

Fault Locator Manual



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 **CPV-HILINE**
ZPUM[®] steel pre-insulated pipe systems

I. General

L-301 fault locator is a continuous working surveillance device for the preinsulated pipelines equipped with a copper wire.
Four separate pipelines each up to 1000 m length is possible to connect to the locator.
Locator identifies leakage or wires break.
In both of fault detection, the type and location in meters from the locator position are displayed.

II. Mounting instruction

1. Fix the locator on the wall using two screws (mounting wholes M fig.1)
2. Connect the supplying cable to the G1 socket (fig. 1)
3. Connect the measuring cables to the GP1-GP4 sockets (fig.1). Measuring cables should be 5m length and 120Ω impedance. The maximum length of the measuring cable is 10m.
4. Socket G2 is a free potential rally contact closed in any fault detection.

ATTENTION! DO NOT USE ANY EARTHING PLUGS IN THE SYSTEM

III. Operating instruction

After the locator mounting, switch on the supplying voltage.

ATTENTION! Connecting and disconnecting cables to the GP1-GP4 sockets should be only when supplying voltage is OFF

Factory settings for all input channels are 0 m

After the first switching on the display starts the main menu :

Dashed lines means that all channels are programmed to 0 m

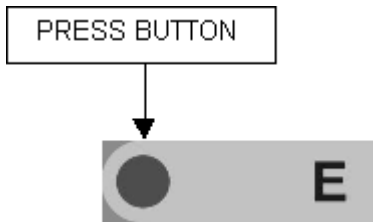
CH1	---
CH2	---
CH3	---
CH4	---



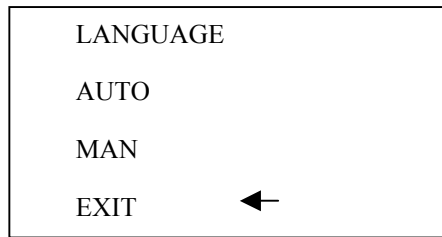
PROGRAMMING OPERATIONS:

1. Set jumper JP1 (fig. 1) on the „TEST” position (factory settings)

- 2.



Function menu start be displayed



Three functions are available:

- function LANGUAGE,
- function AUTO – automatic pipe length measuring,
- function MAN – manual data settings,
- function EXIT – exit to the main menu

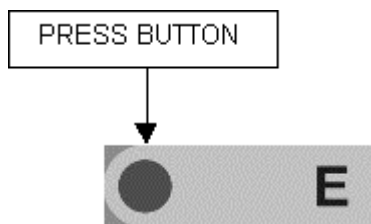
Arrow on the right side marks activity for setting function.
Press buttons as below to change the arrow position



or



For the chosen function activation :



FUNCTION „LANGUAGE”:

After activation, on the display starts the “LANGUAGE” screen.



Arrow on the right side marks activity for setting language.
 Press buttons as below to change the arrow position



or

For the chosen language activation press button “E”.

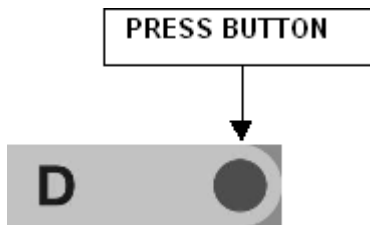
FUNCTION „AUTO”:

After activation, on the display starts the “AUTO” screen.
 Locator starts the function, displaying the message: “meters checking”.
 For each channel the connected pipe length is measured.
 After the function will be ready, for the corresponded channels the pipes length will be displayed.
 For the not connected channels “ --- “ will be displayed.
 When the function is finished on the display will appear:

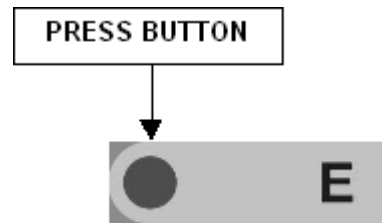
Store -D

Exit –E

To save settings:



To exit:



After the one of the buttons is pressed locator return to the function menu.

