

CCRMLF400




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CCRMLF400 is programming software for MLF400 frequency/ Mains-Loss relay. With this program, the user can change operational parameters such as tripping settings of the relay and can monitor the operational status of the relay.



CCRMLF400 PROGRAM



Start by clicking the CARELAY  -icon that starts CCRMLF400.exe file (Fig. 1). The dialog will show the current communications settings. If serial port one is used to communicate with MLF400, no changes are required when operation is started. The default settings of communications are:

Com port	1
Baud rate	9600
parity	Always none
data	8 bits
Stop bits	2
Slave address	1

If slave address is correct and communication port configured correctly, it is a good practice to check the communications by clicking the "REPORT SLAVE ID" button. If the device responds correctly "OnModbusRTUrx1" text should appear in message box as illustrated in fig. 1. Message box is cleared clicking "Clear list" button. The operation of the device is done by clicking the radio button "Monitor On" in monitor section of main window. Correspondingly, the monitoring is stopped by clicking the "Monitor Off" button. The measured frequency, states of output relays, states of leds and states of inputs are illustrated. When the "Output test mode on" button is selected the user can test the output relays and led by marking and unmarking the squares left from leds. When output test mode is disabled by clicking "Output test mode off" button, it is very important to reset the relay by disconnecting the power before the use of the relay. This is done to ensure the proper functionality of the output relays.

When connected to MLF400 device, the settings can be changed in *registers window* that is opened by clicking the "Read Registers" button. The registers window (fig. 2) opens. If this fails the text "timeout" will appear in status box.

When the dialog opens it will show the current values that the device is using. All the registers illustrated in MLF400 datasheets can be changed using this window. Delays, Frequency limits and communication options can be changed. The difference between these values and the ones described in MLF400 datasheet appendix 1 is that the values are presented as physical values not the register values. Further, the zero offset and spin of the mA output can be set here.

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In the automatic init mode the MLF400 initializes the output relays to 'normal grid' position without the init-pulse activation every time when the MLF400 is powered (auxiliary voltage switched on).

When new values are tested the user can write the values to device without saving them in permanent memory of the MLF400 relay. This is done by clicking the button "Exit and Write to relay". The user can restore the old values by switching the power of the relay off and on again. If the the "Written values to EEPROM is selected" the values will be saved in relay permanently and the old values are disappeared even if the power of the relay is switched off.

The default values (of 50 Hz grid) can be restored to dialog window by clicking the button " Load Defaults for 50 Hz", the values are not written to relay unless user Exit by saving as explained above.

The user can save the values displayed in window by clicking the button "Save to file". Correspondenly, the user can retrieve the values from file by clicking the "Load from file" button. Again, values are not written to relay unless user exits the dialog by selecting "Exit and Write to relay".

