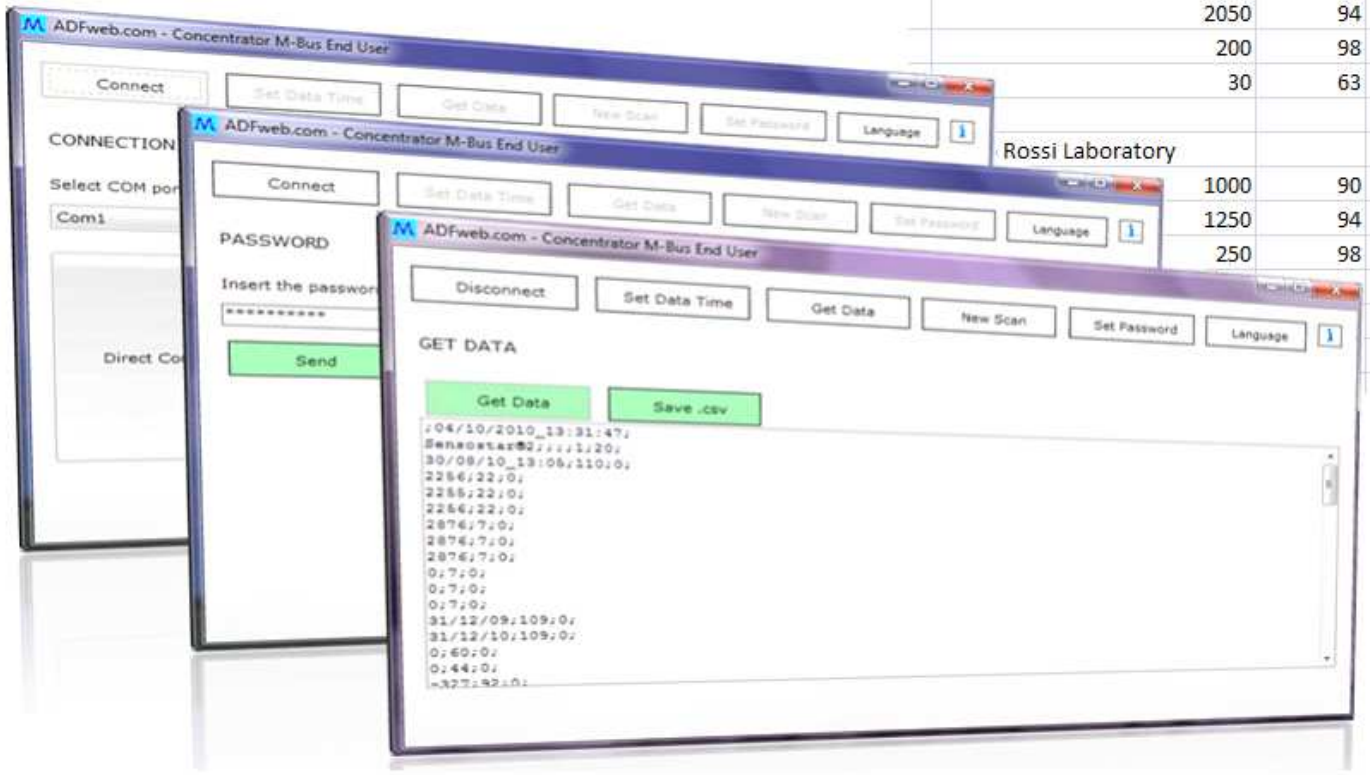
User Manual

Revision 1.010
English

Software M-Bus Concentrator End User

Flat Example Buffalo Road		16/03/2010_10:00:01				
Carl Smith		1A	5	AL88	2	4
	2546	23	0			
	1920	90	0			
	2050	94	0			
	130	98	0			
John Smith		1A	4	AL88	3	5
	1023	23	0			
	1850	90	0			
	2050	94	0			
	200	98	0			
	30	63	0			
Rossi Laboratory					16	6
	1000	90	0			
	1250	94	0			
	250	98	0			
			0			
			0			
			0			



INDEX:

UPDATED DOCUMENTATION:

Dear customer, we thank you for your attention and we remind you that you need to check that the following document is:

- Updated
- Related to the product you own

To obtain the most recently updated document, note the "document code" that appears at the top right-hand corner of each page of this document.

With this "Document Code" go to web page www.adfweb.com/download/ and search for the corresponding code on the page. Click on the proper "Document Code" and download the updates.

To obtain the updated documentation for the product that you own, note the "Document Code" (Abbreviated written "Doc. Code" on the label on the product) and download the updated from our web site www.adfweb.com/download/

REVISION LIST:

Revision	Date	Author	Chapter	Description
1.000	04/10/2010	FI	All	First release version (1.000)
1.010	01/02/2012	FI	All	Software changed (1.100)

WARNING:

ADFweb.com reserves the right to change information in this manual about our product without warning.
ADFweb.com is not responsible for any error this manual may contain.

TRADEMARKS:

All trademarks mentioned in this document belong to their respective owners.

THE SOFTWARE:

To obtain the software please go to www.adfweb.com/download/filefold/MBus_Concentrator_EU.zip. *(This manual is referenced to the last version of the software present on our web site)*. The software works with MSWindows (MS 2000, XP, Vista, Seven).

