

**Measurements**

✓	is used for available for this version
	is used for not available for this version
0	is used for optional with I/O module

Supported Functions	Start Address	Register Counts
Read holding registers	0	162

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
0000	uint	2	V/10	Voltage L1-N	0.1	✓	✓	✓	✓	✓
0002	uint	2	V/10	Voltage L2-N	0.1	✓	✓	✓	✓	✓
0004	uint	2	V/10	Voltage L3-N	0.1	✓	✓	✓	✓	✓
0006	uint	2	V/10	Voltage L4-N	0.1			✓	✓	✓
0008	uint	2	V/10	Voltage L1-L2	0.1	✓	✓	✓	✓	✓
000A	uint	2	V/10	Voltage L2-L3	0.1	✓	✓	✓	✓	✓
000C	uint	2	V/10	Voltage L3-L1	0.1	✓	✓	✓	✓	✓
000E	uint	2	mA	Current L1	0.001	✓	✓	✓	✓	✓
0010	uint	2	mA	Current L2	0.001	✓	✓	✓	✓	✓
0012	uint	2	mA	Current L3	0.001	✓	✓	✓	✓	✓
0014	uint	2	mA	Current L4	0.001			✓	✓	✓
0016	uint	2	mA	Neutral Current = IL1+IL2+IL3	0.001	✓	✓	✓	✓	✓
0018	uint	2	Hz / 100	Measured frequency	0.01	✓	✓	✓	✓	✓
001A	float	2	W	Active power L1-N	1	✓	✓	✓	✓	✓
001C	float	2	W	Active power L2-N	1	✓	✓	✓	✓	✓
001E	float	2	W	Active power L3-N	1	✓	✓	✓	✓	✓
0020	float	2	W	Active power L4-N	1					
0022	float	2	W	Total import active power	1	✓	✓	✓	✓	✓
0024	float	2	W	Total export active power	1	✓	✓	✓	✓	✓
0026	float	2	W	ΣActive Power +/- = ΣP =P1+P2+P3	1	✓	✓	✓	✓	✓
0028	float	2	var	Reactive power L1	1	✓	✓	✓	✓	✓
002A	float	2	var	Reactive power L2	1	✓	✓	✓	✓	✓
002C	float	2	var	Reactive power L3	1	✓	✓	✓	✓	✓
002E	float	2	var	Reactive power L4	1					
0030	float	2	var	Quadrant 1 total reactive power	1	✓	✓	✓	✓	✓
0032	float	2	var	Quadrant 2 total reactive power	1	✓	✓	✓	✓	✓
0034	float	2	var	Quadrant 3 total reactive power	1	✓	✓	✓	✓	✓
0036	float	2	var	Quadrant 4 total reactive power	1	✓	✓	✓	✓	✓
0038	float	2	var	ΣReactive Power +/- = ΣQ=Q1+Q2+Q3	1	✓	✓	✓	✓	✓
003A	float	2	VA	Apperant power L1-N	1	✓	✓	✓	✓	✓
003C	float	2	VA	Apparent power L2-N	1	✓	✓	✓	✓	✓
003E	float	2	VA	Apparent power L3-N	1	✓	✓	✓	✓	✓
0040	float	2	VA	Apparent power L4-N	1					
0042	float	2	VA	Total import apperant power	1	✓	✓	✓	✓	✓
0044	float	2	VA	Total export apperant power	1	✓	✓	✓	✓	✓
0046	float	2	VA	ΣApperant Power +/- = ΣS=S1+S2+S3	1	✓	✓	✓	✓	✓
0048	int	2	-	Power Factor L1	0.001	✓	✓	✓	✓	✓
004A	int	2	-	Power Factor L2	0.001	✓	✓	✓	✓	✓
004C	int	2	-	Power Factor L3	0.001	✓	✓	✓	✓	✓
004E	int	2	-	Power Factor L4	0.001					
0050	int	2	-	ΣPOWER FACTOR +/- = ΣPF=PFL1+PFL2+PFL3	0.001	✓	✓	✓	✓	✓
0052	int	2	-	CosPhi L1	0.001	✓	✓	✓	✓	✓
0054	int	2	-	CosPhi L2	0.001	✓	✓	✓	✓	✓
0056	int	2	-	CosPhi L3	0.001	✓	✓	✓	✓	✓
0058	int	2	-	CosPhi L4	0.001					
005A	int	2	-	ΣCos Phi = COS_L1 + COS_L2 + COS_L3	0.001	✓	✓	✓	✓	✓
005C	int	2	-	Rotation field; 1=right, 0=none, -1=left	1	✓	✓	✓	✓	✓
005E	uint	2	%	Voltage Unbalance	0.1					✓
0060	uint	2	%	Current Unbalance	0.1					✓
0062	uint	2	Angle	L1 Phase Voltage Angle	0.1	✓	✓	✓	✓	✓
0064	uint	2	Angle	L2 Phase Voltage Angle	0.1	✓	✓	✓	✓	✓
0066	uint	2	Angle	L3 Phase Voltage Angle	0.1	✓	✓	✓	✓	✓
0068	uint	2	Angle	L4 Phase Voltage Angle	0.1					
006A	uint	2	Angle	L1 Phase Current Angle	0.1	✓	✓	✓	✓	✓
006C	uint	2	Angle	L2 Phase Current Angle	0.1	✓	✓	✓	✓	✓
006E	uint	2	Angle	L3 Phase Current Angle	0.1	✓	✓	✓	✓	✓
0070	uint	2	Angle	L4 Phase Current Angle	0.1					
0072	float	2		Analog Input 1	1					
0074	float	2		Analog Input 2	1					
0076	float	2		Analog Input 3	1					
0078	float	2		Analog Input 4	1					
007A	float	2		Analog Input 5	1					
007C	float	2		Analog Input 6	1					
007E	float	2		Analog Input 7	1					
0080	float	2		Analog Input 8	1					
0082	float	2	-	Analog Output 1	1					
0084	float	2	-	Analog Output 2	1					
0086	float	2	-	Analog Output 3	1					
0088	float	2	-	Analog Output 4	1					
008A	float	2	°C	Temperature Input 1	1			0	0	0
008C	float	2	°C	Temperature Input 2	1			0	0	0
008E	float	2	°C	Temperature Input 3	1			0	0	0
0090	float	2	°C	Temperature Input 4	1			0	0	0
0092	float	2	-	Temperature Input 5	1					
0094	float	2	-	Temperature Input 6	1					
0096	float	2	-	Temperature Input 7	1					
0098	float	2	-	Temperature Input 8	1					
009A	uint	2	h/1000	Hour Meter ( Non Resetable )	0.001	✓	✓	✓	✓	✓
009C	uint	2	h/1000	Working Hour Counter	0.001	✓	✓	✓	✓	✓
009E	uint	2	-	Input Status		✓	✓	✓	✓	✓
00A0	uint	2	-	Otput Status		✓	✓	✓	✓	✓

**Energy**

Supported Functions	Start Address	Register Counts
Read holding registers	200	178

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
00C8	Ulong	4	Wh	Consumed Active Energy L1	1	✓	✓	✓	✓	✓
00CC	Ulong	4	Wh	Consumed Active Energy L2	1	✓	✓	✓	✓	✓
00D0	Ulong	4	Wh	Consumed Active Energy L3	1	✓	✓	✓	✓	✓
00D4	Ulong	4	Wh	Consumed Active Energy L4	1					
00D8	Ulong	4	Wh	Total Consumed Energy L1..L3	1	✓	✓	✓	✓	✓
00DC	Ulong	4	Wh	Delivered Active Energy L1	1			✓	✓	✓
00E0	Ulong	4	Wh	Delivered Active Energy L2	1			✓	✓	✓
00E4	Ulong	4	Wh	Delivered Active Energy L3	1			✓	✓	✓
00E8	Ulong	4	Wh	Delivered Active Energy L4	1					
00EC	Ulong	4	Wh	Total Delivered Energy L1..L3	1			✓	✓	✓
00F0	Ulong	4	VAh	Consumed Apparent energy L1	1	✓	✓	✓	✓	✓
00F4	Ulong	4	VAh	Consumed Apparent energy L2	1	✓	✓	✓	✓	✓
00F8	Ulong	4	VAh	Consumed Apparent energy L3	1	✓	✓	✓	✓	✓
00FC	Ulong	4	VAh	Consumed Apparent energy L4	1					
0100	Ulong	4	VAh	Total Consumed Apperant Energy L1..L3	1	✓	✓	✓	✓	✓
0104	Ulong	4	VAh	Delivered Apperant Energy L1	1			✓	✓	✓
0108	Ulong	4	VAh	Delivered Apperant Energy L2	1			✓	✓	✓
010C	Ulong	4	VAh	Delivered Apperant Energy L3	1			✓	✓	✓
0110	Ulong	4	VAh	Delivered Apperant Energy L4	1					
0114	Ulong	4	VAh	Total Delivered Apparent energy L1..L3	1			✓	✓	✓
0118	Ulong	4	Varh	Quadrant 1 Reactive Energy L1	1			✓	✓	✓
011C	Ulong	4	Varh	Quadrant 1 Reactive Energy L2	1			✓	✓	✓
0120	Ulong	4	Varh	Quadrant 1 Reactive Energy L3	1			✓	✓	✓
0124	Ulong	4	Varh	Quadrant 1 Reactive Energy L4	1					
0128	Ulong	4	Varh	Quadrant 1 total reactive Energy	1	✓	✓	✓	✓	✓
012C	Ulong	4	Varh	Quadrant 2 Reactive Energy L1	1			✓	✓	✓
0130	Ulong	4	Varh	Quadrant 2 Reactive Energy L2	1			✓	✓	✓
0134	Ulong	4	Varh	Quadrant 2 Reactive Energy L3	1			✓	✓	✓
0138	Ulong	4	Varh	Quadrant 2 Reactive Energy L4	1					
013C	Ulong	4	Varh	Quadrant 2 total reactive Energy	1			✓	✓	✓
0140	Ulong	4	Varh	Quadrant 3 Reactive Energy L1	1			✓	✓	✓
0144	Ulong	4	Varh	Quadrant 3 Reactive Energy L2	1			✓	✓	✓
0148	Ulong	4	Varh	Quadrant 3 Reactive Energy L3	1			✓	✓	✓
014C	Ulong	4	Varh	Quadrant 3 Reactive Energy L4	1					
0150	Ulong	4	Varh	Quadrant 3 total reactive Energy	1			✓	✓	✓
0154	Ulong	4	Varh	Quadrant 4 Reactive Energy L1	1			✓	✓	✓
0158	Ulong	4	Varh	Quadrant 4 Reactive Energy L2	1			✓	✓	✓
015C	Ulong	4	Varh	Quadrant 4 Reactive Energy L3	1			✓	✓	✓
0160	Ulong	4	Varh	Quadrant 4 Reactive Energy L4	1					
0164	Ulong	4	Varh	Quadrant 4 total reactive Energy	1	✓	✓	✓	✓	✓
0168	uint	2	-	Number Of pulse Meter (Max 8)	1	✓	✓	✓	✓	✓
016A	uint	2	-	Total pulse meter input 1	1					
016C	uint	2	-	Total pulse meter input 2	1					
016E	uint	2	-	Total pulse meter input 3	1					
0170	uint	2	-	Total pulse meter input 4	1					
0172	uint	2	-	Total pulse meter input 5	1					
0174	uint	2	-	Total pulse meter input 6	1					
0176	uint	2	-	Total pulse meter input 7	1					
0178	uint	2	-	Total pulse meter input 8	1					

**Energy**

Supported Functions	Start Address	Register Counts
Write single register	1500	160

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
05DC	Ulong	4	Wh	Consumed Active Energy L1	1					
05E0	Ulong	4	Wh	Consumed Active Energy L2	1					
05E4	Ulong	4	Wh	Consumed Active Energy L3	1					
05E8	Ulong	4	Wh	Consumed Active Energy L4	1					
05EC	Ulong	4	Wh	Total Consumed Energy L1..L3	1					
05F0	Ulong	4	Wh	Delivered Active Energy L1	1					
05F4	Ulong	4	Wh	Delivered Active Energy L2	1					
05F8	Ulong	4	Wh	Delivered Active Energy L3	1					
05FC	Ulong	4	Wh	Delivered Active Energy L4	1					
0600	Ulong	4	Wh	Total Delivered Energy L1..L3	1					
0604	Ulong	4	VAh	Consumed Apparent energy L1	1					
0608	Ulong	4	VAh	Consumed Apparent energy L2	1					
060C	Ulong	4	VAh	Consumed Apparent energy L3	1					
0610	Ulong	4	VAh	Consumed Apparent energy L4	1					
0614	Ulong	4	VAh	Total Consumed Apperant Energy L1..L3	1					
0618	Ulong	4	VAh	Delivered Apperant Energy L1	1					
061C	Ulong	4	VAh	Delivered Apperant Energy L2	1					
0620	Ulong	4	VAh	Delivered Apperant Energy L3	1					
0624	Ulong	4	VAh	Delivered Apperant Energy L4	1					
0628	Ulong	4	VAh	Total Delivered Apparent energy L1..L3	1					
062C	Ulong	4	Varh	Quadrant 1 Reactive Energy L1	1					
0630	Ulong	4	Varh	Quadrant 1 Reactive Energy L2	1					
0634	Ulong	4	Varh	Quadrant 1 Reactive Energy L3	1					
0638	Ulong	4	Varh	Quadrant 1 Reactive Energy L4	1					
063C	Ulong	4	Varh	Quadrant 1 total reactive Energy	1					
0640	Ulong	4	Varh	Quadrant 2 Reactive Energy L1	1					
0644	Ulong	4	Varh	Quadrant 2 Reactive Energy L2	1					

