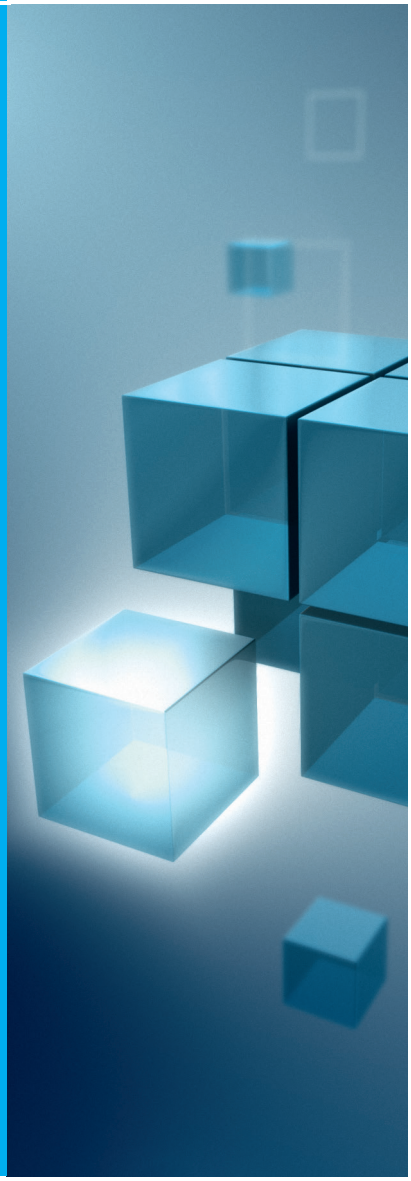
System products and data managers

Solutions to complete your measuring point



Endress+Hauser
People for Process Automation

Endress+Hauser — Your partner

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Endress+Hauser is a global leader in measurement instrumentation, services and solutions for industrial process engineering

With dedicated sales centers and a strong network of partners, Endress+Hauser guarantees competent worldwide support. Our production centers in twelve countries meet your needs and requirements quickly and effectively. The Group is managed and coordinated by a holding company in Reinach, Switzerland. As a successful family-owned business, Endress+Hauser is set to remain independent and self-reliant.

Endress+Hauser provides sensors, instruments, systems and services for level, flow, pressure and temperature measurement as well as analytics and data acquisition. The company supports you with automation engineering, logistics and IT services and solutions. Our products set standards in quality and technology.

We work closely with the Chemical, Petrochemical, Food & Beverage, Oil & Gas, Water, Wastewater & Waste, Power & Energy, Life Science, Mining, Minerals and Metals, Renewable Energy, Pulp & Paper and Shipbuilding industries. Endress+Hauser helps customers to optimize their processes in terms of reliability, safety, economic efficiency and environmental impact.

To learn more about Endress+Hauser, visit:
www.endress.com

Information on the ISO certification:
Cybersecurity certification for Endress+Hauser

System products and data managers – Complete your measuring point

Everything you need from a single source Nowadays measuring technology is required to do far more than simply record the measured value. The measuring devices must be powered and protected, the measured value displayed or further processed, limit values must be derived and monitored data must be recorded securely.
Endress+Hauser components and data managers are more than capable to run these tasks. These system products not only carry out the basic functionality; they increase your plant availability based on predictive maintenance information, they optimize your process by controlling directly at field level and use sophisticated calculation methods to measure energy consumption. It does not matter in which country or sector the solution is required, Endress+Hauser's system products will always provide the right component with the required functionality and approvals (e.g. SIL or intrinsic safety as per ATEX, FM, CSA, TIIS or NEPSI).

Fast and innovative Easy installation and fast commissioning are top priorities for both the simple devices such as active barriers and multifunctional devices like the Memograph M. A simple configuration is all that is needed to adapt the various functions to the application requirements. Furthermore a wide range of possible combinations is available thanks to various fieldbuses and interfaces as well as extensive software concepts such as the Field Data Manager software.

Competence center for temperature measurement, Temperature Engineered Solutions and system product

Endress+Hauser Temperature+System Products is one of the leading producers of temperature measurement, Temperature Engineered Solutions and system products worldwide.

The company employs more than 800 associates worldwide. More than 400 of them work at our headquarters in Nesselwang (Germany), where our products are developed and mainly manufactured.

Associated Product Centers in Pessano (Italy), Greenwood (USA), Suzhou (China) and Chhatrapati Sambhajinagar (India) with their own production facilities guarantee customer proximity with products and services.

Oil & Gas

Fueling energy transition to net zero

A wide portfolio of innovative measurement technologies, crafted to meet current and future challenges

Plant availability, safety and efficiency have long been vital in the oil and gas industry. The challenge to reduce carbon emission and achieve decarbonization goals added an additional dimension to the industry. Energy transition and digital transformation are re-shaping the industry. With our breadth of instruments, services and solutions in combination with our deep industry expertise, we enable process improvements to achieve reliability in operation and net zero goals.

Oil & Gas

Find a visual overview of the most relevant processes in Oil & Gas industry and the suitable instruments in our competence brochure: SO00502

Product highlights

Signal conditioning
RN Series - Barriers & power supplies

- Reliable sensor power supply, signal processing and conditioning
- Intrinsically safe devices certified up to SIL 2 (SC 3) in accordance with IEC 61508
- For use in hazardous and extreme environmental conditions, installation in Zone 2, -40 … +60 °C (-40 … 140 °F)
- High packing density thanks to slim housing, 2 channels on 12.5 mm (0.49 inch) width (24V DC)

More information: Page 20

On-site process display
RIA16 - Process indicator

- Display of 4 to 20 mA measured values
- Good readable on-site — 5 digit display with unit, bargraph & backlight
- International Ex and marine approvals
- Loop powered — no external power supply required

More information: Page 27

Application manager & control
RMA42 - Process control unit

- Dual analog signal handling/processing
- Differential pressure applications
- Integrated loop power supply
- Overfill protection for filling applications e.g. of storage tanks

More information: Page 28

Data manager & monitoring
Memograph M RSG45 - Data Manager

- Unrestricted data exchange between field and control level
- Up to 20 universal (U, I, TC, RTD) or HART inputs
- Easy and fast commissioning via web server
- Ethernet-based fieldbuses, easy system integration
- Application software packages (mathematics, limits)

More information: Page 33

Advantages at a glance

- Mitigating risks by using state-of-the-art technology meeting highest demands with regard to Functional Safety (IEC 61508) integrity
- Minimizing operational costs through efficient proof testing concepts, predictive maintenance and innovative data management
- Increasing plant availability with innovative technologies particularly designed for oil and gas industry applications
- Keeping track of the process with on-site indicators
- Protecting asset investment through overvoltage protection of measuring equipment

Chemical

Partnering for sustainable success

Optimize your resources and maximize your performance

Chemicals

The continuous improvement of plant performance and increasing pressure to meet environmental, social and governance (ESG) targets, particularly in light of the circular economy, are key for the chemical industry. With our comprehensive portfolio of instruments that enable emission reduction, and advanced technologies, including optical analysis and a cloud-based IIoT ecosystem, we empower our customers to achieve their business goals and help them become performance and environmental leaders.

Find a visual overview of the most relevant processes in the Chemical industry and the suitable instruments in our portfolio brochure: SO01101

Product highlights

Signal conditioning
RN Series - Barriers & power supplies
- Reliable sensor power supply, signal processing and conditioning
- Intrinsically safe devices certified up to SIL 2 (SC 3) in accordance with IEC 61508
- For use in hazardous and extreme environmental conditions, installation in Zone 2, -40 ... +60 °C (-40 ... 140 °F)
- High packing density thanks to slim housing, 2 channels on 12.5 mm (0.49 inch) width (24V DC)

More information: Page 20

Data manager & monitoring
Memograph M RSG45 - Data Manager
- Unrestricted data recording and exchange between field and control level
- Up to 20 universal or HART inputs and HART gateway for time-saving access to sensors in the field
- Easy, fast commissioning via web server
- Ethernet-based fieldbuses, easy system integration
- Application software packages (mathematics, limits)

More information: Page 33

On-site process display
RIA14 & RID14 - Process indicators
- Excellent readable indication of 4 to 20 mA analog signals HART transparent, or up to 8 process values by fieldbus network
- Backlit LC display with bargraph & diagnostic symbols
- No external power supply required
- International Ex and marine approvals

More information: Page 27+29

Data manager & monitoring
MS20/MS21 - Field Data Manager Software (FDM)
- Secure operation and data integrity
- Automated batch report generation
- Data backup
- Access, process and visualize live measurement data

More information: Page 40

Advantages at a glance

- Using of state-of-the-art technology – functional safety according to IEC 61508
- Internationally accepted hazardous area approvals: ATEX/IECEx, cCSAus, NEPSI, JPN Ex, UK CA
- Custody transfer metering via batch controller
- Batch data visualization and storage via FDM field data manager software
- High plant availability via on-site process value indication
- Reducing risks through overvoltage protection of measuring equipment

Mining, Minerals & Metals

Extracting a sustainable future

Partner with us to enhance the efficiency, safety and sustainability of your processes

Your industry demands increased efficiency without compromising environmental, social, governance and safety objectives – all while addressing the demand for critical minerals for the energy transition. With our product portfolio spanning monitoring, analytics and automation, and our cross-industry application expertise, we can help you take the processing, storage, and distribution of natural resources to the next level. Let us be your trusted partner for innovation and sustainability.

