

## Single-point Float Level Switch LCSF

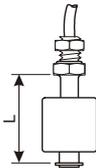
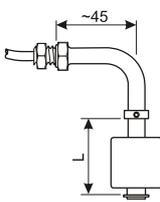
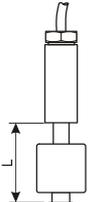
- ◆ Inside installation
- ◆ Low cost
- ◆ High reliability
- ◆ 135 °C maximum liquid temperature
- ◆ Various float and cable types
- ◆ Side and top mounting
- ◆ Submersible variant

The operation of the COMECO's level probe LCSF is based on the switching of a reed switch by a magnetic float, moving alongside a protective tube. Large variety of versions based on different floats is available. The float can be made of stainless steel or plastic; floats with various dimensions and specific gravity are available for use with different liquid density (down to 0.5 g/cm<sup>3</sup>) and liquid temperature up to 135 °C. Cable wiring is available with various insulations and lengths. The LCSF switch is available in variants designed for inside vessel mounting and in a special submersible variant with additional weight and forced cable insulation.



### Technical specifications

Variant	w/ SS float									
	straight			angled				submersible		
<b>Specifications</b>										
<b>Float type</b>	S0	S1	S2	S3	S4	S5	S6	S7	S10	S20
<b>Liquid density [g/cm<sup>3</sup>]</b>	> 0.72	> 0.70	> 0.70	> 0.65	> 0.55	> 0.65	> 0.50	> 0.82	> 0.82	> 0.75
<b>Ext. tube diameter ('d')</b>	8 mm	8 mm	10 mm	14 mm	14 mm	16/18 mm	16/18 mm	8 mm	8 mm	8 mm
<b>Contact type</b>	reed contact: NO, NC, or NO/NC									
<b>Contact ratings</b>	'1': max. 120 VAC, max. 0.5 A, max. 10 W; '2': max. 230 VAC, max. 0.5 A, max. 10 W; '3': max. 230 VAC, max. 2 A, max. 50 W									
<b>Probe length ('L')</b>	≈ 33 mm	≈ 38 mm	50...55 mm	65...70 mm	62...67 mm	85...95 mm	120...135 mm	≈ 38 mm	40...45 mm	50...55 mm
<b>Process temperature</b>	PVC cable: -20...75 °C; silicone or Teflon® cable: -20...135 °C; PUR cable: -20...80 °C									
<b>Ambient temperature</b>	PVC cable: -20...75 °C; silicone or Teflon® cable: -20...150 °C; PUR cable: -20...80 °C									
<b>Max. process pressure</b>	8 bar	10 bar	30 bar	12 bar	30 bar	30 bar	10 bar	30 bar	50 bar	30 bar
<b>Process connection</b>	M10, M12, M14, M16, M18, M20, M27, 1/8", 1/4", 3/8", 1/2", 3/4"			M16, M18, M20, M27, M33, 1/2", 3/4", 1"			M20, M27, M33, 1/2", 3/4", 1"		M10, M12, M14, M16, M18, M20, M27, 1/8", 1/4", 3/8", 1/2", 3/4"	
<b>Wiring</b>	up to 10 m flexible cable: PVC, silicone, or Teflon® (2...4 x 0.25 mm <sup>2</sup> , OD 4...5 mm) or PUR <sup>(1)</sup> (2...4 x 0.50 mm <sup>2</sup> , OD 6...8 mm)									
<b>Wetted parts</b>	stainless steel									
<b>Protection</b>	IP67 (IP68 for submersible variant for up to 10 m)									

