26-03-2009

Version 2.d

Contents

Description of Data Post Office

Data Post Office will serve as a general data receiver, which means that anyone providing data to Min Bolig (My Home), Se Elforbrug (View Electricity Consumption) or other equivalent systems, via the Web service of the Danish Electricity Saving Trust to data recipients, will supply data to this location.

In order to be able send data to the Data Post Office, senders must use a Web service in which the data string itself, some provider information and a reference number must be stated (see Description of data format).

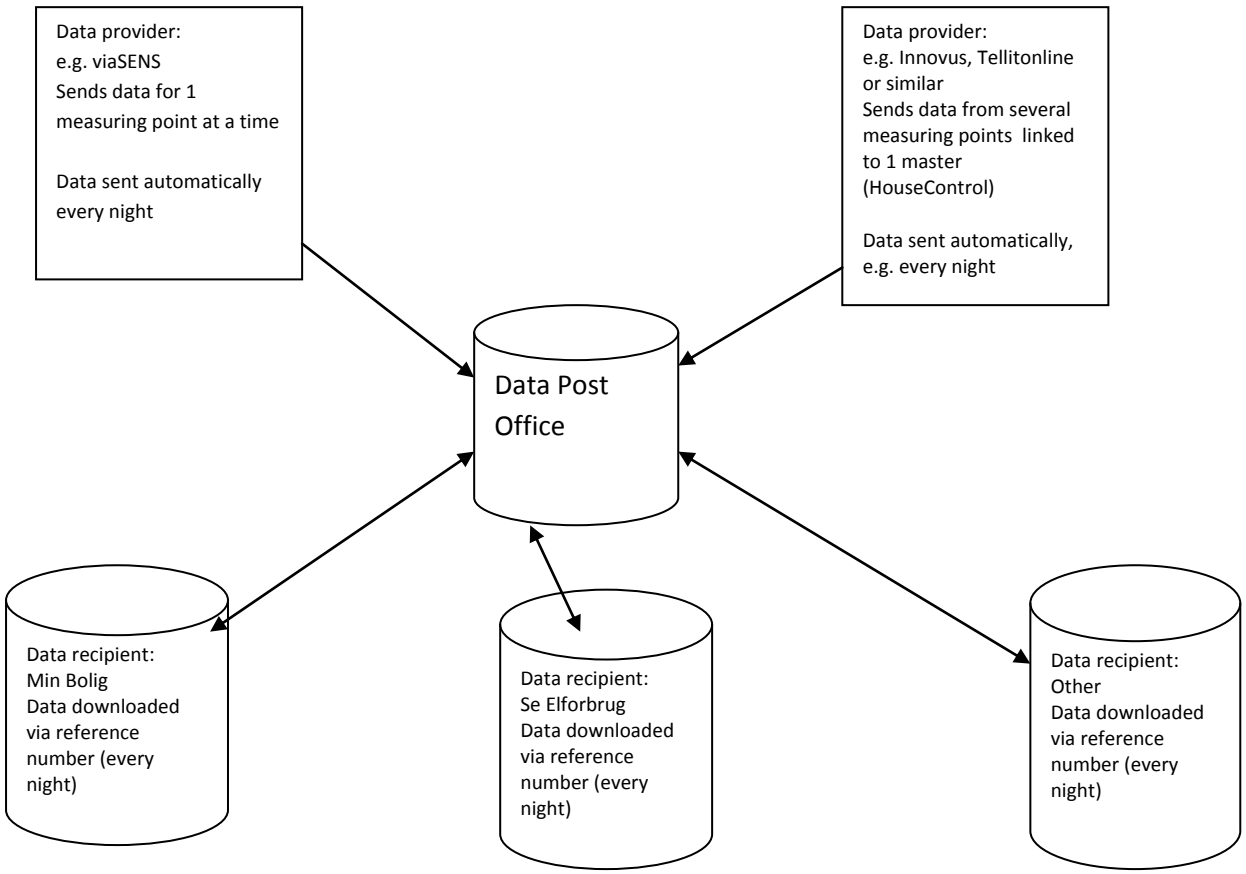
The reference number should be unique, which means that companies generating such a number should compile it from the following constituent parts: a country code, CVR (VAT) registration number and HouseControl ID, e.g. DNK-21318671-1234567890.
The HouseControl ID should preferably not be a GUID, such as e.g. e99e6e2a-0a10-4797-83d4-ad3cdcc26d53, because this can be very difficult to key in. A HouseControl ID in this format should therefore be replaced by a code consisting entirely of numbers, while still being unique.
In respect of, for example, a reference number from viaSENS, the HouseControl ID and data logger ID will typically be identical inasmuch as these do not operate with a HouseControl ID.

