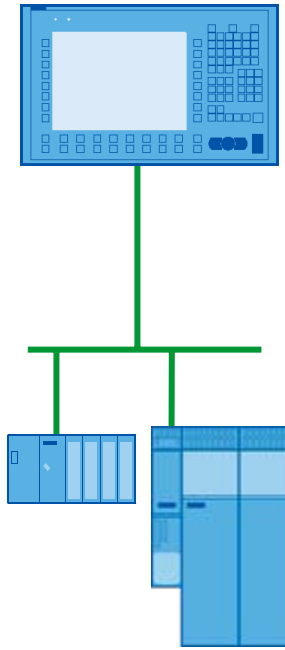
SIEMENS

SIMOTION Engineering

The SCOUT Engineering System

SIMOTION SCOUT
One system for all engineering tasks

Engineering tasks



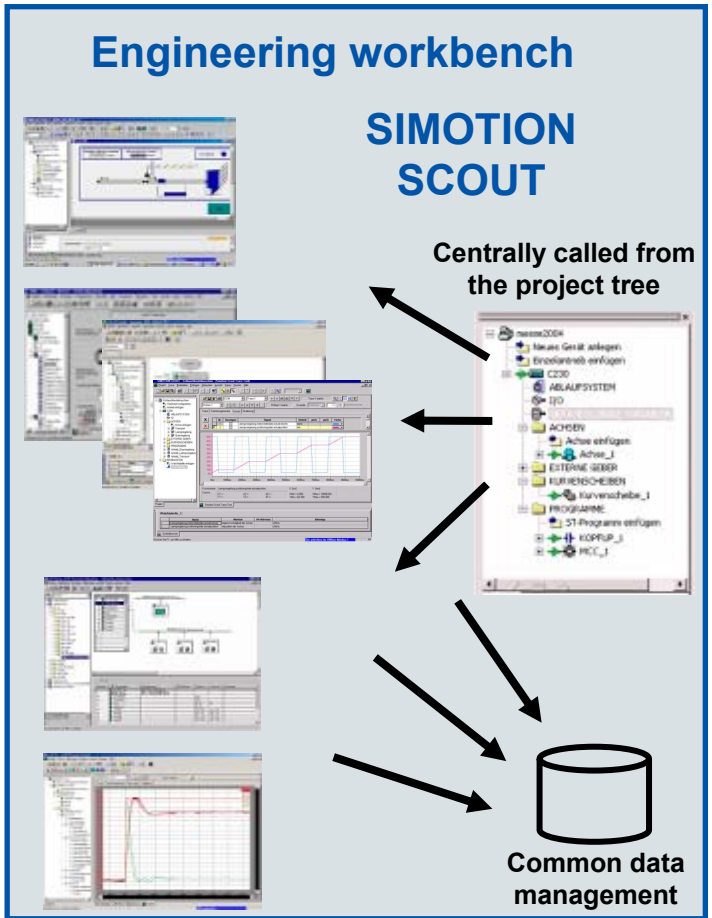
HMI
- Configuring

Open-loop control
- Parameterization
- Programming
- Commissioning, diagnostics

