MODBUS TABLE ORGANIZATION

Starting Address of the Group Registers (Dec)	Starting Address of the Group Registers (Hex)	System Version (Release)	System Version (Build)	Group Name (Text)	Group Code (Hex)	Group Complexity (Hex)	Group Version (Hex)
768	300			Device Configuration			
1008	3F0			Input Reading - Only with F4N102 Module			
1016	3F8			Temepratures - Only with F4N106 Module			
1296	510			Reset of one Pulse Couter			
4096	1000			Measures			
4207	106f			Open / Close a relays of I/O Module			
4608	1200			Settings			
5376	1500			Max. & Min.			
5424	1530			Average Measured values - Scaled			
5504	1580			Crest Factor			
5632	1600			Phase displacement			
6144	1800			Power quality data			
8192	2000			Standard Setup parameters (read & write 16 byte at once)			
8448	2100			Programming Parameters of Module on Slot B			
8704	2200			Programming Parameters of Module on Slot C			
8960	2300			Programming Parameters of Module on Slot D			
14080	3700			Real time data: bit mapped variable reading/writing			
20480	5000			Request of integrated data (energy and average power)			
20496	5010			Request of real time data			
20768	5120			Stored data			
28672	7000			Harmonics			

MODBUS PROTOCOL DETAILS

Function Code (Dec)	Exception Codes (Dec)	Data Encoding
3	1, 2, 3	"Big Endian" (most significant byte first)
16	1, 2, 3	

MODBUS OVER SERIAL DETAILS

Physical Layer	Trasmission Modes	Device Addressing	Baud Rates (bit/s)	Data Bits	Data bits trasmission sequence	Parity	Stop Bits
standard EIA/TIA 485 (RS-485) two-wire configuration	RTU	1÷247	programmable	8	Least significant bit first	programmable	1

MASTER/SLAVE COMMUNICATION TIMING

Timer Descrtiption	Timer Value (msec)
Inter-character time-out	Max. 20
Response delay (from master request)	20÷300
Delay Time (between two master trasmissions)	< 20

REFER ALSO TO: www.modbus.org - MODBUS over serial line specification and implementation guide V1.02
- MODBUS APPLICATION PROTOCOL SPECIFICATION V1.1b

NOTE: File and printed copies of this document are not subject to document change control.

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [bit]	Description	Note	Read Function Codes (Dec)	Data Storing (2)
				(no DISCRETE INPUTS availables)			

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [bit]	Description	Note	Read Function Codes (Dec)	Write Function Codes (Dec)	Data Storing (2)
				(no COILS availables)				

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
769	768	300	6		Device Configuration							
257	256	100	1		Current transformer ratio - CT	unsigned integer	1	-	1 ÷ 9999		3	
259	258	102	1		Voltage transformer ratio - VT (up to first decimal (XXXX,YZ) -> XXXX,Y	unsigned integer	0,1	-	10 ÷ 30000		3	
261	260	104	2		Modules Configuration	unsigned integer	0	-		*See Note 5*	3	
263	262	106	1		Second decimal of Voltage transformer ratio - VT (XXXX,YZ) -> Z	unsigned integer	1	-			3	
769	768	300	1		Device identifier	unsigned integer	1	-		The device returns 1112h	3	
1009	1008	3F0	2		Input Reading - Only with F4N102 Module							
1009	1008	3F0	2		Pulse counting on Input 1 on Slot C	unsigned integer	1	-		Wrap around at 100.000.000	3	
1013	1012	3F4	2		Pulse counting on Input 2 on Slot C	unsigned integer	1	-			3	
1017	1016	3F8	2		Pulse counting on Input 1 on Slot D	unsigned integer	1	-			3	
1021	1020	3FC	2		Pulse counting on Input 2 on Slot D	unsigned integer	1	-			3	
1025	1024	400	1		State of Input 1 on Slot C	unsigned integer	1	-	0, 1	0: open, 1: close	3	
1026	1025	401	1		State of Input 2 on Slot C	unsigned integer	1	-	0, 1	0: open, 1: close	3	
1027	1026	402	1		State of Input 1 on Slot D	unsigned integer	1	-	0, 1	0: open, 1: close	3	
1028	1027	403	1		State of Input 2 on Slot D	unsigned integer	1	-	0, 1	0: open, 1: close	3	
1017	1016	3F8	2		Temepratures - Only with F4N106 Module							
1017	1016	3F8	2		Temeprature Channel 1	unsigned integer	0,01	°C		If Pt100 sensor is not present the device answers 9C40h	3	
1021	1020	3FC	2		Temeprature Channel 2	unsigned integer	0,01	°C			3	
1027	1026	402	1		Sign of Temperature Ch 1	unsigned integer	1	-	0, 1	0: positive, 1: negative	3	
1028	1027	403	1		Sign of Temperature Ch 2	unsigned integer	1	-	0, 1	0: positive, 1: negative	3	
4097	4096	1000	128		Measures							
4097	4096	1000	2		Phase 1 : phase voltage	unsigned integer	1	mV			3	
4099	4098	1002	2		Phase 2 : phase voltage	unsigned integer	1	mV			3	
4101	4100	1004	2		Phase 3 : phase voltage	unsigned integer	1	mV			3	
4103	4102	1006	2		Phase 1 : current	unsigned integer	1	mA			3	
4105	4104	1008	2		Phase 2 : current	unsigned integer	1	mA			3	
4107	4106	100A	2		Phase 3 : current	unsigned integer	1	mA			3	
4109	4108	100C	2		Neutral current	unsigned integer	1	mA			3	
4111	4110	100E	2		Chained voltage : L1-L2	unsigned integer	1	mV			3	
4113	4112	1010	2		Chained voltage : L2-L3	unsigned integer	1	mV			3	
4115	4114	1012	2		Chained voltage : L3-L1	unsigned integer	1	mV			3	
4117	4116	1014	2		3-phase : active power	unsigned integer	1, 0.01	W		*See Note 1*	3	
4119	4118	1016	2		3-phase : reactive power	unsigned integer	1, 0.01	var		*See Note 1*	3	
4121	4120	1018	2		3-phase : apparent power	unsigned integer	1, 0.01	VA		*See Note 1*	3	
4123	4122	101A	1		3-phase : sign of active power	unsigned integer	1	-	0, 1	0=positive, 1=negative	3	
4124	4123	101B	1		3-phase : sign of reactive power	unsigned integer	1	-	0, 1	0=positive, 1=negative	3	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
4125	4124	101C	2		3-phase : positive active energy or Tariff 1 positive active energy	unsigned integer	1, 10, 100, 1.000, 10.000, 100.000	Wh		*See Note 2*	3	Y
4127	4126	101E	2		3-phase : positive reactive energy or Tariff 1 positive reactive energy	unsigned integer	1, 10, 100, 1.000, 10.000, 100.000	varh		*See Note 2*	3	Y
4129	4128	1020	2		3-phase : negative active energy	unsigned integer	1, 10, 100, 1.000, 10.000, 100.000	Wh		*See Note 2*	3	Y
4131	4130	1022	2		3-phase : negative reactive energy	unsigned integer	1, 10, 100, 1.000, 10.000, 100.000	varh		*See Note 2*	3	Y
4133	4132	1024	1		3-phase : power factor	signed integer	0,01	-			3	
4134	4133	1025	1		3-phase : sector of power factor (cap or ind)	unsigned integer	1	-	0, 1, 2	0="PF=1", 1="ind" (L), 2="cap" (C)	3	
4135	4134	1026	1		Frequency	unsigned integer	0,1	Hz			3	
4136	4135	1027	2		3-phase : average power	unsigned integer	1, 0.01	W		*See Note 1*	3	
4138	4137	1029	2		3-phase : peak maximum demand	unsigned integer	1, 0.01	W		*See Note 1*	3	Y
4140	4139	102B	1		Time counter for average power	unsigned integer	1	min			3	
4141	4140	102C	2		Phase 1 : active power	unsigned integer	1, 0.01	W		*See Note 1*	3	
4143	4142	102E	2		Phase 2 : active power	unsigned integer	1, 0.01	W		*See Note 1*	3	
4145	4144	1030	2		Phase 3 : active power	unsigned integer	1, 0.01	W		*See Note 1*	3	
4147	4146	1032	1		Phase 1 : sign of active power	unsigned integer		-	0, 1	0=positive, 1=negative	3	
4148	4147	1033	1		Phase 2 : sign of active power	unsigned integer		-	0, 1	0=positive, 1=negative	3	
4149	4148	1034	1		Phase 3 : sign of active power	unsigned integer		-	0, 1	0=positive, 1=negative	3	
4150	4149	1035	2		Phase 1 : reactive power	unsigned integer	1, 0.01	var		*See Note 1*	3	
4152	4151	1037	2		Phase 2 : reactive power	unsigned integer	1, 0.01	var		*See Note 1*	3	
4154	4153	1039	2		Phase 3 : reactive power	unsigned integer	1, 0.01	var		*See Note 1*	3	
4156	4155	103B	1		Phase 1 : sign of reactive power	unsigned integer		-	0, 1	0=positive, 1=negative	3	
4157	4156	103C	1		Phase 2 : sign of reactive power	unsigned integer		-	0, 1	0=positive, 1=negative	3	
4158	4157	103D	1		Phase 3 : sign of reactive power	unsigned integer		-	0, 1	0=positive, 1=negative	3	
4159	4158	103E	2		Phase 1 : apparent power	unsigned integer	1, 0.01	VA		*See Note 1*	3	
4161	4160	1040	2		Phase 2 : apparent power	unsigned integer	1, 0.01	VA		*See Note 1*	3	
4163	4162	1042	2		Phase 3 : apparent power	unsigned integer	1, 0.01	VA		*See Note 1*	3	
4165	4164	1044	1		Phase 1 : power factor	signed integer	0,01	-			3	
4166	4165	1045	1		Phase 2 : power factor	signed integer	0,01	-			3	
4167	4166	1046	1		Phase 3 : power factor	signed integer	0,01	-			3	
4168	4167	1047	1		Phase 1 : sector of power factor (cap or ind)	unsigned integer	1	-	0, 1, 2	0="PF=1", 1="ind" (L), 2="cap" (C)	3	
4169	4168	1048	1		Phase 2 : sector of power factor (cap or ind)	unsigned integer	1	-	0, 1, 2	0="PF=1", 1="ind" (L), 2="cap" (C)	3	
4170	4169	1049	1		Phase 3 : sector of power factor (cap or ind)	unsigned integer	1	-	0, 1, 2	0="PF=1", 1="ind" (L), 2="cap" (C)	3	
4171	4170	104A	1		Phase 1 : THD V1	unsigned integer	0,1	%		*See Note 3*	3	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
4172	4171	104B	1		Phase 2 : THD V2	unsigned integer	0,1	%		*See Note 3*	3	
4173	4172	104C	1		Phase 3 : THD V3	unsigned integer	0,1	%		*See Note 3*	3	
4174	4173	104D	1		Phase 1 : THD I1	unsigned integer	0,1	%			3	
4175	4174	104E	1		Phase 2 : THD I2	unsigned integer	0,1	%			3	
4176	4175	104F	1		Phase 3 : THD I3	unsigned integer	0,1	%			3	
4177	4176	1050	2		Phase 1 : I1 average	unsigned integer	1	mA			3	
4179	4178	1052	2		Phase 2 : I2 average	unsigned integer	1	mA			3	
4181	4180	1054	2		Phase 3 : I3 average	unsigned integer	1	mA			3	
4183	4182	1056	2		Phase 1 : I1 peak Max.	unsigned integer	1	mA			3	
4185	4184	1058	2		Phase 2 : I2 peak Max.	unsigned integer	1	mA			3	
4187	4186	105A	2		Phase 3 : I3 peak Max.	unsigned integer	1	mA			3	
4189	4188	105C	2		3-phase : I average	unsigned integer	1	mA		(I1+I2+I3)/3	3	
4191	4190	105E	2		Phase 1 : V1 min.	unsigned integer	1	mV		*See Note 3*	3	
4193	4192	1060	2		Phase 2 : V2 min.	unsigned integer	1	mV		*See Note 3*	3	
4195	4194	1062	2		Phase 3 : V3 min.	unsigned integer	1	mV		*See Note 3*	3	
4197	4196	1064	2		Phase 1 : V1 Max.	unsigned integer	1	mV		*See Note 3*	3	
4199	4198	1066	2		Phase 2 : V2 Max.	unsigned integer	1	mV		*See Note 3*	3	
4201	4200	1068	2		Phase 3 : V3 Max.	unsigned integer	1	mV		*See Note 3*	3	
4203	4202	106A	2		3-phase : partial active energy or Tariff 2 partial active energy	unsigned integer	1, 10, 100, 1000, 10.000, 100.000	Wh		*See Note 2*	3	
4205	4204	106C	2		3-phase : partial reactive energy or Tariff 2 partial reactive energy	unsigned integer	1, 10, 100, 1000, 10.000, 100.000	varh		*See Note 2*	3	
4207	4206	106E	1		Operating timer counter	unsigned integer	1	h			3	
4208	4207	106F	1		Output status	unsigned integer	-	-		*if module(s) is (are) installed* *See Note 4*	3	
4209	4208	1070	2		3-phase : average active power	unsigned integer	1, 0.01	W		*See Note 1*	3	
4211	4210	1072	2		3-phase : average reactive power	unsigned integer	1, 0.01	var		*See Note 1*	3	
4213	4212	1074	2		3-phase : average apparent power	unsigned integer	1, 0.01	VA		*See Note 1*	3	
4215	4214	1076	2		3-phase : active PMD power	unsigned integer	1, 0.01	W		*See Note 1*	3	
4217	4216	1078	2		3-phase : reactive PMD power	unsigned integer	1, 0.01	var		*See Note 1*	3	
4219	4218	107A	2		3-phase : apparent PMD power	unsigned integer	1, 0.01	VA		*See Note 1*	3	
4221	4220	107C	2		Operating timer counter	unsigned integer	1	min			3	
4223	4222	107E	2		3-phase : distortion apparent power	unsigned integer	1, 0.01	VA		*See Note 1*	3	
4609	4608	1200	8		Settings							
4609	4608	1200	1		Current transformer ratio (CT)	unsigned integer	1	-			3	Y
4610	4609	1201	1		Voltage transformer ratio - VT (up to first decimal (XXXX,YZ) -> XXXX,Y	unsigned integer	0,1	-			3	Y

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
4611	4610	1202	5		RESERVED for feature developments						3	
4616	4615	1207	1		Voltage transformer ratio (VT)	unsigned integer	0,01	-			3	Y
5377	5376	1500	48		Max. & Min.							
5377	5376	1500	2		Low Positive Active Energy	unsigned integer	1	Wh			3	
5379	5378	1502	2		High Positive Active Energy	unsigned integer	1	MWh			3	
5381	5380	1504	2		Low Positive Reactive Energy	unsigned integer	1	varh			3	
5383	5382	1506	2		High Positive Reactive Energy	unsigned integer	1	Mvarh			3	
5385	5384	1508	2		Low Negative Active Energy	unsigned integer	1	Wh			3	
5387	5386	150A	2		High Negative Active Energy	unsigned integer	1	MWh			3	
5389	5388	150C	2		Low Negative Reactive Energy	unsigned integer	1	varh			3	
5391	5390	150E	2		High Negative Reactive Energy	unsigned integer	1	Mvarh			3	
5393	5392	1510	2		Low Partial Active Energy	unsigned integer	1	Wh			3	
5395	5394	1512	2		High Partial Active Energy	unsigned integer	1	MWh			3	
5397	5396	1514	2		Low Partial Reactive Energy	unsigned integer	1	varh			3	
5399	5398	1516	2		High Partial Reactive Energy	unsigned integer	1	Mvarh			3	
5401	5400	1518	2		Signed Total active power	signed integer	1	W			3	
5403	5402	151A	2		Signed Total reactive power	signed integer	1	var			3	
5405	5404	151C	2		Signed phase1 active power	signed integer	1	W			3	
5407	5406	151E	2		Signed phase2 active power	signed integer	1	W			3	
5409	5408	1520	2		Signed phase3 active power	signed integer	1	W			3	
5411	5410	1522	2		Signed phase1 reactive power	signed integer	1	Var			3	
5413	5412	1524	2		Signed phase2 reactive power	signed integer	1	Var			3	
5415	5414	1526	2		Signed phase3 reactive power	signed integer	1	var			3	
5417	5416	1528	2		Signed total Power Factor	signed integer	0,001	-			3	
5419	5418	152A	2		Signed phase1 Power Factor	signed integer	0,001	-			3	
5421	5420	152C	2		Signed phase2 Power Factor	signed integer	0,001	-			3	
5423	5422	152E	2		Signed phase3 Power Factor	signed integer	0,001	-			3	
5425	5424	1530	21		Average Measured values - Scaled							
5425	5424	1530	2		Total Apparent power	unsigned integer	1	VA			3	
5427	5426	1532	2		3-phase : average active power	unsigned integer	0,01	W			3	
5429	5428	1534	2		3-phase : average reactive power	unsigned integer	0,01	var			3	
5431	5430	1536	2		3-phase : average apparent power	unsigned integer	0,01	VA			3	
5433	5432	1538	2		3-phase : max active power	unsigned integer	0,01	W			3	
5435	5434	153A	2		3-phase : max reactive power	unsigned integer	0,01	var			3	
5437	5436	153C	2		3-phase : max apparent power	unsigned integer	0,01	VA			3	
5439	5438	153E	1		RESERVED for feature developments						3	
5440	5439	153F	1		RESERVED for feature developments						3	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
5441	5440	1540	1		Wrap around - Positive active energy	unsigned integer	-	-		*Wrap around means: when the main register of the energy value increases over 100 000 000, the register is then reset to 0 and the wrap around value is Incremented by 1*	3	
5442	5441	1541	1		Wrap around - Positive reactive energy	unsigned integer	-	-			3	
5443	5442	1542	1		Wrap around - Negative active energy	unsigned integer	-	-			3	
5444	5443	1543	1		Wrap around - Negative reactive energy	unsigned integer	-	-			3	
5445	5444	1544	1		Wrap around - Apparent energy	unsigned integer	-	-			3	
5505	5504	1580	9		Crest Factor							
5505	5504	1580	1		Phase1 voltage crest factor	unsigned integer	0,001	-			3	
5506	5505	1581	1		Phase2 voltage crest factor	unsigned integer	0,001	-			3	
5507	5506	1582	1		Phase3 voltage crest factor	unsigned integer	0,001	-			3	
5508	5507	1583	1		Phase1 current crest factor	unsigned integer	0,001	-			3	
5509	5508	1584	1		Phase2 current crest factor	unsigned integer	0,001	-			3	
5510	5509	1585	1		Phase3 current crest factor	unsigned integer	0,001	-			3	
5511	5510	1586	1		Phase1-2 voltage crest factor	unsigned integer	0,001	-			3	
5512	5511	1587	1		Phase2-3 voltage crest factor	unsigned integer	0,001	-			3	
5513	5512	1588	1		Phase3-1 voltage crest factor	unsigned integer	0,001	-			3	
5633	5632	1600	6		Phase displacement							
5633	5632	1600	1		Phase displacement V1-V2 (V12-V21)	unsigned integer	0,1	°		*See Note 3*	3	
5634	5633	1601	1		Phase displacement V2-V3 (V23-V31)	unsigned integer	0,1	°		*See Note 3*	3	
5635	5634	1602	1		Phase displacement V3-V1 (V31-V12)	unsigned integer	0,1	°		*See Note 3*	3	
5636	5635	1603	1		Phase displacement I1-I2	unsigned integer	0,1	°			3	
5637	5636	1604	1		Phase displacement I2-I3	unsigned integer	0,1	°			3	
5638	5637	1605	1		Phase displacement I3-I1	unsigned integer	0,1	°			3	
6145	6144	1800	96		Power quality data							
6145	6144	1800	2		Int. Use (Vrms Half cycle phase 1)	unsigned integer	100	V			3	
6147	6146	1802	2		Int. Use (Vrms Half cycle phase 2)	unsigned integer	100	V			3	
6149	6148	1804	2		Int. Use (Vrms Half cycle phase 2)	unsigned integer	100	V			3	
6151	6150	1806	4		RESERVED for feature developments						3	
6155	6154	180A	1		RVC Flag of phase 1	unsigned integer	1	-	0, 1		3	
6156	6155	180B	1		RVC Flag of phase 2	unsigned integer	1	-	0, 1		3	
6157	6156	180C	1		RVC Flag of phase 3	unsigned integer	1	-	0, 1		3	
6158	6157	180D	1		Int. Use (Average Vrms Half cycle phase 1 - 100/120 Half cycle)	unsigned integer	1	-	0, 1		3	
6159	6158	180E	1		Int. Use (Average Vrms Half cycle phase 2 - 100/120 Half cycle)	unsigned integer	1	-	0, 1		3	
6160	6159	180F	1		Int. Use (Average Vrms Half cycle phase 3 - 100/120 Half cycle)	unsigned integer	1	-	0, 1		3	
6161	6160	1810	2		(V1+V2+V3)/3	unsigned integer	1	mV			3	
6163	6162	1812	2		(V12+V21+V31)/3	unsigned integer	1	mV			3	
6165	6164	1814	2		$(V1_{50Hz}+V2_{50Hz}+V3_{50Hz})/3$	unsigned integer	1	mV			3	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
6167	6166	1816	2		$(V12_{50Hz}+V21_{50Hz}+V31_{50Hz})/3$	unsigned integer	1	mV			3	
6169	6168	1818	2		One minute average V1/V12	unsigned integer	1	mV			3	
6171	6170	181A	2		One minute average V2/V23	unsigned integer	1	mV			3	
6173	6172	181C	2		One minute average V3/V31	unsigned integer	1	mV			3	
6175	6174	181E	2		Ten minutes average V1/V12	unsigned integer	1	mV			3	
6177	6176	1820	2		Ten minutes average V2/V23	unsigned integer	1	mV			3	
6179	6178	1822	2		Ten minutes average V3/V31	unsigned integer	1	mV			3	
6181	6180	1824	2		One week average V1/V12	unsigned integer	1	mV			3	
6183	6182	1826	2		One week average V2/V23	unsigned integer	1	mV			3	
6185	6184	1828	2		One week average V3/V31	unsigned integer	1	mV			3	
6187	6186	182A	1		Percentage of SVC V1/V12	unsigned integer	1	%			3	
6188	6187	182B	1		Percentage of SVC V2/V23	unsigned integer	1	%			3	
6189	6188	182C	1		Percentage of SVC V3/V31	unsigned integer	1	%			3	
6190	6189	182D	1		Percentage of Unbalance	unsigned integer	1	%			3	
6191	6190	182E	2		One minute average I1	unsigned integer	1	mA			3	
6193	6192	1830	2		One minute average I2	unsigned integer	1	mA			3	
6195	6194	1832	2		One minute average I3	unsigned integer	1	mA			3	
6197	6196	1834	1		P.Inst V1/V12 on ten seconds (instantaneous flicker)	unsigned integer	1	-			3	
6198	6197	1835	1		P.Inst V2/V23 on ten seconds (instantaneous flicker)	unsigned integer	1	-			3	
6199	6198	1836	1		P.Inst V3/V31 on ten seconds (instantaneous flicker)	unsigned integer	1	-			3	
6200	6199	1837	25		RESERVED for feature developments						3	
6225	6224	1850	1		Day	unsigned integer	1	-		Values are returned in decimal format	3	
6226	6225	1851	1		Month	unsigned integer	1	-			3	
6227	6226	1852	1		Year	unsigned integer	1	-			3	
6228	6227	1853	1		Hour	unsigned integer	1	-			3	
6229	6228	1854	1		Minutes	unsigned integer	1	-			3	
6230	6229	1855	1		Seconds	unsigned integer	1	-			3	
6231	6230	1856	1		Quality calculated on Vfn o Vff	unsigned integer	1	-	0, 1	0="Vfn", 1="Vff"	3	
6232	6231	1857	1		Rated Voltage	unsigned integer	1	V			3	
6233	6232	1858	1		Dip Threshold	unsigned integer	1	%	10% ÷ 90%		3	
6234	6233	1859	1		Dip Hysteresis	unsigned integer	1	%	5% ÷ 30%		3	
6235	6234	185A	1		Interruption Threshold	unsigned integer	1	%	10% ÷ 90%		3	
6236	6235	185B	1		Interruption Hysteresis	unsigned integer	1	%	5% ÷ 30%		3	
6237	6236	185C	1		Swell Threshold	unsigned integer	1	%	110% ÷ 200%		3	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
6238	6237	185D	1		Swell Hysteresis	unsigned integer	1	%	5% ÷ 30%		3	
6239	6238	185E	1		SVC Threshold	unsigned integer	1	%			3	
6240	6239	185F	1		RVC Threshold	unsigned integer	1	%			3	
20481	20480	5000	1		Request of integrated data (energy and average power)							
20481	20480	5000	1		Energy stored data page reading	unsigned integer	-	-		See Note 6	3	
20497	20496	5010	1		Request of real time data							
20497	20496	5010	1		Real Time Stored data page reading	unsigned integer	-	-		See Note 7	3	
28673	28672	7000	200		Harmonics							
28673	28672	7000	1		Current phase 1 - fundamental	unsigned integer	1000	-			3	
28674	28673	7001	1		Current phase 1 - 2nd harmonic percentage	unsigned integer	0,1	%			3	
28675	28674	7002	1		Current phase 1 - 3rd harmonic percentage	unsigned integer	0,1	%			3	
28676	28675	7003	1		Current phase 1 - 4th harmonic percentage	unsigned integer	0,1	%			3	
28677	28676	7004	1		Current phase 1 - 5th harmonic percentage	unsigned integer	0,1	%			3	
28678	28677	7005	1		Current phase 1 - 6th harmonic percentage	unsigned integer	0,1	%			3	
28679	28678	7006	1		Current phase 1 - 7th harmonic percentage	unsigned integer	0,1	%			3	
28680	28679	7007	1		Current phase 1 - 8th harmonic percentage	unsigned integer	0,1	%			3	
28681	28680	7008	1		Current phase 1 - 9th harmonic percentage	unsigned integer	0,1	%			3	
28682	28681	7009	1		Current phase 1 - 10th harmonic percentage	unsigned integer	0,1	%			3	
28683	28682	700A	1		Current phase 1 - 11th harmonic percentage	unsigned integer	0,1	%			3	
28684	28683	700B	1		Current phase 1 - 12th harmonic percentage	unsigned integer	0,1	%			3	
28685	28684	700C	1		Current phase 1 - 13th harmonic percentage	unsigned integer	0,1	%			3	
28686	28685	700D	1		Current phase 1 - 14th harmonic percentage	unsigned integer	0,1	%			3	
28687	28686	700E	1		Current phase 1 - 15th harmonic percentage	unsigned integer	0,1	%			3	
28688	28687	700F	1		Current phase 1 - 16th harmonic percentage	unsigned integer	0,1	%			3	
28689	28688	7010	1		Current phase 1 - 17th harmonic percentage	unsigned integer	0,1	%			3	
28690	28689	7011	1		Current phase 1 - 18th harmonic percentage	unsigned integer	0,1	%			3	
28691	28690	7012	1		Current phase 1 - 19th harmonic percentage	unsigned integer	0,1	%			3	
28692	28691	7013	1		Current phase 1 - 20th harmonic percentage	unsigned integer	0,1	%			3	
28693	28692	7014	1		Current phase 1 - 21st harmonic percentage	unsigned integer	0,1	%			3	
28694	28693	7015	1		Current phase 1 - 22nd harmonic percentage	unsigned integer	0,1	%			3	
28695	28694	7016	1		Current phase 1 - 23rd harmonic percentage	unsigned integer	0,1	%			3	
28696	28695	7017	1		Current phase 1 - 24th harmonic percentage	unsigned integer	0,1	%			3	
28697	28696	7018	1		Current phase 1 - 25th harmonic percentage	unsigned integer	0,1	%			3	
28698	28697	7019	1		Current phase 1 - 26th harmonic percentage	unsigned integer	0,1	%			3	
28699	28698	701A	1		Current phase 1 - 27th harmonic percentage	unsigned integer	0,1	%			3	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
28700	28699	701B	1		Current phase 1 - 28th harmonic percentage	unsigned integer	0,1	%			3	
28701	28700	701C	1		Current phase 1 - 29th harmonic percentage	unsigned integer	0,1	%			3	
28702	28701	701D	1		Current phase 1 - 30th harmonic percentage	unsigned integer	0,1	%			3	
28703	28702	701E	1		Current phase 1 - 31st harmonic percentage	unsigned integer	0,1	%			3	
28704	28703	701F	1		Current phase 1 - 32nd harmonic percentage	unsigned integer	0,1	%			3	
28705	28704	7020	1		Current phase 1 - 33rd harmonic percentage	unsigned integer	0,1	%			3	
28706	28705	7021	1		Current phase 1 - 34th harmonic percentage	unsigned integer	0,1	%			3	
28707	28706	7022	1		Current phase 1 - 35th harmonic percentage	unsigned integer	0,1	%			3	
28708	28707	7023	1		Current phase 1 - 36th harmonic percentage	unsigned integer	0,1	%			3	
28709	28708	7024	1		Current phase 1 - 37th harmonic percentage	unsigned integer	0,1	%			3	
28710	28709	7025	1		Current phase 1 - 38th harmonic percentage	unsigned integer	0,1	%			3	
28711	28710	7026	1		Current phase 1 - 39th harmonic percentage	unsigned integer	0,1	%			3	
28712	28711	7027	1		Current phase 1 - 40th harmonic percentage	unsigned integer	0,1	%			3	
28713	28712	7028	1		Current phase 1 - 41st harmonic percentage	unsigned integer	0,1	%			3	
28714	28713	7029	1		Current phase 1 - 42nd harmonic percentage	unsigned integer	0,1	%			3	
28715	28714	702A	1		Current phase 1 - 43rd harmonic percentage	unsigned integer	0,1	%			3	
28716	28715	702B	1		Current phase 1 - 44th harmonic percentage	unsigned integer	0,1	%			3	
28717	28716	702C	1		Current phase 1 - 45th harmonic percentage	unsigned integer	0,1	%			3	
28718	28717	702D	1		Current phase 1 - 46th harmonic percentage	unsigned integer	0,1	%			3	
28719	28718	702E	1		Current phase 1 - 47th harmonic percentage	unsigned integer	0,1	%			3	
28720	28719	702F	1		Current phase 1 - 48th harmonic percentage	unsigned integer	0,1	%			3	
28721	28720	7030	1		Current phase 1 - 49th harmonic percentage	unsigned integer	0,1	%			3	
28722	28721	7031	1		Current phase 1 - 50th harmonic percentage	unsigned integer	0,1	%			3	
28737	28736	7040	1		Current phase 2 - fundamental	unsigned integer	1000	-			3	
28738	28737	7041	1		Current phase 2 - 2nd harmonic percentage	unsigned integer	0,1	%			3	
28739	28738	7042	1		Current phase 2 - 3rd harmonic percentage	unsigned integer	0,1	%			3	
28740	28739	7043	1		Current phase 2 - 4th harmonic percentage	unsigned integer	0,1	%			3	
28741	28740	7044	1		Current phase 2 - 5th harmonic percentage	unsigned integer	0,1	%			3	
28742	28741	7045	1		Current phase 2 - 6th harmonic percentage	unsigned integer	0,1	%			3	
28743	28742	7046	1		Current phase 2 - 7th harmonic percentage	unsigned integer	0,1	%			3	
28744	28743	7047	1		Current phase 2 - 8th harmonic percentage	unsigned integer	0,1	%			3	
28745	28744	7048	1		Current phase 2 - 9th harmonic percentage	unsigned integer	0,1	%			3	
28746	28745	7049	1		Current phase 2 - 10th harmonic percentage	unsigned integer	0,1	%			3	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
28747	28746	704A	1		Current phase 2 - 11th harmonic percentage	unsigned integer	0,1	%			3	
28748	28747	704B	1		Current phase 2 - 12th harmonic percentage	unsigned integer	0,1	%			3	
28749	28748	704C	1		Current phase 2 - 13th harmonic percentage	unsigned integer	0,1	%			3	
28750	28749	704D	1		Current phase 2 - 14th harmonic percentage	unsigned integer	0,1	%			3	
28751	28750	704E	1		Current phase 2 - 15th harmonic percentage	unsigned integer	0,1	%			3	
28752	28751	704F	1		Current phase 2 - 16th harmonic percentage	unsigned integer	0,1	%			3	
28753	28752	7050	1		Current phase 2 - 17th harmonic percentage	unsigned integer	0,1	%			3	
28754	28753	7051	1		Current phase 2 - 18th harmonic percentage	unsigned integer	0,1	%			3	
28755	28754	7052	1		Current phase 2 - 19th harmonic percentage	unsigned integer	0,1	%			3	
28756	28755	7053	1		Current phase 2 - 20th harmonic percentage	unsigned integer	0,1	%			3	
28757	28756	7054	1		Current phase 2 - 21st harmonic percentage	unsigned integer	0,1	%			3	
28758	28757	7055	1		Current phase 2 - 22nd harmonic percentage	unsigned integer	0,1	%			3	
28759	28758	7056	1		Current phase 2 - 23rd harmonic percentage	unsigned integer	0,1	%			3	
28760	28759	7057	1		Current phase 2 - 24th harmonic percentage	unsigned integer	0,1	%			3	
28761	28760	7058	1		Current phase 2 - 25th harmonic percentage	unsigned integer	0,1	%			3	
28762	28761	7059	1		Current phase 2 - 26th harmonic percentage	unsigned integer	0,1	%			3	
28763	28762	705A	1		Current phase 2 - 27th harmonic percentage	unsigned integer	0,1	%			3	
28764	28763	705B	1		Current phase 2 - 28th harmonic percentage	unsigned integer	0,1	%			3	
28765	28764	705C	1		Current phase 2 - 29th harmonic percentage	unsigned integer	0,1	%			3	
28766	28765	705D	1		Current phase 2 - 30th harmonic percentage	unsigned integer	0,1	%			3	
28767	28766	705E	1		Current phase 2 - 31st harmonic percentage	unsigned integer	0,1	%			3	
28768	28767	705F	1		Current phase 2 - 32nd harmonic percentage	unsigned integer	0,1	%			3	
28769	28768	7060	1		Current phase 2 - 33rd harmonic percentage	unsigned integer	0,1	%			3	
28770	28769	7061	1		Current phase 2 - 34th harmonic percentage	unsigned integer	0,1	%			3	
28771	28770	7062	1		Current phase 2 - 35th harmonic percentage	unsigned integer	0,1	%			3	
28772	28771	7063	1		Current phase 2 - 36th harmonic percentage	unsigned integer	0,1	%			3	
28773	28772	7064	1		Current phase 2 - 37th harmonic percentage	unsigned integer	0,1	%			3	
28774	28773	7065	1		Current phase 2 - 38th harmonic percentage	unsigned integer	0,1	%			3	
28775	28774	7066	1		Current phase 2 - 39th harmonic percentage	unsigned integer	0,1	%			3	
28776	28775	7067	1		Current phase 2 - 40th harmonic percentage	unsigned integer	0,1	%			3	
28777	28776	7068	1		Current phase 2 - 41st harmonic percentage	unsigned integer	0,1	%			3	
28778	28777	7069	1		Current phase 2 - 42nd harmonic percentage	unsigned integer	0,1	%			3	
28779	28778	706A	1		Current phase 2 - 43rd harmonic percentage	unsigned integer	0,1	%			3	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
28780	28779	706B	1		Current phase 2 - 44th harmonic percentage	unsigned integer	0,1	%			3	
28781	28780	706C	1		Current phase 2 - 45th harmonic percentage	unsigned integer	0,1	%			3	
28782	28781	706D	1		Current phase 2 - 46th harmonic percentage	unsigned integer	0,1	%			3	
28783	28782	706E	1		Current phase 2 - 47th harmonic percentage	unsigned integer	0,1	%			3	
28784	28783	706F	1		Current phase 2 - 48th harmonic percentage	unsigned integer	0,1	%			3	
28785	28784	7070	1		Current phase 2 - 49th harmonic percentage	unsigned integer	0,1	%			3	
28786	28785	7071	1		Current phase 2 - 50th harmonic percentage	unsigned integer	0,1	%			3	
28801	28800	7080	1		Current phase 3 - fundamental	unsigned integer	1000	-			3	
28802	28801	7081	1		Current phase 3 - 2nd harmonic percentage	unsigned integer	0,1	%			3	
28803	28802	7082	1		Current phase 3 - 3rd harmonic percentage	unsigned integer	0,1	%			3	
28804	28803	7083	1		Current phase 3 - 4th harmonic percentage	unsigned integer	0,1	%			3	
28805	28804	7084	1		Current phase 3 - 5th harmonic percentage	unsigned integer	0,1	%			3	
28806	28805	7085	1		Current phase 3 - 6th harmonic percentage	unsigned integer	0,1	%			3	
28807	28806	7086	1		Current phase 3 - 7th harmonic percentage	unsigned integer	0,1	%			3	
28808	28807	7087	1		Current phase 3 - 8th harmonic percentage	unsigned integer	0,1	%			3	
28809	28808	7088	1		Current phase 3 - 9th harmonic percentage	unsigned integer	0,1	%			3	
28810	28809	7089	1		Current phase 3 - 10th harmonic percentage	unsigned integer	0,1	%			3	
28811	28810	708A	1		Current phase 3 - 11th harmonic percentage	unsigned integer	0,1	%			3	
28812	28811	708B	1		Current phase 3 - 12th harmonic percentage	unsigned integer	0,1	%			3	
28813	28812	708C	1		Current phase 3 - 13th harmonic percentage	unsigned integer	0,1	%			3	
28814	28813	708D	1		Current phase 3 - 14th harmonic percentage	unsigned integer	0,1	%			3	
28815	28814	708E	1		Current phase 3 - 15th harmonic percentage	unsigned integer	0,1	%			3	
28816	28815	708F	1		Current phase 3 - 16th harmonic percentage	unsigned integer	0,1	%			3	
28817	28816	7090	1		Current phase 3 - 17th harmonic percentage	unsigned integer	0,1	%			3	
28818	28817	7091	1		Current phase 3 - 18th harmonic percentage	unsigned integer	0,1	%			3	
28819	28818	7092	1		Current phase 3 - 19th harmonic percentage	unsigned integer	0,1	%			3	
28820	28819	7093	1		Current phase 3 - 20th harmonic percentage	unsigned integer	0,1	%			3	
28821	28820	7094	1		Current phase 3 - 21st harmonic percentage	unsigned integer	0,1	%			3	
28822	28821	7095	1		Current phase 3 - 22nd harmonic percentage	unsigned integer	0,1	%			3	
28823	28822	7096	1		Current phase 3 - 23rd harmonic percentage	unsigned integer	0,1	%			3	
28824	28823	7097	1		Current phase 3 - 24th harmonic percentage	unsigned integer	0,1	%			3	
28825	28824	7098	1		Current phase 3 - 25th harmonic percentage	unsigned integer	0,1	%			3	
28826	28825	7099	1		Current phase 3 - 26th harmonic percentage	unsigned integer	0,1	%			3	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
28827	28826	709A	1		Current phase 3 - 27th harmonic percentage	unsigned integer	0,1	%			3	
28828	28827	709B	1		Current phase 3 - 28th harmonic percentage	unsigned integer	0,1	%			3	
28829	28828	709C	1		Current phase 3 - 29th harmonic percentage	unsigned integer	0,1	%			3	
28830	28829	709D	1		Current phase 3 - 30th harmonic percentage	unsigned integer	0,1	%			3	
28831	28830	709E	1		Current phase 3 - 31st harmonic percentage	unsigned integer	0,1	%			3	
28832	28831	709F	1		Current phase 3 - 32nd harmonic percentage	unsigned integer	0,1	%			3	
28833	28832	70A0	1		Current phase 3 - 33rd harmonic percentage	unsigned integer	0,1	%			3	
28834	28833	70A1	1		Current phase 3 - 34th harmonic percentage	unsigned integer	0,1	%			3	
28835	28834	70A2	1		Current phase 3 - 35th harmonic percentage	unsigned integer	0,1	%			3	
28836	28835	70A3	1		Current phase 3 - 36th harmonic percentage	unsigned integer	0,1	%			3	
28837	28836	70A4	1		Current phase 3 - 37th harmonic percentage	unsigned integer	0,1	%			3	
28838	28837	70A5	1		Current phase 3 - 38th harmonic percentage	unsigned integer	0,1	%			3	
28839	28838	70A6	1		Current phase 3 - 39th harmonic percentage	unsigned integer	0,1	%			3	
28840	28839	70A7	1		Current phase 3 - 40th harmonic percentage	unsigned integer	0,1	%			3	
28841	28840	70A8	1		Current phase 3 - 41st harmonic percentage	unsigned integer	0,1	%			3	
28842	28841	70A9	1		Current phase 3 - 42nd harmonic percentage	unsigned integer	0,1	%			3	
28843	28842	70AA	1		Current phase 3 - 43rd harmonic percentage	unsigned integer	0,1	%			3	
28844	28843	70AB	1		Current phase 3 - 44th harmonic percentage	unsigned integer	0,1	%			3	
28845	28844	70AC	1		Current phase 3 - 45th harmonic percentage	unsigned integer	0,1	%			3	
28846	28845	70AD	1		Current phase 3 - 46th harmonic percentage	unsigned integer	0,1	%			3	
28847	28846	70AE	1		Current phase 3 - 47th harmonic percentage	unsigned integer	0,1	%			3	
28848	28847	70AF	1		Current phase 3 - 48th harmonic percentage	unsigned integer	0,1	%			3	
28849	28848	70B0	1		Current phase 3 - 49th harmonic percentage	unsigned integer	0,1	%			3	
28850	28849	70B1	1		Current phase 3 - 50th harmonic percentage	unsigned integer	0,1	%			3	
28865	28864	70C0	1		Voltage phase 1 - fundamental	unsigned integer	1000	-		*See Note 3*	3	
28866	28865	70C1	1		Voltage phase 1 - 2nd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28867	28866	70C2	1		Voltage phase 1 - 3rd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28868	28867	70C3	1		Voltage phase 1 - 4th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28869	28868	70C4	1		Voltage phase 1 - 5th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28870	28869	70C5	1		Voltage phase 1 - 6th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28871	28870	70C6	1		Voltage phase 1 - 7th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28872	28871	70C7	1		Voltage phase 1 - 8th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28873	28872	70C8	1		Voltage phase 1 - 9th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
28874	28873	70C9	1		Voltage phase 1 - 10th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28875	28874	70CA	1		Voltage phase 1 - 11th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28876	28875	70CB	1		Voltage phase 1 - 12th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28877	28876	70CC	1		Voltage phase 1 - 13th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28878	28877	70CD	1		Voltage phase 1 - 14th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28879	28878	70CE	1		Voltage phase 1 - 15th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28880	28879	70CF	1		Voltage phase 1 - 16th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28881	28880	70D0	1		Voltage phase 1 - 17th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28882	28881	70D1	1		Voltage phase 1 - 18th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28883	28882	70D2	1		Voltage phase 1 - 19th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28884	28883	70D3	1		Voltage phase 1 - 20th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28885	28884	70D4	1		Voltage phase 1 - 21st harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28886	28885	70D5	1		Voltage phase 1 - 22nd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28887	28886	70D6	1		Voltage phase 1 - 23rd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28888	28887	70D7	1		Voltage phase 1 - 24th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28889	28888	70D8	1		Voltage phase 1 - 25th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28890	28889	70D9	1		Voltage phase 1 - 26th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28891	28890	70DA	1		Voltage phase 1 - 27th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28892	28891	70DB	1		Voltage phase 1 - 28th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28893	28892	70DC	1		Voltage phase 1 - 29th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28894	28893	70DD	1		Voltage phase 1 - 30th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28895	28894	70DE	1		Voltage phase 1 - 31st harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28896	28895	70DF	1		Voltage phase 1 - 32nd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28897	28896	70E0	1		Voltage phase 1 - 33rd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28898	28897	70E1	1		Voltage phase 1 - 34th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28899	28898	70E2	1		Voltage phase 1 - 35th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28900	28899	70E3	1		Voltage phase 1 - 36th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28901	28900	70E4	1		Voltage phase 1 - 37th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28902	28901	70E5	1		Voltage phase 1 - 38th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28903	28902	70E6	1		Voltage phase 1 - 39th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28904	28903	70E7	1		Voltage phase 1 - 40th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28905	28904	70E8	1		Voltage phase 1 - 41st harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28906	28905	70E9	1		Voltage phase 1 - 42nd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
28907	28906	70EA	1		Voltage phase 1 - 43rd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28908	28907	70EB	1		Voltage phase 1 - 44th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28909	28908	70EC	1		Voltage phase 1 - 45th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28910	28909	70ED	1		Voltage phase 1 - 46th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28911	28910	70EE	1		Voltage phase 1 - 47th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28912	28911	70EF	1		Voltage phase 1 - 48th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28913	28912	70F0	1		Voltage phase 1 - 49th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28914	28913	70F1	1		Voltage phase 1 - 50th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28929	28928	7100	1		Voltage phase 2 - fundamental	unsigned integer	1000	-		*See Note 3*	3	
28930	28929	7101	1		Voltage phase 2 - 2nd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28931	28930	7102	1		Voltage phase 2 - 3rd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28932	28931	7103	1		Voltage phase 2 - 4th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28933	28932	7104	1		Voltage phase 2 - 5th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28934	28933	7105	1		Voltage phase 2 - 6th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28935	28934	7106	1		Voltage phase 2 - 7th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28936	28935	7107	1		Voltage phase 2 - 8th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28937	28936	7108	1		Voltage phase 2 - 9th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28938	28937	7109	1		Voltage phase 2 - 10th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28939	28938	710A	1		Voltage phase 2 - 11th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28940	28939	710B	1		Voltage phase 2 - 12th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28941	28940	710C	1		Voltage phase 2 - 13th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28942	28941	710D	1		Voltage phase 2 - 14th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28943	28942	710E	1		Voltage phase 2 - 15th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28944	28943	710F	1		Voltage phase 2 - 16th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28945	28944	7110	1		Voltage phase 2 - 17th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28946	28945	7111	1		Voltage phase 2 - 18th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28947	28946	7112	1		Voltage phase 2 - 19th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28948	28947	7113	1		Voltage phase 2 - 20th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28949	28948	7114	1		Voltage phase 2 - 21st harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28950	28949	7115	1		Voltage phase 2 - 22nd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28951	28950	7116	1		Voltage phase 2 - 23rd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28952	28951	7117	1		Voltage phase 2 - 24th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28953	28952	7118	1		Voltage phase 2 - 25th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
28954	28953	7119	1		Voltage phase 2 - 26th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28955	28954	711A	1		Voltage phase 2 - 27th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28956	28955	711B	1		Voltage phase 2 - 28th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28957	28956	711C	1		Voltage phase 2 - 29th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28958	28957	711D	1		Voltage phase 2 - 30th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28959	28958	711E	1		Voltage phase 2 - 31st harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28960	28959	711F	1		Voltage phase 2 - 32nd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28961	28960	7120	1		Voltage phase 2 - 33rd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28962	28961	7121	1		Voltage phase 2 - 34th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28963	28962	7122	1		Voltage phase 2 - 35th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28964	28963	7123	1		Voltage phase 2 - 36th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28965	28964	7124	1		Voltage phase 2 - 37th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28966	28965	7125	1		Voltage phase 2 - 38th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28967	28966	7126	1		Voltage phase 2 - 39th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28968	28967	7127	1		Voltage phase 2 - 40th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28969	28968	7128	1		Voltage phase 2 - 41st harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28970	28969	7129	1		Voltage phase 2 - 42nd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28971	28970	712A	1		Voltage phase 2 - 43rd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28972	28971	712B	1		Voltage phase 2 - 44th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28973	28972	712C	1		Voltage phase 2 - 45th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28974	28973	712D	1		Voltage phase 2 - 46th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28975	28974	712E	1		Voltage phase 2 - 47th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28976	28975	712F	1		Voltage phase 2 - 48th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28977	28976	7130	1		Voltage phase 2 - 49th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28978	28977	7131	1		Voltage phase 2 - 50th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28993	28992	7140	1		Voltage phase 3 - fundamental	unsigned integer	1000	-		*See Note 3*	3	
28994	28993	7141	1		Voltage phase 3 - 2nd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28995	28994	7142	1		Voltage phase 3 - 3rd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28996	28995	7143	1		Voltage phase 3 - 4th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28997	28996	7144	1		Voltage phase 3 - 5th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28998	28997	7145	1		Voltage phase 3 - 6th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
28999	28998	7146	1		Voltage phase 3 - 7th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29000	28999	7147	1		Voltage phase 3 - 8th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
29001	29000	7148	1		Voltage phase 3 - 9th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29002	29001	7149	1		Voltage phase 3 - 10th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29003	29002	714A	1		Voltage phase 3 - 11th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29004	29003	714B	1		Voltage phase 3 - 12th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29005	29004	714C	1		Voltage phase 3 - 13th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29006	29005	714D	1		Voltage phase 3 - 14th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29007	29006	714E	1		Voltage phase 3 - 15th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29008	29007	714F	1		Voltage phase 3 - 16th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29009	29008	7150	1		Voltage phase 3 - 17th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29010	29009	7151	1		Voltage phase 3 - 18th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29011	29010	7152	1		Voltage phase 3 - 19th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29012	29011	7153	1		Voltage phase 3 - 20th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29013	29012	7154	1		Voltage phase 3 - 21st harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29014	29013	7155	1		Voltage phase 3 - 22nd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29015	29014	7156	1		Voltage phase 3 - 23rd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29016	29015	7157	1		Voltage phase 3 - 24th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29017	29016	7158	1		Voltage phase 3 - 25th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29018	29017	7159	1		Voltage phase 3 - 26th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29019	29018	715A	1		Voltage phase 3 - 27th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29020	29019	715B	1		Voltage phase 3 - 28th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29021	29020	715C	1		Voltage phase 3 - 29th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29022	29021	715D	1		Voltage phase 3 - 30th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29023	29022	715E	1		Voltage phase 3 - 31st harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29024	29023	715F	1		Voltage phase 3 - 32nd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29025	29024	7160	1		Voltage phase 3 - 33rd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29026	29025	7161	1		Voltage phase 3 - 34th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29027	29026	7162	1		Voltage phase 3 - 35th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29028	29027	7163	1		Voltage phase 3 - 36th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29029	29028	7164	1		Voltage phase 3 - 37th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29030	29029	7165	1		Voltage phase 3 - 38th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29031	29030	7166	1		Voltage phase 3 - 39th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29032	29031	7167	1		Voltage phase 3 - 40th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29033	29032	7168	1		Voltage phase 3 - 41st harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
29034	29033	7169	1		Voltage phase 3 - 42nd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29035	29034	716A	1		Voltage phase 3 - 43rd harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29036	29035	716B	1		Voltage phase 3 - 44th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29037	29036	716C	1		Voltage phase 3 - 45th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29038	29037	716D	1		Voltage phase 3 - 46th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29039	29038	716E	1		Voltage phase 3 - 47th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29040	29039	716F	1		Voltage phase 3 - 48th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29041	29040	7170	1		Voltage phase 3 - 49th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29042	29041	7171	1		Voltage phase 3 - 50th harmonic percentage	unsigned integer	0,1	%		*See Note 3*	3	
29185	29184	7200	2		Current phase 1 - fundamental (rms)	unsigned integer	1	mA			3	
29187	29186	7202	2		Current phase 1 - 2nd harmonic (rms)	unsigned integer	1	mA			3	
29189	29188	7204	2		Current phase 1 - 3rd harmonic (rms)	unsigned integer	1	mA			3	
29191	29190	7206	2		Current phase 1 - 4th harmonic (rms)	unsigned integer	1	mA			3	
29193	29192	7208	2		Current phase 1 - 5th harmonic (rms)	unsigned integer	1	mA			3	
29195	29194	720A	2		Current phase 1 - 6th harmonic (rms)	unsigned integer	1	mA			3	
29197	29196	720C	2		Current phase 1 - 7th harmonic (rms)	unsigned integer	1	mA			3	
29199	29198	720E	2		Current phase 1 - 8th harmonic (rms)	unsigned integer	1	mA			3	
29201	29200	7210	2		Current phase 1 - 9th harmonic (rms)	unsigned integer	1	mA			3	
29203	29202	7212	2		Current phase 1 - 10th harmonic (rms)	unsigned integer	1	mA			3	
29205	29204	7214	2		Current phase 1 - 11th harmonic (rms)	unsigned integer	1	mA			3	
29207	29206	7216	2		Current phase 1 - 12th harmonic (rms)	unsigned integer	1	mA			3	
29209	29208	7218	2		Current phase 1 - 13th harmonic (rms)	unsigned integer	1	mA			3	
29211	29210	721A	2		Current phase 1 - 14th harmonic (rms)	unsigned integer	1	mA			3	
29213	29212	721C	2		Current phase 1 - 15th harmonic (rms)	unsigned integer	1	mA			3	
29215	29214	721E	2		Current phase 1 - 16th harmonic (rms)	unsigned integer	1	mA			3	
29217	29216	7220	2		Current phase 1 - 17th harmonic (rms)	unsigned integer	1	mA			3	
29219	29218	7222	2		Current phase 1 - 18th harmonic (rms)	unsigned integer	1	mA			3	
29221	29220	7224	2		Current phase 1 - 19th harmonic (rms)	unsigned integer	1	mA			3	
29223	29222	7226	2		Current phase 1 - 20th harmonic (rms)	unsigned integer	1	mA			3	
29225	29224	7228	2		Current phase 1 - 21st harmonic (rms)	unsigned integer	1	mA			3	
29227	29226	722A	2		Current phase 1 - 22nd harmonic (rms)	unsigned integer	1	mA			3	
29229	29228	722C	2		Current phase 1 - 23rd harmonic (rms)	unsigned integer	1	mA			3	
29231	29230	722E	2		Current phase 1 - 24th harmonic (rms)	unsigned integer	1	mA			3	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
29233	29232	7230	2		Current phase 1 - 25th harmonic (rms)	unsigned integer	1	mA			3	
29235	29234	7232	2		Current phase 1 - 26th harmonic (rms)	unsigned integer	1	mA			3	
29237	29236	7234	2		Current phase 1 - 27th harmonic (rms)	unsigned integer	1	mA			3	
29239	29238	7236	2		Current phase 1 - 28th harmonic (rms)	unsigned integer	1	mA			3	
29241	29240	7238	2		Current phase 1 - 29th harmonic (rms)	unsigned integer	1	mA			3	
29243	29242	723A	2		Current phase 1 - 30th harmonic (rms)	unsigned integer	1	mA			3	
29245	29244	723C	2		Current phase 1 - 31st harmonic (rms)	unsigned integer	1	mA			3	
29247	29246	723E	2		Current phase 1 - 32nd harmonic (rms)	unsigned integer	1	mA			3	
29249	29248	7240	2		Current phase 1 - 33rd harmonic (rms)	unsigned integer	1	mA			3	
29251	29250	7242	2		Current phase 1 - 34th harmonic (rms)	unsigned integer	1	mA			3	
29253	29252	7244	2		Current phase 1 - 35th harmonic (rms)	unsigned integer	1	mA			3	
29255	29254	7246	2		Current phase 1 - 36th harmonic (rms)	unsigned integer	1	mA			3	
29257	29256	7248	2		Current phase 1 - 37th harmonic (rms)	unsigned integer	1	mA			3	
29259	29258	724A	2		Current phase 1 - 38th harmonic (rms)	unsigned integer	1	mA			3	
29261	29260	724C	2		Current phase 1 - 39th harmonic (rms)	unsigned integer	1	mA			3	
29263	29262	724E	2		Current phase 1 - 40th harmonic (rms)	unsigned integer	1	mA			3	
29265	29264	7250	2		Current phase 1 - 41st harmonic (rms)	unsigned integer	1	mA			3	
29267	29266	7252	2		Current phase 1 - 42nd harmonic (rms)	unsigned integer	1	mA			3	
29269	29268	7254	2		Current phase 1 - 43rd harmonic (rms)	unsigned integer	1	mA			3	
29271	29270	7256	2		Current phase 1 - 44th harmonic (rms)	unsigned integer	1	mA			3	
29273	29272	7258	2		Current phase 1 - 45th harmonic (rms)	unsigned integer	1	mA			3	
29275	29274	725A	2		Current phase 1 - 46th harmonic (rms)	unsigned integer	1	mA			3	
29277	29276	725C	2		Current phase 1 - 47th harmonic (rms)	unsigned integer	1	mA			3	
29279	29278	725E	2		Current phase 1 - 48th harmonic (rms)	unsigned integer	1	mA			3	
29281	29280	7260	2		Current phase 1 - 49th harmonic (rms)	unsigned integer	1	mA			3	
29283	29282	7262	2		Current phase 1 - 50th harmonic (rms)	unsigned integer	1	mA			3	
29313	29312	7280	2		Current phase 2 - fundamental (rms)	unsigned integer	1	mA			3	
29315	29314	7282	2		Current phase 2 - 2nd harmonic (rms)	unsigned integer	1	mA			3	
29317	29316	7284	2		Current phase 2 - 3rd harmonic (rms)	unsigned integer	1	mA			3	
29319	29318	7286	2		Current phase 2 - 4th harmonic (rms)	unsigned integer	1	mA			3	
29321	29320	7288	2		Current phase 2 - 5th harmonic (rms)	unsigned integer	1	mA			3	
29323	29322	728A	2		Current phase 2 - 6th harmonic (rms)	unsigned integer	1	mA			3	
29325	29324	728C	2		Current phase 2 - 7th harmonic (rms)	unsigned integer	1	mA			3	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
29327	29326	728E	2		Current phase 2 - 8th harmonic (rms)	unsigned integer	1	mA			3	
29329	29328	7290	2		Current phase 2 - 9th harmonic (rms)	unsigned integer	1	mA			3	
29331	29330	7292	2		Current phase 2 - 10th harmonic (rms)	unsigned integer	1	mA			3	
29333	29332	7294	2		Current phase 2 - 11th harmonic (rms)	unsigned integer	1	mA			3	
29335	29334	7296	2		Current phase 2 - 12th harmonic (rms)	unsigned integer	1	mA			3	
29337	29336	7298	2		Current phase 2 - 13th harmonic (rms)	unsigned integer	1	mA			3	
29339	29338	729A	2		Current phase 2 - 14th harmonic (rms)	unsigned integer	1	mA			3	
29341	29340	729C	2		Current phase 2 - 15th harmonic (rms)	unsigned integer	1	mA			3	
29343	29342	729E	2		Current phase 2 - 16th harmonic (rms)	unsigned integer	1	mA			3	
29345	29344	72A0	2		Current phase 2 - 17th harmonic (rms)	unsigned integer	1	mA			3	
29347	29346	72A2	2		Current phase 2 - 18th harmonic (rms)	unsigned integer	1	mA			3	
29349	29348	72A4	2		Current phase 2 - 19th harmonic (rms)	unsigned integer	1	mA			3	
29351	29350	72A6	2		Current phase 2 - 20th harmonic (rms)	unsigned integer	1	mA			3	
29353	29352	72A8	2		Current phase 2 - 21st harmonic (rms)	unsigned integer	1	mA			3	
29355	29354	72AA	2		Current phase 2 - 22nd harmonic (rms)	unsigned integer	1	mA			3	
29357	29356	72AC	2		Current phase 2 - 23rd harmonic (rms)	unsigned integer	1	mA			3	
29359	29358	72AE	2		Current phase 2 - 24th harmonic (rms)	unsigned integer	1	mA			3	
29361	29360	72B0	2		Current phase 2 - 25th harmonic (rms)	unsigned integer	1	mA			3	
29363	29362	72B2	2		Current phase 2 - 26th harmonic (rms)	unsigned integer	1	mA			3	
29365	29364	72B4	2		Current phase 2 - 27th harmonic (rms)	unsigned integer	1	mA			3	
29367	29366	72B6	2		Current phase 2 - 28th harmonic (rms)	unsigned integer	1	mA			3	
29369	29368	72B8	2		Current phase 2 - 29th harmonic (rms)	unsigned integer	1	mA			3	
29371	29370	72BA	2		Current phase 2 - 30th harmonic (rms)	unsigned integer	1	mA			3	
29373	29372	72BC	2		Current phase 2 - 31st harmonic (rms)	unsigned integer	1	mA			3	
29375	29374	72BE	2		Current phase 2 - 32nd harmonic (rms)	unsigned integer	1	mA			3	
29377	29376	72C0	2		Current phase 2 - 33rd harmonic (rms)	unsigned integer	1	mA			3	
29379	29378	72C2	2		Current phase 2 - 34th harmonic (rms)	unsigned integer	1	mA			3	
29381	29380	72C4	2		Current phase 2 - 35th harmonic (rms)	unsigned integer	1	mA			3	
29383	29382	72C6	2		Current phase 2 - 36th harmonic (rms)	unsigned integer	1	mA			3	
29385	29384	72C8	2		Current phase 2 - 37th harmonic (rms)	unsigned integer	1	mA			3	
29387	29386	72CA	2		Current phase 2 - 38th harmonic (rms)	unsigned integer	1	mA			3	
29389	29388	72CC	2		Current phase 2 - 39th harmonic (rms)	unsigned integer	1	mA			3	
29391	29390	72CE	2		Current phase 2 - 40th harmonic (rms)	unsigned integer	1	mA			3	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
29393	29392	72D0	2		Current phase 2 - 41st harmonic (rms)	unsigned integer	1	mA			3	
29395	29394	72D2	2		Current phase 2 - 42nd harmonic (rms)	unsigned integer	1	mA			3	
29397	29396	72D4	2		Current phase 2 - 43rd harmonic (rms)	unsigned integer	1	mA			3	
29399	29398	72D6	2		Current phase 2 - 44th harmonic (rms)	unsigned integer	1	mA			3	
29401	29400	72D8	2		Current phase 2 - 45th harmonic (rms)	unsigned integer	1	mA			3	
29403	29402	72DA	2		Current phase 2 - 46th harmonic (rms)	unsigned integer	1	mA			3	
29405	29404	72DC	2		Current phase 2 - 47th harmonic (rms)	unsigned integer	1	mA			3	
29407	29406	72DE	2		Current phase 2 - 48th harmonic (rms)	unsigned integer	1	mA			3	
29409	29408	72E0	2		Current phase 2 - 49th harmonic (rms)	unsigned integer	1	mA			3	
29411	29410	72E2	2		Current phase 2 - 50th harmonic (rms)	unsigned integer	1	mA			3	
29441	29440	7300	2		Current phase 3 - fundamental (rms)	unsigned integer	1	mA			3	
29443	29442	7302	2		Current phase 3 - 2nd harmonic (rms)	unsigned integer	1	mA			3	
29445	29444	7304	2		Current phase 3 - 3rd harmonic (rms)	unsigned integer	1	mA			3	
29447	29446	7306	2		Current phase 3 - 4th harmonic (rms)	unsigned integer	1	mA			3	
29449	29448	7308	2		Current phase 3 - 5th harmonic (rms)	unsigned integer	1	mA			3	
29451	29450	730A	2		Current phase 3 - 6th harmonic (rms)	unsigned integer	1	mA			3	
29453	29452	730C	2		Current phase 3 - 7th harmonic (rms)	unsigned integer	1	mA			3	
29455	29454	730E	2		Current phase 3 - 8th harmonic (rms)	unsigned integer	1	mA			3	
29457	29456	7310	2		Current phase 3 - 9th harmonic (rms)	unsigned integer	1	mA			3	
29459	29458	7312	2		Current phase 3 - 10th harmonic (rms)	unsigned integer	1	mA			3	
29461	29460	7314	2		Current phase 3 - 11th harmonic (rms)	unsigned integer	1	mA			3	
29463	29462	7316	2		Current phase 3 - 12th harmonic (rms)	unsigned integer	1	mA			3	
29465	29464	7318	2		Current phase 3 - 13th harmonic (rms)	unsigned integer	1	mA			3	
29467	29466	731A	2		Current phase 3 - 14th harmonic (rms)	unsigned integer	1	mA			3	
29469	29468	731C	2		Current phase 3 - 15th harmonic (rms)	unsigned integer	1	mA			3	
29471	29470	731E	2		Current phase 3 - 16th harmonic (rms)	unsigned integer	1	mA			3	
29473	29472	7320	2		Current phase 3 - 17th harmonic (rms)	unsigned integer	1	mA			3	
29475	29474	7322	2		Current phase 3 - 18th harmonic (rms)	unsigned integer	1	mA			3	
29477	29476	7324	2		Current phase 3 - 19th harmonic (rms)	unsigned integer	1	mA			3	
29479	29478	7326	2		Current phase 3 - 20th harmonic (rms)	unsigned integer	1	mA			3	
29481	29480	7328	2		Current phase 3 - 21st harmonic (rms)	unsigned integer	1	mA			3	
29483	29482	732A	2		Current phase 3 - 22nd harmonic (rms)	unsigned integer	1	mA			3	
29485	29484	732C	2		Current phase 3 - 23rd harmonic (rms)	unsigned integer	1	mA			3	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
29487	29486	732E	2		Current phase 3 - 24th harmonic (rms)	unsigned integer	1	mA			3	
29489	29488	7330	2		Current phase 3 - 25th harmonic (rms)	unsigned integer	1	mA			3	
29491	29490	7332	2		Current phase 3 - 26th harmonic (rms)	unsigned integer	1	mA			3	
29493	29492	7334	2		Current phase 3 - 27th harmonic (rms)	unsigned integer	1	mA			3	
29495	29494	7336	2		Current phase 3 - 28th harmonic (rms)	unsigned integer	1	mA			3	
29497	29496	7338	2		Current phase 3 - 29th harmonic (rms)	unsigned integer	1	mA			3	
29499	29498	733A	2		Current phase 3 - 30th harmonic (rms)	unsigned integer	1	mA			3	
29501	29500	733C	2		Current phase 3 - 31st harmonic (rms)	unsigned integer	1	mA			3	
29503	29502	733E	2		Current phase 3 - 32nd harmonic (rms)	unsigned integer	1	mA			3	
29505	29504	7340	2		Current phase 3 - 33rd harmonic (rms)	unsigned integer	1	mA			3	
29507	29506	7342	2		Current phase 3 - 34th harmonic (rms)	unsigned integer	1	mA			3	
29509	29508	7344	2		Current phase 3 - 35th harmonic (rms)	unsigned integer	1	mA			3	
29511	29510	7346	2		Current phase 3 - 36th harmonic (rms)	unsigned integer	1	mA			3	
29513	29512	7348	2		Current phase 3 - 37th harmonic (rms)	unsigned integer	1	mA			3	
29515	29514	734A	2		Current phase 3 - 38th harmonic (rms)	unsigned integer	1	mA			3	
29517	29516	734C	2		Current phase 3 - 39th harmonic (rms)	unsigned integer	1	mA			3	
29519	29518	734E	2		Current phase 3 - 40th harmonic (rms)	unsigned integer	1	mA			3	
29521	29520	7350	2		Current phase 3 - 41st harmonic (rms)	unsigned integer	1	mA			3	
29523	29522	7352	2		Current phase 3 - 42nd harmonic (rms)	unsigned integer	1	mA			3	
29525	29524	7354	2		Current phase 3 - 43rd harmonic (rms)	unsigned integer	1	mA			3	
29527	29526	7356	2		Current phase 3 - 44th harmonic (rms)	unsigned integer	1	mA			3	
29529	29528	7358	2		Current phase 3 - 45th harmonic (rms)	unsigned integer	1	mA			3	
29531	29530	735A	2		Current phase 3 - 46th harmonic (rms)	unsigned integer	1	mA			3	
29533	29532	735C	2		Current phase 3 - 47th harmonic (rms)	unsigned integer	1	mA			3	
29535	29534	735E	2		Current phase 3 - 48th harmonic (rms)	unsigned integer	1	mA			3	
29537	29536	7360	2		Current phase 3 - 49th harmonic (rms)	unsigned integer	1	mA			3	
29539	29538	7362	2		Current phase 3 - 50th harmonic (rms)	unsigned integer	1	mA			3	
29569	29568	7380	2		Voltage phase 1 - fundamental (rms)	unsigned integer	1	mV		*See Note 3*	3	
29571	29570	7382	2		Voltage phase 1 - 2nd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29573	29572	7384	2		Voltage phase 1 - 3rd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29575	29574	7386	2		Voltage phase 1 - 4th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29577	29576	7388	2		Voltage phase 1 - 5th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29579	29578	738A	2		Voltage phase 1 - 6th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
29581	29580	738C	2		Voltage phase 1 - 7th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29583	29582	738E	2		Voltage phase 1 - 8th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29585	29584	7390	2		Voltage phase 1 - 9th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29587	29586	7392	2		Voltage phase 1 - 10th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29589	29588	7394	2		Voltage phase 1 - 11th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29591	29590	7396	2		Voltage phase 1 - 12th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29593	29592	7398	2		Voltage phase 1 - 13th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29595	29594	739A	2		Voltage phase 1 - 14th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29597	29596	739C	2		Voltage phase 1 - 15th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29599	29598	739E	2		Voltage phase 1 - 16th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29601	29600	73A0	2		Voltage phase 1 - 17th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29603	29602	73A2	2		Voltage phase 1 - 18th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29605	29604	73A4	2		Voltage phase 1 - 19th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29607	29606	73A6	2		Voltage phase 1 - 20th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29609	29608	73A8	2		Voltage phase 1 - 21st harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29611	29610	73AA	2		Voltage phase 1 - 22nd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29613	29612	73AC	2		Voltage phase 1 - 23rd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29615	29614	73AE	2		Voltage phase 1 - 24th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29617	29616	73B0	2		Voltage phase 1 - 25th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29619	29618	73B2	2		Voltage phase 1 - 26th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29621	29620	73B4	2		Voltage phase 1 - 27th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29623	29622	73B6	2		Voltage phase 1 - 28th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29625	29624	73B8	2		Voltage phase 1 - 29th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29627	29626	73BA	2		Voltage phase 1 - 30th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29629	29628	73BC	2		Voltage phase 1 - 31st harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29631	29630	73BE	2		Voltage phase 1 - 32nd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29633	29632	73C0	2		Voltage phase 1 - 33rd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29635	29634	73C2	2		Voltage phase 1 - 34th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29637	29636	73C4	2		Voltage phase 1 - 35th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29639	29638	73C6	2		Voltage phase 1 - 36th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29641	29640	73C8	2		Voltage phase 1 - 37th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29643	29642	73CA	2		Voltage phase 1 - 38th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29645	29644	73CC	2		Voltage phase 1 - 39th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
29647	29646	73CE	2		Voltage phase 1 - 40th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29649	29648	73D0	2		Voltage phase 1 - 41st harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29651	29650	73D2	2		Voltage phase 1 - 42nd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29653	29652	73D4	2		Voltage phase 1 - 43rd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29655	29654	73D6	2		Voltage phase 1 - 44th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29657	29656	73D8	2		Voltage phase 1 - 45th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29659	29658	73DA	2		Voltage phase 1 - 46th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29661	29660	73DC	2		Voltage phase 1 - 47th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29663	29662	73DE	2		Voltage phase 1 - 48th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29665	29664	73E0	2		Voltage phase 1 - 49th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29667	29666	73E2	2		Voltage phase 1 - 50th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29697	29696	7400	2		Voltage phase 2 - fundamental (rms)	unsigned integer	1	mV		*See Note 3*	3	
29699	29698	7402	2		Voltage phase 2 - 2nd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29701	29700	7404	2		Voltage phase 2 - 3rd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29703	29702	7406	2		Voltage phase 2 - 4th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29705	29704	7408	2		Voltage phase 2 - 5th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29707	29706	740A	2		Voltage phase 2 - 6th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29709	29708	740C	2		Voltage phase 2 - 7th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29711	29710	740E	2		Voltage phase 2 - 8th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29713	29712	7410	2		Voltage phase 2 - 9th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29715	29714	7412	2		Voltage phase 2 - 10th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29717	29716	7414	2		Voltage phase 2 - 11th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29719	29718	7416	2		Voltage phase 2 - 12th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29721	29720	7418	2		Voltage phase 2 - 13th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29723	29722	741A	2		Voltage phase 2 - 14th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29725	29724	741C	2		Voltage phase 2 - 15th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29727	29726	741E	2		Voltage phase 2 - 16th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29729	29728	7420	2		Voltage phase 2 - 17th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29731	29730	7422	2		Voltage phase 2 - 18th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29733	29732	7424	2		Voltage phase 2 - 19th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29735	29734	7426	2		Voltage phase 2 - 20th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29737	29736	7428	2		Voltage phase 2 - 21st harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29739	29738	742A	2		Voltage phase 2 - 22nd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
29741	29740	742C	2		Voltage phase 2 - 23rd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29743	29742	742E	2		Voltage phase 2 - 24th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29745	29744	7430	2		Voltage phase 2 - 25th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29747	29746	7432	2		Voltage phase 2 - 26th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29749	29748	7434	2		Voltage phase 2 - 27th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29751	29750	7436	2		Voltage phase 2 - 28th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29753	29752	7438	2		Voltage phase 2 - 29th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29755	29754	743A	2		Voltage phase 2 - 30th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29757	29756	743C	2		Voltage phase 2 - 31st harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29759	29758	743E	2		Voltage phase 2 - 32nd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29761	29760	7440	2		Voltage phase 2 - 33rd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29763	29762	7442	2		Voltage phase 2 - 34th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29765	29764	7444	2		Voltage phase 2 - 35th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29767	29766	7446	2		Voltage phase 2 - 36th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29769	29768	7448	2		Voltage phase 2 - 37th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29771	29770	744A	2		Voltage phase 2 - 38th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29773	29772	744C	2		Voltage phase 2 - 39th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29775	29774	744E	2		Voltage phase 2 - 40th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29777	29776	7450	2		Voltage phase 2 - 41st harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29779	29778	7452	2		Voltage phase 2 - 42nd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29781	29780	7454	2		Voltage phase 2 - 43rd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29783	29782	7456	2		Voltage phase 2 - 44th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29785	29784	7458	2		Voltage phase 2 - 45th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29787	29786	745A	2		Voltage phase 2 - 46th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29789	29788	745C	2		Voltage phase 2 - 47th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29791	29790	745E	2		Voltage phase 2 - 48th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29793	29792	7460	2		Voltage phase 2 - 49th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29795	29794	7462	2		Voltage phase 2 - 50th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29825	29824	7480	2		Voltage phase 3 - fundamental (rms)	unsigned integer	1	mV		*See Note 3*	3	
29827	29826	7482	2		Voltage phase 3 - 2nd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29829	29828	7484	2		Voltage phase 3 - 3rd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29831	29830	7486	2		Voltage phase 3 - 4th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29833	29832	7488	2		Voltage phase 3 - 5th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
29835	29834	748A	2		Voltage phase 3 - 6th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29837	29836	748C	2		Voltage phase 3 - 7th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29839	29838	748E	2		Voltage phase 3 - 8th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29841	29840	7490	2		Voltage phase 3 - 9th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29843	29842	7492	2		Voltage phase 3 - 10th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29845	29844	7494	2		Voltage phase 3 - 11th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29847	29846	7496	2		Voltage phase 3 - 12th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29849	29848	7498	2		Voltage phase 3 - 13th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29851	29850	749A	2		Voltage phase 3 - 14th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29853	29852	749C	2		Voltage phase 3 - 15th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29855	29854	749E	2		Voltage phase 3 - 16th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29857	29856	74A0	2		Voltage phase 3 - 17th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29859	29858	74A2	2		Voltage phase 3 - 18th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29861	29860	74A4	2		Voltage phase 3 - 19th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29863	29862	74A6	2		Voltage phase 3 - 20th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29865	29864	74A8	2		Voltage phase 3 - 21st harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29867	29866	74AA	2		Voltage phase 3 - 22nd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29869	29868	74AC	2		Voltage phase 3 - 23rd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29871	29870	74AE	2		Voltage phase 3 - 24th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29873	29872	74B0	2		Voltage phase 3 - 25th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29875	29874	74B2	2		Voltage phase 3 - 26th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29877	29876	74B4	2		Voltage phase 3 - 27th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29879	29878	74B6	2		Voltage phase 3 - 28th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29881	29880	74B8	2		Voltage phase 3 - 29th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29883	29882	74BA	2		Voltage phase 3 - 30th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29885	29884	74BC	2		Voltage phase 3 - 31st harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29887	29886	74BE	2		Voltage phase 3 - 32nd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29889	29888	74C0	2		Voltage phase 3 - 33rd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29891	29890	74C2	2		Voltage phase 3 - 34th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29893	29892	74C4	2		Voltage phase 3 - 35th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29895	29894	74C6	2		Voltage phase 3 - 36th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29897	29896	74C8	2		Voltage phase 3 - 37th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29899	29898	74CA	2		Voltage phase 3 - 38th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
29901	29900	74CC	2		Voltage phase 3 - 39th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29903	29902	74CE	2		Voltage phase 3 - 40th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29905	29904	74D0	2		Voltage phase 3 - 41st harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29907	29906	74D2	2		Voltage phase 3 - 42nd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29909	29908	74D4	2		Voltage phase 3 - 43rd harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29911	29910	74D6	2		Voltage phase 3 - 44th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29913	29912	74D8	2		Voltage phase 3 - 45th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29915	29914	74DA	2		Voltage phase 3 - 46th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29917	29916	74DC	2		Voltage phase 3 - 47th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29919	29918	74DE	2		Voltage phase 3 - 48th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29921	29920	74E0	2		Voltage phase 3 - 49th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	
29923	29922	74E2	2		Voltage phase 3 - 50th harmonic (rms)	unsigned integer	1	mV		*See Note 3*	3	

Note 1 - Powers scale

Scale	Unit	Condition
0,01	W, var, VA	CTxVT<5.000
1	W, var, VA	CTxVT ≥ 5.000

Energies scale

Scale	Unit	Condition	Display Format
1.000.000	Wh, varh	100.000 ≤ CTxVT	xxxxxxxx M
100.000	Wh, varh	10.000 ≤ CTxVT < 100.000	xxxxxxx,y M
10.000	Wh, varh	1.000 ≤ CTxVT < 10.000	xxxxxx,yy M
1.000	Wh, varh	100 ≤ CTxVT < 1.000	xxxxxxxx k
100	Wh, varh	10 ≤ CTxVT < 100	xxxxxxx,y k
10	Wh, varh	1 ≤ CTxVT < 10	xxxxxx,yy k

Note 3 - VOLTAGE THD, HARMONICS AND STATISTICS

Network Type	
With Neutral	data related to phase voltages
Without Neutral	data related to chained voltages

Note 4 - OUTPUT RELAY STATUS

The answer is in the following format : FF 03 02 b3|b2|b1|b0

where:
Bit 0: Output 1
Bit 1: Output 2
Bit 2: Output 3
Bit 3: Output 4

Example: answer 0003h -> 0011b -> Outputs 1 and 2 activated on alarm or command

Note 5 - ADD-ON MODULES INSTALLED

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)

The answer is in the following format : ADDR 03 04 B3 B2 | B1 B0

where:
B0: Slot A
B1: Slot B
B2: Slot C
B3: Slot D

Example: answer ADDR 03 04 2D 2D 48 41

Slot A: RS485 Module
Slot B: Harmonics Hanalysys Module
Slot C: No Module
Slot D: No Module