A reference number is one which must be displayed and provided directly to the user via a label on, for example, the viaSens box from Seluxit, or on the homepage on which the user requests to have data sent to the Data Post Office. In respect of the latter, this will mean that the data provider must present the reference number directly and clearly on the screen, along with information that this is the number to be utilised by users on the homepage where the data will ultimately reside.

On the homepage where the data will be used there must be a heading explaining to the user that, if they have ordered data from a data provider, they must supply a reference number here and click on 'download'. Thereafter, all the meter sessions with this reference number will be associated with this particular user and homepage. Each night, all data with this reference number will be automatically downloaded from the Data Post Office.

For additional and easier access to the data, all data sent/downloaded from the Data Post Office will be automatically created as permanent data associated with the given data logger ID. This means the elimination of the work which previously sat in an 'in box', from where it was set up manually as a permanent meter session, and which thereafter could be linked to, for example, a meter location in Se Elforbrug (View Electricity Consumption).

General system diagram



Description of Web service

The Web services that should be used to send data to the Data Post Office are shown here:

The first returns the address to the location to which the data must be sent (making the system scalable)
http://www.webservice.sparel.dk/getdatapostofficeip_webservice_V1/getdatapostofficeip_webservice.asmx

This contains the following functions:
Function getuploadip(string) As String (parameter string should only be "")

Return string from function is therefore the address which links to the Web service which saves the data.

ReturnString =
http://www.webservice.sparel.dk/datapostoffice_webservice_V1/datapostoffice_webservice.asmx

with the following functions:

Function senddata(ByVal data_str As String,
ByVal ThreeDigitProducerCountryCode As String,
ByVal ProducerRegistrationNumber_CVR As String,
ByVal HouseControlID As String,
ByVal UniqueReferenceNumber As String,
ByVal DataSenderCountryCode As String) As String

Parameter	**Description of parameter**
data_str	contains meter data that must be stated in the format described (see section with description of data format) **Note that there is a time interval of 15 minutes before data can subsequently be used on Se Elforbrug**
ThreeDigitProducerCountryCode	Unambiguous country code (see complete list with ISO 3166 country codes) for producers
ProducerRegistrationNumber _CVR	Producers' CVR (VAT) number
HouseControlID	Unique ID (as numbers) which describes the Master sending the data or, in situations where a logger can send data independently, the logger ID
UniqueReferenceNumber	Composite identification consisting of the 3 parameters above separated by hyphens
DataSenderCountryCode	Country code which describes where the data comes from

Return string can contain the following:

Return value	Description
"DataReceivedOk"	Data received
"InformationMissing"	Not all parameter information was given
"Error"	An error has occurred

In order to be able to rapidly identify the sender and verify that the information is in order, it is necessary that the above parameters are present in relation to the Web service function.

If one wishes to test an XML document before uploading, it can be done as per the following:

```
Function testdataformat(ByVal data_str As String,
                        ByVal ThreeDigitProducerCountryCode As String,
                        ByVal ProducerRegistrationNumber_CVR  As String,
                        ByVal HouseControlID As String,
                        ByVal UniqueReferenceNumber As String,
                        ByVal DataSenderCountryCode As String) As String
```

With the same data as in senddata. If the XML document is valid, return will be 'OK'. If there is an error, a text will be returned describing the first fault detected.