Communications
- Configuration

Drive
- Commissioning

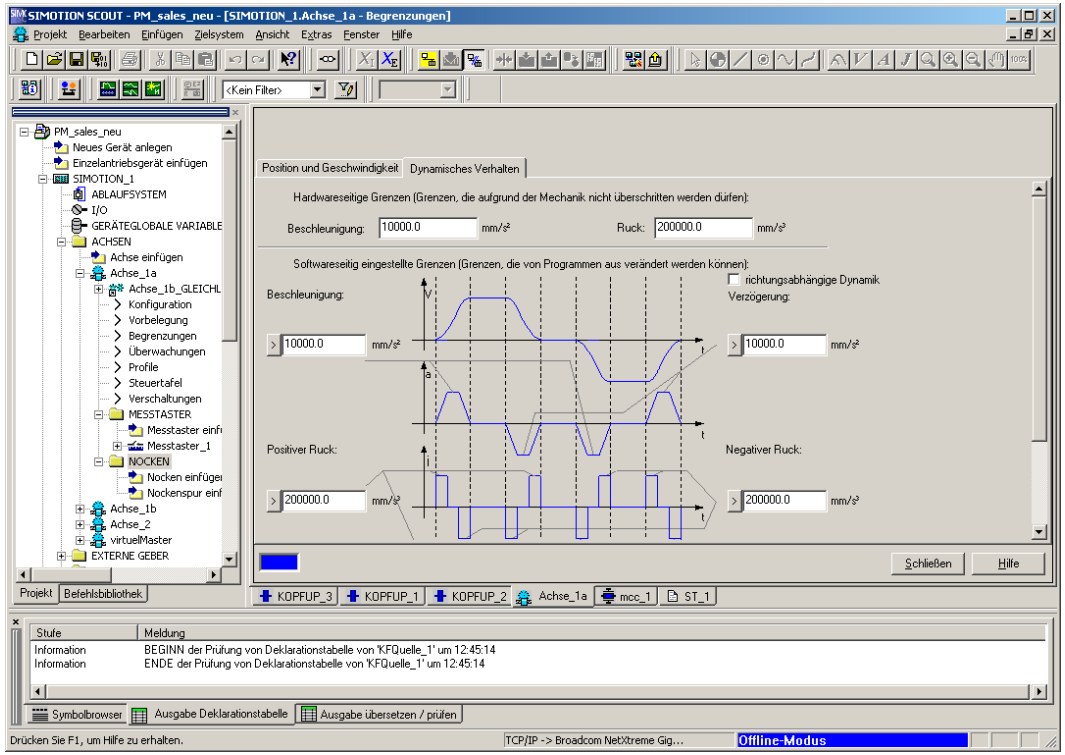
Engineering workbench



Standard, unified and consistent engineering for the complete system

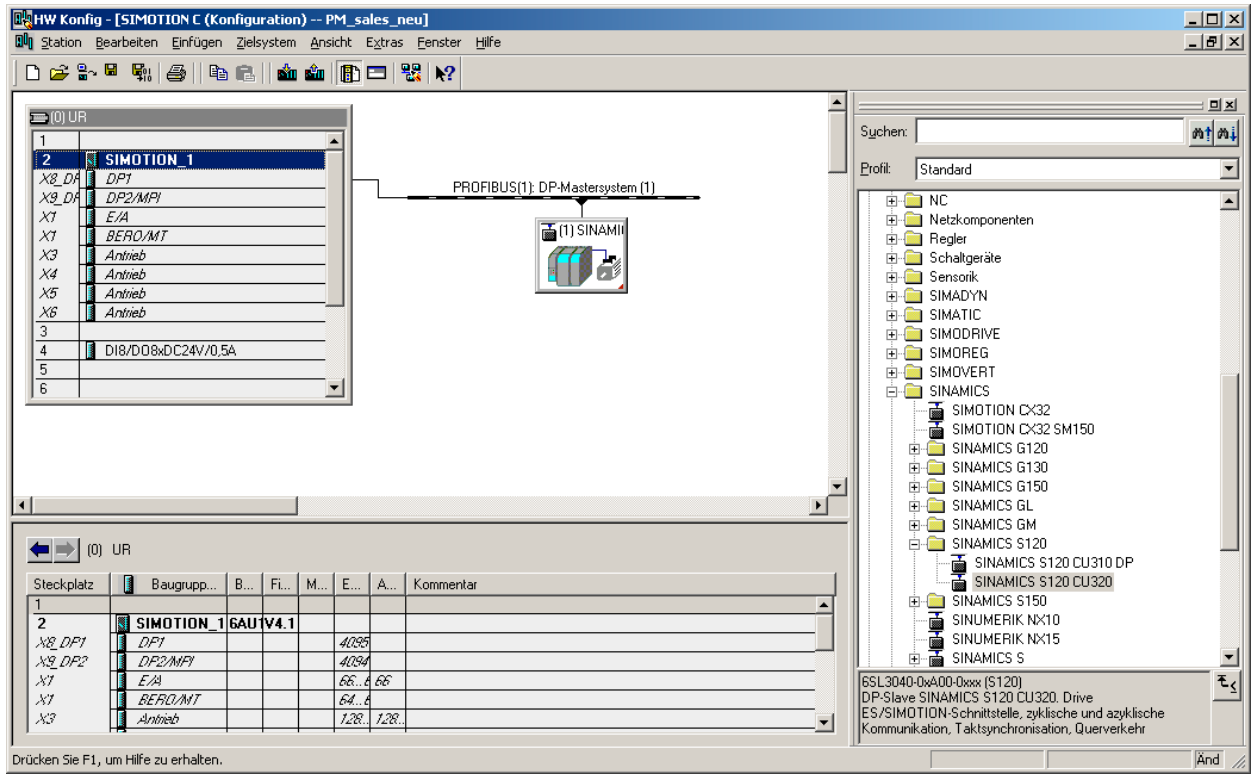
SIMOTION SCOUT
Workbench with all of the tools integrated

