MODBUS TCP Register Mapping For WEM-MX 333mV

Data is reported in "Big Endian" and data transmission begins with the high byte. Only Function Code 0x03 (Read Holding Registers) is supported. All Setup is performed via a web browser (IE) to access the WEM-MX meter's embedded web server.

First Register: 40000 **Minus Offset**: 0 **Port**: 502 **Unit ID**: NA

Size identifies number of bytes (8-bits).

Address	Size	Name	Type	Units	Notes
40000	2	On Line Time	UINT16	Minutes	
40001	2	On Line Time	UINT16	Minutes	
40002	2	LP Interval	UINT16	Minutes	LP – Load Profile
40003	2	PH A-N Voltage	UINT16	Volts	Phase to Neutral
40004	2	PH A-N Voltage	UINT16	Volts	Phase to Neutral
40005	2	PH B-N Voltage	UINT16	Volts	Phase to Neutral
40006	2	PH B-N Voltage	UINT16	Volts	Phase to Neutral
40007	2	PH C-N Voltage	UINT16	Volts	Phase to Neutral
40008	2	PH C-N Voltage	UINT16	Volts	Phase to Neutral
40009	2	PH A Current	UINT16	Amps	
40010	2	PH A Current	UINT16	Amps	
40011	2	PH B Current	UINT16	Amps	
40012	2	PH B Current	UINT16	Amps	
40013	2	PH C Current	UINT16	Amps	
40014	2	PH C Current	UINT16	Amps	
40015	2	Peak Demand	UINT16	Watts	
40016	2	Peak Demand	UINT16	Watts	
40017	2	Average PF	UINT16	-	PF – Power Factor
40018	2	Frequency	UINT16	Hz	
40019	2	PH A PF	INT16	-	
40020	2	PH B PF	INT16	-	
40021	2	PH C PF	INT16	-	
40022	2	Watts Delivered	UINT16	Watts	
40023	2	Watts Delivered	UINT16	Watts	
40024	2	Watts Received	UINT16	Watts	
40025	2	Watts Received	UINT16	Watts	
40026	2	Vars Delivered	UINT16	VARs	
40027	2	Vars Delivered	UINT16	VARs	
40028	2	Vars Received	UINT16	VARs	

40029	2	Vars Received	UINT16	VARs	
40030	2	Serial ID	UINT16	-	Unique Identifier
40031	2	Serial ID	UINT16	-	Unique Identifier
40032	2	Serial ID	UINT16	-	Unique Identifier
40033	2	Serial ID	UINT16	-	Unique Identifier
40034	2	Serial ID	UINT16	-	Unique Identifier
40035	2	Serial ID	UINT16	-	Unique Identifier
40036	2	Serial ID	UINT16	-	Unique Identifier
40037	2	Serial ID	UINT16	-	Unique Identifier
40038	2	Year - Month	UINT16	-	
40039	2	Date - Hours	UINT16	-	
40040	2	Minutes - Seconds	UINT16	-	
40041	2	CT Primary Amps	UNIT32	Amps	
40042	2	CT Primary Amps	UNIT32	Amps	
40043	2	Wh Odometer	UNIT16	Watts	
40044	2	Wh Odometer	UNIT16	Watts	
40045	2	Wh Odometer	UNIT16	Watts	
40046	2	VARh Odometer	UNIT16	VARs	Or Wh Received based on meter setup.
40047	2	VARh Odometer	UNIT16	VARs	Or Wh Received based on meter setup.
40048	2	VARh Odometer	UNIT16	VARs	Or Wh Received based on meter setup.
40049	2	Scale Factor Note2	UINT16	-	Frequency (10^{-1})
40050	2	Scale Factor Note2	UINT16	-	Volts, Amps & PF(10^{-2})
40051	2	Scale Factor Note2	UINT16	-	kWh & kVARh (10^{-3})
40052	2	Scale Factor Note2	UINT16	-	Watts, VARs, Peak Demand (10^{-4})
40053	2	PH A-N Voltage	UINT16	Volts	Phase to Neutral - Min
40054	2	PH A-N Voltage	UINT16	Volts	Phase to Neutral - Min
40055	2	PH B-N Voltage	UINT16	Volts	Phase to Neutral - Min
40056	2	PH B-N Voltage	UINT16	Volts	Phase to Neutral - Min
40057	2	PH C-N Voltage	UINT16	Volts	Phase to Neutral - Min
40058	2	PH C-N Voltage	UINT16	Volts	Phase to Neutral - Min
40059	2	PH A-N Voltage	UINT16	Volts	Phase to Neutral - Max
40060	2	PH A-N Voltage	UINT16	Volts	Phase to Neutral - Max
40061	2	PH B-N Voltage	UINT16	Volts	Phase to Neutral - Max
40062	2	PH B-N Voltage	UINT16	Volts	Phase to Neutral - Max
40063	2	PH C-N Voltage	UINT16	Volts	Phase to Neutral - Max
40064	2	PH C-N Voltage	UINT16	Volts	Phase to Neutral - Max
40065	2	PH A-N Voltage	UINT16	Volts	Phase to Neutral - Avg
40066	2	PH A-N Voltage	UINT16	Volts	Phase to Neutral - Avg