ISO 3166 country codes

Country	A 2	A 3	Number
AFGHANISTAN	AF	AFG	004
ALBANIA	AL	ALB	008
ALGERIA	DZ	DZA	012
AMERICAN SAMOA	AS	ASM	016
ANDORRA	AD	AND	020
ANGOLA	AO	AGO	024
ANGUILLA	AI	AIA	660
ANTARCTICA	AQ	ATA	010
ANTIGUA AND BARBUDA	AG	ATG	028
ARGENTINA	AR	ARG	032
ARMENIA	AM	ARM	051
ARUBA	AW	ABW	533
AUSTRALIA	AU	AUS	036
AUSTRIA	AT	AUT	040
AZERBAIJAN	AZ	AZE	031
BAHAMAS	BS	BHS	044
BAHRAIN	BH	BHR	048
BANGLADESH	BD	BGD	050
BARBADOS	BB	BRB	052
BELARUS	BY	BLR	112
BELGIUM	BE	BEL	056
BELIZE	BZ	BLZ	084
BENIN	BJ	BEN	204
BERMUDA	BM	BMU	060
BHUTAN	BT	BTN	064
BOLIVIA	BO	BOL	068
BOSNIA AND HERZEGOWINA	BA	BIH	070
BOTSWANA	BW	BWA	072
BOUVET ISLAND	BV	BVT	074
BRAZIL	BR	BRA	076
BRITISH INDIAN OCEAN TERRITORY	IO	IOT	086
BRUNEI DARUSSALAM	BN	BRN	096
BULGARIA	BG	BGR	100
BURKINA FASO	BF	BFA	854
BURUNDI	BI	BDI	108
CAMBODIA	KH	KHM	116
CAMEROON	CM	CMR	120
CANADA	CA	CAN	124
CAPE VERDE	CV	CPV	132
CAYMAN ISLANDS	KY	CYM	136
CENTRAL AFRICAN REPUBLIC	CF	CAF	140
CHAD	TD	TCD	148
CHILE	CL	CHL	152
CHINA	CN	CHN	156
CHRISTMAS ISLAND	CX	CXR	162
COCOS (KEELING) ISLANDS	CC	CCK	166
COLOMBIA	CO	COL	170
COMOROS	KM	COM	174
CONGO, Democratic Republic of (was Zaire)	CD	COD	180
CONGO, People's Republic of	CG	COG	178
COOK ISLANDS	CK	COK	184
COSTA RICA	CR	CRI	188
COTE D'IVOIRE	CI	CIV	384
CROATIA (local name: Hrvatska)	HR	HRV	191
CUBA	CU	CUB	192
CYPRUS	CY	CYP	196

CZECH REPUBLIC	CZ	CZE	203
DENMARK	DK	DNK	208
DJIBOUTI	DJ	DJI	262
DOMINICA	DM	DMA	212
DOMINICAN REPUBLIC	DO	DOM	214
EAST TIMOR	TL	TLS	626
ECUADOR	EC	ECU	218
EGYPT	EG	EGY	818
EL SALVADOR	SV	SLV	222
EQUATORIAL GUINEA	GQ	GNQ	226
ERITREA	ER	ERI	232
ESTONIA	EE	EST	233
ETHIOPIA	ET	ETH	231
FALKLAND ISLANDS (MALVINAS)	FK	FLK	238
FAROE ISLANDS	FO	FRO	234
FIJI	FJ	FJI	242
FINLAND	FI	FIN	246
FRANCE	FR	FRA	250
FRANCE, METROPOLITAN	FX	FXX	249
FRENCH GUIANA	GF	GUF	254
FRENCH POLYNESIA	PF	PYF	258
FRENCH SOUTHERN TERRITORIES	TF	ATF	260
GABON	GA	GAB	266
GAMBIA	GM	GMB	270
GEORGIA	GE	GEO	268
GERMANY	DE	DEU	276
GHANA	GH	GHA	288
GIBRALTAR	GI	GIB	292
GREECE	GR	GRC	300
GREENLAND	GL	GRL	304
GRENADA	GD	GRD	308
GUADELOUPE	GP	GLP	312
GUAM	GU	GUM	316
GUATEMALA	GT	GTM	320
GUINEA	GN	GIN	324
GUINEA-BISSAU	GW	GNB	624
GUYANA	GY	GUY	328
HAITI	HT	HTI	332
HEARD AND MC DONALD ISLANDS	HM	HMD	334
HONDURAS	HN	HND	340
HONG KONG	HK	HKG	344
HUNGARY	HU	HUN	348
ICELAND	IS	ISL	352
INDIA	IN	IND	356
INDONESIA	ID	IDN	360
IRAN (ISLAMIC REPUBLIC OF)	IR	IRN	364
IRAQ	IQ	IRQ	368
IRELAND	IE	IRL	372
ISRAEL	IL	ISR	376
ITALY	IT	ITA	380
JAMAICA	JM	JAM	388
JAPAN	JP	JPN	392
JORDAN	JO	JOR	400
KAZAKHSTAN	KZ	KAZ	398
KENYA	KE	KEN	404
KIRIBATI	KI	KIR	296
KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF	KP	PRK	408
KOREA, REPUBLIC OF	KR	KOR	410
KUWAIT	KW	KWT	414
KYRGYZSTAN	KG	KGZ	417
LAO PEOPLE'S DEMOCRATIC REPUBLIC	LA	LAO	418
LATVIA	LV	LVA	428
LEBANON	LB	LBN	422
LESOTHO	LS	LSO	426

