

Protocol description COM/FCU/MODBUS-EN

SensyCal FCU200, FCU400 Universal measuring computer MODBUS protocol

Measurement made easy



Universal measuring computer SensyCal FCU200, FCU400

Protocol description

COM/FCU/MODBUS-EN

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Translation of the original instruction

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General

1 General

Mode: RTU transmission mode (Remote Terminal Unit)

Frame: 1 Startbit
 No Paritybit (or even/odd parity)
 1 Stopbit

Values: All values are transmitted in hexadecimale style!

Addressrange: 0...247 (0= Broadcast address)

Errorhandling:

If an error appears during the transmission the MSBit of the FC (function code) is set.
 In addition an error byte is sent (exceptionCode).

ErrorByte:

ByteNr	0	1	2	3-4
	Address	FC	Exception Code	CRC

ExceptionCode:

01	illegal function
02	illegal data address
03	illegal data value
	negative acknowledge
FF	fatal error – no response

Data encoding

Standard:

- OPEN MODBUS SPECIFICATION 29 March 1999 Page 4:

Most significant byte is sent first.

Example:

0x1234 - > 0x12 0x34
 0x12345678 -> 0x12 0x34
 0x56 0x78

Also is available:

- Pair of Register mode (ABB Digimatik):

0x1234 - > 0x12 0x34
 0x12345678 -> 0x56 0x78
 0x12 0x34

2 Function 02 - Read Input Status

Query

ByteNr	0	1	2	3	4	5	6-7
	Address	FC	StartH	StartL	QuantH	QuantL	CRC

Address Slave-Address 1...247
 FC Function Code 02

StartH StartAddress HighByte 0
 StartL StartAddress LowByte 0
 QuantH Quantity HighByte 0
 QuantL Quantity LowByte 0

CRC Checksum (Cyclical Redundancy Check)

Response

ByteNr	0	1	2	3	4	5-6
	Address	FC	Byte Count	Data H	Data L	CRC

Byte Count Number of data bytes
 Data H Value binary input 1 (=0xFF if input 1 is not a binary input)
 Data L Value binary input 2 (=0xFF if input 2 is not a binary input)

Function 03 - Read Registers

3 Function 03 - Read Registers

Query

ByteNr	0	1	2	3	4	5	6-7
	Address	FC	StartAdr H	StartAdr L	Quant H	Quant L	CRC

Address Slave-Address 1...247

FC Function Code 03

StartAdr H Starting address Highbyte

StartAdr L Starting address Lowbyte

Quant H Quantity Highbyte

Quant L Quantity Lowbyte

CRC Checksum (Cyclical Redundancy Check)

Response from slave

ByteNr	0	1	2	3	4		...
	Address	FC	Byte Count	Data[0] H	Data[0] L	(More data)	CRC

Byte Count Number of data bytes

4 Function 06 - Preset Single Register

(only the ModBus unit address can be set!)

Query

ByteNr	0	1	2	3	4	5	6-7
	Address	FC	AdrH	Adr L	DataH	Data L	CRC

Address Slave Address 1...247 (no broadcast!)

FC Function code 06

Adr H Register Address Highbyte (must be 0)

Adr L Register Address Lowbyte (must be 0)

Data H Data Highbyte

Data L Data Lowbyte

CRC Checksumme (Cyclical Redundancy Check)

Response

ByteNr	0	1	2	3	4	5	6-7
	Address	FC	AdrH	Adr L	DataH	Data L	CRC

The normal response is an echo of the query.

5 Function 08 - Communication Test

Query

ByteNr	0	1	2	3	4	5	6-7
	Address	FC	SubF H	SubF L	Data H	Data L	CRC

Address Slaveaddress 1...247

FC Functioncode 08

SubF H Subfunction Highbyte

SubF L Subfunction Lowbyte

Data H Data Highbyte

Data L Data Lowbyte

CRC Checksumme (Cyclical Redundancy Check)

Response

ByteNr	0	1	2	3	4	5	6-7
	Address	FC	SubF H	SubF L	Data H	Data L	CRC

The normal response to the Return Query Data request is to loopback the same data. The function code and the subfunction code are also echoed.

