



## Allyl Chloride sensor transmitter (LEL Detection) Model: SMART S2XX7

For zone 1, 2 (gas explosion) hazardous explosion proof areas



SMART S series allyl chloride vapour sensor transmitter is an industrial grade gas detector suitable for installation in most stringent & tough working conditions. It is designed for online, continuous measurement and monitoring of allyl chloride gas or vapour flammability or LEL level detection in ambient air or sampled gas / air.

**Flammable Limits**: Lower (LEL): 3.3% Upper (UEL): 11.2% v/v.

Its 10-bit microprocessor based electronic module converts these corresponding measured values to industry standard electrical signals.

The gas sensor instrument is ATEX certified with safety integrity level SIL 2, thereby suitable for installation in gas explosion, hazardous area classified Zone 1 or Zone 2 eg. Polymer manufacturing facilities, plastic industry, solvents and petrochemical plants, chemical plants etc.

It offers industry standard linear, proportional analog current output. Optionally, RS485 serial interface with Modbus RTU communication is also available. Manual addressing can be done with onboard module. The instrument is also available with or without optional onboard LCD display, potential free relay contacts and alarm LEDs.

These can be mounted on wall, ceiling, surface or duct with help of suitable mounting kit.

Transmitter enclosure is of anti-static epoxy coated metal alloy, while sensor cell is housed in stainless steel 316 enclosure with flashback arrestor with sintered filter.









## **Key Features:**

- Catalytic bead based Pellistor sensor cell with low flash energy
- 10-bit microprocessor control unit
- Non-intrusive one-man calibration via hall effect switches
- ATEX certified explosion proof / flameproof, suitable for Zone 1, 2 gas explosion installation
- Linear, proportional analog industry standard current output
- Continuous system self-diagnosis with watch dog
- Flashback arrestor with sintered filter
- Auto Zero-point tracking to zero-point compensation
- SIL 2 HW TUV certified
- RS485 serial interface with Modbus RTU communication (optional)
- 1 or 3 relay output module (optional)
- System and alarm LED indicators (optional)
- Modbus RTU output allows instrument networking.

## Application Areas / Industries:

- Solvent manufacturing
- Oil & gas, refinery
- Plastic and polymer manufacturing
- Chemical warehouse
- Resin manufacturing facility



Specifications are subject to change, without prior notice.

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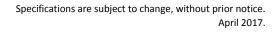






## **Technical Specifications:**

Parameters	Specifications
Gas name	Allyl chloride vapour
Calibrated against	Ethane
Measuring range	0 ~ 100 %LEL (LFL)
Measuring range	$0 \sim 100 \% \text{LEL (EFE)}$ $0 \sim 3.3\% \text{ v/v}$
Sensor element technology	Pellistor with catalytic bead
Accuracy	± 5% of full scale
Repeatability	± 5% of full scale
Response time T90	< 30 sec
Stabilization time	< 2 mins
Warm-up time	< 5 mins
In-built Control microproces	
Microprocessor type	10 bit
Digital filter	Variable average of sampled measuring values
Watch dog	Inbuilt internal, with microprocessor status
	monitor and control
	With continuous system self-diagnosis
Resolution	1024 points
Auto zero tracking	Zero drift compensation
Power supply	12 – 24 VDC – 20% + 15%
Consumption at 12 VDC	90mA (medium), 130mA (max.)
Analog output	4-20mA (200 Ω), 3 - wire
To pue de puesta eti en	Linear, proportional
Ingress protection	IP65 weather-proof also available IP67 with weather-proof adaptor
	and cable gland
Mounting	Supplied with mounting strip
Wounting	Supplied with mounting strip
	Wall / Column / Surface (with sensor
	head face downward)
	Pipe / duct (with sampling kit)
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Enclosure, material	Anti-static epoxy coated metal alloy
Sensor cell enclosure,	Stainless steel 316
material	
Cable entry	3 x NPT ¾ in
Earth / Ground terminal	Screw terminal
Weight	1250 ~ 1550 gm
Max. air velocity	< 6 m / s
Operating pressure	80 – 110 kPa
Relative humidity	20 ~ 90% Rh / 40°C
Operating temperature	- 40°C ~ + 60°C
Storage temperature	- 25°C ~ + 60°C







Dimensions	130 mm (L) x 180 mm (H) x 90 mm (D)
ATEX marking	CE 722 🐼 II 2G EEx d IIC T6
5	CE 722 🔂 II 3G EEx nA IIC T6
Certificates	CESI 01 ATEX 053
	CESI 02 ATEX 084 (performance)
Sensor head	CESI 01 ATEX 013U or CESI 01ATEX066U
System integrity level	SIL 2 HW TUV certified
EMC reference norms	EN50270:1999
	EN61000-6-3
Warranty	One year on material and bad workmanship
·	(excluding sensor cell) (from date of supply)
Calibration	Non-intrusive via hall effect switches (display
	version)
	System tool kit (without display)
Optional features	
Display	4 digits, 7.5 mm high, 7 segments
Visual indications	3 x Red LEDs for Alarms
	1 x yellow LED for fault
	1 x green LED for power supply
Serial Interface output	RS485, with Modbus RTU
	With manual addressing
Relay outputs	<ul> <li>1 x potential free relay (max. 24 V AC/DC,</li> </ul>
	1A) (with or without display option)
	• 3 x potential free relay (max. 24 V AC/DC,
	1A) (without display option)
	tension free changeover contact 24V – 1A (non-
	latching relay)