LIBERIA	LR	LBR	430
LIBYAN ARAB JAMAHIRIYA	LY	LBY	434
LIECHTENSTEIN	LI	LIE	438
LITHUANIA	LT	LTU	440
LUXEMBOURG	LU	LUX	442
MACAU	MO	MAC	446
MACEDONIA, THE FORMER YUGOSLAV REPUBLIC OF	MK	MKD	807
MADAGASCAR	MG	MDG	450
MALAWI	MW	MWI	454
MALAYSIA	MY	MYS	458
MALDIVES	MV	MDV	462
MALI	ML	MLI	466
MALTA	MT	MLT	470
MARSHALL ISLANDS	MH	MHL	584
MARTINIQUE	MQ	MTQ	474
MAURITANIA	MR	MRT	478
MAURITIUS	MU	MUS	480
MAYOTTE	YT	MYT	175
MEXICO	MX	MEX	484
MICRONESIA, FEDERATED STATES OF	FM	FSM	583
MOLDOVA, REPUBLIC OF	MD	MDA	498
MONACO	MC	MCO	492
MONGOLIA	MN	MNG	496
MONTSERRAT	MS	MSR	500
MOROCCO	MA	MAR	504
MOZAMBIQUE	MZ	MOZ	508
MYANMAR	MM	MMR	104
NAMIBIA	NA	NAM	516
NAURU	NR	NRU	520
NEPAL	NP	NPL	524
NETHERLANDS	NL	NLD	528
NETHERLANDS ANTILLES	AN	ANT	530
NEW CALEDONIA	NC	NCL	540
NEW ZEALAND	NZ	NZL	554
NICARAGUA	NI	NIC	558
NIGER	NE	NER	562
NIGERIA	NG	NGA	566
NIUE	NU	NIU	570
NORFOLK ISLAND	NF	NFK	574
NORTHERN MARIANA ISLANDS	MP	MNP	580
NORWAY	NO	NOR	578
OMAN	OM	OMN	512
PAKISTAN	PK	PAK	586
PALAU	PW	PLW	585
PALESTINIAN TERRITORY, Occupied	PS	PSE	275
PANAMA	PA	PAN	591
PAPUA NEW GUINEA	PG	PNG	598
PARAGUAY	PY	PRY	600
PERU	PE	PER	604
PHILIPPINES	PH	PHL	608
PITCAIRN	PN	PCN	612
POLAND	PL	POL	616
PORTUGAL	PT	PRT	620
PUERTO RICO	PR	PRI	630
QATAR	QA	QAT	634
REUNION	RE	REU	638
ROMANIA	RO	ROU	642
RUSSIAN FEDERATION	RU	RUS	643
RWANDA	RW	RWA	646
SAINT KITTS AND NEVIS	KN	KNA	659
SAINT LUCIA	LC	LCA	662
SAINT VINCENT AND THE GRENADINES	VC	VCT	670
SAMOA	WS	WSM	882
SAN MARINO	SM	SMR	674

SAO TOME AND PRINCIPE	ST	STP	678
SAUDI ARABIA	SA	SAU	682
SENEGAL	SN	SEN	686
SEYCHELLES	SC	SYC	690
SIERRA LEONE	SL	SLE	694
SINGAPORE	SG	SGP	702
SLOVAKIA (Slovak Republic)	SK	SVK	703
SLOVENIA	SI	SVN	705
SOLOMON ISLANDS	SB	SLB	090
SOMALIA	SO	SOM	706
SOUTH AFRICA	ZA	ZAF	710
SOUTH GEORGIA AND THE SOUTH SANDWICH ISLANDS	GS	SGS	239
SPAIN	ES	ESP	724
SRI LANKA	LK	LKA	144
ST. HELENA	SH	SHN	654
ST. PIERRE AND MIQUELON	PM	SPM	666
SUDAN	SD	SDN	736
SURINAME	SR	SUR	740
SVALBARD AND JAN MAYEN ISLANDS	SJ	SJM	744
SWAZILAND	SZ	SWZ	748
SWEDEN	SE	SWE	752
SWITZERLAND	CH	CHE	756
SYRIAN ARAB REPUBLIC	SY	SYR	760
TAIWAN	TW	TWN	158
TAJIKISTAN	TJ	TJK	762
TANZANIA, UNITED REPUBLIC OF	TZ	TZA	834
THAILAND	TH	THA	764
TOGO	TG	TGO	768
TOKELAU	TK	TKL	772
TONGA	TO	TON	776
TRINIDAD AND TOBAGO	TT	TTO	780
TUNISIA	TN	TUN	788
TURKEY	TR	TUR	792
TURKMENISTAN	TM	TKM	795
TURKS AND CAICOS ISLANDS	TC	TCA	796
TUVALU	TV	TUV	798
UGANDA	UG	UGA	800
UKRAINE	UA	UKR	804
UNITED ARAB EMIRATES	AE	ARE	784
UNITED KINGDOM	GB	GBR	826
UNITED STATES	US	USA	840
UNITED STATES MINOR OUTLYING ISLANDS	UM	UMI	581
URUGUAY	UY	URY	858
UZBEKISTAN	UZ	UZB	860
VANUATU	VU	VUT	548
VATICAN CITY STATE (HOLY SEE)	VA	VAT	336
VENEZUELA	VE	VEN	862
VIET NAM	VN	VNM	704
VIRGIN ISLANDS (BRITISH)	VG	VGB	092
VIRGIN ISLANDS (U.S.)	VI	VIR	850
WALLIS AND FUTUNA ISLANDS	WF	WLF	876
WESTERN SAHARA	EH	ESH	732
YEMEN	YE	YEM	887
YUGOSLAVIA	YU	YUG	891
ZAMBIA	ZM	ZMB	894
ZIMBABWE	ZW	ZWE	716

