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SIMOTION SCOUT: Fast cams inconsistent after replacing CU D4x5 by D4x5-2

Problem / Symptom

When replacing a SIMOTION D4x5 Control Unit with configured fast cams by a SIMOTION D4x5-2 Control Unit, the configuration is inconsistent and can no longer be loaded.

When performing a consistency check or compiling with "Save and recompile all", the following messages are output.

German

Speichern und alles neu übersetzen:

Fehler: SINAMICS_Integrated: Control_Unit: Ungültiger Konnektor zwischen 'Control_Unit.DO_9' und 'cam_valve.Output'.

Konsistenzprüfung:

Fehler: D435: cam_valve: Fehler bei der Konsistenzprüfung der symbolischen Zuordnung: 'Output' ist mit einem nicht kompatiblen Typ verschaltet.

Englisch

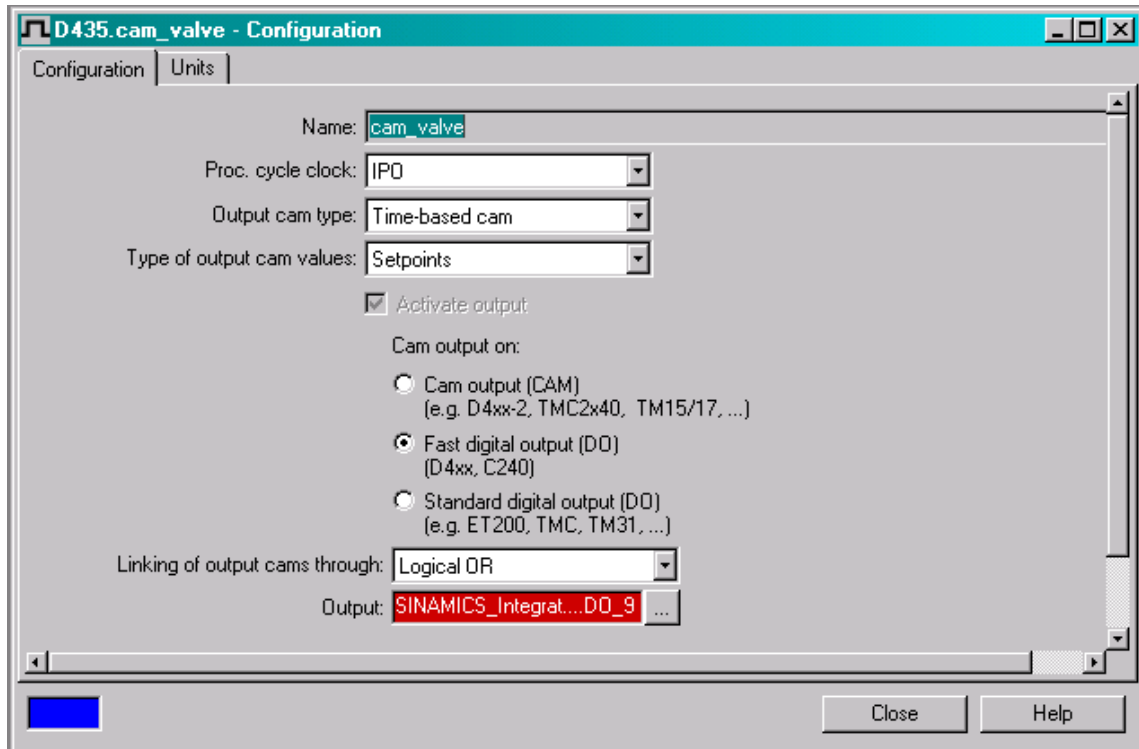
Save and recompile all

Error: SINAMICS_Integrated: Control_Unit: Invalid connector between 'Control_Unit.DO_9' and 'cam_valve.Output'.

Check consistency:

Error: D435: cam_valve: Error during consistency check of the symbolic assignment: 'Output' is interconnected to a non-compatible type.

