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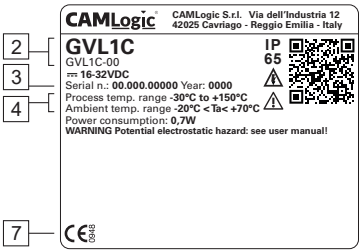
COSTRUZIONI MECCANICHE ELETTRICHE

Operating and maintenance instructions for compact vibrating fork level indicator GVL1C

PRODUCT IDENTIFICATION

The GVL1C is a compact vibrating fork level indicator for liquids of maximum viscosity 10,000 mm2/s (=centiStokes).
The device is identified by the label on the side of the housing, the characteristics of which are given below:

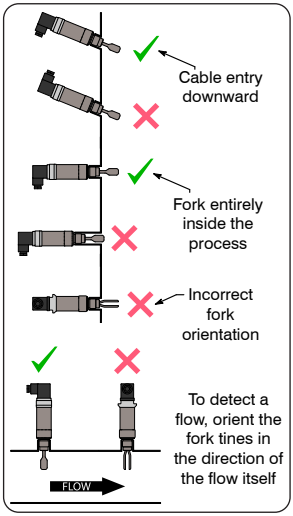


1. Manufacturer information
2. Product model and reference code for the specific configuration
3. Serial number and year of production
4. Ambient and process temperature range
5. QR code leading to the specific configuration and IP rating
6. Usage warnings
7. Conformities and certification symbols

Tampering with the label entails the loss of validity of the certifications and the warranty.

PRODUCT CHARACTERISTICS

- Casing in AISI316L / EN 1.4404 stainless steel
- G 1/2 (BSPP) connection to process and vibrating fork in AISI 316L / EN 1.4404 stainless steel
- 3-pin DIN 43650 female connector with grounding, type A
- Power supply voltages: 16-32VDC
- Power consumption: max 0,7W
- Cables size: 0,5 ÷ 2,5 mm^2 (14 AWG)
- Max load current: 250mA
- Output signal: PNP
- Ambient temperature: -20 ÷ +70°C (-4 ÷ 158°F)
- Process temperature: -30 ÷ +150°C (-22 ÷ 302°F)
- Process pressure: absolute / 15 bar (217,5 psi)
- Casing protection rating: IP 65 (dust-tight, protection against water jets)
- Wetted parts protection rating: IP 68 (dust-tight, protected against the effect of continuous immersion in water)
- Means of protection: class I (PE connected) - overvoltage category II
- Environmental conditions: indoor and outdoor use - altitude up to 2000 m (6,562 ft) - max. relative humidity 80% for temp. up to 31°C (88°F) decreasing linearly to 50% at 40°C (104°F) - pollution degree 2



INSTALLATION

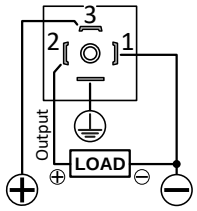
The indicator can be mounted in any position, on the wall of the silo or container, taking care to keep the cable entry pointing downward.
In the case of side installation, the fork with the prongs should be positioned vertically (as in the image opposite). If the indicator is used to check the presence or absence of a flow in a pipe, the prongs should be rotated in the direction of the flow (as in the image opposite). The indicator should not be installed in the immediate vicinity of the liquid inlet flow to prevent the fork from being directly affected.
The coupling of the instrument with the container wall is threaded; the reference figures on page 3 show the general dimensions of the product. Always refer to the technical drawings provided by the manufacturer with the manual.

SAFETY WARNINGS

Installation, maintenance, and diagnostics of the device should be carried out only by authorized personnel who are informed of current regulations. Before starting work, trained personnel must have read and understood the instructions.
When using electrically operated equipment, appropriate safety precautions, as required by current regulations, must be taken to reduce the risk of fire, electric shock and injury to persons. Before installing the device, check its perfect integrity by ensuring that it has not been damaged during transportation.
Removal/replacement/modification of any part of the device will result in the loss of validity of the products' certifications and the warranty.
Grounding is mandatory and the sole responsibility of the installer.

WIRING

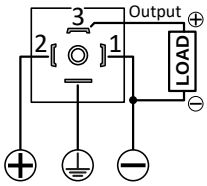
The electrical connection of the device must be made while the device is not powered.
In particular, the grounding connection must be made before any other. There is a protective earth terminal on the device in the type A connector, identified by the symbol IEC 60417-5019.
The cross section of the protective earth (PE) conductor must be the same as that of the phase conductor, with a maximum of 2.5 mm^2. Protect the cables with an overload protection element (rated current ≤ 2A).
A switch or circuit-breaker, suitably located and easily reached, must be included in the installation and marked as the disconnecting device for the equipment.
The pictures on the side show the wiring diagram according to the use of the instrument. The diagram is also shown on the body of the indicator itself.