Description of data format

Note that there is a time interval of 15 minutes before data can subsequently be used on Se Elforbrug (View Electricity Consumption).

<Format_version>2</Format_version>	
<NewDataset>	[this indicates a new meter session, several sessions can be included in the same file]
<Logger_ID>X</Logger_ID><IsHeadmeter>Y</IsHeadmeter>	[X is of type long integer , guid or string, Y is No, Yes, or ? for I don't know (question mark)]
<Logger_Producer>string</Logger_Producer><Logger_Model>string</Logger_Model>	[Logger_Producer is the name of the logger producer (Optional). Logger_Model is the name of the logger model (Optional)]
<Logger_Version>string</Logger_Version>	[Indicates logger version (Optional). The logger information will be used to make a link from e.g. Min Bolig (My Home) to an document describing the logger]
<DataDeliveredVia>V</DataDeliveredVia>	[If not used V=-1 or the tag is not used at all. It is used if the integration period is not fixed but maybe daily, monthly or yearly data and the Integration_period_in_minutes is -1. DataDeliveredVia must be 1:MinBoligUserInput;2:SMS; 3:Klub1000UserInput; 4:yearly meter reading (fx from Telecom Scandinavia)]
<C-factor>X.Y</C-factor>	[floating point multiplicator, normally = 1.0]
<Room_ID>X</Room_ID><Device_ID>Y<Device_ID>	[X is Room ID from table 5, Y is Device ID from table 6. If not used X and Y should be 0]
<Date_time_format_string>string</Date_time_format_string>	[e.g dd-MM-yyyy HH:mm:ss from table 1.]
<DateAndTimeStam_Indicator>X</DateAndTimeStamp_Indicator>	[X is 1 if the Date and time stamp for each value indicates the end of the integration period else 0. Default is that the Date and time stamp for each value indicates start of the integration period (Optionel)]
<RegistrationType>V</RegistrationType>	[V is 1 or 2, 1= exact value, 2= meter counter reading (accumulated values) If V=2 then the Integration_period_in_minutes must be -1]
<MeteringType>X</MeteringType><Decade_prefix>Y</Decade_prefix><Unit>Z</Unit>	[X is Id from table 2, Y is Id from table 4, Z is Id from table 3]
<Free_text_string>string</Free_text_string>	[Any descriptive text. Please don't use special sign as &]
<IsInstantaneousValues>Z</IsInstantaneousValues>	[If used Z is No or Yes. If Yes it means that the values is not monitored over a period e.g. from 00:00 to 00:15 but is monitored as momentary values e.g. precise at 00:15 (Optional)]

<Integration_period_in_minutes>X</Integration_period_in_minutes>	[integration period in minutes, i.e. 15 would be normal, if -1 then it is not fix integration period but maybe daily, monthly or yearly data]
<MeterValues>	[Indicates start of metervalues]
<DateAndTime>date time in chosen format</DateAndTime><Value>meter value</Value>	[floating point data value 1]
<DateAndTime>date time in chosen format</DateAndTime><Value>meter value</Value>	[floating point data value 2]
<DateAndTime>date time in chosen format</DateAndTime><Value>meter value N</Value>	[date time and data value N]
</MeterValues>	
</NewDataset>	[this indicates the end of a meter session]
<NewDataset>	[this indicates a new meter session, several sessions can be included in the same file]
<Logger_ID>X</Logger_ID>	
<DataDeliveredVia>V</DataDeliveredVia>	
<C-factor>X.Y</C-factor>	
<Room_ID>X</Room_ID><Device_ID>Y<Device_ID>	
<Date_time_format_string>string</Date_time_format_string><Decade_prefix>X</Decade_prefix><Unit>Y</Unit>	
<Free_text_string>string</Free_text_string>	
<Integration_period_in_minutes>X</Integration_period_in_minutes>	
<MeterValues>	
<DateAndTime>date time in chosen format</DateAndTime><Value>meter value</Value>	
<DateAndTime>date time in chosen format</DateAndTime><Value>meter value</Value>	
</MeterValues>	
</NewDataset>	

If events are monitored and it is not a count of events over a period the <Integration_period_in_minutes> TAG must be set to 1 and the <IsInstantaneousValues> TAG set to Yes.

