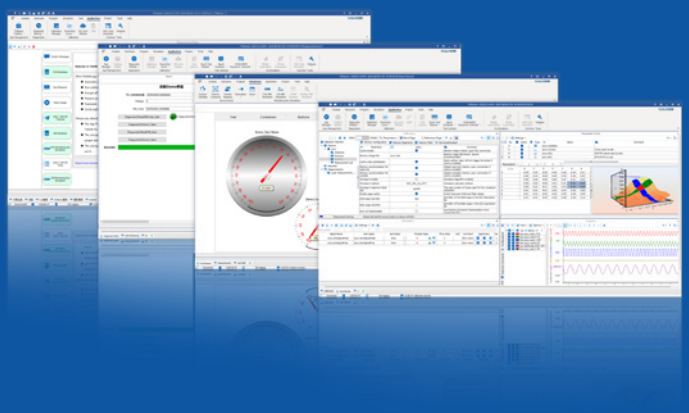
TS Master

Hardware-Software Decoupling | Innovative Solutions | Stable PerformanceAgile | Development | Rapid Iteration | Cost Reduction

TSMaster is a powerful virtual instrumentation software platform that connects and controls all TOSUN hardware, enabling a wide range of functions including in-vehicle network embedded code generation, monitoring, simulation, development, diagnostics, calibration, bootloader, I/O control, testing and measurement, and end-of-line (EOL) applications.



| Software Capabilities

Simulation & Communication

- MDB
- IL/SIL/HIL support
- Message transmission/monitoring/statistics/logging/playback
- UDS diagnostics
- ECU flashing

Calibration & Programming

- CCP/XCP calibration
- Embedded code generation
- C/Python scripting

Application & Automation

- App publishing & encrypted distribution
- Graphical programming
- Residual bus simulation for CAN/CAN FD/LIN/FlexRay/Ethernet
- Co-simulation
- Automated testing
- SOME/IP, DoIP
- E2E simulation
- Fault injection
- Programmable via FDX interface
- FMU/FMI interface support

| Advanced Simulation Support

TSMaster supports co-simulation with MATLAB Simulink and ECU algorithm simulation testing using CarSim dynamic models (soft real-time HIL).

- Offers a wide range of convenient tools and editors to directly execute ECU code within TSMaster, with support for both C and Python script editing.
- Supports mini app features, allowing users to customize simulation/test panels, processes, logic, or even entire testing systems, with automatic report generation
- Generated code is hardware-independent, making it easy to share, reuse, and apply across different hardware platforms.

| Broad Compatibility

TSMaster is highly compatible and seamlessly integrates with test systems, enabling multi-hardware and multi-channel co-simulation and testing. It meets the demands of PV/DV validation and end-of-line (EOL) testing for a wide range of automotive electronic components and systems.

- Compatible with a variety of bus tools including Vector, Kvaser, PEAK, IXXAT, ICS, ZLG, etc.
- Supports integration with mainstream instruments (such as oscilloscopes, waveform generators, digital multimeters) and I/O boards (such as AI, DI, DO, etc.).

TSMaster feature list

Supported protocols	CAN FD / CAN / LIN / FlexRay / Ethernet/DIDO/AIAO
Channels	64
Message sent	Support sending messages in original signal, DBC, LDF, ARXML, Fibex and other formats. Configurable signal generator, support C/Python script sending, sequence sending, etc
Message monitoring	The original signal is displayed in real time, and the signal value can be displayed after loading DBC, LDF, XML, and ARXML
Packet filtering	Flexible configuration is supported based on channel, message ID, and signal value range
Data logging	Logged data is saved in BLF or MDF format by default and can be easily converted to ASC, CSV, or MAT formats using TSMaster's plugin tools.
Database management	Load and parse files such as DBC/LDF/ARXML/XML etc
Simulation	CAN/LIN/J1939/FlexRay Remaining Bus simulation. Load the database directly select the node that needs to be simulated, or combine the panel and C language programming to achieve more flexible simulation
Graphic programming	Process-oriented and graphical programming module. Including various signal reads and writes, API calls, expressions, etc
Message replay	Support online replay and offline playback of BLF/ASC and other format files. Support video replay
Statistics	Statistics on bus load, frame rate, error count, error frame rate, and other information
Graphical display	It supports displaying graphical curves, instrument clusters, numerical display signal values, etc
Graphics panel	Rich control list with support for various gauges, buttons, indicators, progress bars, input/output boxes, etc
Script editing	C Script, Python
Test system	Complete test systems can be defined by the user, supporting automated testing and automated report generation
Format conversion	Supports conversion between commonly used file formats: dbc, arxml, xlsx, xls, dbf, yaml, sym, csv, json, fibex, and others

Signal processing	Signal mapping, signal testing, signal comparison, etc
SOME/IP*	Support SOME/IP simulation and parsing, etc
UDS diagnostic*	Support for configuring diagnostic parameters and diagnostic services, multi-frame sending, and configuring UDS-based Flash Bootloader to achieve automatic diagnosis. Support ODX/PDX diagnostic database files
CCP/XCP Calibration*	A2L files are supported. It supports online/offline calibration, flashing, and calibration data management. It supports characteristic parameter curves and signal excitation, and can realize functions such as automatic calibration and calibration data management through system variables
Co-Simulation*	RPC remote process call controller, FMI/FMU, Matlab automation, etc
Encrypted release	Encrypt the internal modules of the engineering configuration, such as encrypted DBC, script module, etc
App Builder*	Customize the publishing form interface on TSMaster, and you can choose which modules and forms to display execution
Instrument Manager*	Support calling various instruments and equipment in TSMaster, such as oscilloscopes, programmable power supplies, multimeters, etc
Toolbox Development*	Support custom development interface through Python

* Indicates that you need to purchase a license to activate the function

License

Feature Module	TS Lite	TS Standard	TS Professional
Analysis	✓	✓	✓
Data Replay	✓	✓	✓
Data logging	✓	✓	✓
Graphics	✓	✓	✓
CAN/CAN FD/LIN/Ethernet/FlexRay	✓	✓	✓
Remaining bus simulation (RBS)	✓	✓	✓
C/Python Scripting		✓	✓
Mport Odx/Pdx/cdd files		✓	✓
UDS scripting in C and Python		✓	✓
Flashing Panel		✓	✓
DTC analysis (Coming Soon)		✓	✓
J1939 protocol		✓	✓
CCP calibration			✓
XCP calibration			✓