Electrical level indicators with LED

with MIN level electrical sensor, transparent technopolymer

MATERIAL
Transparent polyamide based (PA-T) technopolymer. Highly resistant to shocks, solvents, oils with additives, aliphatic and aromatic hydrocarbons, petrol, naphtha, phosphoric esters.
Avoid contact with alcohol or detergents containing alcohol.

SCREWS, NUTS AND WASHERS
Zinc-plated steel.

PACKING RINGS
Step-shaped for the seal on the reservoir walls and NBR synthetic rubber O-ring screw underhead.
Suggested roughness of the packing ring application surface Ra = 3 µm.

FLOAT
Glass-fibre reinforced polyamide based (PA) technopolymer, black colour, with a built-in magnetic element to activate the electric contact when the float reaches the contact threshold indicated in the drawing (data referred to mineral oil type CB68, according to ISO 3498, temperature 23°C).
Floating is ensured by fluids with densities higher than 800 kg/m3.

BRACKET WITH MALE CONNECTOR
Perfectly watertight, incorporating the reed with three conductors (SW) and the LED. 8-pin M12x1 connector with threading in glass-fibre reinforced polyamide based (PA) technopolymer certified self-extinguishing UL-94-V0, black colour, matte finish.
For a correct assembly see Warnings (on page -).

CONTRAST SCREEN
White lacquered aluminium. The housing, in the appropriate external rear slot, guarantees the best protection from direct contact with fluid. It can be taken out from the inclined side, before assembly to allow the insertion of level lines or words.

STANDARD EXECUTIONS
- **HCV-E-NO-LD**: the electrical contact closes on reaching the minimum level and the LED changes from green to red.
- **HCV-E-SW-LD**: the electrical change-over contact switches between the two clamps when the minimum level is reached and the LED changes from green to red.

MAXIMUM CONTINUOUS WORKING TEMPERATURE
90°C (with oil).

TECHNICAL DATA
In laboratory tests carried out with mineral oil type CB68 (according to ISO 3498) at 23°C for a limited period of time, the weld stood up to: 18 bar (HCV.76), 18 bar (HCV.127) and 12 bar (HCV.254).
For use with other fluids and under different pressure and temperature conditions, please contact ELESA Technical Department.
In any case we suggest to verify the suitability of the product under the actual working conditions.

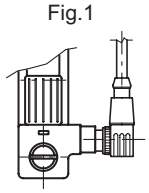
WIRING INSTRUCTIONS
Connect the positive power supply to the Vin or Vsf pin. The Vin pin has overcurrent protection which is limited to 300mA (at 25°C).
The current at the Vsf pin input must be limited with a fuse or equivalent protection provided by the user so as not to exceed the maximum values indicated in the electrical features table.
Connect the negative power supply to pins 3, 4, 5, and 8.
When the device is not activated, i.e. the liquid level is not below the minimum level and the LED is green, the positive power supply applied to the Vin or Vsf pin will be present on the NC contact (pin 1) – only in the case of a device with a change-over contact (SW).
When the device is activated, i.e. the liquid level is below the minimum level and the LED is red, the positive power supply applied to the Vin or Vsf pin will be present on the NO contact (pin 2).

ELESA Original design

SPECIAL EXECUTIONS ON REQUEST
- Level indicators with stainless steel screws, nuts and washers.
- Level indicators HCV.76 with screws M12.
- Level indicators for use with fluids containing alcohol.
- UV resistant transparent technopolymer level indicators.

FEATURES AND PERFORMANCES
The HCV-E-LD level indicators, in addition to the visual level indicator, also provide an electrical signal when the minimum fluid level value is reached and a green or red light signal indicating the presence or absence of fluid respectively.
The switching of the electrical signal is simultaneous with the switching of the indicator light.
The lateral connector output allows the level of intervention of the sensor to be minimised.
Ultrasound welding to guarantee a perfect seal.
Maximum fluid level visibility even from side positions.
Lens effect for a better visibility of the fluid level.
In case of use of an extension, the direction of the cable output is shown in Fig.1.

