CALENDARIUM SOLARIS

Full Technical Specification

Cosmically Ordered • Week-Stable • Astronomically Synchronised

Version 3.08.1 — Document Status: Formal Specification

Trial Period Commencement: Equinox 0°, 2026 (UTC)

Official Start Date: Equinox 0°, Year 0, 2028 (UTC)

Preamble

The Calendarium Solaris is a solar calendar system designed to provide a structurally simple, astronomically accurate, and perpetually stable framework for timekeeping. It is grounded in the movement of the Earth around the Sun and introduces a refined five-day week, a twelve-month structure of equal length, and a multi-layered intercalation mechanism that ensures long-term alignment with the tropical solar year.

This document constitutes the complete formal specification of the Calendarium Solaris, version 3.08.1. It defines the structural rules, astronomical anchors, naming conventions, intercalation logic, and adoption provisions governing the calendar system. All references to time and astronomical events are expressed in Coordinated Universal Time (UTC).

1. Origin and Epoch

1.1 Trial and Transition Period

The Calendarium Solaris enters a trial and transition period commencing at Equinox 0° 2026 (UTC). During this period, the calendar operates alongside existing calendar systems to allow the development of tools, documentation, and community adoption prior to the official start.

From Equinox 0° 2026 until the completion of Intercalary Day in Year 4, each Calendarium Solaris date is accompanied by the corresponding Gregorian date, displayed in smaller notation, to facilitate transition and ease of reference. After Intercalary Day, Year 4, the Calendarium Solaris is displayed independently.

1.2 Official Epoch

The official start of the Calendarium Solaris is designated as:

“Equinox 0°, Year 0 — corresponding to the March equinox of 2028 (UTC)”

This moment has been selected as the astronomical starting point of the solar cycle and constitutes the structural origin of the calendar count. Year 0 is a leap year and therefore contains an Intercalary Day. This ensures the intercalation cycle begins at a precisely defined, divisible reference point from which the complete leap structure is unambiguously established.

1.3 Year Count Notation

The calendar employs a two-era notation system relative to the epoch:

- A.O. (Ante Originem) — designates years prior to Equinox 0°, Year 0
- P.O. (Post Originem) — designates years following Equinox 0°, Year 0

1.4 Adoption

Adoption of the Calendarium Solaris is voluntary. The system is designed to be used alongside existing calendar systems without conflict.

1.5 UTC Synchronisation

The start of each calendar year, defined as Equinox 0°, is determined on the basis of the exact astronomical equinox moment expressed in Coordinated Universal Time (UTC). This ensures that the commencement of the year is astronomically uniform across all geographical locations worldwide.

2. Purpose and Governing Principles

The Calendarium Solaris is designed to achieve the following objectives:

- Structural simplicity in the organisation of months and weeks
- Perpetual stability of a five-day week cycle
- Accurate synchronisation with the tropical solar year
- A cyclical and symmetrical year structure

To realise these objectives, the system introduces a refined, metric five-day week and a multi-layered intercalation structure as described in the sections that follow.

3. Basic Structure of the Year

The standard year of the Calendarium Solaris is composed as follows:

- 12 months × 30 days = 360 fixed weekdays
- 4 Anchor Days: floating outside days, one per quarter
- 1 Yearday: closing outside day of each standard year
- Standard year total: 365 days
- 1 Intercalary Day: additional outside day in leap years (total: 366 days)
- Average year length: approximately 365.24225 days
- Maximum deviation: approximately 1 day per 16,000 years

The Anchor Days, Yearday, and Intercalary Day fall outside the regular week and month structure. This design principle ensures that the five-day week cycle remains permanently intact and uninterrupted throughout every year.

4. The Months

Each month of the Calendarium Solaris contains exactly 30 days and invariably commences on Solcycli, the first day of the five-day week. The months are named using Latin ordinal roots combined with the suffix –sol,

reflecting their sequential position within the solar year. This naming convention is deliberately neutral and carries no hemispheric, religious, or political connotation.

