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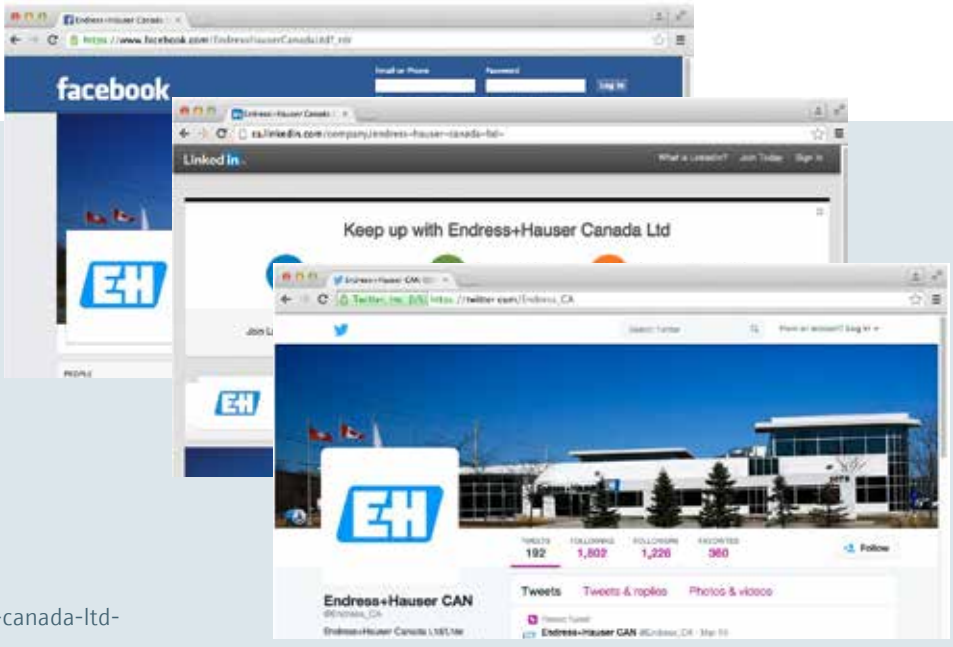

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/company/endress-hauser-canada-ltd-

Our valued friends, customers and business partners

Dear Reader,

Welcome to the first issue of *Talkline* magazine for 2015. A mere three months have passed since our December issue, yet it's safe to say that a lot has been going on in the world, and the markets we serve since then.

We have all watched oil drop to a per barrel price that few had anticipated. The effects of this dramatic drop have been making headlines both domestically and internationally. In addition, prices for other commodities such as iron and potash, etc. are also below historic levels.

Many of our customers and business partners have been impacted by these developments. However, these industry players aren't abandoning their plans. They are simply waiting for more favourable economic conditions before resuming full capacity operations and investments. These companies are—and will remain—investors within their respective industries, as they are all in it for the long haul.

To that end, Endress+Hauser remains committed to serving and supporting our customers over the long-term as well. We know economic conditions will improve and become more favourable in time. Capital investments and activities will ultimately be renewed with vigour. That is why Endress+Hauser Canada is currently constructing a Regional Customer Support Centre in Edmonton, Alberta. Regardless of the current economic situation, we are committed to ongoing investments which by their very nature, help to ensure we continue to enhance our ability to serve our customers as efficiently and effectively as possible—and close to where we are needed! You can read more about the construction of our new Edmonton facility in the pages that follow.

Remember, we are here to help you be as competitive and successful as possible in the markets you serve. Our products, services and solutions, along with our many decades of experience can be applied such that they deliver tangible results to your bottom line.

At Endress+Hauser, we are all focused on working with you towards the achievement of your goals. We wish each and every one of you continued success in 2015!

Sincerely,

Richard

Richard Lewandowski
CEO

Endress+Hauser and SPD Sales Create Strategic Partnership for Southern Ontario Municipal Water/Wastewater Market

Two major suppliers join forces – municipal water/wastewater customers to benefit

Endress+Hauser Canada Ltd and SPD Sales Ltd. are pleased to announce the signing of a joint partnership agreement, whereby SPD Sales will now promote Endress+Hauser products and services within the municipal water/wastewater market in Southern Ontario.

