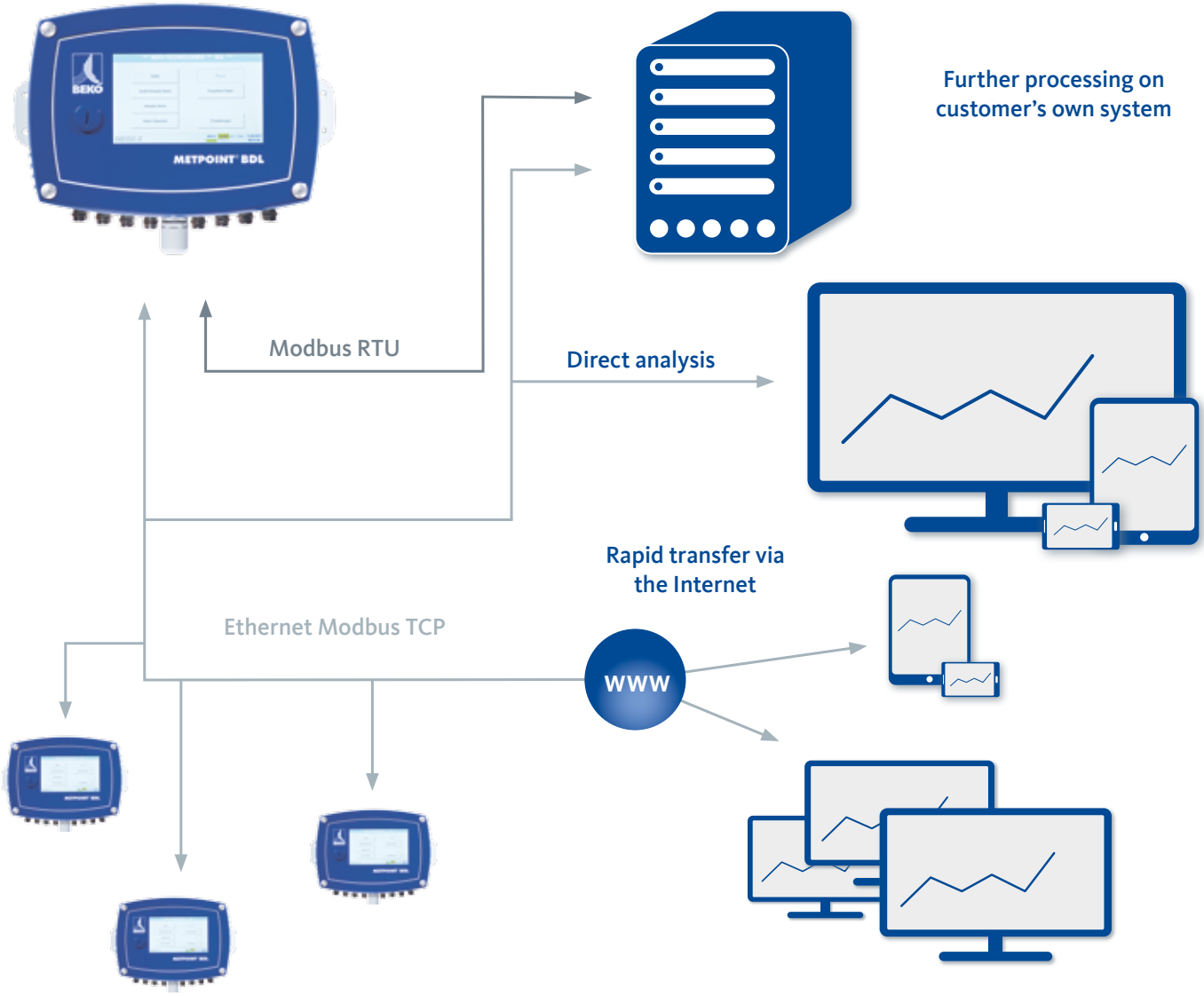
- Measurement range 0 ... 25 or 0 ... 60 bar
- Max. measurement error < +/- 0.5% MBE
- Resistant to shock and vibration stresses
- Pressure transducer with precise thin film technology stable for the long term
- Stainless steel housing 1.4404