40067	2	PH B-N Voltage	UINT16	Volts	Phase to Neutral - Avg
40068	2	PH B-N Voltage	UINT16	Volts	Phase to Neutral - Avg
40069	2	PH C-N Voltage	UINT16	Volts	Phase to Neutral - Avg
40070	2	PH C-N Voltage	UINT16	Volts	Phase to Neutral - Avg
40071	2	PH A Current	UINT16	Amps	Current - Min
40072	2	PH A Current	UINT16	Amps	Current - Min
40073	2	PH B Current	UINT16	Amps	Current - Min
40074	2	PH B Current	UINT16	Amps	Current - Min
40075	2	PH C Current	UINT16	Amps	Current - Min
40076	2	PH C Current	UINT16	Amps	Current - Min
40077	2	PH A Current	UINT16	Amps	Current - Max
40078	2	PH A Current	UINT16	Amps	Current - Max
40079	2	PH B Current	UINT16	Amps	Current - Max
40080	2	PH B Current	UINT16	Amps	Current - Max
40081	2	PH C Current	UINT16	Amps	Current - Max
40082	2	PH C Current	UINT16	Amps	Current - Max
40083	2	PH A Current	UINT16	Amps	Current - Avg
40084	2	PH A Current	UINT16	Amps	Current - Avg
40085	2	PH B Current	UINT16	Amps	Current - Avg
40086	2	PH B Current	UINT16	Amps	Current - Avg
40087	2	PH C Current	UINT16	Amps	Current - Avg
40088	2	PH C Current	UINT16	Amps	Current - Avg
40089	2	PH A Wh	UINT16	Watts	Wh - Min
40090	2	PH A Wh	UINT16	Watts	Wh - Min
40091	2	PH B Wh	UINT16	Watts	Wh - Min
40092	2	PH B Wh	UINT16	Watts	Wh - Min
40093	2	PH C Wh	UINT16	Watts	Wh - Min
40094	2	PH C Wh	UINT16	Watts	Wh - Min
40095	2	PH A Wh	UINT16	Watts	Wh - Max
40096	2	PH A Wh	UINT16	Watts	Wh - Max
40097	2	PH B Wh	UINT16	Watts	Wh - Max
40098	2	PH B Wh	UINT16	Watts	Wh - Max
40099	2	PH C Wh	UINT16	Watts	Wh - Max
40100	2	PH C Wh	UINT16	Watts	Wh - Max
40101	2	PH A Wh	UINT16	Watts	Wh - Avg
40102	2	PH A Wh	UINT16	Watts	Wh - Avg
40103	2	PH B Wh	UINT16	Watts	Wh - Avg
40104	2	PH B Wh	UINT16	Watts	Wh - Avg
40105	2	PH C Wh	UINT16	Watts	Wh - Avg
40106	2	PH C Wh	UINT16	Watts	Wh - Avg
40107	2	Wh Odometer	UNIT16	Watts	
40108	2	Wh Odometer	UNIT16	Watts	

40109	2	Wh Odometer	UNIT16	Watts	
40110	2	Wh Odometer	UNIT16	Watts	
40111	2	VARh Odometer	UNIT16	VARs	Or Wh Received based on meter setup.
40112	2	VARh Odometer	UNIT16	VARs	Or Wh Received based on meter setup.
40113	2	VARh Odometer	UNIT16	VARs	Or Wh Received based on meter setup.
40114	2	VARh Odometer	UNIT16	VARs	Or Wh Received based on meter setup.
Address	**Size**	**Name**	**Type**	**Units**	**Notes**
40200	36	LP Record - First	UINT8	Watts	See Note: 1 below
41539	36	LP Record – Last	UINT8	Watts	See Note: 1 below

Notes:

Note 1: The Load Profile record consists of the first 19 bytes + 1 (space) comprising the date and time stamp followed by energy data for 4 channels where each is UINT32bit.

Date – Time Stamp	Channel 1	Channel 2	Channel 3	Channel 4
MM/DD/YYYY HH:MM:SS	Watts Delivered	Watts Received	VARs Delivered	VARs Received

Only one load profile record can be requested at a time.

1440 Registers are present i.e.; 0 to 1439 allowing 1 minute load profile data reporting; provided the meter is setup for 1 minute load profile logging. Register 40100 represents the time index at midnight.

