

Exact Time Server STV-01

Exact Time Server STV-01 is designed to measure (maintain) current time and date values with synchronization by signals of satellite navigation systems and output current date/time values via network interfaces.

The server is designed to function as part of automated information and measurement systems of commercial energy metering for synchronizing current time and date values, and for synchronizing time scales of communication base stations and various automated systems at industrial and security facilities.

The server is a measuring instrument and is registered in the State Register of Measuring Instruments under No. 86603-22.

The exact time server STV-01 structurally consists of the following blocks connected by cables:

- The control unit, made in a metal case, placed in a telecommunications cabinet and marked "Exact time server STV-01";
- GNSS receiver in a protected all-weather case.
- GNSS antenna.

Features:

- Built-in HTTP Web server for configuration;
- LCD/LED display to display the server status and device settings;
- Adjustment buttons on the front panel;
- Lightning discharger and connecting cables are included in the delivery package.



Image 1 – General view STV-01

Technical specifications

Parameter	Specification
Constructive design	For mounting in 19" racks and cabinets, height – 1U
Power supply voltage	100 - 264 VAC
Power consumption, no more than	20 W
Operating system	Linux
Network interfaces	1 x NTP LAN Ethernet 10/100 Mbit
Output signal	1PPS output
Supported transport protocol	TCP, UDP
Supported network protocol	IPv4, IPv6
Supported network protocol	NTP, DHCP, NBNS
Network time protocol (ETHERNET)	NTP v2 (RFC 1119), NTP v3 (RFC 1305), NTP v4 (RFC 5905), SNTP v3 (RFC 1769), SNTP v2c (RFC 1158), SNTP v4 (RFC 2030).
Reference generator (determined when ordering)	1) TCXO (accuracy ± 1 ms/day) 2) OCXO-HQ (accuracy ± 5 us/day) 3) Rubidium (accuracy $\pm 0,2$ us/day)
Server time STV-01	UTC+0 (GMT)
RS232 interface	1
Operating time to failure	100 000 hours
Average service life	At least 20 years
GNSS signal receiver (determined when ordering)	1) GLONASS/GPS 2) GLONASS/GPS/BeiDou/Galileo
Communication interface with GNSS signal receiver	RS-422 (with galvanic isolation)
GNSS antenna for outdoor mounting (with a set of fasteners) (determined when ordering)	1) ICB ANT GNSS (-40...+85°C) 2) GPS-P (-70...+90°C)
Interface cable (determined when ordering)	1) 20 meters 2) Up to 500 meters
Antenna cable (determined when ordering)	1) 1 meter 2) Up to 100 meters
Operating conditions of the control unit: - air temperature - relative humidity at a temperature of +25 ° C, no more than - atmospheric pressure	0...+60°C 80% 84...106,7 kPa
Operating conditions of the receiver: - air temperature - relative humidity at a temperature of +25 ° C, no more than - atmospheric pressure	-40...+60°C 98% 84...106,7 kPa
Overall dimensions of the control unit (WxLxH), no more than	500×300×50 mm
Weight of the control unit, no more than	5 kg