

MODBUS

Communication Protocol

for UPA20 meters combined with 485-MDB-20 module

PROTOCOL MANUAL

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1. GENERAL

1.1 Identification

Product identification						
Dec start address	Hex start address	Type	Size	Lock level	Locked fcts	Unlocked fcts
50000	0xC350	Info	66	NONE	READ	READ

Dec address	Hex address	Words count	Description	Unit	Data type
50006	0xC356	1	JBUS Table Version (EX: 101 Version 1.01)	-	U16
50007	0xC357	1	Product software version (EX: 100 Version 1.00)	-	U16
50008	0xC358	1	Serial_AA_SS	-	U16_HEX
50009	0xC359	1	Serial_SST_L	-	U16_HEX
50010	0xC35A	1	Serial_order	-	U16
50011	0xC35B	2	Serial_Reserve	-	U32
50013	0xC35D	4	See "Code table" tab for more details	-	U64_HEX
50017	0xC361	1	Customization data loaded (True/False)	-	U8
50018	0xC362	1	Product version (Major)	-	U16
50019	0xC363	1	Product version (Minor)	-	U16
50020	0xC364	1	Product version (Revision)	-	U16
50021	0xC365	1	Product version (Build)	-	U16
50022	0xC366	3	Product build date	-	DATETIME_3
50025	0xC369	1	Software technical base version (Major)	-	U16
50026	0xC36A	1	Software technical base version (Minor)	-	U16
50027	0xC36B	1	Software technical base version (Revision)	-	U16
50028	0xC36C	1	Customization version (Major)	-	U16
50029	0xC36D	1	Customization version (Minor)	-	U16
50030	0xC36E	4	Product VLO (EX : "880100")	-	STRING_NORM
50034	0xC372	4	Customization VLO (EX : "880700")	-	STRING_NORM
50038	0xC376	4	Software technical base VLO (EX : "880600")	-	STRING_NORM
50058	0xC38A	8	Extended name	-	STRING_NORM

Table Option

Dec start address	Hex start address	Type	Size	Lock level	Locked fcts	Unlocked fcts
36096	0x8D00	Info	4	NONE	READ	READ

Dec address	Hex address	Words count	Description	Unit	Data type
36096	0x8D00	1	Product option code (bit field) :bit 1: Metering Optionbit 2: Communication optionbit 3: 3 inputs / 1 output option	-	U8
36097	0x8D01	1	Reserved	-	-
36098	0x8D02	1	Option Slot 10xFF : None0x0 : Metering option0x1 : Communication option0x2 : 3 inputs / 1 output option	-	U8
36099	0x8D03	1	Option Slot 20xFF : None0x0 : Metering option0x1 : Communication option0x2 : 3 inputs / 1 output option	-	U8

Customization specific data

Dec start address	Hex start address	Type	Size	Lock level	Locked fcts	Unlocked fcts
4096	0x1000	Info	138	NONE	READ	READ

Dec address	Hex address	Words count	Description	Unit	Data type
4096	0x1000	1	Customisation specific data loaded0x0000 : FALSE0x0001 : TRUE	-	U8
4097	0x1001	1	Retrofit activated0x0000 : FALSE0x0001 : TRUE	-	U8
4098	0x1002	8	TC list :TC 1 / TC2 / TC3 / TC4 / TC5 / TC6 / TC7 / TC8	A	U32[]
4106	0x100A	16	TC gain correction X12 words : 1 TC correction	-	U32[]
4122	0x101A	16	TC gain correction X22 words : 1 TC correction	-	U32[]
4138	0x102A	16	TC gain correction Y12 words : 1 TC correction	-	U32[]
4154	0x103A	16	TC gain correction Y22 words : 1 TC correction	-	U32[]
4170	0x104A	16	TC phasys correction X12 words : 1 TC correction	-	U32[]
4186	0x105A	16	TC phasys correction X22 words : 1 TC correction	-	U32[]
4202	0x106A	16	TC phasys correction Y12 words : 1 TC correction	-	U32[]
4218	0x107A	16	TC phasys correction Y22 words : 1 TC correction	-	U32[]

1.2 Common settings

Network Setting						
Dec start address	Hex start address	Type	Size	Lock level	Locked fcts	Unlocked fcts
57344	0xE000	Settings	12	NONE	READ WRITE WRITE_MANY	READ WRITE WRITE_MANY

Dec address	Hex address	Words count	Description	Unit	Data type
57344	0xE000	1	Network Type : 0 : 1BL 1 : 2BL 2 : 3BL 3 : 3NBL 4 : 4BL 5 : 4NBL 6 : 2NBL	-	U8
57345	0xE001	1	Current Transformer secondary : 1 : 1 A 5 : 5 A	-	U8
57346	0xE002	1	Current Transformer primary	A	U16
57347	0xE003	1	Reserved	-	-
57348	0xE004	1	Reserved	-	-
57349	0xE005	1	Reserved	-	-
57350	0xE006	1	Reserved	-	-
57351	0xE007	1	Reserved	-	-
57352	0xE008	2	Reserved	-	-
57354	0xE00A	1	Reserved	-	-
57355	0xE00B	1	Reserved	-	-

1.3 Actions

Action system

Dec start address	Hex start address	Type	Size	Lock level	Locked fcts	Unlocked fcts
57856	0xE200	Commands	2	NONE	WRITE	WRITE

Dec address	Hex address	Words count	Description	Unit	Data type
57856	0xE200	1	Action : 0xA1 : Product Configuration storage 0xB2 : Produit reset 0xC3 : Apply Default Settings	-	U8_HEX

2. APPLICATION

Table Setup

Dec start address	Hex start address	Type	Size	Lock level	Locked fcts	Unlocked fcts
36352	0x8E00	Settings	18	NONE	READ WRITE WRITE_MANY	READ WRITE WRITE_MANY

