



LDS3000

Helium and Hydrogen
Leak Detector

THE CENTERPIECE OF AUTOMATED LEAK
DETECTION SYSTEMS

Compact performance at the highest level

With the LDS3000, INFICON is opening a new chapter in the success story of leak detection systems. The successor to the LDS2010 is setting new standards for accuracy, reproducibility of measurement results and speed of leak detection. The LDS3000 is extremely compact. The small dimensions 13 x 9.45 x 11.1 in. (330 x 240 x 280 mm) make it even easier to integrate it into leak detection systems. More importantly, the space requirements and installation expense have been reduced even further by dispensing with a 19" control module and improving the cabling considerably. In addition, there is an optional touch screen for easy operation and an optional field bus connection.

FEATURES AT A GLANCE

- Compact design allows individualized, custom integration into leak detection systems
- Communicative diversity through a wide range of analog and digital interfaces
- Considerably improved cabling
- Fast, optimized response times with I-CAL
- LDS2010 compatibility mode

MORE COMPACT AND EASIER TO INTEGRATE

Optimizing space requirements and installation costs – that is the fine art of systems engineering. Small dimensions, a significantly more compact design and improved cabling are the LDS3000's answer to these challenges for leak detection systems. Its performance is not only better than its predecessor the LDS2010, but is so much more compact in its design that integration into leak detection systems is easier and more flexible. In addition, there are individualized, custom configuration possibilities such as touch screen operation or connection to field bus systems, which are available as an option.

COMMUNICATIVE DIVERSITY

The LDS3000 includes a wide range of analog interfaces, as well as a variety of digital interfaces. RS232, RS485, USB and optional Profibus a variety of users' needs.



HIGH RELIABILITY

The LDS3000 provides both high throughput rates and great quality and reliability. Downtimes and frequent maintenance are a thing of the past. Calibration times of 20 seconds are especially fast, but are seldom needed. Leak rates of up to 1×10^{-11} mbar l/s are detected in less than 1 second.

ADVANTAGES DURING USE

Calibration:

The new, patented routine allows calibration of the LDS3000 within 20 seconds.

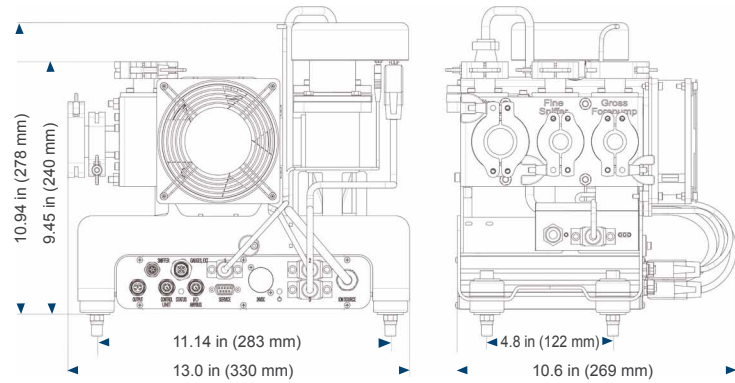
Implementation of I-CAL:

I-CAL is the effective algorithm for quick, reliable detection of the smallest leaks in the sensitive measurement range. Cycle times are decreased as a result and greater sensitivity is achieved. I-CAL has been successfully used with INFICON products for several years.

