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Beskrivelse af datapostkontoret

Datapostkontoret skal fungere som generel datamodtager hvilket betyder at alle der leverer data, til Min Bolig , Se Elforbrug eller andre tilsvarende systemer, via Elsparefondes webservice til datamodtagelse, vil levere data hertil.

For at kunne sende data til datapostkontoret skal man benytte en webservice i hvilken selve datastrengen, nogle leverandør oplysninger samt et referencenummer skal være angivet (se databeskrivelsen)

Referencenummeret skal være unikt hvilket betyder at firmaet der genererer det, skal sammensætte det fx bestående af landekode-CVR nummer- HouseControlld fx DNK-21318671-1234567890

HouseControlld'et må helst ikke være en GUID som fx e99e6e2a-0a10-4797-83d4-ad3cdcc26d53, da det kan være meget vanskeligt at indtaste. Derfor skal sådan et HouseControlld helst erstattes af et nummer bestående udelukkende af tal, men stadig unikt.

Hvis der er tale om fx et referencenummer fra viaSENS, vil HouseControlld og dataloggerid typisk være det samme da denne ikke opererer med et housecontrolld.

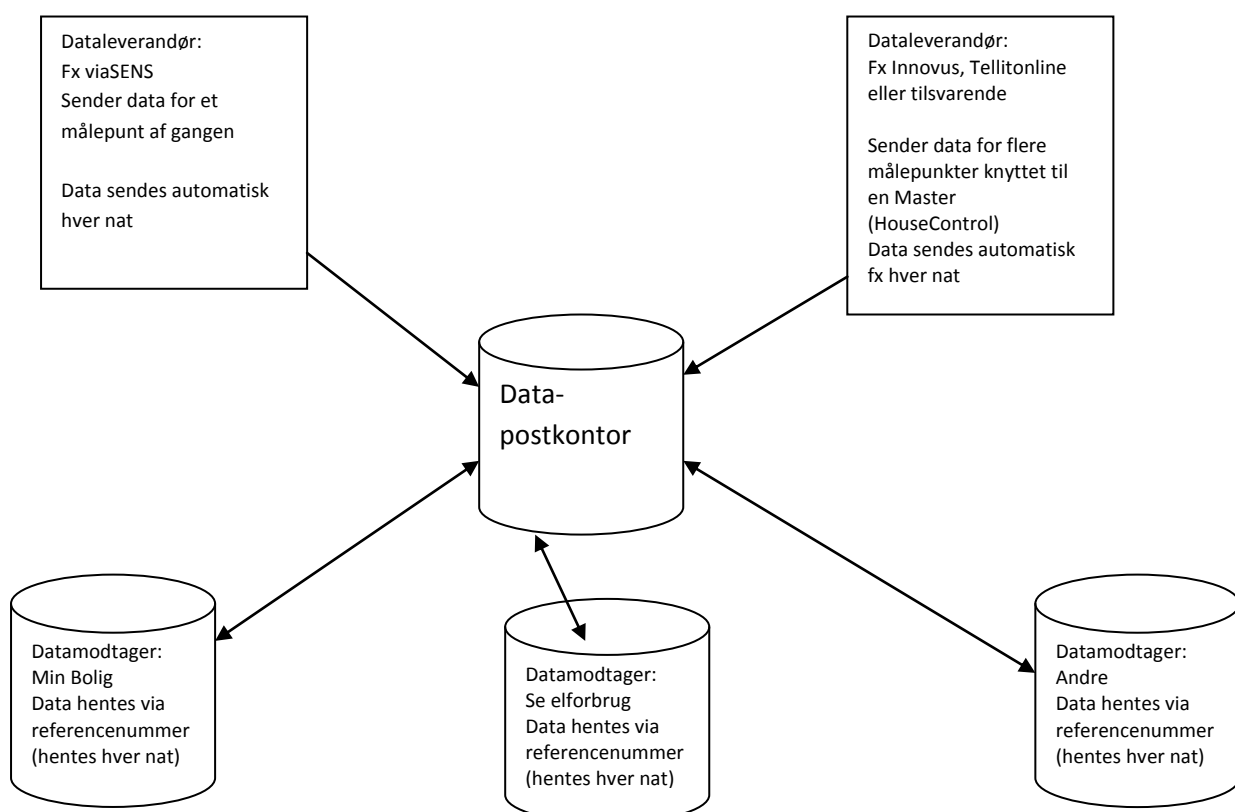
Referencenummeret er et nummer som brugeren skal have oplyst enten direkte via en label på fx ViaSENS boksene fra Seluxit, eller på den hjemmeside hvor man fremsætter ønsket om at få data sendt til dataposthuset. I sidst nævnte tilfælde, vil det betyde at dataleverandøren skal præsentere