INSTALLATION:

Extract the file downloaded from our web site and follow the procedure to install the software.

USE OF CONCENTRATOR M-BUS END USER:

- CONNECT:

In the main window of the Software (*Fig. 1*) it is possible to select the type of connection to use for communicate with the HD67054M-xxx (Serial/Modem) and HD67057-B2-xxx (Ethernet).
When using the "HD67054M-xxx" it is necessary to select the COM port to use for the communication ("**Select COM port**") and then select the connection type between "**Direct Connection**" if the Concentrator is directly connected to the PC or "**Modem Connection**" if is used a Dial-UP Modem or GSM Modem.
When using the "HD67057-B2-xxx" it is necessary to insert the "**IP Address**" and the "**Port**" and then select "**TCP Connection**" if the Concentrator was programmed for communicate over TCP or "**UDP Connection**" if the Concentrator was programmed for communicate over UDP.

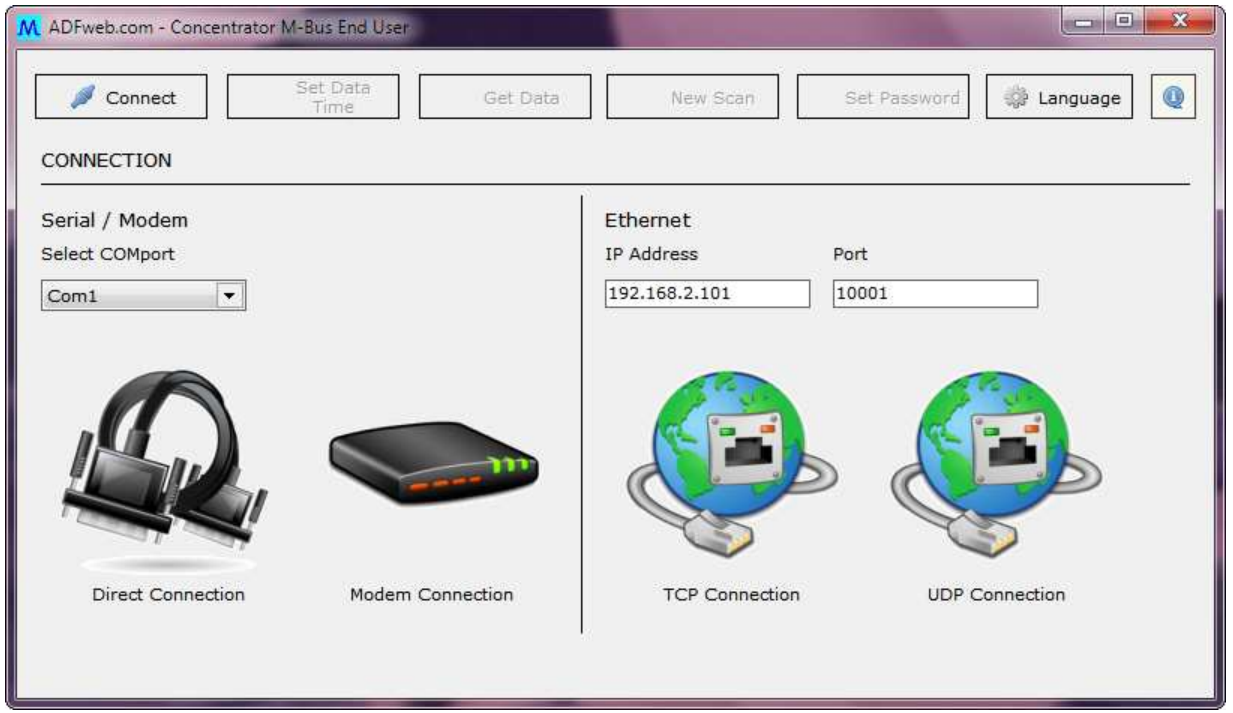


Fig. 1: Main window for "Concentrator M-Bus End User" Software

If "Modem Connection" is selected from the Main Window of the Software (*Fig. 1*) the window "Phone Number" appears (*Fig. 2*).

In the field "**Insert Phone number**" it is necessary to insert the phone number of the modem at the Gateway side. When you have insert the phone number the button "**Send**" must be pressed. In about 30 seconds the gateway makes the connection to the remote modem. When the connection is established a green string appear in the bottom left side of the window. If the connection isn't established a red string appear.

Fig. 2: "Phone Number" window

When the connection is performed or when the "Direct Connection" / "TCP Connection" / "UDP Connection" was selected appears the "Password" window (*Fig. 3*).
In the field "**Insert the password**" it is necessary to insert the Password for use the other functions of the Concentrator and press the "**Send**" button. There is a Default Password: 0123456789 that were used when the product is tested in the factory. Then it is possible to change that password with this Software. It is possible to insert the wrong password for two times. At the third one it will necessary to wait ten minutes before insert it another time.

Fig. 3: "Password" window

- SET DATE TIME

By pressing the "**Set Data Time**" button from the main window of the software the "Date Time" window appears (Fig. 4).
In this section it is possible to read the current data that is used in the Concentrator by pressing the "**Read data Time**" button.
If it is necessary to insert a new data it is possible to fill the fields "**Year**", "**Month**", "**Day**", "**Hour**", "**Minute**", "**Second**" manually or pressing the "**Use System Date Time**" these field will automatically filled with the Date/Time of your Operating System. Then it is necessary to press the "**Write Date Time**" button for upload the date/time on the Concentrator.

