## CL\_FREQ

**Name**: Code list for concept "Frequency" (ID "FREQ").

**Description**: This code list provides a set of values indicating the "frequency" of the data (e.g. weekly, monthly, quarterly). The concept “frequency” may refer to various stages in the production process, e.g. data collection or data dissemination. For example, a time series could be disseminated at annual frequency but the underlying data are compiled monthly. The code list is applicable for all different uses of “frequency”.

The code list below presents the set of basic codes recommended for expressing frequency; the code list is mapped to the ISO 8601 durations representation for the ease of reference for users using this standard. for more complex frequencies, please refer to section "Recommendations for the creation of additional frequencies".

**Established international standard(s) used as input for the code list**: None.

**Version**: 2.1

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**Note :** The frequency code list is one of the few code lists which is typically heavily used, therefore, each new code adds complexity. When using such additional frequencies technical implementers should be aware that additional functionality may be required in their time-intelligent applications as to properly allocate such frequencies to the time axis. The same applies to frequency conversions.

|  |  |  |  |
| --- | --- | --- | --- |
| **Recommended code**  **values descriptions** | | **Annotations** | **ISO 8601** |
| **P** | Pluriannual, multiannual | To be used for data collected or disseminated with a frequency covering more than one year | P |
| **A** | Annual | To be used for data collected or disseminated every year. | P1Y |
| **A2** | Biennial | To be used for data collected or disseminated every two years | P2Y |
| **A3** | Triennial | To be used for data collected or disseminated every three years | P3Y |
| **A4** | Quadrennial | To be used for data collected or disseminated every four years | P4Y |
| **A5** | Quinquennial | To be used for data collected or disseminated every five years | P5Y |
| **A10** | Decennial | To be used for data collected or disseminated every ten years | P10Y |
| **A20** | Bidecennial | To be used for data collected or disseminated every twenty years | P20Y |
| **A30** | Tridecennial | To be used for data collected or disseminated every thirty years | P30Y |
| **A\_3** | Three times a year | To be used for data collected or disseminated three times a year |  |
| **S** | Half-yearly,  semester | To be used for data collected or disseminated every semester. | P0.5Y |
| **Q** | Quarterly | To be used for data collected or disseminated every quarter. |  |
| **M** | Monthly | To be used for data collected or disseminated every month. | P1M |
| **M2** | Bimonthly | To be used for data collected or disseminated every two months | P2M |
| **M\_2** | Semimonthly | To be used for data collected or disseminated twice a month | P0.5M |
| **M\_3** | Three times a month | To be used for data collected or disseminated three times a month |  |
| **W** | Weekly | To be used for data collected or disseminated every week. | P1W |
| **W2** | Biweekly | To be used for data collected or disseminated every two weeks | P2W |
| **W\_2** | Semiweekly | To be used for data collected or disseminated twice a week | P0.5W |
| **W\_3** | Three times a week | To be used for data collected or disseminated three times a week |  |
| **D** | Daily | To be used for data collected or disseminated every day. | P1D |
| **D\_2** | Twice a day | To be used for data collected or disseminated twice a day | P0.5D |
| **H** | Hourly | To be used for data collected or disseminated every hour. | PT1H |
| **H2** | Bihourly | To be used for data collected or disseminated every two hours | PT2H |
| **H3** | Trihourly | To be used for data collected or disseminated every three hours | PT3H |
| **B** | Daily – business week | Similar to "daily", however there are no observations for Saturdays and Sundays (so, neither “missing values” nor “numeric values” should be provided for Saturday and Sunday). This treatment  ("business") is one way to deal with such cases, but it is not the only option. Such a time series could alternatively be considered daily (“D”), thus, with missing values in the weekend. |  |
| **N** | Minutely | While N denotes "minutely", usually, there may be no observations every minute (for several series the frequency is usually "irregular" within a day/days). And though observations may be sparse (not collected or disseminated every minute), missing values do not need to be given for the minutes when no observations exist: in any case the time stamp determines when an observation is observed. | PT1M |
| **I** | Irregular / A-periodic | To be used for data collected or disseminated at uneven intervals |  |
| **C** | Continuous | The item is updated more frequent than daily |  |
| **\_O** | Other | The event occurs with another type of regularity (for instance, every leap year). |  |
| **\_U** | Unkown | The event occurs with unknown regularity. |  |
| **V** | Never | The item is never updated. |  |
| **CU** | Continuously updated | The event repeats without interruption. |  |
| **OA** | Occasional annual | The event occurs Occasionally in a year |  |
| **OQ** | Occasional quarterly | The event occurs Occasionally in a quarter |  |
| **OM** | Occasional monthly | The event occurs Occasionally in a month |  |
| **OD** | Occasional daily | The event occurs Occasionally in a day |  |