Legend:
2Dh: No Module
41h: RS485 Module
46h: I/O Module
62h: Pulse Outputs Module
64h: Analog Output Module

Note 6 - Request of integrated data (energy and average power)

To read energy sored Data:
1) Send a write modbus command to the Memory Module that sets the date from wich user wants the stored data :
ADDR 10 5500 0006 0C 00DD 00MM 00YY 00hh 00mm 00ss
2) Request the data with a read modbus command "give (next) data"
ADDR 03 5000 0001
After this command the module send to the master 8 blocks of data stored with the format:

Example:
Request: ADDR 03 5000 0001
Answer: ADDR 03 F0

16 03 18	Data of current record n
13 50 00	Time of current record n
0001 D588	Active Positive Energy
0002 BE58	Active Negative Energy
0003 5AFC	Reactive Positive Energy
0000 0184	Reactive Negative Energy
0000 031D	Average Power
0000 04AF	Maximum Power Demand
[...]	
18 03 18	Data of current record n
15 20 00	Time of current record n
0001 D588	Active Positive Energy
0002 BE58	Active Negative Energy
0003 5AFC	Reactive Positive Energy
0000 0184	Reactive Negative Energy
0000 031D	Average Power
0000 04AF	Maximum Power Demand

Note: The user may repeat the command "give (next) data" until receive an exception error that means no more data.
After the exception error, new request have to start to the first point in this paragraph

Note 7 - Request of real time data

To read energy sored Data:
1) Send a write modbus command to the Memory Module that sets the date from wich user wants the stored data :
ADDR 10 5500 0006 0C 00DD 00MM 00YY 00hh 00mm 00ss
2) Request the data with a read modbus command "give (next) data"
ADDR 03 5010 0001
After the reading command the module will send to the master the data stored and the format depend on the type of data recorded (TYPE0, TYPE1, TYPE2, TYPE3):

Example:
Request:ADDR 03 5010 0001
Answer: ADDR 03 F0

16 03 18	Data of current record n
13 50 00	Time of current record n
0001 D588	Active Positive Energy
0002 BE58	Active Negative Energy
0003 5AFC	Reactive Positive Energy
0000 0184	Reactive Negative Energy
0000 031D	Average Power
0000 04AF	Maximum Power Demand

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)

[...]

18 03 18	Data of current record n+7
15 20 00	Time of current record n+7
0001 D588	Active Positive Energy
0002 BE58	Active Negative Energy
0003 5AFC	Reactive Positive Energy
0000 0184	Reactive Negative Energy
0000 031D	Average Power
0000 04AF	Maximum Power Demand

Note: The user may repeat the command "give (next) data" until receive an exception error that means no more data.
After the exception error, new request have to start to the first point in this paragraph

Hystoric data records type

TYPE0 Data

# WORD	Description	Unit
2	Phase 1 : phase voltage	mV
2	Phase 2 : phase voltage	mV
2	Phase 3 : phase voltage	mV
2	Phase 1 : current	mA
2	Phase 2 : current	mA
2	Phase 3 : current	mA
2	Neutral current	mA
2	Chained voltage : L1-L2	mV
2	Chained voltage : L2-L3	mV
2	Chained voltage : L3-L1	mV
2	3-phase : active power	*See Note 1*
2	3-phase : reactive power	*See Note 1*
2	3-phase : apparent power	*See Note 1*
1	3-phase : power factor	1/100
1	3-phase : sector of power factor (cap or ind)	1 : ind 2 : cap
1	Frequency	Hz/10
2	Phase 1 : active power	*See Note 1*
2	Phase 2 : active power	*See Note 1*
2	Phase 3 : active power	*See Note 1*
2	Phase 1 : reactive power	*See Note 1*
2	Phase 2 : reactive power	*See Note 1*
2	Phase 3 : reactive power	*See Note 1*
1	Phase 1 : power factor	1/100
1	Phase 2 : power factor	1/100
1	Phase 3 : power factor	1/100
1	Phase 1 : power factor sector	1 : ind 2 : cap
1	Phase 2 : power factor sector	1 : ind 2 : cap
1	Phase 3 : power factor sector	1 : ind 2 : cap
1	Phase 1 : THD V1	%
1	Phase 2 : THD V2	%
1	Phase 3 : THD V3	%
1	Phase 1 : THD I1	%
1	Phase 2 : THD I2	%
1	Phase 3 : THD I3	%
1	Output relay status	-

TYPE1 Data

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)

# WORD	Description	Unit
2	Phase 1 : phase voltage	mV
2	Phase 2 : phase voltage	mV
2	Phase 3 : phase voltage	mV
2	Phase 1 : current	mA
2	Phase 2 : current	mA
2	Phase 3 : current	mA
2	Neutral current	mA
2	3-phase : active power	*See Note 1*
2	3-phase : reactive power	*See Note 1*
2	3-phase : apparent power	*See Note 1*
1	3-phase : power factor	1/100
1	3-phase : sector of power factor (cap or ind)	1 : ind 2 : cap
1	Frequency	Hz/10
2	Phase 1 : active power	*See Note 1*
2	Phase 2 : active power	*See Note 1*
2	Phase 3 : active power	*See Note 1*
2	Phase 1 : reactive power	*See Note 1*
2	Phase 2 : reactive power	*See Note 1*
2	Phase 3 : reactive power	*See Note 1*
1	Phase 1 : power factor	1/100
1	Phase 2 : power factor	1/100
1	Phase 3 : power factor	1/100
1	Phase 1 : power factor sector	1 : ind 2 : cap
1	Phase 2 : power factor sector	1 : ind 2 : cap
1	Phase 3 : power factor sector	1 : ind 2 : cap
1	Output relay status	-

TYPE2 Data

# WORD	Description	Unit
2	Phase 1 : current	mA
2	Phase 2 : current	mA
2	Phase 3 : current	mA
2	Neutral current	mA
2	Chained voltage : L1-L2	mV
2	Chained voltage : L2-L3	mV
2	Chained voltage : L3-L1	mV
2	3-phase : active power	*See Note 1*
2	3-phase : reactive power	*See Note 1*
2	3-phase : apparent power	*See Note 1*
1	3-phase : power factor	1/100
1	3-phase : sector of power factor (cap or ind)	1 : ind 2 : cap
1	Frequency	Hz/10
1	Output relay status	-

TYPE3 Data

# WORD	Description	Unit
2	Phase 1 : phase voltage	mV
2	Phase 2 : phase voltage	mV
2	Phase 3 : phase voltage	mV
2	Phase 1 : current	mA

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing (2)
	2	Phase 2 : current			mA							
	2	Phase 3 : current			mA							
	2	Neutral current			mA							
	2	3-phase : active power			*See Note 1*							
	2	3-phase : reactive power			*See Note 1*							
	2	3-phase : apparent power			*See Note 1*							
	1	3-phase : power factor			1/100							
	1	3-phase : sector of power factor (cap or ind)			1 : ind 2 : cap							
	1	Frequency			Hz/10							
	1	Output relay status			-							

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Codes (Dec)	Write Function Codes (Hex)	Data Storing (2)
257	256	100	2		Current & Voltage Transf. Ratio								
257	256	100	1		Read/Write Current transformer ratio - CT	unsigned integer	1	-	1 ÷ 9999	CT = I prim / I sec ex: 500 A / 5 A → CT = 100	3	10	
259	258	102	1		Read/Write Voltage transformer ratio - VT	unsigned integer	0,1	-	10 ÷ 30000	VT = V prim / V sec ex: 600 V /100 V VT = 6.00 → WRITE 600 --- If tranformer not present VT = 1.00 → WRITE 100	3	10	
263	262	106	1		Read/Write Second decimal of Voltage transformer ratio - VT (XXXX,YZ) -> Z	unsigned integer	1	-			3	10	
1297	1296	510	1		Reset of one Pulse Couter								
1297	1296	510	1		Reset of one Pulse Couter	unsigned integer	-	-	-	*See Note 6*	3	10	
4208	4207	106f	184		Open / Close a relays of I/O Module								
4208	4207	106F	1		Output status	unsigned integer	-	-	-	*See Note 16*	3	10	
8193	8192	2000	16		Standard Setup parameters (read & write 16 byte at once)								
8193	8192	2000	16		Standard Setup Parameters	unsigned integer	-	-	-	*See Note 1*	3	10	
8449	8448	2100	24		Programming Parameters of Module on Slot B								
8449	8448	2100	24		Programming parameters of Module on Slot B	unsigned integer	-	-	-	*See Note 2*	3	10	
8705	8704	2200	24		Programming Parameters of Module on Slot C								
8705	8704	2200	24		Programming parameters of Module on Slot C	unsigned integer	-	-	-	*See Note 2*	3	10	
8961	8960	2300	24		Programming Parameters of Module on Slot D								
8961	8960	2300	24		Programming parameters of Module on Slot D	unsigned integer	-	-	-	*See Note 2*	3	10	
9217	9216	2400	1		Reset parameters								
9217	9216	2400	1		Reset Hour Meter, Maximum Powers, Maximum Voltages, Maximum Currents, Minimum Voltages, Active Partial Energy, Reactive Partial Energy	unsigned integer	-	-	-	*See Note 3*	3	10	
9729	9728	2600	1		Saving parameters								
9729	9728	2600	1		Saving in EEPROM parameters changed by Remote commands	unsigned integer	-	-	-	*See Note 4*	3	10	
9985	9984	2700	1		Enable writing								
9985	9984	2700	1		Enable Remote Writing Operation	unsigned integer	-	-	-	*See Note 4 & Note 5*	3	10	
10241	10240	2800	1		Restore default parameters								
10241	10240	2800	1		Restore default parameters	unsigned integer	-	-	-	*See Note 5*	3	10	
14081	14080	3700	1		Real time data: bit mapped variable reading/writing								
14081	14080	3700	1		Real time measurements: free registers bit map	unsigned integer	-	-	-	*See Note 17*	3	10	
20769	20768	5120	55		Stored data								
20769	20768	5120	6		Current date and time	unsigned integer	-	-	-	*Values are returned in decimal format* *See Note 9*	3	10	
20801	20800	5140	2		Saving interval period and record data type	unsigned integer	-	-	-	*See Note 10*	3	10	
20803	20802	5142	1		Saving energy data interval	unsigned integer	-	-	-	*See Note 11*	3	10	
21745	21744	54F0	6		Initial date and time for Power quality data	unsigned integer	-	-	-	*Values are returned in decimal format* *See Note 9*			
21761	21760	5500	6		Initial date and time for Energy data reading	unsigned integer	-	-	-	*Values are returned in decimal format* *See Note 9*	3	10	
21777	21776	5510	6		Date and time for start of Daylight Saving Time period	unsigned integer	-	-	-	*Values are returned in decimal format* *See Note 12*	3	10	

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Codes (Dec)	Write Function Codes (Hex)	Data Storing (2)
21793	21792	5520	6		Date and time for end of Daylight Saving Time period	unsigned integer	-	-	-	*Values are returned in decimal format See Note 12*	3	10	
23041	23040	5A00	6		Initial date and time for real time data	unsigned integer	-	-	-	*Values are returned in decimal format See Note 9*	3	10	
23297	23296	5B00	8		Reset all energy data memory	unsigned integer	-	-	-	*See Note 13*	3	10	
23553	23552	5C00	8		Reset all real time data memory	unsigned integer	-	-	-	*See Note 14*	3	10	
23809	23808	5D00	8		Reset Power quality data memory	unsigned integer	-	-	-	*See Note 15*	3	10	

Note 1 - Standard Setup Parameters

Readable / Writable in a 16 WORDS format :

TX: ADDR 03 20 00 00 10
RX: ADDR 03 20 | 00 00 | 00 00 | 00 03 | 00 69 | 00 64 | 00 01 | 00 01 | 00 00 | 00 01 | 00 02 | 00 01 | 00 01 | 00 01 | 00 01 | 00 01 | 00 00
The answer is in the following format :

ADDR 03 20 W0 W1 W2 W3 W4 W5 W6 W7 W8 W9 W10 W11 W12 W13 W14 W15

The meaning of the WORDs is the following: W0 and W15: no meaning

W14 : Measure on line 1 of custom page 0: V phase 1 1: V12 2: I phase 1 3: I Neutral 4: P 3-phase 5: Q 3-phase 6: S 3-phase 7: P phase 1 8: Q phase 1 9: S phase 1	**W13 : Measure on line 2 of custom page** 0: V phase 2 1: V23 2: I phase 2 3: P 3-phase 4: Q 3-phase 5: S 3-phase 6: P phase 2 7: Q phase 2 8: S phase 2 9: Frequency	**W12 : Measure on line 3 of custom page** 0 => V phase 3 1 => V31 2 => I phase 3 3 => P 3-phase 4 => Q 3-phase 5 => S 3-phase 6 => P phase 3 7 => Q phase 3 8 => S phase 3 9 => P phase 1
W11 : Insertion type 0: 3N3E 1: 3-3E 2: 3-2E 3: 1N1E 4: 3N1E 5: 3-1E	**W10 : Average and Max. demand calculation time** 0: 5 minutes 1: 8 minutes 2: 10 minutes 3: 15 minutes 4: 20 minutes 5: 30 minutes 6: 60 minutes	**W9 : Display contrast** 0: level 0 1: level 1 2: level 2 3: level 3
W8 : Backlight intensity 0: 0% 1: 30% 2: 70% 3: 100%	**W7 : Rated TA current** 0: 5A 1: 1A	**W6 : Displayed Harmonic ratio** 0: up to 9th 1: up to 25th
W5 : Hour run meter starting on 0: Voltage 1: Power	**W4 : Power threshold for hour run meter [0 ÷ 50,00%] (only if W5 = 1)** Value in % Scale 1/100 Ex.: 01F4h => 500/100 = 50,0%	**W3 : Modbus address**
W2 : Baudrate 0: 4,8 kbps 1: 9,6 kbps 2: 19,2 kbps 3: 38,4 kbps	**W1 : Parity** 0: none 1: odd 2: even	