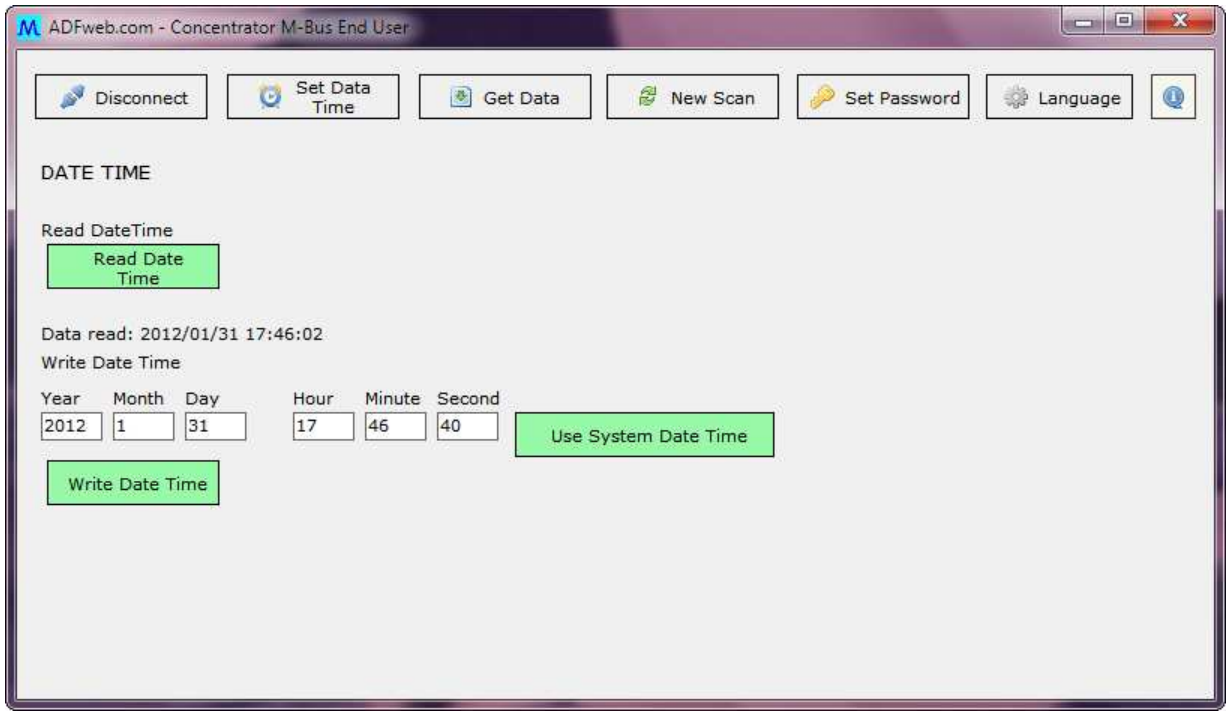


Fig. 4: "Date Time" window

- GET DATA

By pressing the "**Get Data**" button from the main window of the software the "Get Data" window appears (Fig. 5).
This part is used for download the last .csv file saved into the Concentrator. For doing this the "**Get Data**" button must be pressed.
For save the data the button "**Save .cvs**" must be pressed.

