PQM-1000s Register Map Ver 2.0.02

| 1reg = 2bytes (16bit) |
| short int = 16 bit |
| integer = 32 bit |
| long int = 64 bit |
| neg P = export |
| neg Q = capacitive |

Modbus Error Code => 1: non recognized function
2: data request out of range

Instantaneous Parameter

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
0000	Ampere L1	R	A	0.001	unsigned int		4	0
0002	Ampere L2	R	A	0.001	unsigned int		4	2
0004	Ampere L3	R	A	0.001	unsigned int		4	4
0006	Ampere (Neutral current)	R	A	0.001	unsigned int		4	6
0008	Voltage L1	R	V	0.1	unsigned int		4	8
000A	Voltage L2	R	V	0.1	unsigned int		4	10
000C	Voltage L3	R	V	0.1	unsigned int		4	12
000E	Voltage L12	R	V	0.1	unsigned int		4	14
0010	Voltage L23	R	V	0.1	unsigned int		4	16
0012	Voltage L31	R	V	0.1	unsigned int		4	18
0014	Voltage Assym	R	%	0.1	unsigned short int		2	20
0015	Frequency	R	Hz	0.01	unsigned short int		2	21
0016	kW L1	R	W	0.1	int	neg => export	4	22
0018	kW L2	R	W	0.1	int	neg => export	4	24
001A	kW L3	R	W	0.1	int	neg => export	4	26
001C	kVar L1	R	Var	0.1	int	neg => capacitive	4	28
001E	kVar L2	R	Var	0.1	int	neg => capacitive	4	30
0020	kVar L3	R	Var	0.1	int	neg => capacitive	4	32
0022	kVA L1	R	VA	0.1	unsigned int		4	34
0024	kVA L2	R	VA	0.1	unsigned int		4	36
0026	kVA L3	R	VA	0.1	unsigned int		4	38
0028	PF L1	R	-	0.001	short int	neg => capacitive	2	40
0029	PF L2	R	-	0.001	short int	neg => capacitive	2	41
002A	PF L3	R	-	0.001	short int	neg => capacitive	2	42
002B	PF avg	R	-	0.001	short int	neg => capacitive	2	43
002C	Cos L1	R	-	0.001	short int	neg => capacitive	2	44
002D	Cos L2	R	-	0.001	short int	neg => capacitive	2	45
002E	Cos L3	R	-	0.001	short int	neg => capacitive	2	46
002F	Cos avg	R	-	0.001	short int	neg => capacitive	2	47
0030	Energy Import (kWh)	R/W	kWh	0.1	unsigned int		8	48
0034	Energy Export (kWh)	R/W	kWh	0.1	unsigned int		8	52
0038	Energy Inductive (kVarh)	R/W	kVarh	0.1	unsigned int		8	56
003C	Energy Capacitive (kVarh)	R/W	kVarh	0.1	unsigned int		8	60
0040	Energy Apparent (kVAh)	R/W	kVAh	0.1	unsigned int		8	64
0044	Max Dmd kW L1 (import)	R/W	W	0.1	unsigned int		4	68
0046	Max Dmd kW L2 (import)	R/W	W	0.1	unsigned int		4	70
0048	Max Dmd kW L3 (import)	R/W	W	0.1	unsigned int		4	72
004A	Max Dmd kW Total (import)	R/W	W	0.1	unsigned int		4	74
004C	Max Dmd kVA L1	R/W	VA	0.1	unsigned int		4	76
004E	Max Dmd kVA L2	R/W	VA	0.1	unsigned int		4	78
0050	Max Dmd kVA L3	R/W	VA	0.1	unsigned int		4	80
0052	Max Dmd kVA Total	R/W	VA	0.1	unsigned int		4	82
0054	Max Dmd I L1	R/W	A	0.001	unsigned int		4	84
0056	Max Dmd I L2	R/W	A	0.001	unsigned int		4	86
0058	Max Dmd I L3	R/W	A	0.001	unsigned int		4	88
005A	Max Dmd Iavg (3phase)	R/W	A	0.001	unsigned int		4	90
005C	Prev Dmd kW L1 (import)	R/W	W	0.1	unsigned int		4	92
005E	Prev Dmd kW L2 (import)	R/W	W	0.1	unsigned int		4	94
0060	Prev Dmd kW L3 (import)	R/W	W	0.1	unsigned int		4	96
0062	Prev Dmd kW Total (import)	R/W	W	0.1	unsigned int		4	98
0064	Prev Dmd kVA L1	R/W	VA	0.1	unsigned int		4	100
0066	Prev Dmd kVA L2	R/W	VA	0.1	unsigned int		4	102
0068	Prev Dmd kVA L3	R/W	VA	0.1	unsigned int		4	104
006A	Prev Dmd kVA Total	R/W	VA	0.1	unsigned int		4	106
006C	Prev Dmd I L1	R/W	A	0.001	unsigned int		4	108
006E	Prev Dmd I L2	R/W	A	0.001	unsigned int		4	110
0070	Prev Dmd I L3	R/W	A	0.001	unsigned int		4	112
0072	Prev Dmd Iavg (3phase)	R/W	A	0.001	unsigned int		4	114
0074	Demand Elapsed Time	R/W	sec	1	unsigned short int		2	116
0075	THD V1	R	%	0.1	unsigned short int		2	117
0076	THD V2	R	%	0.1	unsigned short int		2	118
0077	THD V3	R	%	0.1	unsigned short int		2	119
0078	THD I1	R	%	0.1	unsigned short int		2	120
0079	THD I2	R	%	0.1	unsigned short int		2	121
007A	THD I3	R	%	0.1	unsigned short int		2	122
007B	kf I1	R	-	0.01	unsigned short int		2	123
007C	kf I2	R	-	0.01	unsigned short int		2	124
007D	kf I2	R	-	0.01	unsigned short int		2	125
						total bytes	252	

