QCG-100

QCG-100 is a master clock which is capable of receiving the precise time information from GPS (Global Positioning System) operated by the U.S. and can retain a high-accuracy in the internal clock at all times.

- Exclusive GPS antenna with receiver unit (GPS-100) is available separately to make a time correction for the internal clock in the QCG-100 periodically.
- QCG-100 is capable of making analog secondary clocks activate directly and synchronizing them with a precise time.
- QCG-100 is capable of generating time data (in accordance with RS-422) for digital secondary clocks and other computer systems.
- Automatically time synchronization with GPS (Global Positioning System).
- Time Accuracy when synchronized by GPS signal is within ±0.1s.
- Exclusive GPS antenna with receiver unit can be purchased separately.
- High-accuracy crystal clock inside (Accuracy daily rate : within ±0.5ms).
- Maximum 110pcs. of secondary clocks can be activated.
- Both Two hands and Three hands secondary clocks can be activated.
- Serial data signal output (RS-422) is available to synchronize digital clocks and so on.
- Liquid Crystal Display (LCD) with dimmer function for monitor clock in 3 steps (off-mid-hi) on the front panel.
- Daylight saving time and leap time can be set by key input.
- Time adjustable with Time Server (SNTP) through LAN (RJ45) as an optional extension system (QCG-100N).

**Specifications**

<table>
<thead>
<tr>
<th>CONTENTS</th>
<th>SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input / Output Signals</strong></td>
<td></td>
</tr>
<tr>
<td>1-sec. polarized signal</td>
<td>Controlled by 2 wires (only clockwise)</td>
</tr>
<tr>
<td>(Max. 110pcs of analog secondary clocks can be connected, together with analog secondary clocks of 38-sec. signal.)</td>
<td></td>
</tr>
<tr>
<td>30-sec. polarized signal</td>
<td>Controlled by 2 wires (only clockwise)</td>
</tr>
<tr>
<td>(Max. 110pcs of analog secondary clocks can be connected, together with analog secondary clocks of 1-sec. signal.)</td>
<td></td>
</tr>
<tr>
<td>GPS I/F</td>
<td></td>
</tr>
<tr>
<td>Data input : Serial data (in accordance with RS-422)</td>
<td></td>
</tr>
<tr>
<td>1PPS input : Received by 2 wires</td>
<td></td>
</tr>
<tr>
<td>Power supply : DC 5V (powered by QCG-100)</td>
<td></td>
</tr>
<tr>
<td>Sealed : 1 wire</td>
<td></td>
</tr>
<tr>
<td>*To be connected the exclusive GPS antenna with receiver unit (GPS-100). Available separately. *</td>
<td></td>
</tr>
<tr>
<td>*To be connected with 6 sealed wires cable (as an option).</td>
<td></td>
</tr>
<tr>
<td>Serial data signal output</td>
<td></td>
</tr>
<tr>
<td>RS-422 : Time information (Year / Month / Day / Date / Hour / Minute / Second) in SEIKO format shall be sent every second.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MASTER CLOCK</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Crystal oscillator frequency</strong></td>
<td>32.768kHz</td>
</tr>
<tr>
<td><strong>Time accuracy when synchronized by GPS signal</strong></td>
<td>within ±0.1s / day (0°C ~ +40°C)</td>
</tr>
<tr>
<td><strong>Frequency of synchronizing with GPS signal</strong></td>
<td>Every 10 min.</td>
</tr>
<tr>
<td><strong>LCD display</strong></td>
<td>16 digits 2 lines with back light</td>
</tr>
<tr>
<td><strong>Operation unit</strong></td>
<td>8 keys</td>
</tr>
<tr>
<td><strong>How to adjust the time</strong></td>
<td></td>
</tr>
<tr>
<td>When powering on : Automatic setting by GPS or manual setting by key input</td>
<td></td>
</tr>
<tr>
<td>When operating : Periodical and automatically synchronization by GPS signal or manual setting by key input</td>
<td></td>
</tr>
<tr>
<td>Setting for Time difference : Manual setting by key input</td>
<td></td>
</tr>
<tr>
<td>*Against UTC, time difference from -12h to +14h can be set by minutes. *</td>
<td></td>
</tr>
<tr>
<td><strong>Daylight saving time</strong></td>
<td>Manual setting by key input</td>
</tr>
<tr>
<td><strong>Leap second</strong></td>
<td>Manual setting by key input</td>
</tr>
<tr>
<td><strong>Over current protection</strong></td>
<td>Power input : Non-fuse breaker</td>
</tr>
<tr>
<td>Internal circuit : fuse 5A</td>
<td></td>
</tr>
<tr>
<td>Secondary clock signal output : Non-fuse breaker</td>
<td></td>
</tr>
<tr>
<td><strong>Power supply</strong></td>
<td>AC235<del>284V, 47</del>63Hz</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>50W</td>
</tr>
<tr>
<td><strong>Operational temperature and humidity range</strong></td>
<td>0°C ~ +50°C / 20~ 90% with no dew condensation</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>QCG-100 : W480 x H88 x D280mm (excluding protruded portion)</td>
</tr>
<tr>
<td></td>
<td>GPS-100 : W462 x H67 x D110mm (with a 1m cable)</td>
</tr>
<tr>
<td><strong>Material</strong></td>
<td>Steel with pearl-gray painted</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>QCG-100 : Approx. 3.5kg</td>
</tr>
<tr>
<td></td>
<td>GPS-100 : Approx. 420g</td>
</tr>
</tbody>
</table>
SEIKO QC-5500 Series is a high-precision quartz master clock. By connecting with an external master clock generating 30-sec polarized signal output, time correction can be made. Models operating on AC 110V (QC-55X01) and AC 220V (QC-55X02) are available.