6 Function 16 - Write Registers

Query

ByteNr	0	1	2	3	4	5	6	7	8
	Address	FC	StartAdr H	StartAdr L	N of R H	N of R L	Byte Count	Data H	Data L

ByteNr
	Data H	Data L	CRC

Address Slave-Address 0...247
FC Function Code 0x10
StartAdr H Starting address Highbyte
StartAdr L Starting address Lowbyte
N of R H Number of registers Highbyte
N of R L Number of registers Lowbyte
Byte Count Number of data bytes
Data H Data Highbyte
Data L Data Lowbyte

CRC Checksum (Cyclical Redundancy Check)

Response

ByteNr	0	1	2	3	4	5	6-7
	Address	FC	StartAdr H	StartAdr L	N of R H	N of R L	CRC

7 Register Addresses

Address (dec)	Address (hex)	Access	Format	Description
40000	9C40	RW	Byte (6)	Current date/time
40001	9C41	RO	Byte (8)	FabricationNr
40002	9C42	RO	Byte (40)	Free text
40003	9C43	RO	Byte (8)	SW-Version, Erstellungsdatum
41001	A029	RO	Float	MainCounter1
41002	A02A	RO	Float	MainCounter2
41003	A02B	RO	Float	MainCounter3
41004	A02C	RO	Float	MainCounter4
41005	A02D	RO	Float	MainCounter5
41006	A02E	RO	Float	MainCounter6
41007	A02F	RO	Float	BillingDate1 MainCounter1
41008	A030	RO	Float	BillingDate1 MainCounter2
41009	A031	RO	Float	BillingDate1 MainCounter3
41010	A032	RO	Float	BillingDate1 MainCounter4
41011	A033	RO	Float	BillingDate1 MainCounter5
41012	A034	RO	Float	BillingDate1 MainCounter6
41013	A035	RO	Float	BillingDate2 MainCounter1
41014	A036	RO	Float	BillingDate2 MainCounter2
41015	A037	RO	Float	BillingDate2 MainCounter3
41016	A038	RO	Float	BillingDate2 MainCounter4
41017	A039	RO	Float	BillingDate2 MainCounter5
41018	A03A	RO	Float	BillingDate2 MainCounter6
41019	A03B	RO	Byte (6)	BillingDate1
41020	A03C	RO	Byte (6)	BillingDate2
42001	A411	RO	Float	PhysicalValue1 (zum Beispiel: P)
42002	A412	RO	Float	PhysicalValue2 (Qm)
42003	A413	RO	Float	PhysicalValue3 (Qv)
42004	A414	RO	Float	PhysicalValue4 (Tw)
42005	A415	RO	Float	PhysicalValue5 (Tk)
42006	A416	RO	Float	PhysicalValue6 (dT)
42007	A417	RO	Float	PhysicalValue7 (rho)
42008	A418	RO	Float	PhysicalValue8 (hw)
42009	A419	RO	Float	PhysicalValue9 (hk)
To				
42050	A442	RO	Float	PhysicalValue50
44000	ABE0	RO	Byte (12)	DL Actual LogNr
44010	ABEA	WO	Byte(2)	Nr des auszulesenden Logs muß zuerst geschrieben werden danach Wartezeit von 0,5s
44100	AC44	RO	Byte (6)	DL Date/time
44101	AC45	RO	Float	DL MainCounter1
...				...
44106	AC4A	RO	Float	DL MainCounter6
44111	AC4F	RO	Float	DL Physical value1
44112	AC50	RO	Float	DL Physical value2
...				...
44160	AC80	RO	Float	DL Physical value50