Instantaneous Parameter 2

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
0080	V L1 angle	R	deg	0.1	short int	0 ~ - 359.9	2	128
0081	V L2 angle	R	deg	0.1	short int	0 ~ - 359.9	2	129
0082	V L3 angle	R	deg	0.1	short int	0 ~ - 359.9	2	130
0083	I L1 angle	R	deg	0.1	short int	0 ~ - 359.9	2	131
0084	I L2 angle	R	deg	0.1	short int	0 ~ - 359.9	2	132
0085	I L3 angle	R	deg	0.1	short int	0 ~ - 359.9	2	133
0086	In angle (neutral)	R	deg	0.1	short int	0 ~ - 359.9	2	134
0087	Phase Rotation	R	-	-	short int	bit<1> = 1 => clockwise, bit<0> = 1 => valid sequence	2	135
0088	device hour run	R	sec	1	unsigned int		4	136
008A	>5% load hour run	R/W	sec	1	unsigned int		4	138
						total bytes	24	

Instantaneous Parameter 3

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
0100	total kW	R	W	0.1	int	neg => export	4	256
0102	total kVar	R	Var	0.1	int	neg => capacitive	4	258
0104	total kVA	R	VA	0.1	unsigned int		4	260
						total bytes	12	

Min / Max Parameter

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
0200	V L1 min	R/W	V	0.1	unsigned int		4	512
0202	V L2 min	R/W	V	0.1	unsigned int		4	514
0204	V L3 min	R/W	V	0.1	unsigned int		4	516
0206	V L1 max	R/W	V	0.1	unsigned int		4	518
0208	V L2 max	R/W	V	0.1	unsigned int		4	520
020A	V L3 max	R/W	V	0.1	unsigned int		4	522
020C	V assym min	R/W	%	0.1	unsigned short int		2	524
020D	V assym max	R/W	%	0.1	unsigned short int		2	525
020E	I L1 min	R/W	A	0.001	unsigned int		4	526
0210	I L2 min	R/W	A	0.001	unsigned int		4	528
0212	I L3 min	R/W	A	0.001	unsigned int		4	530
0214	I n min	R/W	A	0.001	unsigned int		4	532
0216	I L1 max	R/W	A	0.001	unsigned int		4	534
0218	I L2 max	R/W	A	0.001	unsigned int		4	536
021A	I L3 max	R/W	A	0.001	unsigned int		4	538
021C	I n max	R/W	A	0.001	unsigned int		4	540
021E	kW L1 min (import)	R/W	W	0.1	unsigned int		4	542
0220	kW L2 min (import)	R/W	W	0.1	unsigned int		4	544
0222	kW L3 min (import)	R/W	W	0.1	unsigned int		4	546
0224	kW total min (import)	R/W	W	0.1	unsigned int		4	548
0226	kW L1 max (import)	R/W	W	0.1	unsigned int		4	550
0228	kW L2 max (import)	R/W	W	0.1	unsigned int		4	552
022A	kW L3 max (import)	R/W	W	0.1	unsigned int		4	554
022C	kW total max (import)	R/W	W	0.1	unsigned int		4	556
022E	THD V L1 min	R/W	%	0.1	unsigned int		2	558
022F	THD V L2 min	R/W	%	0.1	unsigned int		2	559
0230	THD V L3 min	R/W	%	0.1	unsigned int		2	560
0231	THD V L1 max	R/W	%	0.1	unsigned int		2	561
0232	THD V L2 max	R/W	%	0.1	unsigned int		2	562
0233	THD V L3 max	R/W	%	0.1	unsigned int		2	563
0234	THD I L1 min	R/W	%	0.1	unsigned int		2	564
0235	THD I L2 min	R/W	%	0.1	unsigned int		2	565
0236	THD I L3 min	R/W	%	0.1	unsigned int		2	566
0237	THD I L1 max	R/W	%	0.1	unsigned int		2	567
0238	THD I L2 max	R/W	%	0.1	unsigned int		2	568
0239	THD I L3 max	R/W	%	0.1	unsigned int		2	569
023A	Vmax Elapsed	R	s	1	unsigned int		4	570
023C	Imax Elapsed	R	s	1	unsigned int		4	572
023E	THD Vmax Elapsed	R	s	1	unsigned int		4	574
0240	THD Imax Elapsed	R	s	1	unsigned int		4	576
						total bytes	132	

L1/L2/L3 Voltage Harmonic Spectrum Parameter_Odd Order (Secondary Value)