Dec address	Hex address	Words count	Description	Unit	Data type
36352	0x8E00	1	Network Type :0 : 1BL 1 : 2BL 2 : 3BL 3 : 3NBL 4 : 4BL 5 : 4NBL 6 : 2NBL	-	U8
36353	0x8E01	1	Current Transformer secondary : 1: 1 A 5: 5 A	A	U8
36354	0x8E02	1	Current Transformer primary	A	U8
36355	0x8E03	1	Reserved	-	U8
36356	0x8E04	1	Synchronisation of I AVG/MAX:2 : 2 seconds 5 : 5 minutes 8 : 8 minutes 10 : 10 Minutes 15 : 15 minutes 20 : 20 minutes 30 : 30 minutes 60 : 60 minutes	-	U8
36357	0x8E05	1	Synchronisation of P/Q/S AVG/MAX Synchronisation of I AVG/MAX:2 : 2 seconds 5 : 5 minutes 8 : 8 minutes 10 : 10 Minutes 15 : 15 minutes 20 : 20 minutes 30 : 30 minutes 60 : 60 minutes	-	U8
36358	0x8E06	1	OUT : pulse output allocation :0 : kWh+1 : kvarh +2 :Alarm3 : Command	-	U8
36359	0x8E07	1	OUT : pulse output value :0 : 0,1 kWh/kvarh1 : 1 kWh/kvarh2 : 10 kWh/kvarh3 : 100 kWh/kvarh4 : 1000 kWh/kvarh5 : 10000 kWh/kvarh	-	U8
36360	0x8E08	1	OUT : pulse output duration :1 : 100ms2 : 200ms3 : 300ms4 : 400ms5 : 500ms6 : 600ms7 : 700ms8 : 800ms9 : 900ms	-	U8
36361	0x8E09	1	Hour meter allocation1 : Auxiliary power supply 2 : Currents3 : phase to phase voltage 4 : Input 1, 5 : Input2 6 : Input3	-	U8
36362	0x8E0A	1	Hour meter trigger threshold	-	U16
36363	0x8E0B	1	Alarm Type :1 : I2 : In3 : U4 : V5 : ?P+6 : ?Q+7 : ?S+8 : ?PFC9 : ?PFL10 : THDU11 : THDV12 : THDI13 : HOUR14 : F	-	U8
36364	0x8E0C	1	Alarm Specified time (1-999)	s	U16
36365	0x8E0D	1	Alarm upper Threshold	-	U16
36366	0x8E0E	1	Alarm Lower Threshold	-	U16
36367	0x8E0F	1	Alarm Hysteresis(0-99)	-	U8
36368	0x8E10	1	Relay State :0 : Normaly Open1 : Normaly Closed	-	U8

36369	0x8E11	1	Reactive Power Calculation 0 : Standard (IEC61557-12) 1 : Fondamental (sans harmonique)	-	U8
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2.1 Measurement

Common

Metrology Affected by current and voltage transformers						
Dec start address	Hex start address	Type	Size	Lock level	Locked fcts	Unlocked fcts
50512	0xC550	Info	80	NONE	READ	READ

Dec address	Hex address	Words count	Description	Unit	Data type
50512	0xC550	2	Hour Meter	h / 100	U32
50514	0xC552	2	Phase to Phase Voltage: U12	V / 100	U32
50516	0xC554	2	Phase to Phase Voltage: U23	V / 100	U32
50518	0xC556	2	Phase to Phase Voltage: U31	V / 100	U32
50520	0xC558	2	Simple voltage : V1	V / 100	U32
50522	0xC55A	2	Simple voltage : V2	V / 100	U32
50524	0xC55C	2	Simple voltage : V3	V / 100	U32
50526	0xC55E	2	Frequency : F	Hz / 100	U32
50528	0xC560	2	Current : I1	A / 1000	U32
50530	0xC562	2	Current : I2	A / 1000	U32
50532	0xC564	2	Current : I3	A / 1000	U32
50534	0xC566	2	Neutral Current : In	A / 1000	U32
50536	0xC568	2	? Active Power +/- : P	W / 0.1	S32
50538	0xC56A	2	? Reactive Power +/- : Q	var / 0.1	S32
50540	0xC56C	2	? Apparent Power : S	VA / 0.1	U32
50542	0xC56E	2	? Power Factor : -: leading et + : lagging : PF	- / 1000	S32
50544	0xC570	2	Active Power phase 1 +/- : P1	W / 0.1	S32
50546	0xC572	2	Active Power phase 2 +/- : P2	W / 0.1	S32
50548	0xC574	2	Active Power phase 3 +/- : P3	W / 0.1	S32