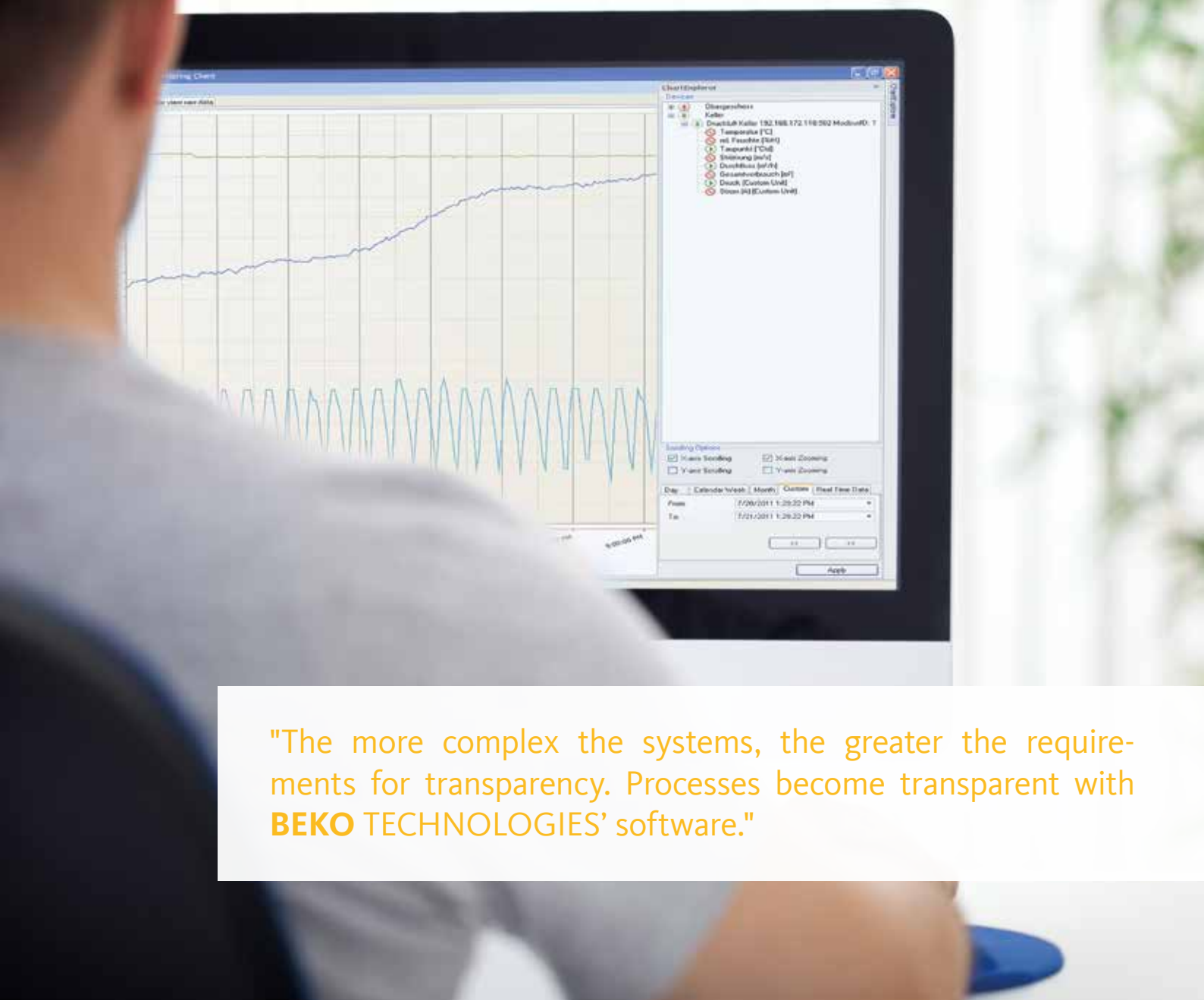
# METPOINT® BDL: Smart networking

Compatibility is key: With the conventional connections and an integrated Webserver METPOINT® BDL ensures the greatest flexibility possible in transferring data to a PC – worldwide and cross-system. Measured data can be read via the Internet, analysed right on a PC and processed further on the customer's own system.

All METPOINT® BDL measured data can be analysed via Ethernet; this guarantees data transport as reliable as it is secure – between every location of your company throughout the world.

The transparency of the measured values compiled and processed within the company makes smart energy management possible. The results can be stored on the server and accessed on any PC in the company by employees who can be authorised on an individual basis. This way data can be compared. The possibilities for saving on energy consumption are obvious.





"The more complex the systems, the greater the requirements for transparency. Processes become transparent with **BEKO** TECHNOLOGIES' software."

## Smart software for an integrated **evaluation** of your compressed-air system

With **BEKO** TECHNOLGIES software data analysis is performed quickly, easily and intuitively. The data generated over the course of time can be viewed; in juxtaposition the data from different METPOINT® BDL units can be compared.

