

## Technical data sheet

### **Multitec<sup>®</sup> 410**

<b>Device data</b>	
Dimensions (W x D x H)	approx. 148 x 57 x 205 mm approx. 148 x 57 x 253 mm with supporting bracket
Weight	approx. 1000 g, depending on equipment

<b>Certificates</b>	
Certificate	TÜV 07 ATEX 553353 X II2G Ex d e ib IIB T4 Gb basic device without leather bag for: CH <sub>4</sub> , C <sub>3</sub> H <sub>8</sub> , C <sub>4</sub> H <sub>10</sub> , C <sub>9</sub> H <sub>20</sub> , H <sub>2</sub> S, CO II2G Ex d e ib IIC T4 Gb basic device with leather bag for: CH <sub>4</sub> , C <sub>3</sub> H <sub>8</sub> , C <sub>4</sub> H <sub>10</sub> , C <sub>9</sub> H <sub>20</sub> , H <sub>2</sub> S, CO, H <sub>2</sub> BVS 09 ATEX G 001 X, PFG 08 G 002 X (applies to CH <sub>4</sub> , C <sub>3</sub> H <sub>8</sub> , C <sub>9</sub> H <sub>20</sub> , O <sub>2</sub> , CO)

<b>Device elements</b>	
Display	monochromatic graphic display, 320 x 240 pixels
Buzzer	frequency 2.4 kHz, volume 80 dB (A) / 1 m
Signal light	red
Pump	vacuum > 250 mbar volume flow approx. 50 l/h pump error (F100) dependent on volume flow: – ≤ 20 l/h F100 certain – > 20 l/h – ≤ 35 l/h F100 possible
Interface	USB
Memory	8 MB
Operation	ON/OFF key, 3 function keys, jog dial

<b>Operating conditions</b>	
Operating temperature	-20 °C – +40 °C
Storage temperature	-25 °C – +60 °C (temperatures above 40 °C reduce the service life of the sensors)
Humidity	5 – 90 % r.h., non-condensing
Atmospheric pressure	800 – 1100 hPa
Protection rating	IP54
Normal position of use	any

<b>Power supply</b>	
Power supply	NiMH rechargeable or disposable alkaline batteries, size AA
Operating time, typical	at least 8 h
Charging time	approx. 3 h (complete charge), depending on capacity
Charging voltage	12 V DC, max. 1 A

<b>Data transmission</b>	
Communication	USB

<b>Gas types</b>	
Standard	methane CH <sub>4</sub>
Optional	propane C <sub>3</sub> H <sub>8</sub> butane C <sub>4</sub> H <sub>10</sub> nonane C <sub>9</sub> H <sub>20</sub>

<b>Catalytic combustion sensor CxHy LEL range</b>	
Measuring range	0 – 4.4 % vol. (CH <sub>4</sub> ), 0 – 100 % LEL
Resolution	0.05 % vol.
Response times	t <sub>50</sub> < 5 s      t <sub>90</sub> < 14 s (CH <sub>4</sub> ) t <sub>50</sub> < 6 s      t <sub>90</sub> < 11 s (C <sub>3</sub> H <sub>8</sub> ; C <sub>4</sub> H <sub>10</sub> ) t <sub>50</sub> < 20 s     t <sub>90</sub> < 60 s (C <sub>9</sub> H <sub>20</sub> )
Measuring error	±1 % LEL CH <sub>4</sub> (short-term stability as per EN 60079-29-1) ±4 % LEL CH <sub>4</sub> (long-term stability as per EN 60079-29-1) ±1 % LEL C <sub>3</sub> H <sub>8</sub> (short-term stability as per EN 60079-29-1) ±2 % LEL C <sub>3</sub> H <sub>8</sub> (long-term stability as per EN 60079-29-1) ±5 % LEL C <sub>9</sub> H <sub>20</sub>
Interference	ALL flammable gases
Lifetime, expected	5 years

<b>Electrochemical sensor, oxygen O2</b>	
Measuring range	0 – 25 % vol.
Resolution	0.1 % vol.
Response times	t90 < 15 s
Warm-up time	approx. 1 min
Temperature range	-20 °C – +40 °C
Measuring error	±3 % or ±0.3 % vol. (±3 digits)
Interference	none
Lifetime, expected	36 months

<b>Electrochemical sensor, carbon monoxide CO</b>	
Measuring range	0 – 500 ppm lower limit: 4 ppm
Resolution	1 ppm
Response times	t90 < 30 s
Warm-up time	approx. 1 min
Decay time	t10 < 24 s
Measuring error	±10 % or ±3 ppm (±3 digits) ±5 ppm (long-term stability as per EN 45544)
Zero point deviation	7 ppm
Interference	At 20 °C – 3000 ppm H2: Approx. 1000 ppm CO – 100 ppm NO: Approx. 25 ppm CO
Operating temperature	-20 °C – +40 °C
Lifetime, expected	36 months

106961 – 21.11.2012 – Subject to technical changes.