(1) Master clock function (QC-5510X, QC-5520X and QC-5530X)
Up to 30 secondary clocks can be connected to each channel (if the current consumption of each secondary clock is 12mA).

(2) External synchronization function
By connecting with an external master clock generating 30-sec polarized signal output, the loss/gain of the clock is corrected automatically.

QC-5500 Series
QC-55101 / 55102
QC-55201 / 55202
QC-55301 / 55302

How to Drive Secondary Clocks
Accuracy and Synchronization of Secondary Clocks

The role of the secondary clock in a time-keeping system is to accurately reproduce the time signal supplied by the master clock. The master clock and secondary clocks are connected electrically, and the Crystal oscillator frequency of 32.768kHz or 4.194304 MHz/sec. from the master clock is reduced in several stages by the frequency diving LSI and finally transmitted to the secondary clock as a 1-sec. or a 30-sec. polarized signal of ±24V DC. The secondary clock converts this electrical signal into mechanical energy and, with the same precision as the master clock, simultaneously displays the correct time.
**INDOOR SECONDARY CLOCK (24V)**

**WALL TYPE / RECESSED TYPE**

Current consumption of a wall type and a recessed type secondary clock is 12mA.

Input signal of a wall type and a recessed type secondary clock is 30-sec. polarized signal / DC 24V. [+F-001 is 1-sec. polarized signal / DC 24V.]