0648	Ulong	4	Varh	Quadrant 2 Reactive Energy L3	1					
064C	Ulong	4	Varh	Quadrant 2 Reactive Energy L4	1					
0650	Ulong	4	Varh	Quadrant 2 total reactive Energy	1					
0654	Ulong	4	Varh	Quadrant 3 Reactive Energy L1	1					
0658	Ulong	4	Varh	Quadrant 3 Reactive Energy L2	1					
065C	Ulong	4	Varh	Quadrant 3 Reactive Energy L3	1					
0660	Ulong	4	Varh	Quadrant 3 Reactive Energy L4	1					
0664	Ulong	4	Varh	Quadrant 3 total reactive Energy	1					
0668	Ulong	4	Varh	Quadrant 4 Reactive Energy L1	1					
066C	Ulong	4	Varh	Quadrant 4 Reactive Energy L2	1					
0670	Ulong	4	Varh	Quadrant 4 Reactive Energy L3	1					
0674	Ulong	4	Varh	Quadrant 4 Reactive Energy L4	1					
0678	Ulong	4	Varh	Quadrant 4 total reactive Energy	1					

### Energy per tarif

Supported Functions	Start Address	Register Counts
Read holding registers	500	42

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
01F4	ushort	1	-	Number Of Tarriff	1				✓	✓
01F5	ushort	1	-	Tarriff Number In Progress	1				✓	✓
01F6	ulong	4	kWh	Positive Active Energies Tarriff1	1				✓	✓
01FA	ulong	4	kWh	Positive Active Energies Tarriff2	1				✓	✓
01FE	ulong	4	kWh	Positive Active Energies Tarriff3	1				✓	✓
0202	ulong	4	kWh	Positive Active Energies Tarriff4	1				✓	✓
0206	ulong	4	kWh	Positive Active Energies Tarriff5	1				✓	✓
020A	ulong	4	kWh	Positive Active Energies Tarriff6	1				✓	✓
020E	ulong	4	kWh	Positive Active Energies Tarriff7	1				✓	✓
0212	ulong	4	kWh	Positive Active Energies Tarriff8	1				✓	✓
0216	ulong	4	kWh	Generator Energies	1	✓	✓	0	0	0
021A	ulong	4	kWh	Total tarriff energies	1	✓	✓	✓	✓	✓

### Min-Max, Max Demand, Demand Measurement

Supported Functions	Start Address	Register Counts
Read holding registers	800	568

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
0320	uint	2	V/10	L1 Phase Max Voltage	0.1	✓	✓	✓	✓	✓
0322	uint	2	Time	L1 Phase Max Voltage Time	Unix Time Stamp	✓	✓	✓	✓	✓
0324	uint	2	V/10	L2 Phase Max Voltage	0.1	✓	✓	✓	✓	✓
0326	uint	2	Time	L2 Phase Max Voltage Time	Unix Time Stamp	✓	✓	✓	✓	✓
0328	uint	2	V/10	L3 Phase Max Voltage	0.1	✓	✓	✓	✓	✓
032A	uint	2	Time	L3 Phase Max Voltage Time	Unix Time Stamp	✓	✓	✓	✓	✓
032C	uint	2	V/10	L4 Phase Max Voltage	0.1			✓	✓	✓
032E	uint	2	Time	L4 Phase Max Voltage Time	Unix Time Stamp			✓	✓	✓
0330	uint	2	V/10	L1-L2 Max Voltage	0.1	✓	✓	✓	✓	✓
0332	uint	2	Time	L1-L2 Max Voltage Time	Unix Time Stamp	✓	✓	✓	✓	✓
0334	uint	2	V/10	L2-L3 Max Voltage	0.1	✓	✓	✓	✓	✓
0336	uint	2	Time	L2-L3 Max Voltage Time	Unix Time Stamp	✓	✓	✓	✓	✓
0338	uint	2	V/10	L3-L1 Max Voltage	0.1	✓	✓	✓	✓	✓
033A	uint	2	Time	L3-L1 Max Voltage Time	Unix Time Stamp	✓	✓	✓	✓	✓
033C	uint	2	A/10	L1 Phase Max Current	0.001	✓	✓	✓	✓	✓
033E	uint	2	Time	L1 Phase Max Current Time	Unix Time Stamp	✓	✓	✓	✓	✓
0340	uint	2	A/10	L2 Phase Max Current	0.001	✓	✓	✓	✓	✓
0342	uint	2	Time	L2 Phase Max Current Time	Unix Time Stamp	✓	✓	✓	✓	✓
0344	uint	2	A/10	L3 Phase Max Current	0.001	✓	✓	✓	✓	✓
0346	uint	2	Time	L3 Phase Max Current Time	Unix Time Stamp	✓	✓	✓	✓	✓
0348	uint	2	A/10	L4 Phase Max Current	0.001			✓	✓	✓
034A	uint	2	Time	L4 Phase Max Current Time	Unix Time Stamp			✓	✓	✓
034C	uint	2	A/10	IN Max Current	0.001	✓	✓	✓	✓	✓
034E	uint	2	Time	IN Max Current Time	Unix Time Stamp	✓	✓	✓	✓	✓
0350	float	2	W/10	L1 Phase Max Active Power	1	✓	✓	✓	✓	✓
0352	uint	2	Time	L1 Phase Max Active Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0354	float	2	W/10	L2 Phase Max Active Power	1	✓	✓	✓	✓	✓
0356	uint	2	Time	L2 Phase Max Active Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0358	float	2	W/10	L3 Phase Max Active Power	1	✓	✓	✓	✓	✓
035A	uint	2	Time	L3 Phase Max Active Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
035C	float	2	W/10	L4 Phase Max Active Power	1					
035E	uint	2	Time	L4 Phase Max Active Power Time	Unix Time Stamp					
0360	float	2	W/10	Max Total Import Active Power	1	✓	✓	✓	✓	✓
0362	uint	2	Time	Max Total Import Active Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0364	float	2	W/10	Max Total Export Active Power	1	✓	✓	✓	✓	✓
0366	uint	2	Time	Max Total Export Active Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0368	float	2	W/10	Max Total Active Power	1	✓	✓	✓	✓	✓
036A	uint	2	Time	Max Total Active Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
036C	float	2	Var/10	L1 Phase Max Reactive Power	1	✓	✓	✓	✓	✓
036E	uint	2	Time	L1 Phase Max Reactive Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0370	float	2	Var/10	L2 Phase Max Reactive Power	1	✓	✓	✓	✓	✓
0372	uint	2	Time	L2 Phase Max Reactive Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0374	float	2	Var/10	L3 Phase Max Reactive Power	1	✓	✓	✓	✓	✓
0376	uint	2	Time	L3 Phase Max Reactive Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0378	float	2	Var/10	L4 Phase Max Reactive Power	1					
037A	uint	2	Time	L4 Phase Max Reactive Power Time	Unix Time Stamp					

037C	float	2	Var/10	Quadrant 1 Max Reactive Power	1	✓	✓	✓	✓	✓
037E	uint	2	Time	Quadrant 1 Max Reactive Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0380	float	2	Var/10	Quadrant 2 Max Reactive Power	1	✓	✓	✓	✓	✓
0382	uint	2	Time	Quadrant 2 Max Reactive Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0384	float	2	Var/10	Quadrant 3 Max Reactive Power	1	✓	✓	✓	✓	✓
0386	uint	2	Time	Quadrant 3 Max Reactive Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0388	float	2	Var/10	Quadrant 4 Max Reactive Power	1	✓	✓	✓	✓	✓
038A	uint	2	Time	Quadrant 4 Max Reactive Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
038C	float	2	Var/10	Quadrant Total Max Reactive Power	1	✓	✓	✓	✓	✓
038E	uint	2	Time	Quadrant Total Max Reactive Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0390	float	2	VA/10	L1 Phase Max Apperant Power	1	✓	✓	✓	✓	✓
0392	uint	2	Time	L1 Phase Max Apperant Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0394	float	2	VA/10	L2 Phase Max Apperant Power	1	✓	✓	✓	✓	✓
0396	uint	2	Time	L2 Phase Max Apperant Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0398	float	2	VA/10	L3 Phase Max Apperant Power	1	✓	✓	✓	✓	✓
039A	uint	2	Time	L3 Phase Max Apperant Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
039C	float	2	VA/10	L4 Phase Max Apperant Power	1					
039E	uint	2	Time	L4 Phase Max Apperant Power Time	Unix Time Stamp					
03A0	float	2	VA/10	Max Total Import Apperant Power	1	✓	✓	✓	✓	✓
03A2	uint	2	Time	Max Total Import Apperant Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
03A4	float	2	VA/10	Max Total Export Apperant Power	1	✓	✓	✓	✓	✓
03A6	uint	2	Time	Max Total Export Apperant Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
03A8	float	2	VA/10	Max Total Apperant Power	1	✓	✓	✓	✓	✓
03AA	uint	2	Time	Max Total Apperant Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
03AC	uint	2	F/10	Max System Frequency	0.1	✓	✓	✓	✓	✓
03AE	uint	2	Time	Max System Frequency Time	Unix Time Stamp	✓	✓	✓	✓	✓
03B0	uint	2	%	L1 Phase Max. Voltage THD	0.1	✓	✓	✓	✓	✓
03B2	uint	2	Time	L1 Phase Max. Voltage THD Time	Unix Time Stamp	✓	✓	✓	✓	✓
03B4	uint	2	%	L2 Phase Max Voltage THD	0.1	✓	✓	✓	✓	✓
03B6	uint	2	Time	L2 Phase Max. Voltage THD Time	Unix Time Stamp	✓	✓	✓	✓	✓
03B8	uint	2	%	L3 Phase Max. Voltage THD	0.1	✓	✓	✓	✓	✓
03BA	uint	2	Time	L3 Phase Max. Voltage THD Time	Unix Time Stamp	✓	✓	✓	✓	✓
03BC	uint	2	%	L4 Phase Max. Voltage THD	0.1					
03BE	uint	2	Time	L4 Phase Max. Voltage THD Time	Unix Time Stamp					
03C0	uint	2	%	L1-L2 Max Voltage THD	0.1	✓	✓	✓	✓	✓
03C2	uint	2	Time	L1-L2 Max Voltage THD Time	Unix Time Stamp	✓	✓	✓	✓	✓
03C4	uint	2	%	L2-L3 Max Voltage THD	0.1	✓	✓	✓	✓	✓
03C6	uint	2	Time	L2-L3 Max Voltage THD Time	Unix Time Stamp	✓	✓	✓	✓	✓
03C8	uint	2	%	L3-L1 Max Voltage THD	0.1	✓	✓	✓	✓	✓
03CA	uint	2	Time	L3-L1 Max Voltage THD Time	Unix Time Stamp	✓	✓	✓	✓	✓
03CC	uint	2	%	L1 Phase Max Current THD	0.1	✓	✓	✓	✓	✓
03CE	uint	2	Time	L1 Phase Max Current THD Time	Unix Time Stamp	✓	✓	✓	✓	✓
03D0	uint	2	%	L2 Phase Max Current THD	0.1	✓	✓	✓	✓	✓
03D2	uint	2	Time	L2 Phase Max Current THD Time	Unix Time Stamp	✓	✓	✓	✓	✓
03D4	uint	2	%	L3 Phase Max Current THD	0.1	✓	✓	✓	✓	✓
03D6	uint	2	Time	L3 Phase Max Current THD Time	Unix Time Stamp	✓	✓	✓	✓	✓
03D8	uint	2	%	L4 Phase Max Current THD	0.1			✓	✓	✓
03DA	uint	2	Time	L4 Phase Max Current THD Time	Unix Time Stamp			✓	✓	✓
03DC	uint	2	V/10	L1 Phase Min Voltage	0.1	✓	✓	✓	✓	✓
03DE	uint	2	Time	L1 Phase Min Voltage Time	Unix Time Stamp	✓	✓	✓	✓	✓
03E0	uint	2	V/10	L2 Phase Min Voltage	0.1	✓	✓	✓	✓	✓
03E2	uint	2	Time	L2 Phase Min Voltage Time	Unix Time Stamp	✓	✓	✓	✓	✓
03E4	uint	2	V/10	L3 Phase Min Voltage	0.1	✓	✓	✓	✓	✓
03E6	uint	2	Time	L3 Phase Min Voltage Time	Unix Time Stamp	✓	✓	✓	✓	✓
03E8	uint	2	V/10	L4 Phase Min Voltage	0.1			✓	✓	✓
03EA	uint	2	Time	L4 Phase Min Voltage Time	Unix Time Stamp			✓	✓	✓
03EC	uint	2	V/10	L1-L2 Min Voltage	0.1	✓	✓	✓	✓	✓
03EE	uint	2	Time	L1-L2 Min Voltage Time	Unix Time Stamp	✓	✓	✓	✓	✓
03F0	uint	2	V/10	L2-L3 Min Voltage	0.1	✓	✓	✓	✓	✓
03F2	uint	2	Time	L2-L3 Min Voltage Time	Unix Time Stamp	✓	✓	✓	✓	✓
03F4	uint	2	V/10	L3-L1 Min Voltage	0.1	✓	✓	✓	✓	✓
03F6	uint	2	Time	L3-L1 Min Voltage Time	Unix Time Stamp	✓	✓	✓	✓	✓
03F8	uint	2	A/10	L1 Phase Min Current	0.001	✓	✓	✓	✓	✓
03FA	uint	2	Time	L1 Phase Min Current Time	Unix Time Stamp	✓	✓	✓	✓	✓
03FC	uint	2	A/10	L2 Phase Min Current	0.001	✓	✓	✓	✓	✓
03FE	uint	2	Time	L2 Phase Min Current Time	Unix Time Stamp	✓	✓	✓	✓	✓
0400	uint	2	A/10	L3 Phase Min Current	0.001	✓	✓	✓	✓	✓
0402	uint	2	Time	L3 Phase Min Current Time	Unix Time Stamp	✓	✓	✓	✓	✓
0404	uint	2	A/10	L4 Phase Min Current	0.001			✓	✓	✓
0406	uint	2	Time	L4 Phase Min Current Time	Unix Time Stamp			✓	✓	✓
0408	uint	2	A/10	IN Min Current	0.001	✓	✓	✓	✓	✓
040A	uint	2	Time	IN Min Current Time	Unix Time Stamp	✓	✓	✓	✓	✓
040C	float	2	W/10	L1 Phase Min Active Power	1	✓	✓	✓	✓	✓
040E	uint	2	Time	L1 Phase Min Active Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0410	float	2	W/10	L2 Phase Min Active Power	1	✓	✓	✓	✓	✓
0412	uint	2	Time	L2 Phase Min Active Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0414	float	2	W/10	L3 Phase Min Active Power	1	✓	✓	✓	✓	✓
0416	uint	2	Time	L3 Phase Min Active Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0418	float	2	W/10	L4 Phase Min Active Power	1					
041A	uint	2	Time	L4 Phase Min Active Power Time	Unix Time Stamp					
041C	float	2	W/10	Min Total Import Active Power	1	✓	✓	✓	✓	✓
041E	uint	2	Time	Min Total Import Active Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0420	float	2	W/10	Min Total Export Active Power	1	✓	✓	✓	✓	✓
0422	uint	2	Time	Min Total Export Active Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0424	float	2	W/10	Min Total Active Power	1	✓	✓	✓	✓	✓
0426	uint	2	Time	Min Total Active Power Time	Unix Time Stamp	✓	✓	✓	✓	✓

