



RAT-Combo



RAT-Combo diagnostic device for leak detection and location in impulse pipe network.

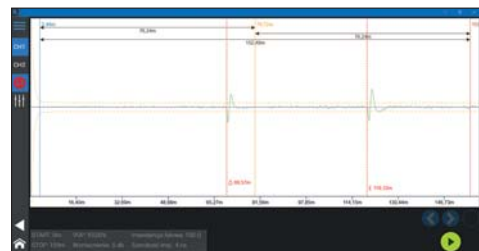
Leak detection is done by resistance measurements and fault location by TDR technology.



General information:	Leak detection and location in impulse network	
Application:	District heating and cooling	
Technical specification:	Type of measurement	Specification
Main functions:	Insulation resistance	0 - 200 MΩ
	Loop resistance	0 - 100 kΩ
	Galvanic voltage	0 - 2000 mV
	Continuous loop control	Triggering of detector by breaking of loop
	Control of connection to the pipe	Resistance measurement between supply and return pipe
Insulation resistance measurement:	Test range	0 - 200 MΩ
	Test voltage	24 V
	Test current	max. 100 mA
	Accuracy up to 1 MΩ	+/- (2% of m. + 8 digits)
	Accuracy over 1 MΩ	+/- (5% of m. + 8 digits)
	<i>Measurement in both polarities</i>	
Loop resistance measurement:	Test range	0 - 100 kΩ
	Test voltage	24 V
	Test current	max. 100 mA
	Accuracy	+/- (2% of m. + 8 digits)
	<i>Measurement in both polarities</i>	

Galvanic voltage:	Test range Accuracy	0 - 2000 mV +/- 5%
TDR (reflectometer) module:	Type of measurement Test range Pulse rate Gain adjustment Velocity of propagation (VoP) Possibility to select any part of the chart Accuracy Noise filtration Selectable output impedance	Specification up to 10 km (by VOP 100%) 1 - 70 ns x 30 40 - 100% 0 - 10 km +/- 0,01% of range +/- 1 px 50/60 Hz; 20 MHz, 100 MHz, 200 MHz, 350 MHz, 650 MHz, 750 MHz, 900 MHz 42 Ω, 50 Ω, 75 Ω, 100 Ω
Communication:	GSM / LAN / RELAY	
Number of channels:	2	
Power supply:	12 V DC / 120 - 240 V AC	
Housing:	IP65	
Dimensions:	200 x 150 x 75 mm	
Weight:	0,64 kg	

Software:



RATMON - web application for remote data acquisition and analysis of test results as well as configuration and operation of detectors.



RATMON MOBILE - Android and iOS application for reviewing of pipe loops state.



RATMANAGER - PC software for configuration and operation of detectors.

Scope of delivery:

- RAT-COMBO device with DIN mounting bracket, 2 BNC cable and boxes
- 12 V AC/DC power adapter
- GSM antenna (for devices with GSM module)

Optional accessories:

DESCRIPTION

- Battery module
- External GSM antenna
- Constant impedance connection box, one loop
- 3-wire sensor cable connection box, 2 alarm loops
- MSC-1 connection box, two loops
- Grounding
- External cabinet with NEMA certificate

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- BAT-1
- ANT-1
- BOX-3
- BOX-7
- BOX-9
- GND-1
- SK-1