Twilight switches

IC100, IC2000, IC2000P+, IC100kp+, IC Astro

IC100
Adjustable from 2 to 100 lux. It comes with a wall-mounted cell.

IC2000
Adjustable from 2 to 2000 lux. It comes with a standard wall-mounted or switchboard cell.

IC2000P+
It has 3 customisable pre-set programs and 3 setting ranges from 2 to 2100 lux. Its 4 keys and large screen facilitate its programming. It comes with a wall-mounted cell.

IC Astro
It operates without photoelectric cell and calculates sunrise and sunset times according to its geographic position. It can be customised by using its programmation function.

IC100kp+
Adjustable from 1 to 99000 lux. Its 4 keys and large screen facilitate its programming. It comes with a digital wall-mounted and a memory key.
## Twilight switches

**IC100, IC2000, IC2000P+, IC100kp+, IC Astro (cont.)**

### Selection table

<table>
<thead>
<tr>
<th>Function</th>
<th>IC100</th>
<th>IC2000</th>
<th>IC2000P+</th>
</tr>
</thead>
<tbody>
<tr>
<td>The IC100 controls closing of a contact when brightness decreases and drops below the selected threshold. It controls opening of a contact when brightness increases and rises above the selected threshold.</td>
<td>The IC2000 control closing of a contact when brightness decreases and drops below the selected threshold. They control opening of a contact when brightness increases and rises above the selected threshold.</td>
<td>The IC2000P+ controls lighting according to brightness and time. If brightness drops below the set threshold (twilight function: IC) and if the time program allows relay closing (time switch function), then the lighting circuit is activated.</td>
<td></td>
</tr>
</tbody>
</table>

### Wiring diagrams

![Wiring diagrams](image)

<table>
<thead>
<tr>
<th>Technical specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivered with</td>
</tr>
<tr>
<td>Optional accessories</td>
</tr>
<tr>
<td>Adjustable brightness threshold</td>
</tr>
<tr>
<td>Voltage rating (Ue) (+10 %, -15 %)</td>
</tr>
<tr>
<td>Consumption</td>
</tr>
<tr>
<td>Operating temperature</td>
</tr>
<tr>
<td>Width (9 mm modules)</td>
</tr>
<tr>
<td>Insulation class</td>
</tr>
<tr>
<td>Degree of protection</td>
</tr>
<tr>
<td>Output contact rating (under 250 VAC)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Time delays (On and Off)</td>
</tr>
<tr>
<td>Operating accuracy</td>
</tr>
<tr>
<td>Monitory indicator light, not time delayed. If brightness is less than the threshold</td>
</tr>
<tr>
<td>Contact switching indicator light</td>
</tr>
<tr>
<td>LCD liquid crystal display</td>
</tr>
<tr>
<td>Program saving by lithium battery</td>
</tr>
<tr>
<td>Operating reserve</td>
</tr>
<tr>
<td>Location for instruction manual on front face</td>
</tr>
<tr>
<td>Cabling test function with a push-button on front face</td>
</tr>
<tr>
<td>Number of channels</td>
</tr>
<tr>
<td>Control by brightness detection</td>
</tr>
<tr>
<td>Coupling with weekly programming</td>
</tr>
<tr>
<td>–</td>
</tr>
<tr>
<td>–</td>
</tr>
<tr>
<td>Control by calculation of sunrise/sunset times</td>
</tr>
</tbody>
</table>

### Catalogue numbers

|  | 15482 | CCT15284 | CCT15368 | 15483 (1) |

### Languages

(1) English, french, spanish, italian, german, portuguese, swedish, dutch, finnish, norwegian/danish.
(2) English, french, spanish, portuguese, hungarian, polish, romanian, turkish.
### Technical Specifications

#### IC100kp+ 1C
- **Control by calculation of sunrise/sunset times**
- **Control by brightness detection**
- **Number of channels**: 1
- **Location for instruction manual on front face**: –
- **Operating reserve**: 5-6 years
- **Program saving by lithium battery**: –
- **LCD liquid crystal display**: Back-lit
- **Contact switching indicator light**: Green lit when brightness is less than the threshold
- **Operating accuracy**: < ±1 s / day at 20°C.
- **Time delays (On and Off)**: 20 s (On)
- **Output contact rating**: –
- **Degree of protection**: IP20B
- **Insulation class**: Class II
- **Width (9 mm modules)**: 2
- **Operating temperature**: -20°C to +50°C
- **Consumption**: 6 VA
- **Voltage rating**: 230 V AC, 50/60 Hz
- **Optional accessories**: Wall-mounted cell (CCT15260)
- **Catalogue numbers**: 15482 CCT15284 CCT15368 15483

