

Overview

Digital recorder R1 is an acquisition system for capturing and monitoring of large amounts of electrical quantities. The device is designed to receive and process digital data streams in IEC 61850-9-2 format.

Captured waveforms are saved to COMTRADE files. The files are available for download through the service port (FTP) or via USB (flash memory).



Features

- ❑ IEC 61850-9-2LE compliant;
- ❑ Support of non-LE profiles;
- ❑ Local and remote HMI management;
- ❑ Individual custom filter for each data stream (up to a parameter);
- ❑ Merging data from multiple streams into one COMTRADE file;
- ❑ Recording of additional service information, including the flags and characteristics of digital streams.

Description

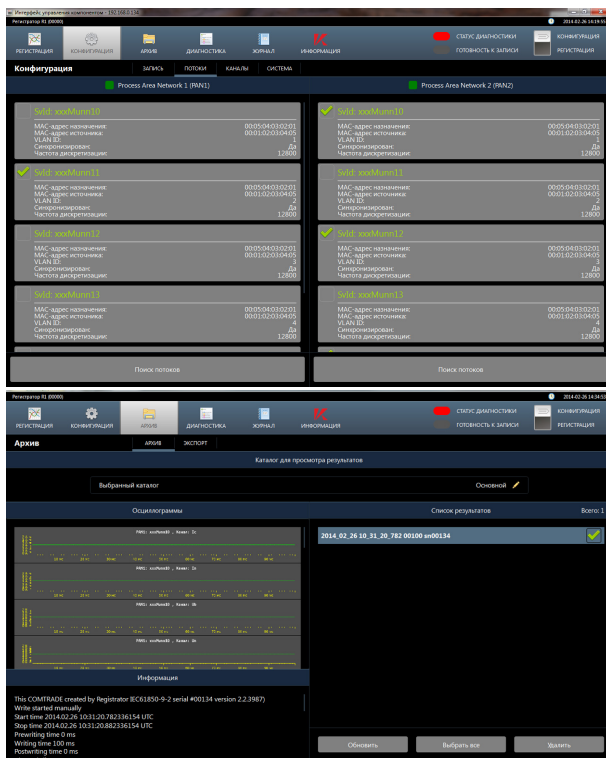
The device consists of two main blocks: the main block and the local management panel (LCD touchscreen monitor). Both units are designed for installation into a 19' rack.

The device is equipped with two operating Ethernet ports for digital streams capturing. The device allows simultaneous recording on both operating ports.

Synchronization

To function properly, the device requires the external NTP clock source for proper operation (sync is used for validation of timestamps in the incoming digital flows and for results timestamping).

To improve the accuracy of DI's timestamps, it is recommended to connect the 1PPS synchronization signal source (by one of the DI ports).



Interfaces	
Operating ports	2x Ethernet ports (1000BASE-T, RJ-45)
Service port	Ethernet port (1000BASE-T, RJ-45)
Digital inputs	2x DI (10 V, 50 Ohm, BNC)
Local storage interface	4x USB ports
Local HMI interface	LCD touch panel, Russian and English HMI localization
Synchronization	
Calendar	NTP, SNTP
For DI timestamping	1PPS (BNC)
Protocols and formats	
IEC 61850-9-2 support	LE metering (12 800 samples per second) LE protection (4 000 samples per second)
Recording format	COMTRADE
Information protocols	FTP (results) R1 remote management protocol (proprietary)
Mechanical	
Main block dimensions, mm	450 x 89 x 380 (2U @ 19' rack)
Main block weight, kg	11
Local HMI dimensions, mm	450 x 356 x 200 (8U @ 19' rack)
Local HMI weight, kg	9
Rack mount accessories	Included
Power Supply	
Input voltage range	176...264 VAC @ 50,60 Hz
Power	< 250 W
Environmental	
Temperature range	+5C° ... +40 C°
Humidity	80 @ +25 C°