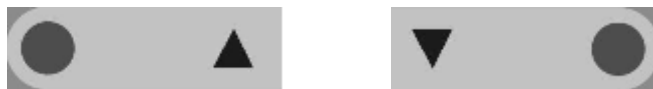


FUNCTION : „MANUAL”

After this function is activated on the display starts the channel nr. 1 screen:

CH 1	SET
DEATH BAND	12m
METERS	100m ←
store	exit

Pressing buttons:



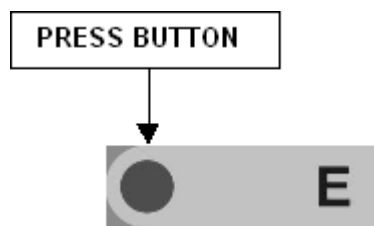
or

The arrow is moved to the requirement position

- a. Arrow on the “ **DEATH BAND** “ :

On this position is possible to change the death band. “DEATH BAND” is the pipe length from the locator what is non active for measurements.

To change the value:



The meters position start blinking and pressing:

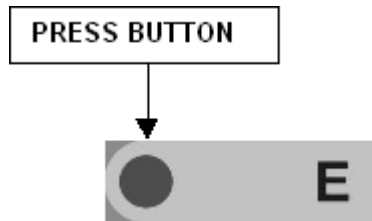


that is possible to change the value of the death band



b. Arrow on the **“PIPE LENGTH”** :

On this position is possible to change the pipe length,
To change the value:



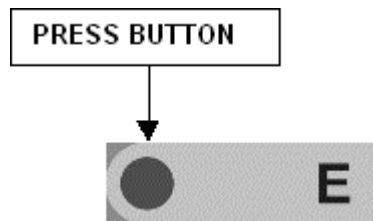
The meters position start blinking and pressing:



that is possible to change the value of the pipe length

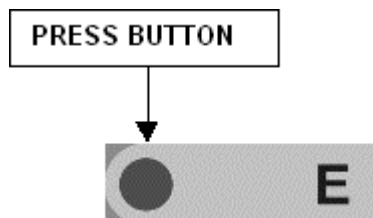
c. Arrow on the **“STORE”** :

On that position is possible to save manually changed data
To store press:



Message “store” start blinking.
Two options are possible:

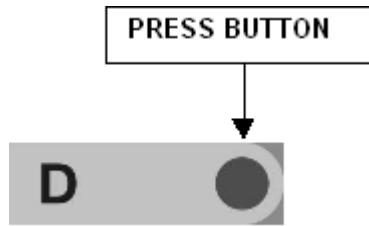
A. to confirm saving press



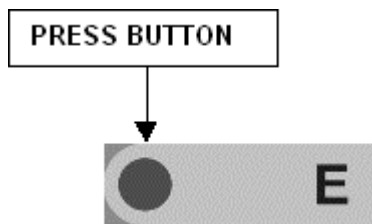
After pressing the button, the data will be saved and the next screen for channel nr. 2 will be displayed



B. To cancel saving:

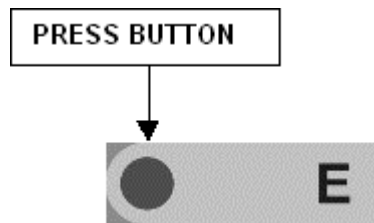


d. Arrow on the "EXIT" :
To exit without changes



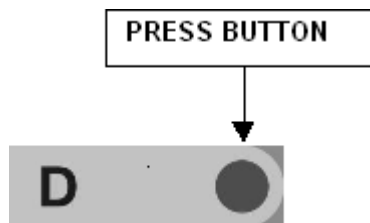
Message "EXIT" start blinking.
Two options are possible:

A. to confirm exit press



Exit is proceeded and the next screen for channel nr. 2 will be displayed

B. For canceling "EXIT" :



**After saving or exit locator start displaying the next screen.
The last screen is the screen for channel 4
Saving or exiting that screen the locator start the FUNCTION screen.
To leave the manual procedure is necessary to be in the screen for channel 4
After programming (manual or auto) is necessary to select the main menu (see p.III.2)**



**When the jumper JP1 (fig. 1) is set to “TEST” position, locator displays for the connected channels “BREAK” and the pipe length will be displayed. In this position of the JP1 jumper is possible to test the break or short circuit in any point of the pipe.
In this JP1 position also the “PIPE FAULT” led is not active.**

To set the locator to normal operation the jumper JP1 should be in “PRACA” position

In this Jp1 position the locator start to display on the main screen for all connected channels “PIPE OK”.

When the leakage or short circuit will occur, the message “LEAKAGE” start to be displayed together with the point of failure in meters.

When the break will occur the message “BREAK” start to be displayed together with the point of failure in meters.



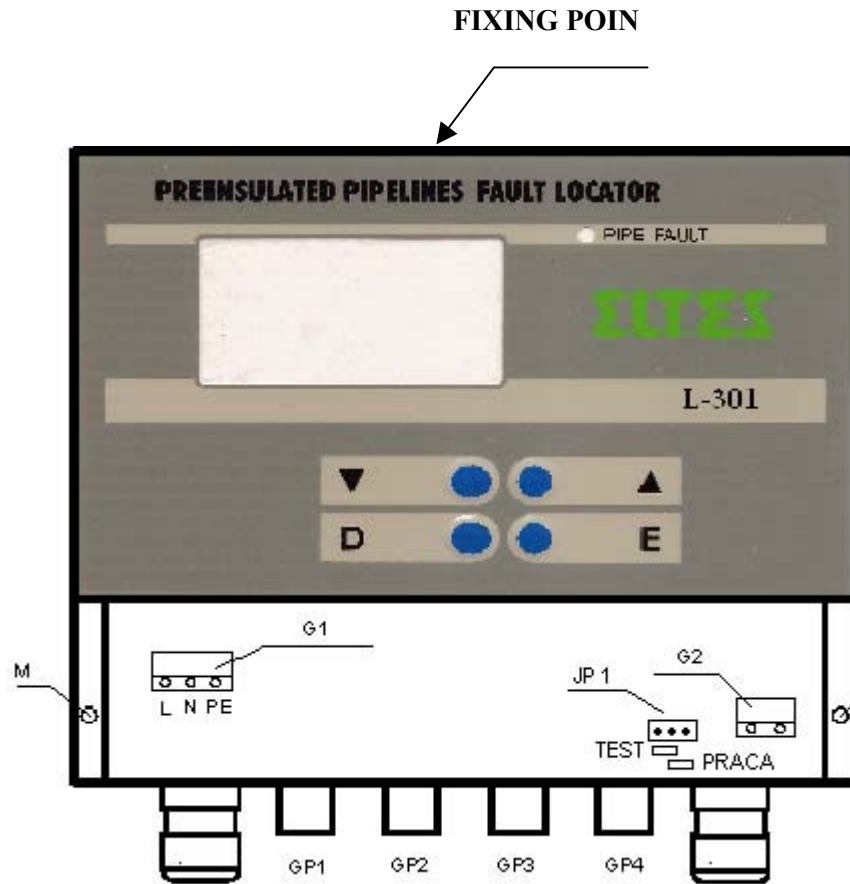


fig.1

IV. LOCATOR PARAMETERS:

- Supplying voltage	230V 50Hz
- Power consumption	20 VA
- Type of work	continuous
- Type of work	permanent
- Operation temperature	5...+50°C
- Max. Pipe length (for each channel)	1000m
- Min. Pipe length (for each channel)	30m
- Measure precision	+/- 1% +/- 3m
- Number of channels	4
- Leakage detection level	Zp/Zl – 2,5%
Zp	level impedance
Zl	wave impedance