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Dial</th>
<th>Hour marker</th>
<th>Hands</th>
<th>Frame</th>
<th>Thickness</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>310-mm Diameter Round Type</strong></td>
<td></td>
<td></td>
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<tr>
<td>SC-300</td>
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<tr>
<td>SC-300C</td>
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<tr>
<td>Dial</td>
<td>Steel, White</td>
<td>Hour marker</td>
<td>Black</td>
<td>Hands</td>
<td>Aluminum, Black</td>
<td>Frame</td>
</tr>
<tr>
<td>SC-305</td>
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<tr>
<td>Dial</td>
<td>Aluminum, Silver</td>
<td>Hour marker</td>
<td>Black</td>
<td>Hands</td>
<td>Aluminum, Black</td>
<td>Frame</td>
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<td><strong>310-mm Diameter Round Type</strong></td>
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<td>Hour marker</td>
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<td>Aluminum, Black</td>
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<td>SC-420</td>
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<td>Hour marker</td>
<td>Black</td>
<td>Hands</td>
<td>Aluminum, Black</td>
<td>Frame</td>
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<tr>
<td><strong>310-mm Diameter Round Type</strong></td>
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<td>SC-320</td>
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<tr>
<td>SC-320C</td>
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<tr>
<td>(cream color) is also available.</td>
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<tr>
<td>Dimensions</td>
<td>310 x 100 x 40mm</td>
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<td>Steel, White</td>
<td>Hour marker</td>
<td>Black</td>
<td>Hands</td>
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<tr>
<td><strong>310-mm Diameter Round Type</strong></td>
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<tr>
<td>SC-422C</td>
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<tr>
<td>Dimensions</td>
<td>310 x 100 x 40mm</td>
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<td>Steel, White</td>
<td>Hour marker</td>
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<td>Hands</td>
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<tr>
<td><strong>310-mm Diameter Round Type</strong></td>
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<tr>
<td>SC-422K</td>
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<tr>
<td>Dimensions</td>
<td>310 x 100 x 40mm</td>
<td>Dial</td>
<td>Steel, White</td>
<td>Hour marker</td>
<td>Black</td>
<td>Hands</td>
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<tr>
<td><strong>Square Type with Wood Finish</strong></td>
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<tr>
<td>SC-322S</td>
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<tr>
<td>SC-322S</td>
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<tr>
<td>Dial</td>
<td>Steel, White</td>
<td>Hour marker</td>
<td>Black</td>
<td>Hands</td>
<td>Aluminum, Black</td>
<td>Frame</td>
</tr>
<tr>
<td><strong>Circular Type hour marker</strong></td>
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<td>SC-342</td>
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<td>SC-342</td>
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<tr>
<td>Movement cover</td>
<td>Brass, White hairline finish</td>
<td>Hour marker</td>
<td>Brass, White hairline finish</td>
<td>Hands</td>
<td>Brass, White hairline finish</td>
<td><strong>SC-340S</strong> : 310mm diameter (3.5kg)</td>
</tr>
<tr>
<td><strong>310-mm Diameter Round Type</strong></td>
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<tr>
<td>SC-301</td>
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<tr>
<td>SC-301C</td>
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<td>(light color) is also available.</td>
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<tr>
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<td>Hour marker</td>
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<td>Hands</td>
<td>Aluminum, Black</td>
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<tr>
<td>SC-306</td>
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<tr>
<td>Dial</td>
<td>Steel, White</td>
<td>Hour marker</td>
<td>Black</td>
<td>Hands</td>
<td>Aluminum, Black</td>
<td>Frame</td>
</tr>
<tr>
<td><strong>310-mm Diameter Round Type</strong></td>
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<tr>
<td>SC-316</td>
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<tr>
<td>SC-316C</td>
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<tr>
<td>(cream color) is also available.</td>
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<tr>
<td>Dial</td>
<td>Steel, White</td>
<td>Hour marker</td>
<td>Black</td>
<td>Hands</td>
<td>Aluminum, Black</td>
<td>Frame</td>
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<tr>
<td>SC-324</td>
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<tr>
<td>Dial</td>
<td>Steel, White</td>
<td>Hour marker</td>
<td>Black</td>
<td>Hands</td>
<td>Aluminum, Black</td>
<td>Frame</td>
</tr>
</tbody>
</table>

**SC-320C** : 310mm diameter (3.5kg)

**SC-322S** : 310mm diameter (3.5kg)

**SC-340S** : 310mm diameter (3.5kg)

**SC-341S** : 310mm diameter (3.5kg)
**Option Equipment for Secondary Clocks**

**APX-1011/1021**
- **Clock controller**
  - Crystal oscillator frequency: 4.19434 MHz
  - Time accuracy: Weekly rate of less than ±0.7 second (+12°C to +30°C)
  - Input power supply: AC 100-120V
  - Power consumption: 2W (MAX)
  - Output signal: DC 24V 30-sec. polarized signal / AC 100-240V
  - Power failure backup: 30 hours
  - Dimensions: W163 × H130 × D29 mm
  - Weight: Approx. 700g