Further, the output assignment is displayed in red in the Cam Configuration screen:



Cause / Remedy

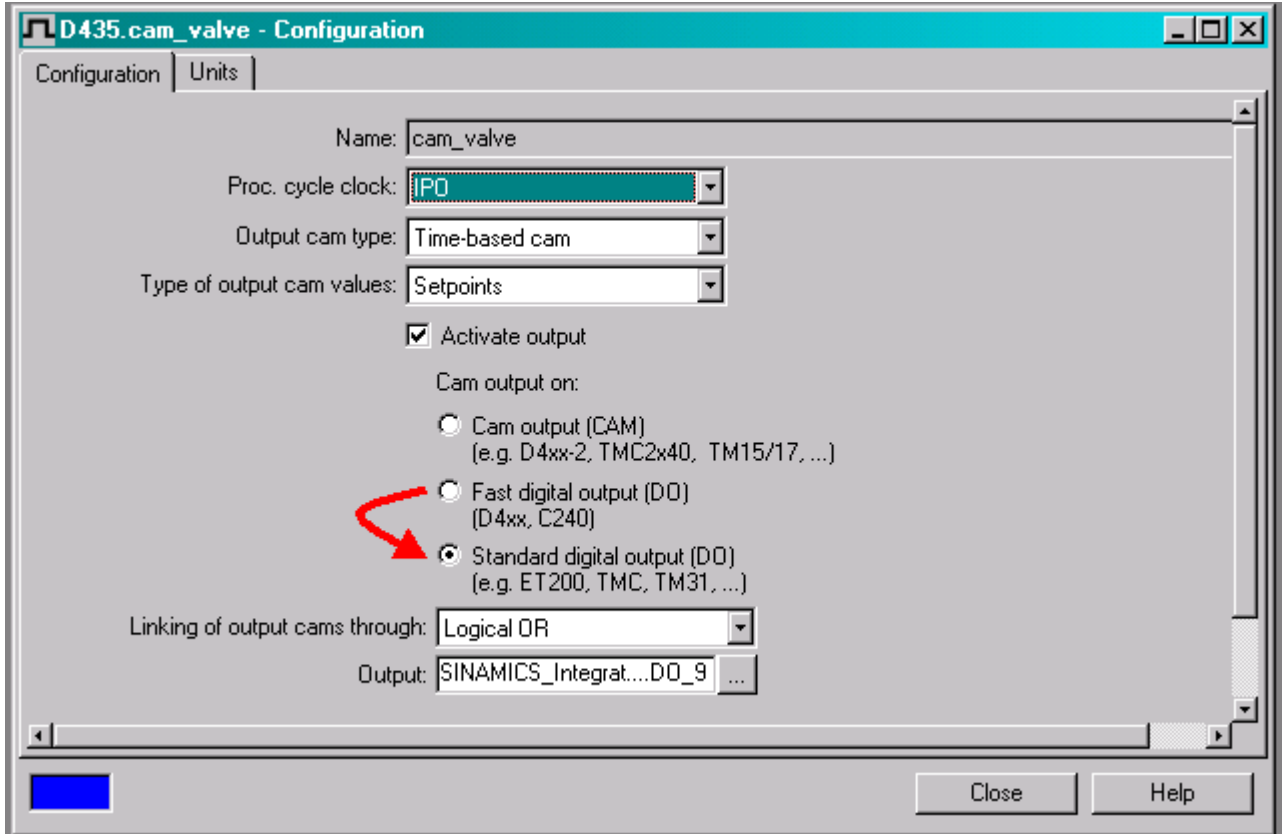
On account of several new innovations, the functionality, quantity framework and terminal designations of the onboard I/Os deviate with SIMOTION D4x5-2/CX32-2 from the predecessor modules. A SIMOTION D4x5-2 provides on the terminal block X142 additional technology I/Os for highly precise cam outputs. The fast cam output on X122/X132 is no longer supported. With hardware replacement, cams are not automatically relocated to the new cam outputs and must be subsequently relocated manually (see also SIMOTION D4x5-2 Commissioning and Assembly Manual, Chapter Migration from SIMOTION D4x5 to SIMOTION D4x5-2 – Configuring onboard I/Os).

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The following options are provided.

a) The affected cam is no longer used as “fast cam”.

In this case, the cam can still be output on the terminals X122/X132. However, the setting must only be converted from “Fast digital output (DO)” to “Standard digital output (DO)”. After the conversion, the cam is immediately consistent.



