

Communication library M_IEC60870_LIB

Version history

Version 3.3.0.0 2025-09

New functions

- Implemented communicator logging buffer for the main function block IEC60870_EM1.

Version 3.2.2.0 2024-04

New functions:

- Cause of transmission P/N for spontaneous data telegrams
- New function blocks IEC_C_SC_NA_2, IEC_C_SC_TA_2, IEC_C_DC_NA_2, IEC_C_DC_TA_2 with separate short and long pulse parameters.
- General interrogation with full time stamp (via *IEC_Bits.GA_Timestamp*). Implemented only for the long time stamp format.

Improvements and bug fixes:

- IEC_C_xC_xA_2: New variant with separate short and long pulse duration settings.
- M_XRB...: Changed from INT to UINT (and in some internal cases to DINT) to support DT addresses up to DT65533.
- *Elem_ofArray2D* needs DINT for large arrays.
- *EM1_BUFFER_SIZE* increased from 9 to 10 to be able to handle REAL values with a valid local time stamp. This may affect the deletion of non-transmitted data from existing systems.

Existing applications should update their *IEC870_MonitorEM1*, *IEC870_MonitorEM2* ... buffers. The right index size of the two dimensional array must be changed from 0..8 to 0..9, e.g. ARRAY [0..500,0..8] OF INT → ARRAY [0..500,0..9] OF INT. These arrays are declared outside of the library.

Other improvements:

- Re-designed documentation from CHM to HTML format. The new help is available in the InfoHub at <https://infohub.industry.panasonic.eu> and as a PDF file which is included in the ZIP file.
- New examples
- All function blocks IEC_C_xxx_xx_EM_1 have been removed. If one of these function blocks was used in an existing application, it should be replaced by the corresponding function blocks with the same name without "EM_1" at the end.
- The library is available as a ZIP file without setup. Add the contents to a project folder of your choice.

Version 3.1 2016-05

New functions:

- IEC60870_ASDU for Gateway applications.

Improvements and bug fixes:

- Improved RBM buffer organization (initializing, start delay).
- EM1 buffer handling for redundancy connections. Buffers could drop data even if the corresponding RBM is not connected.

Version 3.0 2014-07

New functions:

- The library is ready to run with FP7 and FPWIN Pro 7.
- Change of library name into M_IEC60870_PRO7.sul
- The library supports up to 4 redundancy buffers with IP lock to bind the main station IP address to a specified buffer.
- The buffer can be split to share class1 and class2 data. The FP7 can use with this buffer organization all its DT registers above the address 32767.

Improvements and bug fixes:

- The main concept is optimized and the number of function blocks (for different PLC types) is reduced. This helps to minimize the engineering if a PLC type is changed for your future projects.
- The HTML pages and the standard samples are updated for using the FP7.

Version 2.6 2014-02

New functions:

- The library is ready to run with up to four connections. This function needs the FP Web Configurator in version V2.6 or newer.

Improvements and bug fixes:

- The HTML pages do not need array elements in the csv export file. This helps to minimize the update process of the FPWEB unit.
- The HTML pages and the standard samples are updated for using the FP7.

Version 2.42 2013-12

New functions:

- New function blocks for different daylight saving rules.

Improvements and bug fixes:

- The invalid bit for monitoring data can be modified by the user program.
- Updated examples with ready-to-run IEC60870 RTU solutions.
- Real time clock handling in IEC60870_RTU
- RTU user mapping of monitoring data is using the REAL format
- Small changed in the RTU HTML configuration pages

New functions:

- New solution IEC60870 RTU: no programming tool is necessary. All project files including the PLC program can be uploaded to the FPWEB/PLC unit via the FP Web Configurator Tool. The RTU can be configure via HTML pages.
- New examples with ready-to-run IEC60870 RTU solutions.
- New examples for redundancy connections.
- PLC and FP Web-Server sources of the new IEC60870 RTU solution are available to customize the unit.
- Code optimization for FPWIN Pro 6.3 with conditional compiling.
- Improved performance in all function blocks.
- New functions IEC_M_xx_NA_LOG (using the log buffer management for IEC60870 functions, which does not contain time stamp information).
- New combi function blocks used in the IEC60870 RTU.

Version 2.2 2010-06

New functions:

- New license concept: all FPWEB2 units can be used without hardware-related licenses; the license is related to the FP Web Configuration Tool V2.2 or higher
- New time stamp concept with high accuracy (ms)
- Code optimization for FPWIN Pro 6.1
- Improved performance of all function blocks
- Communication redundancy mechanism (communicating with two supervisory control systems)
- New function block: IEC60870_RTC
- Improved function blocks: IEC_M_DP_NA_1, IEC_M_DP_TB_1, IEC_M_DP_TB_1EM1
- Completion of all types in monitoring direction for the different communication modes
- Viewing STARTDT state of the IEC60870 as flag in the PLC.
- IEC60870 system variable names changed, e.g. IEC870_RBM --> IEC870_RBM1, IEC870_Monitor -> IEC870_Monitor1

Version 1.2 2005-08

New functions:

- New function block IEC_M_BO_TB_LOG
- Improved performance in all function blocks
- Code optimization for FPWIN Pro 5.0, service release 2
- Communication redundancy mechanism (communicating with two supervisory control systems)
- Disabling of Cycle_max in the measurement function blocks possible
- For the commands in control direction, the telegram Activation on Termination has been added in accordance with the international standard IEC60870.