0428	float	2	Var/10	L1 Phase Min Reactive Power	1	✓	✓	✓	✓	✓
042A	uint	2	Time	L1 Phase Min Reactive Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
042C	float	2	Var/10	L2 Phase Min Reactive Power	1	✓	✓	✓	✓	✓
042E	uint	2	Time	L2 Phase Min Reactive Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0430	float	2	Var/10	L3 Phase Min Reactive Power	1	✓	✓	✓	✓	✓
0432	uint	2	Time	L3 Phase Min Reactive Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0434	float	2	Var/10	L4 Phase Min Reactive Power	1					
0436	uint	2	Time	L4 Phase Min Reactive Power Time	Unix Time Stamp					
0438	float	2	Var/10	Quadrant 1 Min Reactive Power	1	✓	✓	✓	✓	✓
043A	uint	2	Time	Quadrant 1 Min Reactive Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
043C	float	2	Var/10	Quadrant 2 Min Reactive Power	1	✓	✓	✓	✓	✓
043E	uint	2	Time	Quadrant 2 Min Reactive Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0440	float	2	Var/10	Quadrant 3 Min Reactive Power	1	✓	✓	✓	✓	✓
0442	uint	2	Time	Quadrant 3 Min Reactive Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0444	float	2	Var/10	Quadrant 4 Min Reactive Power	1	✓	✓	✓	✓	✓
0446	uint	2	Time	Quadrant 4 Min Reactive Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0448	float	2	Var/10	Quadrant Total Min Reactive Power	1	✓	✓	✓	✓	✓
044A	uint	2	Time	Quadrant Total Min Reactive Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
044C	float	2	VA/10	L1 Phase Min Apperant Power	1	✓	✓	✓	✓	✓
044E	uint	2	Time	L1 Phase Min Apperant Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0450	float	2	VA/10	L2 Phase Min Apperant Power	1	✓	✓	✓	✓	✓
0452	uint	2	Time	L2 Phase Min Apperant Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0454	float	2	VA/10	L3 Phase Min Apperant Power	1	✓	✓	✓	✓	✓
0456	uint	2	Time	L3 Phase Min Apperant Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0458	float	2	VA/10	L4 Phase Min Apperant Power	1					
045A	uint	2	Time	L4 Phase Min Apperant Power Time	Unix Time Stamp					
045C	float	2	VA/10	Min Total Import Apperant Power	1	✓	✓	✓	✓	✓
045E	uint	2	Time	Min Total Import Apperant Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0460	float	2	VA/10	Min Total Export Apperant Power	1	✓	✓	✓	✓	✓
0462	uint	2	Time	Min Total Export Apperant Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0464	float	2	VA/10	Min Total Apperant Power	1	✓	✓	✓	✓	✓
0466	uint	2	Time	Min Total Apperant Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0468	uint	2	F/10	Min System Frequency	0.1	✓	✓	✓	✓	✓
046A	uint	2	Time	Min System Frequency Time	Unix Time Stamp	✓	✓	✓	✓	✓
046C	uint	2	%	L1 Phase Min. Voltage THD	0.1	✓	✓	✓	✓	✓
046E	uint	2	Time	L1 Phase Min. Voltage THD Time	Unix Time Stamp	✓	✓	✓	✓	✓
0470	uint	2	%	L2 Phase Min Voltage THD	0.1	✓	✓	✓	✓	✓
0472	uint	2	Time	L2 Phase Min. Voltage THD Time	Unix Time Stamp	✓	✓	✓	✓	✓
0474	uint	2	%	L3 Phase Min. Voltage THD	0.1	✓	✓	✓	✓	✓
0476	uint	2	Time	L3 Phase Min. Voltage THD Time	Unix Time Stamp	✓	✓	✓	✓	✓
0478	uint	2	%	L4 Phase Min. Voltage THD	0.1					
047A	uint	2	Time	L4 Phase Min. Voltage THD Time	Unix Time Stamp					
047C	uint	2	%	L1-L2 Min Voltage THD	0.1	✓	✓	✓	✓	✓
047E	uint	2	Time	L1-L2 Min Voltage THD Time	Unix Time Stamp	✓	✓	✓	✓	✓
0480	uint	2	%	L2-L3 Min Voltage THD	0.1	✓	✓	✓	✓	✓
0482	uint	2	Time	L2-L3 Min Voltage THD Time	Unix Time Stamp	✓	✓	✓	✓	✓
0484	uint	2	%	L3-L1 Min Voltage THD	0.1	✓	✓	✓	✓	✓
0486	uint	2	Time	L3-L1 Min Voltage THD Time	Unix Time Stamp	✓	✓	✓	✓	✓
0488	uint	2	%	L1 Phase Min Current THD	0.1	✓	✓	✓	✓	✓
048A	uint	2	Time	L1 Phase Min Current THD Time	Unix Time Stamp	✓	✓	✓	✓	✓
048C	uint	2	%	L2 Phase Min Current THD	0.1	✓	✓	✓	✓	✓
048E	uint	2	Time	L2 Phase Min Current THD Time	Unix Time Stamp	✓	✓	✓	✓	✓
0490	uint	2	%	L3 Phase Min Current THD	0.1	✓	✓	✓	✓	✓
0492	uint	2	Time	L3 Phase Min Current THD Time	Unix Time Stamp	✓	✓	✓	✓	✓
0494	uint	2	%	L4 Phase Min Current THD	0.1			✓	✓	✓
0496	uint	2	Time	L4 Phase Min Current THD Time	Unix Time Stamp			✓	✓	✓
0498	uint	2	mA	L1 Phase Current Demand	0.001	✓	✓	✓	✓	✓
049A	uint	2	mA	L2 Phase Current Demand	0.001	✓	✓	✓	✓	✓
049C	uint	2	mA	L3 Phase Current Demand	0.001	✓	✓	✓	✓	✓
049E	uint	2	mA	L4 Phase Current Demand	0.001			✓	✓	✓
04A0	uint	2	mA	IN Current Demand	0.001	✓	✓	✓	✓	✓
04A2	float	2	W/10	L1 Phase Active Power Demand	1	✓	✓	✓	✓	✓
04A4	float	2	W/10	L2 Phase Active Power Demand	1	✓	✓	✓	✓	✓
04A6	float	2	W/10	L3 Phase Active Power Demand	1	✓	✓	✓	✓	✓
04A8	float	2	W/10	L4 Phase Active Power Demand	1			?	?	?
04AA	float	2	W/10	Total Import Active Power Demand	1	✓	✓	✓	✓	✓
04AC	float	2	W/10	Total Export Active Power Demand	1	✓	✓	✓	✓	✓
04AE	float	2	W/10	Total Active Power Demand	1					
04B0	float	2	Var/10	L1 Phase Reactive Power Demand	1					
04B2	float	2	Var/10	L2 Phase Reactive Power Demand	1					
04B4	float	2	Var/10	L3 Phase Reactive Power Demand	1					
04B6	float	2	Var/10	L4 Phase Reactive Power Demand	1					
04B8	float	2	Var/10	Quadrant 1 Total Reactive Powe Demand	1					
04BA	float	2	Var/10	Quadrant 2 Total Reactive Powe Demand	1					
04BC	float	2	Var/10	Quadrant 3 Total Reactive Powe Demand	1					
04BE	float	2	Var/10	Quadrant 4 Total Reactive Powe Demand	1					
04C0	float	2	Var/10	Total Reactive Power Demand	1					
04C2	float	2	VA/10	L1 Phase Apperant Power Demand	1	✓	✓	✓	✓	✓
04C4	float	2	VA/10	L2 Phase Apperant Power Demand	1	✓	✓	✓	✓	✓
04C6	float	2	VA/10	L3 Phase Apperant Power Demand	1	✓	✓	✓	✓	✓
04C8	float	2	VA/10	L4 Phase Apperant Power Demand	1					
04CA	float	2	VA/10	Total Import Apperant Power Demand	1	✓	✓	✓	✓	✓
04CC	float	2	VA/10	Total Export Apperant Power Demand	1	✓	✓	✓	✓	✓
04CE	float	2	VA/10	Total Apperant Power Demand	1					
04D0	uint	2	mA	L1 Phase Max. Current Demand	0.001	✓	✓	✓	✓	✓
04D2	uint	2	Time	L1 Phase Max. Current Demand Time	Unix Time Stamp	✓	✓	✓	✓	✓