referencenummeret direkte og tydeligt på skærmen med information om at det er dette nummer brugeren skal anvende på den hjemmeside hvor data i sidste ende skal have.

På hjemmesiden hvor data skal anvendes skal der være et punkt der beskriver, at hvis man har bestilt data fra en dataleverandør, skal man her angive sit referencenummer og trykke på "hent". Herefter vil alle måleserier med dette referencenummer blive knyttet til denne aktuelle bruger og hjemmeside. Hver nat vil alle data, med dette referencenummer, automatisk blive hentet fra datapostkontoret.

For yderligere at lette tilgangen til data vil alle data der sendes/hentes fra datapostkontoret automatisk blive oprettet som værende permanente målinger knyttet til en given dataloggerid. Det betyder at det arbejde der tidligere lå i at kikke i "indbakken" og herfra manuelt oprette en permanent måleserie, som efterfølgende kunne knyttes til fx et målested i Se elforbrug, elimineres.

Overordnet systemfigur



Beskrivelse af webservice

De webservices der skal anvendes for at sende data til datapostkontoret findes her:

Den første som returnerer adressen til hvor man skal sende data (gør systemet skalerbart)

http://www.webservice.sparel.dk/getdatapostofficeip_webservice_V1/getdatapostofficeip_webservice.asmx

Den indeholder følgende funktion:

Function getuploadip(string) As String (parameteren string skal bare være "")

Retur strengen fra funktionen er så adressen til den webservice der skal gemme data.

ReturnString =

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

med følgende function:

```
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
```

Parametre	Beskrivelse af parameter
data_str	indeholder måledata der skal være angivet i det beskrevne format (Se afsnit med beskrivelse af dataformat) Vær opmærksom på at tidsopløsningen skal være 15 minutter for efterfølgende at kunne anvendes på Se elforbrug
ThreeDigitProducerCountryCode	Entydig landekode (se komplet list med ISO 3166 landekoder) for producenten selv
ProducerRegistrationNumber_CVR	Producentens CVR nummer/WAT number
HouseControlID	Unik ID (som tal) der beskriver Masteren der sender data eller hvis der er tale om en logger der selv kan afsende data, denne loggers id
UniqueReferenceNumber	Sammensat identifikation bestående af de 3 ovenstående parametre adskilt med bindestreg
DataSenderCountryCode	Landekode der beskriver hvorfra data kommer

Retur strengen kan indeholde følgende:

Retur værdi	Beskrivelse
"DataReceivedOk"	Data er modtaget
"InformationMissing"	Ikke alle parameteroplysninger var angivet
"Error"	Der er sket en fejl

For hurtigt at kunne identificere afsenderen, og verificere at der er de oplysninger der skal være, er det nødvendigt at ovenstående parametre er med i kaldet til webservice funktionen.

Hvis man vil teste sit XML dokument inden man uploader kan man gøre det ved hjælp af:

```
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
```

Med de same data som I senddata. Hvis XML dokumentet er i orden returneres "Ok". Hvis der er fejl returneres en tekst der beskriver den første fejl der er fundet.

Vi anbefaler at man først åbner forbindelsen til webservicen lige når man skal bruge den, da den ellers kan time ud hvis man først skal klargøre en større datamængde.