**Remark**

This code list is used to provide values, usually, for the concept "frequency" typically used to inform users about the releases that may appear in various frequencies (e.g. monthly, quarterly, annually). The appropriate value to choose for a series should correspond to the highest frequency at which the series may be observed. For example, sometimes there are series that may change or have a new observation every two-three months, with or without a prefixed pattern. In this case the code "M" (=monthly) should be used (denoting the highest possible frequency that could be observed in the series).

**Recommendations for the creation of additional frequencies**

The proposed syntax for creating additional frequencies (needed e.g. for expressing longer frequencies such as "every five years" or "every ten years"), is the following:

[CL\_FREQ\_CodeListValue][Multiplier]

***Examples***

|  |  |  |
| --- | --- | --- |
| **Value** | **Description** | **ISO 8601** |
| A5 | Every five years | P5Y |
| M2 | Every two months | P2M |
| W6 | Every six weeks | P2W |
| etc. | etc. |  |

This syntax should not be used to indirectly construct frequencies which are already present in the code list (e.g. “M3” to represent quarterly frequency or “D7” to represent weekly frequency). Implementers should in all cases take from the code list the frequency codes which best suit their needs. The syntax above should be used only when the requested frequency is not listed in the code list.

**Remark on the representation of "*n* times every <*frequency*>"**

A representation for "*n* times every <frequency>"has been reflected on as part of the CL\_FREQ code list. The conclusion was that coding this information in CL\_FREQ should be avoided for these reasons:

1. Coding this information in CL\_FREQ in a data message is not useful
2. The increase in frequency coding system complexity was considered overly-complex and too costly to implement (see the first note in this document)

For an example, to convey a frequency of “four times a month”, the recommendation is to use FREQ:Daily (D), and the TIME\_PERIOD to represent the observed date.

Nevertheless, if the data message must convey the information “An organisation disseminates data four times a month on set dates”, the cross-domain concept “Frequency of dissemination” (FREQ\_DISS) attribute is more appropriate to represent this information.  FREQ\_DISS may be free-text.

**Time period**

The valid syntax to represent the time period of an observation depends on the frequency. The time period can either be a Gregorian calendar period, a standard reporting period, a distinct point in time, or a time range with a specific date and duration. In case a new frequency is created following the proposed syntax for creating additional frequencies, it is recommended to use a time range with a specific date and duration (if local infrastructure supports this option).  Example: for a frequency of every 5 years (A5), and considering a starting point on the 1st of January 2000, the time period would be "2000-01-01T00:00:00Z/P5Y". For additional information, please see the SDMX Technical Notes.

**Possible ways for implementing CL\_FREQ**

In order to handle series with a frequency different from the standard ones included in the above list (e.g. data observed every 5 years), two different solutions exist. These two approaches are presented and discussed below.

1) For a given time series, choose the highest frequency at which the series may be observed (e.g. annual frequency for series observed every 2 years).

2) Create *ad hoc* codes based on the recommendations for the creation of additional frequencies specified above (e.g. A2 for series observed every 2 years).

It is recommended to apply solution 2 because it refers to a more precise frequency and avoids missing values in the series.

However, the way FREQ is managed by statistical packages is also an important parameter to take into account in choosing between the two solutions as statistical packages usually treat only standard frequencies (solution 1) and further developments could be required to treat different ones.