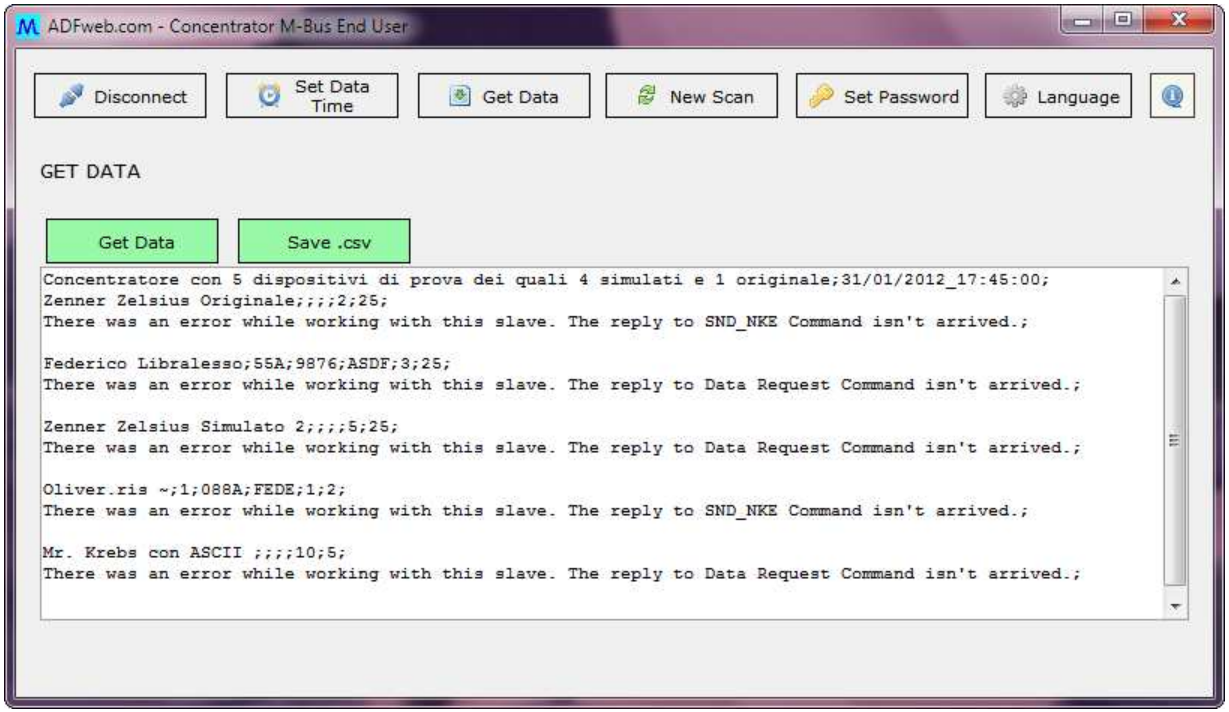


Fig. 5: "Get Data" window

- NEW SCAN

By pressing the "**New Scan**" button from the main window of the software the "New Scan" window appears (Fig. 6).
This part is used for send to the Concentrator the command for doing a new scan immediately. For doing this it is necessary to press the "**Scan Now**" button. If the command is executed with success in the bottom left corner of the window appear the green string "OK". Otherwise a red string appear.

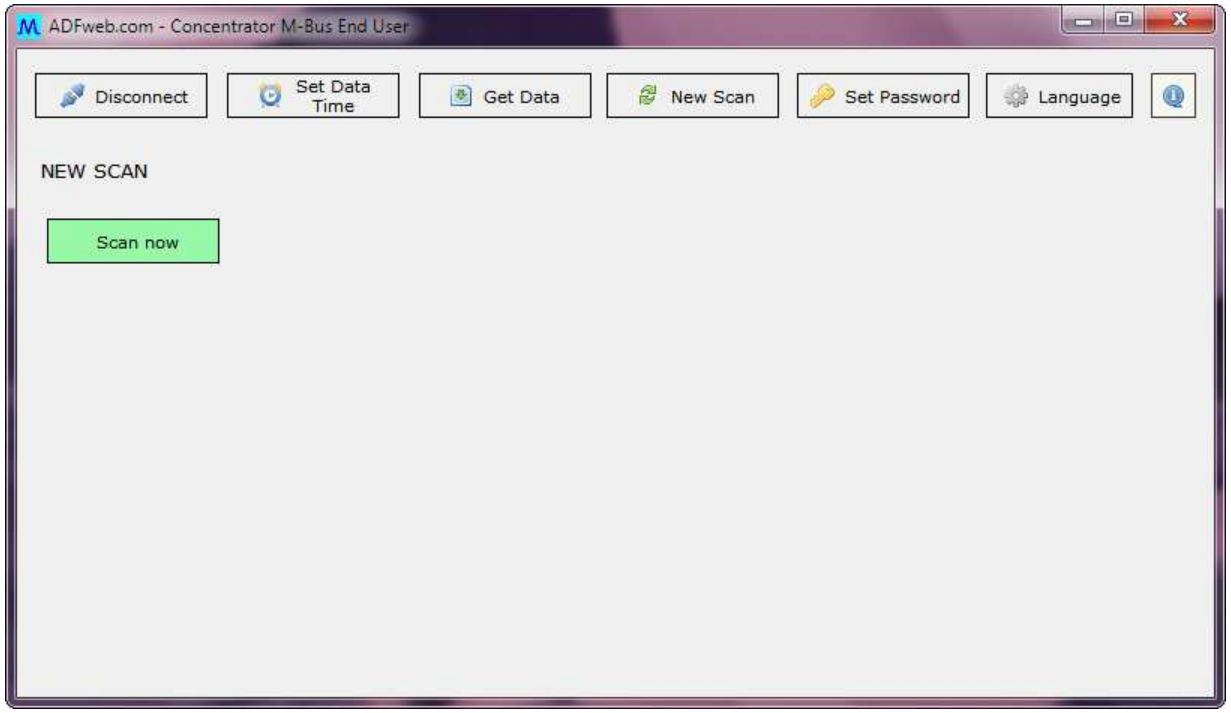


Fig. 6: "New Scan" window

- SET PASSWORD

By pressing the "**Set Password**" button from the main window of the software the "Set Password" window appears (Fig. 7).
If it is necessary to change the Default Password with another one, it is possible to do it in this section. In the two fields it is necessary to insert two times the same new password and then press the "**Set New Password**" button.

Fig. 7: "Set password" window

- LANGUAGE

By pressing the "**Language**" button from the main window of the software the "Select Language" window appears (Fig. 8).
It is possible to select the language from these:

- English;
- Italian;
- German;
- French;
- Spanish.

Fig. 8: "Select language" window

CSV FILE

When the file is downloaded and opened in a table there are two codes that identify what the number is referred to.

At right side you can find an example of file.