Speciel VIGTIG information i forbindelse med integration med Min Bolig

Som beskrevet i dokumentationen indsendes data med følgende parametre:

data_str, ThreeDigitProducerCountryCode, ProducerRegistrationNumber_CVR, HouseControlID, UniqueReferenceNumber, DataSenderCountryCode

Det er vigtigt at HouseControlID er ID'et for den master der leverer data. Dette master ID er et unikt ID og er den samme MasterID der anvendes til at identificere masterne på Min Bolig på siden for Styring.

For at sikre forbindelsen imellem enhederne i Styringsdelen på Min Bolig og forbrugsgraferne er det vigtigt også at følge nedenstående regler.

- Noden <LoggerDevice_ID> skal udfyldes med den fysiske enheds ID som det står i enhedsliste der sendes fra Masteren til Min Bolig Styring. Som fx <LoggerDevice_ID>2</LoggerDevice_ID>
- Noden <LoggerUnit_ID> skal udfyldes med log ID fra den enkelte log-enhed i den fysiske enhed som i enhedslisten, der sendes fra master til Min Bolig. En fysisk enhed kan indeholde mere end en datalogger, som fx en kontakt, der både logger temperatur og strømforbrug, eller en stikkontakt, der logger for flere strømuttag. Eksempel <LoggerUnit_ID>zwave_11</LoggerUnit_ID>.

Liste over ISO 3166 landekoder

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

beskrivelse af dataformat

Vær opmærksom på at tidsopløsningen skal være 15 minutter for efterfølgende at kunne anvendes på Se elforbrug

<Format_version>3</Format_version>

<NewDataset>

[this indicates a new meter session, several sessions can be included in the same file]

<Logger_ID>X</Logger_ID><IsHeadmeter>Z</IsHeadmeter>

[X is of type long integer, guid or string, Z is No, Yes, or ? for I don't know (question mark)]

<LoggerDevice_ID>string</LoggerDevice_ID>

[New in version 3. LoggerDevice_ID should be set to the specific physical device ID as in the device list sent from the master to My Home (Optional but important regarding integration with My Home (Min Bolig)).]

<LoggerUnit_ID>string</LoggerUnit_ID>

[New in version 3. LoggerUnit_ID should be set to the specific log ID in the physical device as in the device list sent from the master to My Home. A physical device can contain more than one logger, like a switch that logs Temperature and power consumption, or a power unit that logs multiple power outlets (Optional but important regarding integration with My Home (Min Bolig)).]

<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.]

<DateAndTimeStamp_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 (Optional)]

<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 and will be used as an Ad hoc metering]

<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 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 repeatet, must be summed before it can fit into this format.

Time stamps: If you don't use the TAG <DateAndTimeStamp_Indicator> all timestamps 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	<p>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.</p> <p>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.</p>
dd	<p>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).</p>

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" characters)	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 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	<p>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.</p> <p>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.</p>
mm, mm (plus any	Displays the minute for the specified DateTime in the range 0-59. The minute represents whole minutes passed since the

number of additional "m" characters)	last hour. If the minute is a single digit (0-9), it is formatted with a preceding 0 (01-09).
M	<p>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.</p> <p>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.</p>
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	<p>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.</p> <p>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.</p>
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	<p>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.</p> <p>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.</p>
tt, tt (plus any number of additional "t" characters)	<p>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.</p>
y	<p>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.</p> <p>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.</p>

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 flow

4	Gas
5	District heating
6	Olie
7	Other Heating Type
8	Barometric
9	Humidity
10	Luminance
11	RainRate
12	SolarRadiation
13	Temperature
14	Velocity
15	Anything else not defined
16	CO2 level
17	Event
18	Air flow

19	Tank capacity
20	Water level
21	Wind speed

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	Liter	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
25	Watt per square meter	W/m ²	A	W/m ²
26	Distance (centimetres)	cm	S	cm
27	Distance (metres)	m	S	m
28	Distance (feet)	Feet	S	Feet
29	Gallon	Gallon	S	Gallon
30	Temperature (Fahrenheit)	Fahrenheit	A	Fahrenheit
31	Inches of mercury	Inch	A	Inch
32	Velocity (Inch/h)	Inch/h	G	Inch/h
33	Velocity (km/h)	km/h	G	km/h
34	Velocity (Miles/h)	Miles/h	G	Miles/h
35	Velocity (mm/h)	mm/h	G	mm/h
36	Pressure (Bar)	Bar	A	Bar