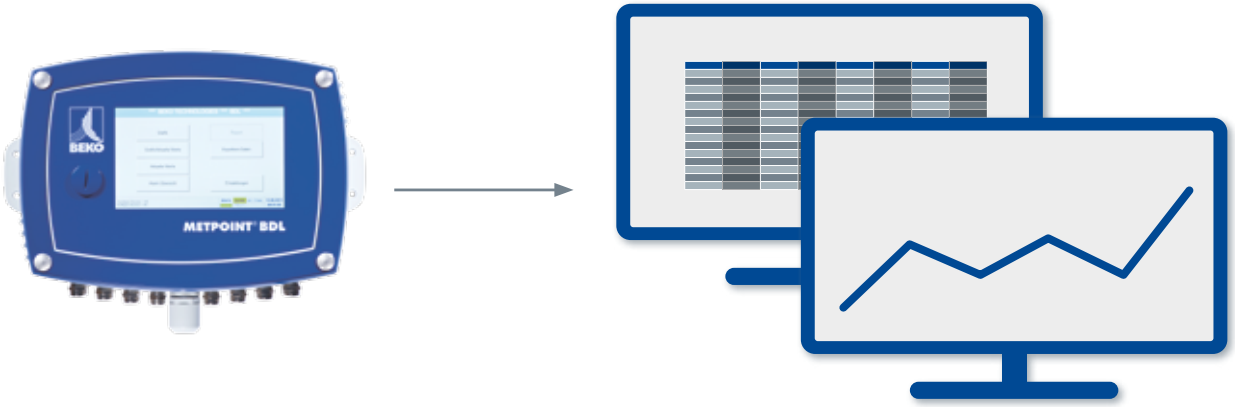
This way measured values become adjusting screws for cost optimisation, process reliability and energy efficiency.

Productivity and operating efficiency are not unknowns: They become predictable factors.

Place your trust in METPOINT® BDL when it comes to guaranteeing the control and security of quality and energy efficiency in equal measure: user-friendly, reliable and flexible.

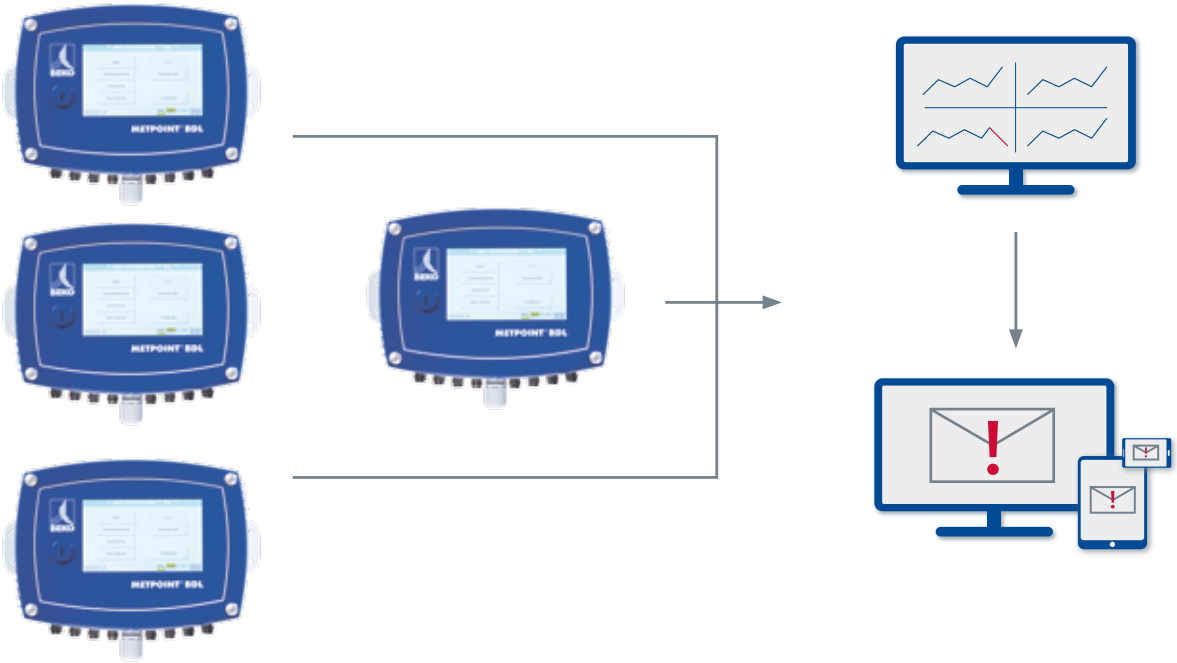
# METPOINT® READER SW201

User-friendly software makes straightforward evaluation and analysis at the workplace possible. Reading measured data from a METPOINT® BDL is easily done via USB or Ethernet. Using the METPOINT® READER SW201 data are analysed in graphic and tabular format.




