

EKM Omnimeter Set to Modbus Protocol.

Serial Settings: 9600 baud, 8 data bits, no parity, 1 stop bit.
Checksum: CRC16

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0 ModBus - Read 1205 Total KWh
0x05 0x04 0x04 0xB5 0x00 0x02 0x60 0x99

1 ModBus - Read 1301 Total L1 KWh
0x05 0x04 0x05 0x15 0x00 0x02 0x61 0x47

2 ModBus - Read 1303 Total L2 KWh
0x05 0x04 0x05 0x17 0x00 0x02 0xC0 0x87

3 ModBus - Read 1305 Total L3 KWh
0x05 0x04 0x05 0x19 0x00 0x02 0xA1 0x44

4 ModBus - Read 1009 Total Watts
0x05 0x04 0x03 0xF1 0x00 0x02 0x21 0xF8

5 ModBus - Read 1011 Watts A
0x05 0x04 0x03 0xF3 0x00 0x02 0x80 0x38

6 ModBus - Read 1013 Watts B
0x05 0x04 0x03 0xF5 0x00 0x02 0x60 0x39

7 ModBus - Read 1015 Watts C
0x05 0x04 0x03 0xF7 0x00 0x02 0xC1 0xF9

8 ModBus - Read 1163 Current A
0x05 0x04 0x04 0x8B 0x00 0x02 0x01 0x55

9 ModBus - Read 1165 Current B
0x05 0x04 0x04 0x8D 0x00 0x02 0xE1 0x54

10 ModBus - Read 1167 Current C
0x05 0x04 0x04 0x8F 0x00 0x02 0x40 0x94

11 ModBus - Read 1214 Voltage A
0x05 0x04 0x04 0xBE 0x00 0x01 0x51 0x5A

12 ModBus - Read 1215 Voltage B
0x05 0x04 0x04 0xBF 0x00 0x01 0x00 0x9A

13 ModBus - Read 1216 Voltage C
0x05 0x04 0x04 0xC0 0x00 0x01 0x31 0x42

14 ModBus - Read 1315 Total Reverse KWh
0x05 0x04 0x05 0x23 0x00 0x02 0x81 0x49

15 ModBus - Read 1317 L1 Reverse KWh
0x05 0x04 0x05 0x25 0x00 0x02 0x61 0x48

16 ModBus - Read 1319 L2 Reverse KWh
0x05 0x04 0x05 0x27 0x00 0x02 0xC0 0x88

17 ModBus - Read 1321 L3 Reverse KWh
0x05 0x04 0x05 0x29 0x00 0x02 0xA1 0x4B

18 ModBus - Read 1340 Cosine A
0x05 0x04 0x05 0x3C 0x00 0x01 0xF0 0x8E

19 ModBus - Read 1341 Cosine B
0x05 0x04 0x05 0x3D 0x00 0x01 0xA1 0x4E

20 ModBus - Read 1342 Cosine C
0x05 0x04 0x05 0x3E 0x00 0x01 0x51 0x4E

21 ModBus - Read 1033 Frequency
0x05 0x04 0x04 0x09 0x00 0x01 0xE1 0x7C

22 ModBus - Read 1147 VAR ABC
0x05 0x04 0x04 0x7B 0x00 0x02 0x01 0x66

23 ModBus - Read 1149 VAR A
0x05 0x04 0x04 0x7D 0x00 0x02 0xE1 0x67

24 ModBus - Read 1151 VAR B
0x05 0x04 0x04 0x7F 0x00 0x02 0x40 0xA7

25 ModBus - Read 1153 VAR C
0x05 0x04 0x04 0x81 0x00 0x02 0x21 0x57

26 ModBus - Read 1323 Total Reactive KWh
0x05 0x04 0x05 0x2B 0x00 0x02 0x00 0x8B

27 ModBus - Read 1173 Resettable Max Demand
0x05 0x03 0x04 0x95 0x00 0x02 0xD4 0x93

28 ModBus - Write 1173 Resettable Max Demand (only 0 is accepted)
0x05 0x10 0x04 0x95 0x00 0x02 0x04 0x00 0x00 0x00 0x00 0x1D 0x0C

29 ModBus - Read 1201 Resettable Total KWh
0x05 0x03 0x04 0xB1 0x00 0x02 0x94 0x98

30 ModBus - Write 1201 Resettable Total KWh (only 0 is accepted)
0x05 0x10 0x04 0xB1 0x00 0x02 0x04 0x00 0x00 0x00 0x00 0x1E 0xE7

31 ModBus - Read 1313 Resettable Reverse Total KWh
0x05 0x03 0x05 0x21 0x00 0x02 0x95 0x49

32 ModBus - Write 1313 Resettable Reverse Total KWh (only 0 is accepted)
0x05 0x10 0x05 0x21 0x00 0x02 0x04 0x00 0x00 0x00 0x00 0x1A 0x1B

