

Engineering & Application note

Issue Date: November '07, updated February '08

Subject: iSmart With Hi-speed Comms

Relevant Products: iSmart SMT-CD-R20 or SMT-CD-T20
All Firmware Versions.
SMT Client v1.8 or Previous

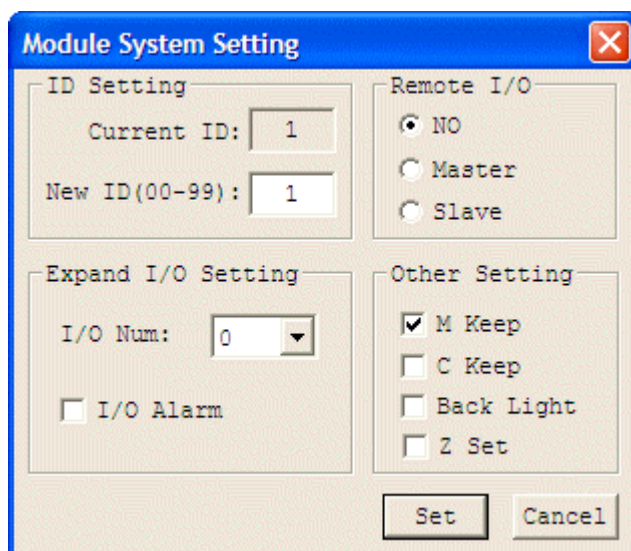
Description

This Engineering note refers to the iSmart models with an integrated comms option (SMT-CD-***). The two-wire comms function can be used for master/slave communication between iSmart units, or for communications with other devices using the Modbus RTU protocol. Care needs to be taken in configuration of the comms port settings as errors here can lead to an unsuccessful installation.

Details

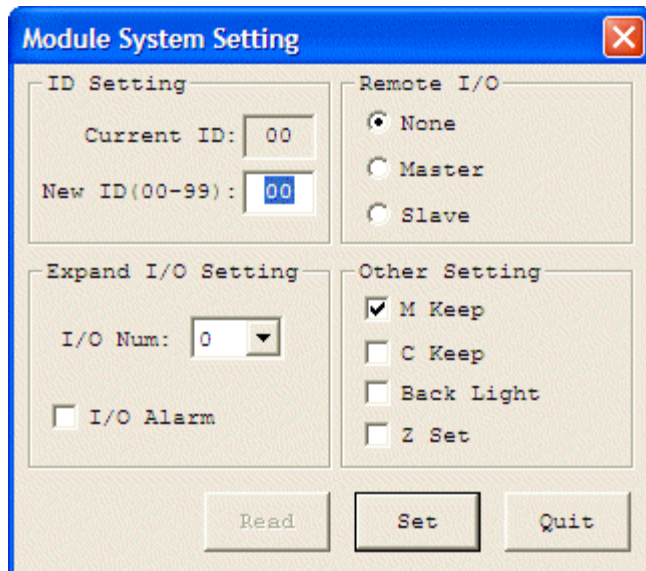
In Function Block Mode (FBD)

In the SMT Client software, settings for the integral comms port are found in the 'Operations' menu, 'Module System Setting' option as shown below:



In Ladder Mode (LD)

In the SMT Client software, settings for the integral comms port are found in the 'Operations' menu, 'Module System Setting' option as shown below:



Changing the Setting

There are three possible settings for the Remote I/O configuration:

1. None

This means there is no Remote I/O configured, i.e. no Master or Slave comms between iSmarts. This leaves the port free to communicate with SCADA or other devices using Modbus RTU protocol.

In this case, the iSmart is always a slave and has fixed port settings as follows:

Baud Rate: 38400
Data Bits: 8
Stop Bits: 2.0
Parity: None

If the iSmart is installed in a network of other devices, it is important to note that the comms settings are fixed, and the inclusion of the iSmart will dictate the port settings that must be used on all other devices.

The "ID Setting" section refers to the device (node) address on the Modbus network.

2. Master

The iSmart is to be linked to one or more 'slave' iSmarts via a two-wire link. The slave devices must all have unique ID settings. This configuration uses a unique iSmart protocol, not Modbus. The slave devices provide Remote I/O, which is available via the 'X' and 'Y' inputs and outputs in the master's program.

3. Slave

Where the iSmart is to be linked to a 'Master' iSmart. The Slave will share its input and outputs with the Master. The ID setting of the iSmart must be unique on the two-wire network.

The procedure for changing this setting is as follows:

- 1) Choose the required setting using the 'radio buttons', none, master or slave.
- 2) Set the required ID setting.
- 3) Click 'Set'.
- 4) Close the settings dialog box.
- 5) Save your program and exit the SMT Client software.
- 6) **Cycle the power on the iSmart for the new setting to take effect.**

Once the power has been cycled the SMT Client software can be reconnected via the programming cable if any additional programming is required.