



## ANKERSMID Liquid alarm sensor ALA 002, ALA 003

### Application

A liquid sensor is used in gas sample conditioning/systems as a security alarm in case of condensate breakthrough.

Coolers, water-stops and automated drains are some of the Ankersmid components used for condensate evacuation. The performance of these components is monitored with a liquid alarm sensor. The liquid alarm will report any breakthrough of condensate and thus protect liquid-sensitive optical analyzers or analytical cells from moisture damage. The alarm sensor can be set to shut of a pump or activate a solenoid valve for protection when tripped by moisture detection.

### Description

The Ankersmid ALA 002 sensor works on the **principle of the detection of a change in internal reflection**. When a liquid is disposed on the outside lens of the sensor the reflection will be changed and detected by the sensor. The transparent dome contains an LED and an optical sensor. An alarm is generated by the electronic module ALA 102 with a potential-free contact.

The ALA 003 sensor works on the principle of **electrical conductivity**. When liquid comes in contact with the sensor's two electrodes, a small current is measured and the alarm is given. (Min conductance: 40µmS/cm). The electrodes are mounted under a vertical gas path that – due to gravity - projects the smallest droplet onto the electrodes. An alarm is generated by the electronic module ALA 101 with a potential-free contact.



ALA 002  
\* Picture may vary

ALA 003  
\* Picture may vary

- **Safe detection of very small quantities**
- **High chemical resistance**
- **Sensor also used with:**

<b>Compressor coolers</b>	<b>ACC</b>
<b>Peltier coolers</b>	<b>APC</b>
<b>Condensate separators</b>	<b>ACS</b>
<b>Condensate vessels</b>	<b>ACV</b>
<b>Universal filters</b>	<b>AUF</b>
<b>Material filters</b>	<b>AAM</b>
<b>Portable systems</b>	<b>APS/ASS</b>
- **Suitable electronic alarm modules: ALA 101, ALA 102**



## ANKERSMID Liquid alarm sensor ALA 002, ALA 003

## Technical data

Model	ALA 002
Connection cable	3m, $\varnothing$ 4,2 mm, 3-core
Pressure	0 - 4bar g
Flow	0 - 1000l/h
Operating temperature	Max. +80°C
Gas connections	$\varnothing$ 12mm
Material of gas wetted parts	PTFE, Polysulphone
Mounting position	Vertical
Insertable length* <sup>1</sup>	15mm
Output sink current* <sup>2</sup>	@ 25°C: 10mA max.
	@ 80°C: 3mA max.
Response time	50 $\mu$ s
Supply current	15mA nominal @ 5V DC
Supply voltage	5V DC - 12V DC
Operation mode	User defined single point on/off switch
Ambient IR light limit	10mW/cm <sup>2</sup> in operation
Weight	40gr

Model	ALA 003
Connection cable	3m, $\varnothing$ 4,2 mm, 2-core
Pressure	0 - 6bar g
Flow	0 - 1000l/h
Operating temperature	Max. +80°C
Gas connections	$\varnothing$ 8mm
Material of gas wetted parts	Stainless steel, platinum
Mounting position	Vertical
Insertable length* <sup>1</sup>	10mm
Electrical conductivity	>50 $\mu$ S/cm
Weight	50gr

\*1 Other lengths possible

\*2 The output sink is intended as a TTL compatible output signal for interfacing to logic systems



## ANKERSMID Liquid alarm electronics ALA 101, ALA 102

### Application

The electronic controllers ALA 101 and ALA 102 are used for feeding and signal processing of the liquid alarm sensors ALA 002 and ALA 003.

These liquid sensors are used in gas sample conditions/systems as a security alarm in case of condensate breakthrough.

Coolers, water-stops and automated drains are some of the Ankersmid components used for condensate evacuation. The performance of these components is monitored with a liquid alarm sensor. The liquid alarm will report any breakthrough of condensate and thus protect liquid-sensitive optical analyzers or analytical cells from moisture damage. The alarm sensor can be set to shut of a pump or activate a solenoid valve for protection when tripped by moisture detection.

### Description

Two electronic controllers are available, ALA 101 and ALA 102, both for rail-mounting.

The main application for these electronics is detecting of conductive and non-conductive liquids in combination with the liquid alarm sensors ALA 002 and ALA 003.