Address (dec)	Address (hex)	Access	Format	Description
44161	AC81	RO	Float	DL_MaxVal1/Date
44162	AC82	RO	Float	DL_MaxVal2/Date
44163	AC83	RO	Float	DL_MaxVal3/Date
44164	AC84	RO	Float	DL_MaxVal4/Date
44165	AC85	RO	Float	DL_MaxVal5/Date
44166	AC86	RO	Float	DL_MaxVal6/Date
44167	AC87	RO	Float	DL_MaxVal7/Date
44168	AC88	RO	Float	DL_MaxVal8/Date
44169	AC89	RO	Float	DL_MinVal1/Date
44170	AC8A	RO	Float	DL_MinVal2/Date
44171	AC8B	RO	Float	DL_MinVal3/Date
44172	AC8C	RO	Float	DL_MinVal4/Date
44173	AC8D	RO	Float	DL_MinVal5/Date
44174	AC8E	RO	Float	DL_MinVal6/Date
44175	AC8F	RO	Float	DL_MinVal7/Date
44176	AC90	RO	Float	DL_MinVal8/Date
				<i>Adressen differieren je nach Applik.!!</i>
				<i>Die Max/Min-Werte werden ohne</i>
				<i>Lücke abgespeichert.</i>
44177	AC91	RO	Float	DL_Average1
44178	AC92	RO	Float	DL_Average2
44179	AC93	RO	Float	DL_Average3
44180	AC94	RO	Float	DL_Average4
44181	AC95	RO	Float	DL_Average5
44182	AC96	RO	Float	DL_Average6
44183	AC97	RO	Float	DL_Average7
44184	AC98	RO	Float	DL_Average8
50002	C352	RW	Float	Temp[0].PhysMin
50006	C356	RW	Float	Temp[0].PhysMax
50012	C35C	RW	Float	Temp[0].RefCode
50016	C360	RW	Float	Temp[0].ReserveMin
50020	C364	RW	Float	Temp[0].ReserveMax
50026	C36A	RW	Float	Temp[1].PhysMin
50030	C36E	RW	Float	Temp[1].PhysMax
50036	C374	RW	Float	Temp[1].Referenz
50040	C378	RW	Float	Temp[1].ReserveMin
50044	C37C	RW	Float	Temp[1].ReserveMax
50050	C382	RW	Float	IO[0].ElektMin
50054	C386	RW	Float	IO[0].ElektMax
50058	C38A	RW	Float	IO[0].PhysMin
50062	C38E	RW	Float	IO[0].PhysMax
50068	C394	RW	Float	IO[0].Referenz
50072	C398	RW	Float	IO[0].ReserveMin
50076	C39C	RW	Float	IO[0].ReserveMax
50082	C3A2	RW	Float	IO[1].ElektMin
50086	C3A6	RW	Float	IO[1].ElektMax
50090	C3AA	RW	Float	IO[1].PhysMin
50094	C3AE	RW	Float	IO[1].PhysMax
50100	C3B4	RW	Float	IO[1].Referenz
50104	C3B8	RW	Float	IO[1].ReserveMin
50108	C3BC	RW	Float	IO[1].ReserveMax