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
0300	V L1-Spectrum H-order 1	R	V	0.1 * vtr	unsigned int	Actual Value =	2	768
0301	V L1-Spectrum H-order 3	R	V	0.1 * vtr	unsigned int	Reg Val * vtr * 0.1	2	769
0302	V L1-Spectrum H-order 5	R	V	0.1 * vtr	unsigned int		2	770
0303	V L1-Spectrum H-order 7	R	V	0.1 * vtr	unsigned int		2	771
0304	V L1-Spectrum H-order 9	R	V	0.1 * vtr	unsigned int		2	772
0305	V L1-Spectrum H-order 11	R	V	0.1 * vtr	unsigned int		2	773
0306	V L1-Spectrum H-order 13	R	V	0.1 * vtr	unsigned int		2	774
0307	V L1-Spectrum H-order 15	R	V	0.1 * vtr	unsigned int		2	775
0308	V L1-Spectrum H-order 17	R	V	0.1 * vtr	unsigned int		2	776
0309	V L1-Spectrum H-order 19	R	V	0.1 * vtr	unsigned int		2	777
030A	V L1-Spectrum H-order 21	R	V	0.1 * vtr	unsigned int		2	778
030B	V L1-Spectrum H-order 23	R	V	0.1 * vtr	unsigned int		2	779
030C	V L1-Spectrum H-order 25	R	V	0.1 * vtr	unsigned int		2	780
030D	V L1-Spectrum H-order 27	R	V	0.1 * vtr	unsigned int		2	781
030E	V L1-Spectrum H-order 29	R	V	0.1 * vtr	unsigned int		2	782
030F	V L1-Spectrum H-order 31	R	V	0.1 * vtr	unsigned int		2	783
0310	V L2-Spectrum H-order 1	R	V	0.1 * vtr	unsigned int		2	784
0311	V L2-Spectrum H-order 3	R	V	0.1 * vtr	unsigned int		2	785
0312	V L2-Spectrum H-order 5	R	V	0.1 * vtr	unsigned int		2	786
0313	V L2-Spectrum H-order 7	R	V	0.1 * vtr	unsigned int		2	787
0314	V L2-Spectrum H-order 9	R	V	0.1 * vtr	unsigned int		2	788
0315	V L2-Spectrum H-order 11	R	V	0.1 * vtr	unsigned int		2	789
0316	V L2-Spectrum H-order 13	R	V	0.1 * vtr	unsigned int		2	790
0317	V L2-Spectrum H-order 15	R	V	0.1 * vtr	unsigned int		2	791
0318	V L2-Spectrum H-order 17	R	V	0.1 * vtr	unsigned int		2	792
0319	V L2-Spectrum H-order 19	R	V	0.1 * vtr	unsigned int		2	793
031A	V L2-Spectrum H-order 21	R	V	0.1 * vtr	unsigned int		2	794
031B	V L2-Spectrum H-order 23	R	V	0.1 * vtr	unsigned int		2	795
031C	V L2-Spectrum H-order 25	R	V	0.1 * vtr	unsigned int		2	796
031D	V L2-Spectrum H-order 27	R	V	0.1 * vtr	unsigned int		2	797
031E	V L2-Spectrum H-order 29	R	V	0.1 * vtr	unsigned int		2	798
031F	V L2-Spectrum H-order 31	R	V	0.1 * vtr	unsigned int		2	799
0320	V L3-Spectrum H-order 1	R	V	0.1 * vtr	unsigned int		2	800
0321	V L3-Spectrum H-order 3	R	V	0.1 * vtr	unsigned int		2	801
0322	V L3-Spectrum H-order 5	R	V	0.1 * vtr	unsigned int		2	802
0323	V L3-Spectrum H-order 7	R	V	0.1 * vtr	unsigned int		2	803
0324	V L3-Spectrum H-order 9	R	V	0.1 * vtr	unsigned int		2	804
0325	V L3-Spectrum H-order 11	R	V	0.1 * vtr	unsigned int		2	805
0326	V L3-Spectrum H-order 13	R	V	0.1 * vtr	unsigned int		2	806
0327	V L3-Spectrum H-order 15	R	V	0.1 * vtr	unsigned int		2	807
0328	V L3-Spectrum H-order 17	R	V	0.1 * vtr	unsigned int		2	808
0329	V L3-Spectrum H-order 19	R	V	0.1 * vtr	unsigned int		2	809
032A	V L3-Spectrum H-order 21	R	V	0.1 * vtr	unsigned int		2	810
032B	V L3-Spectrum H-order 23	R	V	0.1 * vtr	unsigned int		2	811
032C	V L3-Spectrum H-order 25	R	V	0.1 * vtr	unsigned int		2	812
032D	V L3-Spectrum H-order 27	R	V	0.1 * vtr	unsigned int		2	813
032E	V L3-Spectrum H-order 29	R	V	0.1 * vtr	unsigned int		2	814
032F	V L3-Spectrum H-order 31	R	V	0.1 * vtr	unsigned int		2	815
0330	THD V1	R	%	0.1	unsigned short int		2	816
0331	THD V2	R	%	0.1	unsigned short int		2	817
0332	THD V3	R	%	0.1	unsigned short int		2	818
						total bytes	102	

L1 Voltage Harmonic Spectrum Parameter_All (Secondary Value)

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
0340	V L1-Spectrum H-order 1	R	V	0.1 * vtr	unsigned int	Actual Value =	2	832
0341	V L1-Spectrum H-order 2	R	V	0.1 * vtr	unsigned int	Reg Val * vtr * 0.1	2	833
0342	V L1-Spectrum H-order 3	R	V	0.1 * vtr	unsigned int		2	834
0343	V L1-Spectrum H-order 4	R	V	0.1 * vtr	unsigned int		2	835
0344	V L1-Spectrum H-order 5	R	V	0.1 * vtr	unsigned int		2	836
0345	V L1-Spectrum H-order 6	R	V	0.1 * vtr	unsigned int		2	837
0346	V L1-Spectrum H-order 7	R	V	0.1 * vtr	unsigned int		2	838
0347	V L1-Spectrum H-order 8	R	V	0.1 * vtr	unsigned int		2	839
0348	V L1-Spectrum H-order 9	R	V	0.1 * vtr	unsigned int		2	840
0349	V L1-Spectrum H-order 10	R	V	0.1 * vtr	unsigned int		2	841
034A	V L1-Spectrum H-order 11	R	V	0.1 * vtr	unsigned int		2	842
034B	V L1-Spectrum H-order 12	R	V	0.1 * vtr	unsigned int		2	843
034C	V L1-Spectrum H-order 13	R	V	0.1 * vtr	unsigned int		2	844
034D	V L1-Spectrum H-order 14	R	V	0.1 * vtr	unsigned int		2	845
034E	V L1-Spectrum H-order 15	R	V	0.1 * vtr	unsigned int		2	846
034F	V L1-Spectrum H-order 16	R	V	0.1 * vtr	unsigned int		2	847
0350	V L1-Spectrum H-order 17	R	V	0.1 * vtr	unsigned int		2	848
0351	V L1-Spectrum H-order 18	R	V	0.1 * vtr	unsigned int		2	849
0352	V L1-Spectrum H-order 19	R	V	0.1 * vtr	unsigned int		2	850
0353	V L1-Spectrum H-order 20	R	V	0.1 * vtr	unsigned int		2	851
0354	V L1-Spectrum H-order 21	R	V	0.1 * vtr	unsigned int		2	852
0355	V L1-Spectrum H-order 22	R	V	0.1 * vtr	unsigned int		2	853
0356	V L1-Spectrum H-order 23	R	V	0.1 * vtr	unsigned int		2	854
0357	V L1-Spectrum H-order 24	R	V	0.1 * vtr	unsigned int		2	855
0358	V L1-Spectrum H-order 25	R	V	0.1 * vtr	unsigned int		2	856

