

## The Library SysLibSocketsAsync.lib

This library offers the same functionality as SysLibSockets.lib, however **function blocks** instead of functions are used and the processing is **asynchronous**.

**Please regard :**

- The behaviour of the functions is target-specific
- The opening/closing of sockets may take a long time if many sockets are to be opened/closed simultaneously.
- **Using the synchronous functions in a separated task with low priority is recommended.**

Corresponding to the parameters of the functions in SysLibSockets.lib the respective function blocks of SysLibSocketsAsync.lib have specific input parameters with identic impact.

Corresponding to the return values of the functions in SysLibSockets.lib the respective function blocks of SysLibSocketsAsync.lib have specific output parameters with identic impact.

See the respective function description of the modules in document [SysLibSockets.pdf](#).

Additionally the following input and output parameters are available in all function blocks:

Input:	<b>bEnable</b>	BOOL	Rising edge: the function block starts the actvion.
Outputs:	<b>bDone</b>	BOOL	TRUE indicates that the function block has completed processing.
	<b>bBusy</b>	BOOL	TRUE indicates that the function block is still processing.
	<b>bError</b>	BOOL	TRUE indicates that an error has occured.
	<b>wErrorId</b>	WORD	Error number

Each function block will start the respective action as soon as a rising edge is detected at bEnable. Then it must be called cyclically until bDone=TRUE. Thereafter the outputs bError and wErrorId as well as the specific output parameters of the particular function block are in effect.

In version 2.4.4.2 and older of the runtime CSP32F all calls are executed in one background task.

As from version 2.4.4.3 of the runtime CSP32F for every new socket a new task is generated. In addition, there is a task for the functions that are not associated to a socket.

The function blocks:

- SysSockAcceptAsync
  - SysSockBindAsync
  - SysSockCloseAllOpenAsync
  - SysSockConnectAsync
  - SysSockCreateAsync
  - SysSockGetHostByNameAsync
  - SysSockGetHostNameAsync
  - SysSockGetOptionAsync
  - SysSockHtonlAsync
  - SysSockHtonsAsync
  - SysSockInetAddrAsync
  - SysSockInetNtoaAsync
  - SysSockIoctlAsync
  - SysSockListenAsync
  - SysSockNtohlAsync
  - SysSockNtohsAsync
  - SysSockSelectAsync
  - SysSockSetIPAddressAsync
  - SysSockSetOptionAsync
  - SysSockShutdownAsync
  - SysSockGetLastErrorAsync
- TCP/IP-specific:
- SysSockRecvAsync
  - SysSockSendAsync
- UDP-specific:
- SysSockRecvFromAsync
  - SysSockSendToAsync

The following functions are executed synchronous:

- SysSockHtonlAsync
- SysSockHtonsAsync
- SysSockInetNtoaAsync
- SysSockNtohlAsync
- SysSockNtohsAsync