Register Addresses

Address (dec)	Address (hex)	Access	Format	Description
50114	C3C2	RW	Float	IO[2].ElektMin
50118	C3C6	RW	Float	IO[2].ElektMax
50122	C3CA	RW	Float	IO[2].PhysMin
50126	C3CE	RW	Float	IO[2].PhysMax
50132	C3D4	RW	Float	IO[2].Referenz
50136	C3D8	RW	Float	IO[2].ReserveMin
50140	C3DC	RW	Float	IO[2].ReserveMax
50146	C3E2	RW	Float	IO[3].ElektMin
50150	C3E6	RW	Float	IO[3].ElektMax
50154	C3EA	RW	Float	IO[3].PhysMin
50158	C3EE	RW	Float	IO[3].PhysMax
50164	C3F4	RW	Float	IO[3].Referenz
50168	C3F8	RW	Float	IO[3].ReserveMin
50172	C3FC	RW	Float	IO[3].ReserveMax
50178	C402	RW	Float	IO[4].ElektMin
50182	C406	RW	Float	IO[4].ElektMax
50186	C40A	RW	Float	IO[4].PhysMin
50190	C40E	RW	Float	IO[4].PhysMax
50196	C414	RW	Float	IO[4].Referenz
50200	C418	RW	Float	IO[4].ReserveMin
50204	C41C	RW	Float	IO[4].ReserveMax
50210	C422	RW	Float	IO[5].ElektMin
50214	C426	RW	Float	IO[5].ElektMax
50218	C42A	RW	Float	IO[5].PhysMin
50222	C42E	RW	Float	IO[5].PhysMax
50228	C434	RW	Float	IO[5].Referenz
50232	C438	RW	Float	IO[5].ReserveMin
50236	C43C	RW	Float	IO[5].ReserveMax
50242	C442	RW	Float	IO[6].ElektMin
50246	C446	RW	Float	IO[6].ElektMax
50250	C44A	RW	Float	IO[6].PhysMin
50254	C44E	RW	Float	IO[6].PhysMax
50260	C454	RW	Float	IO[6].Referenz
50264	C458	RW	Float	IO[6].ReserveMin
50268	C45C	RW	Float	IO[6].ReserveMax
50274	C462	RW	Float	IO[7].ElektMin
50278	C466	RW	Float	IO[7].ElektMax
50282	C46A	RW	Float	IO[7].PhysMin
50286	C46E	RW	Float	IO[7].PhysMax
50292	C474	RW	Float	IO[7].Referenz
50296	C478	RW	Float	IO[7].ReserveMin
50300	C47C	RW	Float	IO[7].ReserveMax
50306	C482	RW	Float	IO[8].ElektMin
50310	C486	RW	Float	IO[8].ElektMax
50314	C48A	RW	Float	IO[8].PhysMin
50318	C48E	RW	Float	IO[8].PhysMax
50324	C494	RW	Float	IO[8].Referenz
50328	C498	RW	Float	IO[8].ReserveMin
50332	C49C	RW	Float	IO[8].ReserveMax
50338	C4A2	RW	Float	IO[9].ElektMin
50342	C4A6	RW	Float	IO[9].ElektMax
50346	C4AA	RW	Float	IO[9].PhysMin
50350	C4AE	RW	Float	IO[9].PhysMax

Address (dec)	Address (hex)	Access	Format	Description
50356	C4B4	RW	Float	IO[9].Referenz
50360	C4B8	RW	Float	IO[9].ReserveMin
50364	C4BC	RW	Float	IO[9].ReserveMax
50368	C4C0	RW	Float	Imp[0].Impuls
50372	C4C4	RW	Float	Imp[0].Schwelle
50380	C4CC	RW	Float	Imp[1].Impuls
50384	C4D0	RW	Float	Imp[1].Schwelle
50394	C4DA	RW	Float	Druck
51376	C8B0	RW	Integer	Imp[0].Breite
51388	C8BC	RW	Integer	Imp[1].Breite
51392	C8C0	RW	Integer	ShowLog
51510	C936	RW	Integer	Paßwort
52000	CB20	RW	Byte	Temp[0].Typ
52001	CB21	RW	Byte	Temp[0].Reserve
52010	CB2A	RW	Byte	Temp[0].RefCode
52011	CB2B	RW	Byte	Temp[0].ReserveCode
52024	CB38	RW	Byte	Temp[1].Typ
52025	CB39	RW	Byte	Temp[1].Reserve
52034	CB42	RW	Byte	Temp[1].RefCode
52035	CB43	RW	Byte	Temp[1].ReserveCode
52048	CB50	RW	Byte	IO[0].Typ
52049	CB51	RW	Byte	IO[0].Einheit
52066	CB62	RW	Byte	IO[0].RefCode
52067	CB63	RW	Byte	IO[0].ReserveCode
52080	CB70	RW	Byte	IO[1].Typ
52081	CB71	RW	Byte	IO[1].Einheit
52098	CB82	RW	Byte	IO[1].RefCode
52099	CB83	RW	Byte	IO[1].ReserveCode
52112	CB90	RW	Byte	IO[2].Typ
52113	CB91	RW	Byte	IO[2].Einheit
52130	CBA2	RW	Byte	IO[2].RefCode
52131	CBA3	RW	Byte	IO[2].ReserveCode
52144	CBB0	RW	Byte	IO[3].Typ
52145	CBB1	RW	Byte	IO[3].Einheit
52162	CBC2	RW	Byte	IO[3].RefCode
52163	CBC3	RW	Byte	IO[3].ReserveCode
52176	CBD0	RW	Byte	IO[4].Typ
52177	CBD1	RW	Byte	IO[4].Einheit
52194	CBE2	RW	Byte	IO[4].RefCode
52195	CBE3	RW	Byte	IO[4].ReserveCode
52208	CBF0	RW	Byte	IO[5].Typ
52209	CBF1	RW	Byte	IO[5].Einheit
52226	CC02	RW	Byte	IO[5].RefCode
52227	CC03	RW	Byte	IO[5].ReserveCode
52240	CC10	RW	Byte	IO[6].Typ
52241	CC11	RW	Byte	IO[6].Einheit
52258	CC22	RW	Byte	IO[6].RefCode
52259	CC23	RW	Byte	IO[6].ReserveCode
52272	CC30	RW	Byte	IO[7].Typ
52273	CC31	RW	Byte	IO[7].Einheit
52290	CC42	RW	Byte	IO[7].RefCode
52291	CC43	RW	Byte	IO[7].ReserveCode
52304	CC50	RW	Byte	IO[8].Typ