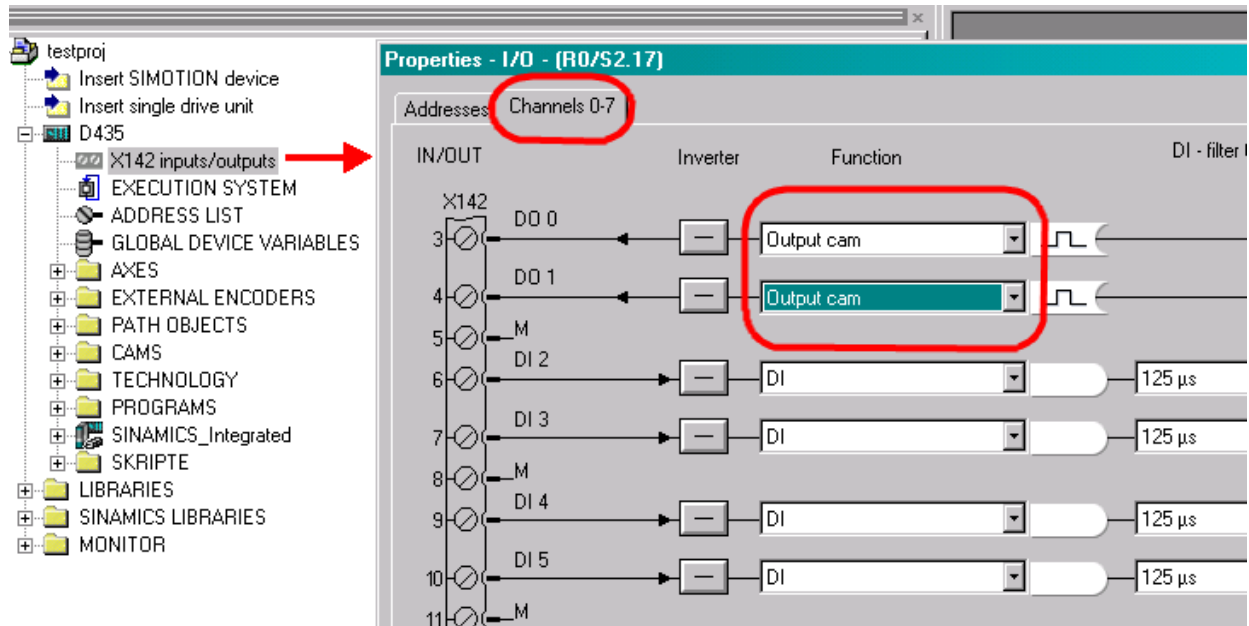
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b) The affected cam shall still be used as a “fast cam”.

In this case, the cam must be relocated to an output under X142.

Press the menu item “X142 inputs/outputs” to open the configuration screen for the terminal block X142.

The outputs for the cam output are defined in the menu “Channels 0-7” (in this example DO0 and DO1).



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Then, the Cam Configuration screen must be changed from "Fast digital output (DO)" to "Cam output (CAM)". Afterwards, one of the previously configured cam outputs on the terminal X142 can be selected and assigned.

The screenshot shows the Siemens configuration interface for a cam valve. The main window is titled "D435.cam_valve - Configuration" and has two tabs: "Configuration" and "Units". The "Configuration" tab is active, showing the following settings:

- Name: cam_valve
- Proc. cycle clock: IPD
- Output cam type: Time-based cam
- of output cam values: Setpoints
- Activate output
- Cam output on:
 - Cam output (CAM) (e.g. D4xx-2, TMC2x40, TM15/17, ...)
 - Fast digital output (DO) (D4xx, C240)
 - Standard digital output (DO) (e.g. ET200, TMC, TM31, ...)
- of output cams through: Logical OR
- Output: SINAMICS_Integrat....DO_9

The "Assign cam_valve.Output" dialog box is open, showing a table of assignment partners. The table has two columns: "Assignment partner [OUT]" and "Assignment".

Assignment partner [OUT]	Assignment
All	All
> Define assignment later	
> Free address input	
D435	
CAM_0 [IN/OUT 0, X142.3]	assign
CAM_1 [IN/OUT 1, X142.4]	Free
SINAMICS_Integrated	
Antrieb_blaue	
Antrieb_rot	
Control_Unit	

Red arrows point from the "Cam output (CAM)" radio button in the main window to the "CAM_0" row in the dialog box. The "CAM_0" row and its "assign" button are highlighted with a red circle.

