

REL.44: Modbus-slave registers



The REL.44 is a 'Modbus slave' i/o module and can therefore be used to pair with any Modbus master, as Modbus relay, but also as P1 to Modbus and or pulse to Modbus interface. The list of Modbus registers can be found below.

1. General:

- Pre-activate the Belgian digital meters [on the Fluvius website](#) to open power and data to the P1 port.
- If no digital meter or digital meters with DSMR 4.x: then connect the optional 15VDC power supply.
- The REL.44 as a Modbus slave module can serve as:
 - Relais module puts 2x 10A/230V in 2x Solid-state relay
 - P1 port to Modbus interface
 - Pulse input to Modbus interface
- The baud rate is fixed at 9600 baud, no parity, 8 data bits, 1 stopbit.
- The retrieval speed preferably >10 sec., the response time is about 100,200msec.
- The Modbus address, the P1 protocol, the function mode of the pulse inputs still have to be set via Modbus and that according to the protocol described below.

2. Modbus registers:

Format:

Address | function | index H | index L | 0 | length(word) | CRC L | CRC H |

Function codes:

- Energy, address 1-254:
- READ ENERGY: 4
- WRITE COILS: 5
- Programming, address 255
- ASK FW VERSION: 16
- ASK PARAMETERS: 20
- WRITE PARAMETERS: 21
- UPGRADE FW: 210

Programming:

Use these function codes in combination with the serial number of the module (44Rxxxxx) to change the firmware version, Modbus address,.. or to set the Modbus address.

Request Firmware version:

| ASK FW VERSION : only read | | | | | | | | | |
|----------------------------|-------|-------|-----|-----|----|----|------------|----|----|
| Adres | 255 | | | | | | | | |
| Function | 16 | | | | | | | | |
| Index | 0 | 0 | | | | | | | |
| Length | 0 | 2 | | | | | (xx = 0-9) | | |
| Serial Nr | 4 | 4 | 82 | xx | xx | xx | xx | xx | xx |
| Checksum | CRC L | CRC H | | | | | | | |
| Answer: | | | | | | | | | |
| Adres | 255 | | | | | | | | |
| Function code | 16 | | | | | | | | |
| Length | 4 | | | | | | | | |
| Data | FW1 | FW2 | FW3 | FW4 | | | | | |
| Checksum | CRC L | CRC H | | | | | | | |

General info:

| ASK PARAMETERS | | | | | | | | | |
|----------------|-------------|-------|----|----|----|----|------------|----|----|
| Adres | 255 | | | | | | | | |
| Function | 20 | | | | | | | | |
| Index | 0 | 0 | | | | | | | |
| Length | 0 | 2 | | | | | (xx = 0-9) | | |
| Serial Nr | 4 | 4 | 82 | xx | xx | xx | xx | xx | xx |
| Checksum | CRC L | CRC H | | | | | | | |
| Answer: | | | | | | | | | |
| Adres | 255 | | | | | | | | |
| Function code | 20 | | | | | | | | |
| Length | 4 | | | | | | | | |
| Para1 | MB address | | | | | | 1-252 | | |
| Para2 | P1 protocol | | | | | | | | |
| Para3 | Input1 Type | | | | | | | | |
| Para4 | Input2 Type | | | | | | | | |
| CRC L | CRC H | | | | | | | | |

Setting parameters:

| WRITE PARAMETERS | | | | | | | | | |
|------------------|-------------|--------------|----|----|-----------|----|------------------------|----|-----------|
| Adres | 255 | | | | | | | | |
| Function | 21 | | | | | | | | |
| Index | 0 | 0 | | | | | (xx = 0-9) | | |
| Length | 0 | 2 | | | | | | | |
| Serial Nr | 4 | 4 | 82 | xx | xx | xx | xx | xx | xx |
| Para1 | MB address | | | | | | range 1-254 | | |
| Para2 | P1 protocol | 0 = not used | | | 2=DSMR2.0 | | 4=DSMR4.0 | | 5=DSMR5.0 |
| Para3 | Input1 Type | 0 = not used | | | 1 = pulse | | 2 = timebase (seconds) | | 6 = BE |
| Para4 | Input2 Type | 0 = not used | | | 1 = pulse | | 2 = timebase (seconds) | | |
| CRC L | CRC H | | | | | | | | |
| Answer: | | | | | | | | | |
| Adres | 255 | | | | | | | | |
| Function code | 21 | | | | | | | | |
| Length | 4 | | | | | | | | |
| Para1 | MB address | | | | | | | | |
| Para2 | P1 protocol | | | | | | | | |
| Para3 | Input1 Type | | | | | | | | |
| Para4 | Input2 Type | | | | | | | | |
| CRC L | CRC H | | | | | | zelf berekenen | | |