Register Addresses

Address (dec)	Address (hex)	Access	Format	Description
52305	CC51	RW	Byte	IO[8].Einheit
52322	CC62	RW	Byte	IO[8].RefCode
52323	CC63	RW	Byte	IO[8].ReserveCode
52336	CC70	RW	Byte	IO[9].Typ
52337	CC71	RW	Byte	IO[9].Einheit
52354	CC82	RW	Byte	IO[9].RefCode
52355	CC83	RW	Byte	IO[9].ReserveCode
52378	CC9A	RW	Byte	Imp[0].Einheit
52379	CC9B	RW	Byte	Imp[0].Komma
52390	CCA6	RW	Byte	Imp[1].Einheit
52391	CCA7	RW	Byte	Imp[1].Komma
52398	CCAE	RW	Byte (14)	AuftragNr[14]
52412	CCBC	RW	Byte (8)	FertigNr[8]
52420	CCC4	RW	Byte (3)	Reserve [3]
52423	CCC7	RW	Byte (16)	BestellNr[16]
52439	CCD7	RW	Byte (21)	strFreeText1[21]
52460	CCEC	RW	Byte (21)	strFreeText2[21]
52481	CD01	RW	Byte (2)	Stichtag1[2]
52483	CD03	RW	Byte (2)	Stichtag2[2]
52485	CD05	RW	Byte	Periode
52486	CD06	RW	Byte	IntegraTime
52487	CD07	RW	Byte (4)	Steckplatz[4]
52491	CD0B	RW	Byte	Baudrate
52492	CD0C	RW	Byte	BusNr
52493	CD0D	RW	Byte	Eichung
52494	CD0E	RW	Byte	Sprache
52495	CD0F	RW	Byte	Speisung
52496	CD10	RW	Byte	Einbauseite
52497	CD11	RW	Byte	TempEinheit
52498	CD12	RW	Byte	Counter2Art
52499	CD13	RW	Byte	Counter3Art
52500	CD14	RW	Byte	DateFormat
52501	CD15	RW	Byte	SFlags1
52502	CD16	RW	Byte	SFlags2
52503	CD17	RW	Byte (3)	VersionsNr[3]
52506	CD1A	RW	Byte	LCD_P_Unit
52507	CD1B	RW	Byte	LCD_qm_Unit
52508	CD1C	RW	Byte	LCD_qv_Unit
52509	CD1D	RW	Byte	Stundenoffset
53000	CF08	RO	Byte(x)	Fehlermeldungen:
				MainError (MSB)
				MainError (LSB)
				Fehler1 Ein Stunden
				Minuten
				Tag
				Monat
				Jahr
				FehlertextNr
				Aus Stunden
				Minuten
				Tag
				Monat
				Jahr
				Trennzeichen AxH (x=FehlerNr)