Maximum level

1	Negative power supply
2	PNP signal output
3	Positive power supply
⏚	Earthing (PE)

16 to 32VDC
Max Load Current: 250mA

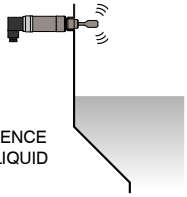
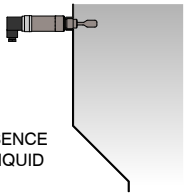
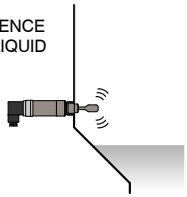
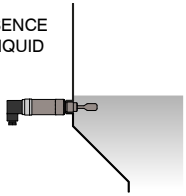


Minimum level

1	Negative power supply
2	Positive power supply
3	PNP signal output
⏚	Earthing (PE)

16 to 32VDC
Max Load Current: 250mA

Near the type A connector are two status LEDs: green indicates normal operation (instrument powered), while red indicates an alarm status.
For the instrument to operate in a safe condition, the wiring diagram regarding the use and installation of the level indicator (maximum level or minimum level) must be followed correctly.
In case of failure or malfunction, the GVL1C is designed to return to the safest condition, as highlighted by the summary table below.

	Liquid status	LED status	Output signal (power on)	Output signal (power off)
Maximum level	 ABSENCE OF LIQUID	RED ALARM LED (off) GREEN POWER LED (on)	Active Signal equal to the power supply positive	Inactive Null signal
Maximum level	 PRESENCE OF LIQUID	RED ALARM LED (on) GREEN POWER LED (off)	Inactive Null signal	Inactive Null signal
Minimum level	ABSENCE OF LIQUID 	RED ALARM LED (off) GREEN POWER LED (on)	Inactive Null signal	Inactive Null signal
Minimum level	PRESENCE OF LIQUID 	RED ALARM LED (on) GREEN POWER LED (off)	Active Signal equal to the power supply positive	Inactive Null signal

MAINTENANCE

CAMLogic instruments do not require routine maintenance, however, the following precautions should be taken: always turn off the power before working on the electrical connection of the instrument and make sure that the power and ground terminals are connected properly and in good condition.
If there are signs of damage or excessive tearing in the DIN 43650 type A connector , contact the CAMLogic manufacturer for replacement with suitable materials.

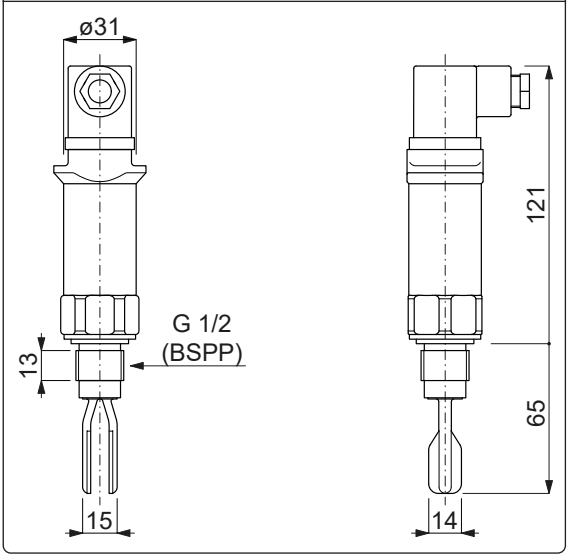
REPAIRS

GVL1C series level indicators can only be repaired by the CAMLogic manufacturer or by following the manufacturer's instructions.
If in doubt about malfunctions or repairs, contact the manufacturer: CAMLogic S.r.l. - Via dell'Industria 12-12/A - 42025 Cavriago (RE) - Italy (camlogic@camlogic.it - www.camlogic.it).

WARRANTY

CAMLogic, in addition to the terms of the supply contract, guarantees its products for a period of twenty-four (24) months from the date of shipment.
This warranty is expressed exclusively in the repair or replacement, free of charge, of those parts which, after careful examination by the manufacturer, are found to be defective.
The warranty, excluding any liability for direct or indirect damages, is limited to material defects only and has no effect if the returned parts are found to have been in any way disassembled, tampered with or repaired by anyone other than the manufacturer.
Also excluded from the warranty is damage resulting from negligence, carelessness, incorrect or improper use of the level indicator, operator mishandling or improper installation.
The warranty is also void if non-original spare parts have been used. A returned level indicator, even if under warranty, must be shipped freight prepaid.

REFERENCE FIGURES



Learn more about the product and find drawings of each model on our website.

Symbol	Reference	Description
⎓	IEC 60417-5031 (2002-10)	Direct current
~	IEC 60417-5032 (2002-10)	Alternating current
⏚	IEC 60417-5019 (2006-08)	Protective earth / protective ground
⚡	IEC 60417-6042 (2010-11)	Caution: risk of electric shock
⚠	ISO 7000-0434B (2004-01)	Caution: if the instrument is used in a manner not specified by the manufacturer, the protection offered by the equipment may be impaired.