Mining, Minerals & Metals

Find a visual overview of the most relevant processes in the Mining, Minerals & Metals industry and the suitable instruments in our portfolio brochure: SO01117

Product highlights

Signal conditioning

RN Series - Barriers & power supplies

- Reliable sensor power supply, signal processing and conditioning
- Intrinsically safe devices certified up to SIL 2 (SC 3) in accordance with IEC 61508
- For use in hazardous and extreme environmental conditions, installation in Zone 2, -40 … +60 °C (-40 … 140 °F)
- High packing density thanks to slim housing, 2 channels on 12.5 mm (0.49 inch) width (24V DC)

More information: Page 20

On-site process display

RIA45 & RIA46 - Process indicator with control unit

- For panel or field mounting
- Combination of several functions in one device: active barrier, transmitter, control unit with relay
- Can be used in diverse applications thanks to limit value monitoring, easy calculations and linearization
- Easy-to-read, multi-colored display

More information: Page 28

Signal conditioning & protection

HAW569/562 - Surge protective device

- Safety protection for expensive sensors, devices and systems against surge damage
- Usable in a variety of applications thanks to international Ex approvals and SIL2 compliance
- Protection of devices with established communication signals and fieldbuses

More information: Page 39

Data manager & monitoring

Memograph M RSG45 - Advanced data manager

- Secure data storage & signal transmission via common Bus protocols (EtherNet/IP, PROFIBUS DP, Modbus etc.)
- Mass balancing for furnace cooling water systems
- Email notification in the event of limit violation, faults & alarms

More information: Page 33

Advantages at a glance

- Extensive product basket for harsh environments
- Advanced diagnostic functionalities to make the process safer and more reliable
- Savings in raw material, water, energy and labor through accurate data of critical and quality relevant points in your process
- Reducing risks through overvoltage protection of measuring equipment

Food & Beverages

Trust in quality

Partner with us to improve quality while reducing operational costs

Enhancing quality on a limited budget is essential in Food & Beverage. Our approach ensures process capability, providing reliable data for consistent product quality and increased output. Committed to meeting food safety standards, we help prevent contamination and foodborne hazards. Improve production capacity, minimize downtime, and drive sustainability and ESG initiatives with data-driven decisions. Raise safety and quality standards, and competitiveness by partnering with us.

Food & Beverages

Find a visual overview of the most relevant processes in Food & Beverage production and the suitable instruments in our portfolio brochure: SO01090

Product highlights

Signal conditioning
RN Series - Barriers & power supplies

- Reliable sensor power supply, signal processing and conditioning
- Intrinsically safe devices certified up to SIL 2 (SC 3) in accordance with IEC 61508
- For use in hazardous and extreme environmental conditions, installation in Zone 2, -40 ... +60 °C (-40 ... 140 °F)
- High packing density thanks to slim housing, 2 channels on 12.5 mm (0.49 inch) width (24V DC)

More information: Page 20

Application manager & control
EngyCal RH33 - Custody transfer heat meter

- Calculation of heat and cold quantities as well as recording and billing
- Highest accuracy through calibrated, electronically paired temperature sensors
- Logging of measured values and messages
- Remote readout via Ethernet and fieldbuses

More information: Page 37

On-site process display
RMA42 - Process control unit

- Dual analog signal handling/processing
- Limit value monitoring with 2 relay contact outputs
- SIL for use in safety instrumented systems
- Integrated loop power supply
- Overfill protection for filling applications e.g. of storage tanks

More information: Page 28

Data manager & monitoring
Ecograph T RSG35 - Universal data manager

- Secure data recording (tamper-proof)
- Monitor, visualize, record and communicate process values
- Mathematic functions for calculations
- Various interfaces for easy system integration
- Email notifications for specific events

More information: Page 33

Advantages at a glance

- Food safety and reliability due to instruments designed and manufactured specifically for all requirements in Food & Beverage industry
- Accurate measurement and reliable signal processing
- Data integrity from signal source to database
- 100% legal compliance
- Transparency of all quality parameters

Life Sciences

Innovative technology for process excellence

Life Sciences

Partner with us to accelerate your journey from bench-top to production, minimizing risk at every step

By optimizing processes from lab to production, we help life sciences companies get to market faster. Leveraging a complete portfolio for GMP-regulated single- and multi-use processes, we provide instrumentation, engineering support and seamless tech transfer for increased productivity and reduced risk. Our global operations ensure a strong supply chain, access to expert knowledge and innovative technologies such as digital twins to enable process and asset optimization.

Find a visual overview of the most relevant processes in Life Sciences and the suitable instruments in our portfolio brochure: SO01099

Product highlights

Signal conditioning
RN Series - Barriers & power supplies

- Reliable sensor power supply, signal processing and conditioning
- Intrinsically safe devices certified up to SIL 2 (SC 3) in accordance with IEC 61508
- For use in hazardous and extreme environmental conditions, installation in Zone 2, -40 … +60 °C (-40 … 140 °F)
- High packing density thanks to slim housing, 2 channels on 12.5 mm (0.49 inch) width (24V DC)

More information: Page 20

On-site process display
RIA15 - Process indicator

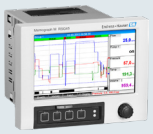
- Display 4 to 20 mA or up to four HART process values
- 7-segment value, bargraph and activatable backlight
- International Ex and marine approvals
- Compact design
- Suitable for functional safety applications (SIL2)

More information: Page 27

Application manager & control
RMA42 - Process control unit

- Processes and transfers up to 2 analog measuring signals
- 2 mathematics channels to calculate the sum, difference, multiplication, mean value and linearization
- Limit value monitoring with 2 relay contact outputs
- SIL for use in safety instrumented systems

More information: Page 28



Data manager & monitoring
Memograph M RSG45 - Advanced data manager

- FDA 21 CFR part 11 user management
- Tamper-proof audit trail
- Data integrity and IT/OT security inside
- FDM Field Data Manager data management software (on premise)

More information: Page 33

Advantages at a glance

- Maximum product safety and reliability through tailored products for life sciences
- Products designed to facilitate verification of compliance with important process parameters
- Accurate measurement and calculations guarantee savings of raw material, water, energy and labor costs
- ASME-BPE und cGMP compliant product portfolio

Water, Wastewater & Waste

Protect – Conserve – Enhance

Partner with us to strike the right balance between compliance and efficiency

Today more than ever the Water, Wastewater & Waste industry must balance the opposing pressures of improving water safety and shrinking budgets. Looking to the future, we commit to support you in protecting, conserving and optimizing processes. By combining an innovative portfolio of measuring instruments, expert services and industry expertise, Endress+Hauser is confident to help you meet your operating targets throughout the water cycle.

Water, Wastewater & Waste

Find a visual overview of the most relevant processes in the water / wastewater industry and the suitable instruments in our portfolio brochure: SO01094

Product highlights

Signal conditioning
RN Series - Barriers & power supplies

- Reliable sensor power supply, signal processing and conditioning
- Intrinsically safe devices certified up to SIL 2 (SC 3) in accordance with IEC 61508
- For use in hazardous and extreme environmental conditions, installation in Zone 2, -40 ... +60 °C (-40 ... 140 °F)
- High packing density thanks to slim housing, 2 channels on 12.5 mm (0.49 inch) width (24V DC)

More information: Page 20

On-site process display
RIA15 - Process indicator

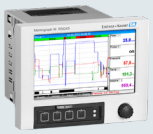
- Display 4 to 20 mA or up to four HART process values
- 7-segment value, bargraph and activatable backlight
- International Ex and marine approvals
- Compact design
- Suitable for functional safety applications (SIL2)

More information: Page 27

Process indicator & control
FlexView FMA90 - Control unit

- Flexible use with up to two level sensors across multiple technologies
- High cybersecurity due to integrated software features
- Ease of use thanks to intuitive 3.5" color display with touch control or remote access via webserver
- Fast commissioning with guided setup sequences, tutorials and automatic sensor detection

More information: Page 29



Data manager & monitoring
Memograph M RSG45 - Advanced data manager

- FDA 21 CFR part 11 user management
- Tamper-proof audit trail
- Data integrity and IT/OT security inside
- FDM Field Data Manager data management software (on premise)

More information: Page 33

Advantages at a glance

- Cost-effective product and service portfolio for any application, e.g. for drinking water, wastewater treatment and control
- Meeting internationally recognized standards/ recommendations
- Highest efficiency by easy commissioning, operation and maintenance of instruments
- Reliable signal processing and conditioning

Power & Energy

Empower the future

Your trusted partner for the energy needs of today and tomorrow. At your side every step of the way.

Looking toward the future, the energy industry must balance growing demands of increasing clean and renewable energy sources with affordable and safe solutions. Endress+Hauser offers expert knowledge and best-fit measurement instrumentation, services and solutions for power and heat generation, as well as for the transition to digitalization and the decarbonization of the power sector. As a one-stop supplier, we help simplify processes, increase uptime and improve efficiency while ensuring the quality required.

Power & Energy

Product highlights

Signal conditioning
RN Series - Barriers & power supplies
- Reliable sensor power supply, signal processing and conditioning
- Intrinsically safe devices certified up to SIL 2 (SC 3) in accordance with IEC 61508
- For use in hazardous and extreme environmental conditions, installation in Zone 2, -40 … +60 °C (-40 … 140 °F)
- High packing density thanks to slim housing, 2 channels on 12.5 mm (0.49 inch) width (24V DC)

More information: Page 20

On-site process display
RIA15 - Process indicator
- Display 4 to 20 mA or up to four HART process values
- 7-segment value, bargraph and activatable backlight
- International Ex and marine approvals
- Compact design
- Suitable for functional safety applications (SIL2)

More information: Page 27

Application manager & control
EngyCal RH33 - Custody transfer heat meter
- Calculation of heat and cold quantities as well as recording and billing
- Highest accuracy through calibrated, electronically paired temperature sensors
- Logging of measured values and messages
- Remote readout via Ethernet and fieldbuses

More information: Page 37

Process indicator & control
RMA42 - Process control unit
- Dual analog signal handling/processing
- Limit value monitoring with 2 relay contact outputs
- Differential pressure applications
- Integrated loop power supply
- Overfill protection for filling applications e.g. of storage tanks

More information: Page 28

Advantages at a glance

- Functional safety according to IEC 61508 certified up to SIL2
- Intelligent instrumentation with advanced diagnostic functions
- Minimized downtime and highest safety through modern instrumentation
- Reliable signal processing and conditioning

Product overview

System components complete the measuring point by offering functionalities around the sensor. They expand the comprehensive portfolio of industrial measurement technology and offer additional added value to the customer, such as increased plant availability, increased efficiency and digitalization.