50550	0xC576	2	Reactive Power phase 1 +/- : Q1	var / 0.1	S32
50552	0xC578	2	Reactive Power phase 2 +/- : Q2	var / 0.1	S32
50554	0xC57A	2	Reactive Power phase 3 +/- : Q3	var / 0.1	S32
50556	0xC57C	2	Apparent Power phase 1 : S1	VA / 0.1	U32
50558	0xC57E	2	Apparent Power phase 2 : S2	VA / 0.1	U32
50560	0xC580	2	Apparent Power phase 3 : S3	VA / 0.1	U32
50562	0xC582	2	Power Factor phase 1 -: leading and + : lagging : PF1	- / 1000	S32
50564	0xC584	2	Power Factor phase 2 -: leading and + : lagging : PF2	- / 1000	S32
50566	0xC586	2	Power Factor phase 3 -: leading and + : lagging : PF3	- / 1000	S32
50568	0xC588	2	System value I Sys : (I1+I2+I3) / 3	A / 1000	U32
50570	0xC58A	2	System value U Sys : (U12 + U23 + U31) / 3	V / 100	U32
50572	0xC58C	2	System value V Sys : (V1 + V2 + V3) / 3	V / 100	U32
50574	0xC58E	2	Total power factor (IEC)	- / 1000	S32
50576	0xC590	2	Power factor : PF1 (IEC)	- / 1000	S32
50578	0xC592	2	Power factor : PF2 (IEC)	- / 1000	S32
50580	0xC594	2	Power factor : PF3 (IEC)	- / 1000	S32
50582	0xC596	1	Total Power Factor Type 0 : undefined 1 : leading 2 : lagging	-	U8
50583	0xC597	1	Power factor type : sPF1 0 : undefined 1 : leading 2 : lagging	-	U8
50584	0xC598	1	Power factor type : sPF2 0 : undefined 1 : leading 2 : lagging	-	U8
50585	0xC599	1	Power factor type : sPF3 0 : undefined 1 : leading 2 : lagging	-	U8
50586	0xC59A	2	Vnba	% / 100	U32
50588	0xC59C	2	Unba	% / 100	U32
50590	0xC59E	2	Inba	% / 100	U32

Energies

Dec start address	Hex start address	Type	Size	Lock level	Locked fcts	Unlocked fcts
50768	0xC650	Info	65	NONE	READ	READ

Dec address	Hex address	Words count	Description	Unit	Data type
50768	0xC650	2	Hour meter	h / 100	U32
50770	0xC652	2	Reserved	-	-
50772	0xC654	2	Reserved	-	-
50774	0xC656	2	Reserved	-	-
50776	0xC658	2	Reserved	-	-
50778	0xC65A	2	Reserved	-	-
50780	0xC65C	2	Partial Positive Active Energy: Ea+	Wh / 0.001	U32
50782	0xC65E	2	Partial Positive Reactive Energy: Er +	varh / 0.001	U32
50784	0xC660	2	Partial Apparent Energy : Es	VAh / 0.001	U32
50786	0xC662	2	Partial Negative Active Energy : Ea-	Wh / 0.001	U32
50788	0xC664	2	Partial Negative Reactive Energy : Er -	varh / 0.001	U32
50790	0xC666	2	Reserved	-	-
50792	0xC668	2	Reserved	-	-
50794	0xC66A	2	Reserved	-	-
50796	0xC66C	2	Reserved	-	-
50798	0xC66E	2	Reserved	-	-
50800	0xC670	2	Reserved	-	-
50802	0xC672	2	Reserved	-	-
50804	0xC674	2	Reserved	-	-
50806	0xC676	2	Reserved	-	-
50808	0xC678	2	Reserved	-	-
50810	0xC67A	2	Reserved	-	-
50812	0xC67C	2	Reserved	-	-
50814	0xC67E	2	Reserved	-	-
50816	0xC680	2	Reserved	-	-
50818	0xC682	2	Reserved	-	-

50820	0xC684	2	Reserved	-	-
50822	0xC686	2	Reserved	-	-
50824	0xC688	2	Reserved	-	-
50826	0xC68A	2	Reserved	-	-
50828	0xC68C	1	Reserved	-	-
50829	0xC68D	1	Reserved	-	-
50830	0xC68E	1	Reserved	-	-
50831	0xC68F	1	Reserved	-	-
50832	0xC690	1	Reserved	-	-

Statistique Affected by current and voltage transformers

Dec start address	Hex start address	Type	Size	Lock level	Locked fcts	Unlocked fcts
51024	0xC750	Info	70	NONE	READ	READ

Dec address	Hex address	Words count	Description	Unit	Data type
51024	0xC750	2	Reserved	-	-
51026	0xC752	2	Reserved	-	-
51028	0xC754	2	Reserved	-	-
51030	0xC756	2	Reserved	-	-
51032	0xC758	2	Reserved	-	-
51034	0xC75A	2	Reserved	-	-
51036	0xC75C	2	Reserved	-	-
51038	0xC75E	2	Reserved	-	-
51040	0xC760	2	Reserved	-	-
51042	0xC762	2	Reserved	-	-
51044	0xC764	2	Reserved	-	-
51046	0xC766	2	Reserved	-	-
51048	0xC768	2	Reserved	-	-
51050	0xC76A	2	Reserved	-	-
51052	0xC76C	2	Reserved	-	-
51054	0xC76E	2	Reserved	-	-

51056	0xC770	2	Reserved	-	-
51058	0xC772	2	Reserved	-	-
51060	0xC774	2	Reserved	-	-
51062	0xC776	2	Reserved	-	-
51064	0xC778	2	Reserved	-	-
51066	0xC77A	2	Reserved	-	-
51068	0xC77C	2	Reserved	-	-
51070	0xC77E	2	Max/avg I1	A / 1000	U32
51072	0xC780	2	Max/avg I2	A / 1000	U32
51074	0xC782	2	Max/avg I3	A / 1000	U32
51076	0xC784	2	Max/avg In	A / 1000	U32
51078	0xC786	2	Max/avg P+	W / 0.1	U32
51080	0xC788	2	Reserved	-	-
51082	0xC78A	2	Max/avg Q+	var / 0.1	U32
51084	0xC78C	2	Reserved	-	-
51086	0xC78E	2	Max/avg S	VA / 0.1	U32
51088	0xC790	1	Reserved	-	-
51089	0xC791	1	Reserved	-	-
51090	0xC792	1	Reserved	-	-
51091	0xC793	1	Reserved	-	-
51092	0xC794	1	Reserved	-	-
51093	0xC795	1	Reserved	-	-

Metrology No Affected by current and voltage transformers

Dec start address	Hex start address	Type	Size	Lock level	Locked fcts	Unlocked fcts
51280	0xC850	Info	46	NONE	READ	READ