Fig.1

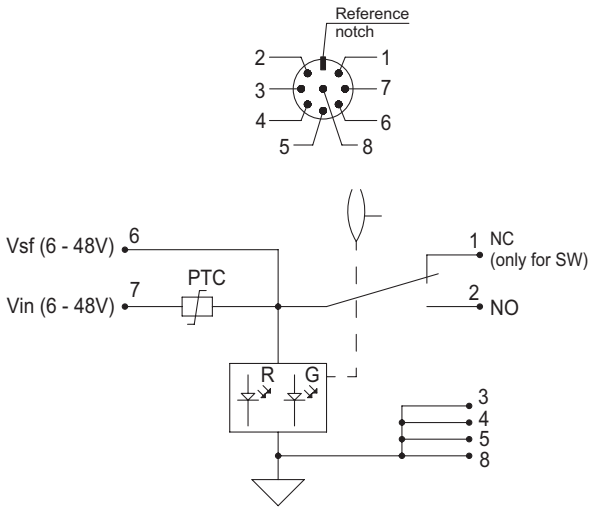


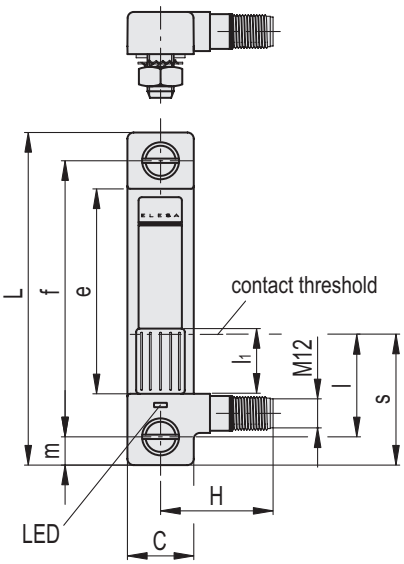
HCV-E-LD

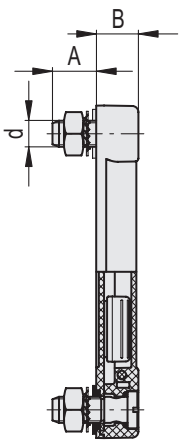
Electrical level indicators with LED

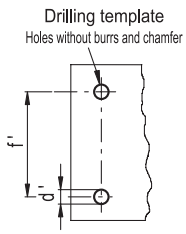
Electrical features	MIN level sensor
Power supply	AC/DC
Electric contacts	NO normally open
	SW change-over contact
Maximum applicable voltage	NO: 48 Vdc
	SW: 48 Vdc
Maximum switching current	1 A (Input Vsf)
	0.3A at 25°C (input Vin)
Maximum current	NO: 1.2A
	SW: 2A
Maximum commutable power	NO: 10 Va
	SW: 20 Va
Connector	M12x1
Do not mount this indicator in proximity to magnetic fields.	

Contact wiring cable









HCV-E-NO-LD

Code	Description	f	d	A	B	C	H	L	e	l	l1	m	s	d'-0.2	f'±0.2	C# [Nm]	⚖
11067-KN	HCV.76-E-NO-M10-KN-LD	76	M10	20	19.5	30.5	47	102	43.5	40	20	13	53	10.5	76	12	99
11077-KN	HCV.127-E-NO-M12-KN-LD	127	M12	20	19.5	30.5	47	153	97	50	30	13	63	12.5	127	12	151
11087-KN	HCV.254-E-NO-M12-KN-LD	254	M12	20	19.5	30.5	47	280	224	50	30	13	63	12.5	254	12	178

HCV-E-SW-LD

Code	Description	f	d	A	B	C	H	L	e	l	l1	m	s	d'-0.2	f'±0.2	C# [Nm]	⚖
11069-KN	HCV.76-E-SW-M10-KN-LD	76	M10	20	19.5	30.5	47	102	43.5	40	20	13	53	10.5	76	12	99
11079-KN	HCV.127-E-SW-M12-KN-LD	127	M12	20	19.5	30.5	47	153	97	50	30	13	63	12.5	127	12	151
11089-KN	HCV.254-E-SW-M12-KN-LD	254	M12	20	19.5	30.5	47	280	224	50	30	13	63	12.5	254	12	178

Maximum tightening torque.