ENERSIC600

Gas chromatograph for reliable custody transfer gas analysis

The next level in gas and BTU analysis

- Precise billing, even for a quickly changing gas composition
- Cost savings thanks to integrated H_2 and O_2 analysis
- Saves up to 70 % space and weight compared to previous solutions
- Cost-effective and flexible system integration for up to four measuring distances
- Easy integration into existing analyzer systems
- Up to 50 % shorter commissioning time
- Quick and easy cartridge replacement
- International service network

Endress+Hauser
People for Process Automation

Custody transfer gas analysis in just 45 seconds – energy measurement included

Benefit from the latest technology for the ultimate in measurement accuracy: In 2003 we introduced the first ultrasonic gas flow meter for custody transfer gas flow measurement and process gas monitoring. In 2012, we introduced the flow computer for this area of application.

The next level in gas and BTU analysis has now arrived: ENERSIC600 is a gas chromatograph for custody transfer applications that demonstrates its strengths in particular for hydrogen-containing natural gas – a reliable and efficient solution for applications in the natural gas market.

ENERSIC600: advanced gas analysis made easy

Natural gas and H_2 analysis in one device, in just 45 seconds

Innovative cartridge concept for simple servicing

Flexible system integration for up to four sample lines

Precise measurement and output of heating value and analysis data

Intelligent analysis in the smallest of spaces

ENERSIC600 uses multiple MEMS sensors in parallel for highly efficient gas analysis. The analysis duration of just 45 seconds saves up to 85 % time. And in a very small space: ENERSIC600 requires 70 % less space and weight compared to conventional gas chromatographs for custody transfer.

Long service life, precise analysis

The compact housing makes ENERSIC600 robust and consistently stable for use in potentially explosive areas (Zone 1). The internal values are also convincing: The back-flush-to-detector technology not only reduces the analysis time, it also increases the service life of ENERSIC600: contaminating or reactive components do not get into the separation column.

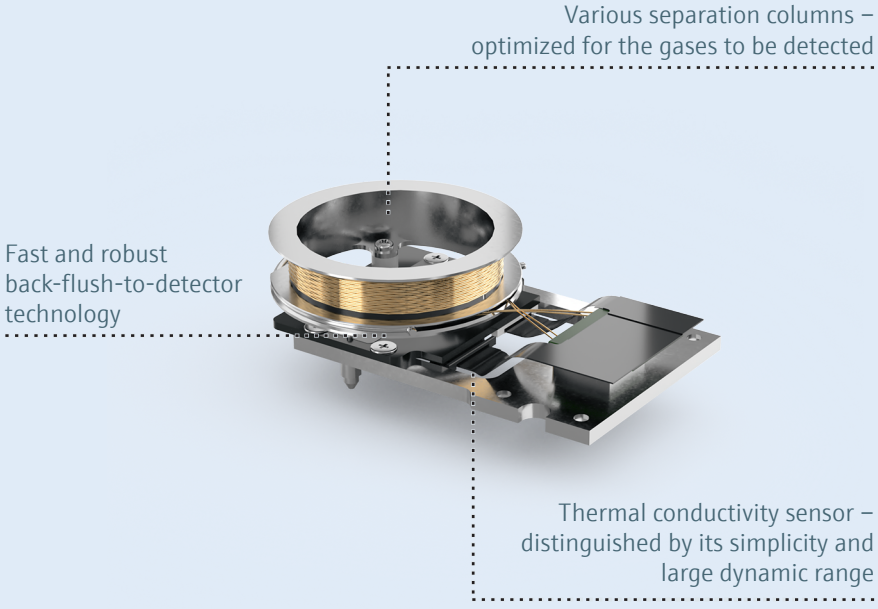
One platform – modular construction

Suitable for your requirements: ENERSIC600 is based on a platform that has a modular structure. By simply replacing the cartridge, the measurement of hydrogen-containing natural gas is possible in no time at all. Maintenance is also quick and easy thanks to this modular design.

