

## 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	S11	S5	S6	S7	S10	S20
<b>Liquid density [g/cm<sup>3</sup>]</b>	> 0.72	> 0.70	> 0.70	> 0.65	> 0.55	> 0.45	> 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	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; '4': max. 230 VAC, max. 1 A, max. 30 W										
<b>Probe length ('L')</b>	≈ 33 mm	≈ 38 mm	50...55 mm	65...70 mm	62...67 mm	70...80 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	15 bar	30 bar	10 bar	30 bar	50 bar	30 bar
<b>Process connection <sup>(1)</sup></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>(2)</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 '4': max. 230 VAC, max. 1 A, max. 30 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>(3)</sup>	-20...100 °C <sup>(3)</sup>	-20...80 °C <sup>(3)</sup>	-20...80 °C <sup>(3)</sup>	-10...80 °C <sup>(3)</sup>	-10...80 °C <sup>(3)</sup>	-30...125 °C <sup>(3)</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 <sup>(1)</sup></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>(2)</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> Includes stainless mounting nut and washer; none for the submersible variant

<sup>(2)</sup> Ask for compatibility with d=8/10 mm!

<sup>(3)</sup> Up to 75 °C with PVC cable

**Ordering code** LCSF★ - G1.G2'2".G8.G9.G10.G14 - #1

Code	Feature or option	Code values
★	Variant	I - straight, L - angled, U - submersible
G1	Float	N1 - NBR, ø17.5x25, P0 - PP, ø19x16, P1 - PP, ø24x22, P2 - PP, ø29x50, P3 - PP, ø38x60, P4 - PVDF, ø38x60, P10 - PP, ø29x11, S0 - stainless steel, ø25x24, S1 - stainless steel, ø28x28, S2 - stainless steel, ø40x42, S3 - stainless steel, ø45x55, S4 - stainless steel, ø52x52, S5 - stainless steel, ø73x73, S6 - stainless steel, ø75x108, S7 - stainless steel, ø30x28, S10 - stainless steel, ø30x32, S11 - stainless steel, ø51x61, S20 - stainless steel, ø22x40
G2'	Contact function (no float)	A - NO (closes at float down), AU - NO (closes at float up), B - NC (opens at float down), BU - NC (opens at float up), C - NO/NC
G2"	Contact ratings	1 - 120 V / 0.5 A / 10 W, 2 - 230 V / 0.5 A / 10 W <sup>(4), (6)</sup> , 3 - 230 V / 2 A / 50 W <sup>(7)</sup> , 4 - 230 V / 1 A / 30 W <sup>(4), (6)</sup>
G8	Cable length 'k' [m] and type	1PV...10PV - PVC, 1SL...10SL - silicone, 1TF...10TF - Teflon®, 1PU...10PU - polyurethane X - none,
G9	Process connection <sup>(1)</sup>	Q0 - M16x1.5, Q1 - M18x1.5, Q2 - M20x1.5, Q3 - G3/8", Q4 - G1/2", Q5 - M27x2, Q6 - G3/4", Q7 - M12x1.5, Q8 - M14x1.5, Q10 - 1/2" NPT, Q11 - 3/4" NPT, Q12 - G1", Q15 - 1" NPT, Q18 - G1/8", Q19 - 1/8" NPT, Q20 - M10x1, Q23 - G1/4", Q24 - 1/4" NPT, Q25 - M33x2, Q30 - M10x1.5, Z - other (specify!)
G10	Sheath material	M1 - 1.4301, M2 - 1.4541, M3 - 1.4571, M9 - 1.4404
G14	Grounding	X - none, G - grounded <sup>(5)</sup>
#1	Options	X - none, OP - electrochemically polished sheath surface

<sup>(4)</sup> Are not available for certain combinations!

<sup>(5)</sup> Occupies 1 wire! Ask for availability!

<sup>(6)</sup> Contact COMECO!

<sup>(7)</sup> May contains mercury!