Dec address	Hex address	Words count	Description	Unit	Data type
51280	0xC850	1	Hour Meter	h	U16
51281	0xC851	1	Phase to Phase Voltage: U12	V / 100	U16
51282	0xC852	1	Phase to Phase Voltage: U23	V / 100	U16

51283	0xC853	1	Phase to Phase Voltage: U31	V / 100	U16
51284	0xC854	1	Simple voltage : V1	V / 100	U16
51285	0xC855	1	Simple voltage : V2	V / 100	U16
51286	0xC856	1	Simple voltage : V3	V / 100	U16
51287	0xC857	1	Frequency : F	Hz / 100	U16
51288	0xC858	1	Current : I1	A / 1000	U16
51289	0xC859	1	Current : I2	A / 1000	U16
51290	0xC85A	1	Current : I3	A / 1000	U16
51291	0xC85B	1	Neutral Current : In	A / 1000	U16
51292	0xC85C	1	? active Power +/- : P	W / 0.1	S16
51293	0xC85D	1	? reactive Power +/- : Q	var / 0.1	S16
51294	0xC85E	1	? apparent power : S	VA / 0.1	U16
51295	0xC85F	1	? power factor : -: leading and + : lagging : PF	- / 1000	S16
51296	0xC860	1	Active Power phase 1 +/- : P1	W / 0.1	S16
51297	0xC861	1	Active Power phase 2 +/- : P2	W / 0.1	S16
51298	0xC862	1	Active Power phase 3 +/- : P3	W / 0.1	S16
51299	0xC863	1	Reactive Power phase 1 +/- : Q1	var / 0.1	S16
51300	0xC864	1	Reactive Power phase 2 +/- : Q2	var / 0.1	S16
51301	0xC865	1	Reactive Power phase 3 +/- : Q3	var / 0.1	S16
51302	0xC866	1	Apparent power phase 1 : S1	VA / 0.1	U16
51303	0xC867	1	Apparent power phase 2 : S2	VA / 0.1	U16
51304	0xC868	1	Apparent power phase 3 : S3	VA / 0.1	U16
51305	0xC869	1	Power Factor phase 1 -: leading and + : lagging : PF1	- / 1000	S16
51306	0xC86A	1	Power Factor phase 2 -: leading and + : lagging : PF2	- / 1000	S16
51307	0xC86B	1	Power Factor phase 3 -: leading and + : lagging : PF3	- / 1000	S16
51308	0xC86C	1	System value I Sys : (I1+I2+I3) / 3	A / 1000	U16
51309	0xC86D	1	System value U Sys : (U12 + U23 + U31) / 3	V / 100	U16
51310	0xC86E	1	System value V Sys : (V1 + V2 + V3) / 3	V / 100	U16
51311	0xC86F	1	Total Positive Active Energy (no resetable) : Ea+	Wh / 1E-06	U16
51312	0xC870	1	Reserved	-	-
51313	0xC871	1	Total Positive Reactive Energy (no resetable) : Er +	Wh / 1E-06	U16

51314	0xC872	1	Reserved	-	-
51315	0xC873	1	Total power factor	- / 1000	S16
51316	0xC874	1	Power factor : PF1	- / 1000	S16
51317	0xC875	1	Power factor : PF2	- / 1000	S16
51318	0xC876	1	Power factor : PF3	- / 1000	S16
51319	0xC877	1	Total Power Factor Type 0 : undefined 1 : leading 2 : lagging	-	U16
51320	0xC878	1	Power factor type : sPF1 0 : undefined 1 : leading 2 : lagging	-	U16
51321	0xC879	1	Power factor type : sPF2 0 : undefined 1 : leading 2 : lagging	-	U16
51322	0xC87A	1	Power factor type : sPF3 0 : undefined 1 : leading 2 : lagging	-	U16
51323	0xC87B	1	Vnba	% / 100	U16
51324	0xC87C	1	Unba	% / 100	U16
51325	0xC87D	1	Inba	% / 100	U16

THD						
Dec start address	Hex start address	Type	Size	Lock level	Locked fcts	Unlocked fcts
51536	0xC950	Info	10	NONE	READ	READ

Dec address	Hex address	Words count	Description	Unit	Data type
51536	0xC950	1	thd U12	% / 10	U16
51537	0xC951	1	thd U23	% / 10	U16
51538	0xC952	1	thd U31	% / 10	U16
51539	0xC953	1	thd V1	% / 10	U16
51540	0xC954	1	thd V2	% / 10	U16
51541	0xC955	1	thd V3	% / 10	U16
51542	0xC956	1	thd I1	% / 10	U16
51543	0xC957	1	thd I2	% / 10	U16
51544	0xC958	1	thd I3	% / 10	U16
51545	0xC959	1	thd In	% / 10	U16

Specific

Measurement CT/VT affected						
Dec start address	Hex start address	Type	Size	Lock level	Locked fcts	Unlocked fcts
768	0x0300	Info	150	NONE	READ	READ

Dec address	Hex address	Words count	Description	Unit	Data type
768	0x0300	2	Phase 1 Current	A / 1000	U32
770	0x0302	2	Phase 2 Current	A / 1000	U32
772	0x0304	2	Phase 3 Current	A / 1000	U32
774	0x0306	2	Neutral Current	A / 1000	U32
776	0x0308	2	Phase to Phase Voltage: U12	V / 100	U32
778	0x030A	2	Phase to Phase Voltage: U23	V / 100	U32
780	0x030C	2	Phase to Phase Voltage: U31	V / 100	U32