The partnership leverages Endress+Hauser's extensive municipal product portfolio with SPD Sales' existing knowledge, experience and dedicated industry resources. Through this partnership, both companies will serve municipal water/wastewater customers with an augmented dedication to the market.

The partnership builds on the successful track record both companies have experienced in this market, and draws on synergies inherent between the two organizations. With this partnership in place, and the dedicated industry experts of both companies working in concert, all existing and future customers stand to benefit from enhanced coverage, proven technologies, and combined capabilities.

SPD Sales' geographic mandate predominantly covers Southern Ontario. Northern and eastern limits of coverage include the districts of Muskoka, Haliburton, Hastings, Lennox and Addington, Frontenac and the

municipality of Leeds and the Thousand Islands. Customers outside these regions in Eastern Ontario can continue to contact the Endress+Hauser office in Montreal, while customers in Northern Ontario may continue to contact Synergy Controls.

Endress+Hauser is the largest independent manufacturer of instrumentation in the world, with global manufacturing facilities, over 12,000 associates, and net sales of over $2 billion CAD. Endress+Hauser is a global leader in the provision of measurement instrumentation, services and solutions for industrial process engineering, helping customers optimize economic efficiency, safety and environmental protection.

Inquiries can be directed to:
Scott Whitehouse
Phone +905-681-9292 (+1-800-668-3199) x 4386
scott.whitehouse@ca.endress.com
www.ca.endress.com

SPD Sales has remained dedicated to the promotion, supply and support of instrumentation and chemical feed products for the process control market. SPD Sales' highly trained and qualified personnel provide full technical application and product support to industries and municipalities, putting forward the highest quality products and instrumentation solutions for its clients.

Inquiries can be directed to:
David Cosentino
6415 Northam Drive, Mississauga, ON L4V 1J2
+905-678-2882 (+1-800-811-2811)
cosentino.d@spdsales.com
www.spdsales.com

Putting Measurement Problems to Bed

Using a submersible ultrasonic level sensor in Glencore's Kidd Concentrator

Glencore Xstrata was looking for a reliable way to measure the bed level in the tailings thickener at its Kidd Concentrator facility. Kidd had tried different options without success but Endress+Hauser was able to provide an accurate and reliable automated solution that may also reduce operational costs down the road.

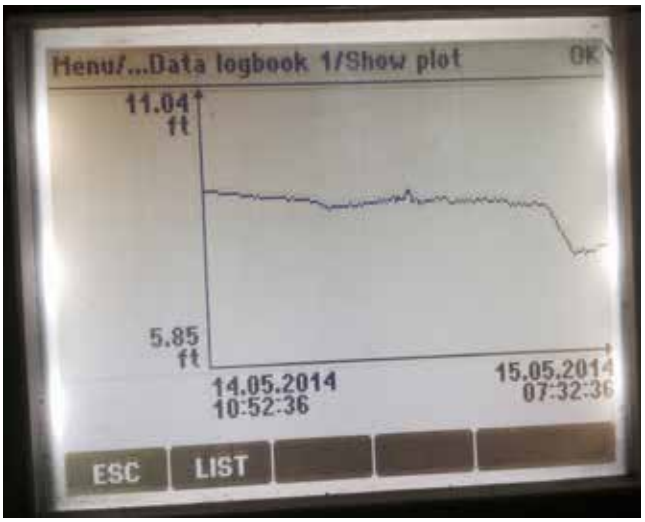
Kidd Operations, located near Timmins, Ontario, is a fully owned interest of Glencore Xstrata, including a mine at Kidd Creek and a separate metallurgical divison. The Kidd Creek copper and zinc mine is the deepest base-metal mine below sea level in the world (9600 ft.), with the world's longest surface-to-bottom ramp and an annual average yield of 40,000 tonnes of copper and 70,000 tonnes of zinc. The Kidd Metallurgical Division, located 27 km away by dedicated rail, includes the Kidd Concentrator and tailings operation, which handles Kidd Creek mine ores as well as processing concentrates for outside companies.

Kidd was having difficulty finding a reliable measurement solution to determine the bed level in the Thickener, due in large part to the high settling rate of solids in the process and the presence of a heavy emulsion layer above the bed. These conditions produced false or inaccurate readings with other measuring approaches. As a result, the company had resorted to cumbersome manual measurements using a Sludge Judge to assure bed level readings were accurate.

Endress+Hauser recommended that Kidd install the Turbimax CUS71D submersible Ultrasonic level sensor to automate bed level measurement.

"There are potential cost savings from using the level measurement to help optimize floc addition"

"The unit was designed specifically to address this application," explains Endress+Hauser Canadian Sales Manager Rick Hemingway. "This was a new technology for Glencore, so Endress+Hauser provided site support to supervise the installation and commissioning with our Endress+Hauser application specialist and our



"Set up was a simple process, and the measurement was verified"

Endress+Hauser service technician. In addition to commissioning the instrument, they provided training for the Glencore team on how to maintain the device while in operation."

Submersible ultrasonic level sensors, such as the Turbimax CUS71D, are ideal for continuous measurement of interface separation in liquids and sediment in thickening beds. The instrument generates an ultrasonic signal (using a piezoelectric crystal) and measures the time it takes for that signal to reflect back to the sensor from the solid particles in the separation zone. The Turbimax CUS71D can detect the interface level anywhere in a range from one to 32 feet from the sensor, with a maximum error of 1.3 inches.

In order to avoid the buildup of a film coating on the sensor in the Kidd Concentrator, Endress+Hauser recommended the standard Turbimax model with a built-in cleaning assembly, ensuring there is no interference with the transducer.

"The device has no moving components in comparison to other technologies on the market, which negates the regular maintenance and cleaning associated with these products," says Hemingway. "In addition, the technology has the ability to penetrate the layers above the bed to provide reliable and accurate measurement."

The Turbimax CUS71D was supplied and commissioned in the Kidd Concentrator Facility in Spring 2014. The bed level was monitored for several months and proved to be very reliable. In January 2015, Glencore confirmed that the unit officially met their expectations.

"Following installation, an Endress+Hauser service technician and a product application specialist attended the site to set up the instrument, assisted by Kidd's instrument maintenance and "met tech" personnel. At this time, over-the-shoulder training was provided," Chief Process Control Engineer on the project, Alan Hyde, stated in a follow-up report. "Set up was a simple process, and the measurement was verified by use of a Sludge Judge."

Hyde is impressed with the Endress+Hauser solution and believes the Turbimax instrument may create cost efficiencies in the operation of the tailings thickener. "The ultrasonic sensor provides significantly better information than the existing level instrument, and provides an opportunity for better control and monitoring of the thickener operation," he reports. "In particular there are potential cost savings from using the level measurement to help optimize floc addition, which can only be achieved if a robust measurement is available."

With the Turbimax CUS71D keeping Thickener at the Kidd Operations operating effectively, Glencore is now exploring the use of Endress+Hauser ultrasonic level sensors in other facets of the Kidd Metallurgical Division. The facility's process thickener presents similar challenges as the tailings thickener, though the construction of the thickener and the incoming material are both different from the first application, and the loading is of different composition and rates.

The same Turbimax model is currently being evaluated in that application for evaluation.

Smart Scale Energy Solutions – Steam Systems

Monitoring the efficiency of steam boilers pays off

Benefits

Monitoring and analyzing the steam system helps to:

- Benchmark steam boilers and optimize the steam consumption
- Gain transparency of the fuel consumption
- Identify the ideal operation load
- Identify, quantify and allocate losses in the steam system
- Verify investments in heat recovery measures

A typical steam boiler often consumes many times the initial capital expense in fuel usage annually. The investment cost for a boiler can easily be five times lower than the yearly fuel consumption. Consequently, a difference of just a few percentage points in boiler efficiency between units will result in substantial fuel savings.

The Challenge Constant monitoring of a steam boiler and the steam system is the key to improving system performance and detecting changes at a early stage.

The Solution Define the right KPIs which help you to evaluate:

1. Steam boiler efficiency,
2. System balancing and leakage,
3. Specific energy consumption.

This is the precondition for energy management and cost reduction. Our energy and data manager RSG40 collects, stores and displays all the required data.