# METPOINT® Connect

With METPOINT® Connect software you can analyse as many METPOINT® BDL as you want. The measured data are stored on a server in predefined cycles. An alarm can be sent automatically via SMS or e-mail when a limit is exceeded. The analysis of measured data from different METPOINT® BDL units can be carried out at any workstation. Then again, access by employees to particular units can be restricted.



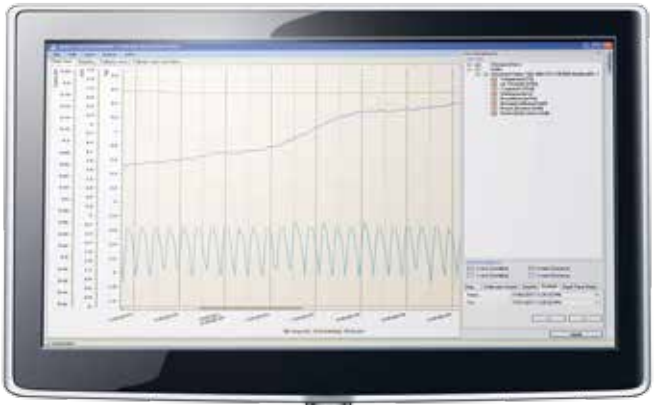

### System overview

In this view you get an overview of the units and the processes. Real-time values for each METPOINT® BDL unit appear in the window .

In case a limit is exceeded, the particular value is highlighted in red.

### Graphic view

In the graphic view, you can freely select which sensors are shown or hidden. The time axis can be easily scaled using the calendar function (bottom right).



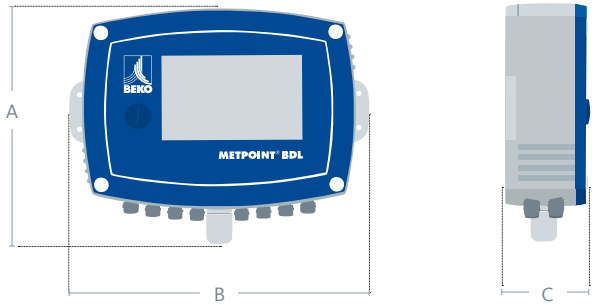
### Tabular / statistical view

Every measured value can be rendered in a table view or in a statistical report.

The minimum and maximum value for every sensor is indicated and collated chronologically. The number of alarms is indicated for every sensor.

he data can be easily exported to Excel for further use.

# METPOINT® BDL der Datenlogger




| Maßangaben | |
|---|---|
| Höhe A (mm) | 251 |
| Breite B (mm) | 349 |
| Tiefe C (mm) | 109 |

| METPOINT® BDL | |
|---|---|
| Connections | 16 x M12 x 1.5 nickel-plated brass for sensor and supply, alarm relay, 1 x RJ 45 Ethernet connection |
| Weight | 7.3 kg |
| Material | Powder-coated aluminium, polyester front film |
| Sensor inputs | 4/8/12 sensor input for analog and digital sensors can be freely connected (see options...)<br>Digital sensors for dew point and consumption with SDI interface FLM / DPM series,<br>RS 485/Modbus RTU digital remote sensors, other bus systems feasible on request<br>Analog sensors for pressure, temperature, current probe preconfigured<br>Analog remote sensors 0 / 4 ..20 mA, 0..1 / 10 / 30V, pulse, Pt 100 / Pt 1000, KTY |
| Power supply for sensors | 24 VDC, max. 130 mA per sensor, integrated power supply unit max. 24 VDC, 25 W<br>In version 8 / 12 sensor inputs 2 integrated power supply units each max. 24 VDC, 25 watts |
| Interfaces | USB stick, USB cable, Ethernet / RS 485 Modbus RTU / TCP, SDI other bus systems on request, WEB server optional |
| Outputs | 3 / 4 relay (changeover contact 230 VAC, 6 A), alarm management, relay freely programmable, summary alarm<br>Analog output, pulse at sensors with its own signal output looped through, e.g. DPM / FLM series |
| Memory card | Memory size 2 GB SD memory card standard, optional up to 4 GB |
| Power supply | 100...240 VAC / 50..60 Hz |
| Colour display | 7“ TFT touchpanel transmissive, graphics, charts, statistics |
| Operation temperature | 0...50°C |
| Storage temperature | -20...70°C |
| Optional | Webserver |