Address (dec)	Address (hex)	Access	Format	Description
				Fehler2...
53100	CF6C	RO	Byte (x)	Fehlertexte1:
				Text1 (ASCII) 21 Byte
				Text2...
53200	CFD0	RO	Byte (x)	Fehlertexte2: (falls vorhanden)
				Text11
				Text12...
54002	D2F2	RW	Float	F01
54006	D2F6	RW	Float	F02
54012	D2FC	RW	Float	F03
54016	D300	RW	Float	F04
54020	D304	RW	Float	F05
54026	D30A	RW	Float	F06
54030	D30E	RW	Float	F07
54036	D314	RW	Float	F08
54040	D318	RW	Float	F09
54044	D31C	RW	Float	F10
54050	D322	RW	Float	F11
54054	D326	RW	Float	F12
54058	D32A	RW	Float	F13
54062	D32E	RW	Float	F14
54068	D334	RW	Float	F15
54072	D338	RW	Float	F16
54076	D33C	RW	Float	F17
54082	D342	RW	Float	F18
54086	D346	RW	Float	F19
54090	D34A	RW	Float	F20
54094	D34E	RW	Float	F21
54100	D354	RW	Float	F22
54104	D358	RW	Float	F23
54108	D35C	RW	Float	F24
54114	D362	RW	Float	F25
54118	D366	RW	Float	F26
54122	D36A	RW	Float	F27
54126	D36E	RW	Float	F28
54132	D374	RW	Float	F29
54136	D378	RW	Float	F30
54140	D37C	RW	Float	F31
54146	D382	RW	Float	F32
54150	D386	RW	Float	F33
54154	D38A	RW	Float	F34
54158	D38E	RW	Float	F35
54164	D394	RW	Float	F36
54168	D398	RW	Float	F37
54172	D39C	RW	Float	F38
54178	D3A2	RW	Float	F39
54182	D3A6	RW	Float	F40
54186	D3AA	RW	Float	F41
54190	D3AE	RW	Float	F42
54196	D3B4	RW	Float	F43
54200	D3B8	RW	Float	F44
54204	D3BC	RW	Float	F45
54210	D3C2	RW	Float	F46

Register Addresses

Address (dec)	Address (hex)	Access	Format	Description
54214	D3C6	RW	Float	F47
54218	D3CA	RW	Float	F48
54222	D3CE	RW	Float	F49
54228	D3D4	RW	Float	F50
54232	D3D8	RW	Float	F51
54236	D3DC	RW	Float	F52
54242	D3E2	RW	Float	F53
54246	D3E6	RW	Float	F54
54250	D3EA	RW	Float	F55
54254	D3EE	RW	Float	F56
54260	D3F4	RW	Float	F57
54264	D3F8	RW	Float	F58
54268	D3FC	RW	Float	F59
54274	D402	RW	Float	F60
54278	D406	RW	Float	F61
54282	D40A	RW	Float	F62
54286	D40E	RW	Float	F63
54292	D414	RW	Float	F64
54296	D418	RW	Float	F65
54300	D41C	RW	Float	F66
54306	D422	RW	Float	F67
54310	D426	RW	Float	F68
54314	D42A	RW	Float	F69
54318	D42E	RW	Float	F70
54324	D434	RW	Float	F71
54328	D438	RW	Float	F72
54332	D43C	RW	Float	F73
54338	D442	RW	Float	F74
54342	D446	RW	Float	F75
54346	D44A	RW	Float	F76
54350	D44E	RW	Float	F77
54356	D454	RW	Float	F78
54360	D458	RW	Float	F79
54364	D45C	RW	Float	F80
54368	D460	RW	Float	F81
54372	D464	RW	Float	F82
54380	D46C	RW	Float	F83
54384	D470	RW	Float	F84
54394	D47A	RW	Float	F85
55376	D850	RW	Integer	I01
55388	D85C	RW	Integer	I02
55392	D860	RW	Integer	I03
55510	D8D6	RW	Integer	I04
56000	DAC0	RW	Byte	B01
56001	DAC1	RW	Byte	B02
56010	DACA	RW	Byte	B03
56011	DACB	RW	Byte	B04
56024	DAD8	RW	Byte	B05
56025	DAD9	RW	Byte	B06
56034	DAE2	RW	Byte	B07
56035	DAE3	RW	Byte	B08
56048	DAF0	RW	Byte	B09

