FieldTalk™ modpoll

Linux Edition Read Me Notes

Revision 3.16, 2025-04-03

This *Read Me* file contains last-minute product information for the *FieldTalk™* modpoll utility.

modpoll is a command line based Modbus master simulator and test utility.

Files part of the package

`README.txt`, `README.pdf`
: These Read Me notes.

`LICENSE-FREE.txt`, `LICENSE-FREE.pdf`
: License containing the Terms & Conditions of use for this free software.

`arm-linux-gnueabihf/modpoll`
: ARMv7 binary for 32-bit ARM Linux systems (Raspberry Pi, BeagleBoard etc)

`aarch64-linux-gnu/modpoll`
: ARMv8 binary for 64-bit AArch64 Linux systems

`armv6-rpi-linux-gnueabihf/modpoll`
: ARMv6 binary for 32-bit ARM Linux systems (Raspberry Pi Zero)

`i686-linux-gnu/modpoll`
: x86 binary for 32-bit x86 Linux systems

`x86_64-linux-gnu/modpoll`
: x86_64 binary for 64-bit x86 Linux systems

Usage

```
Usage: modpoll [OPTIONS] SERIALPORT|HOST [WRITEVALUES...]
Arguments:
SERIALPORT    Serial port when using Modbus ASCII or Modbus RTU protocol
                COM1, COM2 ...                on Windows
                /dev/ttyS0, /dev/ttyS1 ...    on Linux
HOST          Host name or dotted IP address when using MDBUS/TCP protocol
WRITEVALUES   List of values to be written. If none specified (default) modpoll reads data
General options:
-m ascii      Modbus ASCII protocol
-m rtu        Modbus RTU protocol (default if SERIALPORT contains \ or COM)
-m tcp        MODBUS/TCP protocol (default otherwise)
-m udp        MODBUS UDP
-m enc        Encapsulated Modbus RTU over TCP
-a #          Slave address (1-247 for serial, 0-255 for TCP, 1 is default)
-r #          Start reference (1-65536, 1 is default). Use -0 for 0-based references.
```

```
-c #          Number of values to read (1-125, 1 is default), optional for writing (use -c
-t 0          Discrete output (coil) data type (FC 1)
-t 1          Discrete input data type (FC 2)
-t 3          16-bit input register data type (FC 4)
-t 3:hex      16-bit input register data type with hex display
-t 3:i32      32-bit integer data type in input register table
-t 3:i64      64-bit integer data type in input register table
-t 3:mod      32-bit module 10000 data type in input register table
-t 3:f32      32-bit float data type in input register table
-t 3:f64      64-bit double data type in input register table
-t 4          16-bit holding register data type (FC3, default)
-t 4:hex      16-bit holding register data type with hex display
-t 4:i32      32-bit integer data type in holding register table
-t 4:i64      64-bit integer data type in holding register table
-t 4:mod      32-bit module 10000 type in holding register table
-t 4:f32      32-bit float data type in holding register table
-t 4:f64      64-bit double data type in holding register table
-t id         Read device identification objects (FC 43/14)
-t file       File record reference type 6 (FC 20/21)
-n #          File number for file record (default is 4)
-u            Display data as unsigned integers
-i            Slave operates on big-endian 32-bit/64-bit integers
-f            Slave operates on big-endian 32-bit/64-bit floats
-e            Use Daniel/Enron single register 32-bit mode (implies -i and -f)
-x            Use Lufkin ELAM extensions (RTU and RTU over TCP only)
-0            First reference is 0 (PDU addressing) instead 1
-1            Poll only once only, otherwise every poll rate interval
-l #          Poll rate in ms, (1000 is default)
-o #          Time-out in seconds (0.01 - 10.0, 1.0 s is default)
Options for MODBUS/TCP, UDP and RTU over TCP:
-p #          IP protocol port number (502 is default)
Options for Modbus ASCII and Modbus RTU:
-b #          Baudrate (e.g. 9600, 19200, ...) (19200 is default)
-d #          Databits (7 or 8 for ASCII protocol, 8 for RTU)
-s #          Stopbits (1 or 2, 1 is default)
-p none       No parity
-p even       Even parity (default)
-p odd        Odd parity
-4 #          RS-485 mode, RTS on while transmitting and another # ms after
```

Release history

Version 3.16 (2025-04-03)

- Corrected fix for Read device identification for a slave conformity level of 1 triggered wrongly an *Invalid reply error*

Version 3.15 (2024-09-27)

- Add support to display integer values as unsigned values

Version 3.14 (2024-09-07)

- Read device identification for a slave conformity level of 1 triggered wrongly an *Invalid reply error*

