



Low-frequency receiver-registrator (LF locator) NPR-01



Low-frequency locator NPR-01 is a portable device, which is used:

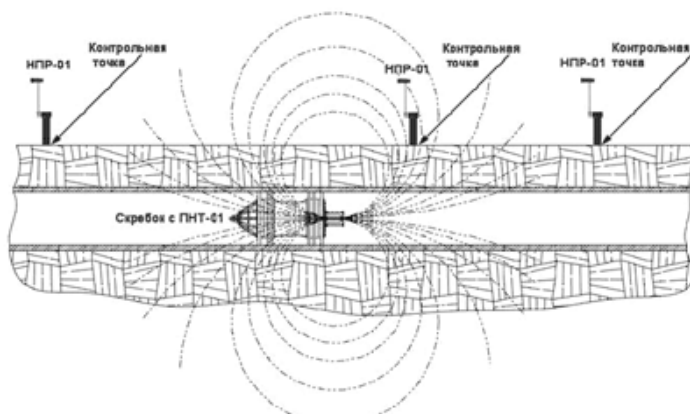
- For searching and determining position of various in-line PIGs equipped by transmitters which emit electromagnetic signals on frequency 22 Hz and which are inside metallic or ferroconcrete reservoirs or inside pipelines including buried and off-shore pipelines;
- For registration and writing into internal non-volatile device's memory of the received signal and exact time of this signal receiving for the following computer analysis of this information.

An operator can determine the position of the transmitter inside a pipeline following sound and LED indication from the locator.

If necessary, the NPR-01 can be connected to an external antenna with connecting cable lengths from 2 to 200 meters. For the winding of the cable bollard or reel can be ordered.

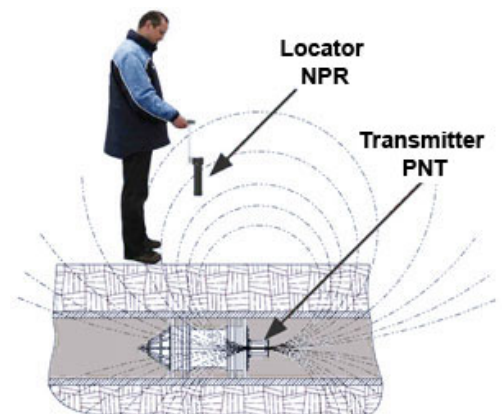
PURPOSE OF THE DEVICE

Low-frequency receiver-registrators NPR-01 are usually installed in marker points along a pipeline (pipeline benchmarking). NPR-01 enables to determine the time when an in-line PIG passed through particular point in the pipeline with the accuracy of few milliseconds and also write this time into internal non-volatile memory. Such information is collected by several receivers-registrators NPR-01 preliminarily positioned in different marker points along the pipeline. This information is transferred to one computer and then automatically analyzed in special computer program. After this it is possible to obtain the velocity of PIG motion through particular parts of pipeline. And knowing this information it is possible to determine rather accurately the position of narrowings and peculiarities of the pipeline registered by transmitter PNT-01 which was installed on the in-line PIG.



searching of a PIG equipped by an electromagnetic 22Hz transmitter which has stopped somewhere in the pipeline. For this purpose the operator walks along the pipeline holding NPR-01 in hands. When the receiver-registrator detects 22Hz signal from the transmitter is will inform the operator by LED indication and by sounds about detected signal. And then with help of the same receiver-registrator

Similarly the receiver-registrator NPR-01 can also be used for





the position of the transmitter can be detected with accuracy not less than 0.5m.

Receiver-registrator NPR-01 is managed by two buttons on the front panel. The management of the device consists of the following operations: switch ON/OFF, adjust sensitivity, recording into internal memory ON/OFF.

The front panel of the low-frequency receiver-registrator has the following elements:



1. Two buttons for management of the device,
2. Green LED for power ON indication,
3. Line of red LEDs showing the level of registered signal,
4. Water proof socket for earphones connecting and for connection with a computer,
5. Photocell for automatic brightness adjustment of the LED indicators,
6. Blue LED for indication of internal memory recording mode.

Receiver-registrator NPR-01 can be manufactured in reinforced casing for deep water (up to 1000m) works like underwater benchmarking for off-shore pipelines.

BASIC TECHNICAL CHARACTERISTICS

Received signals	Electromagnetic oscillations with frequency 22 Hz;
Detection range with PNT transmitters (in air)	25 meters
Autonomous work time	Not less than 240 hours
Ingress protection (according to GOST 14254-96)	IP67
Explosion protection certification label	1ExibIIBT3 X
Working temperature	- 40°C to +60°C (-40F to 140F)
Power supply	4 batteries LR 6 (AA) with voltage 1.5V
Transportation overall dimensions	80 mm x 170 mm x 315 mm
Weight	3.5 kg
Mean time before any failure	Not less than 5000 hours
Batteries remaining life indication	YES
Automatically adjusted brightness of LED indicators	YES
High-accuracy clocks	YES
Number of records in non-volatile memory	5
Socket for earphones and for connection with computer	YES

Detailed instructions in English and Russian languages, as well as bag for transportation and storage are included in delivery set.

NPR-01 locators are produced by TU 4276-001-96335610-2008. Locators comply with the requirements of IEC 60079-0-98 and IEC 60079-11-99 about safety of equipment for use in potentially explosive atmospheres. They are also listed in the Register of technical devices, recommended for use in the fuel and energy complex of the Russian Federation.

The warranty for NPR locators is 12 months.

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