Unified-E Beckhoff ADS Adapter User Manual

Configure Beckhoff Control Endpoints and Datapoints

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Content

1 General

Communication with Beckhoff controllers is carried out by means of ADS (TwinCAT 3). A TwinCAT route must be set up for communication.

Set up route:

In order for the computer (and thus the respective Unified-E program) to be able to communicate with a Beckhoff controller, a TwinCAT route must exist between the computer and the Beckhoff controller.
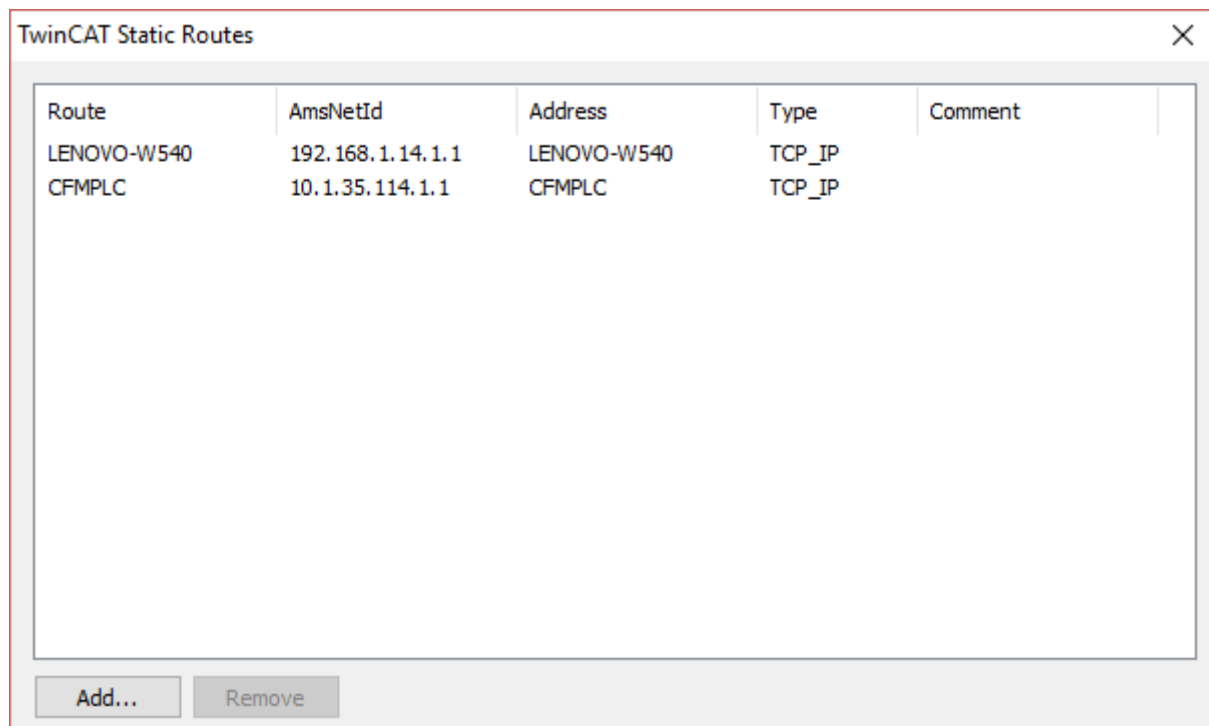
If you do not yet have TwinCAT software installed on your computer, you must first install the TC31 setup provided free of charge by Beckhoff in order to be able to set up the TwinCAT route as described above.

Even if communication requires the TwinCAT 3 components, it is possible to communicate with TwinCAT 2 controllers.

2 Adapter Parameters in Unified-E

End Point address:

The AMS NetId must be entered here.

Adapter parameters:

- IP Port: Describes the IP port during control, which is set to 851 by default.

- Timeout [ms]: The timeout value for the socket connection. This is applied when sending and receiving.
- Root Symbol Name (optional): If this value is set, this name will be prefixed to all datapoint names when accessed.

Example of root symbol:

The variable "MyVariable" is located in the "GlobalVariables" object.

