CALENDARIUM SOLARIS

Solaris Date Notation

A standardised notation for Calendarium Solaris dates and times

SDN v1.0 — Companion document to Full Specification v3.08

Trial period commences: Equinox 0°, 2026 (UTC)
Official epoch: Equinox 0°, Year 0, 2028 (UTC)

1. Introduction

The Solaris Date Notation (SDN) is a standardised format for representing dates and times in the Calendarium Solaris. It follows the structural logic of ISO 8601, the international standard for date and time representation, while being explicitly distinct from it. The SDN is not a profile of ISO 8601: ISO 8601 is defined exclusively for the Gregorian calendar and explicitly excludes non-Gregorian calendar systems.

The SDN is designed to be:

- Unambiguous: a Solaris date cannot be confused with a Gregorian date.
- Consistent: the same structure applies to all date types.
- Sortable: dates sort chronologically with a standard alphanumeric sort.
- Machine-readable: no words, no language dependency.
- Human-readable: the structure is immediately recognisable to anyone familiar with ISO 8601.

2. General Structure

All SDN representations begin with the prefix **CS**, standing for Calendarium Solaris. This prefix makes every SDN date immediately distinguishable from any other date format. Elements are separated by a full stop (period). This distinguishes SDN from ISO 8601, which uses hyphens.

GENERAL FORMAT

```
CS.[ERA+YEAR].[MONTH or OUTSIDE DAY CODE].[DAY]
```

The era is encoded as a single letter immediately preceding the year:

Era	Letter	Meaning
Post Originem (after Year 0)	**P**	Years from Year 0 onward
Ante Originem (before Year 0)	**A**	Years before Year 0

The year is always expressed as five digits, padded with leading zeros where necessary. Year 0 is the official epoch (Equinox 0°, 20 March 2028, UTC). Five digits accommodate the full 16,000-year operational horizon of the calendar.

3. Regular Calendar Dates

A regular calendar date consists of a year, a two-digit month number (01–12), and a two-digit day number (01–30).

FORMAT

`CS.[ERA][YYYYY].[MM].[DD]`

Date	SDN Notation	Notes
Primisol 1, Year 0	`CS.P00000.01.01`	First day of the official epoch
Sextisol 15, Year 2 P.O.	`CS.P00002.06.15`	Regular date, Post Originem
Duodecisol 30, Year 2 A.O.	`CS.A00002.12.30`	Regular date, Ante Originem
Quartisol 8, Year 100 P.O.	`CS.P00100.04.08`	Year with three digits, padded to five

4. Outside Days

Outside Days, including the four Anchor Days, Yearday, and the Intercalary Day, carry no month designation and no day number. In SDN they are represented by a three-character code in place of the month and day fields.

FORMAT

`CS.[ERA][YYYYY].[CODE]`

Outside Day	SDN Code	Example	Notes
Equinox 0°	`EQ0`	`CS.P00002.EQ0`	Annual epoch, start of year
Solstice 90°	`SS1`	`CS.P00002.SS1`	First solstice of the year
Equinox 180°	`EQ2`	`CS.P00002.EQ2`	Mid-year equinox
Solstice 270°	`SS3`	`CS.P00002.SS3`	Final solstice of the year
Yearday	`YRD`	`CS.P00002.YRD`	Closing day of every standard year
Intercalary Day	`ICD`	`CS.P00004.ICD`	Leap years only, follows Yearday

Code rationale: EQ derives from Equinox, SS from Solstice. The digit following EQ or SS corresponds to the Sun's ecliptic longitude at that moment: 0°, 90°, 180°, and 270° respectively. YRD and ICD are direct abbreviations of

their names.

5. Optional Weekday Notation

The weekday may be appended as an optional suffix, separated by a single space and prefixed with the letter D. Because every Calendarium Solaris date falls on a permanent and invariant weekday, the weekday can always be derived from the date. The suffix is therefore optional and provided for convenience only.

FORMAT

```
CS.[ERA][YYYYY].[MM].[DD] D[N]
```

Code	Weekday	Meaning
D1	**Solcycli**	Initiation
D2	**Luxcycli**	Growth
D3	**Maxcycli**	Apex
D4	**Descycli**	Descent
D5	**Paxcycli**	Rest

Outside Days carry no weekday designation and therefore never receive a D suffix.

6. Timestamps

When a precise moment in time must be recorded alongside a Solaris date, the time component is appended using the letter T as a separator, followed by the time in 24-hour UTC format and the suffix Z to indicate UTC. This convention is adopted from ISO 8601 for compatibility with existing time-handling software.

FORMAT

```
CS.[ERA][YYYYY].[CODE or MM.DD]T[HH:MM:SS]Z
```

Event	SDN Timestamp	Notes
Equinox 0°, Year 0 (official epoch)	**CS.P00000.EQ0T02:17:00Z**	20 March 2028, 02:17 UTC
Equinox 0°, trial period start	**CS.A00002.EQ0T14:46:00Z**	20 March 2026, 14:46 UTC
A specific moment on Tertisol 15, Year 3	**CS.P00003.03.15T09:30:00Z**	Regular date with time

7. Chronological Sorting

SDN dates sort chronologically with a standard alphanumeric string sort, with one important property: Ante Originem dates (prefix A) sort before Post Originem dates (prefix P) by alphabetical order. Within each era, dates sort correctly by year, month, and day.

EXAMPLE SORT ORDER (ASCENDING)

```
CS.A00002.12.30 ← Ante Originem, year 2
CS.A00001.06.15 ← Ante Originem, year 1
CS.P00000.EQ0 ← Official epoch
CS.P00000.01.01 ← First regular day of Year 0
CS.P00001.03.15 ← Post Originem, year 1
CS.P00002.06.15 ← Post Originem, year 2
```

Note: Ante Originem years count backward from Year 0, so A0002 precedes A0001 in chronological order but follows it in alphanumeric sort. Where strict chronological sorting of A.O. dates is required, a numeric transformation should be applied: negate the year value before sorting.

8. Summary Reference

Date type	Format	Example
Regular date	`CS.[ERA][YYYYY].[MM].[DD]`	`CS.P00002.06.15`
Regular date with weekday	`CS.[ERA][YYYYY].[MM].[DD] D[N]`	`CS.P00002.06.15 D2`
Equinox 0° (Anchor Day)	`CS.[ERA][YYYYY].EQ0`	`CS.P00002.EQ0`
Solstice 90° (Anchor Day)	`CS.[ERA][YYYYY].SS1`	`CS.P00002.SS1`
Equinox 180° (Anchor Day)	`CS.[ERA][YYYYY].EQ2`	`CS.P00002.EQ2`
Solstice 270° (Anchor Day)	`CS.[ERA][YYYYY].SS3`	`CS.P00002.SS3`
Yearday	`CS.[ERA][YYYYY].YRD`	`CS.P00002.YRD`
Intercalary Day	`CS.[ERA][YYYYY].ICD`	`CS.P00004.ICD`
Date with timestamp (UTC)	`CS.[ERA][YYYYY].[...]T[HH:MM:SS]Z`	`CS.P00000.EQ0T02:17:00Z`

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