**MT-01**
- **Secondary clock monitor for APX-1011/1021**
  - Dimensions: W100 × H90 × D67mm
  - Weight: Approx. 500g

**FA-1021**
- **Secondary clock repeater**
  - FA-1021 amplifies the 30-sec. polarized signal transmitted by the master clock.
  - Input signal: DC 24V 30-sec. polarized signal / AC100-240V
  - Output signal: DC 24V 30-sec. polarized signal
  - Number of secondary clocks to drive: 30 units
  - Power failure backup: 30 hours
  - Dimensions: W200 × H110 × D16mm
  - Material: Steel with pearl-gray painted dye
  - Weight: Approx. 3.6kg

**FA-300**
- **Hand Adjuster with jack plug**
  - Among secondary clocks driven by a master clock, the FA-300 is used for adjusting the hands of a large-sized secondary clock mounted on a wall in a very high position. By the signal from the FA-300, the clock is adjusted apart from a signal from a master clock.
  - Built-in battery: 00DP (9V × 3 = 27V)
  - Operating time: Approx. 100 minutes (2,000 times load)
  - Hand moving speed: Approx. 30 times
  - Output terminal: Jack plug type
  - Dimensions: W83 × H140 × D26mm
  - Material: Steel, Gray
  - Weight: Approx. 650g

**FA-301**
- **Jack-plug plate for single-faced clocks**
  - Dimensions: W116 × H55 × D15mm
  - Weight: Approx. 180g

**FA-302**
- **Jack-plug plate for double-faced clocks**
  - Dimensions: W129 × H55 × D15mm
  - Weight: Approx. 180g

**INFORMATION**

<table>
<thead>
<tr>
<th>Distance (m)</th>
<th>Number of Secondary Clocks / Circuits</th>
</tr>
</thead>
<tbody>
<tr>
<td>~5</td>
<td>~5</td>
</tr>
<tr>
<td>~10</td>
<td>~10</td>
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<tr>
<td>~15</td>
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<td>~20</td>
<td>~20</td>
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<tr>
<td>~25</td>
<td>~25</td>
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<tr>
<td>~30</td>
<td>~30</td>
</tr>
</tbody>
</table>

**DOUBLE-FACED TYPE**

Current consumption of a double-faced secondary clock is 24mA. Input signal of a double-faced secondary clock is 30-sec. polarized signal / DC 24V.

**Double-faced Suspended Type**
- **SC-360**
  - Dimensions: W120 × D100 × H30mm
  - Dial: Steel, White
  - Hour marker: Black
  - Hands: Aluminum, Black
  - Frame: Steel, Gray
  - Flange: W200 × D180mm
  - Weight: 8.8kg

- **SC-460**
  - Dimensions: W120 × D100 × H30mm
  - Dial: Steel, White
  - Hour marker: Black
  - Hands: Aluminum, Black
  - Frame: Steel, Gray
  - Flange: W200 × D180mm
  - Weight: 8.8kg

**Double-faced Bracket Type**
- **SC-461**
  - Dimensions: W120 × D100 × H30mm
  - Dial: Steel, White
  - Hour marker: Black
  - Hands: Aluminum, Black
  - Frame: Steel, Gray
  - Flange: W200 × D180mm
  - Weight: 8.8kg

**Yellow(Y)**
- Double-faced Suspended Type (Condensed Resin Illumination)
- Power consumption:
  - APX-1011/1021:
    - for single-faced clocks: DC 24V 30-sec. polarized signal
    - for double-faced clocks: DC 24V 60-sec. polarized signal
  - FA-301:
    - Time accuracy: 0.7 second
  - Weight:
    - Approx. 760g
  - Distance (m):
    - Master Clock to Secondary Clocks: 30 hours
  - Built-in battery:
    - 00DP (9V × 3 = 27V)

**Light orange (L)**
- **Double-Faced Type**
  - Dimensions: W120 × D100 × H30mm
  - Dial: Steel, White
  - Hour marker: Black
  - Hands: Aluminum, Black
  - Frame: Steel, Gray
  - Flange: W200 × D180mm
  - Weight: 8.8kg

