# DTS 8 Monaco

All-in-one Engineering Tester for Diagnostic and Control Functions of Vehicle ECUs

DTS Monaco covers the entire spectrum of vehicle diagnostics in the areas of engineering, testing and preparation of manufacturing tests. It can be adapted flexibly both for a whole range of different test tasks and for different user groups. This tester will enable you to ensure that diagnostics works reliably.
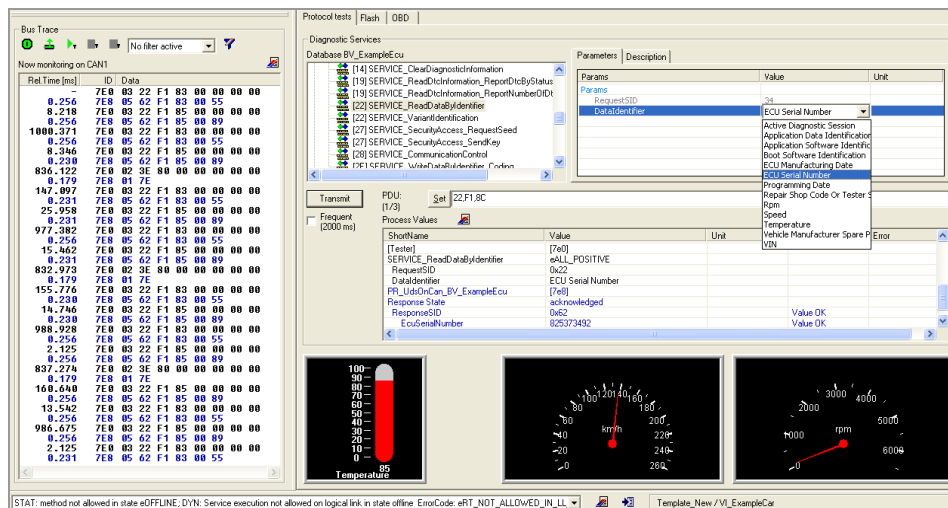
Flexibly Adaptable to the Relevant Task

DTS Monaco is part of the Diagnostic Tool Set product family and is based on the DTS Base System. Monaco stands for Modular Analyzer for Vehicle Communication.
A clearly laid out start page enables simple and fast access to the functions required most frequently. The actual workspace is divided into two: one area with a fixed layout and one with layouts that you can toggle between. A status display below shows communication server messages. The various functions are realized using special, configurable interface elements. These "HMI Controls" can be arranged freely in the layouts in configuration mode and comprehensively configured.

Early Detection of Problems and Errors

In execution mode, a configured workspace can be "started". In doing so individual functions can be started automatically and communication can be established in advance if so required. Self-generated test sequences enable both simple and very complex function tests. This makes it possible to detect, and remedy, communication problems and function errors at an early stage. Communication data and test results can be documented in entirety in the process.

Fast Results

For typical use scenarios predefined templates including an universal database for the OBD self-diagnosis as well as various protocol templates (WWH-OBD, J1939-73 among others) are supplied. In Demonstration mode, all functions can be tested, even without an interface and a license, using a detailed example including simulation. Furthermore, the tool has a completely integrated OTX runtime for running complex test sequences in accordance with ISO 13209. An authoring tool for creating such OTX sequences can be started directly from DTS Monaco.

AREAS OF APPLICATION

- Development of diagnostic and control functions for ECUs
- Function test and validation
- Integration and system test
- Preparation of test sequences for Manufacturing and Service
- Analysis of returns and Quality Assurance

FUNCTIONS

- Testing communication
- Analyzing data on bus
- Examining ODX data vs. ECU
- Reading/deleting error memory
- Programming flash memory
- Displaying measuring values
- Parameterizing ECUs
- Coding variants
- Executing ECU routines
- Testing OBD functions
- Creating/executing test sequences

BENEFITS

- Reduced costs and familiarization time as DTS Monaco covers the functionality of several tools, previously separate: OBD scan tool, data and bus monitor
- Fast results thanks to intuitive operation and preconfigured templates
- Top quality thanks to early detection and remedy of communication problems and function errors
- Highly effective thanks to flexible adaptability to various tasks
- Communication data and test results can be fully documented

