

Model LV39

Submersible Liquid Level Transducers and Transmitters with Overvoltage Protection



Description

Model LV39 submersible liquid level transducers and transmitters is designed for applications which may have overvoltage or lightning risk. Both the overvoltage protection and short-circuit protection are integrated in this model. Thanks to these protections, the LV39 can be used to measure level of the flammable media by submerged into such media.

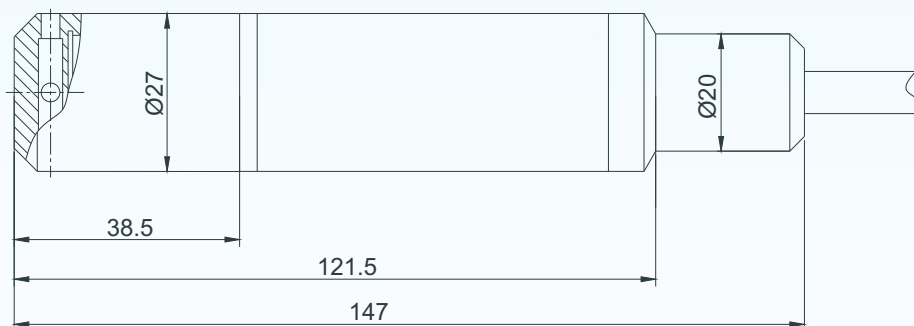
The measuring range of LV39 transmitters spans from 0~1 to 0~200 meter water column (mH₂O) with measuring accuracy up to 0.25%fs (fs = full scale). The output signal of transmitters can be configured to either current loop (4~20mA, standard), voltage output (0~5V, 0~10V), or digital output (I²C). The millivolt signal directly from the Wheatstone bridge circuit is also available on request (transducer version).

Features

- Integrated overvoltage protection and short-circuit protection
- measuring ranges: 0~1mH₂O, ..., 0~200mH₂O
- output signal: 4~20mA (standard), 0.5~4.5V, 1~5V, I²C, SPI, transducer output (~80mV @5Vdc) available on request
- accuracy up to 0.25%fs
- materials: 316L SS (pressure membrane), 316 SS (housing)
- construction: all stainless steel housing, rigid and robust
- environment protection: IP68



Dimensions



Note: Dimensions are in mm.

BCM SENSOR TECHNOLOGIES BVBA

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Technical Data

Parameters		Units	Specifications	Notes
measuring media			viscous fluid, or fluid with particles which is compatible with 316L SS	
measuring ranges*		mH ₂ O	0~1, ~2, ~5, ~10, ~20, ~50, ~100, ~200	1 & 2
proof pressure		%fs	150	
burst pressure		%fs	200	
output signal	for transmitters		4~20mA (standard), 0~5V, 0~10V, I ² C,	
	for transducers	mV/V	≥ 15	
power supply	for transmitters	Vdc	24 (typical), 12, ..., 30	
excitation	for transducers	Vdc	2.5, ..., 10	
		mA	0.5, ..., 2	
accuracy		%fs	±0.25, ±0.5 (standard), 0~1mH ₂ O can only have 0.5%fs accuracy	
long-term stability		%fs/year	≤ ±0.2	
response time		ms	< 1 (10%~90% of leading edge)	
input resistance	for transducers	Ω	2000~8000	
output resistance		Ω	3500~6000	
load resistance	for transmitters	Ω	250~1150	
insulation resistance		MΩ @500Vdc	> 500 (transducer only)	
storage temperature range		°C	-40~+100	
operating temperature range		°C	-20~+85	
compensated temperature range		°C	0~50	
temperature coefficient of zero		%fso/°C	≤ ±0.03	
temperature coefficient of span		%fso/°C	≤ ±0.03	
process connection			submersible in liquid	
electrical connection			Φ7.3mm, 4-core shielded black PTFE cable	3 & 4
membrane material			316L SS	
housing material			316 SS	
environment protection		IP rating	IP68	
weight (without cable)		gram	~250	

Notes: 1. For customer ranges, consult BCM.

2. If in your applications the measured medium has different density than water, please inform BCM about the density.

3. 4-core cable for mV and I²C bus; 2-core cable for 4~20mA output; 3-core cable for 0~5V or 0~10V output.

4. For cable length ≤ 0.5m, the output can be I²C bus without other interface;

For cable length = 1m, ..., 15m, an RS-232 interface is applied to realize I²C bus.

For cable length > 15m, an RS-485 interface is applied to realize I²C bus.

The listed specifications and dimensions are subject to change without prior notice.

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Ordering Information

position (pos.) 1: model					
LV39					
pos. 2: measuring ranges					
1mH2O	10mH2O	100mH2O			
2mH2O	20mH2O	200mH2O			
5mH2O	50mH2O				
Note: Indicate the range as 0/?mH2O, e.g., 0/5mH2O, which is corresponding to the transmitter output options.					
pos. 3: output signal					
15mV/V	4/20mA (standard)	0/5V	0/10V	I ² C	
pos. 4: accuracy					
0.25%fs	0.5%fs (standard)				
pos. 5: electrical interface					
<p>Φ7.3/2(*)/PTFE/2m = Φ7.3mm, 2-core(*) shielded black PTFE cable, cable length = 2m, this length is determined by customers.</p> <p>(*): 2-core cable for 4~20mA output; 3-core cable for 0~5V or 0~10V output; 4-core cable for mV and I²C bus.</p>					
pos. 6: customized specifications					
<p>“(*)” is necessary only if any customized parameter is required, otherwise it is neglectable.</p>					
pos.1	pos. 2	pos. 3	pos. 4	pos. 5	pos. 6

Example of Ordering Code

- standard products: LV39-0/1mH2O-4/20mA-0.5%fs-Φ7.3/2/PTFE/2m
 LV39-10mH2O-15mV/V-0.5%fs-Φ7.3/3/PTFE/12m
- customized products: LV39-0/1mDiesel[850kg/m³]-0/5V-0.5%fs-Φ7.3/3/PTFE/3m
 with the customized medium and medium density.



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