FreeMASTER
Real-Time Data Visualization Tool

**Debug and tune** embedded algorithms during **development**
**Use visual widgets** to **monitor and demo** final embedded applications

**Monitor**
Watch target application variables in real time at individual sampling rates

**Visualize**
Use built-in charts or create custom controls for complex dashboards and interactive demos

**Control**
Tune variables values and send commands to the hardware
Example Applications

- Real-time visualization of system output
- Prototyping complex data visualization HMI s
- Automated, script-based control systems
- Sensor processing
- Motor control parameter tuning
- Display and tuning
- Sensor processing
- Wireless charging control and configuration UI
- Tuning of touch-sensing HMI s
- Drone control development
- Reliability monitoring data analysis and display
Easy to Use and Flexible

FreeMASTER 3.0

- Communication library & plug-ins
- Windows native charts, table views
- Integrated IE 11 and Chromium
- Light weight service with JSON-RPC API

COMMUNICATION LAYER

UART / USB-CDC

Plain serial line or on board USB port

USB to CAN

USB to CAN convertor

JTAG / SWD

Debug probes

HOST PC

COMMUNICATION LAYER

NXP OR CUSTOMER BOARD

Embedded application

FreeMASTER Communication Driver (minimal changes to application)
Feature Rich

Features:

- **Graphical environment** with easy-to-understand navigation
- Wide range of **serial and debug probe** connectivity options
- FreeMASTER Lite service enabling **remote access** to target system
- Interfacing to 3rd party applications using ActiveX or JSON-RPC API
- **Non-intrusive real-time** access to application variables
- **Visualization** of real-time data in the scope window
- Acquisition of fast data changes using the **on-target recorder**
- Demo mode with **password protection** support
- Communication **diagnostics and logging**
- Integration with NXP tools ecosystem: ready to use examples inside MCUXpresso SDK, Model-Based Design Toolboxes and S32 Design Studio
Ecosystem Support

DEVELOP

Mode Based Design Toolbox
- Code Generation From Model Based Design Toolbox

EDGETM / AP Evaluation Kits

FreeMASTER
- Load FreeMASTER project for demo, fine tuning or validation of the embedded application

DEPLOY

MCUXpresso / S32 Design Studio
- Generate Simple Models Based on SDK

GENERAL PURPOSE ARM Cortex-M based MCUs
- S32K144

VISUALIZE
FreeMASTER
Market leading data visualization and control from NXP

✓ Unique NXP technology
✓ Graphical environment with easy-to-understand navigation
✓ Wide range of serial and debug probe connectivity options
✓ Enables HMI design enablement
✓ Real-time access to application variables
✓ Model Based Design Toolbox, MCUXpresso and S32 Design Studio integration
✓ Ready to use examples
✓ Free of charge
Useful Links

NXP website: Documentation & Downloads

ENGINEERING COMMUNITY: Examples and Support

community.nxp.com/community/freemaster

ASK YOUR QUESTIONS!

nxp.com/freemaster