- A: In this field you find the "Title" that you have defined in the compositor;
- B: This is the date and time of the last scan;
- C: If in the compositor you have select "M-Bus Node → Data" here you can find the "User";
- D: If in the compositor you have select "M-Bus Node → Data" here you can find the "Scale";
- E: If in the compositor you have select "M-Bus Node → Data" here you can find the "Floor";
- F: If in the compositor you have select "M-Bus Node → Data" here you can find the "Flat";
- G: This is the Primary Address of the M-Bus Slave Device;
- H: This is the number of variables defined in the compositor;
- I: This is the value read of the variable;
- J: This is the "First Code". It identify the type of data. For decoded it see "First Code" subsection;
- K: This is the "Second Code". Is in addition and complete the information given by the "First Code". For decoded it see "Second Code" subsection;
- L: If in the compositor you have select "M-Bus Node → Description" here you can find the "Description".

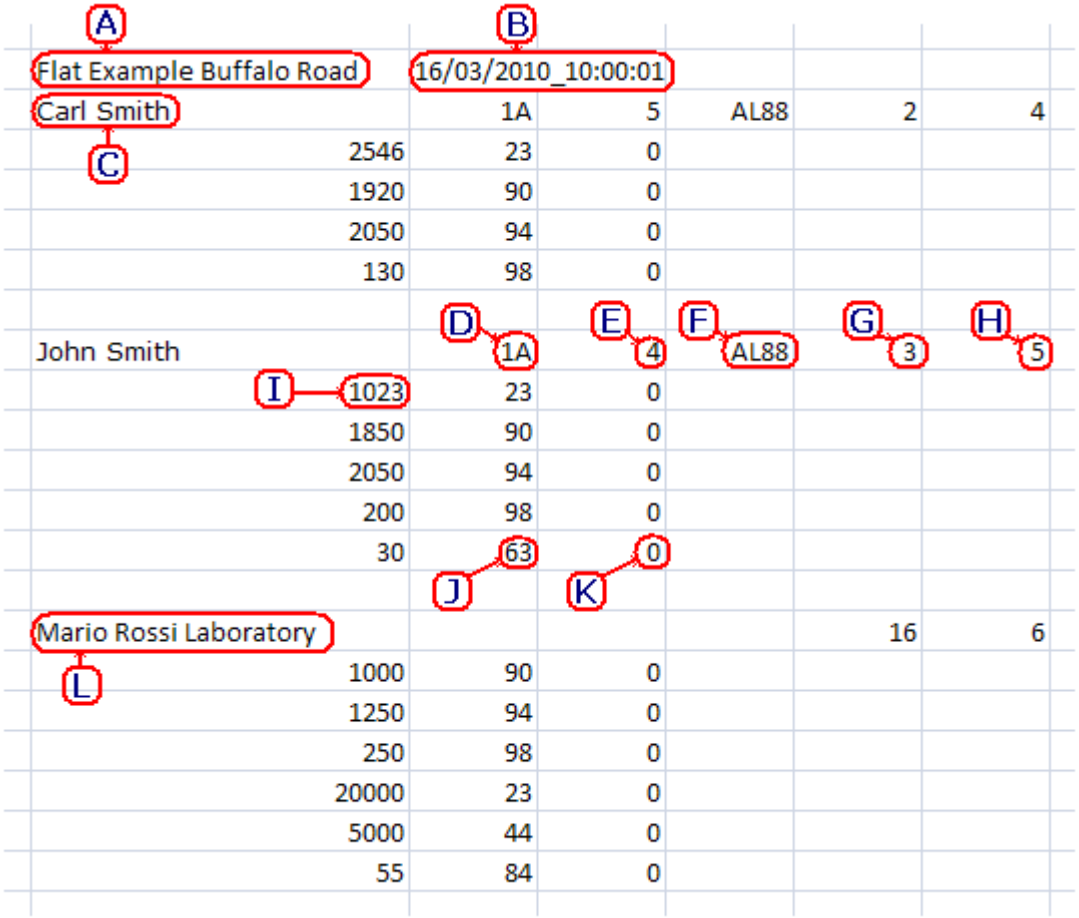


Figure 8: Example of CSV file

FIRST CODE:

0: Null

1: Energy [Wh] ($*10^{-3}$)
2: Energy [Wh] ($*10^{-2}$)
3: Energy [Wh] ($*10^{-1}$)
4: Energy [Wh] ($*10^{0}$)
5: Energy [Wh] ($*10^{1}$)
6: Energy [Wh] ($*10^{2}$)
7: Energy [Wh] ($*10^{3}$)
8: Energy [Wh] ($*10^{4}$)

9: Energy [J] ($*10^{0}$)
10: Energy [J] ($*10^{1}$)
11: Energy [J] ($*10^{2}$)
12: Energy [J] ($*10^{3}$)
13: Energy [J] ($*10^{4}$)
14: Energy [J] ($*10^{5}$)
15: Energy [J] ($*10^{6}$)
16: Energy [J] ($*10^{7}$)

17: Volume m^3 ($*10^{-6}$)
18: Volume m^3 ($*10^{-5}$)
19: Volume m^3 ($*10^{-4}$)
20: Volume m^3 ($*10^{-3}$)
21: Volume m^3 ($*10^{-2}$)
22: Volume m^3 ($*10^{-1}$)
23: Volume m^3 ($*10^{0}$)
24: Volume m^3 ($*10^{1}$)