1. Boiler Efficiency

The economic evaluation of steam boilers has to include the technical layout and features as well as the definition of the actual maintenance and fuel usage requirements. Of these criteria, the key factor to benefit from continuous cost reductions is monitoring the fuel usage or boiler efficiency. Boiler efficiency, in the simplest terms, represents the difference between energy input and output related to the steam process.

It accounts for the effectiveness of the heat exchanger as well as for the radiation, convection and blow down losses. Therefore it helps to:

- Gain transparency of the fuel and steam consumption,
- Identify, quantify and allocate losses in the system,
- Benchmark boilers, consumers and optimize their use,
- Minimize maintenance costs and downtimes,
- Verify investments in heat recovery measures,
- Evaluate most efficient operation load of boiler and production.

It starts with the determination of the actual performance for all existing boilers. This requires accurate and repeatable measurements of the steam output, the heat remaining in the feed water and the fuel supplied

Payback Calculation Example

Situation:
- Boiler 50 KPPH* (125 psig)
- Operation: 8,000 h/yr
- Steam production costs: $15/Klb.* (Cost varies with boiler design/ efficiency and gas/chemical cost)

Sources of energy loss:
- 75 PPH* or 600 Klb./yr per steam trap (Typically 25% of steam traps are defective)
- Efficiency loss due to scaling of heat transfer surface: 0.5% = 2,000 Klb./yr steam (0.5% of 50 KPPH × 8,000 h/yr) (Typically fouling decreases efficiency by up to 5%, optimized cleaning intervals can improve this)

Payback:
Overall costs of instruments for boiler efficiency calculation and balancing: $20,000

2,600 Klb. (600 Klb./yr + 2,000 Klb./yr) × $15/Klb.
= $39,000/yr or $3,250/mth

The payback is approximately 6 months!

*KPPH = 1,000 pounds per hour
PPH = pounds per hour
Klb. = 1,000 pounds

Memograph M RSG40 with process display

to the burner. Recognized standards are used for each single calorimetric calculation, the input/ output method is recommended by boiler manufacturers.

Beyond the standard, Endress+Hauser multiparameter instruments provide more process information and therefore added value. Density or viscosity for liquid fuels, methane for biogas and pH/ oxygen/total dissolved solids (TDS) for feed water.

2. Steam Balance and Leakage

Apart from the efficiency of steam generation it is important to make sure that the steam energy is used where it should be. A lot of energy is lost in steam systems due to improper insulation or leakage found at valve stems, unions, pressure regulators, equipment connection flanges, pipe joints and defective steam traps. Mass balancing by measurement at different points in the steam system helps to:
- Detect leakages in time (not at the end of year or month).
- Define ideal maintenance intervals and justify expenses.
- Find weak points in insulation.
- Quantify and reduce condensate losses and thus save valuable energy, reduce make up water and chemicals.

3. Specific Energy Consumption

The allocation of energy usage to specific areas and processes is one of the key factors for energy management systems (e.g. ISO 50001) and a precondition for transparent book-keeping. The exact measurement of steam consumption per unit of product (SEC) is also important to optimize production processes. Furthermore the data are suitable for a carbon footprint evaluation.

RSG40 Analysis The energy and data manager RSG40 collects, stores and displays all the required data necessary for the monitoring of a steam system. By using the intuitive Field Data Manager software (FDM) it can be accessed from the desk and processed into a user friendly and meaningful format.

All relevant information is available:
- Boiler efficiency
- Fuel and steam consumption
- Leakage loss
- Specific energy consumption

Endress+Hauser Building Regional Customer Support Centre in Edmonton

New facility offers Customer Training Centre and Flow Calibration Lab

Endress+Hauser Canada, the *People for Process Automation*, are solidifying their commitment to customers in Western Canada with the construction of a new Regional Customer Support Centre in Edmonton.

The new 20,000-square-foot facility will provide Endress+Hauser clients in Alberta, British Columbia and Saskatchewan with ready access to some of the best technical support, training and measurement instrumentation in the world. Centralizing inventory, technical expertise and customer service support teams in a western hub will provide customers with local stock, improved delivery times, calibration and other services, as well as hands-on training opportunities.