Nr.	Month Name	Days	Position
—	Equinox 0° (Anchor Day Q1)	1	Outside day — Start of year
1	Primisol	30	
2	Secundisol	30	
3	Tertisol	30	
—	Solstice 90° (Anchor Day Q2)	1	Outside day — between Q1 and Q2
4	Quartisol	30	
5	Quintisol	30	
6	Sextisol	30	
—	Equinox 180° (Anchor Day Q3)	1	Outside day — within Septisol, after Septisol 4
7	Septisol	30	
8	Octisol	30	
9	Nonisol	30	
—	Solstice 270° (Anchor Day Q4)	1	Outside day — within Decisol, after Decisol 3
10	Decisol	30	
11	Undecisol	30	
12	Duodecisol	30	
—	Yearday	1	Closing outside day of the year
—	Intercalary Day	1	Leap years only — outside day

5. The Five-Day Week

The Calendarium Solaris replaces the conventional seven-day week with a five-day week. The week days are named using a root-and-suffix system: a thematic root combined with the suffix –cycli, indicating a cycle or phase of the solar day.

Day	Name	Concept
1	Solcycli	Initiation — The rise / The source
2	Luxcycli	Growth — The increasing light
3	Maxcycli	Apex — The absolute peak
4	Descycli	Descent — The decrease

5	Paxcycli	Rest — Balance and peace

Every month contains exactly six complete five-day weeks (6 × 5 = 30 days), yielding 72 weeks per standard year. Each quarter contains exactly 90 weekdays, corresponding to 18 complete weeks.

The Anchor Days, Yearday, and Intercalary Day carry no weekday or month-day designation. Each Anchor Day pauses the week cycle for one day; after the Anchor Day has passed, the week resumes on the same weekday as it would have been without the pause. This mechanism ensures that every calendar date always falls on the same weekday, year after year, creating permanent administrative stability.

6. The Quarters

The year is divided into four equal quarters. Each quarter consists of three months of 30 days (90 weekdays) plus one Anchor Day, yielding a total of 91 days per quarter. The quarters are identified by the name of their respective Anchor Day.

Quarter	Name	Anchor Day	Months	Weekdays	Total Days
Q1	Equinox 0	Day 1	Primisol, Secundisol, Tertisol	90	91
Q2	Solstice 90	Day 94	Quartisol, Quintisol, Sextisol	90	91
Q3	Equinox 180	Day 187	Septisol, Octisol, Nonisol	90	91
Q4	Solstice 270	Day 277	Decisol, Undecisol, Duodecisol	90	91

7. The Anchor Days

Each quarter is marked by one Anchor Day, named after the astronomical moment it represents. Anchor Days are floating outside days: their nominal position within the calendar year is defined by a fixed day number, which serves as the reference point for date conversion. However, the actual astronomical event does not always coincide precisely with that day number. Where the true astronomical moment falls on the preceding or following day, the Anchor Day shifts accordingly to align with the correct moment. The calendar thereby maintains fidelity to the actual solar event rather than to a fixed numerical position.

Anchor Day	Nominal Day	Position in Calendar
Equinox 0°	Day 1	Before Primisol 1 — start of year
Solstice 90°	Day 94	Within Q2 — Quartisol 2
Equinox 180°	Day 187	Within Q3 — Septisol 4
Solstice 270°	Day 277	Within Q4 — Decisol 3

Anchor Days carry no weekday designation and no month-day status. Their function is to serve as astronomical reference points and as quarter identifiers within the calendar structure.

8. Yearday and Intercalary Day

8.1 Yearday

Yearday is the closing outside day of every standard year. It occupies day 365 of the year, positioned after the final day of Duodecisol (Duodecisol 30). Like the Anchor Days, Yearday carries no weekday or month-day designation.