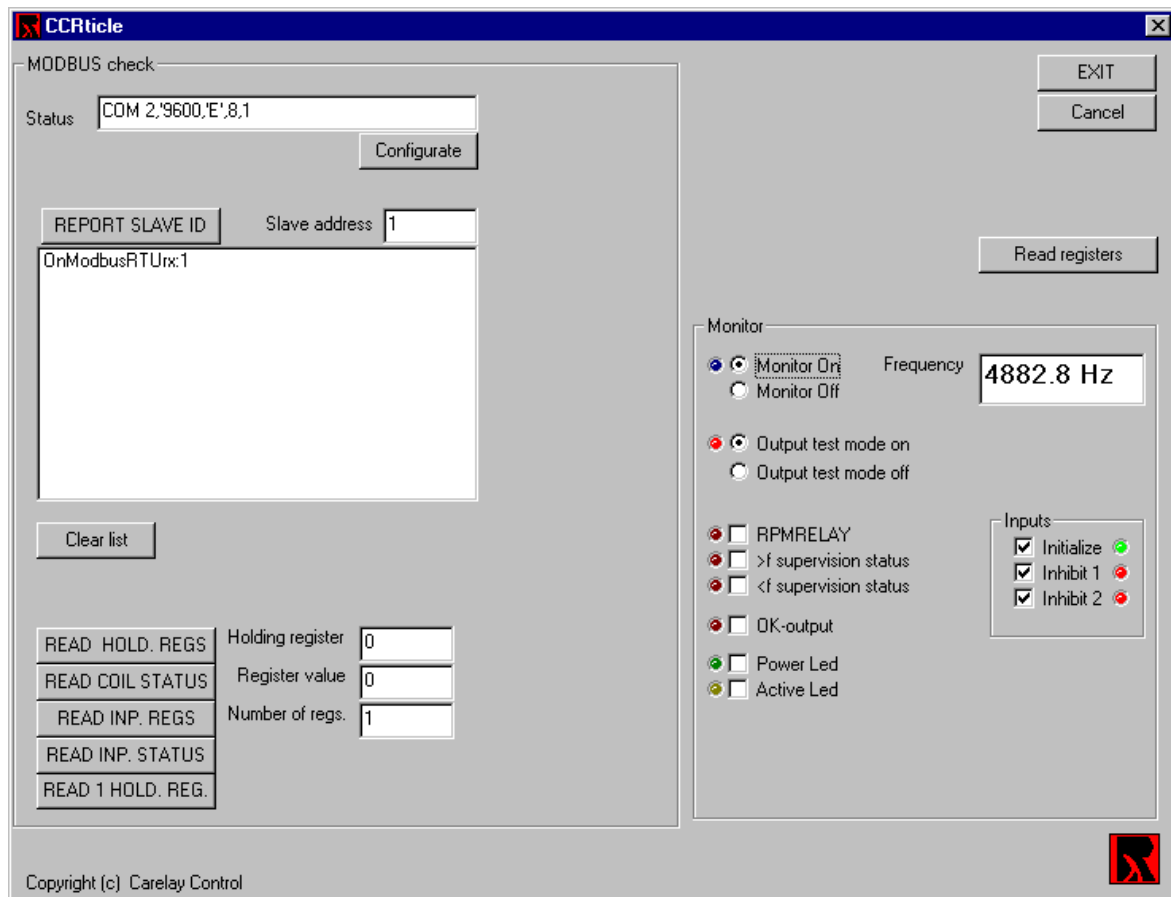


Fig 1. The main window.

It is possible to read the direct register values using the modbus commands "READ HOLDING REGISTERS", "READ COIL STATUS", "READ INPUT REGISTERS", "READ INPUT STATUS" AND "READ 1 HOLDING REGISTER". The user writes the number of register and clicks the button and the register value appear in "Register value window". *The use of these buttons is not required since all of the values that normally is needed to monitor can be found in monitor window and in settings dialog window.*

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MLF400 SETTINGS

Delay
Init Delay: 100 Setup Delay: 100 f-Trip Delay: 10 x 10 ms Init mode: auto

Exit
Exit and Write to relay
Exit Without write
 Written values to EEPROM

Frequency/RPM relay
Limits
Under Frequency: 49 Hz Over Frequency: 80 Hz Periods for Tripping: 10

Over frequency trip
Limits
Over Frequency: 50.3 Hz Mains-loss Gap +: 50.1 Hz Periods for Tripping: 5

Mains-loss d(f)/d(t) limits
Mains-loss d(f)/d(t) +: 6 Hz/s
Mains-loss d(f)/d(t) -: 6 Hz/s

Under frequency trip
Limits
Under Frequency: 49.7 Hz Mains-loss Gap -: 49.9 Hz Periods for Tripping: 5

4..20 mA signal adjust
Zero Offset: 200 Spin: 200

Communication options
Slave ID: 1
BaudRate: 9600
Parity: NONE

Save to / Load from file
Load Defaults for 50 Hz Load from file Save to file

Fig 2. The setting dialog window.