**Green (G)**
- **Double-Faced Type**
  - Dimensions: W120 × D100 × H30mm
  - Dial: Steel, White
  - Hour marker: Black
  - Hands: Aluminum, Black
  - Frame: Steel, Gray
  - Flange: W200 × D180mm
  - Weight: 8.8kg

**Orange (O)**
- **Double-Faced Type**
  - Dimensions: W120 × D100 × H30mm
  - Dial: Steel, White
  - Hour marker: Black
  - Hands: Aluminum, Black
  - Frame: Steel, Gray
  - Flange: W200 × D180mm
  - Weight: 8.8kg

**The mechanism of Condensed resin illumination**
- Fluorescent ramps and power are unnecessary for illumination.
- Easy to maintenance.
- To be suitable for station use.

**System configuration**
- UP to 10 digital secondary clocks
- UP to 110 analog secondary clocks (if the current consumption of each secondary clock is 12mA)
An intelligent timer for offices, schools, factories, and other locations. Melody time signals are programmable for up to one week.

QBT-30
Announces the start of work, lunchtime, and the end of work with beautiful melodies. Refined design and outstanding function make this a necessity for every office.

- Up to 60 programs can be set a week at a time.
- Different settings for each day of the week are OK.
- Resetting for different times each day is simple and convenient.
- The 10 melodies can be combined as preferred.
- External output can be used to manage lighting, air-conditioning, and so on.

For example, a setting like this is easy to do!
Manage time at school or in the office or the way you've always wanted to!

<table>
<thead>
<tr>
<th>CONTENTS</th>
<th>SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
<td>AC 90V-120V, AC 200V-240V, 50/60Hz</td>
</tr>
<tr>
<td>Power consumption</td>
<td>Approx. 4.0W</td>
</tr>
<tr>
<td>Power failure backup</td>
<td>Clock : 24 hours, program : 10 weeks</td>
</tr>
<tr>
<td>Operating temperature range</td>
<td>−10°C～+50°C</td>
</tr>
<tr>
<td>Time accuracy</td>
<td>Within ±3 sec./month (+5°C～+35°C)</td>
</tr>
<tr>
<td>Signal output</td>
<td>2 independent channels (dry contact signal)</td>
</tr>
<tr>
<td>Contact output capacity</td>
<td>AC 125V / 5A , AC 250V / 3A, DC 30V / 5A</td>
</tr>
<tr>
<td>Program setting range</td>
<td>In 1-minute increment</td>
</tr>
<tr>
<td>Dimensions</td>
<td>W270×H372×D58.5mm</td>
</tr>
<tr>
<td>Weight</td>
<td>Approx. 2.0kg (main body)</td>
</tr>
</tbody>
</table>

*Each title is played twice.

- Westminster Chime .................. (40 Sec.)
- Edelweiss .......................... (42 Sec.)
- Melody Fair ........................ (43 Sec.)
- Chim Chim Cheree .................. (40 Sec.)
- Bibbidi-Bobbidi-Boo ............... (30 Sec.)
- Yuyake Koyake ..................... (40 Sec.)
- Going Home ........................ (45 Sec.)
- Etude Op. 10, No. 3 ............... (45 Sec.)
- Beauty and the Beast .............. (44 Sec.)
- A Whole New World ................ (41 Sec.)

For controlling external equipment

- Turn on show window lights
- Turn off show window lights
- Turn on air-conditioning
- Turn off air-conditioning

For using preset melodies

- Work starts—“Westminster Chime”
- Lunchtime—“Edelweiss”
- Lunch ends—“Melody Fair”
- Workday ends—“Westminster Chime”
### CONTENTS

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>RBC-200N</td>
<td></td>
</tr>
<tr>
<td>RBC-302N</td>
<td></td>
</tr>
<tr>
<td>RBC-303N</td>
<td></td>
</tr>
</tbody>
</table>

### Digit height

- 200mm (Orange)
- 200mm (Yellow)

### Dimensions

- **W950×H380×D184mm**
- **W958×H380×D300mm**

### Weight

- **30kg**
- **65kg**

### Accuracy

- Within ±0.2 sec/day at normal temperature

### Operational temperature range

- −20°C～+60°C

### Input power

- AC (50/60Hz)