37	Pressure (mBar)	mBar	A	mBar
38	Pressure (kPa)	kPa	A	kPa

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
1	Stue
2	Sovevarelse
3	Kokken
4	Bryggers
5	Varelse
6	Badevarelse
7	Entre
8	Gang

9	Kaelder
10	Garage
11	Carport
12	Kontor
13	Arbejdsvaerelse
14	Boernevaerelse
15	Teenagervaerelse
16	Spisestue
17	Alrum
18	Vaerksted
19	Fyrrum
20	Udestue
21	Toilet
22	Skur

Table 6. Device ID.

ID	Name	Group ID	Group name
10	Kombiskab	10	KolFrys
11	KoelMedBoks	10	KolFrys
12	KoelUdenBoks	10	KolFrys
13	Skabsfryser	10	KolFrys
14	Kummefryser	10	KolFrys
20	Elkogeplader	20	Madlavning
21	Elbageovn	20	Madlavning
22	MikroBoelgeovn	20	Madlavning
23	Elkomfur	20	Madlavning
25	Lille bordovn	20	Madlavning
26	Emhaette	20	Madlavning

27	Kaffemaskine	20	Madlavning
28	Elkedel	20	Madlavning
29	Vaffeljern	20	Madlavning
30	Vaskemaskine	30	Vask
31	Opvaskemaskine	30	Vask
32	Toerretumbler	30	Vask
34	Strygejern	30	Vask
35	Toerreskab	30	Vask
40	FarveTV	40	TVVideo
41	Video	40	TVVideo
42	DVD	40	TVVideo
43	Spillekonsol	40	TVVideo
44	Dekoder	40	TVVideo
45	KanalSelector	40	TVVideo
46	Parabol	40	TVVideo

47	StereoAnlag	40	TVVideo
50	PC	50	Computer
51	BaerbarPC	50	Computer
52	Printer	50	Computer
53	Scanner	50	Computer
54	Telefax	50	Computer
55	Telefonsvarer	50	Computer
56	EksterntModem	50	Computer
57	ADSL	50	Computer
58	Skaerm	50	Computer
59	Router	50	Computer
60	Gloedepaerer	60	Belysning
61	Sparepaerer	60	Belysning
62	Halogenpaerer	60	Belysning
63	Lysroer	60	Belysning

64	UdeLysfoeler	60	Belysning
65	Diodelys	60	Belysning
70	Elvandvarmer	70	Varme
71	Cirkulationspumpe	70	Varme
72	Vandseng	70	Varme
73	VarmeovnMedBlaeser	70	Varme
74	Haandklaedetoerrer	70	Varme
75	Varmetaeppe	70	Varme
76	Varmepude	70	Varme
77	Gulvvarme	70	Varme
78	Varmepumpe	70	Varme
80	Solarium	90	Diverse
81	Aircondition	90	Diverse
82	Spa	90	Diverse
83	ElLuftaffugter	90	Diverse

84	Akvarium	90	Diverse
85	Haartoerer	90	Diverse
87	EIPlaeneklipper	90	Diverse
88	Draenpumpe	90	Diverse
89	Tyverialarm	90	Diverse
90	BilMotorvarmer	90	Diverse
91	Clockradio	90	Diverse
92	Haarstyler	90	Diverse
93	Fodboblebad	90	Diverse
94	Vinterdepressionslampe	90	Diverse
95	Stoevsuger	90	Diverse
96	Vinskab	90	Diverse
97	Havefontaine	90	Diverse
110	Babyalarm	80	ApparatMedLader
111	Babermaskine	80	ApparatMedLader

