IPC

3530/31 PLC Interface for Modbus Plus

Features

- **Modicon SA85 PLC Interface Card**
- **One megabit/second Modbus Plus communications**
- **DMP data transfers**
- **Supports concurrent network access by multiple applications**
- **Allows peer-to-peer networking**
- **FORTRAN subroutine library for read/write and data conversion functions**
- **Subhandler and Modicon SA85 Interface software**
- **Compatible with single or redundant networks**
- **Dual port access for redundant CPU configurations**
- **User interface windows display handler, driver, and card statuses**
- **Use with MAX IV, revision F.0 or later, or MAX 32, revision B.0 or later**

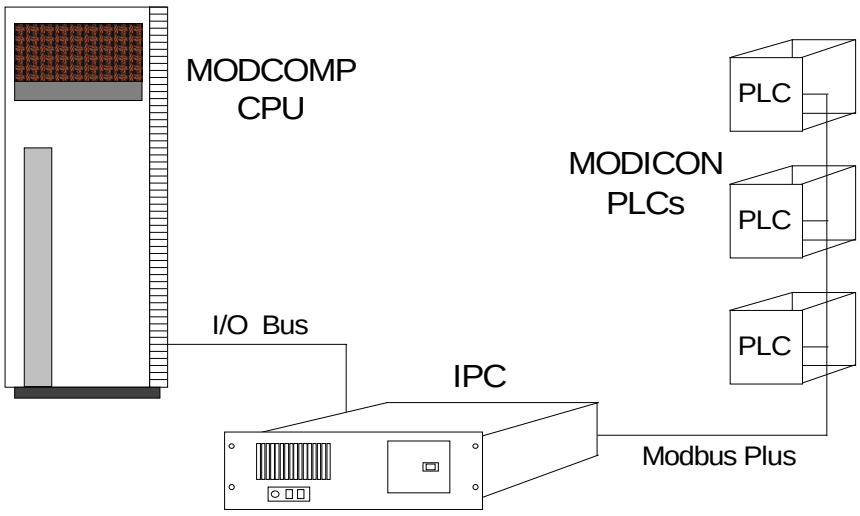

Figure 1: Modbus Plus Interface

The Model 3530/31 PLC Interface for Modbus Plus supports high speed PLC network communications between MODCOMP computers and Modicon PLCs. The Model 3530 (Modicon SA85) plugs into an IPC connected to a MODCOMP computer through its I/O bus. The Modbus Plus network is attached directly to the PLC Interface. MODCOMP applications communicate with PLCs using efficient DMP transfers to complement the one megabit/second PLC network. Formatting and coordination of Modicon protocol are handled largely by the interface and IPC software for optimal efficiency.

The Model 3135 software provides a complete set of high-level interface subroutines plus a MODCOMP system-level subhandler and IPC drivers to support network access. The software is layered to isolate applications from details of the BIOS interface and protocol. A standard subset of popular Modicon transactions, needed for data transfer and control, is supported by the subroutine library. Applications communicate with PLCs using standard Modicon transactions. The software coordinates transactions and responses among multiple MODCOMP applications and supports multiple outstanding transactions on the PLC network. The maximum number of concurrent outstanding transactions may be defined in the IPC configuration file; 40 are automatically supported.

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Multiple MODCOMP systems may be connected to one IPC for concurrent access to the PLC network in redundant CPU configurations. Multiple MODCOMP systems, each equipped with its own IPC/PLC Interface, can be attached to the PLC network at different locations.

Figure 2 shows a schematic representation of the IPC Modicon Interface. Application programs communicate with the IPC Modicon PLC device through subroutines that queue write or read operations to the device and define the type of transaction and destination PLC using an extended UFT and data buffer. The IPC manages the Modbus Plus interface and coordinates I/O requests from MODCOMP applications. The interface card maintains the transfer protocol, relieving both the MODCOMP and IPC from protocol processing.

The IPC software provides two windows for users of the IPC Modicon PLC Interface. The first displays the Modicon PLC SA85 Interface Card status, Modbus Plus station statuses, and Modbus Plus global data. The second window displays MODCOMP node statuses, Modicon handler data, and configuration, initialization, and/or run-time messages.

Additional PC-based software is available for the interface card to allow the IPC to function as a PLC network monitor when operated off-line from the MODCOMP system.

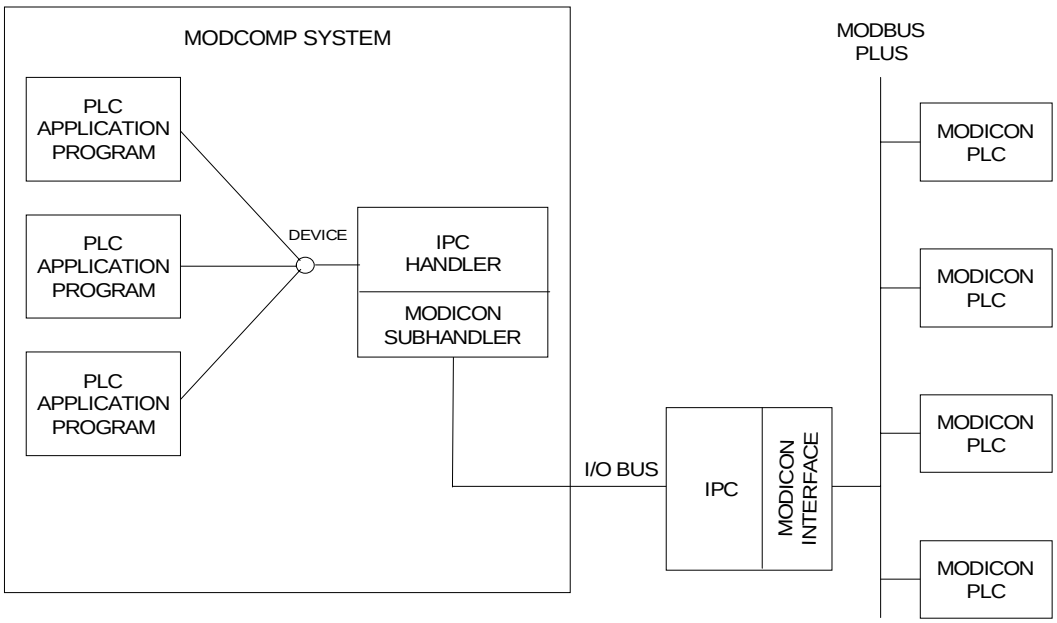

Figure 2: IPC Modicon PLC Interface Architecture

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