Version 3.13 (2024-08-09)

- Fixed bug regards display of 64-bit input registers

Version 3.12 (2024-07-26)

- Added support for 64-bit data types for FC3, FC4 and FC16
- Fixed issue of Read Device Identification (-t id) being limited to slaved address 1

Version 3.11 (2024-01-22)

- Added Read Device Identification for FC 43 subfunction 14 (-t id)
- Added Read File Record FC 20 (-t file)
- Added Write File Record FC 21 (-t file)
- Added Lufkin ELAM protocol variant (-x)
- Modbus UDP: Fix length detection when transaction ID is set to 0
- Modbus/TCP: Fix wrong invalid MBAP ID/invalid frame indication for the following frame if extranous characters are sent in the TCP stream
- Added Linux ARMv6 RPI (32-bit) platform for Pi Zero

Version 3.10 (2021-03-26)

- Added Linux ARMv8 AArch64 (64-bit) platform

Version 3.9 (2020-07-14)

- Added support for single register and single coil writes
- Display function code used in protocol configuration
- Removed automatic fallback to FC6 added in 3.7.

Version 3.8 (2020-03-24)

- Writing negative values was causing *Unrecognized option or missing option parameter* error under Linux

Version 3.7 (2019-07-21)

- Write functions with a count of 1 use now the following scheme: Registers use FC16 first, and if an illegal function exception is received will try FC6 as fallback. Coils always use FC5 for a count of 1. This helps with slave devices which do not implement mandatory FC16.

Version 3.6 (2018-04-05)

- MODBUS UDP protocol added (-m udp)

Version 3.5 (2017-03-24)

- Fixed argument validation bug which prevented using PDU mode with a start register of 0 (-r0 -0)

Version 3.4 (2013-01-30)

- Increased reference count to 2000 for discretes/coils

Version 3.3 (2012-10-25)

- Fixed error message when passing negative float values on the command line

Version 3.2 (2012-03-28)

- COMn syntax can now also be used for COM port number >= 10

Version 3.1 (2011-05-27)

- Slave ID of 0 is supported for Modbus/TCP

Version 3.0 (2011-03-05)

- Write function added
- protocol is now auto-detected as RTU or TCP depending on value of first parameter
- -l pollDelay parameter added — Added "--" separator before values are printed to make parsing of result easier

Version 2.10 (2010-08-26)

- -c parameter now accepts a value of 125.

- Changed default start reference (-r) to 1

Version 2.9 (2010-01-29)

- Fixed lock-up issue on some Linux platforms which was introduced in 2.7.

Version 2.8 (2009-11-16)

- Default baudrate is now 19200 as per Modbus standard.

Version 2.7 (2009-06-04)

- Corrected help and range check for -a parameter

Version 2.6 (2008-10-30)

- Added option -0 for PDU addressing and option -e for Enron/Daniel 32-bit mode.

Version 2.5 (2008-04-03)

- A return code of 1 is returned if operation was not successful otherwise 0
- -c parameter now accepts a value of 100.
- Added time-out command line parameter.
- Retry count is now 0 for serial protocols (was 2 before).

Version 2.4.0 (2006-10-20)

- Default parity changed to even as per Modbus standard.

Revision 1.17 (2005-06-07)

- Using the -i command line parameters returned an error message in ealier releases.

Version 2.2.1 / Revision 1.16 (2004-09-22)

- Using the -d and -s command line parameters returned an error message in earlier releases.

Version 2.2 / Revision 1.15 (2004-04-25)

- RTU over TCP protocol added, which is also known as encapsulated RTU.
- Recompiled against 2.2 release of libmbusmaster.

Version 2003-05-20

- Recompiled against 2.0 release of libmbusmaster.
- RTU/ASCII: Added RS-485 mode for Win32, QNX and Linux platforms.
- ASCII: Fixed casting bug which caused protocol error when transmitting FF.
- MODBUS/TCP: Time-out applies now also when connecting to a server, tolerate a zero address field in an exception reply, fixed auto-retry.

Version 1.2 (2002-11-19)

- Terminates in case of a closed TCP/IP connection.
- Some error messages changed.
- Changed command line options for holding and input registers. -t4 is now holding register, -t3 input register.
- Retry option is now working.
- --version paremeter introduced.
- Retries fixed.
- -p parameter for MODBUS/TCP introduced.
- Default parity changed to NONE.
- Based on *FieldTalk* v1.3.

Version 1.1 (2002-07-15)

- Reference index print-out for 32-bit values corrected.
- Based on updated *FieldTalk* library which fixed issue with time-out monitoring

Version 1.0 (2002-03-03)

- First release