### Current consumption

- **Approx. 1.5A** (including 0.7A for internal illumination)
- **Approx. 1.9A** (including 0.7A for internal illumination)

### Internal illumination

- FL-32W × 1 (With automatic flasher)

### Display

- Magnetic inversion system

### Power failure backup

- Approx. 10hours

### Case

- Steel, Metallic brown
- Front: Transparent glass (Thickness: 3mm)

---

### CONTENTS

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLC-100W</td>
<td></td>
</tr>
<tr>
<td>SLC-120E</td>
<td></td>
</tr>
<tr>
<td>SLC-122E</td>
<td></td>
</tr>
</tbody>
</table>

### Digit height

- **100mm (White)**
- **120mm (Orange)**

### Dimensions

- **W620×H170×D60mm**
- **W626×H176×D170mm**

### Weight

- **3.5kg**
- **3.8kg**
- **12.5kg**
- **13.5kg**

### Accuracy

- Within ±0.2 sec/day at normal temperature

### Operational temperature range

- −10°C～+50°C

### Input power

- AC (50/60Hz)

### Current consumption

- **Approx. 0.1A**
- **Approx. 0.2A**
- **Approx. 0.2A**
- **Approx. 0.4A**

### Display

- White / Orange LED

### Case

- Plastic, Yellowish white

---

*Please turn off the illuminating light while the clock is shown directly by the sun in the daytime.*
In addition to its single usage, this weekly digital clock is uniquely designed in such a way that it can form an original world time clock by applying multiple units. No need for a master clock since it is a twin synchronous system. (A power box is required when multiple clocks are used to form a world time clock.) The installation can be either wall type or recessed type. And a map panel of your design can be prepared on request.
**LARGE-SIZED WALL CLOCK (OUTDOOR/RAINPROOF)**

Dial of a large-sized clock is made of steel except for internal illumination type which is made of acrylic resin. Input signal of a wall type secondary clock is 30-sec. polarized signal/DC 3.6V.

Cost for installation work is not included. Power consumption of 550 and 700mm types is 18mA, and that of 900 and 1,000mm types is 60mA.

### 550-mm Diameter

**FC-503**

- **Frame**: Steel, Coffee brown color
- **Cover glass**: Polycarbonate
- **Thickness**: 90mm
- **Weight**: 4.7kg

### 700-mm Diameter

**FC-703**

- **Frame**: Steel, Coffee brown color
- **Cover glass**: Polycarbonate
- **Thickness**: 99mm
- **Weight**: 7.5kg

**FC-7131**

- **Internal illumination type**
- **Thickness**: 170mm
- **Weight**: 11.5kg

All the other specs. are the same as those of FC-703.

**FC-707**

- **Frame**: Stainless steel polished
- **Cover glass**: Polycarbonate
- **Thickness**: 99mm
- **Weight**: 7.0kg

**FC-7171**

- **Internal illumination type**
- **Thickness**: 170mm
- **Weight**: 10.7kg

All the other specs. are the same as those of FC-707.

**FC-7191**

- **Internal illumination type**
- **Frame**: Steel, Coffee brown color
- **Cover glass**: Polycarbonate
- **Thickness**: 170mm
- **Weight**: 11.5kg

### 900-mm Diameter

**FC-903**

- **Frame**: Steel, Coffee brown color
- **Cover glass**: Polycarbonate
- **Thickness**: 150mm
- **Weight**: 21kg

### 1000-mm Diameter

**FC-103**

- **Frame**: Steel, Coffee brown color
- **Cover glass**: Polycarbonate
- **Thickness**: 150mm
- **Weight**: 25kg

**FC-108**

- **Frame**: Stainless steel polished
- **Cover glass**: Polycarbonate
- **Thickness**: 150mm
- **Weight**: 25kg

### Protector for 700-mm outdoor wall clock

**TK-S2**

- **Frame**: Stainless steel, Coffee brown color

*Photo example: TK-S2 furnished on FC-703*

### Visibility Distance

<table>
<thead>
<tr>
<th>7-14m</th>
<th>10-20m</th>
<th>20-35m</th>
<th>30-55m</th>
<th>40-80m</th>
<th>55-112m</th>
<th>80-160m</th>
<th>112-224m</th>
</tr>
</thead>
</table>

### Controller

**AP-4031**

When installing a secondary clock, a controller for exclusive use with it is required (optional).

