UNION Instruments GmbH

CWD2005

Analytical equipment for measuring calorific value / gross calorific value, Wobbe index and density

APPLICATION

Measurement of Wobbe index, density and calorific value for combustible gases like

- natural gases
- blast furnace gases
- coke-oven gases
- converter gases
- liquefied petroleum gas-air-mixtures
- flare gases
- biogas
- biogas-liquefied petroleum gas mixtures
- biogas-air mixtures

ENCLOSURE

Dimensions	height:	750 mm
	width:	1220 mm
	depth:	320 mm
Weight		54 kg

Mechanical connectors

6 mm Gyrolock
or
1/4 inch NPT
other connectors on request

1x process gas connector
1x calibration gas connector
other connectors for process gas, calibration gas and carrier gas on request

Electrical connections

Supply	230 VAC, 50 Hz or 115 VAC, 60 Hz
Outputs analogue	4 … 20 mA apparent ohmic resistance 500 Ohm 3x DC (isolated) max. 7 possible
Outputs digital	8x relay output

Inputs digital	3x input
Consumption	Gas consumption: (depending on Wobbe index) 12 - 200 l/h Electrical power 200 W Thermal output 100 - 200 W

ENVIRONMENTAL INFLUENCES

Temperature	+5 ... 40 °C
Temperature fluctuation	±5 °C hourly
Humidity	0 … 95% relative humidity
Air pressure	700 ...1200 mbar
Protection class	IP44

Stand 03-2009

UNION Instruments GmbH Zeppelinstraße 42 D-76185 Karlsruhe GERMANY
Tel. +49 (0) 721 9 52 43-0 Fax +49 (0) 721 9 52 43-33
info@union-instruments.com www.union-instruments.com

UNION Instruments GmbH

GAS QUALITY

Admission pressure	25 mbar (±5 mbar)
Humidity	condensate-free at ambient temperature
Contamination	dust-free

SCOPE OF MEASUREMENT

Calorific value / Wobbe	min. 3000 … 6000 kJ/Nm³ max. 60000 ... 130000 kJ/Nm³ less than 3000 kJ/Nm³ only with carrier gas
Density	0 … 2 0,2 … 2,2
Response time	50% time: 7 sec 90% time: 20 sec 99% time: 45 sec

Measuring accuracy

calorific value	±1,5% MBEW
Wobbe	±1,5% MBEW
relative density	±0,5% MBEW
linearity	±0,2%
reproducibility	±0,5%
zero-point stability	±0,2% per month

SERVICE

Maintenance interval	1-2 years
Replacement of the air filter	as required

FUNCTIONAL SCOPE

Display of
- calorific value
- Wobbe
- density

Graphical display of measured values over a period of 5 day

Setting of
- language (German / English / Chinese)
- calibration data
- calibration intervals
- alarm thresholds
- outputs above 4 ... 20 mA

Setting via
- built-in keyboard

Presentation via
- VGA display
- printer

Schnittstellen
- USB
- RS232
- various fieldbusses (e.g. Profibus-DP or Modbus-RTU)

Software functions via USB stick
- software update
- screenshot of the screen
- export of
  - measurement data
  - software settings
  - action lists
- store system configuration
- restore system

Stand 03-2009

UNION Instruments GmbH Zeppelinstraße 42 D-76185 Karlsruhe GERMANY
Tel. +49 (0) 721 9 52 43-0
Fax +49 (0) 721 9 52 43-33
info@union-instruments.com
www.union-instruments.com