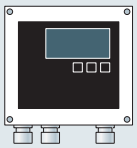
Data managers & data loggers

Endress+Hauser data managers are designed for industries with high regulatory requirements. They ensure secure, compliant and convenient access to sensor data and process information at all times. The devices offer comprehensive connectivity and enable seamless integration into system architectures, meeting the highest data security and compliance requirements.

Learn more: Pages 32-33

Energy managers & application managers

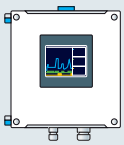
For linking several measured values of differential applications (pressure, temperature) via linearization and threshold monitoring, application managers also offer complex, highly accurate calculation algorithms. Examples are energy measurements in heating and cooling circuits or filling processes with compensation of ambient conditions.

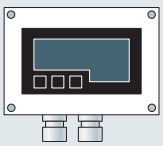


Learn more: Pages 34-37

Process indicators & control units

In addition to data visualization in control rooms, measured values and status messages must be displayed on-site, close to the process or in the control cabinet. Hereby the maintenance and operating personnel get a quick and reliable overview of the running processes. The displays of the RIA product family provide perfect transparency even in hazardous areas and harshest environmental conditions. Control units reliably perform small automation tasks, thereby simplifying process control.





Learn more: Pages 26-31

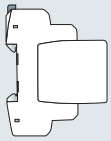
Power supplies & barriers

Measuring instrument loops based on an analog signal infrastructure are widespread across industries. Measuring devices need to be powered and signals need to be transmitted safely from hazardous areas into the control cabinet. Endress+Hauser offers a complete interface portfolio perfectly tailored to measurement technology in process automation, all from one single source.

Learn more: Pages 20-25

Surge protective devices

Even short production downtimes can cause major financial losses. Our surge protective devices safeguard sensitive measurement electronics against dangerous voltage spikes from lightning strikes or switching events. They automatically reset after the surge, ensuring long-term system reliability. Flexible installation options for control panels and field applications provide complete protection for your process.



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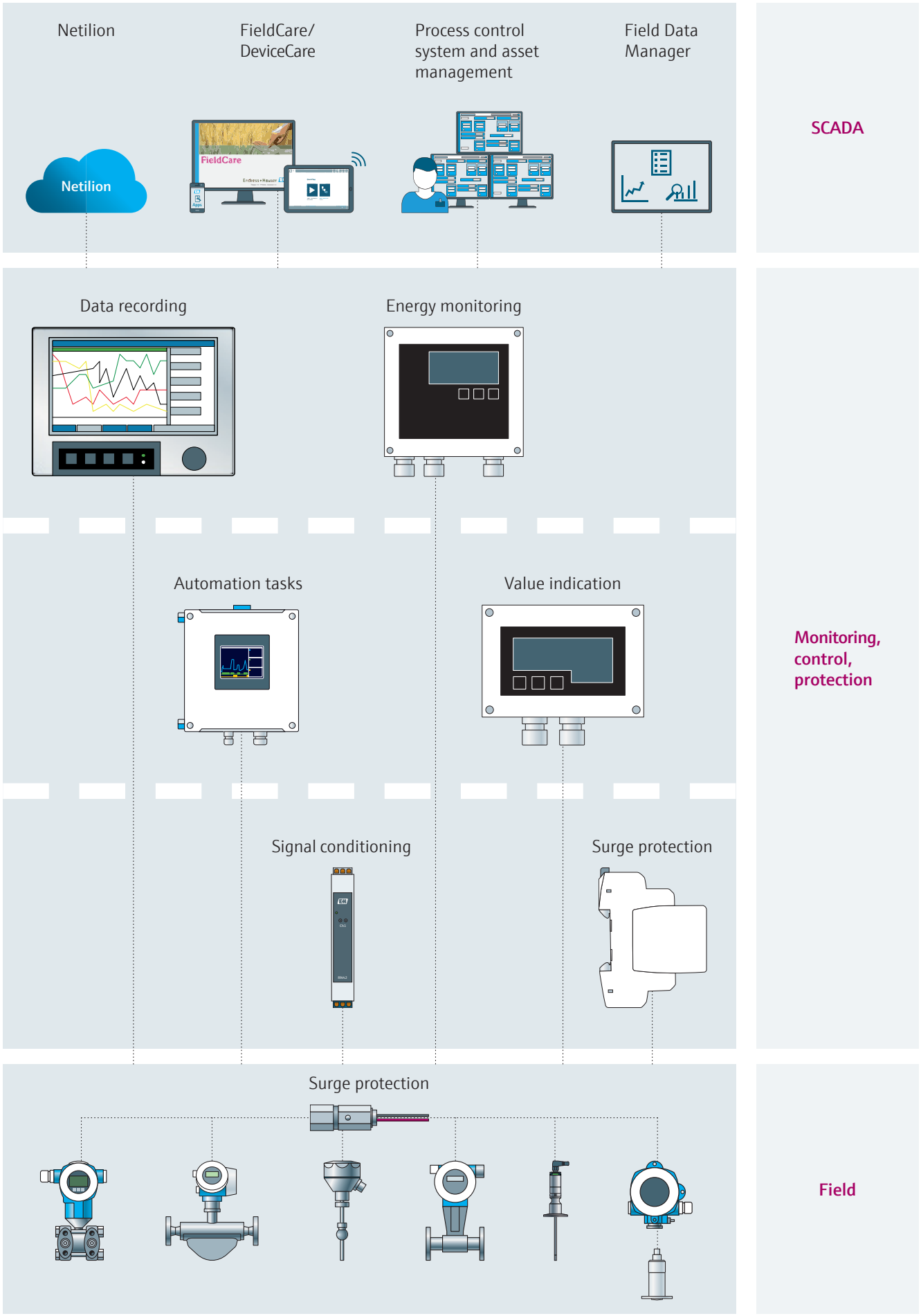

Netilion
FieldCare/
DeviceCare
Process control
system and asset
management
Field Data
Manager
Netilion
FieldCare
SCADA
Data recording
Energy monitoring
Automation tasks
Value indication
Monitoring,
control,
protection
Signal conditioning
Surge protection
Surge protection
Field

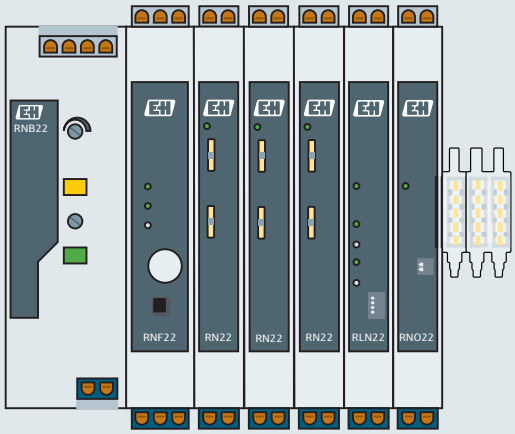
Power supplies & barriers

RN Series – Reliable interface solutions for safe and efficient measurement points

Our RN Series interface devices combine decades of experience in industrial measurement technology with modern demands for safety, efficiency, and flexibility. The portfolio includes specialized components such as sensor power supplies, active and passive signal barriers and NAMUR isolating amplifiers. It is complemented by system power supplies and feed-in/error message modules to provide a complete solution.

As safety-oriented instrumentation becomes increasingly important in process automation, Endress+Hauser offers interface devices certified to SIL2 and SIL3 according to IEC 61508, along with international Ex approvals for use in hazardous areas. The RN Series covers both high-end safety applications and cost-effective standard solutions.

Thanks to their compact design, pluggable screw or push-in terminals, and DIN rail T-connector, these devices are easy to install. Practical features such as HART communication access and multi-channel options make them even more convenient to integrate. Perfectly matched to our measurement technology, they complete your measuring point reliably and safely – ready for global use and future-proof.



Model	RNB22	RNF22
Keyword	System power supply unit	Power feed-in/error message module
Features	System power supply unit for parallel operation with 100 to 250 V AC input and 24 V DC 2.5 A output as well as static/dynamic boost	Power feed-in/error message module for simple and redundant 24 V DC supply to T-connector with fault message monitoring
Design		
Function	System power supply 24 V DC	Feed-in/error message module
Loop power supply	–	
Power Supply	100...240 V AC/DC	24 V DC
Input	–	24 V DC
Output	24...28 V DC	U_{in} - 0,8 V
Certificates	DNV	ATEX/IECEx, DNV
Operation	Rotary selector	DIP switch

Model	RN22	RLN22	RNO22
Keyword	Active barrier	NAMUR isolating amplifier	Output amplifier
Features	Active barrier, 1/2-channel/ SD for 0/4 to 20 mA, HART® transparent with 24 V DC as well as active/passive input and output, optionally with SIL and Ex	NAMUR isolating amplifier, 1/2-channel with 24 V DC and NAMUR or switching contact input as well as relay output, optionally with SIL and Ex	Output amplifier, 1/2-channel for 0/4 to 20 mA, HART® transparent with 24 V DC and line fault detection, optionally with SIL and Ex
Design			
Function	1-channel 2-channel Signal doubler	1-channel, changeover contact 2-channel, normally open contact	1-channel 2-channel
Loop power supply	17,5 V ±1 V at 20 mA open circuit voltage: 24,5 V ±5 %	8 V DC	–
Power Supply	24 V DC		
Input	0/4...20 mA / HART feeding/not feeding	NAMUR blocking: < 1,2 mA conducting: > 2,1 mA	0/4...20 mA / HART passive
Output	0/4...20 mA / HART active/passive	relay contact	0/4...20 mA / HART active
Certificates	ATEX/IECEx, cCSAus, JPN Ex, KC Ex, NEPSI, UKCA, INMETRO, cULus, DNV	ATEX/IECEx, UK Ex	ATEX/IECEx, UK Ex
SIL	SIL 2 SC 3		
Operation	HART tap off	DIP switch	DIP switch, HART