04D4	uint	2	mA	L2 Phase Max. Current Demand	0.001	✓	✓	✓	✓	✓
04D6	uint	2	Time	L2 Phase Max. Current Demand Time	Unix Time Stamp	✓	✓	✓	✓	✓
04D8	uint	2	mA	L3 Phase Max. Current Demand	0.001	✓	✓	✓	✓	✓
04DA	uint	2	Time	L3 Phase Max. Current Demand Time	Unix Time Stamp	✓	✓	✓	✓	✓
04DC	uint	2	mA	L4 Phase Max. Current Demand	0.001			✓	✓	✓
04DE	uint	2	Time	L4 Phase Max. Current Demand Time	Unix Time Stamp			✓	✓	✓
04E0	uint	2	mA	IN Max. Current Demand	0.001	✓	✓	✓	✓	✓
04E2	uint	2	Time	IN Phase Max. Current Demand Time	Unix Time Stamp	✓	✓	✓	✓	✓
04E4	float	2	W/10	PL1 Max Active Import Power	1	✓	✓	✓	✓	✓
04E6	uint	2	Time	PL1 Max Active Import Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
04E8	float	2	W/10	PL1 Max Active Export Power	1	✓	✓	✓	✓	✓
04EA	uint	2	Time	PL1 Max Active Export Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
04EC	float	2	W/10	PL2 Max Active Import Power	1	✓	✓	✓	✓	✓
04EE	uint	2	Time	PL2 Max Active Import Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
04F0	float	2	W/10	PL2 Max Active Export Power	1	✓	✓	✓	✓	✓
04F2	uint	2	Time	PL2 Max Active Export Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
04F4	float	2	W/10	PL3 Max Active Import Power	1	✓	✓	✓	✓	✓
04F6	uint	2	Time	PL3 Max Active Import Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
04F8	float	2	W/10	PL3 Max Active Export Power	1	✓	✓	✓	✓	✓
04FA	uint	2	Time	PL3 Max Active Export Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
04FC	float	2	W/10	PL4 Max Active Import Power	1					
04FE	uint	2	Time	PL4 Max Active Import Power Time	Unix Time Stamp					
0500	float	2	W/10	PL4 Max Active Export Power	1					
0502	uint	2	Time	PL4 Max Active Export Power Time	Unix Time Stamp					
0504	float	2	W/10	Total Active Power Import Max Demand	1	✓	✓	✓	✓	✓
0506	uint	2	Time	Total Active Power Import Max Demand Time	Unix Time Stamp	✓	✓	✓	✓	✓
0508	float	2	W/10	Total Active Power Export Max Demand	1	✓	✓	✓	✓	✓
050A	uint	2	Time	Total Active Power Export Max Demand Time	Unix Time Stamp	✓	✓	✓	✓	✓
050C	float	2	Var/10	L1 Phase Max Demand Reactive Power	1					
050E	uint	2	Time	L1 Phase Max Demand Reactive Power Time	Unix Time Stamp					
0510	float	2	Var/10	L2 Phase Max Demand Reactive Power	1					
0512	uint	2	Time	L2 Phase Max Demand Reactive Power Time	Unix Time Stamp					
0514	float	2	Var/10	L3 Phase Max Demand Reactive Power	1					
0516	uint	2	Time	L3 Phase Max Demand Reactive Power Time	Unix Time Stamp					
0518	float	2	Var/10	L4 Phase Max Demand Reactive Power	1					
051A	uint	2	Time	L4 Phase Max Demand Reactive Power Time	Unix Time Stamp					
051C	float	2	Var/10	Quadrant 1 Max Demand Reactive Power	1					
051E	uint	2	Time	Quadrant 1 Max Demand Reactive Power Time	Unix Time Stamp					
0520	float	2	Var/10	Quadrant 2 Max Demand Reactive Power	1					
0522	uint	2	Time	Quadrant 2 Max Demand Reactive Power Time	Unix Time Stamp					
0524	float	2	Var/10	Quadrant 3 Max Demand Reactive Power	1					
0526	uint	2	Time	Quadrant 3 Max Demand Reactive Power Time	Unix Time Stamp					
0528	float	2	Var/10	Quadrant 4 Max Demand Reactive Power	1					
052A	uint	2	Time	Quadrant 4 Max Demand Reactive Power Time	Unix Time Stamp					
052C	float	2	Var/10	Quadrant Total Max Demand Reactive Power	1					
052E	uint	2	Time	Quadrant Total Max Demand Reactive Power Time	Unix Time Stamp					
0530	float	2	W/10	SL1 Max Demand Import Power	1	✓	✓	✓	✓	✓
0532	float	2	Time	SL1 Max Demand Import Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0534	float	2	W/10	SL1 Max Demand Export Power	1	✓	✓	✓	✓	✓
0536	uint	2	Time	SL1 Max Demand Export Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0538	float	2	W/10	SL2 Max Demand Import Power	1	✓	✓	✓	✓	✓
053A	uint	2	Time	SL2 Max Demand Import Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
053C	float	2	W/10	SL2 Max Demand Export Power	1	✓	✓	✓	✓	✓
053E	uint	2	Time	SL2 Max Demand Export Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0540	float	2	W/10	SL3 Max Demand Import Power	1	✓	✓	✓	✓	✓
0542	uint	2	Time	SL3 Max Demand Import Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0544	float	2	W/10	SL3 Max Demand Export Power	1	✓	✓	✓	✓	✓
0546	uint	2	Time	SL3 Max Demand Export Power Time	Unix Time Stamp	✓	✓	✓	✓	✓
0548	float	2	W/10	SL4 Max Demand Import Power	1					
054A	uint	2	Time	SL4 Max Demand Import Power Time	Unix Time Stamp					
054C	float	2	W/10	SL4 Max Demand Export Power	1					
054E	uint	2	Time	SL4 Max Demand Export Power Time	Unix Time Stamp					
0550	float	2	VA/10	Total Apperant Power Max Demand	1	✓	✓	✓	✓	✓
0552	uint	2	Time	Total Apperant Power Max Demand Time	Unix Time Stamp	✓	✓	✓	✓	✓
0554	float	2	VA/10	Total Apperant Power Max Demand	1	✓	✓	✓	✓	✓
0556	uint	2	Time	Total Apperant Power Max Demand Time	Unix Time Stamp	✓	✓	✓	✓	✓

### Harmonics

### THD

Supported Functions	Start Address	Register Counts
Read holding registers	2000	24

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
07D0	uint	2	%	Total Harmoic Distorsion VLL12	0.1	✓	✓	✓	✓	✓
07D2	uint	2	%	Total Harmoic Distorsion VLL23	0.1	✓	✓	✓	✓	✓
07D4	uint	2	%	Total Harmoic Distorsion VLL31	0.1	✓	✓	✓	✓	✓
07D6	uint	2	%	Total Harmonic Distorsion VL1	0.1	✓	✓	✓	✓	✓
07D8	uint	2	%	Total Harmonic Distorsion VL2	0.1	✓	✓	✓	✓	✓
07DA	uint	2	%	Total Harmonic Distorsion VL3	0.1	✓	✓	✓	✓	✓
07DC	uint	2	%	Total Harmonic Distorsion VL4	0.1					
07DE	uint	2	%	Total Harmonic Distorsion IL1	0.1	✓	✓	✓	✓	✓
07E0	uint	2	%	Total Harmonic Distorsion IL2	0.1	✓	✓	✓	✓	✓
07E2	uint	2	%	Total Harmonic Distorsion IL3	0.1	✓	✓	✓	✓	✓

07E4	uint	2	%	Total Harmonic Distorsion IL4	0.1			✓	✓	✓
07E6	uint	2	%	Total Harmonic Distorsion IN	0.1	✓	✓	✓	✓	✓

### THD I Harmonic Order

Supported Functions	Start Address	Register Counts
Read holding registers	3000	251

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
0BB8	ushort	1	%	Number Of Harmonics	0.1					✓
0BB9	ushort	1	%	H_IL1_2	0.1					✓
0BBA	ushort	1	%	H_IL2_2	0.1					✓
0BBB	ushort	1	%	H_IL3_2	0.1					✓
0BBC	ushort	1	%	H_IL4_2	0.1					✓
0BBD	ushort	1	%	H_ILN_2	0.1					✓
0BBE	ushort	1	%	H_IL1_3	0.1					✓
0BBF	ushort	1	%	H_IL2_3	0.1					✓
0BC0	ushort	1	%	H_IL3_3	0.1					✓
0BC1	ushort	1	%	H_IL4_3	0.1					✓
0BC2	ushort	1	%	H_ILN_3	0.1					✓
.....	.....	.....	.....	.....	.....					✓
.....	.....	.....	.....	.....	.....					✓
.....	.....	.....	.....	.....	.....					✓
OCA9	ushort	1	%	H_IL1_50	0.1					✓
OCAA	ushort	1	%	H_IL2_50	0.1					✓
OCAB	ushort	1	%	H_IL3_50	0.1					✓
OCAC	ushort	1	%	H_IL4_50	0.1					✓
OCAD	ushort	1	%	H_ILN_50	0.1					✓
OCAE	ushort	1	%	H_IL1_51	0.1					✓
OCAF	ushort	1	%	H_IL2_51	0.1					✓
OCB0	ushort	1	%	H_IL3_51	0.1					✓
OCB1	ushort	1	%	H_IL4_51	0.1					✓
OCB2	ushort	1	%	H_ILN_51	0.1					✓

### THD V Harmonic Order

Supported Functions	Start Address	Register Counts
Read holding registers	4000	201

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
OFA0	ushort	1	%	Number Of Harmonics	0.1					✓
OFA1	ushort	1	%	H_V1_2	0.1					✓
OFA2	ushort	1	%	H_V2_2	0.1					✓
OFA3	ushort	1	%	H_V3_2	0.1					✓
OFA4	ushort	1	%	H_V4_2	0.1					✓
OFA5	ushort	1	%	H_V1_3	0.1					✓
OFA6	ushort	1	%	H_V2_3	0.1					✓
OFA7	ushort	1	%	H_V3_3	0.1					✓
OFA8	ushort	1	%	H_V4_3	0.1					✓
.....	.....	.....	.....	.....	.....					✓
.....	.....	.....	.....	.....	.....					✓
.....	.....	.....	.....	.....	.....					✓
1061	ushort	1	%	H_V1_50	0.1					✓
1062	ushort	1	%	H_V2_50	0.1					✓
1063	ushort	1	%	H_V3_50	0.1					✓
1064	ushort	1	%	H_V4_50	0.1					✓
1065	ushort	1	%	H_V1_51	0.1					✓
1066	ushort	1	%	H_V2_51	0.1					✓
1067	ushort	1	%	H_V3_51	0.1					✓
1068	ushort	1	%	H_V4_51	0.1					✓

### THD VLL Harmonic Order

Supported Functions	Start Address	Register Counts
Read holding registers	5000	151

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
1388	ushort	1	%	NUM_OF_HARMONICS	0.1					✓
1389	ushort	1	%	H_VLL1_2_2	0.1					✓
138A	ushort	1	%	H_VLL2_3_2	0.1					✓
138B	ushort	1	%	H_VLL3_1_2	0.1					✓
138C	ushort	1	%	H_VLL1_2_3	0.1					✓
138D	ushort	1	%	H_VLL2_3_3	0.1					✓
138E	ushort	1	%	H_VLL3_1_3	0.1					✓
138F	ushort	1	%	H_VLL1_2_4	0.1					✓
1390	ushort	1	%	H_VLL2_3_4	0.1					✓
1391	ushort	1	%	H_VLL3_1_4	0.1					✓
.....	.....	.....	.....	.....	.....					✓
.....	.....	.....	.....	.....	.....					✓
.....	.....	.....	.....	.....	.....					✓
1419	ushort	1	%	H_VLL1_2_50	0.1					✓
141A	ushort	1	%	H_VLL2_3_50	0.1					✓
141B	ushort	1	%	H_VLL3_1_50	0.1					✓
141C	ushort	1	%	H_VLL1_2_51	0.1					✓
141D	ushort	1	%	H_VLL2_3_51	0.1					✓
141E	ushort	1	%	H_VLL3_1_51	0.1					✓

**NETWORK SETTINGS**

Supported Functions	Start Address	Register Counts
Read holding registers	16384	18
Write single register		
Write multiple registers		

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
4000	ushort	1	-	Network Type: 0: 3P4W 1: 3P3W 2: ARON 3: 3P4W Balanced 4: 3P3W Balanced	1	✓	✓	✓	✓	✓
4001	ushort	1	A	Current Transformer Secondary: 0: 1A 1: 5A	1	✓	✓	✓	✓	✓
4002	ushort	1	A	Current Transformer Primary: 5 -- 9999	1	✓	✓	✓	✓	✓
	ushort	1	-	Voltage Transformer Present: 0-None 1-Present	1	✓	✓	✓	✓	✓
4004	ushort	1	V	Voltage Transformer Secondary: 50 -- 300	1	✓	✓	✓	✓	✓
4005	uint	2	V	Voltage Transformer Primary: 50 -- 999999	1	✓	✓	✓	✓	✓
4007	ushort	1	Minutes	P Demand Time: 1: 1 Minute 5: 5 Minutes 10: 10 Minutes 15: 15 Minutes 20: 20 Minutes 30: 30 Minutes 60: 60 Minutes	1					
4008	ushort	1	Minutes	I Demand Time: 1: 1 Minute 5: 5 Minutes 10: 10 Minutes 15: 15 Minutes 20: 20 Minutes 30: 30 Minutes 60: 60 Minutes	1	✓	✓	✓	✓	✓
4009	ushort	1	Minutes	V Average Time 1: 1 Minute 5: 5 Minutes 10: 10 Minutes 15: 15 Minutes 20: 20 Minutes 30: 30 Minutes 60: 60 Minutes	1					
400A	ushort	1	Hz	System Frequency: 0: 50 Hz 1: 60 Hz	1	✓	✓	✓	✓	✓
400B	uint	2	V	System Voltage: VT_Primary --- 25V* primary/secondary	1	✓	✓	✓	✓	✓
400D	ushort	1	A	System Current: CT_Primary --- 1A	1	✓	✓	✓	✓	✓
400E	ushort	1	%	Sag Level: 70% -- 98%	0.1					
400F	ushort	1	%	Sag Hysteresis: 0.5% -- 5%	0.1					
4010	ushort	1	%	Swell Level: 102% -- 130%	0.1					
4011	ushort	1	%	Swell Hysteresis: 0.5% -- 5%	0.1					

**SETUP**

Supported Functions	Start Address	Register Counts
Read holding registers	17000	141
Write single register		
Write multiple registers		