All floating point values must be in the format X.Y I.e. "." (full stop) is used for decimal separator. Don’t use any thousand separator.

Summertime: Date times is in the present time. I.e. the hour in fall that is repeated, must be summed before it can fit into this format.

Time stamps: If you don't use the TAG <DateAndTimeStamp_Indicator> all time stamps refers to the start of the integration period. I.e. with 15 minutes integration period, a meter value stamped 15:45:00 will account for the consumption between 15:45:00 and 16:00:00

Table 1. DateTime format

d	Displays the current day of the month, measured as a number between 1 and 31, inclusive. If the day is a single digit only (1-9), then it is displayed as a single digit. Note that if the 'd' format specifier is used alone, without other custom format strings, it is interpreted as the standard short date pattern format specifier. If the 'd' format specifier is passed with other custom format specifiers or the '%' character, it is interpreted as a custom format specifier.
dd	Displays the current day of the month, measured as a number between 1 and 31, inclusive. If the day is a single digit only (1-9), it is formatted with a preceding 0 (01-09).
h	Displays the hour for the specified **DateTime** in the range 1-12. The hour represents whole hours passed since either midnight (displayed as 12) or noon (also displayed as 12). If this format is used alone, then the same hour before or after noon is indistinguishable. If the hour is a single digit (1-9), it is displayed as a single digit. No rounding occurs when displaying the hour. For example, a **DateTime** of 5:43 returns 5.
hh, hh (plus any number of additional "h"	Displays the hour for the specified **DateTime** in the range 1-12. The hour represents whole hours passed since either midnight (displayed as 12) or noon (also displayed as 12). If this format is used alone, then the same hour before or after

characters)	noon is indistinguishable. If the hour is a single digit (1-9), it is formatted with a preceding 0 (01-09).
H	Displays the hour for the specified **DateTime** in the range 0-23. The hour represents whole hours passed since midnight (displayed as 0). If the hour is a single digit (0-9), it is displayed as a single digit.
HH, HH (plus any number of additional "H" characters)	Displays the hour for the specified **DateTime** in the range 0-23. The hour represents whole hours passed since midnight (displayed as 0). If the hour is a single digit (0-9), it is formatted with a preceding 0 (01-09).
m	Displays the minute for the specified **DateTime** in the range 0-59. The minute represents whole minutes passed since the last hour. If the minute is a single digit (0-9), it is displayed as a single digit. Note that if the 'm' format specifier is used alone, without other custom format strings, it is interpreted as the standard month day pattern format specifier. If the 'm' format specifier is passed with other custom format specifiers or the '%' character, it is interpreted as a custom format specifier.
mm, mm (plus any number of additional "m" characters)	Displays the minute for the specified **DateTime** in the range 0-59. The minute represents whole minutes passed since the last hour. If the minute is a single digit (0-9), it is formatted with a preceding 0 (01-09).
M	Displays the month, measured as a number between 1 and 12, inclusive. If the month is a single digit (1-9), it is displayed as a single digit. Note that if the 'M' format specifier is used alone, without other custom format strings, it is interpreted as the standard month day pattern format specifier. If the 'M' format specifier is passed with other custom format specifiers or the '%'

	character, it is interpreted as a custom format specifier.
MM	Displays the month, measured as a number between 1 and 12, inclusive. If the month is a single digit (1-9), it is formatted with a preceding 0 (01-09).
s	Displays the seconds for the specified **DateTime** in the range 0-59. The second represents whole seconds passed since the last minute. If the second is a single digit (0-9), it is displayed as a single digit only. Note that if the 's' format specifier is used alone, without other custom format strings, it is interpreted as the standard sortable date/time pattern format specifier. If the 's' format specifier is passed with other custom format specifiers or the '%' character, it is interpreted as a custom format specifier.
ss, ss (plus any number of additional "s" characters)	Displays the seconds for the specified **DateTime** in the range 0-59. The second represents whole seconds passed since the last minute. If the second is a single digit (0-9), it is formatted with a preceding 0 (01-09).
t	Displays the first character of the A.M./P.M. designator for the specified **DateTime**. If a specific valid format provider (a non-null object that implements **IFormatProvider** with the expected property) is not supplied, then the AMDesignator (or PMDesignator) property of the **DateTimeFormat** and its current culture associated with the current thread is used. Otherwise, the **AMDesignator** (or **PMDesignator**) property from the specified **IFormatProvider** is used. If the total number of whole hours passed for the specified **DateTime** is less than 12, then the **AMDesignator** is used. Otherwise, the **PMDesignator** is used. Note that if the 't' format specifier is used alone, without other custom format strings, it is interpreted as the standard long time pattern format specifier. If the 't' format specifier is passed with other custom format specifiers or the '%'