RB223	RN42	RLN42
Passive barrier	Active barrier	NAMUR isolating amplifier
One or two-channel barrier for the safe separation of 4...20 mA standard signal circuits	Active barrier, 1 channel for 4 to 20 mA, HART® transparent with 24 to 230 V AC/DC as well as active/ passive input and output, optionally with SIL and Ex	NAMUR isolating amplifier, 2-channel with 24 to 230 V AC/DC and NAMUR or switching contact input as well as relay output, optionally with SIL and Ex
		
Passive barrier for safe separation of 4...20 mA current circuit	1-channel	2-channel, changeover contact
Loop powered	17,5 V ±1 V bei 20 mA open circuit voltage: 24,5 V ±5 %	8 V DC
–	24...230 V AC/DC	20...250 V AC/DC
2 x analog 4...20 mA / HART	0/4...20 mA / HART feeding/not feeding	NAMUR blocking: < 1,2 mA conducting: > 2,1 mA
2 x analog 4...20 mA	0/4...20 mA / HART active/passive	Relay contact
ATEX, FM, CSA	ATEX/IECEx, cCSAus, JPN Ex, KC Ex, NEPSI, UKCA, INMETRO, cULus, DNV	ATEX/IECEx, UKCA
SIL 3	SIL 2 SC 3	
HART tap off		DIP switch

Highlight: RN Series

RNB22 system power supply unit: 2.5A, 24V DC power supply, redundant feed for high system availability

RNF22 power feed-in/error message module: Module for redundant power supply with collective fault signal processing

RN22 active barrier: 1-/2-channel 24V DC power supply, for 2- or 4-wire sensors with active/passive output in one device, HART transparent, SIL2 (SC3) for high functional safety

RLN22 NAMUR isolating amplifier: 1-/2-channel, 24 V DC with line fault detection

RN022 output amplifier: 1-/2-channel, 0/4-20 mA, HART transparent, SIL2 (SC3) for high functional safety with line fault monitoring

RN42 active barrier: 1-channel power supply with wide-range voltage supply 24-230V AC/DC, for 2- or 4-wire sensors with active/passive output in one device; HART transparent, SIL2 (SC3) for high functional safety

RLN42 NAMUR isolating amplifier: 2-channel, 24V-230V AC/DC with line fault detection

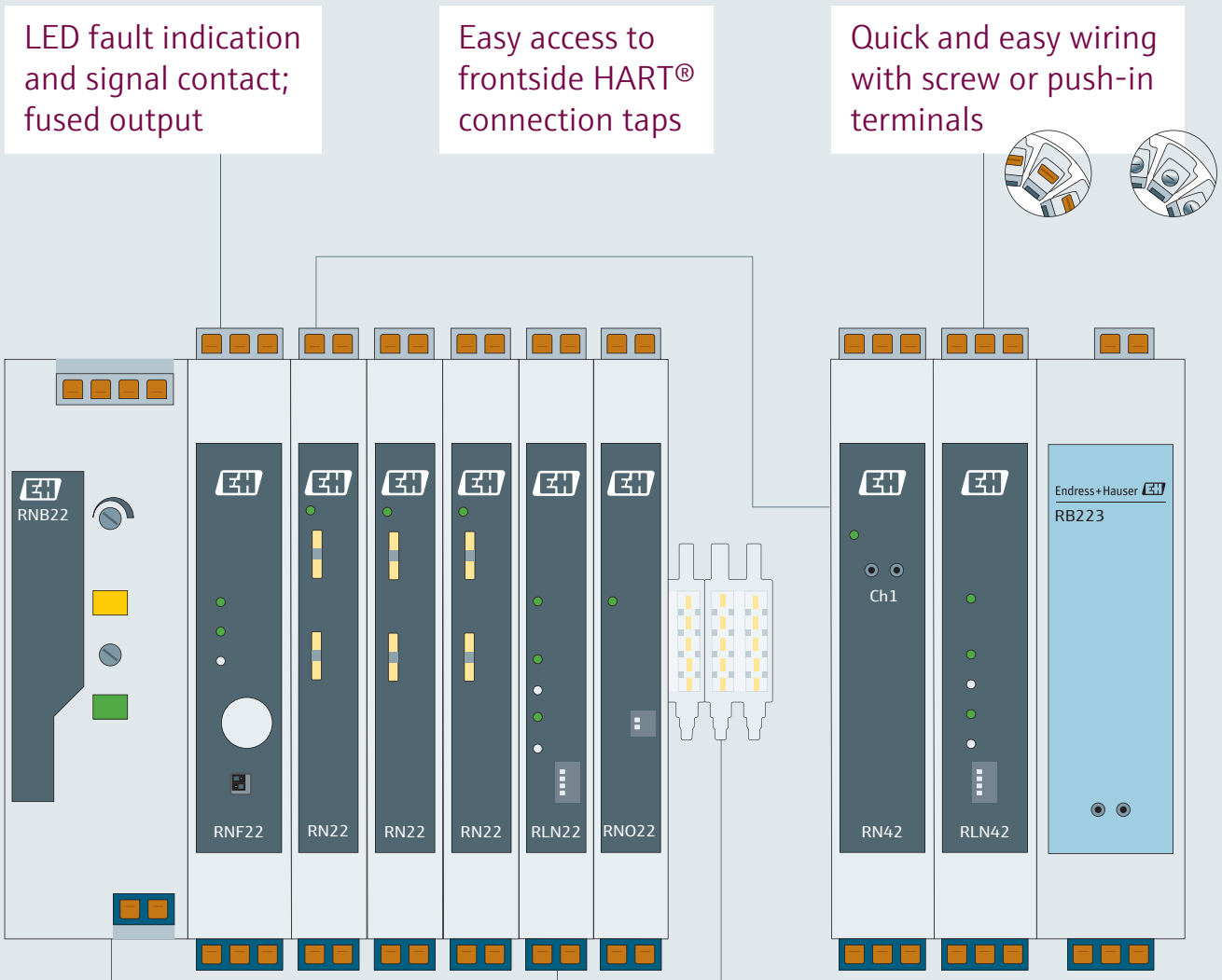
RB223 passive barrier: 1-/2-channel passive signal isolator, 4-20mA, HART transparent

Perfectly aligned
with Endress+Hauser instruments

Easy operation
User-centric features e.g. easily accessible front HART® taps

Simple selection
Low variant complexity

Keep Your Signal Clean. Keep Your Process Safe.
Ever wondered why barriers matter? Discover how galvanic isolation protects your measurements from interference, ground loops, and electrical noise ensuring accuracy and safety in every process.
Scan the QR code and watch our explainer video.


LED fault indication and signal contact; fused output
Easy access to frontside HART® connection taps
Quick and easy wiring with screw or push-in terminals
RNB22
RNF22
RN22
RN22
RN22
RLN22
RNO22
Ch1
RN42
RLN42
Endress+Hauser
RB223
Output voltage adjustment
Compact housing: up to two channels on 12.5 mm (0.49 in) for efficient use of space in control cabinets
24 V DC + failure signal, No wiring, fast commissioning: T-connector to power the RN Series modules

Process indicators & control units

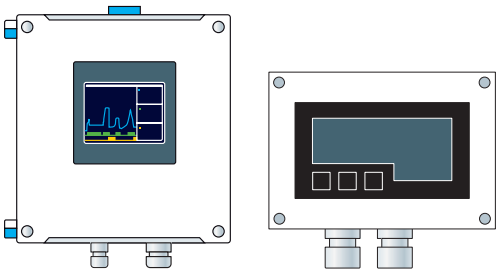
Process indicators – Visible values for confident decisions

Process Indicators

Endress+Hauser process indicators provide clear, reliable visualization of measurement values directly on-site – whether in control panels, field installations, or hazardous areas. Loop-powered indicators like the RIA15 require no external power supply and integrate seamlessly into 4–20 mA current loops. With HART communication, minimal voltage drop and compact design, they are ideal for demanding applications.

For digital fieldbus systems, the RID14 and RID16 offer precise value display via PROFIBUS PA or FOUNDATION Fieldbus. Features like bargraph visualization, plain text fields, and integrated function blocks (e.g. PID, diagnostics) support fast evaluation and easy configuration – either via DIP switches or software such as FieldCare.

Whether in Water, Wastewater & Waste, Chemical, Oil & Gas / Marine or Power & Energy applications, Endress+Hauser indicators are robust, versatile, and globally certified. They make process values visible – exactly where they're needed.



Process indicators & control units

Efficient and safe process automation relies on accurate measurement, reliable monitoring, and intelligent control. The devices RMA42, RIA45, and RIA46 combine three essential functions in one compact unit: active barrier, transmitter, and control unit with relay output. This integration enables secure signal processing and direct control of process parameters – simple, powerful, and user-friendly.

Each device features a brilliant display for clear on-site visualization and intuitive operation via front-panel keys or the FieldCare PC software. Preconfigured versions are available to simplify installation and speed up commissioning.

Typical applications include:
- Filter monitoring via differential pressure
- Tank level monitoring with linearization
- Temperature monitoring and limit control

The product variants offer installation flexibility:
- RMA42: DIN rail mounting in control cabinets
- RIA45: Front panel mounting in control cabinets
- RIA46: Field mounting, including hazardous areas

All devices are built for industrial reliability, support standard communication protocols, and offer versatile sensor and actuator connections.

With RMA42, RIA45, RIA46 and FlexView FMA90 users gain a robust solution for measuring, displaying, and controlling process values – enhancing transparency, safety, and efficiency across a wide range of industrial applications.