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
4268	ushort	1	-	Network Type: 0: 3P4W 1: 3P3W 2: ARON 3: 3P4W Balanced 4: 3P3W Balanced	1	✓	✓	✓	✓	✓
4269	ushort	1	A	Current Transformer Secondary: 0: 1A 1: 5A	1	✓	✓	✓	✓	✓
426A	ushort	1	A	Current Transformer Primary: 5 -- 9999	1	✓	✓	✓	✓	✓



426B	ushort	1	-	Voltage Transformer Present: 0-None 1-Present	1	✓	✓	✓	✓	✓
426C	ushort	1	V	Voltage Transformer Secondary: 50 -- 300	1	✓	✓	✓	✓	✓
426D	uint	2	V	Voltage Seconder Primary: 50 -- 999999	1	✓	✓	✓	✓	✓
426F	ushort	1	Minutes	P Demand Time: 1: 1 Minute 5: 5 Minutes 10: 10 Minutes 15: 15 Minutes 20: 20 Minutes 30: 30 Minutes 60: 60 Minutes	1					
4270	ushort	1	Minutes	I Demand Time: 1: 1 Minute 5: 5 Minutes 10: 10 Minutes 15: 15 Minutes 20: 20 Minutes 30: 30 Minutes 60: 60 Minutes	1	✓	✓	✓	✓	✓
4271	ushort	1	Minutes	V Average Time 1: 1 Minute 5: 5 Minutes 10: 10 Minutes 15: 15 Minutes 20: 20 Minutes 30: 30 Minutes 60: 60 Minutes	1					
4272	ushort	1	Hz	System Frequency: 0: 50 Hz 1: 60 Hz	1	✓	✓	✓	✓	✓
4273	uint	2	V	System Voltage: VT_Primary ---25V* primary/secondary	1	✓	✓	✓	✓	✓
4275	ushort	1	A	System Current: CT_Primary --- 1A	1	✓	✓	✓	✓	✓
4276	ushort	1	%	Sag Level: 70% -- 98%	0.1			✓	✓	✓
4277	ushort	1	%	Sag Hysteresis: 0.5% -- 5%	0.1			✓	✓	✓
4278	ushort	1	%	Swell Level: 102% -- 130%	0.1			✓	✓	✓
4279	ushort	1	%	Swell Hysteresis: 0.5% -- 5%	0.1			✓	✓	✓
427A	ushort	1	-	OUT1 Type: 0: REMOTE 1: PULSE 2: ALARM	1	✓		0	0	0
427B	ushort	1	-	OUT2 Type: 0: REMOTE 1: PULSE 2: ALARM	1			0	0	0
427C	ushort	1	-	OUT3 Type: 0: REMOTE 1: PULSE 2: ALARM	1			0	0	0
427D	ushort	1	-	OUT4 Type: 0: REMOTE 1: PULSE 2: ALARM	1			0	0	0
427E	ushort	1	-	INPUT1 Type: 0: digital 1: PULSE 2: Generator	1	✓	✓	0	0	0
427F	ushort	1	-	INPUT2 Type: 0: digital 1: PULSE 2: Generator	1		✓	0	0	0
4280	ushort	1	-	INPUT3 Type: 0: digital 1: PULSE 2: Generator	1			0	0	0
4281	ushort	1	-	INPUT4 Type: 0: digital 1: PULSE 2: Generator	1			0	0	0
4282	ushort	1	-	Analog Output 1 Type: 0: 0 -- 20 mA 1: 4 -- 20 mA 2: 0 -- 10 V 3: 2 -- 10 V	1			0	0	0

4283	ushort	1	-	Analog Output 1 Parameter: 0: VLN1, 1: VLN2, 2: VLN3, 3: VLN4 4: VLL1, 5: VLL2, 6: VLL3, 7: IL1, 8: IL2, 9: IL3, 10: IL4, 11: ILN 12: IL1 Demand, 13: IL2 Demand, 14: IL3 Demand 15: IL4 Demand, 16: ILN Demand, 17: P1, 18: P2, 19: P3, 20: Q1, 21: Q2, 22: Q3, 23: S1, 24: S2, 25: S3, 26: SUMP, 27: SUMP IMP, 28: SUMP EXP, 29: SUMQ, 30: SUM QUAD1, 31: SUM QUAD2, 32: SUM QUAD3, 33: SUM QUAD4, 34: SUM S, 35: SUM S IMP, 36: SUM S EXP, 37: SUM P IMP Deman, 38: SUM P EXP Demand, 39: SUM S IMP Demand, 40: SUM S EXP Demand, 41: Cos Phi 1, 42: Cos Phi 2, 43: Cos Phi 3, 44: SUM Cos Phi, 45: Hz	1			0	0	0
4284	uint	2	Depends on parameter	Analog Output1 High	Depends on parameter			0	0	0
4286	uint	2	Depends on parameter	Analog Output1 Low	Depends on parameter			0	0	0
4288	ushort	1	-	Analog Output 2 Type: .....	1			0	0	0
4289	ushort	1	-	Analog Output 2 Parameter: .....	1			0	0	0
428A	uint	2	Depends on parameter	Analog Output2 High	Depends on parameter			0	0	0
428C	uint	2	Depends on parameter	Analog Output2 Low	Depends on parameter			0	0	0
428E	ushort	1	-	Analog Output 3 Type: .....	1			0	0	0
428F	ushort	1	-	Analog Output 3 Parameter: .....	1			0	0	0
4290	uint	2	Depends on parameter	Analog Output3 High	Depends on parameter			0	0	0
4292	uint	2	Depends on parameter	Analog Output3 Low	Depends on parameter			0	0	0
4294	ushort	1	-	Analog Output 4 Type: .....	1			0	0	0
4295	ushort	1	-	Analog Output 4 Parameter: .....	1			0	0	0
4296	uint	2	Depends on parameter	Analog Output4 High	Depends on parameter			0	0	0
4298	uint	2	Depends on parameter	Analog Output4 Low	Depends on parameter			0	0	0
429A	ushort	1	-	Pulse Input 1: 0: Pasive 1: Active	1	✓	✓	0	0	0
429B	ushort	1	-	Pulse Input 1 Ratio: 1 -- 20000	1	✓	✓	0	0	0
429C	ushort	1	-	Pulse Input 2: 0: Pasive 1: Active	1		✓	0	0	0
429D	ushort	1	-	Pulse Input 2 Ratio: 1 -- 20000	1		✓	0	0	0
429E	ushort	1	-	Pulse Input 3: 0: Pasive 1: Active	1			0	0	0
429F	ushort	1	-	Pulse Input 3 Ratio: 1 -- 20000	1			0	0	0
42A0	ushort	1	-	Pulse Input 4: 0: Pasive 1: Active	1			0	0	0
42A1	ushort	1	-	Pulse Input 4 Ratio: 1 -- 20000	1			0	0	0
42A2	ushort	1	ms	Pulse Width: 0: 20 ms 1: 40 ms 2: 60 ms 3: 80 ms 4: 100 ms 5: 150 ms 6: 200 ms 7: 300 ms 8: 400 ms 9: 500 ms	1	✓	✓	0	0	0

42A3	ushort	1	-	Pulse Output1 Parameter: 0: Disable 1: Total Import Active Energy (Q14) 2: Total Export Active Energy (Q23) 3: Total import reactive energy ( Q1) 4: Total Export Reactive Energy (Q4) 5: Total Import Reactive Energy ( Q2) 6: Total Export Reactive Energy (Q3) 7:Total Import Apperant Energy(Q14) 8: Total Export Apperant Energy(Q23) 9: Total Import Active Energy (L1) 10: Total Import Active Energy (L2) 11:Total Import Active Energy (L3)	1	✓	✓	0	0	0
42A4	ushort	1	kWh	Pulse Output 1 Ratio: 0: 1 1: 10 2: 100 3: 1000 4: 10000 5: 100000 6: 1000000	1	✓	✓	0	0	0
42A5	ushort	1	ms	Pulse Output 1 Pulse Width: between 20 - 1000 ms	1	✓	✓	0	0	0
42A6	ushort	1	ms	Pulse Output 1 Pulse Duty: between 20 - 1000 ms	1	✓	✓	0	0	0
42A7	ushort	1	-	Pulse Output 2 Parameter: .....	1			0	0	0
42A8	ushort	1	-	Pulse Output 2 Ratio: .....	1			0	0	0
42A9	ushort	1	ms	Pulse Output 2 Pulse Width: .....	1			0	0	0
42AA	ushort	1	ms	Pulse Output 2 Pulse Duty: .....	1			0	0	0
42AB	ushort	1	-	Pulse Output3 Parameter: .....	1			0	0	0
42AC	ushort	1	-	Pulse Output 3 Ratio: .....	1			0	0	0
42AD	ushort	1	ms	Pulse Output 3 Pulse Width: .....	1			0	0	0
42AE	ushort	1	ms	Pulse Output 3 Pulse Duty: .....	1			0	0	0
42AF	ushort	1	-	Pulse Output4 Parameter: .....	1			0	0	0
42B0	ushort	1	-	Pulse Output 4 Ratio: .....	1			0	0	0
42B1	ushort	1	ms	Pulse Output 4 Pulse Width: .....	1			0	0	0
42B2	ushort	1	ms	Pulse Output 4 Pulse Duty: .....	1			0	0	0
42B3	ushort	1	-	Alarm1 Status: 0: Pasive 1: Active	1	✓	✓	✓	✓	✓
42B4	ushort	1	-	Alarm1 Parameter: 0: VLN 1: VLL 2: IL 3: In 4: I Demand 5:In Demand 6: P 7: Q 8: S 9: SUM P 10: SUM Q 11: SUM S 12: P Demand 13: S Demand 14: SUM P Demand 15: SUM S Demand 16: COS Phi 17: Sum COS Phi 18: frequency 19: VLN4 20: IL4 21: THD V 22: THD U 23: THD I 24: hour Smonth 25: Input 1 26: Input 2 27: Input 3	1	✓	✓	✓	✓	✓
42B5	ushort	1	-	0: HIGH 1: LOW 2: In window 3: Out window	1	✓	✓	✓	✓	✓
42B6	ushort	1	s	Alarm 1 On Time: 0-- 9999	0.1	✓	✓	✓	✓	✓
42B7	ushort	1	s	Alarm 1 Off Time: 0-- 9999	0.1	✓	✓	✓	✓	✓
42B8	ushort	1	-	0: Output 1 1: Output 2 2: Output 3 3: Output 4	1	✓	✓	✓	✓	✓

42B9	int	2	Depends on parameter	Alarm 1 High Threshold Value	Depends on parameter	✓	✓	✓	✓	✓
42BB	int	2	Depends on parameter	Alarm 1 Low Threshold Value	Depends on parameter	✓	✓	✓	✓	✓
42BD	ushort	1	%	Alarm 1 Hysteresis	0.1	✓	✓	✓	✓	✓
42BE	ushort	1	-	Alarm2 Status: .....	1	✓	✓	✓	✓	✓
42BF	ushort	1	-	Alarm2 Parameter: .....	1	✓	✓	✓	✓	✓
42C0	ushort	1	-	.....	1	✓	✓	✓	✓	✓
42C1	ushort	1	s	.....	0.1	✓	✓	✓	✓	✓
42C2	ushort	1	s	.....	0.1	✓	✓	✓	✓	✓
42C3	ushort	1	-	.....	1	✓	✓	✓	✓	✓
42C4	int	2	Depends on parameter	.....	Depends on parameter	✓	✓	✓	✓	✓
42C6	int	2	Depends on parameter	.....	Depends on parameter	✓	✓	✓	✓	✓
42C8	ushort	1	%	.....	0.1	✓	✓	✓	✓	✓
42C9	ushort	1	-	Alarm3 Status: .....	1	✓	✓	✓	✓	✓
42CA	ushort	1	-	Alarm3 Parameter: .....	1	✓	✓	✓	✓	✓
42CB	ushort	1	-	.....	1	✓	✓	✓	✓	✓
42CC	ushort	1	s	.....	0.1	✓	✓	✓	✓	✓
42CD	ushort	1	s	.....	0.1	✓	✓	✓	✓	✓
42CE	ushort	1	-	.....	1	✓	✓	✓	✓	✓
42CF	int	2	Depends on parameter	.....	Depends on parameter	✓	✓	0	0	0
42D1	int	2	Depends on parameter	.....	Depends on parameter	✓	✓	✓	✓	✓
42D3	ushort	1	%	.....	0.1	✓	✓	✓	✓	✓
42D4	ushort	1	-	Alarm4 Status: .....	1	✓	✓	✓	✓	✓
42D5	ushort	1	-	Alarm4 Parameter: .....	1	✓	✓	✓	✓	✓
42D6	ushort	1	-	.....	1	✓	✓	✓	✓	✓
42D7	ushort	1	s	.....	0.1	✓	✓	✓	✓	✓
42D8	ushort	1	s	.....	0.1	✓	✓	✓	✓	✓
42D9	ushort	1	-	.....	1	✓	✓	✓	✓	✓
42DA	int	2	Depends on parameter	.....	Depends on parameter	✓	✓	0	0	0
42DC	int	2	Depends on parameter	.....	Depends on parameter	✓	✓	✓	✓	✓
42DE	ushort	1	%	.....	0.1	✓	✓	✓	✓	✓
42DF	ushort	1	-	Reserved	1					
42E0	ushort	1	-	WORKING HOUR COUNTER PARAMETER: 0: VLN 1: VLL 2: IL 3: In 4: I Demand 5: In Demand 6: P 7: Q 8: S 9: SUM P 10: SUM Q 11: SUM S 12: P Demand 13: S Demand 14: SUM P Demand 15: SUM S Demand 16: COS Phi 17: Sum COS Phi 18: frequency 19: VLN4 20: IL4 21: THD V 22: THD U 23: THD I 24: hour Smonth 25: Input 1 26: Input 2	1	✓	✓	✓	✓	✓
42E1	uint	2	ends on param	WORKING HOUR COUNTER PARAMETER LEVEL	Depends on parameter	✓	✓	✓	✓	✓
42E3	ushort	1	-	Modbus Protocol: 0: MODBUS 1: ENTBUS	1					
42E4	ushort	1	-	Modbus Slave Address: 1 -- 247	1	✓	✓	✓	✓	✓
42E5	ushort	1	bps	Modbus Baud Rate: 0: 2400 1: 4800 2: 9600 3: 19200 4: 38400 5: 57600 6: 115200	1	✓	✓	✓	✓	✓

