



SXIPM-IEC870 - IEC60870-5-101/104 (Slave Driver)

SIXNET offers a versatile and highly configurable IEC60870-5-101/104 protocol slave driver for IPm-based **Controllers** and **RTUs** for use in modern or legacy systems. The SIXNET IPm IEC-60870-5-101/104 slave driver enables data exchange with all types of I/O within IPm-based units to allow maximum utilization of the powerful IPm features while providing full compliance with IEC-60870-5-101/104 standards.

IEC (International Electrotechnical Commission) is a not-for-profit, non-governmental international standard organization that prepares and publishes International Standards for all electrical, electronic and related technologies. IEC standards cover a vast range of technologies from power generation, transmission and distribution to home appliances and office equipment, semiconductors, optics, batteries, solar energy, nanotechnology and marine energy as well as many others.

The IEC 60870-5-101/104 protocol provides a standardized way to communicate with other systems. IEC 60870-5-101/104 provides a communication profile for sending basic telecontrol messages between two systems, which uses permanent, directly connected data circuits between them. The IEC Technical Committee 57 (Working Group 03) has developed a protocol standard for Telecontrol, Teleprotection, and associated telecommunications for electric power systems. The result of this work is IEC 60870-5.

The IEC-60870-5-101/104 slave is highly configurable. It includes a Windows configuration utility, which integrates into the **SXTOOL Kit**. The configuration utility is called from the "Tools Menu" of the SIXNET I/O Tool Kit and enables the user to completely define and customize the run-time behavior of the slave driver.

- Flexible and easy-to-use configuration tool fully integrated with **SXTOOL Kit**
 - I/O to IEC-60870-5-101/104 objects mapping for any I/O type
 - Event generation and attributes (Class) for every mapped Object
 - Run time IEC-60870 protocol behavior at all IEC-60870 protocol layers (Physical, Link, Application)
 - Automatic Communication Port Settings assignments in the **SXTOOL Kit**
- Powerful and efficient slave driver
 - IEC60870-5-101 over serial port with collision avoidance (RS-232, RS-485, radio, dial-in or dial-out modem)
 - IEC6078-5-104 over LAN/WAN (TCP server and client)
 - Link Layer confirmations and retries (configurable)
 - Application Layer confirmations and retries (configurable)
 - Event reporting (configurable)
 - Time synchronization with IEC Master (configurable)
 - Full SIXNET I/O to IEC60879-5-101/104 object mapping
 - Event generation (min scan time 20 ms) and time-stamping
 - Prioritization of event data transmission (configurable)
 - IEC-60870-5-101/104 Object types:
 - Single Points (1-bit discrete I/O), Monitor (READ) and Control (WRITE)
 - Step position information (128-state encoded variables I/O), Monitor (READ) and Control(WRITE)
 - Measured Values (Normalized or Scaled or Floating Point analog I/O values) Monitor (READ) and Control (WRITE)
 - Integrated Values (32-bit counters) Monitor (READ) Note: All data types can be monitored with or without time tag information
 - Full run time debugging and message output tracing to a terminal, remote telnet session or file for diagnostics and trouble-shooting purposes
- Complete documentation including
 - Comprehensive on-line help system
 - Complete User Manual
 - IEC60870-5-101 v200 Interoperability Profile Document
 - IEC60870-5-104 v200 Interoperability Profile Document





SIXNET IPm IEC870 Slave Driver Function Overview Diagram