ENERSIC600: simple integration, fast maintenance

With its rugged and compact design, ENERSIC600 is easy to integrate into analyzer systems – even directly within explosion-hazardous areas. Commissioning, operation and data analysis with ENERSIC600 is easy and intuitive thanks to the user-friendly operating software.

ENERSIC600 also sets standards in maintenance: Thanks to the innovative cartridge concept, the cartridges can be replaced in just a few minutes. ENERSIC600 does not have to be disassembled to repair or replace individual parts or assemblies, a process which can often be very time-consuming. The cartridge, which is secured with three screws and contains the analysis sensors inside, must simply be replaced. The device does not contain any additional tubes or capillaries, which further increases its robustness.



Complete solution portfolio from a single source – energy measurement included

ENERSIC600

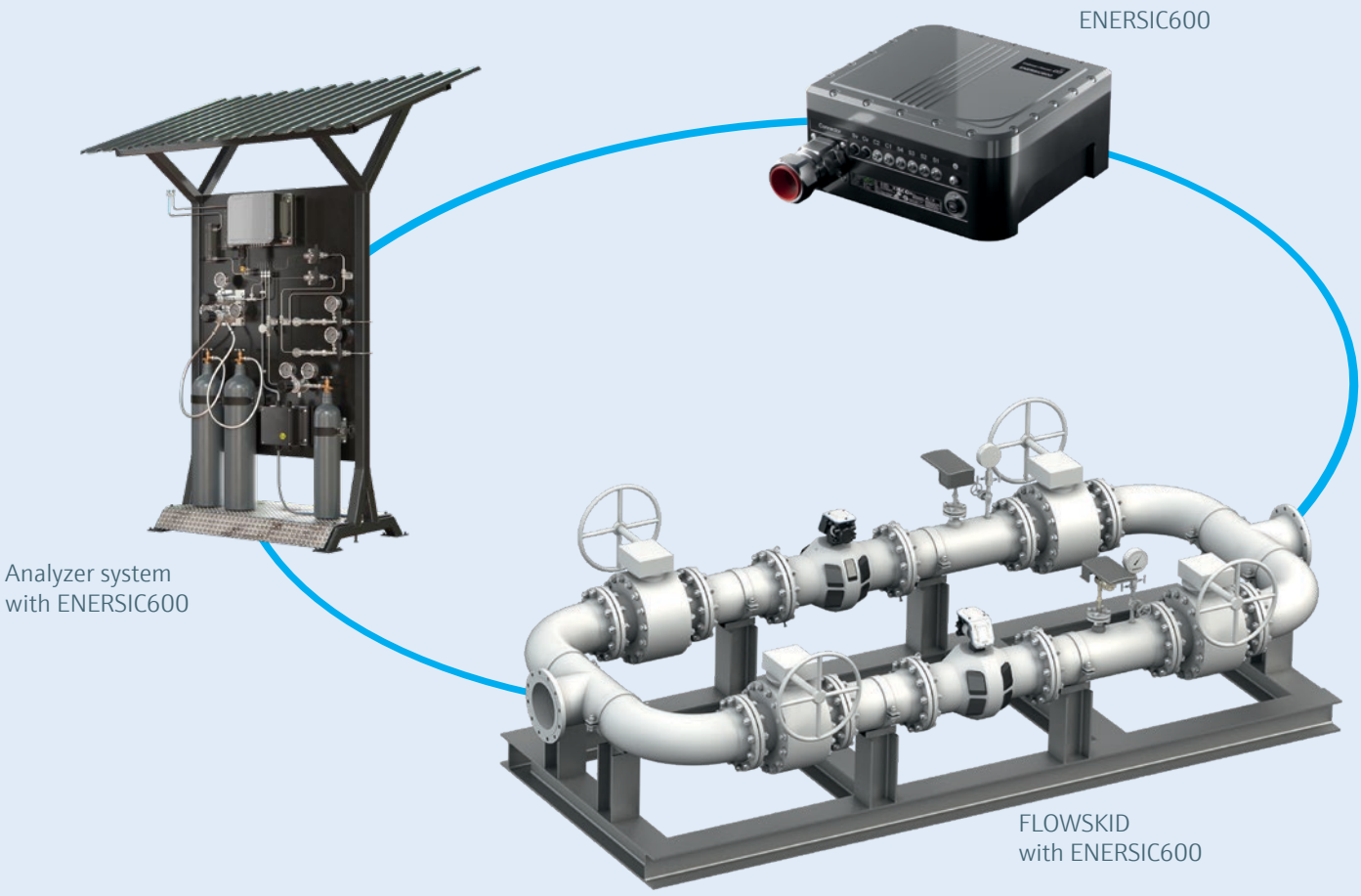
Whether as a single device, integrated into a compact analyzer system or as a complete system solution with flow measurement: we offer the right solution for your requirements with perfectly coordinated components – all from a single source.