42E6	ushort	1	bit	Modbus Parity: 0 : None 1: Odd 2: Even	1	✓	✓	✓	✓	✓
42E7	ushort	1	-	Password Activate: 0: Passive 1: Active	1	✓	✓	✓	✓	✓
42E8	ushort	1	-	Password	1	✓	✓	✓	✓	✓
42E9	ushort	1	-	LCD Contrast Setting: 0 -- 15	1	✓	✓	✓	✓	✓
42EA	ushort	1	-	LCD Backlight Setting: 0: closed 1: open 2: automatic	1	✓	✓	✓	✓	✓
42EB	ushort	1	-	Language Setting: 0: english 1: turkish 2: german 3: french	1	✓	✓	✓	✓	✓
42EC	ushort	1	-	-	1	✓	✓	✓	✓	✓
42ED	ushort	1	month	DST Start Month: 1-12	1	✓	✓	✓	✓	✓
42EE	ushort	1	?	DST Start Week: 0: First 1: Second 2: Third 3: Fourth 4: Last	1	✓	✓	✓	✓	✓
42EF	ushort	1	DAY	DST Start Day: 0 : SUNDAY 1: MONDAY 2: TUESDAY 3: WEDNESDAY 4: THURDAY 5: FRIDAY 6: SATURDAY	1	✓	✓	✓	✓	✓
42F0	ushort	1	hour	DST Start Hour: 0-23	1	✓	✓	✓	✓	✓
42F1	ushort	1	month	DST End Month: 1-12	1	✓	✓	✓	✓	✓
42F2	ushort	1	?	DST END Week: 0: First 1: Second 2: Third 3: Fourth 4: Last	1	✓	✓	✓	✓	✓
42F3	ushort	1	DAY	DST END DAY: 0 : SUNDAY 1: MONDAY 2: TUESDAY 3: WEDNESDAY 4: THURDAY 5: FRIDAY 6: SATURDAY	1	✓	✓	✓	✓	✓
42F4	ushort	1	hour	DST End Hour: 0-23	1	✓	✓	✓	✓	✓
42F5	ushort	1	-	Tariff Activate: 0: Disable 1: Enable	1				✓	✓

DATE/HOUR		
Supported Functions	Start Address	Register Counts
Read holding registers	6000	18
Write single register		
Write multiple registers		

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
1770	ushort	1	DAY	DAY 1-31	1	✓	✓	✓	✓	✓
1771	ushort	1	month	MONTH 1-12	1	✓	✓	✓	✓	✓
1772	ushort	1	Yil	YEAR 2000-2199	1	✓	✓	✓	✓	✓
1773	ushort	1	hour	HOUR 0-23	1	✓	✓	✓	✓	✓
1774	ushort	1	MINUTE	MINUTES 0-59	1	✓	✓	✓	✓	✓
1775	ushort	1	Second	SECONDS 0-59	1	✓	✓	✓	✓	✓
1776	ushort	1	DAY	0 : SUNDAY 1: MONDAY 2: TUESDAY 3: WEDNESDAY 4: THURDAY 5: FRIDAY 6: SATURDAY	1	✓	✓	✓	✓	✓
1777	short	1	-	-24 -- +24		✓	✓	✓	✓	✓

1778	ushort	1	-	0: DISABLE 1: EUROPE 2: AMERICA 3: MANUAL	1	✓	✓	✓	✓	✓
1779	ushort	1	month	DST Start Month: 1-12	1	✓	✓	✓	✓	✓
177A	ushort	1	week	DST Start Week: 0: First 1: Second 2: Third 3: Fourth 4: Last	1	✓	✓	✓	✓	✓
177B	ushort	1	DAY	DST Start DAY: 0 : SUNDAY 1: MONDAY 2: TUESDAY 3: WEDNESDAY 4: THURDAY 5: FRIDAY 6: SATURDAY	1	✓	✓	✓	✓	✓
177C	ushort	1	hour	DST Start Hour: 0-23	1	✓	✓	✓	✓	✓
177D	ushort	1	month	DST End Month: 1-12	1	✓	✓	✓	✓	✓
177E	ushort	1	week	DST END Week: 0: First 1: Second 2: Third 3: Fourth 4: Last	1	✓	✓	✓	✓	✓
177F	ushort	1	DAY	DST END DAY: 0 : SUNDAY 1: MONDAY 2: TUESDAY 3: WEDNESDAY 4: THURDAY 5: FRIDAY 6: SATURDAY	1	✓	✓	✓	✓	✓
1780	ushort	1	hour	DST End Hour: 0-23	1	✓	✓	✓	✓	✓
1781	ushort	1	-	DST_STATUS	1	✓	✓	✓	✓	✓

**TARIFF SETTINGS OF SATURDAY**

Supported Functions	Start Address	Register Counts
Read holding registers	22000	16
Write single register		
Write multiple registers		

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
55F0	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256				✓	✓
55F1	ushort	1	-	Tariff Number Settings : 0-8	1				✓	✓
55F2	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256					
55F3	ushort	1	-	Tariff Number Settings : 0-8	1				✓	✓
55F4	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256				✓	✓
55F5	ushort	1	-	Tariff Number Settings : 0-8	1				✓	✓
55F6	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256				✓	✓
55F7	ushort	1	-	Tariff Number Settings : 0-8	1					
55F8	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256				✓	✓
55F9	ushort	1	-	Tariff Number Settings : 0-8	1				✓	✓
55FA	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256				✓	✓

55FB	ushort	1	-	Tariff Number Settings : 0-8	1				✓	✓
55FC	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256					
55FD	ushort	1	-	Tariff Number Settings : 0-8	1				✓	✓
55FE	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256				✓	✓
55FF	ushort	1	-	Tariff Number Settings : 0-8	1				✓	✓

**TARIFF SETTINGS OF SUNDAY**

Supported Functions	Start Address	Register Counts
Read holding registers	9000	16
Write single register		
Write multiple registers		

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
2328	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256				✓	✓
2329	ushort	1	-	Tariff Number Settings : 0-8	1				✓	✓
232A	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256					
232B	ushort	1	-	Tariff Number Settings : 0-8	1				✓	✓
232C	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256				✓	✓
232D	ushort	1	-	Tariff Number Settings : 0-8	1				✓	✓
232E	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256				✓	✓
232F	ushort	1	-	Tariff Number Settings : 0-8	1					
2330	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256				✓	✓
2331	ushort	1	-	Tariff Number Settings : 0-8	1				✓	✓
2332	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256				✓	✓
2333	ushort	1	-	Tariff Number Settings : 0-8	1				✓	✓
2334	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256					
2335	ushort	1	-	Tariff Number Settings : 0-8	1				✓	✓
2336	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256				✓	✓
2337	ushort	1	-	Tariff Number Settings : 0-8	1				✓	✓

**TARIFF SETTINGS OF WEEKDAY**

Supported Functions	Start Address	Register Counts
Read holding registers	9000	16
Write single register		
Write multiple registers		

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
2710	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256				✓	✓
2711	ushort	1	-	Tariff Number Settings : 0-8	1				✓	✓

2712	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256						
2713	ushort	1	-	Tariff Number Settings : 0-8	1				✓	✓	
2714	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256				✓	✓	
2715	ushort	1	-	Tariff Number Settings : 0-8	1				✓	✓	
2716	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256				✓	✓	
2717	ushort	1	-	Tariff Number Settings : 0-8	1						
2718	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256				✓	✓	
2719	ushort	1	-	Tariff Number Settings : 0-8	1				✓	✓	
271A	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256				✓	✓	
271B	ushort	1	-	Tariff Number Settings : 0-8	1				✓	✓	
271C	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256						
271D	ushort	1	-	Tariff Number Settings : 0-8	1				✓	✓	
271E	ushort	1	Hour/Minutes	Start Hour and Start Minutes Settings: Hour * 256 + Minute	Hour Value: Register Value / 256 Minute Value: Register Value % 256				✓	✓	
271F	ushort	1	-	Tariff Number Settings : 0-8	1				✓	✓	

### ALARM STATUS

Supported Functions	Start Address	Register Counts
Read holding registers	20000	36

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
4E20	ushort	1	-	Alarm Output Number : 0 - 3	1	✓	✓	✓	✓	✓
4E21	ushort	1	-	Alarm 1 on lower threshold cause: 0x0000: Alarm Yok 0x0011: VLN1, 0x0012: VLN2, 0x0013: VLN1 + VLN2 0x0014: VLN3, 0x0015: VLN1 + VLN3, 0x0016: VLN2 + VLN3 0x0017: VLN1 + VLN2 + VLN3, 0x0018: VLN4 0x0021: VLL1, 0x0022: VLL2, 0x0023: VLL1 + VLL2, 0x0024: VLL3 0x0025: VLL1 + VLL3, 0x0026: VLL2 + VLL3, 0x0027: VLL1 + VLL2 + VLL3 0x0031: IL1, 0x0032: IL2, 0x0033: IL1 + IL2, 0x0034: IL3, 0x0035: IL1 + IL3 0x0036: IL2 + IL3, 0x0037: IL1 + IL2 + IL3 0x0038: IL4 0x0040: IN 0x0051: P1, 0x0052: P2, 0x0053: P1 + P2, 0x0054: P3, 0x0055: P1 + P3 0x0056: P2 + P3, 0x0057: P1 + P2 + P3, 0x0058: P4 0x0060: PSUM IMP 0x0070: PSUM EXP, 0x0080: PSUM 0x0091: Q1, 0x0092: Q2, 0x0093: Q1 + Q2, 0x0094: Q3, 0x0095: Q1 + Q3 0x0096: Q2 + Q3, 0x0097: Q1 + Q2 + Q3, 0x0098: Q4 0x00A0: QSUM IMP, 0x00B0: QSUM EXP, 0x00C0: QSUM 0x00D1: S1, 0x00D2: S2, 0x00D3: S1 + S2, 0x00D4: S3, 0x00D5: S1 + S3 0x00D6: S2 + S3, 0x00D7: S1 + S2 + S3, 0x00D8: S4 0x00E0: SSUM IMP, 0x00F0: SSUM EXP, 0x0100: SSUM, 0x0111: IL1 Demand, 0x0112: IL2 Demand, 0x0113: IL1 + IL2 Demand, 0x0114: IL3 Demand, 0x0115: IL1 + IL3 Demand, 0x0116: IL2 + IL3 Demand, 0x0117: IL1 + IL2 + IL3 Demand, 0x0118: IL4 Demand 0x0120: IN Demand, 0x0131: P1 Demand, 0x0132: P2 Demand, 0x0133: P1 + P2 Demand, 0x0134: P3 Demand, 0x0135: P1 + P3, 0x0136: P2 + P3 Demand, 0x0137: P1 + P2 + P3 Demand, 0x0138: P4 Demand 0x0140: PSUM Demand Imp	1	✓	✓	✓	✓	✓
4E22	int	2	Depends on parameter.	Alarm 1 on lower threshold min value	Depends on parameter	✓	✓	✓	✓	✓