Note 2 - Programming parameters of Module on Slots B - C - D

· Analogue Output Module
Readable / Writable in a 24 WORDS format - the answer is in the following format:

W0 W1 W2 W3 | W4 W5 W6 W7 W8 W9 W10 W11 W12 W13 | W14 W15 W16 W17 W18 W19 W20 W21 W22 W23

The meaning of the WORDs is the following:
W14 to W23 for OUT 1
W4 to W13 for OUT 2
W0,W1,W2 and W3: no meaning

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Codes (Dec)	Write Function Codes (Hex)	Data Storing (2)
	W23 & W13: Output range 0: 4÷20 mA 1: 0÷20 mA				**W22 & W12: Transduced quantity** 0: V phase 1 1: V phase 2 2: V phase 3 3: I phase 1 4: I phase 2 5: I phase 3 6: V12 7: V23 8: V31 9: P phase 1 10: P phase 2 11: P phase 3 12: Q phase 1 13: Q phase 2 14: Q phase 3 15: P 3-phase 16: Q 3-phase 17: PF 3-phase 18: Frequency 19: Active Power PMD 20: Reactive Power PMD 21: Current PMD 22: Temperature Ch1 23: Temperature Ch2	**W21 & W11: Sign for Begin scale (only for Powers and Temperatures)** 0: positive 1: negative							
	W20 & W10: Deimal point position 0: X.XXX 1: XX.XX 2: XXX.X				**W19 & W9: Measuring Unit** 0: k (for Powers), Inductive (for PF), V (for volatges), A (for currents), Hz (for Frequency) 1: M (for Powers), Capacitive (for PF), kV (for volatges), kA (for currents), Hz (for Frequency)	**W18 & W8 Starting Value** 0 to 9999							
	W17 & W7: Sign for Ending scale (only for Powers and Temperatures) 0: positive 1: negative				**W16 & W6: Deimal point position** 0: X.XXX 1: XX.XX 2: XXX.X	**W15 & W5 Measuring Unit** 0: k (for Powers), Inductive (for PF), V (for volatges), A (for currents), Hz (for Frequency) 1: M (for Powers), Capacitive (for PF), kV (for volatges), kA (for currents), Hz (for Frequency)							
	W14 & W4: Ending Value 0 to 9999												
	- I/O Module Readable / Writable in a 24 WORDS format - the answer is in the following format: W0 W1 W2 W3 | W4 W5 W6 W7 W8 W9 W10 W11 W12 W13 | W14 W15 W16 W17 W18 W19 W20 W21 W22 W23 The meaning of the WORDs is the following: W12 to W23 for ALARM OUT 1 W0 to W11 for ALARM OUT 2												
	W23 & W111: Output relay set as 0: Alarm 1: Remote Bistable contatc (rMtb) 2: Remote Timed contatc (rMtt)				**W22 & W10: Associated quantity** 0: V phase 1 1: V phase 2 2: V phase 3 3: I phase 1 4: I phase 2 5: I phase 3 6: V12 7: V23 8: V31 9: P phase 1 10: P phase 2 11: P phase 3 12: Q phase 1 13: Q phase 2 14: Q phase 3 15: P 3-phase 16: Q 3-phase 17: PF 3-phase 18: Frequency 19: Active Power PMD 20: Reactive Power PMD 21: Current PMD 22: Temperature Ch1 23: Temperature Ch2	**W21 & W9: Sign for Begin scale (for Powers and Temperatures)** 0: positive 1: negative							

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Codes (Dec)	Write Function Codes (Hex)	Data Storing (2)
	W20 & W8: Deimal point position 0: X.XXX 1: XX.XX 2: XXX.X				**W19 & W7: Measuring Unit** 0: k (for Powers), Inductive (for PF), V (for volatges), A (for currents), Hz (for Frequency) 1: M (for Powers), Capacitive (for PF), kV (for volatges), kA (for currents), Hz (for Frequency)	**W18 & W6: Alarm setpoint** 0 to 9999							
	W17 & W5 Alarm active when 0: Lower than set point 1: Higher than set point				**W16 & W4: Relay Status** 0: Normally Open - NO 1: Normally Close - NC	**W15 & W3: Hysteresis** 0÷10: 0% ÷ 10% 11: 15% 12: 20%							
	W14 & W2: Alarm activation delay 0 - 99 s				**W13 & W1: Alarm deactivation delay** 0 - 99 s	**W12:** No meaning: always 0							
	W0: Counting / Tariff selector (ONLY FOR INPUT #1 of the I/O module in slot C) 0: Input set for pulse counting 1: Input set as Tariff selector												
	· Pulse output Module Readable / Writable in a 24 WORDS format - the answer is in the following format: W0 W1 W2 W3 W4 W5 W6 W7 W8 W9 W10 W11 W12 W13 W14 W15 W16 W17 | W18 W19 W20 | W21 W22 W23 The meaning of the WORDs is the following: W21 to W23 for PULSE OUT 1 W18 to W20 for PULSE OUT 2 W0 to W17: no meaning												
	W23 & W20: Pulse active on 0: Positive Active Energy 1: Positive Reactive Energy 2: Negative Active Energy 3: Negative Reactive Energy				**W22 & W19: Pulse weight** 0: 0.01 k 1: 0.10 k 2: 1.00 k 3: 10.0 k 4: 0.10 M 5: 1.00 M 6: 10.0 M	**W21 & W18: Pulse duration** 0: 50 ms 1: 100 ms 2: 200 ms 3: 300 ms							
	Note 3 - Reset Parameters												
	To reset desired measurements write the following word (in binary): 0|0|0|0|0|0|0|0|b8|b7|b6|b5|b4|b3|b2|b1|b0 b0 = 1 => Reset Hour Meter b1 = 1 => Reset Peak Maximum Demand b2 = 1 => Reset Maximum Voltage values b3 = 1 => Reset Maximum Current values b4 = 1 => Reset Minimum Voltage values b5 = 1 => Reset Active Partial Energy b6 = 1 => Reset Reactive Partial Energy b7 = 1 => Reset Counter Input 1 (Sw > 1.02) b8 = 1 => Reset Counter Input 2 (Sw > 1.02) b9 ÷ b15 = 0												
	Note 4 - Configuration Procedure												
	1) "Master Unlock Key" command (write the value = 0x5AA5 in the register 0x2700)												
	2) Write the new Configuration (one or more registers...)												
	3) "Master Unlock Key" command (write the value = **0x5AA5** in the register 0x2700)												
	4) Save/Confirm the new Configuration (writing the value **0x000A** in the register 0x2600)												
	5) The new Configuration is now available												
	Note 5 - Restore default parameters												
	1) "Master Unlock Key" command (write the value = **0x5AA5** in the register 0x2700)												
	2) Return to the Default configuration (writing the value **0x000B** in the register 0x2800)												
	3) The Default configuration has been restored												
	Note 6 - Reset of one Pulse Couter												
	1) "Master Unlock Key" command (write the value = **0x5AA5** in the register 0x2700)												
	2) Write the command (one for each pulse input counter): ADDR 10 0510 0001 02 W0 where W0: 0010 to reset Pulse Counter 1 on Slot C 0001 to reset Pulse Counter 2 on Slot C 1000 to reset Pulse Counter 1 on Slot D 0100 to reset Pulse Counter 2 on Slot D												

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Codes (Dec)	Write Function Codes (Hex)	Data Storing (2)

Note 9 - Current date and time - Initial date and time for energy data reading
Initial date and time for real time data - Initial date and time for Power quality data

1) Write the command:
example the date 17 of june 2009 and the time 12:11:47
ADDR 10 "REGISTER" 0006 0C 0017 0006 0009 0012 0011 0047

Note 10 - Saving real time data interval and packet data type

1) Write the command:
ADDR 10 5140 0002 04 W0 W1
where W0:
0000 to set saving time as 2 sec.
0001 to set saving time as 5 sec.
0002 to set saving time as 10 sec.
0003 to set saving time as 30 sec.
0004 to set saving time as 60 sec.
0005 to set saving time as 2 min.
0006 to set saving time as 5 min.

where W1:
0000 to set Type 0
0001 to set Type 1
0002 to set Type 2
0003 to set Type 3
0004 to set Type 4

Note:
- Writing a new value for data record type has the effect to erase the real time data memory.

- Writing a new value for saving interval time period has no effect on the stored data that have been already saved in the memory.

Note 11 - Saving energy data interval

1) Write the command:
ADDR 10 5142 0001 02 W0
where W0:
0000 to set saving time as 5 min.
0001 to set saving time as 10 min.
0002 to set saving time as 15 min.

Note 12 - Daylight Saving Time

1) **STARTING DATE & HOUR** - Write the command:
example the date 29 of march 2015 and the time 02:00:00
FF 10 5120 0006 0C 0029 0003 0015 0002 0000 0000

2) **ENDING DATE & HOUR** - Write the command:
example the date 25 of october 2015 and the time 03:00:00
FF 10 5120 0006 0C 0025 0010 0015 0003 0000 0000

Note 13 - Reset all energy data memory

1) Write the command:
ADDR 10 5B00 0004 08 5265 7365 744D 656D

Note 14 - Reset all real time data memory

1) Write the command:
ADDR 10 5C00 0004 08 5265 7365 7444 6164

Note 15 - Reset Power quality data memory

1) Write the command:
ADDR 10 5D00 0004 08 5265 7365 7444 6164

Note 16 - Open / Close a relays of I/O Module

This command is available only if are selected the mode rMtb or rMtt for the output relay of I/O Module(s):
1) write: ADDR 10 106F 0001 02 W0

To close the desired relay write the following word (in binary): b15 ÷ b4|b3|b2|b1|b0

b15÷b4 = 0
b3|b2|b1|b0
0 0 0 1 => Close relay 1
0 0 1 0 => Close relay 2
0 1 0 0 => Close relay 3
1 0 0 0 => Close relay 4

Note 17 - Real time data: bit mapped variable reading

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Codes (Dec)	Write Function Codes (Hex)	Data Storing (2)

For Data Type 0, 1, 2, 3 there is a fixed format; **Data Type 4 has a variable format for data**. This means that in the case of Data Type 4 user can choose which variable to save

TO READ THE CONFIGURATION

1) write: ADDR 03 3700 0005
   answer: ADDR 03 0A W0 W1 W2 W3 W4

To know which variables are saved, write the words in binary. The signifactive bits are from b34 to b0. Example
The meaning of bits is the following:

b79...b35 no meaning

b34 relay status | b33 THD I3 | b32 THD I2

b31 THD I1 | b30 THD V3 | b29 THD V2 | b28 THD V1 | b27 PF3 sect | b26 PF2 sect | b25 PF1 sect | b24 PF3

b23 PF2 | b22 PF1 | b21 Q3 | b20 Q2 | b19 Q1 | b18 P3 | b17 P2 | b16 P1

b15 Freq | b14 Pf sect | b13 PF | b12 S | b11 Q | b10 P | b9 V31 | b8 V23

b7 V12 | b6 In | b5 I3 | b4 I2 | b3 I1 | b2 V3 | b1 V2 | b0 V1

Example:
Request: ADDR 03 3700 00 05
Answer (h): ADDR 03 0A 0000 0000 0005 5555 5555
Answer (b): 00000000 00000000 00000000 00000000 00000**1**01 01010101 01010101 01010101 0101010**1**
b34 **b0**
Any record is composed as in the following:

TO WRITE THE CONFIGURATION

1) "Master Unlock Key" command (write the value = 0x5AA5 in the register 0x2700)
2) Write the command:
ADDR 10 3700 0005 0A W0 W1 W2 W3 W4 W5

Where:
W0: 00000000 b7 | b6 | b5 | b4 | b3 | b2 | b1 | b0
W1: 00000000 b15 | b14 | b13 | b12 | b11 | b10 | b9 | b8
W2: 00000000 b23 | b22 | b21 | b20 | b19 | b18 | b17 | b16
W3: 00000000 b31 | b30 | b29 | b28 | b27 | b26 | b25 | b24
W4: 00000000 0000 | b34 | b33 | b32

Example:
Request 1: ADDR 10 2700 0001 02 5AA5
Answer 1: ADDR 10 2700 0001

Request 2 (h): ADDR 10 3700 0005 0A 0055 0055 0055 0055 0005
Answer2 : ADDR 10 3700 0001

Request 2 (b): 00000000 00000000 00000000 00000000 00000000 00000**1**01 01010101 01010101 01010101 0101010**1**
b34 b0
Any record is composed as in the following:

b34 Relay status | b32 THD I2 | b30 THD V3 | b28 THD V1 | b26 PF2 sect | b24 PF3 | b22 PF1 | b20 Q2 | b18 P3 | b16 P1 | b14 PF sect | b12 S | b10 P | b8 V23 |
b6 In | b4 I2 | b2 V3 | b0 V1