#### IC100kp+ 2C
- **Control by calculation of sunrise/sunset times**
- **Control by brightness detection**
- **Number of channels**: 2
- **Location for instruction manual on front face**: –
- **Operating reserve**: 5-6 years
- **Program saving by lithium battery**: –
- **LCD liquid crystal display**: Back-lit
- **Contact switching indicator light**: Green lit when brightness is less than the threshold
- **Operating accuracy**: < ±1 s / day at 20°C.
- **Time delays (On and Off)**: 20 s (On)
- **Output contact rating**: –
- **Degree of protection**: IP20B
- **Insulation class**: Class II
- **Width (9 mm modules)**: 5
- **Operating temperature**: -20°C to +50°C
- **Consumption**: 6 VA
- **Voltage rating**: 230 V AC, 50/60 Hz
- **Optional accessories**: Wall-mounted cell (CCT15260)
- **Catalogue numbers**: 15482 CCT15284 CCT15368 15483

#### IC Astro 1C
- **Control by calculation of sunrise/sunset times**
- **Control by brightness detection**
- **Number of channels**: 1
- **Location for instruction manual on front face**: –
- **Operating reserve**: 5-6 years
- **Program saving by lithium battery**: –
- **LCD liquid crystal display**: Back-lit
- **Contact switching indicator light**: Red lit when brightness is less than the threshold
- **Operating accuracy**: < ±1 s / day at 20°C.
- **Time delays (On and Off)**: 80 s (Off)
- **Output contact rating**: –
- **Degree of protection**: IP20B
- **Insulation class**: Class II
- **Width (9 mm modules)**: 1
- **Operating temperature**: -20°C to +50°C
- **Consumption**: 3 VA
- **Voltage rating**: 230 V AC, 50/60 Hz
- **Optional accessories**: Digital switchboard cell (CCT15261) Memory key (alone) (CCT15861)
- **Catalogue numbers**: 15223 (1) CCT15242 (2) CCT15243 (2)

#### IC Astro 2C
- **Control by calculation of sunrise/sunset times**
- **Control by brightness detection**
- **Number of channels**: 2
- **Location for instruction manual on front face**: –
- **Operating reserve**: 5-6 years
- **Program saving by lithium battery**: –
- **LCD liquid crystal display**: Back-lit
- **Contact switching indicator light**: Red lit when brightness is less than the threshold
- **Operating accuracy**: < ±1 s / day at 20°C.
- **Time delays (On and Off)**: 80 s (Off)
- **Output contact rating**: –
- **Degree of protection**: IP20B
- **Insulation class**: Class II
- **Width (9 mm modules)**: 2
- **Operating temperature**: -20°C to +50°C
- **Consumption**: 6 VA
- **Voltage rating**: 230 V AC, 50/60 Hz
- **Optional accessories**: Digital switchboard cell (CCT15261) Memory key (alone) (CCT15861)
- **Catalogue numbers**: 15223 (1) CCT15242 (2) CCT15243 (2)

#### Switching Accuracy
- **Switching accuracy**: 1 s

#### Switching Times
- **84 switching times**
  - Operating accuracy: < ±1 s / day at 20°C
  - Minimum switching: 1 min
  - Switching accuracy: 1 s
- **84 switching times (not including sunrise/sunset)**
  - Minimum time between 2 switching operations: 1 min.
  - Switching accuracy: 1 s
  - Time accuracy: ±1 s / day
## Accessories selection table

<table>
<thead>
<tr>
<th>Wall-mounted cell</th>
<th>Switchboard cell</th>
<th>Programming kit for PC</th>
<th>Memory key</th>
<th>Digital wall-mounted cell</th>
<th>Digital switchboard cell</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Wall-mounted cell" /></td>
<td><img src="image2" alt="Switchboard cell" /></td>
<td><img src="image3" alt="Programming kit" /></td>
<td><img src="image4" alt="Memory key" /></td>
<td><img src="image5" alt="Digital wall-mounted cell" /></td>
<td><img src="image6" alt="Digital switchboard cell" /></td>
</tr>
</tbody>
</table>

### Function

- **Wall-mounted photoelectric cell**
- **Switchboard photoelectric cell**
- **Consists of a programming device, a memory key, a CDROM and a 2 m USB cable**
- **Saving and duplicating programs**
- **Digital wall-mounted photoelectric cell**
- **Digital wall-mounted photoelectric cell**

