

# Resistive level probes TVI & MINITEV



TVI 1E / TVI 3 E



MINITEV



ES 2001

- For all electrically conductive liquids.
- 1 to 4 electrodes
- Materials: Metals - PTFE
- Pressure: 200 bar Max.
- Temperature: 220 °C Max.
- Fittings: threads BSP or NPT
- Housing: Cast aluminum alloy

## PRINCIPLE

Electrical resistance variation, caused by a fluid presence between two electrodes, is converted by level relay as ON/OFF signal, (see data-sheets relay ES 2001, 530-01 and 233-01 for RXM).

Electrodes length is adjusted according to distance of trigger point.

## APPLICATIONS

- Level control or regulation, on open tanks or closed tanks, piping, open channels, etc.
- Presence or lack of fluid detection (leaks, empty piping, dry run detection for pumps).

## DESCRIPTION

Each probe has three parts:

- Cast aluminum head (IP 55) with screw terminals and cable gland.
- Fitting: AISI 316 L with PTFE insulator(s).
- Electrodes: AISI 316 L, 1 to 4 electrodes (according the model) at necessary length.

Electrical connection: with end tip to the terminal.

A ground connection is available inside the housing IP55.

## TERMINOLOGY

The term "Bougie", very often used at CIEMA (1998), refers to an electrode or a single-electrode probe.

The "Probe" or "Holder" is a set, electrode and connection head.

# BAMO MESURES

22, Rue de la Voie des Bans · Z.I. de la gare · 95100 ARGENTEUIL

Tel +33 (0)1 30 25 83 20 Web [www.bamo.fr](http://www.bamo.fr)

Fax +33 (0)1 34 10 16 05 E-mail [info@bamo.fr](mailto:info@bamo.fr)

Resistive level probes  
TVI & MINITEV

03-12-2018

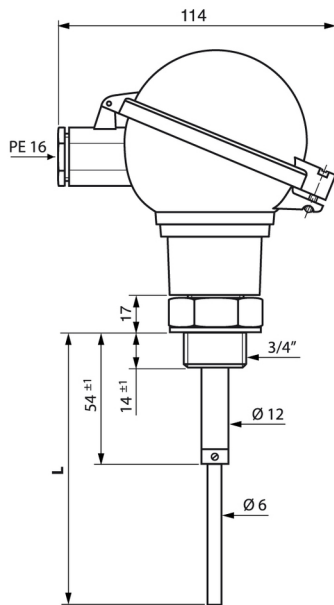
D-541.01-EN-AA

NIV

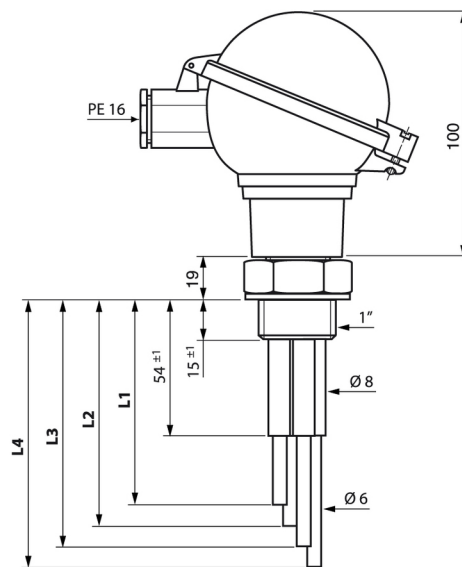
541-01 /1

## CODE NUMBERS AND FEATURES

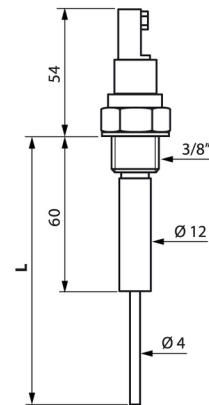
Reference	TVI-1E	TVI-2E	TVI-3E	TVI-4E	MINITEV
Code	541 310	541 420	541 430	541 440	541 330
Number of electrodes	1	2	3	4	1
Fitting	¾" G (Option : ½" G)		1" G		¾" G
Insulator	Insulator PTFE				
Length Min.	54 mm	-			60 mm
Length Max.	3000 mm			1000 mm	
Temperature Max.	220 °C	80 °C		220 °C	
Pressure Max. (at T° Max.)	25 bar (at 220 °C)	25 bar (at 80 °C)		25 bar (at 220 °C)	
Pressure Max. at 20 °C	200 bar	50 bar		200 bar	
<b>MATERIALS</b>					
Head housing	Cast aluminum			<i>(Without head housing)</i>	
Fitting	AISI 316 L			AISI 304	
Electrode(s)	AISI 316 L			AISI 304	



TVI-1E



TVI-2E - TVI-3E - TVI-4E



MINITEV

## PRECAUTIONS FOR COMMISSIONING

- Provide the correct number of electrodes: 1 electrode by level point + 1 reference electrode (if tank is not used as reference).
- Mount the probe on the top of the tank, in vertical position.
- If it is not possible, use a lateral position with an angle of 45° downwards (always think of conductive liquid bridges that create false alarms).
- Check the limits of temperature vs. pressure and the chemical resistance of wet part materials in contact with the fluid.
- **Beware of vapors, it is recommended to coat the connectors after wiring or use a pierced lid to avoid possible condensation.**
- In case of agitated liquid, make sure that rods cannot touch each other by using spacers, or using coated rods, or by isolating them from turbulences inside a transquilization tube.
- For clogging liquids or with vapours, be sure not to have any electrically conductive bridge between two electrodes.

# BAMO MESURES

22, Rue de la Voie des Bans · Z.I. de la gare · 95100 ARGENTEUIL  
 Tel +33 (0)1 30 25 83 20 Web www.bamo.fr  
 Fax +33 (0)1 34 10 16 05 E-mail info@bamo.fr

Resistive level probes  
**TVI & MINITEV**

03-12-2018

D-541.01-EN-AA

NIV

541-01 /2