25: Mass kg ($*10^{-3}$)
26: Mass kg ($*10^{-2}$)
27: Mass kg ($*10^{-1}$)
28: Mass kg ($*10^{0}$)
29: Mass kg ($*10^{1}$)
30: Mass kg ($*10^{2}$)
31: Mass kg ($*10^{3}$)
32: Mass kg ($*10^{4}$)

33: On Time: Seconds
34: On Time: Minutes
35: On Time: Hours
36: On Time: Days

37: Operating Time: Seconds
38: Operating Time: Minutes
39: Operating Time: Hours
40: Operating Time: Days

41: Power W ($*10^{-3}$)
42: Power W ($*10^{-2}$)
43: Power W ($*10^{-1}$)
44: Power W ($*10^{0}$)
45: Power W ($*10^{1}$)
46: Power W ($*10^{2}$)
47: Power W ($*10^{3}$)
48: Power W ($*10^{4}$)

49: Power J/h ($*10^{0}$)
50: Power J/h ($*10^{1}$)
51: Power J/h ($*10^{2}$)
52: Power J/h ($*10^{3}$)
53: Power J/h ($*10^{4}$)
54: Power J/h ($*10^{5}$)
55: Power J/h ($*10^{6}$)

56: Power J/h ($*10^{7}$)

57: Volume Flow m^3/h ($*10^{-6}$)
58: Volume Flow m^3/h ($*10^{-5}$)
59: Volume Flow m^3/h ($*10^{-4}$)
60: Volume Flow m^3/h ($*10^{-3}$)
61: Volume Flow m^3/h ($*10^{-2}$)

62: Volume Flow m^3/h ($*10^{-1}$)
63: Volume Flow m^3/h ($*10^{0}$)
64: Volume Flow m^3/h ($*10^{1}$)

65: Volume Flow ext. m^3/min ($*10^{-7}$)
66: Volume Flow m^3/min ($*10^{-6}$)
67: Volume Flow m^3/min ($*10^{-5}$)
68: Volume Flow m^3/min ($*10^{-4}$)
69: Volume Flow m^3/min ($*10^{-3}$)
70: Volume Flow m^3/min ($*10^{-2}$)
71: Volume Flow m^3/min ($*10^{1}$)
72: Volume Flow m^3/min ($*10^{0}$)

73: Volume Flow ext. m^3/s ($*10^{-9}$)
74: Volume Flow m^3/s ($*10^{-8}$)
75: Volume Flow m^3/s ($*10^{-7}$)
76: Volume Flow m^3/s ($*10^{-6}$)
77: Volume Flow m^3/s ($*10^{-5}$)
78: Volume Flow m^3/s ($*10^{-4}$)
79: Volume Flow m^3/s ($*10^{-3}$)
80: Volume Flow m^3/s ($*10^{-2}$)

81: Mass Flow kg/h ($*10^{-3}$)
82: Mass Flow kg/h ($*10^{-2}$)
83: Mass Flow kg/h ($*10^{-1}$)
84: Mass Flow kg/h ($*10^{0}$)
85: Mass Flow kg/h ($*10^{1}$)
86: Mass Flow kg/h ($*10^{2}$)
87: Mass Flow kg/h ($*10^{3}$)

88: Mass Flow kg/h ($*10^{4}$)

89: Flow Temperature [°C] ($*10^{-3}$)
90: Flow Temperature [°C] ($*10^{-2}$)
91: Flow Temperature [°C] ($*10^{-1}$)
92: Flow Temperature [°C] ($*10^{0}$)

93: Return Temperature [°C] ($*10^{-3}$)
94: Return Temperature [°C] ($*10^{-2}$)

95: Return Temperature [°C] ($*10^{-1}$)
96: Return Temperature [°C] ($*10^{0}$)

97: Temperature Difference [K] ($*10^{-3}$)
98: Temperature Difference [K] ($*10^{-2}$)
99: Temperature Difference [K] ($*10^{-1}$)
100: Temperature Difference [K] ($*10^{0}$)

101: External Temperature [°C] ($*10^{-3}$)
102: External Temperature [°C] ($*10^{-2}$)
103: External Temperature [°C] ($*10^{-1}$)
104: External Temperature [°C] ($*10^{0}$)

105: Pressure [bar] ($*10^{-3}$)
106: Pressure [bar] ($*10^{-2}$)
107: Pressure [bar] ($*10^{-1}$)
108: Pressure [bar] ($*10^{0}$)

109: Time Point: Date
110: Time Point: Time & Date

111: Averaging Duration: Seconds
112: Averaging Duration: Minutes
113: Averaging Duration: Hours
114: Averaging Duration: Days

115: Actually Duration: Seconds

116: Actually Duration: Minutes
117: Actually Duration: Hours
118: Actually Duration: Days

119: Credit of 10^{-3} of the nominal local legal currency units
120: Credit of 10^{-2} of the nominal local legal currency units

121: Credit of 10^{-1} of the nominal local legal currency units
122: Credit of 10^{0} of the nominal local legal currency units

123: Debit of 10^{-3} of the nominal local legal currency units

124: Debit of 10^{-2} of the nominal local legal currency units
125: Debit of 10^{-1} of the nominal local legal currency units
126: Debit of 10^{0} of the nominal local legal currency units