8.2 Intercalary Day

In leap years, Intercalary Day follows Yearday and constitutes day 366 of the year. It carries no weekday or month-day designation. The Intercalary Day is the closing day of a leap year and belongs fully to that year in the count. Its function is to provide an intercalation point for synchronisation with the tropical solar year.

8.3 Intercalation Rules

The determination of leap years follows a layered correction scheme designed to ensure long-term astronomical stability:

- A year divisible by 4 receives an Intercalary Day.
- A year divisible by 100 does not receive an Intercalary Day (exception to the above).
- A year divisible by 400 does receive an Intercalary Day (exception to the 100-year rule).
- A year divisible by 4,000 does not receive an Intercalary Day (long-term correction).

This four-tier structure ensures that the average year length remains approximately 365.24225 days, with a maximum deviation of approximately one day per 16,000 years.

9. Date Conversion

Dates from the Gregorian calendar may be converted into the Calendarium Solaris by calculating the number of days elapsed after Equinox 0° in the given year. The resulting day offset maps to a fixed position within the Solaris structure.

For the purposes of conversion during the trial and transition period, Equinox 0° is coupled to 20 March of the corresponding Gregorian year. After Intercalary Day, Year 4, the community will evaluate whether an extension of the Gregorian coupling is necessary or whether the Calendarium Solaris can stand fully independently.

Illustrative examples of day-to-date conversion:

- The 100th day of a Solaris year corresponds to Quartisol 8.
- The 200th day of a Solaris year corresponds to Septisol 17.

This fixed positional mapping ensures long-term stability of dates relative to the solar cycle.

10. Long-Cycle Structure

The intercalation structure of the Calendarium Solaris is designed across multiple time horizons:

- 4-year rhythm: basic intercalation cycle
- 100 / 400-year rhythm: medium-term stabilisation
- 4,000-year correction: long-term astronomical compensation

10.1 The 16,000-Year Reference Point

Year 16,000 P.O. serves as a long-range astronomical reference point. At that time, it is anticipated that humanity will determine, on the basis of the astronomical knowledge then available, whether and how further adjustment to the calendar structure is necessary. The Calendarium Solaris is thus designed to remain adaptive across very long timescales.

11. Structural Advantages

11.1 Mathematical

- Exactly 72 complete weeks per standard year
- Consistent and invariable month structure
- Deterministic, rule-based intercalation

11.2 Administrative

- Identical year layout year on year
- Exact 90-day quarters (91 days inclusive of Anchor Day)
- Fixed month length facilitating planning and scheduling

11.3 Astronomical

- Minimal long-term deviation from the tropical solar year
- Multi-layered correction mechanism
- Structural stability across millennia

11.4 Cultural

- Year commences at the astronomically defined Equinox 0° (Day 1)
- Clear structural anchor points distributed throughout the year
- A cyclical sense of time aligned with the solar cycle
- Wholly neutral naming system, free of hemispheric, religious, or political bias

12. Summary and Closing Statement

The Calendarium Solaris establishes a coherent, mathematically stable, and astronomically grounded framework for timekeeping. Its core provisions are summarised as follows:

- Trial period commences at Equinox 0° 2026 (UTC).
- Official start: Equinox 0°, Year 0 at Equinox 0° 2028 (UTC).
- A five-day week (Solcycli through Paxcycli) replaces the conventional seven-day week.
- Month and week stability is guaranteed by the outside-day mechanism.
- Astronomical synchronisation is achieved through equinox and solstice Anchor Days.
- Structural symmetry is maintained across all quarters.
- Long-term adaptability is ensured through the 16,000-year review provision.
- All nomenclature is neutral, Latin-based, and free of cultural or political associations.

The Calendarium Solaris combines mathematical order with cosmic orientation. It may be used alongside existing calendar systems and is offered for voluntary adoption worldwide.

— End of Specification —

Calendarium Solaris
Registered trade name, Dutch Chamber of Commerce
solariscalendar.org | info@solariscalendar.org
Full Technical Specification — Version 3.08.1 — Document Status: Formal Specification