Analyzer system

The ENERSIC600 analyzer system is a cost-efficient and compact system consisting of the ENERSIC600, the associated fittings, an optional flow computer and the necessary carrier and calibration gases. It can be installed directly next to the piping, reducing installation effort and guaranteeing fresh gas samples.

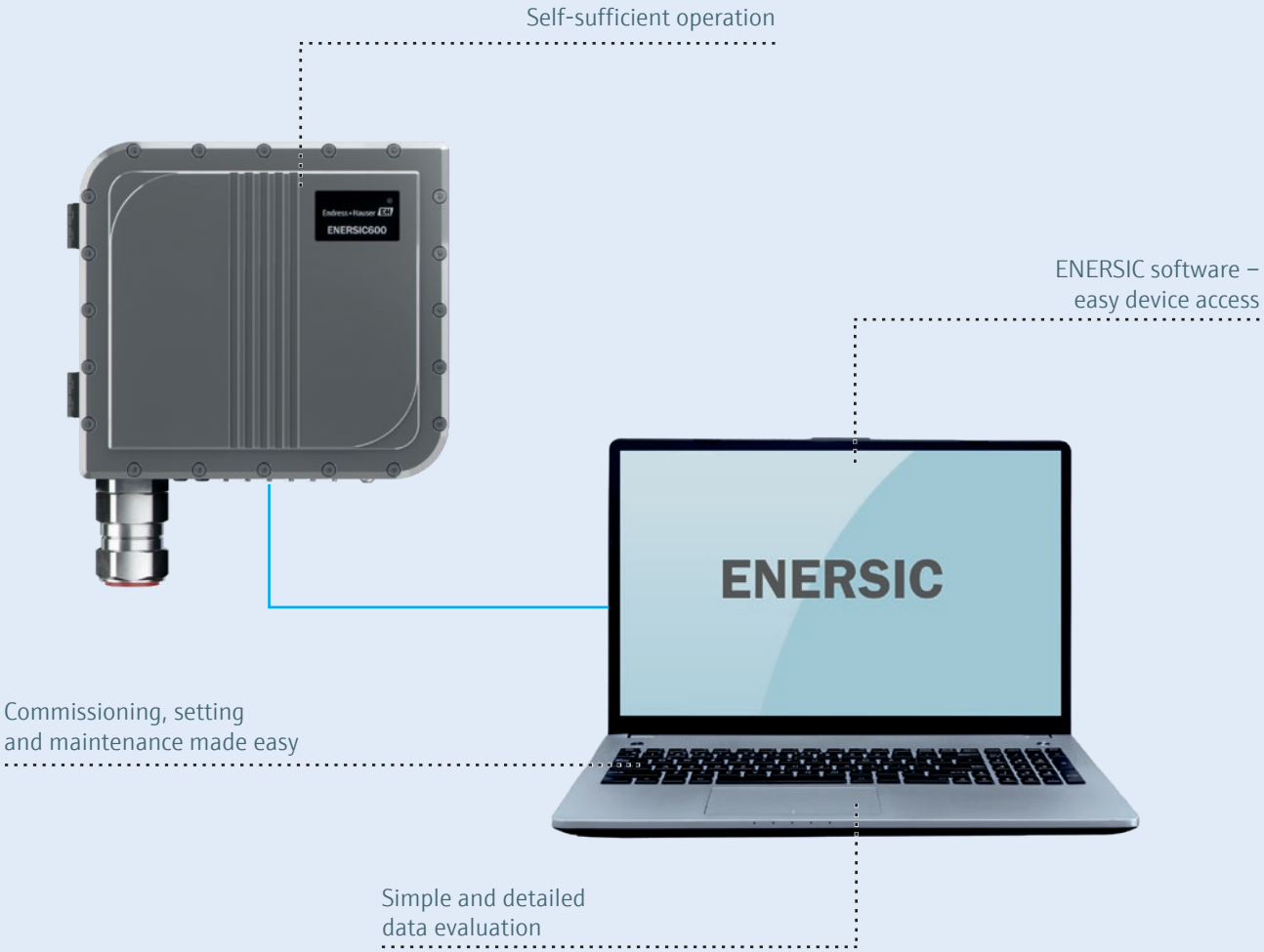
FLOWSKID system solution

Cost-effective and flexible system integration – energy measurement included: an extensive choice of components like flow computers, customized measurement technology, piping, valve technologies, and gas analyzers are available for assembling an optimal flow metering system. This enables the operating entity to accurately meter and monitor all parameters relevant to their plant as part of the calibration requirement.



Easy operation and system processing

ENERSIC600 is designed for continuous online monitoring and works independently and unattended. It provides all generated analysis data via MODBUS or TCP protocols using RS485, RS232, Ethernet or digital I/O ports. All settings of the ENERSIC600 can be made using the ENERSIC operating software, whether during commissioning, during ongoing operation or during maintenance. The ENERSIC operating software can be used to analyze the recorded data in detail. Communication between the ENERSIC600 and a Windows PC takes place via a (wired) LAN connection.



ENERSIC600
Gas chromatograph for reliable custody transfer gas analysis

Product Description

The next level in gas and BTU analysis: ENERSIC600 is a gas chromatograph for custody transfer applications that demonstrates its strengths in particular for hydrogen-containing natural gas. Its general advantages: Low installation and operating costs while also highly reliable. With its rugged and compact design, ENERSIC600 is easy to