782	0x030E	2	Phase to Neutral voltage phase 1	V / 100	U32
784	0x0310	2	Phase to Neutral voltage phase 2	V / 100	U32
786	0x0312	2	Phase to Neutral voltage phase 3	V / 100	U32
788	0x0314	2	Frequency	Hz / 100	U32
790	0x0316	2	? active power +/- : P	W / 0.1	S32
792	0x0318	2	? reactive power +/- : Q	var / 0.1	S32
794	0x031A	2	? apparent power : S	VA / 0.1	U32
796	0x031C	2	? power factor : -: leading et + : lagging : PF	- / 1000	S32
798	0x031E	2	Active Power phase1 +/-	W / 0.1	S32
800	0x0320	2	Active Power phase2 +/-	W / 0.1	S32
802	0x0322	2	Active Power phase3 +/-	W / 0.1	S32
804	0x0324	2	Reactive Power phase1 +/-	var / 0.1	S32
806	0x0326	2	Reactive Power phase2 +/-	var / 0.1	S32
808	0x0328	2	Reactive Power phase3 +/-	var / 0.1	S32
810	0x032A	2	Apparent Power phase1	VA / 0.1	U32
812	0x032C	2	Apparent Power phase2	VA / 0.1	U32
814	0x032E	2	Apparent Power phase3	VA / 0.1	U32
816	0x0330	2	Power factor phase 1 -:leading and +: lagging	- / 1000	S32
818	0x0332	2	Power factor phase 2 -:leading and +: lagging	- / 1000	S32
820	0x0334	2	Power factor phase 3 -:leading and +: lagging	- / 1000	S32
822	0x0336	16	R?serv? constructeur	-	U32[]
838	0x0346	2	max/avg I1	A / 1000	U32
840	0x0348	2	max/avg I2	A / 1000	U32
842	0x034A	2	max/avg I3	A / 1000	U32
844	0x034C	2	max/avg ?active power +	W / 0.1	U32
846	0x034E	2	reserved	-	U32
848	0x0350	2	max/avg ?reactive power +	var / 0.1	U32
850	0x0352	2	Reserved	-	U32
852	0x0354	2	max/avg ? apparent power	VA / 0.1	U32
854	0x0356	2	Hour Meter	h / 100	U32
856	0x0358	2	Active Energy +	Wh / 0.001	U32

858	0x035A	2	Reactive Energy +	varh / 0.001	U32
860	0x035C	56	Reserved	-	U32[]
916	0x0394	2	max/avg In	A / 1000	U32

Measurement NO CT/VT affected

Dec start address	Hex start address	Type	Size	Lock level	Locked fcts	Unlocked fcts
1792	0x0700	Info	100	NONE	READ	READ

Dec address	Hex address	Words count	Description	Unit	Data type
1792	0x0700	1	Phase 1 Current	A / 1000	U16
1793	0x0701	1	Phase 2 Current	A / 1000	U16
1794	0x0702	1	Phase 3 Current	A / 1000	U16
1795	0x0703	1	Neutral Current	A / 1000	U16
1796	0x0704	1	Phase to Phase Voltage: U12	V / 100	U16
1797	0x0705	1	Phase to Phase Voltage: U23	V / 100	U16
1798	0x0706	1	Phase to Phase Voltage: U31	V / 100	U16
1799	0x0707	1	Phase to Neutral voltage phase 1	V / 100	U16
1800	0x0708	1	Phase to Neutral voltage phase 2	V / 100	U16
1801	0x0709	1	Phase to Neutral voltage phase 3	V / 100	U16
1802	0x070A	1	Frequency	Hz / 100	U16
1803	0x070B	1	? active power +/- : P	W / 0.1	S16
1804	0x070C	1	? reactive power +/- : Q	var / 0.1	S16
1805	0x070D	1	? apparent power : S	VA / 0.1	U16
1806	0x070E	1	? power factor : -: leadiing et + : lagging : PF	- / 1000	S16
1807	0x070F	1	Active Power phase1 +/-	W / 0.1	S16
1808	0x0710	1	Active Power phase2 +/-	W / 0.1	S16
1809	0x0711	1	Active Power phase3 +/-	W / 0.1	S16
1810	0x0712	1	Reactive Power phase1 +/-	var / 0.1	S16
1811	0x0713	1	Reactive Power phase2 +/-	var / 0.1	S16
1812	0x0714	1	Reactive Power phase3 +/-	var / 0.1	S16
1813	0x0715	1	Apparent Power phase1	VA / 0.1	U16

1814	0x0716	1	Apparent Power phase2	VA / 0.1	U16
1815	0x0717	1	Apparent Power phase3	VA / 0.1	U16
1816	0x0718	1	Power factor phase 1 -:leading and +: lagging	- / 1000	S16
1817	0x0719	1	Power factor phase 2 -:leading and +: lagging	- / 1000	S16
1818	0x071A	1	Power factor phase 3 -:leading and +: lagging	- / 1000	S16
1819	0x071B	8	R?serv? constructeur	-	U16[]
1827	0x0723	1	max/avg I1	A / 1000	U16
1828	0x0724	1	max/avg I2	A / 1000	U16
1829	0x0725	1	max/avg I3	A / 1000	U16
1830	0x0726	1	max/avg ?active power +	W / 0.1	U16
1831	0x0727	1	reserved	-	U16
1832	0x0728	1	max/avg ?reactive power +	var / 0.1	U16
1833	0x0729	1	Reserved	-	U16
1834	0x072A	1	max/avg ? apparent power	VA / 0.1	U16
1835	0x072B	1	Active Energy +<10 000	Wh / 0.001	U16
1836	0x072C	1	Active Energy +>10 000	Wh / 0.001	U16
1837	0x072D	1	Reactive Energy+< 10 000	varh / 0.001	U16
1838	0x072E	1	Reactive Energy +>10 000	varh / 0.001	U16
1839	0x072F	52	R?serv? constructeur	-	U16[]
1891	0x0763	1	Max / AVG In	A / 1000	U16

