Technical Data Sheet

SEWERIN
Protecting Water, Gas and Life.

VARIOTEC® 460 Tracergas

Series

Type/model	065 15

Certificates

Certificate	TÜV 07 ATEX 553353 X • II 2G Ex db eb ib IIB T4 Gb basic device without leather bag for: CH4, C3H8, C4H10, tracer gas with maximum 5% H2 in N2 • II 2G Ex db eb ib IIC T4 Gb basic device with leather bag for: CH4, C3H8, C4H10, tracer gas, H2

Device data

Dimensions (W x D x H)	• approx. 148 x 57 x 205 mm (5.83 x 2.24 x 8.07 in) • approx. 148 x 57 x 253 mm (5.83 x 2.24 x 9.96 in) with supporting bracket
Weight	approx. 1000 g (35 oz), depending on equipment

Features

Display	monochrome, 320 x 240 pixel
Buzzer	• frequency: 2.4 kHz • volume: 80 dB (A) / 1 m (3.28 ft)
Signal light	red
Pump	• vacuum: > 250 mbar • volume flow: typically 50 l/h ±20 l/h • pump error (F100) depending on volume flow: ◦ ≤ 20 l/h F100 certain ◦ > 20 l/h – ≤ 35 l/h F100 possible
Interface	USB
Memory	8 MB
Control	• ON/OFF key • 3 function keys • jog dial
Sensors	• TC • SC

Hermann Sewerin GmbH | Robert-Bosch-Straße 3 | 33334 Gütersloh | Germany
+49 5241 934-0 | info@sewerin.com | sewerin.com

Operating conditions*

Operating temperature	-20 – 40 °C (-4 to 104 °F)
Humidity	5 – 90% r.h., non-condensing
Atmospheric pressure	800 – 1100 hPa
Pressure at gas inlet	max. 100 mbar
Protection rating	IP54
Position of use	any

*Optional sensors can affect the operating conditions of the device.

Storage conditions

Storage temperature	-25 – 60 °C (-13 – 140 °F) temperatures above 40°C (104 °F) reduce the service life of the batteries.

Power supply

Power supply	4 cells, type Mignon AA, optionally: • rechargeable batteries: NiMH • disposable batteries: Alkaline
Operating time, typical	at least 8 h
Charging time	approx. 3 h (complete charge), depending on capacity
Charging temperature	0 – 35 °C (32 – 95 °F)
Charging voltage	12 V DC (max. 1 A)

Data transmission

Communication	USB

Gas types

Default	• H2 • tracer gas 95/5 (95% N2, 5% H2) or 90/10

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Sensors

Note:
probes increase the stated response times.

Hydrogen H2

Type	thermal conductivity sensor	
Measuring range	0 – 100% vol.	
Resolution	• 0 – 9.9% vol.: • 10 – 100% vol.:	0.1% vol. 1% vol.
Response times	t50 < 3.1 s	t90 < 6.5 s
Warm-up time	< 30 s	
Temperature range	-20 – 40 °C (-4 to 104 °F)	
Measuring error	3% of measuring range end value	
Interference, known	• all gases with a different thermal conductivity at 20 °C (68 °F): • 100% vol. CH4 • 100% vol. C3H8	 typically 16% vol. typically -2% vol.
Lifetime, expected	5 years	
Adjustment	test gas concentration: • zero point: • H2:	 hydrocarbon-free, clean air 100% vol., utilisable 5 – 100% vol.

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Hydrogen H2

Type	gas-sensitive semiconductor		
Measuring range	0.0 – 10000 ppm (1% vol.)		
Resolution	• 0.1 ppm • 2 PPM • 20 ppm • 0.05% vol. • 0.1% vol.	(0.0 – 9.9 ppm) (10 – 100 ppm) (100 – 990 ppm) (0.1 – 0.95% vol.) (1.0 – 5.0% vol.)	
Response times	10 ppm H2: • tR < 1,2 s 100 ppm H2: • tR < 1,0 s tR … time until device first reacts following delivery of gas	 t50 < 6 s t50 < 7 s	 t90 < 18 s t90 < 15 s
Warm-up time	up to 5 min		
Temperature range	-20 – 40 °C (-4 to 104 °F)		
Measuring error	30% (short time)		
Interference, known	at 20 °C (68 °F): • 1% vol. CH4 • 1% vol. C3H8 • 40 ppm CO • 1% vol. C2H6O (ethanol) • 3500 ppm benzene • water vapour, < 80% r.h.	 50 ppm maximum 10 ppm maximum 2 ppm maximum 2 ppm maximum 10 ppm maximum < 1 ppm typical	
Lifetime, expected	5 years		
Adjustment	test gas concentration: • zero point: • H2: ◦ 1 ppm ◦ 10 ppm ◦ 100 ppm ◦ 1000 ppm ◦ 1.0% vol.	 hydrogen-free, clean air	