Type	Library
FB	ePLCUtyLib_C020

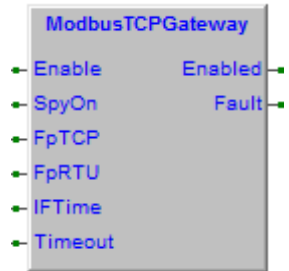### 1.1.22 ModbusTCPGateway, modbus TCP gateway

This function block operates as Modbus gateway between Modbus TCP connection and a serial Modbus RTU. In **FpTCP** must pass the I/O stream from which arrive the Modbus TCP requests. In **FpRTU** must pass the I/O stream to which are sent the converted to Modbus RTU requests.

In **IFTime** must be defined the pause time of receiving characters from the serial port (Modbus RTU). **Timeout** defines the maximum execution time of a command Modbus TCP (From when the command is received to when after conversion the Modbus RTU response is returned).

The **SpyOn** if active allows to spy the FB operation. In case of execution error or execution time greather than the time set in Timeout, is activated for a program loop the **Fault** output.

Enable (BOOL)   Command that enables the FB.

SpyOn (BOOL)   Active allows to spy the FB working.

FpTCP (FILEP)   Stream returned from **Sysfopen** function.

FpRTU (FILEP)   Stream returned from **Sysfopen** function.

IFTime (UDINT)   Time between frame (µS), it must be related to baud rate.

Baud rate	Tempo		Baud rate	Tempo
300	112000		19200	1720
600	56000		38400	860
1200	28000		57600	573
2400	14000		76800	429
4800	7000		115200	286
9600	3430			

Timeout (UINT)   Maximum command execution time expressed in mS. If the command does not end in the defined time, the command is aborted and the **Fault** output is activated

Enabled (BOOL)   FB enabled.

Fault (BOOL)   Active for a program loop if execution error.

Spy trigger

If **SpyOn** is active the **SysSpyData** function is executed this allows to spy the FB operations. There are various levels of triggers.

TFlags	Descrizione
16#00000001	**Tx:** Modbus RTU command frame sent.
16#00000002	**Rx:** Modbus RTU answer frame received.

Error codes

If an error occurs, the **Fault** output is activated and **SysGetLastError** can detect the error code..

10053050	Execution timeout
10053100~1	Modbus TCP frame management error.
10053200~1	Modbus RTU frame management error.

Examples

Simple Modbus TCP/RTU gateway, accepts TCP connection on port 1000 and uses the serial port COM0.

Defining variables

	Name	Type	Address	Array	Init value	Attribute	Description
1	Fp	FILEP	Auto	[0..1]		..	File pointer
2	SMode	SetSMode	Auto	No		..	Set serial mode
3	SktLsn	SysSktListen	Auto	No		..	FB Socket listen
4	SktDone	BOOL	Auto	No		..	Socket done
5	SktConnect	BOOL	Auto	No		..	Socket connect
6	MTCPGw	ModbusTCPG	Auto	No		..	FB data stream exchange

LD example *(PTP114A640, LD_ModbusTCPGateway)*