4E24	ushort	1	-	Alarm1 on upper threshold cause: 0x0000: Alarm Yok 0x0011: VLN1, 0x0012: VLN2, 0x0013: VLN1 + VLN2 0x0014: VLN3, 0x0015: VLN1 + VLN3, 0x0016: VLN2 + VLN3 0x0017: VLN1 + VLN2 + VLN3, 0x0018: VLN4 0x0021: VLL1, 0x0022: VLL2, 0x0023: VLL1 + VLL2, 0x0024: VLL3 0x0025: VLL1 + VLL3, 0x0026: VLL2 + VLL3, 0x0027: VLL1 + VLL2 + VLL3 0x0031: IL1, 0x0032: IL2, 0x0033: IL1 + IL2, 0x0034: IL3, 0x0035: IL1 + IL3 0x0036: IL2 + IL3, 0x0037: IL1 + IL2 + IL3 0x0038: IL4 0x0040: IN 0x0051: P1, 0x0052: P2, 0x0053: P1 + P2, 0x0054: P3, 0x0055: P1 + P3 0x0056: P2 + P3, 0x0057: P1 + P2 + P3, 0x0058: P4 0x0060: PSUM IMP 0x0070: PSUM EXP, 0x0080: PSUM 0x0091: Q1, 0x0092: Q2, 0x0093: Q1 + Q2, 0x0094: Q3, 0x0095: Q1 + Q3 0x0096: Q2 + Q3, 0x0097: Q1 + Q2 + Q3, 0x0098: Q4 0x00A0: QSUM IMP, 0x00B0: QSUM EXP, 0x00C0: QSUM 0x00D1: S1, 0x00D2: S2, 0x00D3: S1 + S2, 0x00D4: S3, 0x00D5: S1 + S3 0x00D6: S2 + S3, 0x00D7: S1 + S2 + S3, 0x00D8: S4 0x00E0: SSUM IMP, 0x00F0: SSUM EXP, 0x0100: SSUM, 0x0111:IL1 Demand, 0x0112: IL2 Demand, 0x0113: IL1 + IL2 Demand, 0x0114: IL3 Demand, 0x0115: IL1 + IL3 Demand, 0x0116: IL2 + IL3 Demand, 0x0117: IL1 + IL2 + IL3 Demand, 0x0118: IL4 Demand 0x0120: IN Demand, 0x0131: P1 Demand, 0x0132: P2 Demand, 0x0133: P1 + P2 Demand, 0x0134: P3 Demand, 0x0135: P1 + P3, 0x0136: P2 + P3 Demand, 0x0137: P1 + P2 + P3 Demand, 0x0138: P4 Demand 0x0140: PSUM Demand Imp	1	✓	✓	✓	✓	✓
4E25	int	2	Depends on parameter	Alarm 1 on upper threshold max. value	Depends on parameter	✓	✓	✓	✓	✓
4E27	uint	2	s	Alarm 1 Duration	1	✓	✓	✓	✓	✓
.....	.....	.....	.....	.....	.....	✓	✓	✓	✓	✓
.....	.....	.....	.....	.....	.....	✓	✓	✓	✓	✓
.....	.....	.....	.....	.....	.....	✓	✓	✓	✓	✓
4E3B	ushort	1	-	Alarm Output Number : 0 - 3	1	✓	✓	✓	✓	✓
4E3C	ushort	1	-	Alarm4 on lower threshold cause: 0x0000: Alarm Yok 0x0011: VLN1, 0x0012: VLN2, 0x0013: VLN1 + VLN2 0x0014: VLN3, 0x0015: VLN1 + VLN3, 0x0016: VLN2 + VLN3 0x0017: VLN1 + VLN2 + VLN3, 0x0018: VLN4 0x0021: VLL1, 0x0022: VLL2, 0x0023: VLL1 + VLL2, 0x0024: VLL3 0x0025: VLL1 + VLL3, 0x0026: VLL2 + VLL3, 0x0027: VLL1 + VLL2 + VLL3 0x0031: IL1, 0x0032: IL2, 0x0033: IL1 + IL2, 0x0034: IL3, 0x0035: IL1 + IL3 0x0036: IL2 + IL3, 0x0037: IL1 + IL2 + IL3 0x0038: IL4 0x0040: IN 0x0051: P1, 0x0052: P2, 0x0053: P1 + P2, 0x0054: P3, 0x0055: P1 + P3 0x0056: P2 + P3, 0x0057: P1 + P2 + P3, 0x0058: P4 0x0060: PSUM IMP 0x0070: PSUM EXP, 0x0080: PSUM 0x0091: Q1, 0x0092: Q2, 0x0093: Q1 + Q2, 0x0094: Q3, 0x0095: Q1 + Q3 0x0096: Q2 + Q3, 0x0097: Q1 + Q2 + Q3, 0x0098: Q4 0x00A0: QSUM IMP, 0x00B0: QSUM EXP, 0x00C0: QSUM 0x00D1: S1, 0x00D2: S2, 0x00D3: S1 + S2, 0x00D4: S3, 0x00D5: S1 + S3 0x00D6: S2 + S3, 0x00D7: S1 + S2 + S3, 0x00D8: S4 0x00E0: SSUM IMP, 0x00F0: SSUM EXP, 0x0100: SSUM, 0x0111:IL1 Demand, 0x0112: IL2 Demand, 0x0113: IL1 + IL2 Demand, 0x0114: IL3 Demand, 0x0115: IL1 + IL3 Demand, 0x0116: IL2 + IL3 Demand, 0x0117: IL1 + IL2 + IL3 Demand, 0x0118: IL4 Demand 0x0120: IN Demand, 0x0131: P1 Demand, 0x0132: P2 Demand, 0x0133: P1 + P2 Demand, 0x0134: P3 Demand, 0x0135: P1 + P3, 0x0136: P2 + P3 Demand, 0x0137: P1 + P2 + P3 Demand, 0x0138: P4 Demand 0x0140: PSUM Demand Imp	1	✓	✓	✓	✓	✓
4E3D	int	2	Depends on parameter	Alarm 4 on lower threshold min value	Depends on parameter	✓	✓	✓	✓	✓

4E3F	ushort	1	-	Alarm4 on upper threshold cause: 0x0000: Alarm Yok 0x0011: VLN1, 0x0012: VLN2, 0x0013: VLN1 + VLN2 0x0014: VLN3, 0x0015: VLN1 + VLN3, 0x0016: VLN2 + VLN3 0x0017: VLN1 + VLN2 + VLN3, 0x0018: VLN4 0x0021: VLL1, 0x0022: VLL2, 0x0023: VLL1 + VLL2, 0x0024: VLL3 0x0025: VLL1 + VLL3, 0x0026: VLL2 + VLL3, 0x0027: VLL1 + VLL2 + VLL3 0x0031: IL1, 0x0032: IL2, 0x0033: IL1 + IL2, 0x0034: IL3, 0x0035: IL1 + IL3 0x0036: IL2 + IL3, 0x0037: IL1 + IL2 + IL3 0x0038: IL4 0x0040: IN 0x0051: P1, 0x0052: P2, 0x0053: P1 + P2, 0x0054: P3, 0x0055: P1 + P3 0x0056: P2 + P3, 0x0057: P1 + P2 + P3, 0x0058: P4 0x0060: PSUM IMP 0x0070: PSUM EXP, 0x0080: PSUM 0x0091: Q1, 0x0092: Q2, 0x0093: Q1 + Q2, 0x0094: Q3, 0x0095: Q1 + Q3 0x0096: Q2 + Q3, 0x0097: Q1 + Q2 + Q3, 0x0098: Q4 0x00A0: QSUM IMP, 0x00B0: QSUM EXP, 0x00C0: QSUM 0x00D1: S1, 0x00D2: S2, 0x00D3: S1 + S2, 0x00D4: S3, 0x00D5: S1 + S3 0x00D6: S2 + S3, 0x00D7: S1 + S2 + S3, 0x00D8: S4 0x00E0: SSUM IMP, 0x00F0: SSUM EXP, 0x0100: SSUM, 0x0111: IL1 Demand, 0x0112: IL2 Demand, 0x0113: IL1 + IL2 Demand, 0x0114: IL3 Demand, 0x0115: IL1 + IL3 Demand, 0x0116: IL2 + IL3 Demand, 0x0117: IL1 + IL2 + IL3 Demand, 0x0118: IL4 Demand 0x0120: IN Demand, 0x0131: P1 Demand, 0x0132: P2 Demand, 0x0133: P1 + P2 Demand, 0x0134: P3 Demand, 0x0135: P1 + P3, 0x0136: P2 + P3 Demand, 0x0137: P1 + P2 + P3 Demand, 0x0138: P4 Demand 0x0140: PSUM Demand Imp	1	✓	✓	✓	✓	✓
4E40	int	2	Depends on parameter.	Alarm 4 on upper threshold max. value	Depends on parameter	✓	✓	✓	✓	✓
4E42	uint	2	s	Alarm 4 Duration	1	✓	✓	✓	✓	✓

### EVENT LOG RECORD

Supported Functions	Start Address	Register Counts
Read holding registers	8016	19

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
1F50	uint	2	Unix Time	Start Time	1	✓	✓	✓	✓	✓
1F52	uint	2	Unix Time	End Time	1	✓	✓	✓	✓	✓
1F54	uint	2	Second	Duration	1	✓	✓	✓	✓	✓
1F56	ushort	1	?	Cycle	?	✓	✓	✓	✓	✓
1F57	ushort	1	-	Type	1	✓	✓	✓	✓	✓
1F58	ushort	1	-	Source	1	✓	✓	✓	✓	✓
1F59	ushort	1	-	Param	1	✓	✓	✓	✓	✓
1F5A	int	2	Depends on parameter	High	Depends on parameter	✓	✓	✓	✓	✓
1F5C	int	2	Depends on parameter	Low	Depends on parameter	✓	✓	✓	✓	✓
1F5E	int	2	Depends on parameter	High Value	Depends on parameter	✓	✓	✓	✓	✓
1F60	int	2	Depends on parameter	Low Value	Depends on parameter	✓	✓	✓	✓	✓
1F62	ushort	1	-	Index	1	✓	✓	✓	✓	✓

Supported Functions	Start Address	Register Counts
Write holding registers	8000	2

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
1F40	short	1	-	Record Index: -1 : Next Record 1-500: Record Index	-	✓	✓	✓	✓	✓

### RESET

Supported Functions	Start Address	Register Counts
Write holding registers	14000	1

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
36B0	ushort	1	-	Reset Action Code: 0x01: MAX 0x02: MIN 0x04: DEMAND 0x08: MAX DEMAND 0x10: ENERGY 0x20: TARIFF ENERGY 0x40: JENERATOR ENERGY 0x80: PULSE COUNTER 0x100: WORKING HOUR 0x600 All	-	✓	✓	✓	✓	✓

### Record Settings

Supported Functions	Start Address	Register Counts
Read holding registers	21000	15
Write single register		

**Write multiple registers**

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
5208	ushort	1	-	Profile Records Enable: 0: Disable 1: Enable	1			✓	✓	✓
5209	ushort	1	-	Profile Synchronizing: 0: Disable 1: Enable	1			✓	✓	✓
520A	ushort	1	Minutes	Profile Records Record Time: 0: 1 Minute 1: 5 Minutes 2: 10 Minutes 3: 15 Minutes 4: 20 Minutes 5: 30 Minutes 6: 60 Minutes	1			✓	✓	✓
520B	ushort	1	-	Current Records Enable:	1			✓	✓	✓
520C	ushort	1	-	Current Synchronizing: 0: Disable 1: Enable	1			✓	✓	✓
520D	ushort	1	Minutes	Current Records Record Time: 0: 1 Minute 1: 5 Minutes 2: 10 Minutes 3: 15 Minutes 4: 20 Minutes 5: 30 Minutes 6: 60 Minutes	1			✓	✓	✓
520E	ushort	1	-	Voltage Records Enable: 0: Disable 1: Enable	1			✓	✓	✓
520F	ushort	1	-	Voltage Synchronizing: 0: Disable 1: Enable	1			✓	✓	✓
5210	ushort	1	Minutes	Voltage Records Record Time: 0: 1 Minute 1: 5 Minutes 2: 10 Minutes 3: 15 Minutes 4: 20 Minutes 5: 30 Minutes 6: 60 Minutes	1			✓	✓	✓
5211	ushort	1	-	Power Records Enable: 0: Disable 1: Enable	1			✓	✓	✓
5212	ushort	1	-	Power Synchronizing: 0: Disable 1: Enable	1			✓	✓	✓
5213	ushort	1	Minutes	Power Records Record Time: 0: 1 Minute 1: 5 Minutes 2: 10 Minutes 3: 15 Minutes 4: 20 Minutes 5: 30 Minutes 6: 60 Minutes	1			✓	✓	✓
5214	ushort	1	-	THD Records Enable: 0: Disable 1: Enable	1			✓	✓	✓
5215	ushort	1	-	THD Synchronizing: 0: Disable 1: Enable	1			✓	✓	✓
5216	ushort	1	Minutes	THD Records Record Time: 0: 1 Minute 1: 5 Minutes 2: 10 Minutes 3: 15 Minutes 4: 20 Minutes 5: 30 Minutes 6: 60 Minutes	1			✓	✓	✓

**Records Time Stamp Register**

Supported Functions	Start Address	Register Counts
Write multiple registers	21100	10

The index of record, which is closest to the date written in this register will be written in record index register at address 21200-21209.  
If 0xFFFFFFFF is written, the last index record will be saved in record index register at address 21200-21209

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
526C	uint	2	Unix Time	Profile Records Time Stamp	1			✓	✓	✓
526E	uint	2	Unix Time	Voltage Records Time Stamp	1			✓	✓	✓
5270	uint	2	Unix Time	Current Records Time Stamp	1			✓	✓	✓
5272	uint	2	Unix Time	Power Records Time Stamp	1			✓	✓	✓
5274	uint	2	Unix Time	THD Records Time Stamp	1			✓	✓	✓

### Records Index Register

Supported Functions	Start Address	Register Counts
Read holding registers	21200	10
Write multiple registers		

The index values which is closest in the date written in time stamp register will be read in this register.

