

FLWSIC610

ultrasonic flowmeter

Custody transfer hydrogen gas measurement



More information and current pricing:

www.endress.com/IFL610

Benefits:

- Accuracy class 1 meter for all sizes starting from DN50 to DN400 with up to 1:160 turndown ratio
- Reliable and trusted provider of fiscal solutions
- Ready for energy equivalent flow - proven flow performance up to 60 m/s (200 ft/s)
- Hydrogen purity indication - real time values for process control
- Quick and easy commissioning through FLOWgate™

Specs at a glance

- **Measured variables** Volume a. c., volumetric flow a. c., gas velocity, speed of sound, hydrogen purity (option)
- **Measuring Medium** Hydrogen with purity >95% Hydrogen with purity >90% (on request)
- **Nominal pipe size** DN50 ... DN400 / 2" ... 16" Others on request

Field of application: Compact, accurate and ready for the future of clean energy. Build upon years of custody metering experience, FLOWSIC610 is an ultrasonic flowmeter approved to the MID for a custody transfer hydrogen gas measurement: A robust and reliable solution designed for the challenging hydrogen operating conditions. FLOWSIC610 is available for all sizes from DN50 to DN400 with fiscal accuracy class 1. The purity indicator option provides instantaneous monitoring of hydrogen purity based on speed of sound.

Features and specifications

Hydrogen, Gas, Gas velocity ,
Volume flow, Flow monitoring

Measuring principle

Ultrasonic transit time difference measurement

Hydrogen, Gas, Gas velocity , Volume flow, Flow monitoring

Measured variables

Volume a. c., volumetric flow a. c., gas velocity, speed of sound, hydrogen purity (option)

Measuring Medium

Hydrogen with purity >95%

Hydrogen with purity >90% (on request)

Repeatability

$\leq \pm 0.05$ % of the measured value

Accuracy

Typical error limits $Q_t \dots Q_{\max}$ | ($Q_{\min} \dots Q_t$):

$\leq \pm 0.5$ % | (± 1.0 %) dry calibrated

$\leq \pm 0.2$ % | (± 0.5 %)

After flow calibration and adjustment with constant factor. Without uncertainty of the flow test facility.

$\leq \pm 0.1$ % | (± 0.2 %)

After flow calibration and adjustment with polynomial or piecewise correction. Without uncertainty of the calibration test facility.

Min. piping requirements

$\geq \text{DN}100$ - straight inlet section $\geq 10\text{DN}$ or $\geq 2\text{DN} + \text{FC} + 3\text{DN}$, outlet section $\geq 3\text{DN}$

$\text{DN}50$, $\text{DN}80$ - straight inlet section $\geq 5\text{DN}/\text{FC}/10\text{DN}$, outlet section $\geq 3\text{DN}$

Medium temperature range

$-40^\circ\text{C} \dots +60^\circ\text{C}$ / $-40^\circ\text{F} \dots +140^\circ\text{F}$

$-40^\circ\text{C} \dots +85^\circ\text{C}$ / $-40^\circ\text{F} \dots +185^\circ\text{F}$ (on request)

Operating pressure range

Standard: $15 \dots 102.1$ bar(g) ($217 \dots 1,480$ psi(g))

Optional: $7 \dots 102.1$ bar(g) ($102 \dots 1,480$ psi(g))

Others on request

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Volume flow, Flow monitoring

Nominal pipe size

DN50 ... DN400 / 2" ... 16"

Others on request

Metrological approvals and certificates

Metrological:

MID 2014/32/EU Class 1

Explosion protection:

IECEX/ATEX: IEC 60079, EN 61326-1:2013

Pressure rating:

ASME: B16.5/B16.47, B36.19/B36.10

For details see operating instructions

Hazardous area approvals

IECEX

Ex db ia [ia Ga] IIC T4 Gb

ATEX

II 2(1) G Ex db ia [ia Ga] IIC T4 Gb

Digital Outputs

4x digital output

therof 2x as frequency output (10kHz max)

Digital communication

Modbus RS-485 (2x)

Modbus RTU/ASCII

Bluetooth

USB

More information www.endress.com/IFL610