- SCOUT allows all SIMOTION objects to be configured
- Has all of the editors required for programming
- Commissioning and test tools are included in the workbench



Hardware is configured just the same as for TIA

- The hardware components are configured exactly the same as for STEP7
- Configuration of the drives and I/O
- Configuration of bus systems



Task-oriented programming languages

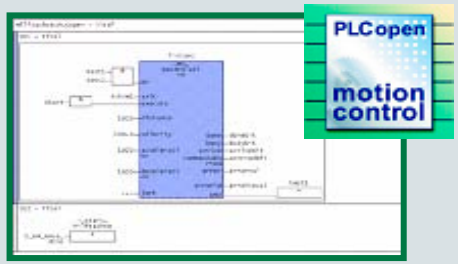
SIMOTION offers various programming languages – which can also be mixed in an application:

Structured Text (ST)

- suitable for all tasks

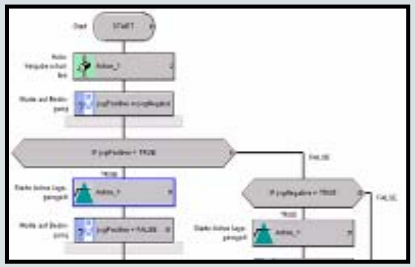
Ladder diagram (LAD)

Function Block Diagram (FBD)



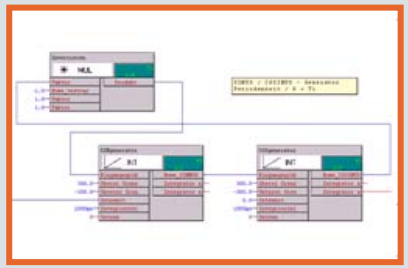
- especially for cyclic tasks (e.g. logic)

Motion Control Chart (MCC)



- especially for sequential tasks (e.g. Motion Control)

Drive Control Chart (DCC)



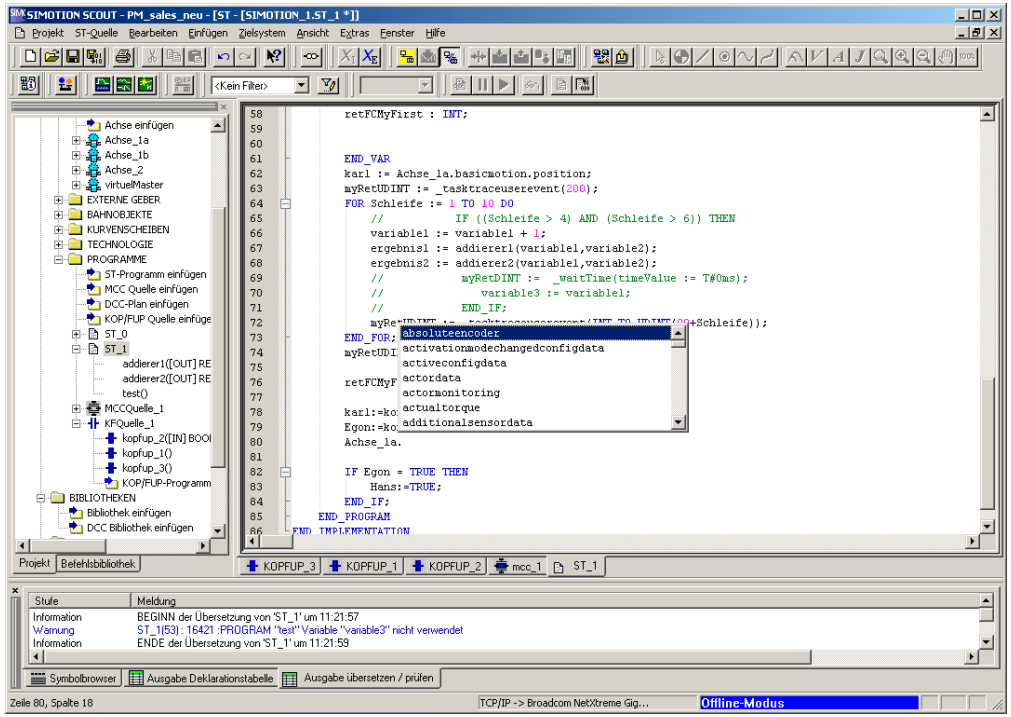
- especially for continuous tasks (e.g. closed-loop control & arithmetic functions)