integrate into analyzer systems – even directly within explosion-hazardous areas. ENERSIC600 performs a precise gas analysis in just 45 seconds and outputs analysis data and a heating value immediately. Commissioning, operation and data analysis with ENERSIC600 is easy and intuitive thanks to the user-friendly operating software.

At a glance

- Stable, precise gas analysis in 45 seconds
- Measurement of natural gas, H_2 up to 20 mol % and O_2 up to 5 mol % with one device
- H_2-ready: easy to retrofit for hydrogen analysis
- Rugged, compact design and only 15 kg (33 lbs) weight
- Autonomous operation with real-time diagnostics
- Automatic calibration at a customizable time interval
- Innovative cartridge concept

Your benefits

- Precise billing, even for a quickly changing gas composition
- Cost savings thanks to integrated H_2 and O_2 analysis
- Saves up to 70 % space and weight compared to previous solutions
- Cost-effective and flexible system integration for up to four sample streams
- Easy integration into existing analyzer systems
- Up to 50 % shorter commissioning time
- Quick and easy cartridge replacement
- International service network

Fields of application

- Natural gas custody transfer applications
- Natural gas with O_2 content up to 5 mol % and H_2 content up to 20 mol %
- LNG applications
- Fuel gas and flare gas applications in gas production

More Information online

For more information, enter the link or scan the QR code to get direct access to technical data, operating instructions, software, application examples, and much more.
www.endress.com/enersic600

Technical data

The exact device specifications and performance data of the product may deviate from the information provided here, and depend on the application in which the product is being used and the relevant customer specifications.

