



LA 1S

## Liquid alarm sensors series LA<sup>®</sup> for conductive media

Version LA 1S, LA 25S and flow chambers LS, LS 25 as well as LA 1 and LA 25 for use in hazardous areas

### Special Features

- Sure detection even of minimal liquid quantities
- line break monitoring for LA 1S and LA 25S
- Integrable in M&C-Universal filters and flow chambers
- Also versions for higher pressure and temperatures
- No electrolytic effects on the sensor surface
- High chemical resistance
- Cable length up to 100 meters

### Application

Liquid alarm sensors are used in gas sample conditioning systems for monitoring gas cooling and condensate drain-off devices in order to provide protection for downstream analysis instruments. This simple monitoring device reliably signals the penetration of condensate in the event of cooling or condensate drain-off equipment being defective and thus avoids expensive down times as well as high repair costs for analysis instruments.

In the event of alarm, the power for the sample gas pump or a solenoid valve is to be switched off in the gas sample conditioning system.

The LA 25S sensor has got a 1/4» special male connector for mounting in the FSS.-D universal filter or for mounting in 8 mm tubes using a special union tee connector LS 25.

When mounting the universal filters and the flow chamber, the gas inlet and gas outlets can be rotated through 180° during assembly.

For hazardous areas the sensors LA 1 and LA 25 of the former series without line break monitoring can be used because they are «simple components». However the sensors than may only be used with certified control electronics, e.g. ER142 Exi (part no. 03E2009 for 230V or 03E2009a for 115V) for intrinsically safe supply of the sensors.

### Description

The M&C liquid sensors LA..S works on the principle of electrical conductivity from 50 µS/cm conductance. In order to avoid electrolytic effects on the sensor surface, the sensors are powered with alternating current.

The required electronic controller LA-1.. is available in various versions and is described in the separate data sheet 5-5.1.2.

Only the newly developed electronic controllers as described in the afore mentioned data sheet from date of construction 04/2006 onwards can be used for the M&C liquid sensors LA..S.

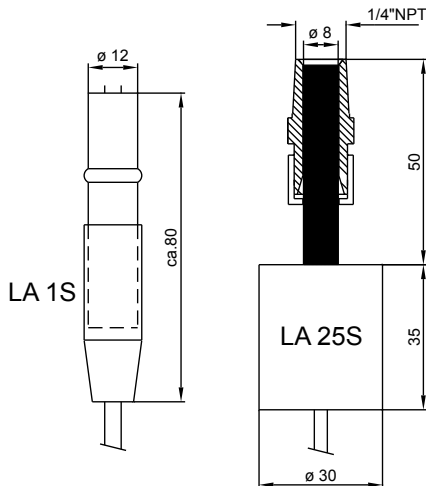
The M&C LA..S liquid sensors are constructed in such a way that any droplets of liquid in the sample gas are attracted under gravity to the sensor surface and even the smallest liquid droplets trigger a sure and rapid alarm.

The LA 1S sensor is defined for operating pressure up to 4 bar and LA 25S for up to 25 bar. The sensor protection corresponds to type IP65 EN 60529.

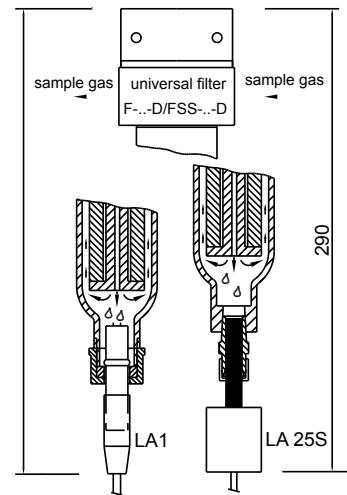
The LA 1S sensor with its 12 mm diameter glass body is mounted in the GL connection of a F.-.-D universal filter or in the LS flow chamber.

## Dimensions

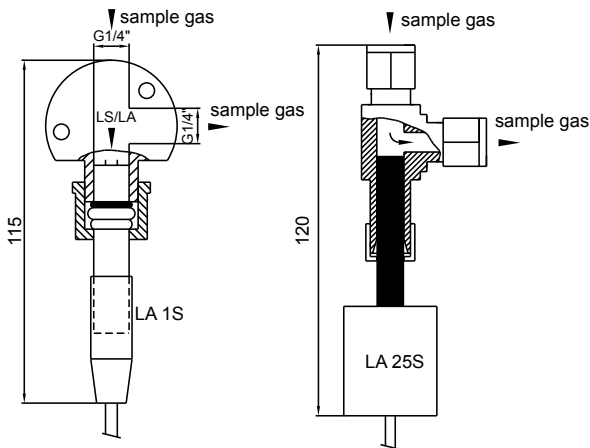
### Liquid sensors LA 1S, LA 25S, LA 1 and LA 25



### Liquid sensors LA 1S and LA 25S in universal filter F-...-D and FSS-...-D



### Liquid alarm sensors LA 1S and LA 25S with flow chamber LS and LS 25



Dimensions in mm

## Technical Data

Sensor series LA*	LA 1S	LA 25S	LA 1	LA 25		
Flow chamber	LS		LS 25			
Part Number	03 E 1001	03 E 3100	03 E 1111	03 E 1120	03 E 1000	03 E 1110
Connection cable	4 m					
ø 4,2 mm, 2-core	each additional meter of connection cable = part No. 03E 9001 (03 E 9000 for LA 1 and LA 25), total max. 100 meters					
Pressure	0-4 bar g****		0-25 bar g* (up to 100 bar g*)		0-4 bar g****	0-25 bar g* (up to 100 bar g*)
Flow	0-1000 l/hr					
Operating temperature	+80 °C ***					
Gas connections	ø12 mm	G 1/4" i	1/4" NPT a	ø8 mm**	ø12 mm	1/4" NPT a
Stagnant space, approx.	ca. 3 ml		ca. 3 ml			
Material of sample contacting parts***	glass, platinum	PVDF, FPM	SS 316Ti	PVDF	SS 316Ti	SS 316Ti
Type of mounting	clamping attachment	wall	screw on	pipe	clamping attachment	screw on
Mounting position	vertical					
Electrical conductivity	>50 µS/cm					
Weight	50 g	60 g	140 g	100 g	50 g	140 g
Line break monitoring	yes		yes		no	
Operating in ex-areas	no	yes	no	yes		

\* other pressure ranges -, \*\* other dimensions -, \*\*\* other materials or temperatures on request

\*\*\*\* max. 2 bar when mounted in universal filter

Article numbers for combined filters or flow chamber sets including sensor and electronic controllers can be taken from the current article lists.