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
0359	V L1-Spectrum H-order 26	R	V	0.1 * vtr	unsigned int		2	857
035A	V L1-Spectrum H-order 27	R	V	0.1 * vtr	unsigned int		2	858
035B	V L1-Spectrum H-order 28	R	V	0.1 * vtr	unsigned int		2	859
035C	V L1-Spectrum H-order 29	R	V	0.1 * vtr	unsigned int		2	860
035D	V L1-Spectrum H-order 30	R	V	0.1 * vtr	unsigned int		2	861
035E	V L1-Spectrum H-order 31	R	V	0.1 * vtr	unsigned int		2	862
						total bytes	62	

L2 Voltage Harmonic Spectrum Parameter_All (Secondary Value)

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
0380	V L2-Spectrum H-order 1	R	V	0.1 * vtr	unsigned int	Actual Value =	2	896
0381	V L2-Spectrum H-order 2	R	V	0.1 * vtr	unsigned int	Reg Val * vtr * 0.1	2	897
0382	V L2-Spectrum H-order 3	R	V	0.1 * vtr	unsigned int		2	898
0383	V L2-Spectrum H-order 4	R	V	0.1 * vtr	unsigned int		2	899
0384	V L2-Spectrum H-order 5	R	V	0.1 * vtr	unsigned int		2	900
0385	V L2-Spectrum H-order 6	R	V	0.1 * vtr	unsigned int		2	901
0386	V L2-Spectrum H-order 7	R	V	0.1 * vtr	unsigned int		2	902
0387	V L2-Spectrum H-order 8	R	V	0.1 * vtr	unsigned int		2	903
0388	V L2-Spectrum H-order 9	R	V	0.1 * vtr	unsigned int		2	904
0389	V L2-Spectrum H-order 10	R	V	0.1 * vtr	unsigned int		2	905
038A	V L2-Spectrum H-order 11	R	V	0.1 * vtr	unsigned int		2	906
038B	V L2-Spectrum H-order 12	R	V	0.1 * vtr	unsigned int		2	907
038C	V L2-Spectrum H-order 13	R	V	0.1 * vtr	unsigned int		2	908
038D	V L2-Spectrum H-order 14	R	V	0.1 * vtr	unsigned int		2	909
038E	V L2-Spectrum H-order 15	R	V	0.1 * vtr	unsigned int		2	910
038F	V L2-Spectrum H-order 16	R	V	0.1 * vtr	unsigned int		2	911
0390	V L2-Spectrum H-order 17	R	V	0.1 * vtr	unsigned int		2	912
0391	V L2-Spectrum H-order 18	R	V	0.1 * vtr	unsigned int		2	913
0392	V L2-Spectrum H-order 19	R	V	0.1 * vtr	unsigned int		2	914
0393	V L2-Spectrum H-order 20	R	V	0.1 * vtr	unsigned int		2	915
0394	V L2-Spectrum H-order 21	R	V	0.1 * vtr	unsigned int		2	916
0395	V L2-Spectrum H-order 22	R	V	0.1 * vtr	unsigned int		2	917
0396	V L2-Spectrum H-order 23	R	V	0.1 * vtr	unsigned int		2	918
0397	V L2-Spectrum H-order 24	R	V	0.1 * vtr	unsigned int		2	919
0398	V L2-Spectrum H-order 25	R	V	0.1 * vtr	unsigned int		2	920
0399	V L2-Spectrum H-order 26	R	V	0.1 * vtr	unsigned int		2	921
039A	V L2-Spectrum H-order 27	R	V	0.1 * vtr	unsigned int		2	922
039B	V L2-Spectrum H-order 28	R	V	0.1 * vtr	unsigned int		2	923
039C	V L2-Spectrum H-order 29	R	V	0.1 * vtr	unsigned int		2	924
039D	V L2-Spectrum H-order 30	R	V	0.1 * vtr	unsigned int		2	925
039E	V L2-Spectrum H-order 31	R	V	0.1 * vtr	unsigned int		2	926
						total bytes	62	

L3 Voltage Harmonic Spectrum Parameter_All (Secondary Value)