127: Access Number (transmission count)
128: Medium (as in fixed header)
129: Manufacturer (as in fixed header)
130: Parameter set identification
131: Model/Version
132: Hardware version #
133: Firmware version #
134: Software version #
135: Customer Location
136: Customer
137: Access Code User
138: Access Code Operator
139: Access Code System Operator
140: Access Code Developer
141. Password
142. Error flags (binary)
143: Error mask
144: Digital Output (binary)
145. Digital Input (binary)
146. Baudrate [Baud]
147: response delay time [bittimes]
148: Retry

149: First storage # for cyclic storage
150: Last storage # for cyclic storage
151. Size of storage block
152: Storage interval [seconds]
153: Storage interval [minutes]
154: Storage interval [hours]
155: Storage interval [days]

156: Storage interval month(s)
157. Storage interval year(s)

158: Duration since last readout[seconds]
159: Duration since last readout[minutes]
160: Duration since last readout[hours]
161: Duration since last readout[days]

162: Start (date/time) of tariff

163: Duration of tariff [minutes]
164: Duration of tariff [hours]
165: Duration of tariff [days]

166: Period of tariff [seconds]
167: Period of tariff [minutes]
168: Period of tariff [hours]
169: Period of tariff [days]

170: Period of tariff months(s)
171: Period of tariff year(s)
172: dimensionless/ no VIF

173: 10^{-9} Volts
174: 10^{-8} Volts
175: 10^{-7} Volts
176: 10^{-6} Volts
177: 10^{-5} Volts

178: 10^{-4} Volts
179: 10^{-3} Volts
180: 10^{-2} Volts
181: 10^{-1} Volts

182: 10^{0} Volts
183: 10^{1} Volts
184: 10^{2} Volts
185: 10^{3} Volts
186: 10^{4} Volts
187: 10^{5} Volts
188: 10^{6} Volts

189: 10^{-12} Ampere
190: 10^{-11} Ampere
191: 10^{-10} Ampere
192: 10^{-9} Ampere
193: 10^{-8} Ampere
194: 10^{-7} Ampere
195: 10^{-6} Ampere
196: 10^{-5} Ampere
197: 10^{-4} Ampere
198: 10^{-3} Ampere
199: 10^{-2} Ampere
200: 10^{-1} Ampere
201: 10^{0} Ampere
202: 10^{1} Ampere
203: 10^{2} Ampere
204: 10^{3} Ampere

205: Reset counter
206: Comulation counter
207: Control signal
208: Day of week
209: Week number
210: Time point of day change
211: State of parameter activation

212: Special supplier information
213: Duration since last comulation [hours]
214: Duration since last comulation [days]
215: Duration since last comulation [months]
216: Duration since last comulation [years]

217: Operation time battery [hours]
218: Operation time battery [days]
219: Operation time battery [months]
220: Operation time battery [years]

221: Date and time of battery change

222: Energy [MWh] ($*10^{-1}$)
223: Energy [MWh] ($*10^{0}$)

224: Energy [GJ] ($*10^{-1}$)
225: Energy [GJ] ($*10^{0}$)

226: Volume [m^3] ($*10^{2}$)
227: Volume [m^3] ($*10^{3}$)

228: Mass [t] ($*10^{2}$)
229: Mass [t] ($*10^{3}$)

230: Volume 0,1 feet^3
231: Volume 0,1 american gallon
232: Volume 1 american gallon
233: Volume flow 0,001 american gallon/min
234: Volume flow 1 american gallon/min
235: Volume flow 1 american gallon/h

236: Power [MW] ($*10^{-1}$)
237: Power [MW] ($*10^{0}$)

238: Power [GJ/h] ($*10^{-1}$)
239: Power [GJ/h] ($*10^{0}$)

240: Flow Temperature [°F] ($*10^{-3}$)
241: Flow Temperature [°F] ($*10^{-2}$)

242: Flow Temperature [°F] ($*10^{-1}$)
243: Flow Temperature [°F] ($*10^{0}$)

244: Return Temperature [°F] ($*10^{-3}$)
245: Return Temperature [°F] ($*10^{-2}$)
246: Return Temperature [°F] ($*10^{-1}$)
247: Return Temperature [°F] ($*10^{0}$)

248: Temperature Difference [°F] ($*10^{-3}$)
249: Temperature Difference [°F] ($*10^{-2}$)

250: Temperature Difference [°F] ($*10^{-1}$)
251: Temperature Difference [°F] ($*10^{0}$)

252: External Temperature [°F] ($*10^{-3}$)
253: External Temperature [°F] ($*10^{-2}$)
254: External Temperature [°F] ($*10^{-1}$)
255: External Temperature [°F] ($*10^{0}$)

256: Cold/Warm Temperature Limit [°F] ($*10^{-3}$)
257: Cold/Warm Temperature Limit [°F] ($*10^{-2}$)
258: Cold/Warm Temperature Limit [°F] ($*10^{-1}$)
259: Cold/Warm Temperature Limit [°F] ($*10^{0}$)

260: Cold/Worm Temperature Limit [°C] ($*10^{-3}$)
261: Cold/Worm Temperature Limit [°C] ($*10^{-2}$)
262: Cold/Worm Temperature Limit [°C] ($*10^{-1}$)
263: Cold/Worm Temperature Limit [°C] ($*10^{0}$)

