COMPUR Monitors

Tracer

Leak Detector for Gases in the ppb – and ppm Range

Tracer – Leak detection in the ppb range

Application
The Tracer has its strength where other methods of leak detection would fail because of their cross sensitivities to other gases. Such selectivity is requested in plants using or producing extremely toxic substances. These plants always have a „Zero Emission Policy“ in force. Here high sensitivity in combination with good selectivity is required.

Sensor technology
Electrochemical sensors can be designed to be very selective and sensitive at the same time by the right material choice for electrodes and electrolyte. These sensors will not respond to less dangerous substances that might be around in the plant such as hydrocarbons, carbon monoxide, hydrogen or even humidity. A detection limit as low as 2 ppb is no problem for this sensor technology!

A disadvantage of electrochemical sensors compared to physical methods has been their comparatively slow response. The working electrode must transform analyte to confer a response – and this takes its time.

Tests in Compur`s laboratories have shown that the material transformation process at the working electrode can be speeded up by increased mass transfer of analyte to sensing surface compared to gas access by diffusion. It was a short step from there to develop an instrument with a built-in pump and a special measuring chamber with optimized flow characteristics. In this way the response time of the instrument is almost as short as would be obtained with a physical detection method.

Which gases can be detected with the Tracer?
The Tracer is available for the following gases:
$COCl_2$, HCN, HCl, Cl_2, NO_2, ClO_2 and H_2S.

The Tracer is capable to detect even traces of toxic gases. The detection limit is in the low ppb range depending on the substance to be detected. As a leak detector might be exposed to very high concentrations, it must not be used as a personal monitor. To avoid it being abused as such, the detector displays no concentration, but only a dimensionless figure or a bar graph.

The “HIGH- Range” Tracer
Some applications such as leak detection in containments or analyser cabinets do not require an ultra- low measuring range. For these your Tracer can be converted to the high – range version by just replacing the low by the high range sensor. This can be done in minute – no tools and no adjustment required.

Using the Tracer
To locate a leak, move the sample intake along the surface to be inspected. The measured value will increase when a leak is approached. The display can be selected between bar graph and digital. A control tone and LED will increase in frequency with mounting measured value similar to a Geiger counter.

The Tracer will protect itself from poisoning. If the measured value goes out of range the pump will go off and start again when it drops below 95% of the range.

The graphic display is easy to read. At night or in dark places in the plant a backlight can be switched on.

Consumables such as sensor, filter or sampling probe can easily be replaced without tools.

Technical Data

Product name	COMPUR Tracer
Type	5910 100
Measuring principle	electrochemical
Response time	≤ 2 s
Operating temperature	-20°C to +40°C -4°F to 104°F short term to +60°C/140°F
Storage temperature	-25°C to +40°C -13°F to 104°F short term to +60°C/140°F
Humidity	0 - 99% r.H., non condensing
Flow	200 ml/min
Battery	4 x AA Alkaline battery
Operating time	48 hours
Power	20 mA - with backlight on: 140 mA
Dimensions (LxWxD)	450 x 60 x 50mm 17,7 x 2,4 x 1,9 in
Weight	0,55 kg / 19,4 oz
Housing material	conductive PP
EMV: EN 61326:1997 (+A1/A2)	Emission threshold B and general impact protection

ATEX-Version with NiMH battery

Ex approval	EEx ia IIC T4
Scope of application	II 2 G
Certificate	BASEEFA 03 ATEX 0742
Battery	NiMH
Operating time	2 hours
Charger	IN: 100-240 VAC OUT: 9 VDC

Compur Monitors GmbH & Co. KG
Weissenseestraße 101
D-81539 München
Tel.: ++49 89 62038-0
Fax: ++49 89 62038-184
Email: compur@compur.de
Internet: www.compur.com