If "Root symbol name" is not set, then the full symbol name "GlobalVariables.MyVariable" must be used in the datapoint table under "Label".

If you set "Root symbol name" to "GlobalVariables", then the name "MyVariable" must be used in the datapoint table.

Hint:

All variables must be referenced, including the object name, i.e. the name of the variable table must be mentioned first in the symbol path.

3 Datapoint Addressing

Basically, access to variables is symbolic. If no address is set at the datapoint, then the datapoint name is used for addressing.

Possible data types:

Beckhoff variables with the following data types can be linked to datapoints:

- BIT
- INT8
- INT16
- INT32
- INT64
- UINT8
- UINT16
- UINT32
- UINT64
- REAL32
- REAL64
- STRING
- WSTRING
- ARRAY

Read the complete array (for table datapoint – e.g. «Chart» view element):

Just use the symbolic name of the array (without parentheses at the end).

Accessing variables within arrays/structures:

Access to arrays is done with square brackets,
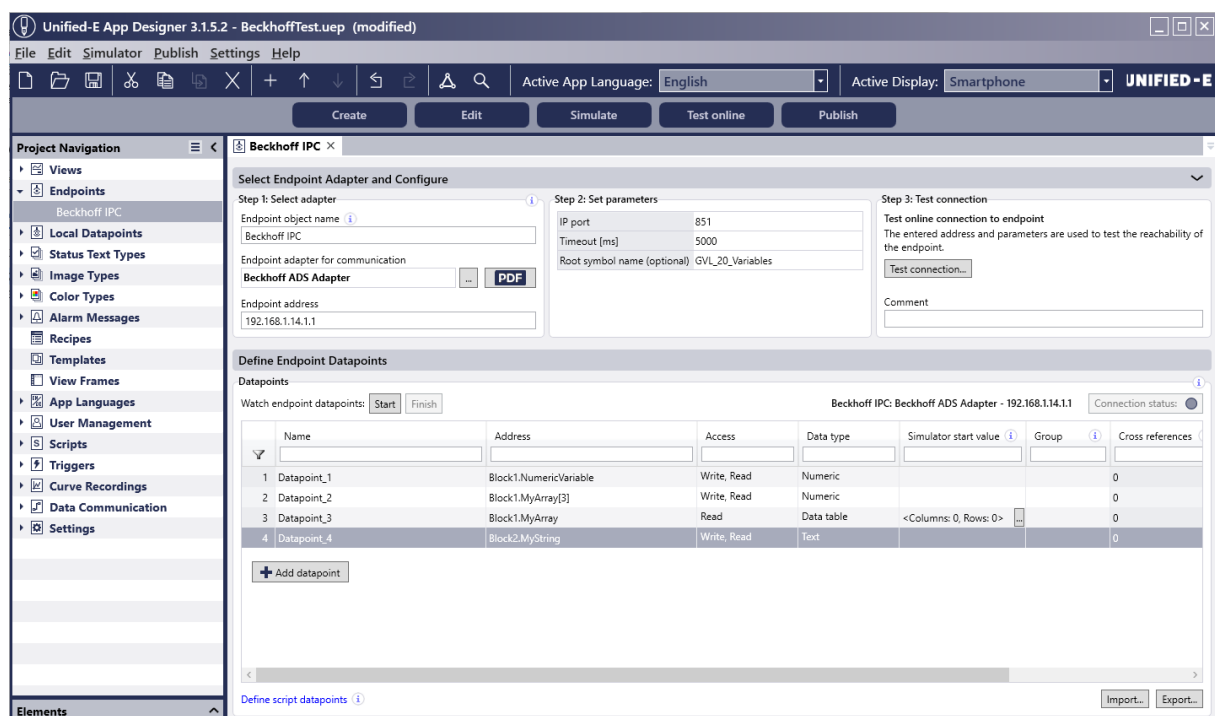
e.g. myNumbers[1]

Structural elements are accessed by means of ".",

e.g. Data1.Data2.Value1

Addressing of single bits for numeric data types:

Example: Data1.Data2.Value1.0

Example in the Unified-E App Designer: