

Shaper, logic analyzer, tracer **OLS**

The OLS module is a specialized device for input-output of logical information, designed to generate and register asymmetric logical signal levels over 64 channels. The OLS module is made in the VXI standard.

The OLS module can be used as part of automated control systems made in the VXI standard, as a software-controlled shaper and recorder of logical signal levels.

The main application of the OLS module is the simultaneous formation and recording of logical signal levels during the control of parallel interfaces and highways, which requires the formation and evaluation of logical signals on a large number of communication lines.

The module provides in asynchronous and synchronous operation a fairly wide range of single and group methods for generating logical signal levels (single, batch, cyclic, step, endless, etc.) under various conditions.

Input-output of logical information

The OLS modules are capable of simultaneous and synchronous operation of the transmitting and receiving parts of several modules, interconnected by a trigger signal and an external clock frequency. Such connection of modules (up to 5 modules) ensures the synchronous operation of the forming and recording parts of all the combined modules. Moreover, the moments of registration of the logical levels of signals in the channels can be selected either at the moments of possible changes in the generated logical levels, or in the middle, i.e. between the moments of possible changes in the generated logical levels.

Specifications

The number of formation / registration channels - 64	The amplitude of the generated signals is selected from a number of 2.5; 3.3; 5.0 V (logic levels TTL, LVTTTL, LVCMOS, etc.)
Sampling rate up to 33 MHz	Minimum formation / registration period - 30 ns
The maximum period of formation / registration with internal synchronization is 83 μs	The maximum period of formation / registration with external synchronization is 1 s
The maximum number of generation / registration packages is 1024	The maximum number of registration and batch generation cycles is 65535
The maximum number of single formation cycles is infinite	Formation RAM volume - 1 GB (128 Mb for each of the 64 formation channels)
The volume of registration RAM is 1 GB (128 MB for each of 64 registration channels)	

Main technical characteristics of the interface part of the module

<ul style="list-style-type: none">hierarchical properties - executor;device class - based on registers (RB);address space - A16 / A24;data format - D32;dynamic / static addressing of the VXI device;breaker (interrupt line IRQ1 - IRQ7 selectable by switch) with the method of clearing the line by confirming the interruption (ROAK);model code - 168 h;required memory size - 4096 bytes;electrical specifications in accordance with IEEE Std 1155-1992.
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Each channel of the OLS module has a load capacity of up to 32 mA (at a logic signal level of 5 V), and at the same time, the design of the module ensures the simultaneous operation of all 64 channels with maximum load. The OLS module generates logical signals of the logical "0" type, logical "1" and the Z-state and registers logical signals of the logical "0" and logical "1" type.

The scope of delivery of the OLS module includes software (driver and control software panel). The control panel of the module provides, in addition to the possibility of a direct way of setting, storing and restoring data for generating logical levels of signals, direct reading, storing registration data, the ability to load and unload data from the module edited in various editors (for example, NI Digital Waveform Editor) and saved in text form (ASCII).