



MoRFil

MoRFil is a MODBUS communication line based on LoRa Technology to interconnection between MoRF and MoRF- Slave. Hence, MoRFil is builded with MoRF and MoRF-Slave types.

MoRF and MoRF-Slave

MoRF is main concentrator which on Wireless Modbus line collects each Modbus request and each response. MoRF-Slave is a node point in MoRFil network which prepared Modbus data to broadcast over RF.

MoRF-Slave Types

MoRF-Slaves seperated with 3 types to collect data from Gas, Water or Electricity Meter.

- > MoRF-CM
- > MoRF-TM
- > MoRF-EM

MoRF-CM

MoRF-CM is called as counter module that show collected and calculated Analog and Digital Data in Modbus Register Table. MoRF-CM can share these data with ModBus protocol over RF broadcast request that comes from MoRF Concentrator.

MoRF-TM

MoRF-TM is called as transparent module that transmits the Modbus request data from the MoRF to RS485 line, and transmits the Modbus response data to MoRF over RS485 line with RF Broadcast.

MoRF-EM

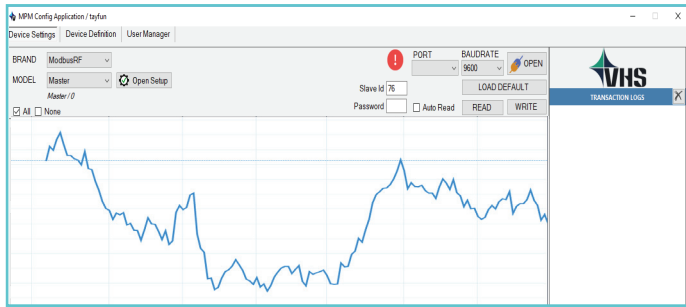
MoRF-EM is called as electricity module that show collected data from Electricity Meter in Modbus Register Table.

PROTOCOLS

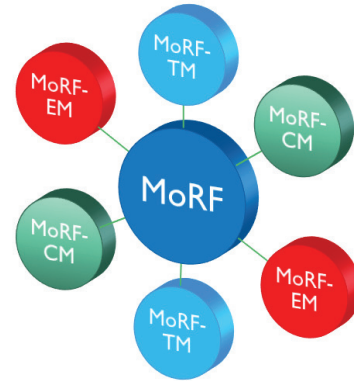


SOFTWARE TOOL

The software works with Modbus RTU protocol and is dynamic. Therefore, MoRF models can be added to the software and the desired values can be read.



MoRFil NETWORK



MoRF Devices Technical Data

Features	MoRf	MoRF-CM	MoRF-EM	MoRf-TM
Battery	X	✓	✓	✓
5Vdc	✓	✓	✓	✓
14Vdc Out	X	✓	X	X
Analog input	X	✓	X	X
Dijital input	X	✓	X	X
Alarm Defection	X	✓	X	X
Flow Rate Calculation	X	✓	X	X
Modbus Protocol	✓	✓	✓	✓
RS485	✓	✓	✓	✓
Modbus Transparent	X	X	X	
Electricity Meter	X	X	✓	X
Gas Meter	X	✓	X	X
Water Meter	X	✓	X	✓
Wireless Communication Type	RF	RF	RF	RF
Wireless Communication Interface	LoRa ISM	LoRa ISM	LoRa ISM	LoRa ISM
Modulation Type	FSK,GFSK,MSK,OOK	FSK,GFSK,MSK,OOK	FSK,GFSK,MSK,OOK	FSK,GFSK,MSK,OOK
Default Modbus ID	76	77	78	79
Baudrate	300-19200	300-19200	300-19200	300-19200
Radio Frequency	868 M Hz	868 M Hz	868 M Hz	868 M Hz
RF Communication Speed	500 Bit/Sec	500 Bit/Sec	500 Bit/Sec	500 Bit/Sec
Wireless Range	600 mt	600 mt	600 mt	600 mt
Battery Life	X	5 Years	5 Years	5 Years
RF Transmit Power	20 dBm	20 dBm	20 dBm	20 dBm
RF Sensitivity	(-)135 dBm	(-)135 dBm	(-)135 dBm	(-)135 dBm
RF Bandwidth	125 kHz	125 kHz	125 kHz	125 kHz
Communicate with	MoRF-Slaves	MoRF	MoRF	MoRF
Maximum device number that can be communicate	16	1	1	1