	character, it is interpreted as a custom format specifier.
tt, tt (plus any number of additional "t" characters)	Displays the A.M./P.M. designator for the specified **DateTime**. If a specific valid format provider (a non-null object that implements **IFormatProvider** with the expected property) is not supplied, then the **AMDesignator** (or **PMDesignator**) property of the **DateTimeFormat** and its current culture associated with the current thread is used. Otherwise, the **AMDesignator** (or **PMDesignator**) property from the specified **IFormatProvider** is used. If the total number of whole hours passed for the specified **DateTime** is less than 12, then the **AMDesignator** is used. Otherwise, the **PMDesignator** is used.
y	Displays the year for the specified **DateTime** as a maximum two-digit number. The first two digits of the year are omitted. If the year is a single digit (1-9), it is displayed as a single digit. Note that if the 'y' format specifier is used alone, without other custom format strings, it is interpreted as the standard short date pattern format specifier. If the 'y' format specifier is passed with other custom format specifiers or the '%' character, it is interpreted as a custom format specifier.
yy	Displays the year for the specified **DateTime** as a maximum two-digit number. The first two digits of the year are omitted. If the year is a single digit (1-9), it is formatted with a preceding 0 (01-09).
yyyy	Displays the year for the specified **DateTime**, including the century. If the year is less than four digits in length, then preceding zeros are appended as necessary to make the displayed year four digits long.
:	Time separator.

/ or -	Date separator.

Table 1. Type of metering primary over a period but 18 can be used for now and here values.

Id	Type
1	Electricity
2	Heat
3	Water
4	Gas
5	District heating
6	Oil
7	Other Heating Type
8	Barometric

9	Humidity
10	Luminance
11	Rain fall
12	Solar radiation
13	Temperature
14	Velocity
15	Others not defined
16	CO2
17	Event

Table 3. Units

Id	Description	Unit	SIA	Result unit
1	Power	W	I	Wh

2	Energy	Wh	S	Wh
3	Voltage	V	A	V
4	Current	A	A	A
5	Charge	Coulomb	S	Coulomb
6	Flow	m^3/h	I	m^3
7	Volume	m^3	S	m^3
8	Humidity	%	A	%
9	Temperature	C	A	C
10	Concentration	PPM	A	PPM
11	Light intensity	Lux	A	Lux
12	Pressure	Pa	A	Pa
13	Noise	dB	A	dB
14	Frequency	Hz	A	Hz
15	Unit less	units	S	Units
16	Pollution	g CO2/kWh	A	g CO2/kWh

17	Energy	Joule	S	Joule
18	Energy	Calorie	S	Calorie
19	Litre	L	S	L
20	CO2_Concentration	CO2 ppm	A	CO2 ppm
21	Velocity	m/sek	G	m/sek
22	Rain fall	m	S	m
23	Motion	Count	S	Count
24	On/Off events	Count	S	Count

SIA: indicates how to time aggregate the values (Sum, Integral, Average)

It is up to you to select the right unit and combine it with the right type of metering

Table 4. Decade prefixes.

Id	**SI indication**	**SI-name**	**10^x**
1	1	1	0

2	k	kilo	3
3	M	Mega	6
4	G	Giga	9
5	T	Tera	12
6	P	Peta	15
7	m	milli	-3
8	μ	micro	-6
9	n	nano	-9
10	p	pico	-12
11	f	femto	-15
12	a	atto	-18

Example with <Value> in W:
<Decade_prefix>1</Decade_prefix><Unit>1</Unit>

Example with <Value> in kW:
<Decade_prefix>2</Decade_prefix><Unit>1</Unit>

Example with <Value> in kWh:
<Decade_prefix>2</Decade_prefix><Unit>2</Unit>

Example with <Value> in GJ (gigajoule):
<Decade_prefix>4</Decade_prefix><Unit>17</Unit>

Example with <Value> in mm (rain in millimeters):
<Decade_prefix>7</Decade_prefix><Unit>22</Unit>

Table 5. Room ID.