The optimum programming language for each and every task

Text-based high-level language programming

- User-friendly editor with auto complete – automatic indentation, folding, syntax coloring, …
- Suitable for all tasks

Programming in a high-level language

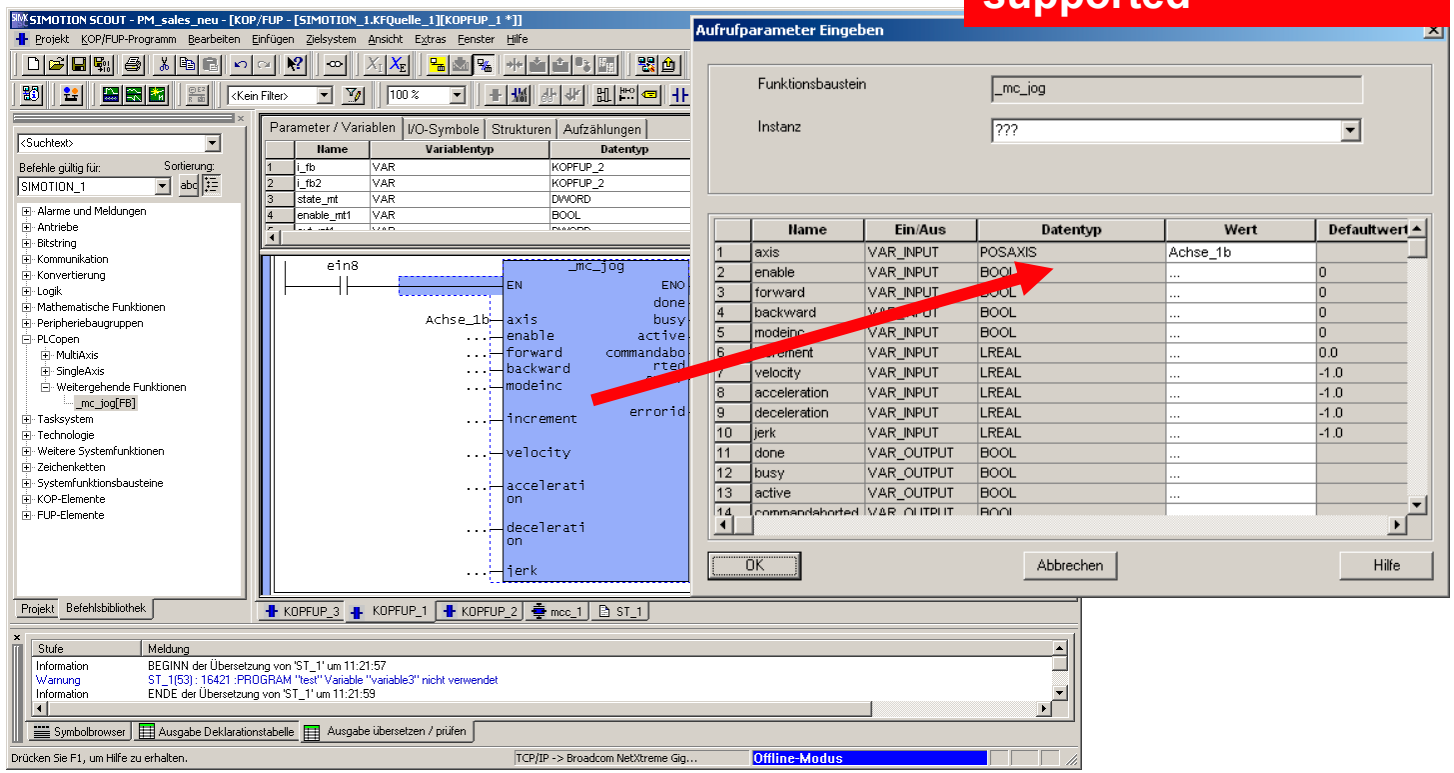


Ladder diagram and function chart to program logic

- LAD/FBD Editor with input support when calling function blocks
- Especially suitable for programming logic functions