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
03C0	V L3-Spectrum H-order 1	R	V	0.1 * vtr	unsigned int	Actual Value =	2	960
03C1	V L3-Spectrum H-order 2	R	V	0.1 * vtr	unsigned int	Reg Val * vtr * 0.1	2	961
03C2	V L3-Spectrum H-order 3	R	V	0.1 * vtr	unsigned int		2	962
03C3	V L3-Spectrum H-order 4	R	V	0.1 * vtr	unsigned int		2	963
03C4	V L3-Spectrum H-order 5	R	V	0.1 * vtr	unsigned int		2	964
03C5	V L3-Spectrum H-order 6	R	V	0.1 * vtr	unsigned int		2	965
03C6	V L3-Spectrum H-order 7	R	V	0.1 * vtr	unsigned int		2	966
03C7	V L3-Spectrum H-order 8	R	V	0.1 * vtr	unsigned int		2	967
03C8	V L3-Spectrum H-order 9	R	V	0.1 * vtr	unsigned int		2	968
03C9	V L3-Spectrum H-order 10	R	V	0.1 * vtr	unsigned int		2	969
03CA	V L3-Spectrum H-order 11	R	V	0.1 * vtr	unsigned int		2	970
03CB	V L3-Spectrum H-order 12	R	V	0.1 * vtr	unsigned int		2	971
03CC	V L3-Spectrum H-order 13	R	V	0.1 * vtr	unsigned int		2	972
03CD	V L3-Spectrum H-order 14	R	V	0.1 * vtr	unsigned int		2	973
03CE	V L3-Spectrum H-order 15	R	V	0.1 * vtr	unsigned int		2	974
03CF	V L3-Spectrum H-order 16	R	V	0.1 * vtr	unsigned int		2	975
03D0	V L3-Spectrum H-order 17	R	V	0.1 * vtr	unsigned int		2	976
03D1	V L3-Spectrum H-order 18	R	V	0.1 * vtr	unsigned int		2	977
03D2	V L3-Spectrum H-order 19	R	V	0.1 * vtr	unsigned int		2	978
03D3	V L3-Spectrum H-order 20	R	V	0.1 * vtr	unsigned int		2	979
03D4	V L3-Spectrum H-order 21	R	V	0.1 * vtr	unsigned int		2	980
03D5	V L3-Spectrum H-order 22	R	V	0.1 * vtr	unsigned int		2	981
03D6	V L3-Spectrum H-order 23	R	V	0.1 * vtr	unsigned int		2	982
03D7	V L3-Spectrum H-order 24	R	V	0.1 * vtr	unsigned int		2	983
03D8	V L3-Spectrum H-order 25	R	V	0.1 * vtr	unsigned int		2	984
03D9	V L3-Spectrum H-order 26	R	V	0.1 * vtr	unsigned int		2	985
03DA	V L3-Spectrum H-order 27	R	V	0.1 * vtr	unsigned int		2	986
03DB	V L3-Spectrum H-order 28	R	V	0.1 * vtr	unsigned int		2	987
03DC	V L3-Spectrum H-order 29	R	V	0.1 * vtr	unsigned int		2	988
03DD	V L3-Spectrum H-order 30	R	V	0.1 * vtr	unsigned int		2	989
03DE	V L2-Spectrum H-order 31	R	V	0.1 * vtr	unsigned int		2	990

							total bytes	62

L1/L2/L3 Ampere Harmonic Spectrum Parameter_Odd Order (Secondary Value)

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
0400	I L1-Spectrum H-order 1	R	A	0.001*ctr	unsigned int	Actual value =	2	1024
0401	I L1-Spectrum H-order 3	R	A	0.001*ctr	unsigned int	Reg Val * ctr * 0.001	2	1025
0402	I L1-Spectrum H-order 5	R	A	0.001*ctr	unsigned int		2	1026
0403	I L1-Spectrum H-order 7	R	A	0.001*ctr	unsigned int		2	1027
0404	I L1-Spectrum H-order 9	R	A	0.001*ctr	unsigned int		2	1028
0405	I L1-Spectrum H-order 11	R	A	0.001*ctr	unsigned int		2	1029
0406	I L1-Spectrum H-order 13	R	A	0.001*ctr	unsigned int		2	1030
0407	I L1-Spectrum H-order 15	R	A	0.001*ctr	unsigned int		2	1031
0408	I L1-Spectrum H-order 17	R	A	0.001*ctr	unsigned int		2	1032
0409	I L1-Spectrum H-order 19	R	A	0.001*ctr	unsigned int		2	1033
040A	I L1-Spectrum H-order 21	R	A	0.001*ctr	unsigned int		2	1034
040B	I L1-Spectrum H-order 23	R	A	0.001*ctr	unsigned int		2	1035
040C	I L1-Spectrum H-order 25	R	A	0.001*ctr	unsigned int		2	1036
040D	I L1-Spectrum H-order 27	R	A	0.001*ctr	unsigned int		2	1037
040E	I L1-Spectrum H-order 29	R	A	0.001*ctr	unsigned int		2	1038
040F	I L1-Spectrum H-order 31	R	A	0.001*ctr	unsigned int		2	1039
0410	I L2-Spectrum H-order 1	R	A	0.001*ctr	unsigned int		2	1040
0411	I L2-Spectrum H-order 3	R	A	0.001*ctr	unsigned int		2	1041
0412	I L2-Spectrum H-order 5	R	A	0.001*ctr	unsigned int		2	1042
0413	I L2-Spectrum H-order 7	R	A	0.001*ctr	unsigned int		2	1043
0414	I L2-Spectrum H-order 9	R	A	0.001*ctr	unsigned int		2	1044
0415	I L2-Spectrum H-order 11	R	A	0.001*ctr	unsigned int		2	1045
0416	I L2-Spectrum H-order 13	R	A	0.001*ctr	unsigned int		2	1046
0417	I L2-Spectrum H-order 15	R	A	0.001*ctr	unsigned int		2	1047
0418	I L2-Spectrum H-order 17	R	A	0.001*ctr	unsigned int		2	1048
0419	I L2-Spectrum H-order 19	R	A	0.001*ctr	unsigned int		2	1049
041A	I L2-Spectrum H-order 21	R	A	0.001*ctr	unsigned int		2	1050
041B	I L2-Spectrum H-order 23	R	A	0.001*ctr	unsigned int		2	1051
041C	I L2-Spectrum H-order 25	R	A	0.001*ctr	unsigned int		2	1052
041D	I L2-Spectrum H-order 27	R	A	0.001*ctr	unsigned int		2	1053
041E	I L2-Spectrum H-order 29	R	A	0.001*ctr	unsigned int		2	1054
041F	I L2-Spectrum H-order 31	R	A	0.001*ctr	unsigned int		2	1055
0420	I L3-Spectrum H-order 1	R	A	0.001*ctr	unsigned int		2	1056
0421	I L3-Spectrum H-order 3	R	A	0.001*ctr	unsigned int		2	1057
0422	I L3-Spectrum H-order 5	R	A	0.001*ctr	unsigned int		2	1058
0423	I L3-Spectrum H-order 7	R	A	0.001*ctr	unsigned int		2	1059
0424	I L3-Spectrum H-order 9	R	A	0.001*ctr	unsigned int		2	1060
0425	I L3-Spectrum H-order 11	R	A	0.001*ctr	unsigned int		2	1061
0426	I L3-Spectrum H-order 13	R	A	0.001*ctr	unsigned int		2	1062
0427	I L3-Spectrum H-order 15	R	A	0.001*ctr	unsigned int		2	1063
0428	I L3-Spectrum H-order 17	R	A	0.001*ctr	unsigned int		2	1064
0429	I L3-Spectrum H-order 19	R	A	0.001*ctr	unsigned int		2	1065
042A	I L3-Spectrum H-order 21	R	A	0.001*ctr	unsigned int		2	1066
042B	I L3-Spectrum H-order 23	R	A	0.001*ctr	unsigned int		2	1067
042C	I L3-Spectrum H-order 25	R	A	0.001*ctr	unsigned int		2	1068
042D	I L3-Spectrum H-order 27	R	A	0.001*ctr	unsigned int		2	1069
042E	I L3-Spectrum H-order 29	R	A	0.001*ctr	unsigned int		2	1070
042F	I L3-Spectrum H-order 31	R	A	0.001*ctr	unsigned int		2	1071
0430	THD I1	R	%	0.1	unsigned short int		2	1072
0431	THD I2	R	%	0.1	unsigned short int		2	1073
0432	THD I3	R	%	0.1	unsigned short int		2	1074
0433	kf I1	R	-	0.01	unsigned short int		2	1075
0434	kf I2	R	-	0.01	unsigned short int		2	1076
0435	kf I2	R	-	0.01	unsigned short int		2	1077
						total bytes	108	

L1 Ampere Harmonic Spectrum Parameter_All (Secondary Value)

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
0440	I L1-Spectrum H-order 1	R	A	0.001*ctr	unsigned int	Actual Value =	2	1088
0441	I L1-Spectrum H-order 2	R	A	0.001*ctr	unsigned int	Reg Val * ctr * 0.001	2	1089
0442	I L1-Spectrum H-order 3	R	A	0.001*ctr	unsigned int		2	1090
0443	I L1-Spectrum H-order 4	R	A	0.001*ctr	unsigned int		2	1091
0444	I L1-Spectrum H-order 5	R	A	0.001*ctr	unsigned int		2	1092
0445	I L1-Spectrum H-order 6	R	A	0.001*ctr	unsigned int		2	1093
0446	I L1-Spectrum H-order 7	R	A	0.001*ctr	unsigned int		2	1094
0447	I L1-Spectrum H-order 8	R	A	0.001*ctr	unsigned int		2	1095
0448	I L1-Spectrum H-order 9	R	A	0.001*ctr	unsigned int		2	1096
0449	I L1-Spectrum H-order 10	R	A	0.001*ctr	unsigned int		2	1097
044A	I L1-Spectrum H-order 11	R	A	0.001*ctr	unsigned int		2	1098
044B	I L1-Spectrum H-order 12	R	A	0.001*ctr	unsigned int		2	1099
044C	I L1-Spectrum H-order 13	R	A	0.001*ctr	unsigned int		2	1100
044D	I L1-Spectrum H-order 14	R	A	0.001*ctr	unsigned int		2	1101

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
044E	I L1-Spectrum H-order 15	R	A	0.001*ctr	unsigned int		2	1102
044F	I L1-Spectrum H-order 16	R	A	0.001*ctr	unsigned int		2	1103
0450	I L1-Spectrum H-order 17	R	A	0.001*ctr	unsigned int		2	1104
0451	I L1-Spectrum H-order 18	R	A	0.001*ctr	unsigned int		2	1105
0452	I L1-Spectrum H-order 19	R	A	0.001*ctr	unsigned int		2	1106
0453	I L1-Spectrum H-order 20	R	A	0.001*ctr	unsigned int		2	1107
0454	I L1-Spectrum H-order 21	R	A	0.001*ctr	unsigned int		2	1108
0455	I L1-Spectrum H-order 22	R	A	0.001*ctr	unsigned int		2	1109
0456	I L1-Spectrum H-order 23	R	A	0.001*ctr	unsigned int		2	1110
0457	I L1-Spectrum H-order 24	R	A	0.001*ctr	unsigned int		2	1111
0458	I L1-Spectrum H-order 25	R	A	0.001*ctr	unsigned int		2	1112
0459	I L1-Spectrum H-order 26	R	A	0.001*ctr	unsigned int		2	1113
045A	I L1-Spectrum H-order 27	R	A	0.001*ctr	unsigned int		2	1114
045B	I L1-Spectrum H-order 28	R	A	0.001*ctr	unsigned int		2	1115
045C	I L1-Spectrum H-order 29	R	A	0.001*ctr	unsigned int		2	1116
045D	I L1-Spectrum H-order 30	R	A	0.001*ctr	unsigned int		2	1117
045E	I L1-Spectrum H-order 31	R	A	0.001*ctr	unsigned int		2	1118
						total bytes	62	

L2 Ampere Harmonic Spectrum Parameter_All (Secondary Value)

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
0480	I L2-Spectrum H-order 1	R	A	0.001*ctr	unsigned int	Actual Value =	2	1152
0481	I L2-Spectrum H-order 2	R	A	0.001*ctr	unsigned int	Reg Val * ctr * 0.001	2	1153
0482	I L2-Spectrum H-order 3	R	A	0.001*ctr	unsigned int		2	1154
0483	I L2-Spectrum H-order 4	R	A	0.001*ctr	unsigned int		2	1155
0484	I L2-Spectrum H-order 5	R	A	0.001*ctr	unsigned int		2	1156
0485	I L2-Spectrum H-order 6	R	A	0.001*ctr	unsigned int		2	1157
0486	I L2-Spectrum H-order 7	R	A	0.001*ctr	unsigned int		2	1158
0487	I L2-Spectrum H-order 8	R	A	0.001*ctr	unsigned int		2	1159
0488	I L2-Spectrum H-order 9	R	A	0.001*ctr	unsigned int		2	1160
0489	I L2-Spectrum H-order 10	R	A	0.001*ctr	unsigned int		2	1161
048A	I L2-Spectrum H-order 11	R	A	0.001*ctr	unsigned int		2	1162
048B	I L2-Spectrum H-order 12	R	A	0.001*ctr	unsigned int		2	1163
048C	I L2-Spectrum H-order 13	R	A	0.001*ctr	unsigned int		2	1164
048D	I L2-Spectrum H-order 14	R	A	0.001*ctr	unsigned int		2	1165
048E	I L2-Spectrum H-order 15	R	A	0.001*ctr	unsigned int		2	1166
048F	I L2-Spectrum H-order 16	R	A	0.001*ctr	unsigned int		2	1167
0490	I L2-Spectrum H-order 17	R	A	0.001*ctr	unsigned int		2	1168
0491	I L2-Spectrum H-order 18	R	A	0.001*ctr	unsigned int		2	1169
0492	I L2-Spectrum H-order 19	R	A	0.001*ctr	unsigned int		2	1170
0493	I L2-Spectrum H-order 20	R	A	0.001*ctr	unsigned int		2	1171
0494	I L2-Spectrum H-order 21	R	A	0.001*ctr	unsigned int		2	1172
0495	I L2-Spectrum H-order 22	R	A	0.001*ctr	unsigned int		2	1173
0496	I L2-Spectrum H-order 23	R	A	0.001*ctr	unsigned int		2	1174
0497	I L2-Spectrum H-order 24	R	A	0.001*ctr	unsigned int		2	1175
0498	I L2-Spectrum H-order 25	R	A	0.001*ctr	unsigned int		2	1176
0499	I L2-Spectrum H-order 26	R	A	0.001*ctr	unsigned int		2	1177
049A	I L2-Spectrum H-order 27	R	A	0.001*ctr	unsigned int		2	1178
049B	I L2-Spectrum H-order 28	R	A	0.001*ctr	unsigned int		2	1179
049C	I L2-Spectrum H-order 29	R	A	0.001*ctr	unsigned int		2	1180
049D	I L2-Spectrum H-order 30	R	A	0.001*ctr	unsigned int		2	1181
049E	I L2-Spectrum H-order 31	R	A	0.001*ctr	unsigned int		2	1182
						total bytes	62	

L3 Ampere Harmonic Spectrum Parameter_All (Secondary Value)

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
04C0	I L3-Spectrum H-order 1	R	A	0.001*ctr	unsigned int	Actual Value =	2	1216
04C1	I L3-Spectrum H-order 2	R	A	0.001*ctr	unsigned int	Reg Val * ctr * 0.001	2	1217
04C2	I L3-Spectrum H-order 3	R	A	0.001*ctr	unsigned int		2	1218
04C3	I L3-Spectrum H-order 4	R	A	0.001*ctr	unsigned int		2	1219
04C4	I L3-Spectrum H-order 5	R	A	0.001*ctr	unsigned int		2	1220
04C5	I L3-Spectrum H-order 6	R	A	0.001*ctr	unsigned int		2	1221
04C6	I L3-Spectrum H-order 7	R	A	0.001*ctr	unsigned int		2	1222
04C7	I L3-Spectrum H-order 8	R	A	0.001*ctr	unsigned int		2	1223
04C8	I L3-Spectrum H-order 9	R	A	0.001*ctr	unsigned int		2	1224
04C9	I L3-Spectrum H-order 10	R	A	0.001*ctr	unsigned int		2	1225
04CA	I L3-Spectrum H-order 11	R	A	0.001*ctr	unsigned int		2	1226
04CB	I L3-Spectrum H-order 12	R	A	0.001*ctr	unsigned int		2	1227
04CC	I L3-Spectrum H-order 13	R	A	0.001*ctr	unsigned int		2	1228
04CD	I L3-Spectrum H-order 14	R	A	0.001*ctr	unsigned int		2	1229
04CE	I L3-Spectrum H-order 15	R	A	0.001*ctr	unsigned int		2	1230
04CF	I L3-Spectrum H-order 16	R	A	0.001*ctr	unsigned int		2	1231
04D0	I L3-Spectrum H-order 17	R	A	0.001*ctr	unsigned int		2	1232
04D1	I L3-Spectrum H-order 18	R	A	0.001*ctr	unsigned int		2	1233
04D2	I L3-Spectrum H-order 19	R	A	0.001*ctr	unsigned int		2	1234
04D3	I L3-Spectrum H-order 20	R	A	0.001*ctr	unsigned int		2	1235

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
04D4	I L3-Spectrum H-order 21	R	A	0.001*ctr	unsigned int		2	1236
04D5	I L3-Spectrum H-order 22	R	A	0.001*ctr	unsigned int		2	1237
04D6	I L3-Spectrum H-order 23	R	A	0.001*ctr	unsigned int		2	1238
04D7	I L3-Spectrum H-order 24	R	A	0.001*ctr	unsigned int		2	1239
04D8	I L3-Spectrum H-order 25	R	A	0.001*ctr	unsigned int		2	1240
04D9	I L3-Spectrum H-order 26	R	A	0.001*ctr	unsigned int		2	1241
04DA	I L3-Spectrum H-order 27	R	A	0.001*ctr	unsigned int		2	1242
04DB	I L3-Spectrum H-order 28	R	A	0.001*ctr	unsigned int		2	1243
04DC	I L3-Spectrum H-order 29	R	A	0.001*ctr	unsigned int		2	1244
04DD	I L3-Spectrum H-order 30	R	A	0.001*ctr	unsigned int		2	1245
04DE	I L3-Spectrum H-order 31	R	A	0.001*ctr	unsigned int		2	1246
						total bytes	62	

L1 Voltage Waveform (2 cycle waveform - scaled down 8bits / data point: Total 128pts)

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
0500	Waveform Definition<2:0>	R	-	1	unsigned short int	bit<1:0>= 00 => L1, bit<2>=0 => Voltage	2	1280
0501	V L1 phasor angle	R	deg	0.1	short int	0 ~ - 359.9	2	1281
0502	THD-V1	R	%	0.1	unsigned short int		2	1282
0503	Voltage L1	R	V	0.1	unsigned int		4	1283
0505	V data pt<1:0>	R	-	1	signed bytes * 2		2	1285
. . .	. . . (up to)		-				124	1286
0544	V data pt<127:126>	R/W		1	signed bytes * 2		2	1348
						total bytes	138	

L1 Ampere Waveform (2 cycle waveform - scaled down 8bits / data point: Total 128pts)

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
0580	Waveform Definition<2:0>	R	-	1	unsigned short int	bit<1:0>= 00 => L1, bit<2>=1 => Ampere	2	1408
0581	I L1 phasor angle	R	deg	0.1	short int	0 ~ - 359.9	2	1409
0582	THD-I1	R	%	0.1	unsigned short int		2	1410
0583	Ampere L1	R	A	0.001	unsigned int		4	1411
0585	I data pt<1:0>	R	-	1	signed bytes * 2		2	1413
. . .	. . . (up to)		-				124	1414
05C4	I data pt<127:126>	R/W		1	signed bytes * 2		2	1476
						total bytes	138	

L2 Voltage Waveform (2 cycle waveform - scaled down 8bits / data point: Total 128pts)

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
0600	Waveform Definition<2:0>	R	-	1	unsigned short int	bit<1:0>= 01 => L2, bit<2>=0 => Voltage	2	1536
0601	V L2 phasor angle	R	deg	0.1	short int	0 ~ - 359.9	2	1537
0602	THD-V2	R	%	0.1	unsigned short int		2	1538
0603	Voltage L2	R	V	0.1	unsigned int		4	1539
0605	V data pt<1:0>	R	-	1	signed bytes * 2		2	1541
. . .	. . . (up to)		-				124	1542
0644	V data pt<127:126>	R/W		1	signed bytes * 2		2	1604
						total bytes	138	

L2 Ampere Waveform (2 cycle waveform - scaled down 8bits / data point: Total 128pts)

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
0680	Waveform Definition<2:0>	R	-	1	unsigned short int	bit<1:0>= 01 => L2, bit<2>=1 => Ampere	2	1664
0681	I L2 phasor angle	R	deg	0.1	short int	0 ~ - 359.9	2	1665
0682	THD-I2	R	%	0.1	unsigned short int		2	1666
0683	Ampere L2	R	A	0.001	unsigned int		4	1667
0685	I data pt<1:0>	R	-	1	signed bytes * 2		2	1669
. . .	. . . (up to)		-				124	1670
06C4	I data pt<127:126>	R/W		1	signed bytes * 2		2	1732
						total bytes	138	

L3 Voltage Waveform (2 cycle waveform - scaled down 8bits / data point: Total 128pts)

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
0700	Waveform Definition<2:0>	R	-	1	unsigned short int	bit<1:0>= 10 => L3, bit<2>=0 => Voltage	2	1792
0701	V L3 phasor angle	R	deg	0.1	short int	0 ~ - 359.9	2	1793
0702	THD-V3	R	%	0.1	unsigned short int		2	1794
0703	Voltage L3	R	V	0.1	unsigned int		4	1795

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
0705	V data pt<1:0>	R	-	1	signed bytes * 2		2	1797
. . .	. . . (up to)		-				124	1798
0744	V data pt<127:126>	R/W		1	signed bytes * 2		2	1860
						total bytes	138	

L3 Ampere Waveform (2 cycle waveform - scaled down 8bits / data point: Total 128pts)

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
0780	Waveform Definition<2:0>	R	-	1	unsigned short int	bit<1:0>= 10 => L3, bit<2>=1 => Ampere	2	1920
0781	I L3 phasor angle	R	deg	0.1	short int	0 ~ - 359.9	2	1921
0782	THD-I3	R	%	0.1	unsigned short int		2	1922
0783	Ampere L3	R	A	0.001	unsigned int		4	1923
0785	I data pt<1:0>	R	-	1	signed bytes * 2		2	1925
. . .	. . . (up to)		-				124	1926
07C4	I data pt<127:126>	R/W		1	signed bytes * 2		2	1988
						total bytes	138	

Alternative Addr Setting Parameter

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
0F00	Device Code	R	-	1	unsigned short int	fixed 0x0001	2	3840
0F01	Version	R	-	-	unsigned short int	2002	2	3841
0F02	CT Ratio (ctr)	R/W	-	1	unsigned short int	0 ~ 2000	2	3842
0F03	VT Ratio (vtr)	R/W	-	0.1	unsigned short int	10 ~ 25000	2	3843
0F04	Demand Interval	R/W	min	1	unsigned short int	10 ~ 60	2	3844
						total bytes	10	

Setting Parameter

Reg Addr (Hex)	Register	(R/W)	Unit	Multiplier	Format	Comment	Reg Byte Count	Reg Addr (Dec)
FF00	Device Code	R	-	1	unsigned short int	fixed 0x0001	2	65280
FF01	Version	R	-	-	unsigned short int	2002	2	65281
FF02	CT Ratio (ctr)	R/W	-	1	unsigned short int	0 ~ 2000	2	65282
FF03	VT Ratio (vtr)	R/W	-	0.1	unsigned short int	10 ~ 25000	2	65283
FF04	Demand Interval	R/W	min	1	unsigned short int	10 ~ 60	2	65284
						total bytes	10	