Address (dec)	Address (hex)	Access	Format	Description
56049	DAF1	RW	Byte	B10
56066	DB02	RW	Byte	B11
56067	DB03	RW	Byte	B12
56080	DB10	RW	Byte	B13
56081	DB11	RW	Byte	B14
56098	DB22	RW	Byte	B15
56099	DB23	RW	Byte	B16
56112	DB30	RW	Byte	B17
56113	DB31	RW	Byte	B18
56130	DB42	RW	Byte	B19
56131	DB43	RW	Byte	B20
56144	DB50	RW	Byte	B21
56145	DB51	RW	Byte	B22
56162	DB62	RW	Byte	B23
56163	DB63	RW	Byte	B24
56176	DB70	RW	Byte	B25
56177	DB71	RW	Byte	B26
56194	DB82	RW	Byte	B27
56195	DB83	RW	Byte	B28
56208	DB90	RW	Byte	B29
56209	DB91	RW	Byte	B30
56226	DBA2	RW	Byte	B31
56227	DBA3	RW	Byte	B32
56240	DBB0	RW	Byte	B33
56241	DBB1	RW	Byte	B34
56258	DBC2	RW	Byte	B35
56259	DBC3	RW	Byte	B36
56272	DBD0	RW	Byte	B37
56273	DBD1	RW	Byte	B38
56290	DBE2	RW	Byte	B39
56291	DBE3	RW	Byte	B40
56304	DBF0	RW	Byte	B41
56305	DBF1	RW	Byte	B42
56322	DC02	RW	Byte	B43
56323	DC03	RW	Byte	B44
56336	DC10	RW	Byte	B45
56337	DC11	RW	Byte	B46
56354	DC22	RW	Byte	B47
56355	DC23	RW	Byte	B48
56378	DC3A	RW	Byte	B49
56379	DC3B	RW	Byte	B50
56390	DC46	RW	Byte	B51
56391	DC47	RW	Byte	B52
56398	DC4E	RW	Byte (14)	B53
56420	DC64	RW	Byte (3)	B54
56423	DC67	RW	Byte (16)	B55
56439	DC77	RW	Byte (21)	B56
56460	DC8C	RW	Byte (21)	B57
56481	DCA1	RW	Byte (2)	B58
56483	DCA3	RW	Byte (2)	B59
56485	DCA5	RW	Byte	B60
56486	DCA6	RW	Byte	B61

Register Addresses

Address (dec)	Address (hex)	Access	Format	Description
56487	DCA7	RW	Byte (4)	B62
56491	DCAB	RW	Byte	B63
56492	DCAC	RW	Byte	B64
56493	DCAD	RW	Byte	B65
56494	DCAE	RW	Byte	B66
56495	DCAF	RW	Byte	B67
56496	DCB0	RW	Byte	B68
56497	DCB1	RW	Byte	B69
56498	DCB2	RW	Byte	B70
56499	DCB3	RW	Byte	B71
56500	DCB4	RW	Byte	B72
56501	DCB5	RW	Byte	B73
56502	DCB6	RW	Byte	B74
56503	DCB7	RW	Byte (3)	B75
56506	DCBA	RW	Byte	B76
56507	DCBB	RW	Byte	B77
56508	DCBC	RW	Byte	B78
56509	DCBD	RW	Byte	B79

RO = ReadOnly

RW = ReadWrite

WO = WriteOnly

8 Appendix

8.1 Pinning RS232/RS485

x0	GND RS232	SubD 5
x1	TxD RS232	SubD 2
x2	RxD RS232	SubD 3
x3	+B RS485 (Termination)	
x4	RS485 +TxD/RxD	SubD 3
x5	RS485 -TxD/RxD	SubD 8
x6	-B RS485 (Termination)	
x7	GND RS485	SubD 5

x = 6...9 depends on extension card 1...4

8.2 SensyCal Parameters

Special Functions (Flags1)

Bit 4 \ Source : 001 automatisch 101 RS232
 Bit 5 } 011 Optokopf 110 RS485
 Bit 6 / 100 MBus-Repeater
 Bit 7 0 = Protocol MBus 1 = Protocol ModBus

Special Functions (Flags2)

Bit 2 0 = Modbus protocol Totalflow 1 = Protocol Digimatik

Special Functions II (ShowLog)

Bit 0 0 = no parity 1 = parity*)
 Bit 1 0 = even parity 1 = odd parity*)
 Bit 2 0 = FC 03 normal telegram 1 = FC 03 telegram length 9 byte*)
 *)=Function available after reset

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