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
52D0	uint	2	-	Profile Records Index Register	1			✓	✓	✓
52D2	uint	2	-	Voltage Records Index Register	1			✓	✓	✓
52D4	uint	2	-	Current Records Index Register	1			✓	✓	✓
52D6	uint	2	-	Power Records Index Register	1			✓	✓	✓
52D8	uint	2	-	THD Records Index Register	1			✓	✓	✓

### Profile Records

Supported Functions	Start Address	Register Counts
Read holding registers	23000	28

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
59D8	uint	2	Unix Time	Record Start Time	1			✓	✓	✓
59DA	uint	2	Unix Time	Record End Time	1			✓	✓	✓
59DC	uint	2	W	Consumed Active Energy	1			✓	✓	✓
59DE	uint	2	VAR	Q1 Reactive Energy	1			✓	✓	✓
59E0	uint	2	VAR	Q4 Reactive Energy	1			✓	✓	✓
59E2	uint	2	VA	Consumed Apperant Energy	1			✓	✓	✓
59E4	uint	2	W	Delivered Active Energy	1			✓	✓	✓
59E6	uint	2	VAR	Q2 Reactive Energy	1			✓	✓	✓
59E8	uint	2	VAR	Q3 Reactive Energy	1			✓	✓	✓
59EA	uint	2	VA	Delivered Apperant Energy	1			✓	✓	✓
59EC	uint	2	W	Consumed Active Energy Tariff Generator	1			✓	✓	✓
59EE	ushort	1	-	Pulse Counter 1	1			✓	✓	✓
59EF	ushort	1	-	Pulse Counter 2	1			✓	✓	✓
59F0	ushort	1	-	Pulse Counter 3	1			✓	✓	✓
59F1	ushort	1	-	Pulse Counter 4	1			✓	✓	✓
59F2	uint	2	-	Record Index	1			✓	✓	✓

### Current Records

Supported Functions	Start Address	Register Counts
Read holding registers	24000	30

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
5DC0	uint	2	Unix Time	Record End Time	1			✓	✓	✓
5DC2	uint	2	Unix Time	Record Start Time	1			✓	✓	✓
5DC4	uint	2	A	Average Current IL1	0.001			✓	✓	✓
5DC6	uint	2	A	Average Current IL2	0.001			✓	✓	✓
5DC8	uint	2	A	Average Current IL3	0.001			✓	✓	✓
5DCA	uint	2	A	Average Current ILN	0.001			✓	✓	✓
5DCC	uint	2	A	Max Current IL1	0.001			✓	✓	✓
5DCE	uint	2	A	Max Current IL2	0.001			✓	✓	✓
5DD0	uint	2	A	Max Current IL3	0.001			✓	✓	✓
5DD2	uint	2	A	Max Current ILN	0.001			✓	✓	✓
5DD4	uint	2	A	Min Current IL1	0.001			✓	✓	✓
5DD6	uint	2	A	Min Current IL2	0.001			✓	✓	✓
5DD8	uint	2	A	Min Current IL3	0.001			✓	✓	✓
5DDA	uint	2	A	Min Current ILN	0.001			✓	✓	✓
5DDC	uint	2	-	Record Index	1			✓	✓	✓

### Voltage Records

Supported Functions	Start Address	Register Counts
Read holding registers	25000	54

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
61A8	uint	2	-	Record End Time	1			✓	✓	✓
61AA	uint	2	Unix Time	Record Start Time	1			✓	✓	✓
61AC	uint	2	V	Voltage L1-N	0.1			✓	✓	✓
61AE	uint	2	V	Voltage L2-N	0.1			✓	✓	✓
61B0	uint	2	V	Voltage L3-N	0.1			✓	✓	✓
61B2	uint	2	V	Voltage L4-N	0.1			✓	✓	✓
61B4	uint	2	V	Voltage L1-L2	0.1			✓	✓	✓
61B6	uint	2	V	Voltage L2-L3	0.1			✓	✓	✓
61B8	uint	2	V	Voltage L3-L1	0.1			✓	✓	✓
61BA	uint	2	Hz	Frequency	0.01			✓	✓	✓
61BC	uint	2	V	Voltage L1-N	0.1			✓	✓	✓
61BE	uint	2	V	Voltage L2-N	0.1			✓	✓	✓
61C0	uint	2	V	Voltage L3-N	0.1			✓	✓	✓
61C2	uint	2	V	Voltage L4-N	0.1			✓	✓	✓
61C4	uint	2	V	Voltage L1-L2	0.1			✓	✓	✓
61C6	uint	2	V	Voltage L2-L3	0.1			✓	✓	✓
61C8	uint	2	V	Voltage L3-L1	0.1			✓	✓	✓
61CA	uint	2	Hz	Frequency	0.01			✓	✓	✓

61CC	uint	2	V	Voltage L1-N	0.1			✓	✓	✓
61CE	uint	2	V	Voltage L2-N	0.1			✓	✓	✓
61D0	uint	2	V	Voltage L3-N	0.1			✓	✓	✓
61D2	uint	2	V	Voltage L4-N	0.1			✓	✓	✓
61D4	uint	2	V	Voltage L1-L2	0.1			✓	✓	✓
61D6	uint	2	V	Voltage L2-L3	0.1			✓	✓	✓
61D8	uint	2	V	Voltage L3-L1	0.1			✓	✓	✓
61DA	uint	2	Hz	Frequency	0.01			✓	✓	✓
61DC	uint	2	-	Record Index	1			✓	✓	✓

### Power Records

Supported Functions	Start Address	Register Counts
Read holding registers	26000	64

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
6590	uint	2	Unix Time	Record End Time	1			✓	✓	✓
6592	uint	2	Unix Time	Record Start Time	1			✓	✓	✓
6594	float	2	W	Total Import Active Power	1			✓	✓	✓
6596	float	2		Total Export Active Power	1			✓	✓	✓
6598	float	2	VAR	Quadrant 1 average total reactive power	1			✓	✓	✓
659A	float	2	VAR	Quadrant 2 average total reactive power	1			✓	✓	✓
659C	float	2		Quadrant 3 average total ractive power	1			✓	✓	✓
659E	float	2		Quadrant 4 average total reactive power	1			✓	✓	✓
65A0	float	2	VA	Average total import apparent power	1			✓	✓	✓
65A2	float	2	W	Average total export apparent power	1			✓	✓	✓
65A4	uint	2	-	Average total inductive import cosphi value	0.001			✓	✓	✓
65A6	uint	2	-	Average total capacitive import cosphi value	0.001			✓	✓	✓
65A8	uint	2	-	Average total inductive export cosphi value	0.001			✓	✓	✓
65AA	uint	2	-	Average total capacitive export cosphi value	0.001			✓	✓	✓
65AC	uint	2	-	Average total PF	0.001			✓	✓	✓
65AE	float	2	W	Max. Total import active power	1			✓	✓	✓
65B0	float	2	W	Max. Total export active power	1			✓	✓	✓
65B2	float	2	VAR	Max. Total Q1 Reactive Power	1			✓	✓	✓
65B4	float	2	VAR	Max. Total Q2 Reactive Power	1			✓	✓	✓
65B6	float	2	VAR	Max. Total Q3 Reactive Power	1			✓	✓	✓
65B8	float	2	VAR	Max. Total Q4 Reactive Power	1			✓	✓	✓
65BA	float	2	VA	Max. Total Import Apparent Power	1			✓	✓	✓
65BC	float	2	VA	Max. Total Export Apparent Power	1			✓	✓	✓
65BE	float	2	W	Min. Total Import Active Power	1			✓	✓	✓
65C0	float	2	W	Min. Total Export Active Power	1			✓	✓	✓
65C2	float	2	VAR	Min. Total Q1 Reactive Power	1			✓	✓	✓
65C4	float	2	VAR	Min. Total Q2 Reactive Power	1			✓	✓	✓
65C6	float	2	VAR	Min. Total Q3 Reactive Power	1			✓	✓	✓
65C8	float	2	VAR	Min. Total Q4 Reactive Power	1			✓	✓	✓
65CA	float	2	VA	Min. Total Import Apparent Power	1			✓	✓	✓
65CC	float	2	VA	Min. Total Export Apparent Power	1			✓	✓	✓
65CE	uint	2	-	Record Index	1			✓	✓	✓

### THD Records

Supported Functions	Start Address	Register Counts
Read holding registers	27000	60

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
6978	uint	2	-	Record Index	1			✓	✓	✓
697A	uint	2	Unix Time	Record Time	1			✓	✓	✓
697C	uint	2	%	Average Total Harmonic Distorsion VL1	0.1			✓	✓	✓
697E	uint	2	%	Average Total Harmonic Distorsion VL2	0.1			✓	✓	✓
6980	uint	2	%	Average Total Harmonic Distorsion VL3	0.1			✓	✓	✓
6982	uint	2	%	Average Total Harmoic Distorsion VLL12	0.1			✓	✓	✓
6984	uint	2	%	Average Total Harmoic Distorsion VLL23	0.1			✓	✓	✓
6986	uint	2	%	Average Total Harmoic Distorsion VLL31	0.1			✓	✓	✓
6988	uint	2	%	Average Total Harmonic Distorsion IL1	0.1			✓	✓	✓
698A	uint	2	%	Average Total Harmonic Distorsion IL2	0.1			✓	✓	✓
698C	uint	2	%	Average Total Harmonic Distorsion IL3	0.1			✓	✓	✓
698E	uint	2	%	Max Total Harmonic Distorsion VL1	0.1			✓	✓	✓
6990	uint	2	%	Max Total Harmonic Distorsion VL2	0.1			✓	✓	✓
6992	uint	2	%	Max Total Harmonic Distorsion VL3	0.1			✓	✓	✓
6994	uint	2	%	Max Total Harmoic Distorsion VLL12	0.1			✓	✓	✓
6996	uint	2	%	Max Total Harmoic Distorsion VLL23	0.1			✓	✓	✓
6998	uint	2	%	Max otal Harmoic Distorsion VLL31	0.1			✓	✓	✓
699A	uint	2	%	Max Total Harmonic Distorsion IL1	0.1			✓	✓	✓
699C	uint	2	%	Max Total Harmonic Distorsion IL2	0.1			✓	✓	✓
699E	uint	2	%	Max Total Harmonic Distorsion IL3	0.1			✓	✓	✓
69A0	uint	2	%	Min Total Harmonic Distorsion VL1	0.1			✓	✓	✓
69A2	uint	2	%	Min Total Harmonic Distorsion VL2	0.1			✓	✓	✓
69A4	uint	2	%	Min Total Harmonic Distorsion VL3	0.1			✓	✓	✓
69A6	uint	2	%	Min Total Harmoic Distorsion VLL12	0.1			✓	✓	✓
69A8	uint	2	%	Min Total Harmoic Distorsion VLL23	0.1			✓	✓	✓
69AA	uint	2	%	Min Total Harmoic Distorsion VLL31	0.1			✓	✓	✓
69AC	uint	2	%	Min Total Harmonic Distorsion IL1	0.1			✓	✓	✓
69AE	uint	2	%	Min Total Harmonic Distorsion IL2	0.1			✓	✓	✓
69B0	uint	2	%	Min Total Harmonic Distorsion IL3	0.1			✓	✓	✓
69B2	uint	2	-	Record Index	1			✓	✓	✓

### Device Identification

Supported Functions	Start Address	Register Counts
Read holding registers	60416	16

Address Hex	Format	Word Counts	Unit	Remarks	Multiplier	MPR34S-11	MPR34S-20	MPR45S	MPR46S	MPR47S
EC00	ushort	1	-	Device ID	1	✓	✓	✓	✓	✓
EC01	ushort	1	-	Device ID && Versiyon No	1	✓	✓	✓	✓	✓
EC02	uint	2	-	Serial Number	1	✓	✓	✓	✓	✓
EC04	uint	2	-	Software Version	1	✓	✓	✓	✓	✓
EC06	uint	2	-	Hardware Version	1	✓	✓	✓	✓	✓
EC08	uint	2	-	Modbus Table Version	1	✓	✓	✓	✓	✓
EC0A	uint	2	-	Boot loader version	1	✓	✓	✓	✓	✓
EC0C	uint	2	Unix Time	Fabrication Date	1	✓	✓	✓	✓	✓
EC0E	uint	2	Unix Time	Calibration Date	1	✓	✓	✓	✓	✓

MODEL	Available Features
MPR45	Work Hour, Event Logs
MPR45S	Work Hour, Alarm, Records, Event Logs
MPR46	Work Hour, Event Logs
MPR46S	Work Hour, Alarm, Records, Event Logs
MPR47S	Work Hour, Alarm, Records, Event Logs