"With the construction of the Regional Customer Support Centre, Endress+Hauser is reinforcing our dedication to customers in Western Canada," said Richard Lewandowski, general manager of Endress+Hauser Canada. "Upon completion, we expect this facility to accommodate more than 50 associates, focusing on the success of our customers. We are excited to increase our technical, training, service and logistical presence in one regional hub."

The $10 million Endress+Hauser Regional Customer Support Centre will include:

- office space for sales, technical support, project management and service associates;
- a warehouse for process measurement inventory to quickly support customer requirements;
- a state-of-the-art Customer Training Centre with functional process models; and
- a certified Flow Calibration Lab.

"We value the strong customer base we have served in Western Canada over the years and this facility is a sign of our commitment to provide the region with the highest-quality instrumentation and services in the country," said Justin Zinke, manager of Western operations. "This Regional Customer Support Centre allows us to be closer to those customers, offering more product, service and training opportunities to help them meet their business objectives."

Working with ONPA Architects and CPI Construction Ltd., construction of the new facility at 91st Street, Gateway Business Park in Edmonton began in September 2014. When completed in Fall 2015, the facility will meet LEED standards, reflecting the same commitment to responsible development that Endress+Hauser shares with its process automation customers.

More information: Justin Zinke, 403 295 5635
Justin.Zinke@ca.endress.com
Suite 400, 805 10 Ave SW, Calgary, Alberta T2R 0B4
www.ca.endress.com


Northwest corner


Southwest corner

Architectural renderings by ONPA Architects

Transmitters on Twitter?

by Dean Rudd, Analytical Product Manager, Endress+Hauser Canada

Digital communications are changing the way we interact with plant processes and systems.

In today's fast-paced world, information is king. In the realm of process measurement and automation, this information travels over digital communication networks. PROFIBUS, HART and FOUNDATION fieldbus protocols (the latter two having recently merged as the FieldComm Group). But now the process world and the IT world work much more closely and protocols are merging. In our daily lives, the use of wireless systems for phones and mobile devices is commonplace.

This is now becoming true for the process world as well. This new found flexibility in communications is changing the landscape for instrumentation. Wireless systems enable a dramatic reduction in the need for dedicated, expensive wiring—allowing for openness and easy expansion—drastically reducing costs for infrastructure. These changes are now integrated into instrumentation and is increasing the flexibility of our transmitters.

At the same time we are seeing an increase in the use of Ethernet networks in the process environment. Newer protocols like PROFINET and Power-over-Ethernet (PoE) are also emerging into automation systems. The increased use of Ethernet allows IT components like smartphones and tablets to be used by operations to communicate with instruments for configuration and service. The practice of operating transmitters with a computer and a common web browser is now more prevalent than ever. This new connectivity allows convenient access to the device and all the information available about the process and its sensors.

In the future, many more opportunities will open up. As transmitters handle more information from connected sensors, including their operational status and the need for maintenance … they will call us. For example, a transmitter will email a request for maintenance and send its location to a service person by GPS navigation. Soon they may need their own Twitter accounts! The new Liquiline platform from Endress+Hauser with Ethernet connectivity supports this change today. Expanded to cover transmitters, samplers and analyzers as well, Liquiline instruments are ready today—for the needs of tomorrow.

At Endress+Hauser we look forward to the future and how technology will progress. Just imagine, someday soon you may have to send a friend request to your transmitter! The future really is friendly!

Liquiline instruments are ready today—for the needs of tomorrow.

Technology Days — Ontario and Alberta

ONTARIO

APRIL 7; 9 a.m.
Atrium Banquet & Conference Centre, Burlington

APRIL 8; 9 a.m.
Holiday Inn Sarnia

APRIL 9; 12 p.m.
Walkerville Brewery, Windsor

APRIL 14; 9 a.m.
Hilton Garden Inn, Vaughan

Ontario Schedule

- Chasing a Pipe Dream
- Taking Radar Measurement Instrumentation to the Next Level
- Plug into Industrial Ethernet
- Ask the expert
- Complimentary lunch

ALBERTA

APRIL 28; 8:30 a.m.
The Derrick Club, Edmonton

Alberta Schedule

- Chasing a Pipe Dream
- Taking Radar Measurement Instrumentation to the Next Level
- Ask the Expert
- Complimentary lunch

Details and registration:
endress.primarytargetmedia.com/ontario
endress.primarytargetmedia.com/alberta
info@ca.endress.com
1-800-668-3199, ext. 4372

Register early! Space is limited.

