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Exact Time Server STV-01 (with options)

Exact Time Server STV-01 is designed to measure (maintain) current time and date values with synchronization by signals of GLONASS and/or GPS 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:

– The control unit, made in a metal case, placed in a telecommunications cabinet and marked "Exact time server STV-01 ";

– GLONASS/GPS receiver in a protected all-weather case.

– GLONASS/GPS signal antenna.

– Connecting cable of all-weather design.

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;
- Availability of a power supply monitoring module;
- Lightning discharger and connecting cables are included in the delivery package.

Image 1 – General view STV-01 with options

Technical specifications

Parameter	Specification
Constructive design	For mounting in 19” racks and cabinets, height – 1U, with options
Supply voltage: – Main power supply (determined when ordering) – Backup power supply (determined when ordering)	 1) 100 — 264 VAC 2) 9 — 18 VDC 3) 18 — 36 VDC 4) 36 — 72 VDC 1) Without backup power supply 2) 100 — 264 VAC 3) 9 — 18 VDC 4) 18 — 36 VDC 5) 36 — 72 VDC
Power consumption, no more than	20 W
Operating system	Linux
Network interfaces (determined when ordering)	1) ETHERNET 4×NTP (10/100/1000 Mbit/s) 2) ETHERNET 8×NTP (10/100/1000 Mbit/s) 3) ETHERNET 7×NTP (10/100/1000 Mbit/s) + 1×PTP 4) 2×100Base-FX with ST optical connector 5) 2×1000Base-FX with ST optical connector
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), IEEE1588-2008 PTP default profile.
Output signal (determined when ordering)	1) 1×1PPS (TTL), 50 Ohm, BNC 2) 2×1PPS (TTL), 50 Ohm, BNC 3) 4×1PPS (TTL), 50 Ohm, BNC 4) 1×10 MHz (TTL), 50 Ohm, BNC 5) 2×10 MHz (TTL), 50 Ohm, BNC 6) 4×10 MHz (TTL), 50 Ohm, BNC 7) 1×5 MHz (TTL), 1×10 MHz (TTL), 50 Ohm, BNC 8) 1×1PPM – (TTL), 50 Ohm, BNC
Reference generator (determined when ordering)	1) TCXO (accuracy ±1 ms/day) 2) OCXO-HQ (accuracy ±5 us/day) 3) Rubidium (accuracy ±0,2 us/day)
Server time STV-01	UTC+0(GMT)
USB interface	1
RS232 interface	2
IRIG output signals (determined when ordering)	1) Without IRIG output signal 2) 1×Time Code AM (B12x), 3Vpp, 50 Ом, BNC 1×Time Code DCLS (B00x), TTL, 50 Ом, BNC
Alarm output signals (determined when ordering)	1) Without alarm output signals 2) 1×alarm output signal (dry contact, 3 pin, DFK), discrete outputs for emergency alarm
Backup protocols (determined when ordering)	1) There are no backup protocols 2) PRP Redundancy Protocol 3) PRP redundancy Protocol, STP/MSTP/RSTP redundancy protocols
Monitoring the fact of antenna disconnection (determined when ordering)	1) Without monitoring of the antenna disconnection 2) Monitoring the fact of antenna disconnection

An algorithm for detecting unintended and intentional interference to GNSS (determined when ordering)	1) Without algorithm for detecting unintended and intentional interference to GNSS 2) Algorithm for detecting unintended and intentional interference to GNSS
GNSS Signal receiver	1) GLONASS/GPS 2) GLONASS/GPS/BeiDou/Galileo/QZSS
GNSS antenna for outdoor mounting (with a mounting kit (determined when ordering)	1) ICB ANT GNSS (-40 — +85 °C) 2) GPS-P (-70 — +90 °C)
Operating time to failure	100 000 hours
Average service life	At least 20 years
Communication interface with GLONASS/ GPS signal receiver	RS-422 (with galvanic isolation)
Interface cable	1) 20 meters 2) Up to 500 meters
Antenna cable	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