MODCOM Com 1.00

Program for management of ModBus protection
on serial communication bus.

INSTRUCTION MANUAL

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1. GENERAL

MODCOM is a Microelettrica Scientifica's program operating in Windows environment, dedicated to the management of the M.S. ModBus protection relays.

The minimal performances required for the system are:
Personal computer type 486/33
8 Mbytes of ram
5 Mbytes available on the Hard Disk
Serial communication port.
Mouse.
MS-DOS 5.0 or later
Windows 3.1 or later

The interfaces used for connection can be either RS232 (using the special cable provided by MS) or RS-485 , which allows to connect in parallel up to 31 units.
The communication bus can be long up to 500m using a simple twisted pair .
Using a fiber optic transmission, up to 200 units can be connected on the same bus with distance up to 2Km between units (glass fiber optic).

An RS232/485 adapter is needed to use one of the serial ports available on the personal computer and for the management of more than one relay.

Microelettrica Scientifica's produces an RS232/485 converter that automatically recognizes the data flow so no configurations are needed.
The use of a P.C. serial port fitted with a UART type 16550 is recommended; normally high speed serial port (baud rate over 9600bps) use that component.
If more than 2 serial ports are available on the P.C., pay attention that normally the ports COM1 and COM3 share the same interrupt(likewise for COM2 and COM4): therefore if for instance the mouse is connected to COM1, the relay management bus shall not be connected to COM3 but to COM2 or COM4 only.

If a 485 interface card has to be installed in the computer, make sure it is configured so that transmission is enabled by the RTS signal and that it does not clash with existing communication ports.

2. PROGRAM INSTALLATION

The program is supplied on a 3,5" HD diskette.

To install the program proceed as follows:

Windows 3.1 or 3.11

- Load Windows.
- From menu "File" select "Execute" and type into the dialog box
  "A:\setup"
- Confirm by pressing "OK" button.

Windows 95

- From Start programs Menu select “Execute” and type into the dialog box
  "A:\setup"
- Confirm by pressing "OK" button.

At this stage follow the instruction on the screen and the program will be installed as a Windows application. To enter the program double click the relevant icon "MODCOM" in the folder “MODCOM”.

3. USER INTERFACE

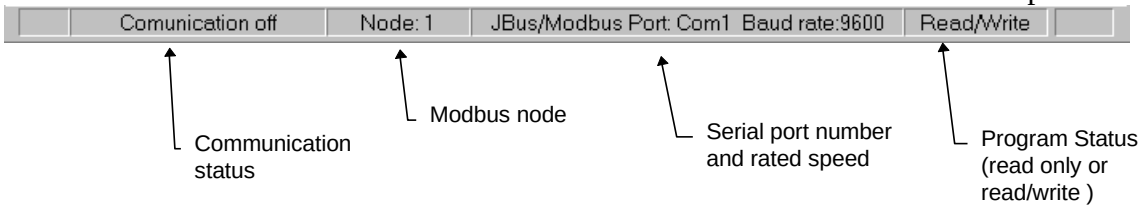
When the program start display a window called Relay Manager.
Push the button Scan Network to check if one ore more relays are currently connected to the PC.
If the program find the relays they are diplayed in the list "Relays avaliable on the network"
Click on one of this relays an then push the button "Connect".

The program has seven *Pull-Down menus*:
- **Relay** (use it for connect, disconnect relay and exit program)
- **Measures** (display the measures of the relay connected)
- **Settings** (display and change settings of the relay connected)
- **Status** (show the trip status)
- **Test prg** (activate the test on the relay)
- **Config** (change the password and the communication port used by the program)
- **Help**

Some of the menus can be disable (grayed) depending from the type of the relay connected.
On the *tool bar* you can find some of the same functions available in the menus.

Password	: to insert the password to enable Write Menu
Node selection	: to change the address of the relay connected
Comunication parameters	: to change the serial port used by the program
Retry connection	: to put on line the program after a communication error
Actual measurements	:to display actual current measurements
Status	: to display the relay status (alarms, trips,blocking input)
Settings	: to display and change the protection settings
Commands	: to send the *Test* and *Reset* commands

The *status bar* on the bottom of the screen shows some information about the operation mode:



4. USE

4.1) Password and Read/write status

When the program has been loaded the screen shows the menus described at §3.

The default program status is *Read only* so the *Write* menu is disabled. All the options are grayed and on the *tool bar* they looks like this 

. To enable the *Write* menus you have to insert the password by selecting  or the menu *Config/ Password*.The default password is a void string so that you have only to push the OK button. The program status in the *Status Bar* will change in *Read/Write*. To change the password you have to select the menu *Config/Change password*. The program will ask to confirm the new password.

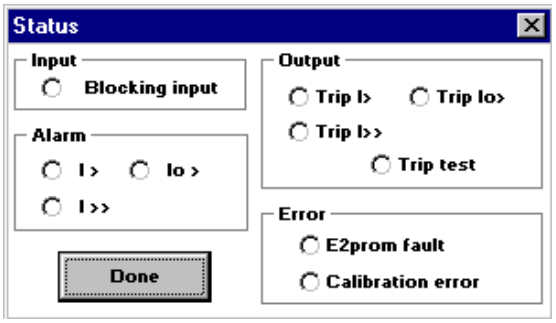
4.2) Error condition

If the program can't comunicate with the relay it will show a message describing the communication error and asking if you want to retry; if you don't the program it will work off line. In the *status bar* the message *Communication off* will appear and the values in *Status* window and *Actual measurements* window won't be updated . To recreate the link between the communication program and the relay push the button  or select the menu *config/retry connection.*

4.3) Normal operation mode

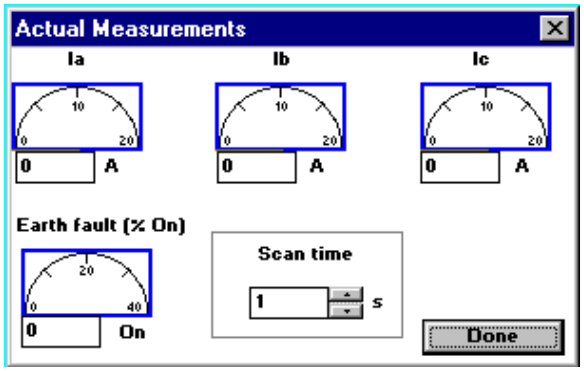
Check the physical connection and push the button "Scan network" on the relay manager window. Double click on the relay name showed in the window, the program create a link with the relay (connect the relay).

Status window (push ) and



Actual measurements window (push )

will update automatically the values showed with the values downloaded from the relay .



Settings window(push ) loads the settings value from the relay when you open the window. To reload the settings from the relay you have to push the button *Update*. For changing a setting of the relay you have to push the button *Send* to transfer the new values.