

The Library SysLibFile.lib

This library supports a file system on the target computer. If the target supports the functionality, the library functions can be used to open, close, delete, rename, write to or read from files. Further functions are available for getting the file size or the date of the last access, as well as for reading or modifying the offset. The execution is synchronous.

The functions:

- SysFileOpen Open file
- SysFileClose Close file
- SysFileWrite Write to file
- SysFileRead Read from file
- SysFileDelete Delete file
- SysFileGetPos Get currently set offset within the file
- SysFileSetPos Set offset in file
- SysFileEOF Check, whether the end of the file is reached
- SysFileGetSize Get size of the file
- SysFileGetTime Get info on dates of creation, last change, last access
- SysFileCopy Copy file
- SysFileRename Rename file

SysFileOpen

This function of type DWORD can be used to open a file, which already exists or which should be created.

The return value is a file number, which will be used in the functions SysFileWrite, SysFileRead, SysFileClose as an input ('File'). In case of an error '0' will be returned resp. (watch out this exception!) '-1' by target CoDeSys SP RTE.

Input Variable	Data type	Description
FileName	STRING	File name
Mode	STRING	Access mode: w write (File will be updated or created newly) r read (File will only be opened for reading; if the file does not exist, an error will be returned) rw read and write (File will be updated; if the file does not exist, an error will be returned) a append (File will be opened like described for 'w', but the written data will be appended at the end of the file)

SysFileClose

This function of type BOOL can be used to close a file, which has been opened before by SysFileOpen. The return value is 1 (ok) or 0 (error).

Variable	Data type	Description
File	DWORD	File number (see SysFileOpen)

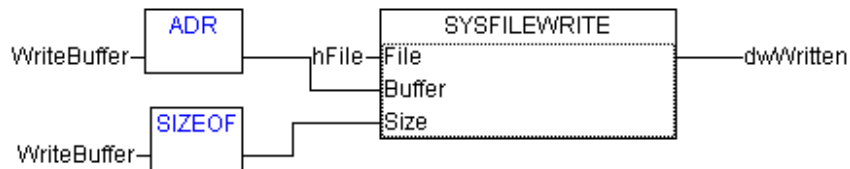
SysFileWrite

This function of type DWORD can be used to write data to a file, which has been opened before by the function SysFileOpen. The return value is the number of successfully written bytes.

Variable	Data type	Description
File	DWORD	File number (see SysFileOpen)
Buffer	DWORD	Address of the buffer (ascertainable by the ADR operator) of the file to which you want to write
Size	DWORD	Number of bytes, which you want to write to the file (ascertainable by the SIZEOF operator)

Example:

```
WriteBuffer : ARRAY[0..5] OF BYTE:=0,1,2,4,5,6;
DwWritten : DWORD;
hFile : DWORD;
```



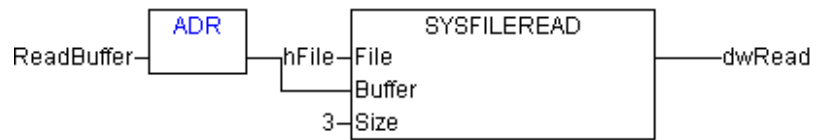
SysFileRead

This function of type DWORD can be used to read a file, which has been opened before by SysFileOpen. The return value is the number of successfully read bytes.

Variable	Data type	Description
File	DWORD	File number (see SysFileOpen)
Buffer	DWORD	Address of the buffer which contains the data to be read (get this with the aid of the ADR operator)
Size	DWORD	Number of bytes to be read from the buffer

Example:

```
ReadBuffer : ReadBuffer:ARRAY[0..5] OF BYTE;
hFile : DWORD;
dwRead : DWORD;
```



SysFileDelete

This function of type BOOL can be used to delete a file. The return value is 1 (ok) or 0 (error).

Variable	Data type	Description
FileName	STRING	File name

SysFileGetPos

This function of type DINT returns the currently set offset position in the file, which is identified by the file number that you have got from the SysFileOpen function before.

Variable	Data type	Description
File	DWORD	File number (see SysFileOpen)

SysFileSetPos

This function of type DINT returns the currently set offset position in the file, which is identified by the file number that you have got from the SysFileOpen function before.

Variable	Data type	Description
File	DWORD	File number (see SysFileOpen)
Pos	DWORD	Access offset within the file

SysFileEOF

This function of type BOOL will return 1, if the current offset is at the end of the file; it will return 0, if the end of file has not yet been reached.

Variable	Data Type	Description
File	DWORD	File number (see SysFileOpen)

SysFileGetSize

This function of type DWORD returns the size of the file (in Bytes), which is identified by the file name.

Variable	Data Type	Description
FileName	STRING	File name

SysFileGetTime

This function of type BOOL returns the creation date, the date of last access and the date of the last modification of the file (which is identified by the file name). The used format is DT. You get these data by accessing elements of the structure FILETIME.

The return value is 1(ok) or 0 (error).

Variable	Data Type	Description
FileName	STRING	File name
ftFileTime	POINTER TO FILETIME	Points to the structure FILETIME; the operator ADR can be used for this purpose.

The structure **FILETIME** is defined as follows:

```

TYPE FILETIME
STRUCT
    dtCreation:DT;          (* Creation date *)
    dtLastAccess:DT;        (* Last access date *)
    dtLastModification:DT;  (* Last modification date; Attention: In
                             VxWorks-Systems possibly only day,
                             without time! *)
END_STRUCT
END_TYPE

```

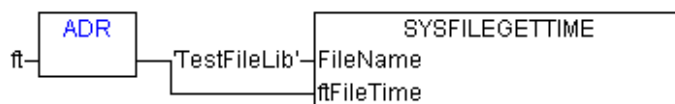
Example: For the file 'TestFile' the creation date is read:

```

Ft : FILETIME;
filecreationtime : DT;

```

Lesen des Erstelldatums von Datei TestFileLib



ft.dtCreation — filecreationtime

SysFileCopy

This function of type UDINT can be used to copy the file content to another file (different file name). It will return the number of actually copied bytes.

Variable	Data Type	Description
FileDest	STRING	File to which you want to copy
FileSource	STRING	File from which you want to copy

SysFileRename

This function of type BOOL can be used to rename a file.

It returns 1 (ok) or 0 (error).

Variable	Data Type	Description
FileOldName	STRING	Old file name
FileNewName	STRING	New file name