Actions

Reset (These values could be combine all)

Dec start address	Hex start address	Type	Size	Lock level	Locked fcts	Unlocked fcts
1024	0x0400	Commands	1	NONE	WRITE	WRITE

Dec address	Hex address	Words count	Description	Unit	Data type
1024	0x0400	1	Reset :Max 4I : 0x1Max P+,Q+,S : 0x2Hour meter : 0x40kWh+ : 0x80kvarh+ : 0x100All : 0x1000	-	U16_HEX

2.2 Monitoring

Alarms

Alarme						
Dec start address	Hex start address	Type	Size	Lock level	Locked fcts	Unlocked fcts
36176	0x8D50	Info	7	NONE	READ	READ

Dec address	Hex address	Words count	Description	Unit	Data type
36176	0x8D50	1	Current alarm on lower threshold cause:0 : No Alarm / 1 : I1 / 2 : I2 / 3 : I3 / 4 : IN / 5 : U12 / 6 : U23 / 7 : U31 / 8 : ?P+ / 9 : ?Q+ / 10 : ?S / 11 : F / 12 : ?PFL / 15: thdI1 / 16: thdI2 / 17 : thdI3 / 18 : thdU12 / 19 : thdU23 / 20 : thdU31 / 21 : Hour / 22: V1 / 23 : V2 / 24 : V3 / 26: thdV1 / 27 : thdV2 / 28 : thd V3 / 31 : ?PFC	- / 1000	U8
36177	0x8D51	2	Current alarm on lower threshold : min value	-	U32
36179	0x8D53	1	Current alarm on upper threshold cause:0 : No Alarm / 1 : I1 / 2 : I2 / 3 : I3 / 4 : IN / 5 : U12 / 6 : U23 / 7 : U31 / 8 : ?P+ / 9 : ?Q+ / 10 : ?S / 11 : F / 12 : ?PFL / 15: thdI1 / 16: thdI2 / 17 : thdI3 / 18 : thdU12 / 19 : thdU23 / 20 : thdU31 / 21 : Hour / 22: V1 / 23 : V2 / 24 : V3 / 26: thdV1 / 27 : thdV2 / 28 : thd V3 / 31 : ?PFC	- / 1000	U8
36180	0x8D54	2	Current alarm on upper threshold : max value	-	U32
36182	0x8D56	1	Current alarm duration	s	U8

2.3 Extensions

Input status						
Dec start address	Hex start address	Type	Size	Lock level	Locked fcts	Unlocked fcts
8192	0x2000	Info	3	NONE	READ	READ

Dec address	Hex address	Words count	Description	Unit	Data type
8192	0x2000	1	Input 1 state	-	U8
8193	0x2001	1	Input 2 state	-	U8
8194	0x2002	1	Input 3 state	-	U8

Input/Output state

Dec start address	Hex start address	Type	Size	Lock level	Locked fcts	Unlocked fcts
51968	0xCB00	Info	4	NONE	READ	READ

Dec address	Hex address	Words count	Description	Unit	Data type
51968	0xCB00	1	Input count	-	U8
51969	0xCB01	1	Input State: Bit 0 : Input 1 Open or Closed Bit x : Input x Open or Closed	-	U8
51970	0xCB02	1	Output count	-	U8
51971	0xCB03	1	Output State: Bit 0 : Output 1 Open or Closed Bit x : Output x Open or Closed	-	U8

3. INDUSTRIALIZATION

Table Indus

Dec start address	Hex start address	Type	Size	Lock level	Locked fcts	Unlocked fcts
36816	0x8FD0	Settings	45	NONE	READ WRITE WRITE_MANY	READ WRITE WRITE_MANY

Dec address	Hex address	Words count	Description	Unit	Data type
36816	0x8FD0	2	Courant Inject? en Calib	-	U32
36818	0x8FD2	2	Tension simple Inject? en Calib	-	U32
36820	0x8FD4	1	Action Calib	A	U8
36821	0x8FD5	1	Set Relais Impul	A	U8
36822	0x8FD6	1	Clr Relais Impulsion	A	U8
36823	0x8FD7	2	Code Constructeur	-	S32
36825	0x8FD9	4	Coef G?n?rale Courant	A	U16[]
36829	0x8FDD	4	Coef G?n?rale Tension	A	U16[]
36833	0x8FE1	4	D?phasage Phase 1	A	U16[]
36837	0x8FE5	4	D?phasage Phase 2	A	U16[]
36841	0x8FE9	4	D?phasage Phase 3	A	U16[]
36845	0x8FED	1	Offset IN	-	U8
36846	0x8FEE	1	Gain IN	-	U8
36847	0x8FEF	1	Offset I1	-	U8
36848	0x8FF0	1	Gain I1	-	U8
36849	0x8FF1	1	Offset I2	-	U8
36850	0x8FF2	1	Gain I2	-	U8
36851	0x8FF3	1	Offset I3	-	U8
36852	0x8FF4	1	Gain I3	-	U8
36853	0x8FF5	1	Offset VN	-	U8
36854	0x8FF6	1	Gain VN	-	U8
36855	0x8FF7	1	Offset V1	-	U8
36856	0x8FF8	1	Gain V1	-	U8
36857	0x8FF9	1	Offset V2	-	U8

36858	0x8FFA	1	Gain V2	-	U8
36859	0x8FFB	1	Offset V3	-	U8
36860	0x8FFC	1	Gain V3	-	U8

4. LEGACY

Measurement

Dec start address	Hex start address	Type	Size	Lock level	Locked fcts	Unlocked fcts
2816	0x0B00	Info	40	NONE	READ	READ