Model	RIA14	RIA15	RIA16
Keyword	Process indicator		
Features	Loop-powered Ex d process indicator as field device for 4 to 20 mA signals, HART® transparent	Loop-powered Ex ia process indicator as field or control panel device for 4 to 20 mA signals or HART® protocol	Loop-powered Ex ia process indicator as field device for 4 to 20 mA signals, HART® transparent
Design			
Function	Display		
Display	LCD 20 mm (0.79"), 5-digit, Bargraph, Plain text display	LCD 17 mm (0.67"), 5-digit, 7-segment bargraph, Plain text display for unit/TAG, Activatable backlight	LCD 26 mm (1.02"), 5-digit, Bargraph, Plain text display
Power Supply	Loop-powered		
Input	1 x analog 4...20 mA	1 x analog 4...20 mA/HART®	1 x analog 4...20 mA
Output	1 x open collector	–	1 x open collector
Software functions	Not defined		
Certificates	ATEX, FM, CSA, IECEx, EAC Ex, NEPSI, UKCA, TIIS	ATEX, FM, cCSAus, IECEx, cULus, UKCA, JPN Ex, NEPSI, EAC Ex	ATEX, FM, CSA, IECEx, EAC Ex, NEPSI, UKCA, DNV
SIL	–	SIL 2	–
Panel mounting	Field	Field Panel mounting	Field

Model	RIA46	RIA45	RMA42
Keyword	Process indicator with control unit	Process indicator with control	Process transmitter with control unit
Features	4-wire process indicator with control unit as a field device with up to two universal sensor inputs and optional SIL approval	4-wire process indicator with control unit as a front panel-mounted device with up to two universal sensor inputs and optional SIL approval	4-wire process transmitter with control unit as DIN rail device with up to two universal sensor inputs and optional SIL approval
Design			
Function	Display, Loop Power Supply, Transmitter Functionality, Barrier, Signal Isolation, Calculation, Limit Alarm		Universal process and temperature transmitter with control unit
Display	Multicolor backlight LCD, White/black/yellow, Bargraph, Unit, TAG, Alarm warning in plain text		LCD, 7 segment, Multicolour, Bargraph, TAG unit, Colour change in case of failure
Power Supply	20...250V AC/DC		
Input	2 x universal (U, I, R, RTD, TC)		
Output	1 x loop power supply, 1/2 analog and 0/2 relay outputs		
Software functions	Linearization Minimum value per channel Maximum value per channel Calculation Band value monitoring		
Certificates	ATEX, FM, CSA, UKCA	ATEX, FM, CSA, UKCA, DNV	ATEX, FM, CSA, NEPSI, UKCA, cURus, DNV
SIL	SIL 2		
Panel mounting	Field	Panel mounting	Field

FlexView FMA90	RID14	RID16
Control unit for level and flow measurement	Process indicator	
Seamless integration with modern connectivity and dual sensor support for a wide range of applications	Loop-powered Ex d process indicator as a field device for FOUNDATION Fieldbus™ or PROFIBUS® with up to 8 input channels	
		
Level, pump control, open channel flow measurement, data logging	Display values Advanced diagnostic	
3,5" TFT color touch display, QVGA, 320 x 240 Pixel	High contrast backlit LCD with bargraph, TAG/unit	
100 ... 230 VAC; 10.5 ... 32VDC	Via fieldbus	
1 x 4..20mA/HART, 1 x 4..20mA/HART (optional), Modbus TCP (optional)	Foundation Fieldbus protocol PROFIBUS PA protocol	
1 x 4..20mA, 1x 4..20mA/HART (optional)	–	
Measured value linearization Control functions Limit value monitoring Modbus TCP	Listener Mode On Foundation Fieldbus also function block connection: Display transducer block Advanced diagnostic block 2 x input selector Arithmetic block Integrator block PID block	
ATEX, CSA, EAC, JPN Ex, NEPSI, INMETRO, IECEx	ATEX, CSA, FM, IECEx	
–		
Field, panel, DIN rail mounting	Field	

Highlight: FlexView FMA90

Simplicity: Reduced installation effort, fast commissioning, easy operation

Flexibility: Demand-specific selection, multi-sensor connectivity, versatile housing options

Compliance: Proven security measures, Industry approvals, meeting local and legal requirements

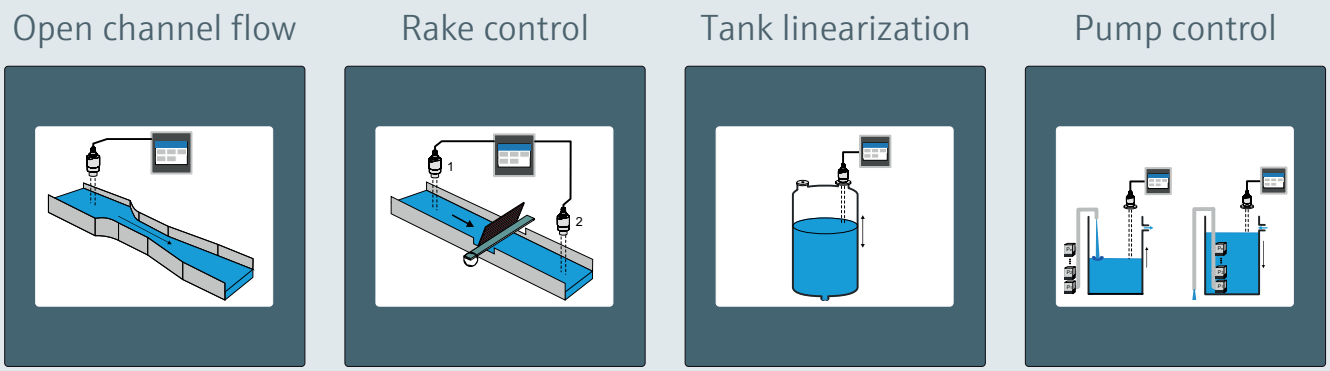
Support directly on the device:

How-to videos accessible via QR code on the device display simplify setups. The short videos guide you through how to configure for common applications, integrate to existing networks and even customise data visualisations.

Watch the How-to videos

A separate QR code links directly to the product page of FlexView FMA90 with full access to the product documentation.

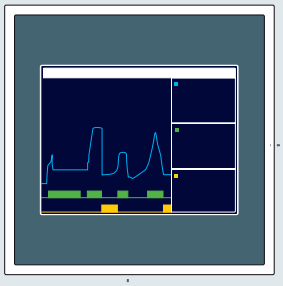
Visit the product website

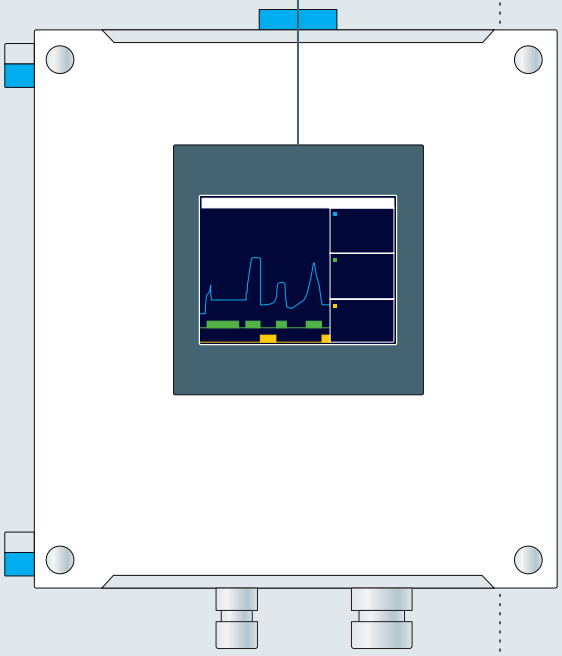


8 digital switching outputs for pump control, rake control and flow pulse

Easy commissioning with guided wizards

Communication via HART®, Wi-Fi or Ethernet





Versatile installation options – DIN rail, panel or field mounting

High cybersecurity

Intuitive 3.5" color display with touch control

International Gas-Ex and Dust-Ex approvals

Simplified configuration – automatic identification of Endress+Hauser HART® sensors

High compatibility with 2-wire or 4-wire level transmitters with 4-20 mA/HART® interface

Data managers & data loggers

Data management for reliable monitoring and documentation

Precise data recording and visualization are essential for process transparency, compliance, and optimization. Whether for entry-level applications or advanced monitoring tasks, **Ecograph T RSG35 and Memograph M RSG45** offer scalable solutions for capturing, analyzing, and communicating process values.

Both devices support seamless integration into control systems and ensure secure data handling—ideal for industries with documentation, traceability, or regulatory requirements.

Memograph M RSG45 – Advanced data manager for demanding applications

Memograph M RSG45 is a flexible and powerful system for organizing and visualizing process values. It logs data securely, monitors limits, and enables advanced analysis. With modular hardware and software, it adapts perfectly to customer-specific needs. HART input signals allow fully digital signal chains from sensor to control system, ensuring high accuracy and reproducibility.

Key benefits:

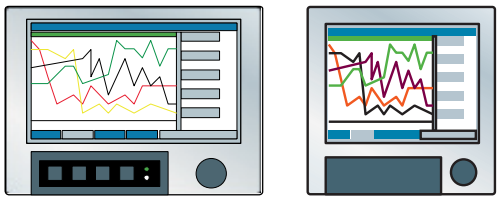
- High-end data recording and visualization
- Direct use of HART signals with gateway functionality
- Supports a range of application packages including batch reporting, energy monitoring, and calibration tracking
- Ethernet-based fieldbus connectivity
- FDA 21 CFR Part 11 compliant user management and audit trail
- ATEX approval and EX-area sensor supply
- Hygienic stainless steel front for sensitive environments

Ecograph T RSG35 – Universal data manager for cost-efficient monitoring

Ecograph T RSG35 is the ideal entry-level solution for digital data recording. It captures and visualizes all analog and digital input signals, making it suitable for applications requiring documentation and traceability. With up to 12 analog inputs and versatile communication options, it simplifies system integration and reduces setup effort.