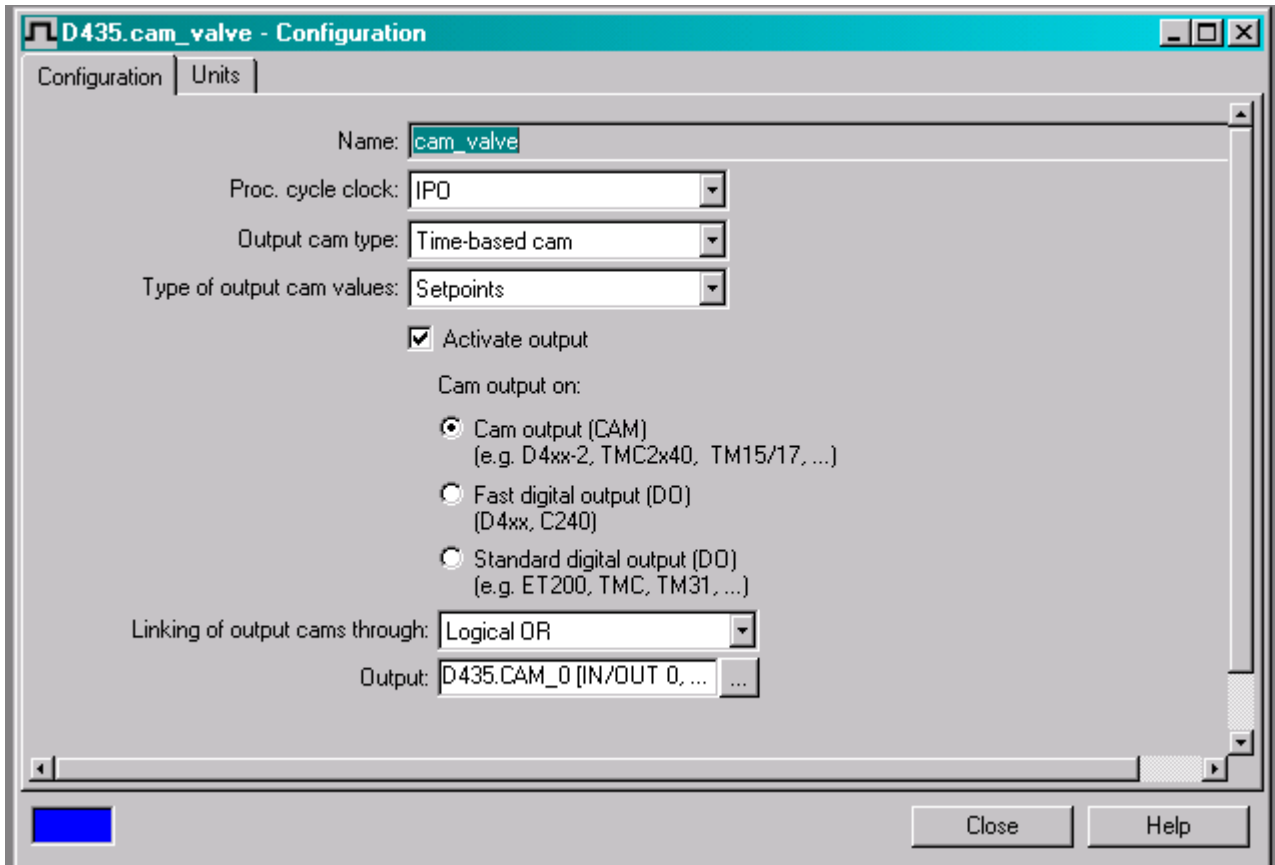
At the bottom of the dialog box, there is an information icon and the following text:

Read the following situations of the online help:
- The expected assignment partners are not displayed.
- Assignment to non-SINAMICS devices (free address input)

Buttons "OK" and "Cancel" are at the bottom right of the dialog box.

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After closing the assignment screen, the cam is consistent.



Note

For cam output via the TO cam track, proceed as with the TO cam.