Chasing a Pipe Dream — installation effects on flow measurement

One of the main causes of flow-meter error and inconsistency in flow measurement is poor site installation practice, costing companies time, resources and money. Explore the potential consequences of poor installation and learn what to look for when measuring flow in your facility.

This presentation uses the gas flow rig to demonstrate the following:

- Profile impact on metering
- Influence of pipe work
- Turndown related to specification
- Impact of pressure (gauge or atmospheric)
- Creation and effect of pressure drop

Determine what questions should be answered prior to meter selection. And ensure you are applying good instrument engineering practice for your specific installations.

Taking Radar Measurement Instrumentation to the Next Level

Track the most recent updates on free-space radar and guided-wave radar technology. Explore their cost-savings potential and learn about the impressive safety benefits of Heartbeat Technology™.

This presentation demonstrates:

- *In-situ* functional testing of radars
- Advanced signal evaluation — what can you do with it in a plant?
- How signal evaluation and validation can optimize your process. (Heartbeat Technology™)

Learn how you can make use of advanced radar diagnostics and signal evaluation functionality in a simple and pragmatic way to reduce operational costs while increasing plant safety.

Plug into Industrial Ethernet — and set your HART on success

Demand for Ethernet/IP (Ethernet Industrial Protocol) in process automation is growing. Initially driven by the Food & Beverage, Life Sciences and Environmental industries, Industrial Ethernet applications can benefit companies in most process automation sectors.

In this session, you will learn about:

- The benefits and advantages of Industrial Ethernet applications
- The product portfolio supported by the technology
- The technical architecture involved and how it can be integrated into existing networks
- FieldDevice diagnostics and plant asset management
- Different versions of HART protocol
- WirelessHART and its possibilities.

Get the most out of instrumentation digital technologies and see how they can help you save time, money and increase product quality.

ALBERTA
MAY 14; 9 a.m.
SAIT, Calgary

Details and registration:
info@ca.endress.com
1-800-668-3199, ext. 4372

Technology Day – Save the date

Customized Water Quality Measurement Solutions – decrease SORs and increase productivity

Review the typical water cycle in steam-assisted gravity drainage (SAGD). Explore the effects of specific contaminants on the process and learn measurement methods that can reduce downtime and increase system efficiency.

Use Your Level Transmitter to its Full Capabilities to Reduce Costs

There is a clear trend in the oil field to replace mechanical level instruments with new technologies that feature smart transmitters. Making the switch increases safety, reduces downtime and maintenance costs and therefore increases efficiency. Get the most out of your new level transmitter.

Trade Shows 2015

March 24	ISA Hamilton, ON
April 14	ISA Sarnia, ON
April 19-21	OPCEA–WEAO, Toronto Congress Centre, ON
April 19-22	MPWWA, Charlottetown, PEI
April 22-23	ISA Calgary, AB
April 29-30	RAOTM, Kitchener, ON
May 5	Process & Automation Show, Halifax, NS
May 7	Process & Automation Show, St. John, NB
May 10-12	CIM Montreal, QC
May 27-30	BCWWA, Kelowna, BC
June 17-18	Atlantic Canada Petroleum Show, St. John's, NFLD
October 22-23	NWOWWA, Thunder Bay, ON
October 29	Process & Automation Show, Winnipeg, MB

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$3,600/person
Custom on-site training is also available.

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Western: 1-888-918-5049

Certified PROFIBUS Training for Process Automation

Endress+Hauser's Competence Centre

May 5 to 8 and September 15 to 18; Burlington, Ontario
June 16 to 19 and October 20 to 23; Edmonton, Alberta

Who should attend?