Dec address	Hex address	Words count	Description	Unit	Data type
2816	0x0B00	1	Current : I1	A / 1000	U16
2817	0x0B01	1	Current : I2	A / 1000	U16
2818	0x0B02	1	Current : I3	A / 1000	U16
2819	0x0B03	1	Neutral Current : In	A / 1000	U16
2820	0x0B04	1	Phase to Phase Voltage: U12	V / 100	U16
2821	0x0B05	1	Phase to Phase Voltage: U23	V / 100	U16
2822	0x0B06	1	Phase to Phase Voltage: U31	V / 100	U16
2823	0x0B07	1	Simple voltage : V1	V / 100	U16
2824	0x0B08	1	Simple voltage : V2	V / 100	U16
2825	0x0B09	1	Simple voltage : V3	V / 100	U16
2826	0x0B0A	1	Frequency : Fr	Hz / 100	U16
2827	0x0B0B	1	Total Active Power +/- : P	W / 0.1	S16
2828	0x0B0C	1	Total Reactive Power +/- : Q	var / 0.1	S16
2829	0x0B0D	1	Total apparent power : S	VA / 0.1	U16
2830	0x0B0E	1	? Power factor : -: capacitif et + : inductif : PF	- / 1000	S16
2831	0x0B0F	1	I 1 AVG MAX	A / 1000	U16
2832	0x0B10	1	I 2 AVG MAX	A / 1000	U16
2833	0x0B11	1	I 3 AVG MAX	A / 1000	U16
2834	0x0B12	1	In AVG MAX	A / 1000	U16
2835	0x0B13	1	P+ AVG MAX	W / 0.1	U16
2836	0x0B14	1	Active Energy +<10 000	Wh / 0.001	U16
2837	0x0B15	1	Active Energy +>10 000	Wh / 0.001	U16

2838	0x0B16	1	Reactive Energy+< 10 000	varh / 0.001	U16
2839	0x0B17	1	Reactive Energy +>10 000	varh / 0.001	U16
2840	0x0B18	1	Hour Meter +<10000	h / 100	U16
2841	0x0B19	1	Hour Meter +>10000	h / 100	U16
2842	0x0B1A	1	Active Power phase1 +/-	W / 0.1	S16
2843	0x0B1B	1	Active Power phase2 +/-	W / 0.1	S16
2844	0x0B1C	1	Active Power phase3 +/-	W / 0.1	S16
2845	0x0B1D	1	Reactive Power phase1 +/-	var / 0.1	S16
2846	0x0B1E	1	Reactive Power phase2 +/-	var / 0.1	S16
2847	0x0B1F	1	Reactive Power phase3 +/-	var / 0.1	S16
2848	0x0B20	1	Apparent Power phase1	VA / 0.1	U16
2849	0x0B21	1	Apparent Power phase2	VA / 0.1	U16
2850	0x0B22	1	Apparent Power phase3	VA / 0.1	U16
2851	0x0B23	1	Power factor phase 1-: leading and +: lagging	- / 1000	S16
2852	0x0B24	1	Power factor phase 2-: leading and +: lagging	- / 1000	S16
2853	0x0B25	1	Power factor phase 3-: leading and +: lagging	- / 1000	S16
2854	0x0B26	1	Q+ AVG MAX	var / 0.1	U16
2855	0x0B27	1	S AVG MAX	VA / 0.1	U16

Alarms

Dec start address	Hex start address	Type	Size	Lock level	Locked fcts	Unlocked fcts
1280	0x0500	Info	7	NONE	READ	READ

Dec address	Hex address	Words count	Description	Unit	Data type
1280	0x0500	1	Current alarm on lower threshold cause:0 : No Alarm / 1 : I1 / 2 : I2 / 3 : I3 / 4 : IN / 5 : U12 / 6 : U23 / 7 : U31 / 8 : ?P+ / 9 : ?Q+ / 10 : ?S / 11 : F / 12 : ?PFL / 15: thdI1 / 16: thdI2 / 17 : thdI3 / 18 : thdU12 / 19 : thdU23 / 20 : thdU31 / 21 : Hour / 22: V1 / 23 : V2 / 24 : V3 / 26: thdV1 / 27 : thdV2 / 28 : thd V3 / 31 : ?PFC	- / 1000	U8
1281	0x0501	2	Current alarm on lower threshold : min value	-	S32
1283	0x0503	1	Current alarm on upper threshold cause:0 : No Alarm / 1 : I1 / 2 : I2 / 3 : I3 / 4 : IN / 5 : U12 / 6 : U23 / 7 : U31 / 8 : ?P+ / 9 : ?Q+ / 10 : ?S / 11 : F / 12 : ?PFL / 15: thdI1 / 16: thdI2 / 17 : thdI3 / 18 : thdU12 / 19 :	- / 1000	U8

			thdU23 / 20 : thdU31 / 21 : Hour / 22: V1 / 23 : V2 / 24 : V3 / 26: thdV1 / 27 : thdV2 / 28 : thd V3 / 31 : ?PFC		
1284	0x0504	2	Current alarm on upper threshold : max value	-	S32
1286	0x0506	1	Current alarm duration	s	U8

Option

Dec start address	Hex start address	Type	Size	Lock level	Locked fcts	Unlocked fcts
256	0x0100	Info	4	NONE	READ	READ

Dec address	Hex address	Words count	Description	Unit	Data type
256	0x0100	1	Product option code (bit field) :bit 1: Metering Optionbit 2: Communication optionbit 3: 3 inputs / 1 output option	-	U8
257	0x0101	1	Reserved	-	U8
258	0x0102	1	Option Slot 10xFF : None0x0 : Metering option0x1 : Communication option0x2 : 3 inputs / 1 output option	-	U8
259	0x0103	1	Option Slot 20xFF : None0x0 : Metering option0x1 : Communication option0x2 : 3 inputs / 1 output option	-	U8