Energy Register index

| index DEC | Meter | parameter | unit | type | | Remarks: |
|-----------|--------------|----------------|--------|-------|------------|-----------------------------------|
| 0 | Import H+L | Voltage F1 | V | FLOAT | READ ONLY | length max 10 (words) |
| 2 | | Current F1 | A | FLOAT | READ ONLY | |
| 4 | | Power Total | W | FLOAT | READ ONLY | |
| 6 | | Status P1 | | FLOAT | READ ONLY | |
| 8 | | Energy counter | kWh | FLOAT | READ ONLY | |
| 10 | Export H+L | Voltage F1 | V | FLOAT | READ ONLY | |
| 12 | | Current F1 | A | FLOAT | READ ONLY | |
| 14 | | Power Total | W | FLOAT | READ ONLY | |
| 16 | | Status P1 | | FLOAT | READ ONLY | |
| 18 | | Energy counter | kWh | FLOAT | READ ONLY | |
| 20 | Gas | | | FLOAT | READ ONLY | |
| 22 | | | | FLOAT | READ ONLY | |
| 24 | | | | FLOAT | READ ONLY | |
| 26 | | | | FLOAT | READ ONLY | |
| 28 | | Energy counter | M3 | FLOAT | READ ONLY | |
| 30 | Water | | | FLOAT | READ ONLY | |
| 32 | | | | FLOAT | READ ONLY | |
| 34 | | | | FLOAT | READ ONLY | |
| 36 | | | | FLOAT | READ ONLY | |
| 38 | | Energy counter | M3 | FLOAT | READ ONLY | |
| 40 | Import H | Voltage F1 | V | FLOAT | READ ONLY | |
| 42 | | Current F1 | A | FLOAT | READ ONLY | |
| 44 | | Power Total | W | FLOAT | READ ONLY | |
| 46 | | Status P1 | | FLOAT | READ ONLY | |
| 48 | | Energy counter | kWh | FLOAT | READ ONLY | |
| 50 | Import L | Voltage F1 | V | FLOAT | READ ONLY | |
| 52 | | Current F1 | A | FLOAT | READ ONLY | |
| 54 | | Power Total | W | FLOAT | READ ONLY | |
| 56 | | Status P1 | | FLOAT | READ ONLY | |
| 58 | | Energy counter | kWh | FLOAT | READ ONLY | |
| 60 | Export H | Voltage F1 | V | FLOAT | READ ONLY | |
| 62 | | Current F1 | A | FLOAT | READ ONLY | |
| 64 | | Power Total | W | FLOAT | READ ONLY | |
| 66 | | Status P1 | | FLOAT | READ ONLY | |
| 68 | | Energy counter | kWh | FLOAT | READ ONLY | |
| 70 | Export L | Voltage F1 | V | FLOAT | READ ONLY | |
| 72 | | Current F1 | A | FLOAT | READ ONLY | |
| 74 | | Power Total | W | FLOAT | READ ONLY | |
| 76 | | Status P1 | | FLOAT | READ ONLY | |
| 78 | | Energy counter | kWh | FLOAT | READ ONLY | |
| 80 | Pulse input1 | Power | | FLOAT | READ ONLY | meterdifference *60 |
| 82 | Pulse input1 | Energy cnt | COUNTS | FLOAT | READ ONLY | |
| 84 | Pulse input2 | Power | | FLOAT | READ ONLY | meterdifference *60 |
| 86 | Pulse input2 | Energy cnt | COUNTS | FLOAT | READ ONLY | |
| 90 | Relay 1 | Status | 0,255 | WORD | READ/WRITE | 0 = OFF;255=ON;H byte always zero |
| 91 | Relay 2 | Status | 0,255 | WORD | READ/WRITE | 1 = OFF;255=ON;H byte always zero |
| 92 | Opto 1 | Status | 0,255 | WORD | READ/WRITE | 2 = OFF;255=ON;H byte always zero |
| 93 | Opto 2 | Status | 0,255 | WORD | READ/WRITE | 3 = OFF;255=ON;H byte always zero |

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