Key benefits:

- Easy installation, setup, and operation
- Standard Ethernet interface for IT connectivity
- Reliable data archiving via internal memory and SD card
- Modbus RTU/TCP for control integration
- E-mail alarms for error or limit violations
- Free FDM essential software included



Model	Memograph M RSG45	Ecograph T RSG35
Keyword	Data manager	
Features	Advanced data and energy manager with up to 20 analog/HART® inputs and 14 digital inputs	Graphic data manager with up to 12 analog and 6 digital inputs
Design		
Function	Secure data recording and signal analysis visualization, integrated web server for device set-up, HART(R) transparency, RSG45 as a HART modem, E-Mail notification (encrypted mails), 100 ms scan rate, data readout and processing via Field Data Manager Software	Secure data recording made easy - Monitor, visualize, record and communicate process values - every measurement value counts!
Display	TFT 7“ colour graphic display optional with button/navigator or touch operation	TFT 5.7“ colour graphic display
Power supply	100...230 V AC +/-10% 24V (-10%; +15%) AC/DC	
Input	20 analog (max) (U, I, TC, RTD, frequency, pulse), 20 HART (max) (HART, 4...20mA), 14 digital (max) (control, event and counting inputs)	12 analog (max) (U, I, TC, RTD, frequency, pulse), 6 digital (max)
Output	12 relays (max) 2 analog (max) (I, pulse) Transmitter power supply (250 mA)	6 relays (max) 1 transmitter power supply
Software package	Batch software Waste water software Tele-alarm software Energy software (water + steam)	Mathematics
Certificates	ATEX, EAC Ex, UL listed	UL recognized
Interface	RS232/485, Ethernet, USB, Modbus RTU/TCP Slave, Modbus RTU/TCP Master, Profibus DP, PROFINET Device, EtherNet/IP Adapter	RS232/485 (optional), Ethernet, USB, Modbus RTU/TCP Slave (optional)
Housing	Panel mounting Desktop housing (accessory) Field housing (accessory)	
Storage / Recording	Internal memory, SD card, USB flash drive	

Application manager

Application management for reliable batch control and process monitoring

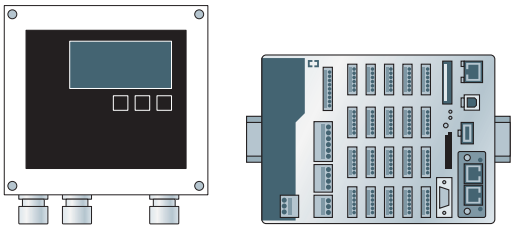
Batch production involves dosing, mixing, and filling components in defined quantities–common in industries like food & beverage, life sciences, and chemicals. From truck loading to sterilization, batch processes require precise control to ensure product quality and compliance.

RA33 Batch Controller and Memograph M RSG45 provide robust solutions for accurate dosing, documentation, and process monitoring. They support complex batch operations and integrate seamlessly into control systems.

RA33 – Precision in batch dosing

RA33 ensures exact dosing of predefined quantities by controlling valves and pumps based on flow measurement. It offers temperature and density compensation, including ASTM D1250-04 for mineral oils, and optimizes filling via automatic or fixed after-run correction.

Additional features include:
- Integrated security (software lock, tamper-proof data)
- Preset counter for exact filling
- Self-learning overrun algorithm
- Direct batch protocol printout via RS232 or Field Data Manager



Memograph M RSG45 – Smart process data recording

RSG45 is a multi-functional digital recorder that supports compliance with legal, quality, and customer documentation requirements. It combines reliable data logging with advanced control and monitoring capabilities. Thanks to its modular design, integrated webserver, and HART gateway functionality, it adapts flexibly to process requirements and communicates seamlessly with control systems. Measured and calculated values can be accessed remotely, and the included FDM essential software ensures easy data handling.

Application and software packages:
- Batch control and reporting
- Energy calculation (water & steam)
- TrustSens calibration monitoring
- Tele-alarm notification
- Rain overflow monitoring (water/wastewater)
- Mathematical functions for custom calculations

Model	RA33	RSG45
Keyword	Batch controller	Data manager
Features	Batch controller with one current/pulse input for flow, one RTD input for temperature and one current input for density	Advanced data and energy manager with up to 20 analog/HART® inputs and 14 digital inputs
Design		
Function	Filling & dosing	Secure data recording and signal analysis visualization, integrated web server for device set-up, HART(R) transparency, RSG45 as a HART modem, E-Mail notification (encrypted mails), 100 ms scan rate, data readout and processing via Field Data Manager Software
Input	1 x analog (I) / pulse (for flow) 1 x RTD (for temperature) 1 x analog (I) (for density) Loop power supply 24V DC (+/-16%)	20 analog (max) (U, I, TC, RTD, frequency, pulse), 20 HART (max) (HART, 4...20mA), 14 digital (max) (control, event and counting inputs)
Output	1 x analog (I) / pulse (active) 2 x open collector	12 relays (max) 2 analog (max) (I, pulse) 1 transmitter power supply
Communication / Interface	RS232, USB, Ethernet, Modbus TCP, Modbus RTU	RS232/485, Ethernet, USB, Modbus RTU/ TCP Slave, Modbus RTU/TCP Master, Profibus DP, PROFINET Device, EtherNet/IP Adapter
Display	160 x 80 Dot-Matrix LCD with white backlit Colour change in case of alarm event Active display area 70 x 34 mm	TFT 7" colour graphic display optional with button/navigator or touch operation
Housing / Dimensions (WxHxD)	144 x 144 x 103.1 mm (5.67" x 5.67" x 4.06")	Panel mounting Desktop housing (accessory) Field housing (accessory)
Power supply / Loop power supply	Low voltage power supply: 100-230V (AC: -15%/+10%,50/60 Hz) Small voltage power supply: 24V (DC: -50%/+75%; AC: +/-50%,50/60 Hz)	100...230 V AC +/-10% 24V (-10%; +15%) AC/DC
Certificates	CSA GP; NTEP (USA)	ATEX, EAC Ex, UL listed
Software package	Volume calculation 1 or 2 stage operation Manual and automatic overrun correction Volume correction factor (VCF) according ASTM D1250-04 for generalized crude oils, refined products and lubricating oils	Batch software Waste water software Tele-alarm software Energy software (water + steam)

Energy manager

Energy management made transparent and efficient

Rising energy costs pose a major challenge for production processes. Accurate monitoring of consumption and losses is key to identifying savings potential. In industries like dairy, where pasteurization demands high-temperature heating, systems often rely on steam (140–150 °C) or regenerative hot water (≈100 °C). To prevent boiling, pressure must exceed atmospheric levels.

EngyCal RH33 and EngyCal RS33 energy managers deliver precise energy calculations for hot water and steam systems. By integrating temperature, pressure, and flow data, they compute consumption using standardized algorithms—enabling transparency and cost control.

EngyCal RH33 – Liquid energy measurement

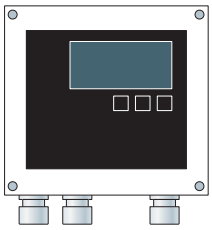
Designed for heating/cooling circuits with liquid media, EngyCal RH33 calculates thermal energy for water (EN1434), glycol mixtures, or thermal oils. Calibrated temperature sensors are electronically paired via Callender–Van Dusen coefficients, ensuring high accuracy and easy replacement of individual sensors—saving time and cost.

Additional features include:
- MID-004 custody transfer approval
- Bi-directional measurement (e.g. heat accumulator charging/discharging)
- Remote readout via Ethernet/fieldbus
- Tariff metering for demand-based billing

EngyCal RS33 – Steam energy calculation

Steam remains a vital energy source across industries. EngyCal RS33 records mass and energy flow of saturated and superheated steam using IAPWS IF97 standards. It calculates density and enthalpy from pressure and temperature inputs, ensuring reliable billing and loss detection.

Key benefits:
- Accurate steam calculation per international standards
- Full compensation of differential pressure flow
- Detailed data logging and error transparency via deficit counter



Model	EngyCal RH33	EngyCal RS33
Keyword	BTU meter	Steam calculator
Features	BTU meter for one measuring point with one pulse/analog input for flow and two RTD/ analog inputs for temperature/pressure	Steam calculator for one measuring point with one pulse/analog input for flow and two RTD/analog inputs for temperature/pressure
Design		
Function	Calculation, monitoring and billing of energy in heating and cooling applications as well as combined heating-and cooling circles. Typical applications can be found in industries, district heating and building automation.	Calculation, monitoring and billing of energy in saturated and superheated steam applications (steam heat flow, heat difference. Typical applications can be found in food & beverage industry, chemical industry, pharmaceutical industry, power plants, building automation and skid builders.
Calculations	Heat quantity and heat quantity difference	Steam mass and energy flow
Number of applications	1	
Calculation standards	IAPWS-97	
Communication	Web server, USB, Ethernet, Modbus RTU/TCP Slave, M-Bus	
Loop power supply	Low voltage power supply: 100-230V (AC: -15%/+10%,50/60 Hz) Small voltage power supply: 24V (DC: -50%/+75%; AC: +/-50%,50/60 Hz)	
Protection class	IP65	
Input	1x Puls/Analog 2x RTD/Analog Loop power supply 24V DC (+/-16%)	1x Puls/Analog for flow 2x RTD/Analog for temperature and pressure Loop power supply 24V DC (+/-16%)
Output	1x 4...20mA 2x digital (Open Collector)	
Dimensions (WxHxD)	144 x 144 x 103.1 mm (5.67" x 5.67" x 4.06")	
Operation	3 button on-site or via FieldCare, read out of historical / logged data via Field Data Manager Software (SQL database and visualization interface)	
Display	160 x 80 Dot-Matrix LCD with white backlit, colour change in case of alarm event, active display area 70 x 34 mm	
Software functions	Calculated Values: Energy, volume, density, enthalpy & enthalpy difference, DP-Flow-Compensation, mass, temperature difference Counters: Volume, mass, energy, counter in case of failure Optional: Tariff 1, tariff 2 or seperated heating energy, cooling energy, bilance energy	Calculated Values: Energy, volume, density, enthalpy, DP-Flow Counters: Volume, mass, energy, counter in case of failure Optional: Tariff 1, tariff 2 or seperated heating energy, cooling energy, bilance energy
Certificates	CSA GP; MID 004 (custody transfer) according EN1434 (water/other liquids); OIML R75	–