Setup

Dec start address	Hex start address	Type	Size	Lock level	Locked fcts	Unlocked fcts
512	0x0200	Settings	109	NONE	READ WRITE WRITE_MANY	READ WRITE WRITE_MANY

Dec address	Hex address	Words count	Description	Unit	Data type
512	0x0200	1	Network Type :0 : 1BL 1 : 2BL 2 : 3BL 3 : 3NBL 4 : 4BL 5 : 4NBL	-	U8
513	0x0201	1	Current Transformer secondary : 1: 1 A 5: 5 A	A	U8
514	0x0202	1	Current Transformer primary	A	U8
515	0x0203	4	Reserved	-	U16[]
519	0x0207	1	Synchronisation of I AVG/MAX: Synchronisation of I AVG/MAX:2 : 2 seconds 5 : 5 minutes 8 : 8 minutes 10 : 10 Minutes 15 : 15 minutes 20 : 20 minutes 30 : 30 minutes 60 : 60 minutes	-	U8
520	0x0208	1	Synchronisation of P/Q/S AVG/MAXSynchronisation of I AVG/MAX:2 : 2 seconds 5 : 5 minutes 8 : 8 minutes 10 : 10 Minutes 15 : 15 minutes 20 : 20 minutes 30 : 30 minutes 60 : 60 minutes	-	U8
521	0x0209	1	OUT : pulse output allocation :0 : kWh+1 : kvarh +2 :Alarm3 : Command	-	U8
522	0x020A	1	OUT : pulse output value :0 : 0,1 kWh/kvarh1 : 1 kWh/kvarh2 : 10 kWh/kvarh3 : 100 kWh/kvarh4 : 1000 kWh/kvarh5 : 10000 kWh/kvarh	-	U8

523	0x020B	1	OUT : pulse output duration :1 : 100ms2 : 200ms3 : 300ms4 : 400ms5 : 500ms6 : 600ms7 : 700ms8 : 800ms9 : 900ms	-	U8
524	0x020C	27	R?serve Constructeur	-	U16[]
551	0x0227	1	Alarm Type :1 : I2 : In3 : U4 : V5 : ?P+6 : ?Q+7 : ?S+8 : ?PFC9 : ?PFL10 : THDU11 : THDV12 : THDI13 : HOUR14 : F	-	U8
552	0x0228	1	Alarm upper Threshold	-	U16
553	0x0229	1	Reserved	-	U8
554	0x022A	1	Alarm Lower Threshold	-	U16
555	0x022B	1	Reserved	-	U8
556	0x022C	1	Alarm Hysteresis(0-99)	-	U8
557	0x022D	1	Alarm Specified time (1-999)	-	U16
558	0x022E	1	Relay State :0 : Normaly Open1 : Normaly Closed	-	U8
559	0x022F	58	Reserved	-	U16[]
617	0x0269	1	Hour meter allocation1 : Auxiliary power supply2 : Currents3 : phase to phase voltage4 : Input 1, 5 : Input2 6 : Input3	-	U8
618	0x026A	1	Hour meter trigger threshold	-	U8
619	0x026B	1	Reserved	-	U8
620	0x026C	1	Reactive Power Calculation 0 : Standard (IEC61557-12) 1 : Fondamental (sans harmonique)	-	U8

Indus

Dec start address	Hex start address	Type	Size	Lock level	Locked fcts	Unlocked fcts
0	0x0000	Settings	58	USER	READ	READ WRITE WRITE_MANY

Dec address	Hex address	Words count	Description	Unit	Data type
0	0x0000	1	N? S?rie (AASS)	-	U8
1	0x0001	1	N? S?rie (XXL)	-	U8
2	0x0002	1	N? S?rie (XXL)	-	U8
3	0x0003	1	N? S?rie (R?serve)	-	U8
4	0x0004	1	Version logiciel	-	U8
5	0x0005	6	Courant Inject? en Calib	-	U16[]
11	0x000B	8	Tension simple Inject? en Calib	-	U16[]
19	0x0013	1	Action Calib	-	U8

20	0x0014	1	Set Relais Impul	-	U8
21	0x0015	1	Clr Relais Impulsion	-	U8
22	0x0016	1	Code Constructeur	-	U8
23	0x0017	2	Coef G?n?rale Courant	-	S32
25	0x0019	2	Coef G?n?rale Tension	-	S32
27	0x001B	2	Coef G?n?rale Puissance	-	S32
29	0x001D	2	D?phasage Phase 1	-	S32
31	0x001F	2	D?phasage Phase 2	-	S32
33	0x0021	2	D?phasage Phase 3	-	S32
35	0x0023	1	Offset IN	-	U8
36	0x0024	1	Gain IN	-	U8
37	0x0025	1	Offset I1	-	U8
38	0x0026	1	Gain I1	-	U8
39	0x0027	1	Offset I2	-	U8
40	0x0028	1	Gain I2	-	U8
41	0x0029	1	Offset I3	-	U8
42	0x002A	1	Gain I3	-	U8
43	0x002B	1	Offset VN	-	U8
44	0x002C	1	Gain VN	-	U8
45	0x002D	1	Offset V1	-	U8
46	0x002E	1	Gain V1	-	U8
47	0x002F	1	Offset V2	-	U8
48	0x0030	1	Gain V2	-	U8
49	0x0031	1	Offset V3	-	U8
50	0x0032	1	Gain V3	-	U8
51	0x0033	1	Key Tests	-	U8
52	0x0034	1	JBUS Address	-	U8
53	0x0035	1	JBUS BaudRate	-	U8
54	0x0036	1	Tension Alim	-	U8
55	0x0037	1	Diagnostic	-	U8
56	0x0038	1	Backligh Force	-	U8

57	0x0039	1	Segment Force	-	U8
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