Variant	w/ plastic float						
	straight	angled			submersible		
<b>Specifications</b>							
<b>Float type</b>	P0	N1	P1	P10	P2	P3	P4
<b>Float material</b>	PP	NBR	PP	PP	PP	PP	PVDF
<b>Liquid density [g/cm<sup>3</sup>]</b>	> 0.73	> 0.60	> 0.60	> 0.72	> 0.60	> 0.50	> 0.70
<b>Ext. tube diameter ('d')</b>	6 mm	8 mm	8 mm	10 mm	12 mm	16 mm	16 mm
<b>Contact type</b>	reed contact: NO, NC, or NO/NC						
<b>Contact ratings</b>	'1': max. 120 VAC, max. 0.5 A, max. 10 W; '2': max. 230 VAC, max. 0.5 A, max. 10 W; '3': max. 230 VAC, max. 2 A, max. 50 W						
<b>Probe length ('L')</b>	≈ 24 mm	≈ 33 mm	≈ 30 mm	≈ 19 mm	60...65 mm	70...75 mm	70...75 mm
<b>Process temperature</b>	-20...80 °C <sup>(2)</sup>	-20...100 °C <sup>(2)</sup>	-20...80 °C <sup>(2)</sup>	-20...80 °C <sup>(2)</sup>	-10...80 °C <sup>(2)</sup>	-10...80 °C <sup>(2)</sup>	-30...125 °C <sup>(2)</sup>
<b>Ambient temperature</b>	PVC cable: -20...75 °C; silicone or Teflon® cable: -20...150 °C; PUR cable: -20...80 °C						
<b>Max. process pressure</b>	5 bar	0 bar	5 bar	5 bar	3 bar	3 bar	2 bar
<b>Process connection</b>	M8, M10, M12, M14, M16, M18, M20, 1/8", 1/4" 3/8", 1/2"	M10, M12, M14, M16, M18, M20, M27, 1/8", 1/4", 3/8"	M10, M12, M14, M16, M18, M20, 1/8", 1/4", 3/8", 1/2"	M12, M14, M16, M18, M20, M27, 1/4", 3/8", 1/2"	M14, M16, M18, M20, M27, 1/4", 3/8", 1/2"	M20, M27, M33, 1/2", 3/4"	M20, M27, M33, 1/2", 3/4"
<b>Wiring</b>	up to 10 m flexible cable: PVC, silicone, or Teflon® (2...4 x 0.25 mm <sup>2</sup> , OD 4...5 mm) or PUR <sup>(1)</sup> (2...4 x 0.50 mm <sup>2</sup> , OD 6...8 mm)						
<b>Wetted parts</b>	stainless steel (except float)						
<b>Protection</b>	IP67 (IP68 for submersible variant for up to 10 m)						

<sup>(1)</sup> Ask for compatibility with d=8/10 mm!

<sup>(2)</sup> Up to 75 °C with PVC cable

**Ordering code** LCSF\* - G1.G2'2".G8.G9.G10.G14

Code	Feature or option	Code values
*	Variant	<b>I</b> - straight, <b>L</b> - angled, <b>U</b> - submersible
<b>G1</b>	Float	<b>N1</b> - NBR, ø17.5x25, <b>P0</b> - PP, ø19x16, <b>P1</b> - PP, ø24x22, <b>P2</b> - PP, ø29x50, <b>P3</b> - PP, ø38x60, <b>P4</b> - PVDF, ø38x60, <b>P10</b> - PP, ø29x11, <b>S0</b> - stainless steel, ø25x24, <b>S1</b> - stainless steel, ø28x28, <b>S2</b> - stainless steel, ø41x38, <b>S3</b> - stainless steel, ø45x55, <b>S4</b> - stainless steel, ø52x52, <b>S5</b> - stainless steel, ø73x73, <b>S6</b> - stainless steel, ø75x108, <b>S7</b> - stainless steel, ø30x28, <b>S10</b> - stainless steel, ø30x32, <b>S20</b> - stainless steel, ø22x40
<b>G2'</b>	Contact function (no float)	<b>A</b> - NO (closes at float down), <b>AU</b> - NO (closes at float up), <b>B</b> - NC (opens at float down), <b>BU</b> - NC (opens at float up), <b>C</b> - NO/NC
<b>G2"</b>	Contact ratings	<b>1</b> - 120 V / 0.5 A / 10 W, <b>2</b> - 230 V / 0.5 A / 10 W <sup>(3)</sup> , <b>3</b> - 230 V / 2 A / 50 W
<b>G8</b>	Cable length 'k' [m] and type	<b>1PV...10PV</b> - PVC, <b>1SL...10SL</b> - silicone, <b>1TF...10TF</b> - Teflon®, <b>1PU...10PU</b> - polyurethane
<b>G9</b>	Process connection	<b>X</b> - none, <b>Q0</b> - M16x1.5, <b>Q1</b> - M18x1.5, <b>Q2</b> - M20x1.5, <b>Q3</b> - G3/8", <b>Q4</b> - G1/2", <b>Q5</b> - M27x2, <b>Q6</b> - G3/4", <b>Q7</b> - M12x1.5, <b>Q8</b> - M14x1.5, <b>Q10</b> - 1/2" NPT, <b>Q11</b> - 3/4" NPT, <b>Q12</b> - G1", <b>Q15</b> - 1" NPT, <b>Q18</b> - G1/8", <b>Q19</b> - 1/8" NPT, <b>Q20</b> - M10x1, <b>Q23</b> - G1/4", <b>Q24</b> - 1/4" NPT, <b>Q25</b> - M33x2, <b>Q30</b> - M10x1.5, <b>Z</b> - other (specify!)
<b>G10</b>	Sheath material	<b>M1</b> - 1.4301, <b>M2</b> - 1.4541, <b>M3</b> - 1.4571, <b>M9</b> - 1.4404
<b>G14</b>	Grounding	<b>X</b> - none, <b>G</b> - grounded <sup>(4)</sup>

<sup>(3)</sup> B2 and C2 are not available!

<sup>(4)</sup> Occupies 1 wire! Ask for availability!