### Mounting

- **Delivered with its fixing device for IC100 and IC200P+**
- **Replaced by CCT15268 for spare part use**
- **Cell connection:** by double insulation 2-conductor cable, not to be laid next to mains cables or water ducts, maximum length: 25 m
- **Delivered with its fixing device and its fixing device**
- **Cell connection:** by double insulation 2-conductor cable, not to be laid next to mains cables or water ducts, maximum length: 100 m
- **Delivered with its fixing device.**
- **Cell connection:** by double insulation 2-conductor cable:
  - 0.5 - 2.5 mm² for CCT15260
  - 0.25 - 1.5 mm² for CCT15261
- **Not to be laid next to mains cables or water ducts, maximum length:**
  - 100 m (2 x 1.5 mm²)
  - 50 m (2 x 0.75 mm²)

### Catalogue no.

- CCT15268
- 15281
- CCT15860
- CCT15861
- CCT15260
- CCT15261

### Technical specifications

<table>
<thead>
<tr>
<th>Degree of protection</th>
<th>IP54</th>
<th>IP55</th>
<th>IP65</th>
<th>–</th>
<th>–</th>
<th>IP55</th>
<th>IP66</th>
</tr>
</thead>
<tbody>
<tr>
<td>IK05</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operating temperature</th>
<th>-40°C to +70°C</th>
<th>-40°C to +70°C</th>
<th>–</th>
<th>–</th>
<th>–</th>
<th>-40°C to +70°C</th>
<th>-40°C to +70°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizontally orientable</td>
<td>–</td>
<td>90°</td>
<td>–</td>
<td>–</td>
<td>90°</td>
<td>90°</td>
<td></td>
</tr>
</tbody>
</table>

### Load table

#### Type of lighting (230 V AC)

<table>
<thead>
<tr>
<th>Type of lighting</th>
<th>Max. power (for higher power, relay with a contactor)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incandescent and halogen lamps</td>
<td>IC100</td>
</tr>
<tr>
<td>Max. power for one lamp</td>
<td>2300 W</td>
</tr>
<tr>
<td>Max. power for one lamp &lt; 2 W</td>
<td>20 W</td>
</tr>
<tr>
<td>Max. power for one lamp from 2 to 8 W</td>
<td>55 W</td>
</tr>
<tr>
<td>Non-corrected / serial-corrected / dual mounted fluorescent tubes with conventional ballast</td>
<td>2300 VA</td>
</tr>
<tr>
<td>Non-corrected / serial-corrected / dual mounted fluorescent tubes with conventional ballast</td>
<td>400 VA</td>
</tr>
<tr>
<td>Parallel corrected fluorescent tubes with conventional ballast</td>
<td>400 VA</td>
</tr>
<tr>
<td>Parallel corrected fluorescent tubes with conventional ballast</td>
<td>600 VA</td>
</tr>
<tr>
<td>Fluorescent tubes with electronic ballast</td>
<td>9 x 36 W, 6 x 58 W</td>
</tr>
<tr>
<td>Fluorescent tubes with electronic ballast</td>
<td>300 VA</td>
</tr>
<tr>
<td>Fluorescent tubes with electronic ballast</td>
<td>9 x 7 W, 7 x 11 W, 7 x 15 W, 7 x 20 W, 7 x 23 W</td>
</tr>
<tr>
<td>Fluorescent tubes with electronic ballast</td>
<td>1500 VA</td>
</tr>
<tr>
<td>Fluorescent tubes with electronic ballast</td>
<td>400 VA</td>
</tr>
<tr>
<td>Fluorescent tubes with electronic ballast</td>
<td>1000 VA</td>
</tr>
<tr>
<td>Motor</td>
<td>–</td>
</tr>
</tbody>
</table>
### Specific technical data