- Engineers/Technologists who design Profibus networks
- System Integrators
- Electrical Instrumentation Contractors
- Control and Instrumentation Technicians

Prerequisites

Basic knowledge of computers, electronics and mathematics

Certification

Certified PROFIBUS PA Professional
Minimum 70% score to qualify for internationally recognized certification.

Products Spotlight

Cleanfit CPA875

Hygienic and sterile retractable assembly for pH, ORP, DO

- Modular design provides installation flexibility and reduces spare parts
- Unique seal design ensures safe and sterile online sensor exchange and cleaning
- High-pressure operation with either manual or pneumatic actuation

www.ca.endress.com/analysis

CUS52D

Low range online turbidity system

- Non-liquid verification and calibration for low range turbidity
- Direct pipe insertion design eliminates product loss
- Single sensor for all turbidity measuring ranges

www.ca.endress.com/CUS52D

CM44xR

Compact, DIN rail mount multi-parameter transmitter system

- Easy plug-and-play setup, commissioning and maintenance with Memosens digital sensors
- Standardized Liquiline modules reduce spare parts and simplify operator training
- DIN rail mount design, 8 channel expandability with optional remote display

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TempC Membrane

For diaphragm seals

Temperature compensated membrane

- Up to 8X faster temperature recovery time to CIP/SIP
- Drastically reduced zero shift adjustments
- Up to 10X more accurate than conventional membrane

www.ca.endress.com/temperature

Products Spotlight

Memosens

Contactless, digital, innovative

- Inductive metal-free connection for increased signal stability with no corrosion or moisture influences
- Lab calibrations possible with in-sensor data storage (all sensors pre-calibrated at the factory)
- Sensor traceability with automated storage of process and sensor data

www.ca.endress.com/analysis

Memobase Plus CYZ71D

Calibrate, measure and document

- Save time and money with one simple calibration and documentation tool
- Simple sensor exchange for the highest plant availability
- Work safely in a clean, controlled environment and eliminate human error with electronic record keeping
- Create true sensor life-cycle management with complete calibration records, standards management and service history

www.ca.endress.com/CYZ71D

Prosonic FMU30

Ultrasonic level transmitter

Ultrasonic Transmitter for level applications in liquids and bulk solids

- Quick and simple commissioning via four-line plain text display
- Envelope curves on the display for simple diagnosis
- Non-contact measurement method minimizes service requirements

www.ca.endress.com/fmu30

TM41x iTEMP®

Innovative temperature measurement

- QuickSens Insert for the fastest temperature response on the market today (T90<1.5 seconds)
- StronSens Insert for long-term reliability and vibration resistance
- Save time during calibration with the Quickneck release design
- Stainless Steel construction with IP69K Ingress protection for guaranteed performance on wash-down applications

www.ca.endress.com/TM411

Micropilot FMR5x series

Radar level transmitters

- Hardware and software – IEC 61508 up to SIL3
- Extended temperature range -196...+450°C / -321...+842°F
- Highest reliability with new Multi-Echo Tracking evaluation
- Measuring accuracy up to ±2mm/0.078"
- HistoROM data management concept offers fast and easy setup, maintenance and diagnostics

www.ca.endress.com/fmr52

Smartec CLD18

Compact toroidal conductivity transmitter

- Specially designed for washdown and vibration applications (IP69K)
- Fast response reduces product loss and increases CIP efficiency
- Robust field proven hygienic design reduces unexpected downtime

www.ca.endress.com/CLD18

Prowirl 200

Vortex flowmeter

- HistoROM: secure automated device back up ensures high plant availability
- Heartbeat technology™: continuous self-diagnostics and device verification
- Wet steam alarm for safe and efficient operation of steam systems
- Life-time calibration eliminates errors caused by sensor drift

www.ca.endress.com/vortex

Proline Promag 400

Flowmeter

- HistoROM: secure automated device back-up ensures high plant availability
- Heartbeat Technology™: continuous self-diagnostics and device verification
- Built-in web server for fast and easy device configuration
- Certified corrosion protection for use underground or underwater without modifications

www.ca.endress.com/flow

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Issue 71

Architectural renderings by ONPA Architects

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