264: Cumul. count max power [W] ($*10^{-3}$)
265: Cumul. count max power [W] ($*10^{-2}$)
266: Cumul. count max power [W] ($*10^{-1}$)
267: Cumul. count max power [W] ($*10^{0}$)
268: Cumul. count max power [W] ($*10^{1}$)
269: Cumul. count max power [W] ($*10^{2}$)

270: Cumul. count max power [W] ($*10^{3}$)
271: Cumul. count max power [W] ($*10^{4}$)

272÷299: Empty

SECOND CODE:

0: Null

300: per second
301: per minute
302: per hour
303: per day
304: per week
305: per month
306: per year
307: per revolution/measurement
308: increment per input pulse on input channel 0
309: increment per input pulse on input channel 1
310: increment per output pulse on output channel 0
311: increment per output pulse on output channel 1
312: per liter
313: per m^3
314: per kg
315: per K (Kelvin)
316: per kWh
317: per GJ
318: per kW
319: per (K*l)(Kelvin*liter)
320: per V (Volt)
321: per A (Ampere)
322: multiplied by sek
323: multiplied by sek/V
324: multiplied by sek/A
325: start date(/time) of
326: VIF contains uncorrected unit instead of corrected unit
327: Accumulation only if positive contributions
328: Accumulation of abs value only if negative contributions
329: upper limit value
330: lower limit value
331: # of exceeds of upper limit
332: # of exceeds of lower limit
333: Date(/time) of begin of first lower limit exceed
334: Date(/time) of end of first lower limit exceed
335: Date(/time) of begin of last lower limit exceed
336: Date(/time) of end of last lower limit exceed
337: Date(/time) of begin of first upper limit exceed
338: Date(/time) of end of first upper limit exceed
339: Date(/time) of begin of last upper limit exceed
340: Date(/time) of end of last upper limit exceed

341: Duration of limit exceed
342: Duration of limit exceed
343: Duration of limit exceed
344: Duration of limit exceed
345: Duration of limit exceed
346: Duration of limit exceed
347: Duration of limit exceed
348: Duration of limit exceed
349: Duration of limit exceed
350: Duration of limit exceed
351: Duration of limit exceed
352: Duration of limit exceed
353: Duration of limit exceed
354: Duration of limit exceed
355: Duration of limit exceed
356: Duration of limit exceed

357: Duration of first/last
358: Duration of first/last
359: Duration of first/last
360: Duration of first/last
361: Duration of first/last
362: Duration of first/last
363: Duration of first/last
364: Duration of first/last

365: Date(/time) of first/last begin/end
366: Date(/time) of first/last begin/end

367: Date(/time) of first/last begin/end
368: Date(/time) of first/last begin/end

369: Multiplicative correction factor ($*10^{-6}$)
370: Multiplicative correction factor ($*10^{-5}$)
371: Multiplicative correction factor ($*10^{-4}$)
372: Multiplicative correction factor ($*10^{-3}$)
373: Multiplicative correction factor ($*10^{-2}$)
374: Multiplicative correction factor ($*10^{-1}$)
375: Multiplicative correction factor ($*10^{0}$)
376: Multiplicative correction factor ($*10^{1}$)
377: Additive correction constant * unit of VIF (offset)
378: Additive correction constant * unit of VIF (offset)
379: Additive correction constant * unit of VIF (offset)
380: Additive correction constant * unit of VIF (offset)

381: Multiplicative correction factor: 10^{3}
382: future value
383: next VIFE's and data of this block are manufacturer specific

384: None
385: Too many DIFE's
386: Storage number not implemented
387: Unit number not implemented
388: Tariff number not implemented
389: Function not implemented
390: Data class not implemented
391: Data size not implemented
392: Too many VIFE's
393: Illegal VIF-Group
394: Illegal VIF-Exponent
395: VIF/DIF mismatch
396: Unimplemented action
397: No data available (undefined value)
398: Data overflow
399: Data underflow
400: Data error
401: Premature end of record

WARRANTIES AND TECHNICAL SUPPORT:

For fast and easy technical support for your ADFweb.com SRL products, consult our internet support at www.adfweb.com.
Otherwise contact us at the address support@adfweb.com

RETURN POLICY:

If while using your product you have any problem and you wish to exchange or repair it, please do the following:

1) Obtain a Product Return Number (PRN) from our internet support at www.adfweb.com. Together with the request, you need to provide detailed information about the problem.
2) Send the product to the address provided with the PRN, having prepaid the shipping costs (shipment costs billed to us will not be accepted).

If the product is within the warranty of twelve months, it will be repaired or exchanged and returned within three weeks. If the product is no longer under warranty, you will receive a repair estimate.

PRODUCTS AND RELATED DOCUMENTS:

Part	Description	URL
HD67031	Analyzer / Scanner / Sniffer M-Bus	www.adfweb.com?product=HD67031
HD67120	Converter Ethernet to RS232/RS485	www.adfweb.com?product=HD67120
HD67119	Converter USB 2.0 to RS485 Isolated	www.adfweb.com?product=HD67119
HD67507	Gateway Modbus TCP Server to RTU Master	www.adfweb.com?product=HD67507
HD67510	Gateway Modbus TCP Client to RTU Slave	www.adfweb.com?product=HD67510