Programming in LAD/FBD

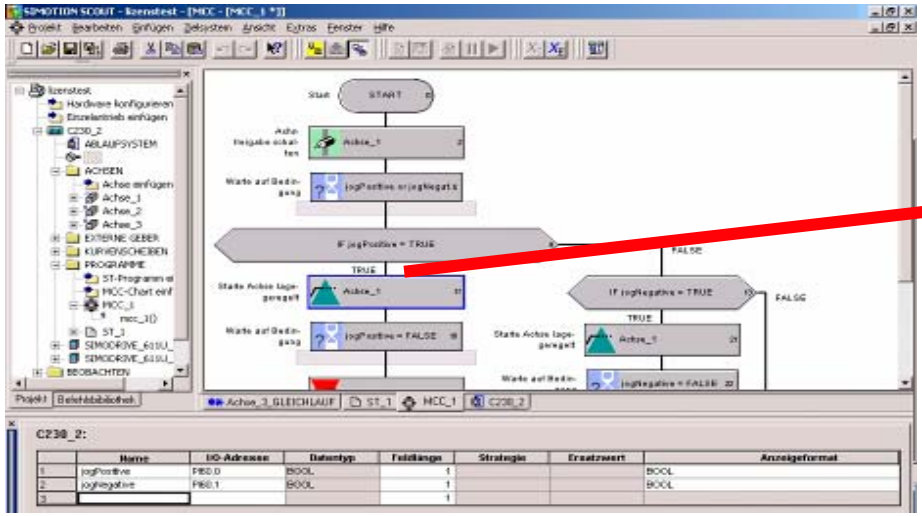
Parameterization is supported



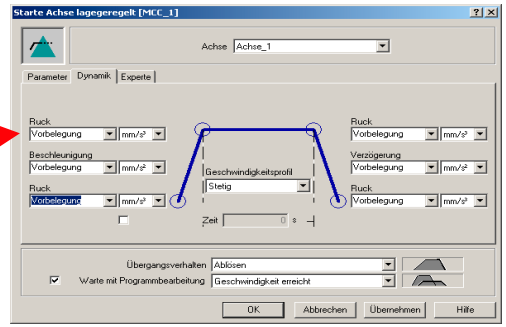
Graphic motion control programming

- Graphic programming as **flow diagram**
- Parameters are entered in function-specific **parameterizing screen forms**
- Can be structured and are transparent by forming modules, with zoom-in & zoom-out
- Diagnostics using graphic step tracing and single-step mode