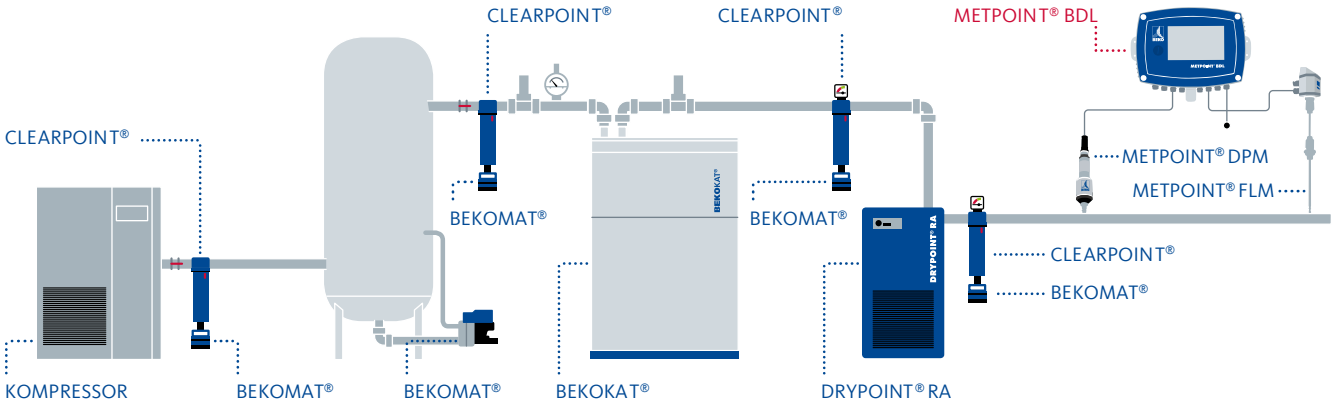
| | |
|---|---|
| Optional | Fast measurement with 10 ms sampling rate for analog sensor, max/min readout per second |
| Optional | Consumption analysis, statistics, daily / weekly / monthly report |
| Optional | Totaliser function |
| Optional | Mathematical calculation function |

| Input signals | |
|---|---|
| **Signal current**<br>Internal or external power supply | (0...20 mA / 4...20 mA) |
| Measurement range<br>Resolution<br>Accuracy<br>Input resistance | 0...20 mA<br>0.0001 mA<br>± 0.003 mA ± 0.05 %<br>33 Ω |
| **Signal voltage** | (0...1 V) |
| Measurement range<br>Resolution<br>Accuracy<br>Input resistance | 0...1 V<br>0.05 mV<br>± 0.2 mV ± 0.05 %<br>100 k Ω |
| **Signal voltage** | (0...10 V / 30 V) |
| Measurement range<br>Resolution<br>Accuracy<br>Input resistance | 0...10 V<br>0.5 mV<br>± 2 mV ± 0.05 %<br>1 M Ω |
| **RTD Pt 100** | |
| Measurement range<br>Resolution<br>Accuracy | -200...850° C<br>0.1° C<br>± 0.2°C (-100...400°C)<br>± 0.3°C (residual range) |
| **RTD Pt 1000** | |
| Measurement range<br>Resolution<br>Accuracy | -200...850° C<br>0.1° C<br>± 0.2° (-100...400°C) |
| **Pulse** | |
| Measurement range | Min. pulse length 100 µS<br>Frequency 0...1 kHz<br>Max. 30 VDC |

# Systematic quality: worldwide

Wir von **BEKO** TECHNOLOGIES entwickeln, fertigen und vertreiben weltweit Produkte und Systeme für optimierte Druckluft- und Druckgasqualität. Von der Aufbereitung von Druckluft und Druckgasen durch Filtration und Trocknung über bewährte Kondensattechnik bis hin zu Instrumenten zur Qualitätskontrolle und -messung. Von der einfachen Druckluftanwendung bis hin zu anspruchsvoller Prozesstechnik.

Seit der Gründung in 1982 hat **BEKO** TECHNOLOGIES der Drucklufttechnik kontinuierlich entscheidende Impulse gegeben. Unsere wegweisenden Ideen haben die Entwicklung maßgeblich beeinflusst. Mit dieser Kompetenz und unserem persönlichen Engagement stehen wir von **BEKO** TECHNOLOGIES für zukunftsweisende Technologien, Produkte und Services.




# Our fields of competence

**Measurement technology**

High-precision quality-assurance management thanks to the permanent, application-specific monitoring of the compressed-air parameters with the measurement-technology program METPOINT®.

**Filtration** | CLEARPOINT®

**Drying** | DRYPOINT® | EVERDRY®

**Condensate technology**
BEKOMAT® | ÖWAMAT® | BEKOSPLIT®

**Process technology**
BEKOBLIZZ® | BEKOKAT®

**Service**

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