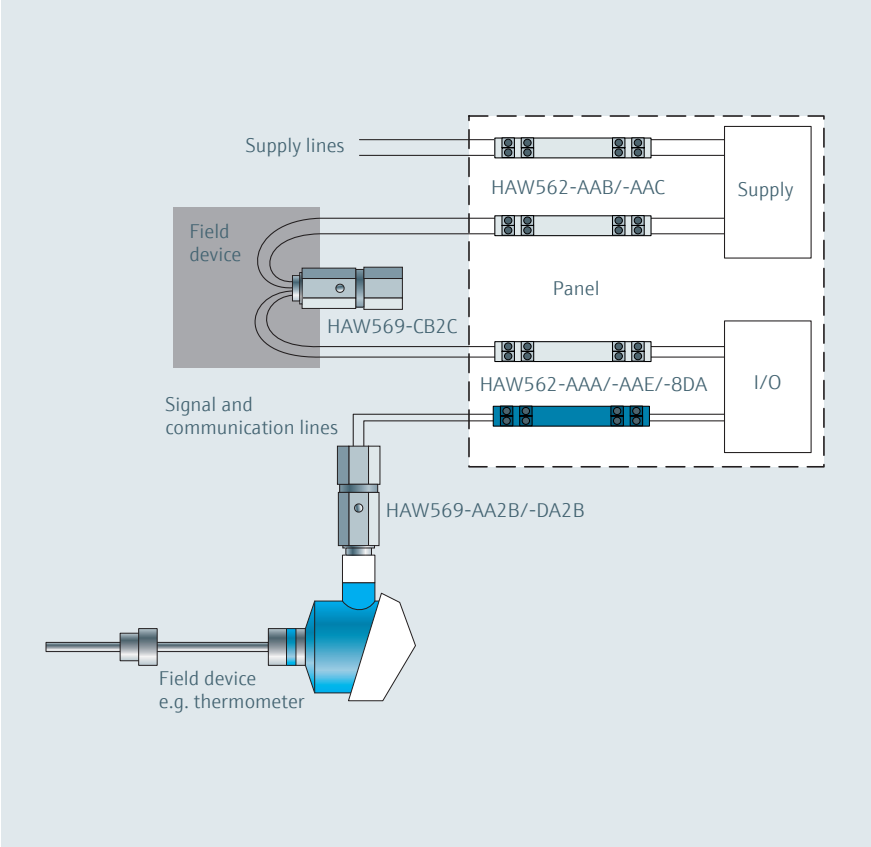
Surge protective devices

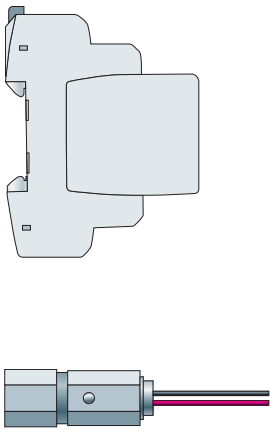
Surge protection – Protect your investment & maximizing uptime

Even brief production downtimes can lead to significant financial losses. Reliable surge protection is therefore essential to ensure continuous plant operation. Lightning strikes and switching events can cause transient overvoltages of up to 10 kV in power and communication lines. Sensors are tested according to EN 61000-4-5, but only up to 2 kV (power) and 1 kV (signal lines).

Endress+Hauser's surge protective devices are specifically designed for the requirements of the process industry. They protect sensitive measurement electronics by limiting dangerous voltage spikes to safe levels and automatically resetting after the event – ensuring long-term system reliability.

To achieve full protection, surge arresters must be installed on both ends of a line. Endress+Hauser offers solutions for DIN rail mounting in control panels and direct field installation, providing flexibility for various applications and environments.





HAW562 – for DIN rail mounting

Version / order code	HAW562-AAB	HAW562-AAC	HAW562-AAA	HAW562-8DA	HAW562-AAD	HAW562-AAE
Construction						
Application	Surge protection for power supplies		Surge protection for signal cables / communication cables, direct and indirect grounding possible			Surge protection for signal cables
Area / signal	10 to 55 V (+/-20 %)	90 to 230 V (+/-10 %)	4 to 20 mA, HART, PFM, PA, FF		RS485, Modbus, PROFIBUS DP	Protection module Prosonic S
SPD class	Type 3 / Class II					
Certificates	SIL 2					
Approvals	–			ATEX/IECEx, CSA, KC	–	
Accessories	Field housing, mounting kit		Field housing, mounting kit, screen grounding clamp			Field housing, mounting kit
Dimensions (WxH) mm (in)	18 x 90 (0.71 x 3.54)		12 x 90 (0.47 x 3.54)			

HAW569 – for field mounting

Version / order code	HAW569-AA2B	HAW569-DA2B	HAW569-CB2C
Construction			
Application	Surge protection of signal cables (4 to 20 mA, PFM, HART, FF, PA)		Surge protection of signal cables (4 to 20 mA, PFM, HART, FF, PA) and power supply cables (0 to 66 V & 80 to 230 V)
SPD class	Optimized Surge Protection Class		
Installation	Lead through version (direct and indirect screen grounding). Lead-through of power supply / signals - no extra cable gland	Lead through version (direct screen grounding). Lead-through of power supply / signals - no extra cable gland	Screw-in version Parallel connection – no additional resistor in the circuit
Approvals	–	ATEX/IECEx, CSA, KC	
Certificates	SIL 2		
Accessories	M20 / NPT1/2" adapter Cable gland set Grounding washer		M20 / NPT1/2" adapter
Dimensions	SW 27 x 71 mm (AF 27 mm x 2.8 in)		SW 27 x 63 mm (AF 27 mm x 2.48 in)

FDM – Field Data Manager software

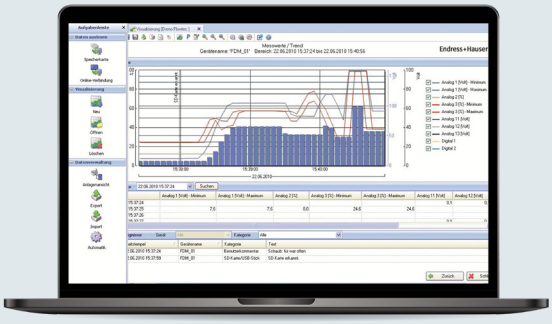
Visualization and data management

The FDM software offers various possibilities to display, manage and archive data from the production process. Data is stored in a data base (supported data bases: PostgreSQL or Microsoft SQL Server) thus extensive searching and complicated data handling is avoided.

With the help of the tamper-proof data management the requirements of the legislator and company compliance specifications can be easily fulfilled. Flexible display possibilities support the transparent representation and offer a solid basis for process analysis.

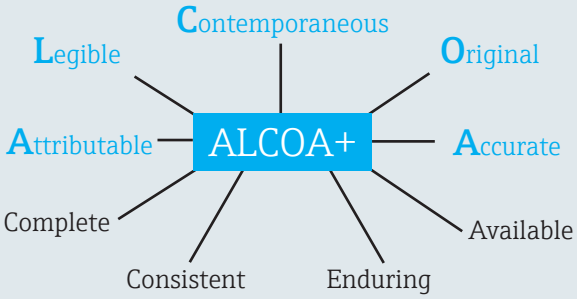
The software can be used with several Endress+Hauser devices:

- Ecograph T RSG35
- Memograph M RSG45
- EngyCal RS33, RH33
- Batch Controller RA33
- Liquiline CM44X
- Liquistation CSFXX
- Liquisystem CA80XX



Data integrity and IT/OT security according ALCOA+ principles

Global regulatory authorities and associations, such as the International Society for Pharmaceutical Engineering (ISPE), the U.S. Food and Drug Administration (FDA) and the European Medicines Agency (EMA) have published guidelines on how to guarantee data integrity.
In combination with Memograph M the FDM software fulfills the requirements regarding data integrity and security according to these ALCOA+ principles.



For more information see the ALCOA+ Whitepaper WP01159R

You find the current software version on the internet:
www.endress.com/ms20
www.endress.com/ms21
https://www.software-products.endress.com/

Product features at a glance:

- Automatic service for report generation, prin-ting reports, read out of data, storing of data, secure export and pdf generation
- Create reports and templates
- Read out measured data via online interface or from mass storage; Export/Import data
- SQL database / manipulation secure data storage
- Online visualization of instantaneous values (“live data”)

Security features at a glance:

- Customizable password rules: adjustable password strength (password length, special cha-racters, autom. password change requirement)
- Blocking of users in case of multiple incorrect entries, which is documented in the audit trail
- Auto-logout of users if there has been no user activity within a defined period of time

OPC DA Server

Visualization, monitoring and control of processes

Today OPC stands for 'Openness, Productivity and Collaboration' and is an interface standard in factory and process automation. Based on Windows technology OPC enables a simple and standardized data exchange between engineering processes and process monitoring and control.

Today higher and higher requirements on the availability, productivity and quality are made in all areas of automation technology. The integration of hundreds of devices from different manufacturers is, in this case, the greatest challenge. The integration of these measurement points into a primary, central visualization and control systems takes a lot of time and money.