ENERSIC600

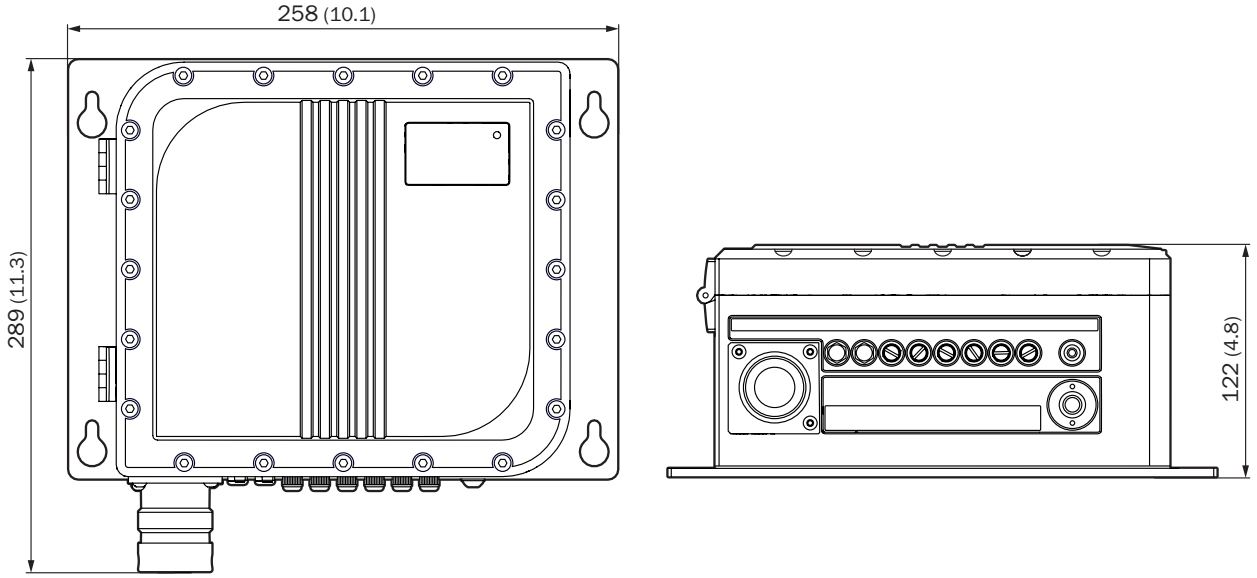
Measured values	Standardized gas components, calorific value, Wobbe index, density, molar mass, compressibility
Measuring medium	Natural gas, air, bio methane
Analyzer technology	"Fore-flush and back-flush" micro TCD
Analysis resolution	500 ppb ... 100 % (application-dependent)
Repeatability	± 0.025 % (6.15 kWh/m^3 ... 16.15 kWh/m^3) / (0.174 kWh/ft^3 ... 0.457 kWh/ft^3)
Cycle time	45 seconds
Calorific value calculation	ISO 6976:2016, GPA 2172, ASTM D3588
Conformities	OIML R 140 class A certified EN IEC 60079-0:2018, EN 60079-1:2014, EN 55011 (2009) + A1 (2010)
Ex approvals	
ATEX / IECEx	II 2G Ex db IIB+H2 T4 Gb
NEC/CEC (US/CA)	Cl I, Div. 1 Groups B, C, D T4 / Ex db IIB+H2 T4 Gb/ Cl I, Zone 1, AEx db IIB+H2 T4 Gb
Enclosure rating	IP65
Number of gas samples	4x
Gas sample connection	1/16" VICI Valco
Gas sample pressure	10 ... 100 kPa(g) (1.45 ... 14.5 psi(g))
Carrier gas	He (Ar optional for H_2 measurement >20 mol%)
Carrier gas pressure	450 ±5 % kPa (65.2 ±5 % psi)
Gas consumption	15 ml/min (0.5 oz/min)
Ambient temperature	–20 °C ... 55 °C (–4 °F ... 131 °F)
Electrical connection	20 VDC ... 28 VDC 75 W max
Digital outputs	2x
Modbus	TCP/LAN 2x RS-485 1x RS-323
Ethernet	TCP/IP
Weight	< 15 kg (< 33 lbs); without mounting bracket

Order information

Our regional sales organization will be glad to advise you on which device configuration is best for you.

Dimensional drawings

ENERSIC600 (dimensions in mm (inch))



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