

The MODBUS[®] data address in ALL ND Manuals refers to the actual address that is required in the serial data string leaving the host controller. This is standard practice to the best of our knowledge when MODBUS is used for communication with devices other than PLCs, when Modicon user address space no longer has any meaning. These addresses in our documentation are correct to the best of our knowledge.

Although Modicon devised a very useful open communication protocol when they devised MODBUS, they created a great deal of confusion in not making it clear that addresses used in MODBUS (the communication protocol) are NOT the same as the addresses used in Modicon PLC programming. Because MODBUS became well established for communication between two Modicon PLC devices, many communication and SCADA packages (and users) still fail to recognise this difference. What is even more confusing is that some software packages make automatic corrections to addresses supplied by the user before submission to the MODBUS communication drivers in an attempt to correct these misconceptions.

Confusion usually arises when working with SCADA systems that address Modbus slave data using a 30000 or 40000 series PLC register addressing approach.

Modicon PLC devices use two types of data registers :

- Input Registers: These have register NAMES 30001-3XXXX and are Read Only registers
- Holding Registers: These have register NAMES 40001-4XXXX and are Read/Write registers

To add confusion if you Read Address 31234 in SCADA software that recognises this standard the actual MODBUS string that leaves the PC is a command Type 4 with data address 1233.

Likewise if you Read/Write to Address 41234 in SCADA software that recognises this standard the actual MODBUS string that leaves the PC is a command Type 3 with data address 1233.

Many SCADA packages use the address of each variable exactly as specified by the user in the MODBUS RS485 string. But some make offsets of 1 to the address in an attempt to correct the historical confusion between Modicon address space and MODBUS addressing. Another source of confusion is the JBUS standard. JBUS is essentially MODBUS but with data addresses shifted by 1 before creating the data string for serial transmission.