To calculate the correct time index: Hours X 60 + Minutes. So, the time index for 23:59 would be 1439. Note: The Load Profile Register Address has an additional positive offset of **200** so, the range is 40200 to 41539.

Note 2: The Scale Factors are divisors to convert the raw data.

ModBus TCP Setup & Response Examples:

Below are the register setup and response results received by using a 3rd party ModBus application called ***Simply Modbus TCP Client***.

Typical response times are from 100 ~ 500 ms for the entire payload of 107 registers.

Since the WEM-MX meter is capable of concurrent scheduled outbound periodic reporting via FTP and Web Services; some responses may take longer.

Please contact support@energytracking.com if you have additional

Minus Offset is Zero

Since the first register starts at 40000, the number of registers requested is always + 1

Registers 40000 to 40014.

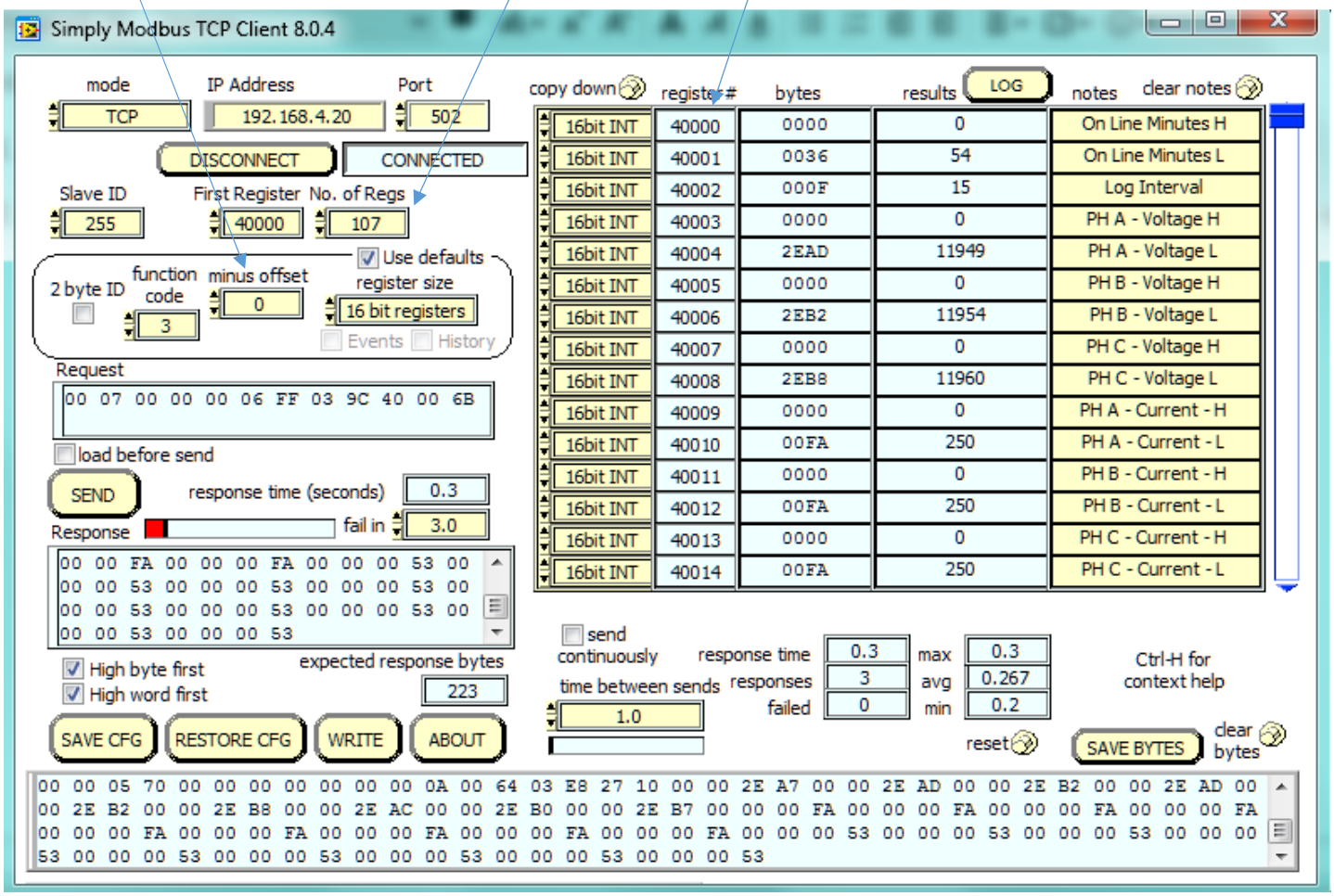

Figure # 1

Note: **SF DIV** for Register 40049 to 40052 are Scale Factor Divisors.

Note: Registers 40053 to 40106 provide Voltage, Current, Wh data in minimum, maximum and mean respectively as shown above and below.