### Controller Case

**QF-BOX**

Configuration of Large-Sized Wall Clock
LARGE-SIZED DOUBLE-FACED POLE CLOCK (RAINPROOF)

Cost for pole and installation work are not included. Input signal of a pole clock is 30-sec. polarized signal / DC3.6V. Power consumption of a pole clock is 18mA.

700-mm Diameter

**FC-7831**
Internal illumination type
- Frame: Steel, Coffee brown color
- Cover glass: Polycarbonate
- Thickness: 300mm
- Weight: 20kg

**FC-7851**
Internal illumination type
- Frame: Steel, Coffee brown color
- Cover glass: Polycarbonate
- Thickness: 300mm
- Weight: 20kg

**FC-7871**
Internal illumination type
- Frame: Stainless steel
- Cover glass: Polycarbonate
- Thickness: 300mm
- Weight: 18.5kg

**FC-7891**
Internal illumination type
- Frame: Steel, Coffee brown color
- Cover glass: Polycarbonate
- Thickness: 300mm
- Weight: 20kg

**LARGE-SIZED SUSPENDED TYPE CLOCK (OUTDOOR / RAINPROOF)**

700-mm Diameter

**FC-7631**
Double-faced type with internal illumination
- Frame: Steel, Coffee brown color
- Cover glass: Polycarbonate
- Thickness: 300mm
- Weight: 21kg
- Input voltage: DC 3.6V
- Current consumption: 18mA×2

Grounding Work (mm)

![Grounding Diagram](image)

Remarks:
In case that an output voltage from a master clock is DC 24V (except QC-5500 Series), you need a resistor adaptor R-700 or R-900 (optional) which has to be connected between the FC-series and the master clock.

**Controller**

**Controller Case**

AP-4031
QF-BOX

Digital Regulation

Gain or loss of the clock controller can be detected and corrected automatically by every zero-setting operation if conducted at regular intervals. This function is called the digital regulation.

Without digital regulation
With digital regulation

Remarks:
SOLAR-POWERED CLOCK

Wall Type: Cost for installation work is not included. Double-faced Pole Type: Cost for pole and installation work are not included.

Wall Type

- SL-10 (Solar Cell Panel) is included.

Double-faced Pole Type

- SL-10 (Solar Cell Panel) is included.

QF-503
- Frame: Steel, Coffee brown color
- Cover glass: Polycarbonate
- Thickness: 90mm
- Weight: 4.7kg

QF-703
- Frame: Steel, Coffee brown color
- Cover glass: Polycarbonate
- Thickness: 99mm
- Weight: 7.5kg

QF-707
- Frame: Stainless steel
- Cover glass: Polycarbonate
- Thickness: 99mm
- Weight: 7kg

QF-787
- Frame: Stainless steel
- Cover glass: Polycarbonate
- Thickness: 300mm
- Weight: 18kg

QF-783
- Frame: Steel, Coffee brown color
- Cover glass: Polycarbonate
- Thickness: 300mm
- Weight: 19.5kg

QF-785
- Frame: Steel, Coffee brown color
- Cover glass: Polycarbonate
- Thickness: 300mm
- Weight: 19.5kg

QF-789
- Frame: Steel, Coffee brown color
- Cover glass: Polycarbonate
- Thickness: 300mm
- Weight: 19.5kg

Controller

- QP-4001
- When installing a secondary clock, a controller for exclusive use with it is required (optional).

Controller Case

- QF-BOX

Configuration of Wall Type Solar Clock

Solar Cell Panel
Wiring
Solar Clock Controller

Grounding Work (mm)

- Solar Cell Panel
- Clock Unit
- Pole
- Clock Controller
- Concrete
- Rubble
- Glass 3 Grounding (GND)

(Pole and base are shown here for reference purpose only.)