<table>
<thead>
<tr>
<th><strong>IC2000P+</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>External input</strong></td>
<td></td>
</tr>
<tr>
<td>Voltage rating (Ue)</td>
<td>230 V AC, +10 %, -15 %</td>
</tr>
<tr>
<td>Frequency</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>Input current</td>
<td>≤ 2.5 mA</td>
</tr>
<tr>
<td>Consumption</td>
<td>≤ 0.4 mW</td>
</tr>
<tr>
<td>Cable length</td>
<td>≤ 100 m</td>
</tr>
<tr>
<td><strong>IC Astro</strong></td>
<td></td>
</tr>
<tr>
<td>Programming longitude</td>
<td>-180° (East) to +180° (West) in steps of 1°</td>
</tr>
<tr>
<td>Programming latitude</td>
<td>-90° (South) to +90° (North) in steps of 1°</td>
</tr>
<tr>
<td><strong>IC100kp+, IC Astro</strong></td>
<td></td>
</tr>
<tr>
<td>Programming accessories</td>
<td></td>
</tr>
<tr>
<td>Programming kit for PC consists of a programming device, a memory key, a CDROM and a 2 m USB cable</td>
<td></td>
</tr>
<tr>
<td>Memory key for saving and duplicating programs, delivered on front face</td>
<td></td>
</tr>
<tr>
<td><strong>External inputs</strong></td>
<td></td>
</tr>
<tr>
<td>External inputs for external control with a standard switch or a push-button</td>
<td></td>
</tr>
<tr>
<td>Voltage rating (Ue)</td>
<td>230 V AC, +10 %, -15 % for 1 channel versions</td>
</tr>
<tr>
<td>100-240 V AC +10 %, -15 % for 2 channels versions</td>
<td></td>
</tr>
<tr>
<td>Frequency</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>Input current</td>
<td>≤ 0.5 mA</td>
</tr>
<tr>
<td>Consumption</td>
<td>≤ 130 mW</td>
</tr>
<tr>
<td>Cable length</td>
<td>≤ 100 m</td>
</tr>
</tbody>
</table>
IC2000P+

The IC 2000P+ uses its time programming to define lighting On and Off periods:
- According to three pre-set time programs:
  - "DAYPROG": On time programming from 7 am to 8 pm, validation of the IC function from 7 am to 8 pm,
  - "NIGHTPROG": On time programming from 5 am to 8 am and from 6 pm to 11 pm, validation of the IC function on these two operating periods,
  - "EMPTYPROG": Off time programming throughout the day, no validation of the IC function. These programs can be modified if necessary.
- According to a customised operating period, with possibility of copying to the other days.
It is equipped with the following functions:
- consideration of periods of absence (holidays),
- temporary or permanent On or Off override,
- remote control of lighting override by NO external contact,
- consideration of change to "summer/winter" time, automatic or manual,
- permanent liquid crystal display: of time and minutes, of day of the week, of the contact output status and current program.

Example

Lighting of a shop window, in the evening, at a time variable according to brightness and switch-off at a set time (e.g. 11 pm). Then in the morning, lighting at a set time (e.g. 4 am) and switch-off at a time variable according to brightness (see Fig. 1).

Configuration

This consists of recording in the memory:
- The language.
- The year, month, day and time.
- One of the 3 pre-set programs:
  - "DAYPROG": "On" time programming from 7 am to 8 pm, validation of the IC function from 7 am to 8 pm,
  - "NIGHTPROG": "On" time programming from 5 am to 8 am and from 6 pm to 11 pm, validation of the IC function on these two operating periods,
  - "EMPTYPROG": "Off" time programming throughout the day, no validation of the IC function. These programs can be modified.
- The brightness threshold. Once this phase is over, your IC 2000P+ operates in AUTO mode according to the items you have chosen.

Programming

The IC2000P+ is used to manage time programs. It allows:
- Creation of a new program with the possibility of copying to the other days.
- Viewing programs in memory.
- Modification of a program in memory, of the time, date, summer/winter time.
- Partial or total deletion of the program (date, time and language are kept).
- Modification of the brightness threshold.
- Separate setting of the time delay on switch-on and switch-off.

Move to On/Off override
- Press briefly (< 2 s) and simultaneously the 2 keys "-", "+" (value setting and navigation keys) on the front face to move to "MAN ON" or "MAN OFF".
- Press the keys for more than 2 s to move to "PERM ON" or "PERM OFF".
- Supply of terminal 1 overrides the IC 2000P+ output to the "On" position. This external override takes priority over the product On/Off override function (see Fig. 2, 3).
IC Astro

The IC Astro is configured according to the place of installation.
- The place of installation of the IC Astro can be configured:
  - either by selecting a country and a town,
  - or by its geographic coordinates (latitude, longitude).
- The IC Astro allows:
  - addition or deletion of a switch-off/switch-on switching operation (Off-On) between the sunset and sunrise times,
  - different programmes each day,
  - difference in sunset and/or sunrise times, adjustable separately by ±120 min. according to local constraints (mountains, buildings, etc.),
  - consideration of periods of absence (holidays),
  - remote control of lighting override by external standard switch or push-button via the external input (1 external input per channel),
  - re-initialisation of programmes,
  - automatic switching to “summer-winter” time,
  - permanent display by liquid crystals: hours and minutes, day of the week, contact output status, and current programme,
  - manual waiver of the lighting On/Off programme, permanently or temporarily (up to the next switching operation),
  - back-lighting of the screen.