112	Batterier	80	ApparatMedLader
113	El-tandboerste	80	ApparatMedLader
114	Haandstoesuger	80	ApparatMedLader
115	Haandvaerktoej	80	ApparatMedLader
116	Kameraoplader	80	ApparatMedLader
117	Ladyshaver	80	ApparatMedLader
118	Legetoej	80	ApparatMedLader
119	Mobiltelefon	80	ApparatMedLader
140	Bagemaskine	20	Madlavning
141	Blender	20	Madlavning
142	Brødrister	20	Madlavning
143	Foodprocessor	20	Madlavning
144	Frituregryde	20	Madlavning
145	Haandmixer	20	Madlavning
146	Ismaskine	20	Madlavning

147	Saftpresser	20	Madlavning
148	Kaffemoelle	20	Madlavning
149	Minikoekken	20	Madlavning
150	Paalaegsmaskine	20	Madlavning
151	Varmeplade	20	Madlavning
152	Aeggekoger	20	Madlavning
160	Oliefyr	70	Varme
161	Gasfyr	70	Varme

Data format example for version 2

<Format_version>2</Format_version>

<NewDataset>

<Logger_ID>600000034</Logger_ID><IsHeadmeter?></IsHeadmeter>

<Logger_Producer>Producer Name</Logger_Producer><Logger_Model>Model xyz 10</Logger_Model>

<Logger_Version>ver 1.2</Logger_Version>

<DataDeliveredVia>-1</DataDeliveredVia>

<C-factor>1.0</C-factor>

<Room_ID>4</Room_ID><Device_ID>2</Device_ID>

<Date_time_format_string>dd-MM-yyyy HH:mm:ss</Date_time_format_string>

<DateAndTimeStamp_Indicator>0</DateAndTimeStamp_Indicator>

<RegistrationType>1</RegistrationType>

<MeteringType>1</MeteringType><Decade_prefix>1</Decade_prefix><Unit>1</Unit>

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<Free_text_string>This is the first test</Free_text_string>
<IsInstantaneousValues>No</IsInstantaneousValues>
<Integration_period_in_minutes>15</Integration_period_in_minutes>
<MeterValues>
<DateAndTime>01-05-2007 09:00:00</DateAndTime><Value>28.2</Value>
<DateAndTime>01-05-2007 09:15:00</DateAndTime><Value>28.2</Value>
<DateAndTime>01-05-2007 09:30:00</DateAndTime><Value>28.2</Value>
<DateAndTime>01-05-2007 09:45:00</DateAndTime><Value>28.2</Value>
<DateAndTime>01-05-2007 10:00:00</DateAndTime><Value>28.3</Value>
<DateAndTime>01-05-2007 10:15:00</DateAndTime><Value>29.4</Value>
<DateAndTime>01-05-2007 10:30:00</DateAndTime><Value>28.2</Value>
</MeterValues>
</NewDataset>
<NewDataset>
<Logger ID>600000035</Logger_ID><IsHeadmeter>?</IsHeadmeter>
<DataDeliveredVia>-1</DataDeliveredVia>
```

```
<C-factor>1.0</C-factor>
<Room_ID>4</Room_ID><Device_ID>3</Device_ID>
<Date_time_format_string>dd-MM-yyyy HH:mm:ss</Date_time_format_string>
<RegistrationType>1</RegistrationType>
<MeteringType>1</MeteringType><Decade_prefix>1</Decade_prefix><Unit>1</Unit>
<Free_text_string>This is the second test</Free_text_string>
<Integration_period_in_minutes>15</Integration_period_in_minutes>
<MeterValues>
<DateAndTime>01-05-2007 10:00:00</DateAndTime><Value>26.2</Value>
<DateAndTime>01-05-2007 10:15:00</DateAndTime><Value>26.3</Value>
<DateAndTime>01-05-2007 10:30:00</DateAndTime><Value>27.1</Value>
<DateAndTime>01-05-2007 10:45:00</DateAndTime><Value>28.2</Value>
</MeterValues>
</NewDataset>
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Data format example for version 3

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<NewDataset>

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<LoggerDevice_ID>2</LoggerDevice_ID><LoggerUnit_ID> zwave_11</LoggerUnit_ID>

<Logger_Producer>Producer Name</Logger_Producer><Logger_Model>Model xyz 10</Logger_Model>

<Logger_Version>ver 1.2</Logger_Version>

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The rest is just like version 2