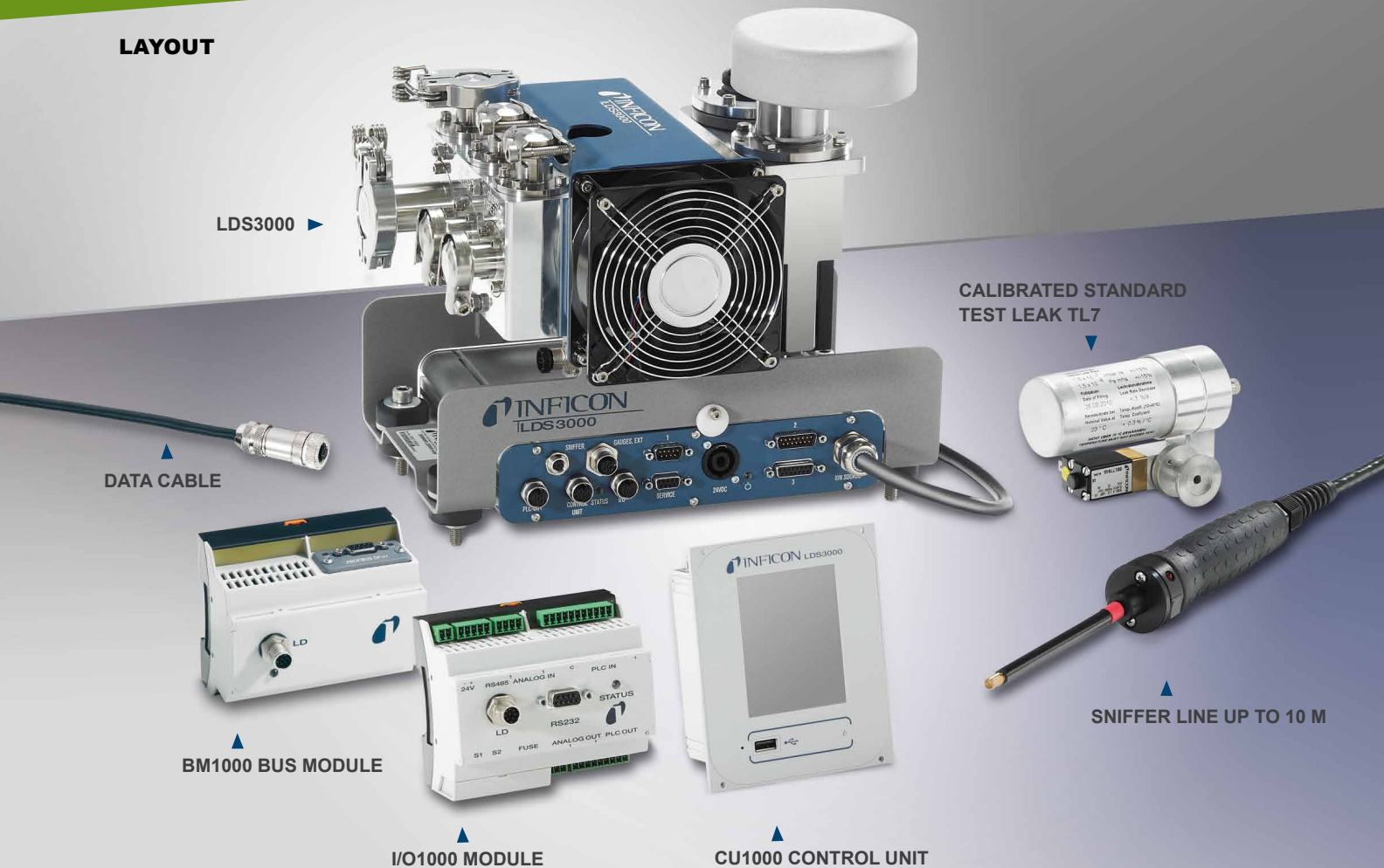
TMP Compression:

The great helium pumping speed and compression of the high-performance turbomolecular pump make leak detection applications resistant to downtimes caused by helium contamination. The pump allows intake pressures up to 18 mbar for applications with minimal detection limit requirements.

DIMENSIONAL DRAWING



LAYOUT



TECHNICAL DATA

Smallest detectable helium leak rate:	
"Ultra"- Mode	$\leq 1 \cdot 10^{-11}$ mbar l/s (>5 l/s Helium pumping speed)
"Fine"- Mode	$\leq 5 \cdot 10^{-11}$ mbar l/s (1.7 l/s Helium pumping speed)
"Gross"- Mode	$\leq 1 \cdot 10^{-9}$ mbar l/s
"Sniffer"- Mode	$\leq 1 \cdot 10^{-7}$ mbar l/s
Measuring units (selectable)	mbar l/s, Pa m3/s, atm cc/s, g/a, ppm
Max. permissible intake pressure:	
"Gross"- Mode	18 mbar
"Fine"- Mode	0.9 mbar
"Ultra"- Mode	0.2 mbar
Response time	< 1 s
Ion source	2 yttrium/iridium long-life cathodes (3 year guarantee)
Digital inputs/outputs	10 inputs, 8 outputs (when used at I/O1000)
Control input	SPS-compatible (max. 35 V)
lin/log recorder output	0 - 10 V
Serial interface	RS232, RS485 or field bus systems
Dimensions (L x W x H)	13 x 9.45 x 11.1 in. (330 x 240 x 280 mm)
Ambient temperature range	10 - 45°C (50-113°F)
Guarantee	2 years (3 years for the ion source)

ORDERING INFORMATION

Basic units:		Options:	
Product	Cat. no.	Product	Cat. no.
LDS3000, basic unit	560-300	CU1000 Control unit	560-320
I/O 1000 module (input/output)	560-310	DIN rail power supply 24V, 10A	560-324
BM1000 bus module (Profibus) additional bus modules upon request	560-315	Internal test leak TL7	560-323
Data cable (MSB-I/O1000)		Pump module (complete, incl. connection accessories) TRIVAC D 4 B, 1-phase motor 230 V, 50/60 Hz	145-11
5 m cable length	560-335	Sniffer valve	145-20
10 m cable length	560-340	Sniffer line, incl. handpiece, with 200 mm sniffer tip.	
		3 m cable length	145-21
		5 m cable length	145-22
		10 m cable length	145-23
		Replacement sniffer tip, 400 mm cable length	200 04 642

A I/O1000 module or BM1000 module as well as a data cable are necessary for the operation of a LDS3000. The data cables can be used for connecting to an I/O1000 module or a BM1000 module and the CU1000 operating unit.



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Due to our continuing program of product improvements, specifications are subject to change without notice.

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