Example

Automatically lighting On and Off a shop window in Paris according to sunset and sunrise, example the 20th June.
- At night (10 pm) the lighting switch-on.
- At the morning (6 am) the lighting switch-off.

Configuration

This consists of writing in the memory:
- The language.
- The place of installation, either:
  - by its position (Argentina, China, etc.) and by the closest town,
  - by its geographic coordinates (latitude, longitude, time difference with respect to GMT) (a map is provided with the product).
- The year, month, day and time.
- Once this phase is complete, IC Astro will calculate the sunrise and sunset times and propose a default programme (operation from sunset to sunrise) (see Fig. 3).

Programming an Off period

The IC Astro offers the possibility of adding an “Off” period (programmed switch-off and switch-on) inside the programme, between the sunrise and sunset times (by default it is proposed from 11 pm to 5 am) (see Fig. 4).

Modifying programming and configuration

The twilight switch allows:
- Creation of a new customised programme with possibility of copying onto the other days.
- Display of programmes in memory.
- Deletion, modification or addition of an automatic or programmed switching operation.
- Partial or total deletion of the programme (date, time and language are kept).
- Modification of date, time, summer/winter time.
- Temporary cancellation of the “On” periods by configuring start and end dates and Times of absence (holidays).
- Adjustment of difference in sunset and/or sunrise times by ± 120 min. according to local constraints (mountains, buildings, etc.) (see Fig. 5).

Move to On/Off override

- Briefly press (<2 s) at the same time on the 2 keys “-”, “+”: (value setting and navigation keys) on the front face to move to “ON TEMP” or “OFF TEMP”.
- Hold down (>2 s) the keys to move to “ON PERM” or “OFF PERM”.
- The supply of input 5 forces the IC Astro output to the “ON” position.
This override takes priority over the product On/Off override function (see Fig. 6).
Twilight switches

IC100, IC2000, IC2000P+, IC100kp+, IC Astro (cont.)

Connection

<table>
<thead>
<tr>
<th>Type</th>
<th>Tightening torque</th>
<th>Copper cables</th>
</tr>
</thead>
<tbody>
<tr>
<td>IC100, IC2000P+</td>
<td>1.2 N.m</td>
<td>≤ 6 mm²</td>
</tr>
<tr>
<td>IC2000, IC Astro, IC100kp+</td>
<td>2 screwless / pole</td>
<td>2 x 2.5 mm²</td>
</tr>
</tbody>
</table>

IC100, IC Astro are mechanical compatible with electrical distribution comb busbar.

Weight (g)

<table>
<thead>
<tr>
<th>Twilight switches</th>
<th>1C</th>
<th>2C</th>
</tr>
</thead>
<tbody>
<tr>
<td>IC100</td>
<td>173</td>
<td></td>
</tr>
<tr>
<td>IC2000</td>
<td>280</td>
<td></td>
</tr>
<tr>
<td>IC2000P+</td>
<td>323</td>
<td></td>
</tr>
<tr>
<td>IC Astro</td>
<td>132</td>
<td></td>
</tr>
<tr>
<td>IC100kp+</td>
<td>163</td>
<td>352</td>
</tr>
</tbody>
</table>

Dimensions (mm)

IC100

IC2000

IC Astro 1C/2C

IC100kp+ 1C/2C

Cells

Standard switchboard cell (15281) Fixed externally in vertical position by 2 Ø 4 mm screws

Digital switchboard cell (CCT15261)

Wall-mounted cell (delivered with IC100, IC2000P+)
# Twilight switches

**IC100, IC2000, IC2000P+, IC100kp+, IC Astro (cont.)**

<table>
<thead>
<tr>
<th>Indice</th>
<th>Date</th>
<th>Modification</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.2</td>
<td>4/11/2014</td>
<td>Deleted IC100k products - Add LED lamp load table</td>
<td>Sedoc</td>
</tr>
<tr>
<td>2.1</td>
<td>3/11/2014</td>
<td>Changed CCT15268 and 15281 IP page 4</td>
<td>Sedoc</td>
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<tr>
<td>2.0</td>
<td>19/05/2011</td>
<td>InDesign CS5</td>
<td>Sedoc</td>
</tr>
<tr>
<td>1.0</td>
<td>30/03/2011</td>
<td>Creation</td>
<td>Sedoc</td>
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*This page must be removed before publishing*