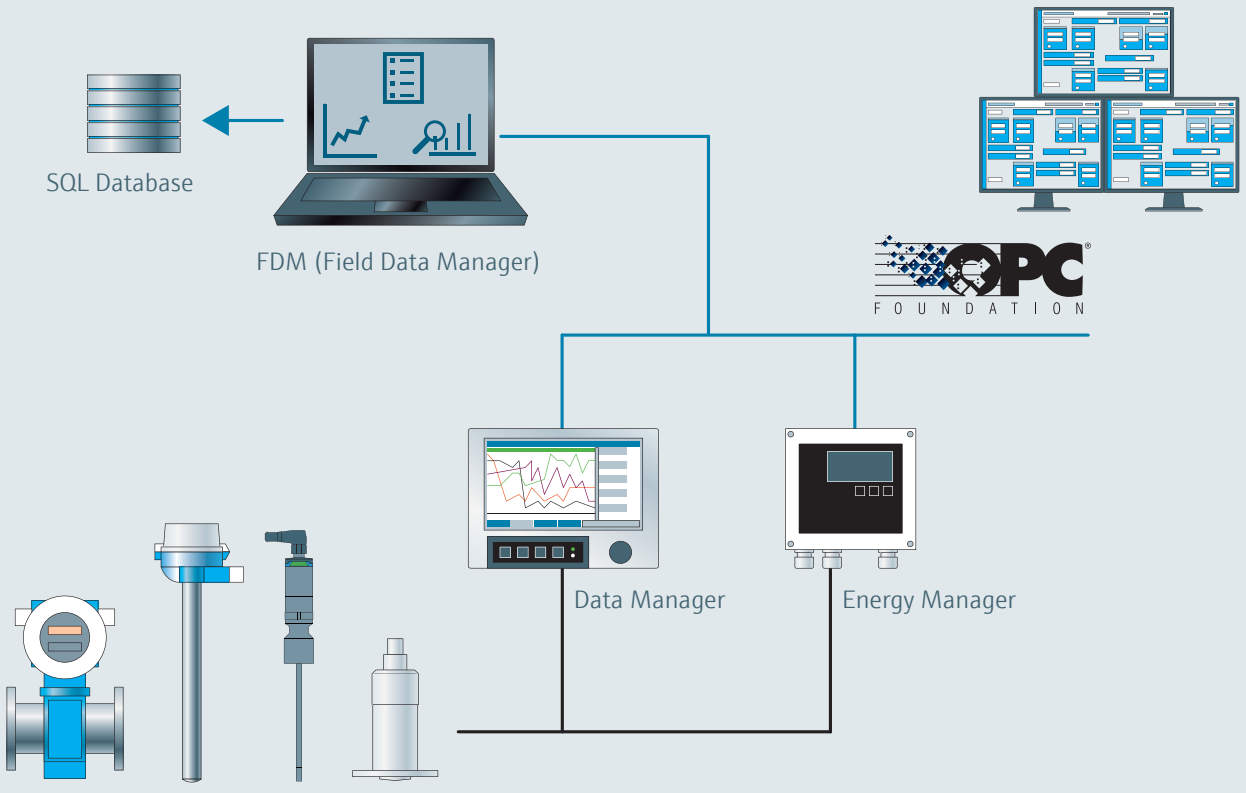
A standardized technology like OPC is used to integrate measuring points and express process data in a simple and fast way. The Endress+Hauser OPC Server is a comprehensive tool for all Endress+Hauser data and energy managers.

Simple data exchange

Depending on the type of device, data access to the following instantaneous values is possible:

- Analog channels
- Digital channels (digital combination)
- Mathematics channels and calculated process values
- Totalizer
- Time synchronization
- Date/time
- Calculated process values
- Quantities and energy

You find the current software version of the OPC server internet: www.endress.com/rxo20



Netilion – the multi-brand ecosystem

Netilion is a cloud-based IIoT ecosystem, designed for industrial processes. It connects the physical and digital worlds to send valuable information from the field straight to your phone, tablet or other devices. Netilion empowers you to improve efficiency and drive innovation.

Multi-brand ecosystem

You have equipment from various vendors in your installation. An IIoT solution should provide data from as many assets as possible, and Netilion can do that. This multi-brand ecosystem brings transparency into a plant regardless of device type or manufacturer.

Security and privacy

Your facility's information is valuable and needs protection. Netilion allows users to access data digitally because it meets internationally recognized standards of cloud-platform security. It's a safe harbor for your data.

Decentralized processes monitored efficiently

- Reduction of routine checkup tours through comprehensive visualization of essential process variables, e.g. flow quantities, limit values, levels, temperature, pressure or physicochemical quality parameters
- Low operating costs through fast reaction in case of failure

Legal compliance thanks to automation

- Continuous measurement of quantitative and qualitative parameters
- Generation of legally compliant documentation thanks to integrated reporting systems

Data access around the clock

- Complete data access independent of time and place
- Numerous options to analyze and visualize ratios, amounts, thresholds, time series and trends, as well as balances
- Everything at a glance thanks to the web-based visualization of networks with optimized depiction for highly diverse terminal devices

More about Netilion:
www.netilion.endress.com

5. Data fusion and analysis

Algorithms for leakage detection, verification, forecasts, etc.

4. Data management and visualization

Monitoring of networks and decentralized infrastructures

3. Data collection and transmission

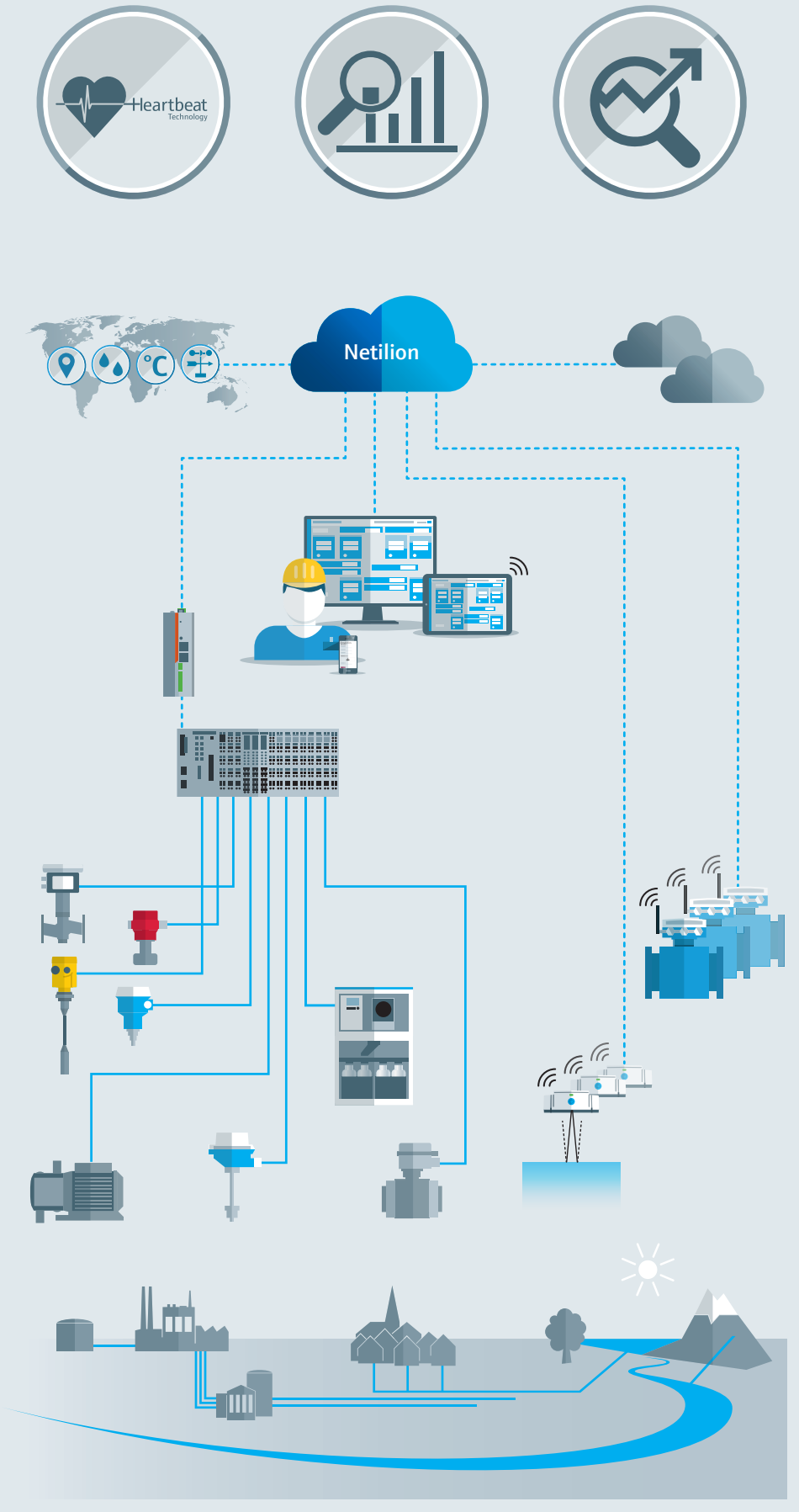
Flexible edge connectivity solutions

2. Data collection and control

Smart field devices and sensors (flow, analysis, pressure, level, temperature, etc.)

1. Physical world

Infrastructure (pipes, pumps, valves, etc.)



Further information:

- Level measurement FA00001F
- Pressure measurement FA00004P
- Flow measurements for liquids, gases and steam FA00005D
- Temperature measurement FA00006T
- pH measuring technology FA00007C
- Analyzers for water and wastewater FA00012C
- Service KOMPAKT FA00018H

Or alternatively as download under:
www.endress.com/download

Have you found "Your" device? We would be pleased to send you further detailed technical information.

www.addresses.endress.com

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