ID	**Room type** How a word is spelt is not important
1	Lounge
2	Bedroom
3	Kitchen

4	Utility room
5	Room
6	Bathroom
7	Entrance hall
8	Passage
9	Basement
10	Garage
11	Carport
12	Office
13	Study
14	Children’s room
15	Teenager’s room
16	Dining room
17	Family room
18	Workshop

19	Boiler room
20	Patio
21	Toilet
22	Shed

Table 6. Device ID.

ID	Name	Group ID	Group name
10	Combi fridge	10	Fridge freezer
11	Fridge with freezer compartment	10	Fridge freezer
12	Fridge without freezer compartment	10	Fridge freezer
13	Upright freezer	10	Fridge freezer
14	Chest freezer	10	Fridge freezer

20	Electric hob	20	Food preparation
21	Electric baking oven	20	Food preparation
22	Microwave oven	20	Food preparation
23	Electric cooker	20	Food preparation
25	Small tabletop oven	20	Food preparation
26	Cooker hood	20	Food preparation
27	Coffee machine	20	Food preparation
28	Electric kettle	20	Food preparation
29	Waffle iron	20	Food preparation

30	Washing machine	30	Laundry and dishwashing
31	Dishwasher	30	Laundry and dishwashing
32	Tumble dryer	30	Laundry and dishwashing
34	Iron	30	Laundry and dishwashing
35	Drying cabinet	30	Laundry and dishwashing
40	Colour TV	40	TV and Video
41	Video	40	TV and Video
42	DVD	40	TV and Video
43	Games console	40	TV and Video
44	Set-top decoder	40	TV and Video
45	Channel selector	40	TV and Video
46	Satellite dish	40	TV and Video

47	Stereo system	40	TV and Video
50	PC	50	Computer
51	Laptop computer	50	Computer
52	Printer	50	Computer
53	Scanner	50	Computer
54	Fax machine	50	Computer
55	Telephone answering machine	50	Computer
56	External modem	50	Computer
57	ADSL	50	Computer
58	Monitor	50	Computer
59	Router	50	Computer
60	Tungsten filament bulb	60	Lighting
61	Energy saving	60	Lighting

	bulb		
62	Halogen bulb	60	Lighting
63	Fluorescent tube	60	Lighting
64	Outdoor light sensor	60	Lighting
65	LED	60	Lighting
70	Electric water heater	70	Heating
71	Circulator pump	70	Heating
72	Water bed	70	Heating
73	Electric blow heater	70	Heating
74	Electric towel rail	70	Heating
75	Electric blanket	70	Heating
76	Electric pillow	70	Heating
77	Underfloor	70	Heating

	heating		
78	Heat pump	70	Heating
80	Solarium	90	Miscellaneous
81	Air conditioner	90	Miscellaneous
82	Spa	90	Miscellaneous
83	Electric dehumidifier	90	Miscellaneous
84	Aquarium	90	Miscellaneous
85	Hairdryer	90	Miscellaneous
87	Electric lawnmower	90	Miscellaneous
88	Drainage pump	90	Miscellaneous
89	Burglar alarm	90	Miscellaneous
90	Car engine heater	90	Miscellaneous
91	Clock radio	90	Miscellaneous

92	Hair styler	90	Miscellaneous
93	Foot bubblebath	90	Miscellaneous
94	Winter depression lamp	90	Miscellaneous
95	Vacuum cleaner	90	Miscellaneous
96	Wine cabinet	90	Miscellaneous
97	Garden fountain	90	Miscellaneous
110	Baby alarm	80	Appliances with chargers
111	Electric shaver	80	Appliances with chargers
112	Battery recharger	80	Appliances with chargers
113	Electric toothbrush	80	Appliances with chargers
114	Handheld vacuum cleaner	80	Appliances with chargers

115	Electric hand tools	80	Appliances with chargers
116	Camera charger	80	Appliances with chargers
117	Lady shaver	80	Appliances with chargers
118	Toys	80	Appliances with chargers
119	Mobile telephone	80	Appliances with chargers
140	Baking machine	20	Food preparation
141	Blender	20	Food preparation
142	Toaster	20	Food preparation
143	Food processor	20	Food preparation

144	Deep fat fryer	20	Food preparation
145	Hand mixer	20	Food preparation
146	Ice-making machine	20	Food preparation
147	Juice press	20	Food preparation
148	Coffee grinder	20	Food preparation
149	Mini cooker	20	Food preparation
150	Sliced meat maker	20	Food preparation
151	Hot plate	20	Food preparation
152	Egg cooker	20	Food preparation

160	Oil-fired boiler	70	Heating
161	Gas boiler	70	Heating

Data format example

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<Logger_Version>ver 1.2</Logger_Version>

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