Programming as flow diagram in MCC



Parameterizing screen for positioning commands

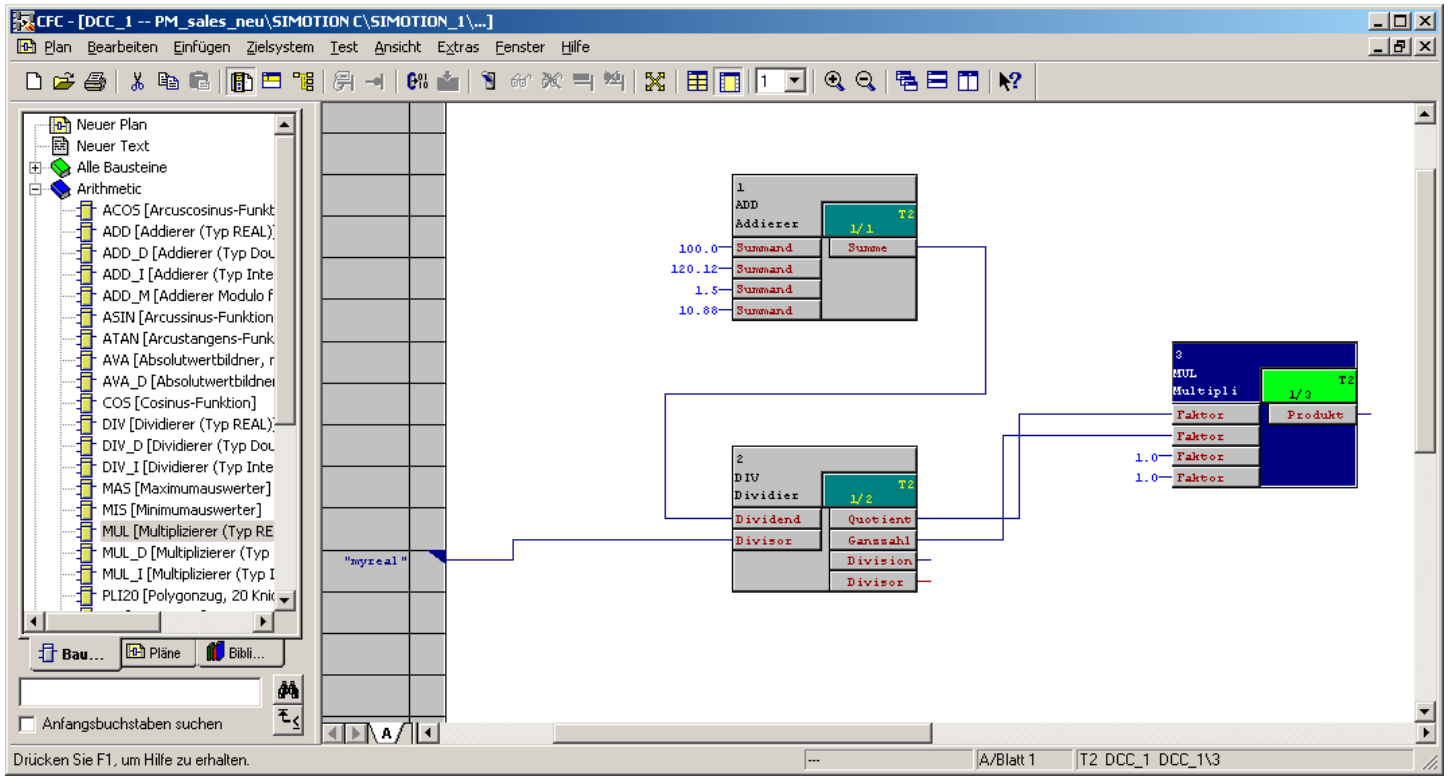


Simple and transparent programming

Drive Control Chart (DCC) for closed-loop control and arithmetic functions

- DCC Editor based on CFC
- Especially suitable when programming closed-loop control functions

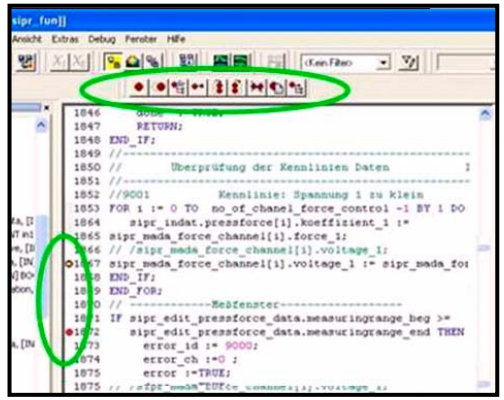
Programming with DCC



Test support

Program test:

- Debug functions with holding points
- Graphic step or signal tracing
- Single step mode

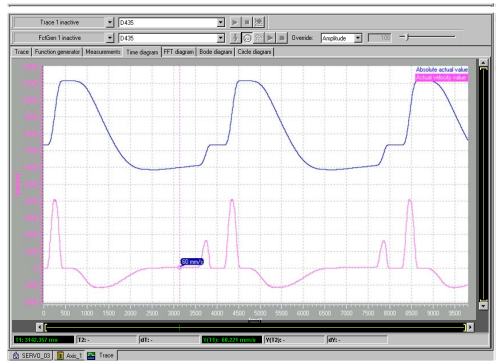


System information:

- Status display for system and user variables
- System utilization
- Task runtimes

Trace function for the application test:

- All variables are recorded in a trace (logic, motion control, technology, system, …)
- Trigger, sample rate, time period can be freely set
- Displayed as:
  - list, with export, e.g. to Excel
  - diagram, where the signals are superimposed for comparison purposes