Furthermore the electronics can be used for control of the level of conductive liquids.

Selectable options allow for this control to be achieved either through a filling operation or through an emptying operation, and in either case "positive logic" is used.



ALA 101

ALA 102

\* Pictures may vary

- LED indicator
- 35 mm rail mounting (EN 60715)



**ANKERSMID Liquid alarm electronics**  
ALA 102

**Technical data**

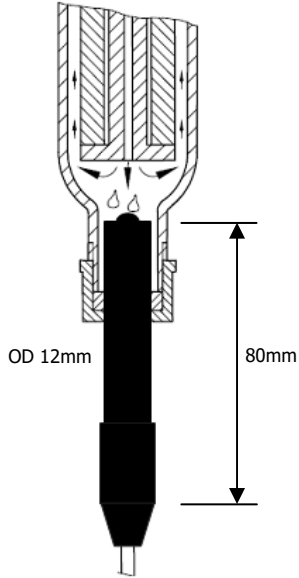
Model	ALA 101, ALA 102
Contact configuration	1 CO (SPDT)
Rated current/Maximum peak current	16/30A
Rated voltage/Maximum switching voltage AC	250/400V
Rated load AC1	4,000VA
Rated load AC15 (230 V AC)	750VA
Single phase motor rating (230 V AC)	0.55kW
Breaking capacity DC1: 30/110/220 V A	16/0.3/0.12
Minimum switching load	500mW (10V/5mA)
Standard contact material	AgCdO
Nominal voltage (UN)	230VAC (optional 115VAC)
Rated power AC/DC	2.5 VA (50Hz)/1.5W
Electrical life at rated load AC1	100 · 10 <sup>3</sup> cycles
Electrode voltage	10V AC
Insulation between supply/contacts/electrode (1.2/50 µs)	6kV
Ambient temperature	-20...+60°C
Protection category	IP20
Insulation	Impulse (1.2/50 µs)
between supply and contacts	6 kV
between electrodes, Z1-Z2 and supply	6 kV
between contacts and electrodes	6 kV
between open contacts	1.5 kV
Current absorption on Z1 and Z2	< 1mA
Power lost to the environment	
without contact current	1.5W
with rated contact current	3.2W
Max cable length between electrode and relay	200m



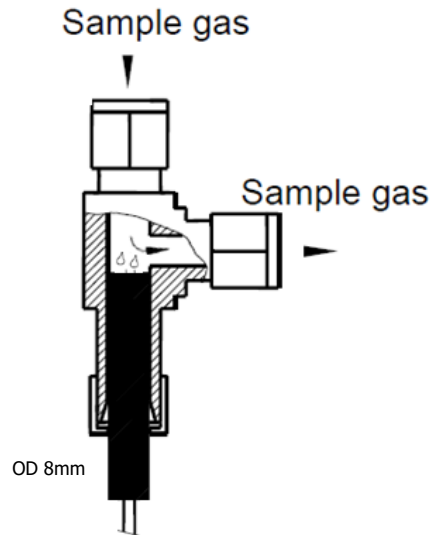
**ANKERSMID Liquid alarm sensor & electronics**  
ALA 002/003, 101/102

**Dimensions**

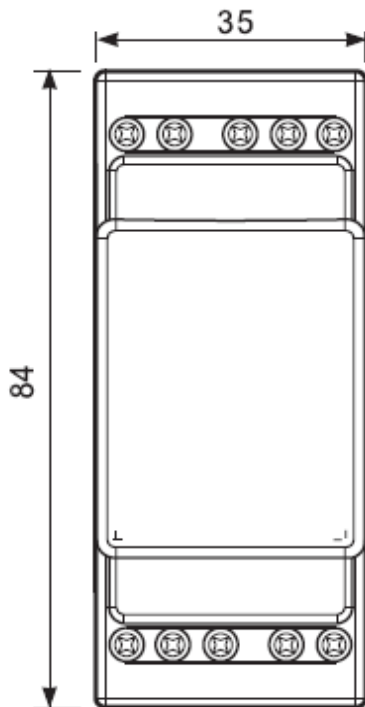
ALA 002



ALA 003



ALA 101



ALA 102