33 ModBus - Read 1504 Gas Pulse Count
0x05 0x04 0x05 0xE0 0x00 0x02 0x71 0x75

34 ModBus - Read 1506 Water Pulse Count
0x05 0x04 0x05 0xE2 0x00 0x02 0xD0 0xB5

35 ModBus - Read 1508 Heat Pulse Count
0x05 0x04 0x05 0xE4 0x00 0x02 0x30 0xB4

36 ModBus - Read 1500 Gas/Water/Heat Pin State Bit-map
0x05 0x04 0x05 0xDC 0x00 0x01 0xF1 0x78

37 ModBus - Read 1603 CT ratio
0x05 0x03 0x06 0x43 0x00 0x01 0x74 0xD2

38 ModBus - Write 1603 CT ratio
0x05 0x10 0x06 0x43 0x00 0x01 0x02 0x00 0x64 0xFD 0x88 (set to 100)
0x05 0x10 0x06 0x43 0x00 0x01 0x02 0x00 0xC8 0xFD 0xF5 (set to 200)
0x05 0x10 0x06 0x43 0x00 0x01 0x02 0x03 0x20 0xFD 0x4B (set to 800)
0x05 0x10 0x06 0x43 0x00 0x01 0x02 0x03 0xE8 0xFC 0xDD (set to 1000)

39 ModBus - Read 1610 Max Demand Time Selector (1=15,2=30,or 4=60)
0x05 0x03 0x06 0x4A 0x00 0x01 0xA4 0xD0

40 ModBus - Write 1610 Max Demand Time Selector (set to 2=30 minutes)
0x05 0x10 0x06 0x4A 0x00 0x01 0x02 0x00 0x02 0x7D 0x3B

41 ModBus - Read 1501 Gas Pulse Ratio
0x05 0x03 0x05 0xDD 0x00 0x01 0x15 0x78

42 ModBus - Write 1501 Gas Pulse Ratio (e.g. 5 to 1)
0x05 0x10 0x05 0xDD 0x00 0x01 0x02 0x00 0x05 0x13 0x1E

43 ModBus - Read 1502 Water Pulse Ratio
0x05 0x03 0x05 0xDE 0x00 0x01 0xE5 0x78

44 ModBus - Write 1502 Water Pulse Ratio (e.g. 7 to 1)
0x05 0x10 0x05 0xDE 0x00 0x01 0x02 0x00 0x07 0x92 0xEC

45 ModBus - Read 1503 Heat Pulse Ratio
0x05 0x03 0x05 0xDF 0x00 0x01 0xB4 0xB8

46 ModBus - Write 1503 Heat Pulse Ratio (e.g. 17 to 1)
0x05 0x10 0x05 0xDF 0x00 0x01 0x02 0x00 0x11 0x12 0xF3

47 ModBus - Read 1516 I/O Pin 1 State
0x05 0x03 0x05 0xEC 0x00 0x01 0x44 0xB7

ModBus - Write 1516 Resettable I/O Pin 1 State (only 0 or 1 is accepted)
48 0x05 0x10 0x05 0xEC 0x00 0x01 0x02 0x00 0x00 0xD7 0x3C (0==closed)
49 0x05 0x10 0x05 0xEC 0x00 0x01 0x02 0x00 0x01 0x16 0xFC (1==open)

50 ModBus - Read 1517 I/O Pin 2 State
0x05 0x03 0x05 0xED 0x00 0x01 0x15 0x77

ModBus - Write 1517 Resettable I/O Pin 2 State (only 0 or 1 is accepted)
51 0x05 0x10 0x05 0xED 0x00 0x01 0x02 0x00 0x00 0xD6 0xED (0==closed)
52 0x05 0x10 0x05 0xED 0x00 0x01 0x02 0x00 0x01 0x17 0x2D (1==open)

53 ModBus 67 - Read full Serial Number (returns all 12 decimal digits as a hex value)
0x05 0x43 0x43 0x11

54 ModBus - Write 1652 to change device's ModBus Address (e.g. change to 12==0x0C)
0x05 0x10 0x06 0x74 0x00 0x01 0x02 0x00 0x0C 0xF8 0x21

55 ModBus - Read 1701 Serial Number (returns low 8 decimal digits as a hex value)
0x05 0x04 0x06 0xA5 0x00 0x02 0x60 0xE4

56 ModBus - Write Password
0x05 0x42 0x00 0x00 0x00 0x00 0x78 0x41 (00000000)
0x05 0x42 0x00 0xBC 0x61 0x4E 0x10 0x01 (12345678)

57 ModBus 68 - ReadABC (returns data from native ReadA, ReadB, and ReadC as integers)
0x05 0x44 0x02 0xD3

58 ModBus - 1651 Disable, revert back to EKM commands and switch back to 7,even,1
0x05 0x10 0x06 0x73 0x00 0x01 0x02 0x00 0x7B 0xB9 0xB0

// Preceed any Writes with the "Send Password" command which is Function 65.
ModBus - Send Password (enables a single following Write, it doesn't alter the password)
0x05 0x41 0x00 0x00 0x00 0x00 0x3C 0x41 (00000000)
0x05 0x41 0x00 0xBC 0x61 0x4E 0x54 0x01 (12345678)