Platform MX6
Software option S006
Fast Event IOs

1   Identification

Identification	
Option ID	S006
Order number	S-05000206-0000
Short name	Fast Event IOs
Brief description	With this software option, it is possible to operate local inputs as fast inputs or outputs.
Revision ID document	V1.0

2   System requirements and restrictions

System requirements and restrictions	
Supported platforms and devices	Berghof PLC devices of the MX6 platform (e.g.: CCs, DCs). Except: CC-LITE, CC-SLIM, MC-PRO, DC-PRO 4,3", DC-PRO 7" Additional information regarding availability and compatibility can be found in options section of the product catalog.
Firmware	MX6-PLC from version 1.22.0, CODESYS from 3.5 SP15 Patch 3
Additional requirements	— Hardware support for Fast Event IOs by the device. — For detailed information on availability, number and other technical details of the Fast IO's, please consult the device's manual. — Bergof Extension Bus Library (Target License Pro)
Restrictions	—

3   Product description

With this software option it is possible to enable dedicated inputs of PLC devices of the MX6 series as Fast IO's.
Fast IO's are IO's that have a particularly short reaction time. This allows a fast reaction to an external IO event to be programmed in a CODESYS project. These types of inputs are also often referred to as interrupt inputs. The MX6 systems have both Fast Inputs and Fast Outputs. Fast inputs are parameterized as events in the CODESYS project, fast outputs can be set via a function in the XB library.
Depending on the hardware, up to two fast inputs and two fast outputs are possible.

4   Quick Start Guide

The following is a brief description of how the fast inputs and outputs can be used in a CODESYS project.

4.1 Fast Inputs

First the slot for the internal IO boards must be added to the device tree with the CODESYS function 'Add Device'. Then the Fast Inputs must be activated via the IO board configuration.
With the activation, a task is created in the operating system which makes it possible to use the fast inputs and outputs.
Furthermore it is necessary that the XB library is included in the project

Via the system events, a callback function can now be assigned to the events "FastIn0" and "FastIn1" which are called when the events occur.
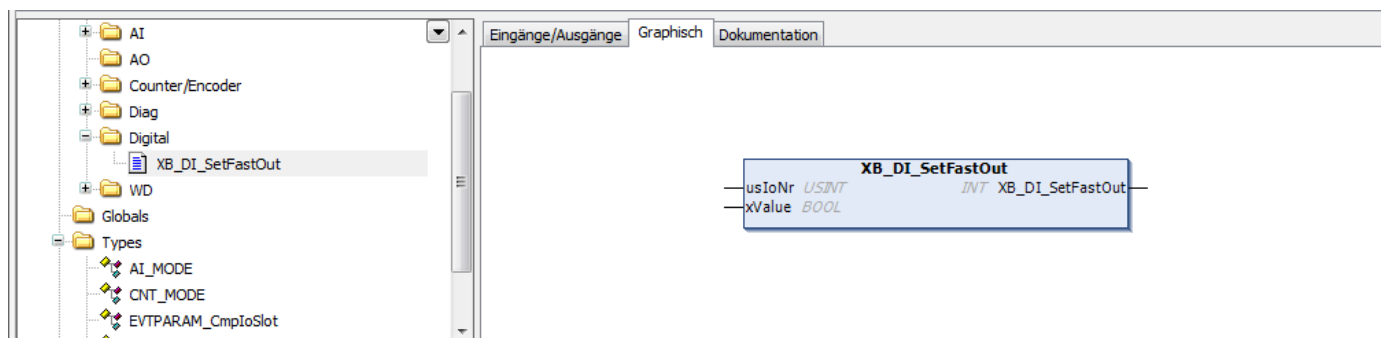

As parameters, the events provide the current state of the input (TRUE/FALSE) and a continuous timestamp in microsecond resolution, which indicates when the change of state was detected in the operating system.

4.2 Fast Outputs

The fast outputs are set by the following function of the XB library.