HMI Control Libraries

Communication
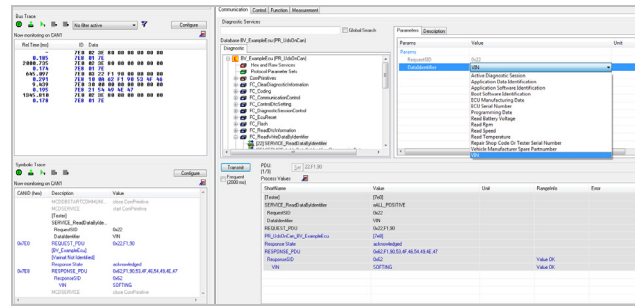
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Bus Trace	Basic analysis of both diagnostic and on-board communication on the bus level with hex. representation
Diagnostic Services	Expert data verification and communication tests with full access to all Diagnostic Services
Symbolic Trace	Analysis of diagnostic communication on the application level with symbolic representation
OTX (replaces OTX Script Console)	Processing complex diagnostic sequences in accordance with ISO 13209 (OTX)

Control
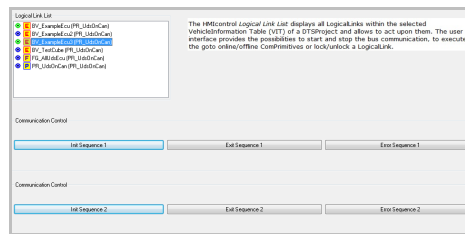
Annotation	Visualizing tests with pictures, text or linked RTF/PDF/CHM files
Communication Control	Automatized connection establishment and clearing of ECU communication
Logical Link List	Monitoring and influencing the communication status of ECUs
Toggle Sequences (Toggle Button)	Toggling the button starts a service sequence (e.g. change ECU state)

Function
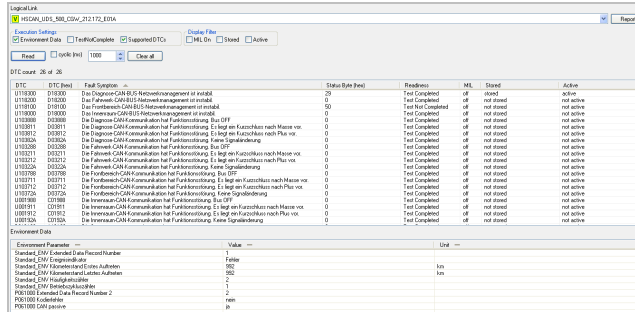
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DTC (Diagnostic Trouble Codes)	One-off or cyclical reading and deleting of an ECU fault memory
IO Control	Setting values of ECU variables individually or as a group
Flash	ECU programming - see next page
OBD	Validating and releasing the self-diagnosis - see next page
Soft Key	Execute sequences of services, jobs or sequences via buttons

Measurement
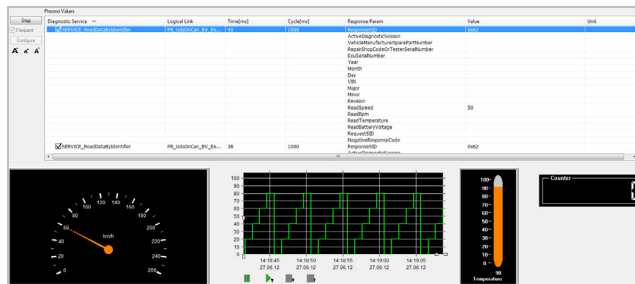
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Data Display	One-off or cyclical reading of configurable measured values/blocks in list form
Recorder	Record/store (list, gauges and scope views) and adapt (actuator view) ECU variables and parameters
Graphical Instrument	Visuale and adapt ECU variables and parameters using various graphic elements

Separately Available Solutions

DTS Flash is an easy-to-use tool based on the ODX standard for flash programming of ECUs.
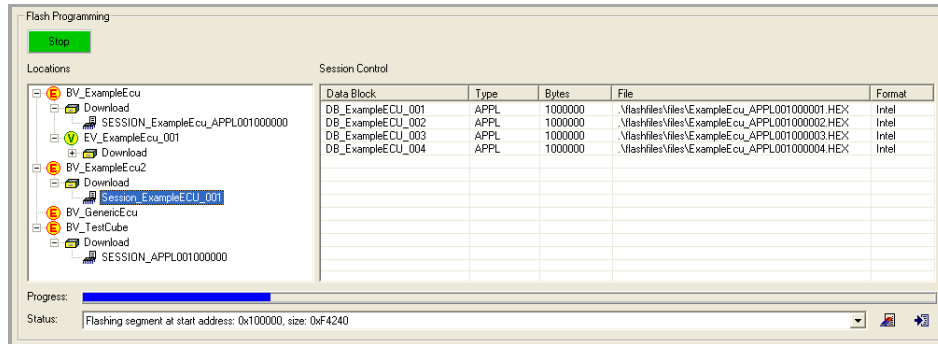
It is possible to program one or more flash sessions of an ECU. The programming sequence is easy to adapt to the particular use scenario if required.

DTS OBD is a PC-based tool for validating and releasing the self-diagnosis of individual ECUs or an entire vehicle in vehicle engineering. It covers the entire scope of onboard diagnostics and combines the functionalities of an OBD scan tool with those of a data and bus monitor in a single tool.
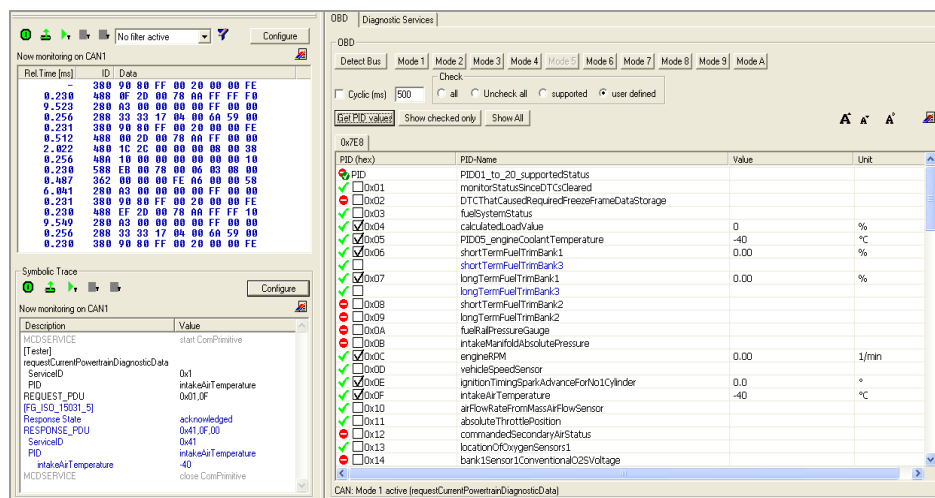
You can detect the type of the connected bus either automatically or select it manually. For the current available OBD modes there are various analysis functions.
Measured values are updated either manually or cyclically and can be logged for the purposes of documentation or external analysis (e.g. Excel spreadsheets). Parameters can be modified via symbolic names and sent to the relevant ECU for response analysis. All communication can be analyzed down to the very last detail and if necessary be recorded both at bus level (hexadecimal raw data) and at the application layer (in symbolic representation). When used on a notebook during a test drive, the font can be enlarged in several stages on the screen.

AREAS OF APPLICATION
- Test and execution of flash sequences
- Set an ECU to a defined software revision
- Analysis of returns

BENEFITS
- Fast results thanks to intuitive user interface, easy configuration and preconfigured template

AREAS OF APPLICATION
- Onboard diagnostics engineering for individual ECUs or entire vehicles
- Function test and validation
- ECU integration and system test
- Test drives

BENEFITS
- Fast results thanks to intuitive operation and preconfigured templates
- Top quality thanks to early detection and remedy of functional errors

Technical Data

Based on the DTS Base System	See separate data sheet: Diagnostic Tool Set 8 – System Overview
Standard compliance (selection)	ISO 22901-1/ASAM MCD-2D (ODX) V2.2.0 and 2.0.1 (Open Diagnostic Data Exchange), ISO 22900-2 (D-PDU API) via CAN, K-line and Ethernet (ISO 13400 DoIP/Tester – Gateway), ISO 22900-3/ASAM MCD-3D version 3.0.0 – application interface, ISO 13209 (OTX) version 1.0 (Open Test Sequence Exchange), ISO 14229 (UDS), ISO 15765, ISO 14230; ISO 15031, SAE J1979 and SAE J2012 (all OBD), ISO 27145 (WWH-OBD), SAE J1939
Special PC requirements	Screen resolution ≥ 1024x768 (XGA) – depend. on the number of HMI Controls to be displayed in parallel
Templates within delivery scope	Communication and Analysis, Error Memory, Measuring and Parameterizing, Onboard Diagnostics, Programming, Test Sequences
Example workspaces	Extensive Monaco example workspace as introduction into the main features based on the sample database within delivery scope

Order Numbers

DTS8L+MONACO	All-in-one engineering tester DTS 8 Monaco for diagnostic and control functions of vehicle ECUs which comprehensively covers all tasks in the areas of engineering, testing and preparation of manufacturing tests and can be adapted flexibly both for a whole range of different test tasks and for different user groups. With basic scope of functionality (HMI controls of the Communication Library) incl. OTX runtime. If released by the creator of the workspace you can configure HMI controls with limitations. Based on the DTS Base System.
DTS8L-HMI-LIBS	Option: All other HMI controls of DTS 8 Monaco which are not included in the basic scope of supply.
DTS8L-MIND	Option: Creating and configuring user-specific workspace layouts with HMI controls in DTS 8 Monaco. There are no limitations to configuring HMI controls. Users not in possession of this license can be granted limited configurability of individual HMI controls.
DTS8L-API-RT	Option: Access to the ASAM MCD-3D API for user applications. Extends DTS 8 Monaco by the functionality of DTS8L-COS (see separate data sheet). Attention: DTS8L-API-DK and DTS8S-COS-START must be mandatory ordered along with each first user license.
DTS8L+FLASH	DTS Flash tool for the flexible flash programming of ECUs based on DTS Monaco. Contains only the HMI controls Flash, Bus Trace, Symbolic Trace as well as Toggle Sequences and cannot be extended afterwards.
DTS8L+OBD	DTS OBD tool for the comprehensive validation and release of the onboard diagnostics of individual ECUs or an entire vehicle based on DTS Monaco. Contains the HMI Controls of the Communication Library as well as the HMI control OBD and cannot be extended.
DTS8L-MON-MSP	Maintenance and Support Package, incl. support by telephone and e-mail with regard to installation, set-up and operation as well as minor and medium software upgrades free of charge.

Supplementary Products and Services

S-DONGLE	Micro USB license dongle, as an alternative to licensing on a hardware interface
DTS8S-CRYPT-SETUP	Initial setup for OEM-specific encryption of runtime data (one-off costs per OEM)
DTS8L-CRYPT-[OEM]	Reading and writing OEM-specific encrypted runtime data (requires one-time DTS8S-CRYPT-SETUP)
DTS8S-COS-SMR-SETUP	Initial process consulting regarding the usage of the modular ultra-compact runtime data format SMR and its creation with the transformer application (one-off costs per OEM)
DTS8L-COS-SMR	Generating the modular optimized runtime data format SMR (requires one-time DTS8S-COS-SMR-SETUP)
DTS8L+COS	Communication server DTS 8 COS for vehicle diagnostics
DTS8L+AUT	DTS 8 Automation provides for manufacturing and test bench applications particularly simple access to diagnostic communication via standard interfaces widely used in industrial automation: C-/C++/COM API, LabVIEW VI and OPC server
DTS8L+VENICE	Powerful authoring system DTS 8 Venice for ODX 2.2 and 2.0.1 for convenient creation, testing, management and maintenance of diagnostic functions of single ECUs or a complete vehicle
OTX1L+STUDIO	OTX Studio is a complete OTX 1.0 workflow solution to create, validate and commission complex diagnostic sequences in accordance with ISO 13209 for ECU and vehicle testers