Time saving using specific and efficient tests

Program test

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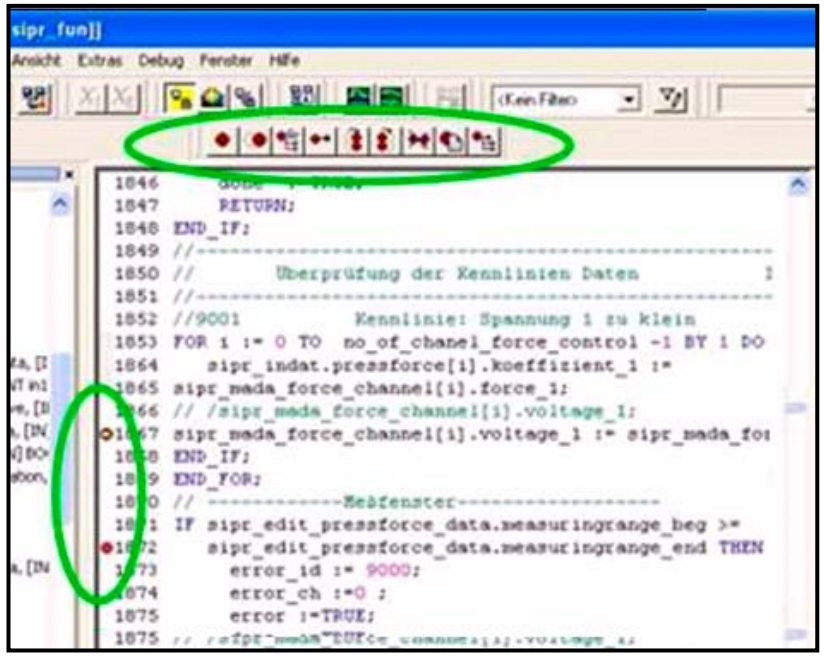

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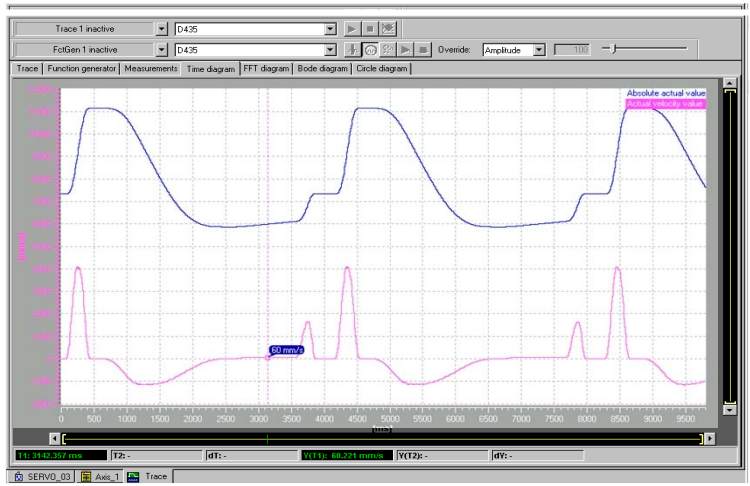
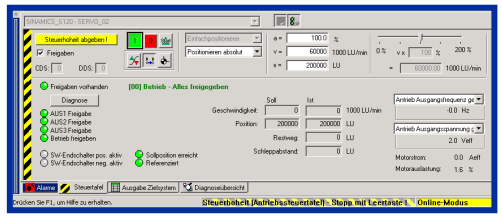


Time saving using specific and efficient tests

Commissioning - support

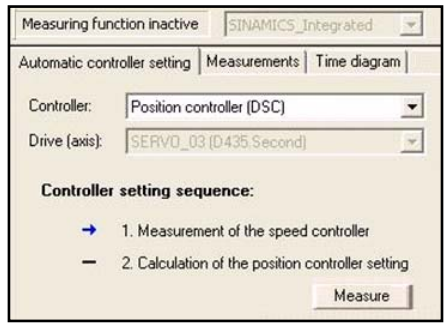
Axis control panel:

- To manually move axes and manually set and reset signals (input signals, enable signals, …)



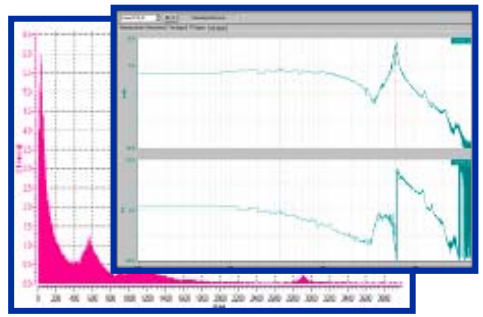
Automatic control optimization:

- For position controllers
- For speed controllers (only with Sinamics S120)
- Incl. automatic filter setting



Frequency response analysis:

- The function generator can be connected to any input quantity
- Any output quantities can be recorded/traced
- Evaluated as
  - **Bode diagram** or
  - **Frequency spectrum**



User-friendly machine commissioning and axis optimization

Axis control panel

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- To manually move the axes and manually set and reset signals (input signals, enable signals, …)

User-friendly machine commissioning and axis optimization

Automatic controller optimization

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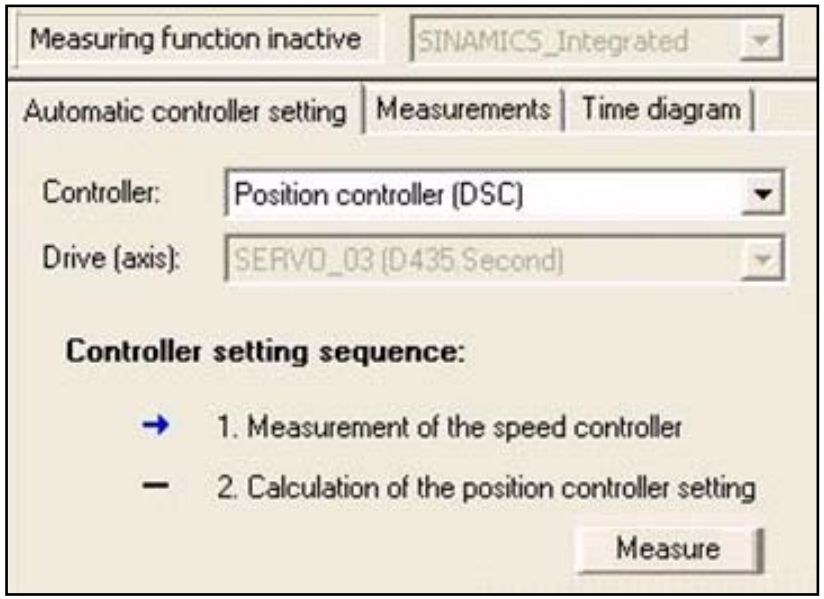
- Including automatic filter setting

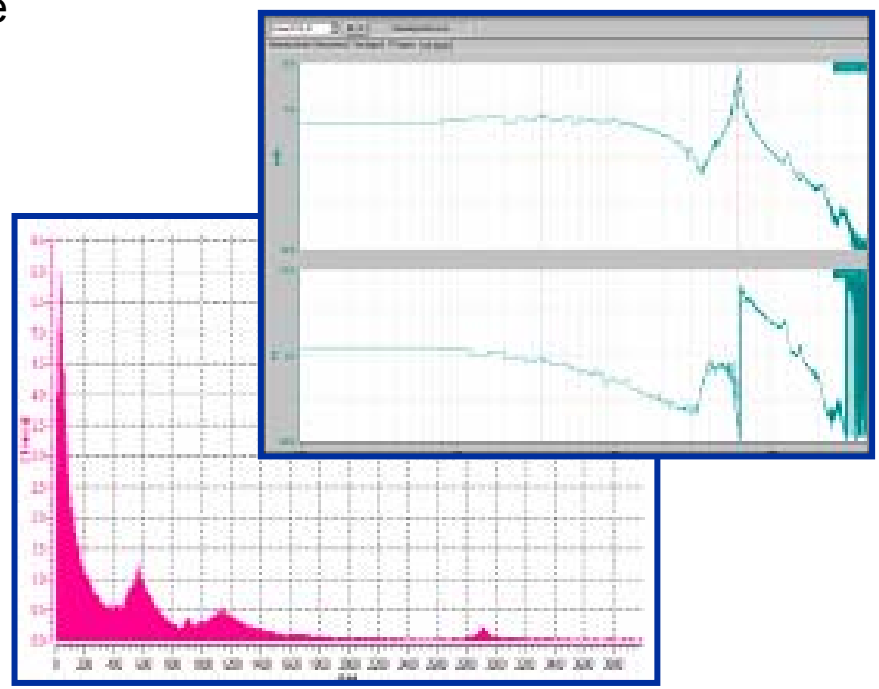


User-friendly machine commissioning and axis optimization

Frequency response analysis

Frequency response analysis:

- The function generator can be switched to any input quantity
- Any output quantities can be recorded/traced
- Evaluated as
  - **Bode diagram,** or
  - **Frequency spectrum**



User-friendly machine commissioning and axis optimization

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Many Thanks

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