CITIZEN



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The "T.I.C." in CITIZEN T.I.C. is an acronym devised from the Latin "Terra Incognita" (unexplored territory), combined with "Clock", a core product of our company.

The name embodies our approach of developing creative new ideas for clocks(system clocks) and applying cutting-edge technologies to manufacture them to the highest standards. Since the founding of this company, innovative, imaginative thinking has gone hand in hand with creative effort toward solving a broad range of issues related to time and information, driving the development of products resoundingly appreciated by consumers.

With focus on the meaning implicit in our company name, we are committed to evolving apace with a new age of information in which information of all kinds is intrinsically linked by networks.

Well into the future we aim to continue anticipating and answering people's broadening and diversifying needs.

Master Clock

The KM-70 Series Master Clock is a high-precision crystal master clock incorporating a microcomputer.

Other than clock functions, these master clocks are also equipped with program timer functions, and they are able to control a maximum of 8 connected devices (those connected to 8 circuits).

[Models with a timer, with "T" in the model code]

Also, these master clocks are equipped with a time server function as standard, so when time correction (via GPS) is performed, not only can they drive the secondary clocks, but they can also set the time for a network within a building.

Clock functions

- Up to 30 secondary clocks (12 mA per clock) can be connected to each circuit.
- Automatically corrects for daylight saving time.
- Automatically corrects for leap seconds.
- When an antenna is connected, automatically corrects the time twice daily via GPS satellite radio signals.
- Automatically corrects for leap years.
- A power failure of 30 hours or less is backed up by batteries to ensure that the clock signals are produced without interruption.
- In the case of a power failure exceeding 30 hours, the clock signals are interrupted. However, if the power failure is 5 days or less, the time is corrected automatically after the operation recovers.

Time server function

- This product is equipped with a time server function, which can synchronize the times of computers and other devices in a network.
- The time for the network can be set by performing time correction via GPS.





KM-71T Series : Crystal Master Clock with Program Timer **Circuit 4 Circuit 1 Circuit 2** Circuit 3 Course 1 --------...... -----KM-71T-3P-E KM-71T-4P-E KM-71T-1P-E KM-71T-2P-E KM-71TC-4P-E KM-71TC-1P-E KM-71TC-2P-E KM-71TC-3P-E

KM-70 Series : Crystal Master Clock

Circuit 1	Circuit 2	Circuit 3
Model codeProgram timerChimeKM-70-1P-E——	Model code Program Chime KM-70-2P-E – –	Model code Program Ch timer Ch KM-70-3P-E —

Circuit 4



Model code	Program timer	Chime
KM-70-4P-E	-	1

				Model code		Secor	ndary clock o	ircuit
		Function	KM-71T	KM-71TC	KM-70	Circuit 2	Circuit 3	Circuit A
			(Circuit 1)	(Circuit 1)	(Circuit 1)		Circuit 5	
	Item	Secondary clock circuit		Circuit 1		Circuit 2	Circuit 3	Circuit 4
	Ouartz oscillator frequency	4194.304 kHz	•	•	•	•		•
		Error within ± -0.7 s per week						
	Accuracy	Radio synchronization (GPS/long wave/terrestrial digital control/ FM radio control): 0 s cumulative error	•	•	٠	•	•	•
Guaranteed accuracy temperature range		0°C - +40°C	•	•	٠	•	•	•
	Operating temperature range	-10°C - +50°C	•	•	٠	•	•	•
	Time display	30-second intermittent drive Year, month, date, day of the week, hours, minutes, seconds, digital LCD display	•	•	٠	•	•	•
	Date/time adjustment	Year, month, date, hours, minutes, seconds adjustment using keys or jog dial	•	•	٠	•	•	•
	Secondary clock circuit output signal	DC 24 V, 30-second polarized, with overcurrent protection and surge absorber	•	•	٠	•	•	•
ock	Number of secondary clock output circuits			Circuit 1		Circuit 2	Circuit 3	Circuit 4
ster clo	Number of secondary clocks			30 (12 mA each)	I	60 (12 mA each)	90 (12 mA each)	120 (12 mA each)
Ma	Secondary clock correction	Automatic fast-forwarding (with pulse width error prevention)	•	•	•	•	•	•
	Daylight saving time	Set using keys or jog dial; daylight saving time adjustment is	•	•	•	•	•	•
			-	-		-		
	Leap second adjustment	Set using keys or jog dial; leap second adjustment is automatic	•	•	•	•		•
	Signal voltage detector	With complete shut-down mechanism activated if signal voltage drops	•	•	٠	•	•	•
	Input power supply	AC 100 V - 240 V +/- 10% 50/60 Hz, with AC power supply display LED		Max. 23 W		Max. 33 W	Max. 44 W	Max. 54 W
	Power failure power supply	Built-in sealed nickel-hydrogen storage battery (DC 24 V)	•	•	•	•		•
	Battery protection	Over-discharge protection device	•	•	•	•		
	Power failure operating time	Secondary clock drive: approx. 30 hours	•	•	٠	•	•	•
	(359)	Front nanel: ABS resin rear case: steel plate						
			•	•	•	•		
	Exterior finish	Front panel: gray (N8), rear case: gray (N8) gloss 5	•		•	•		
	Weight			approx. 6 kg		ā	ipprox. 6.5 kg	J
	Received radio signals	GPS satellite radio signals L1 band	•	•	•	•		
	Receiver frequency	1575.42 MHz	•	•		•		
GPS	Receiver sensitivity	-145 dBm (during cold start)	•	•	•	•	•	•
	, The second se	* Separately available antenna and cable must be installed.						
	Time correction cycles	Twice daily (02:00 and 03:00) or every hour; times can be changed	•	•	•	•		
		1						
ne ver	Network protocol	NTP v3/v4 SNTP v3/v4	•	•	•	•		•
Ser	Input and output interface	RJ-45 10Base-T/100Base-TX Ethernet	•	•	٠	•		
		·						
	ltem	Details	•	•	-	•		
	Control method		•		_	•		
	Output circuits	8 independent circuits contact output (make contact)						
			•	•		•		•
	Output operation change	Output can be switched manually for each circuit (Automatic, Off, Manual)	•	•	-	•	•	•
ner	Load capacity	Contact capacity: AC 250 V, 5 A resistance load Minimum applicable load: DC 5 V, 1 mA	•	•	-	•	•	•
ram tir	Type of programs	Weekly programs, annual programs, 99 special settings can be configured	•	•	-	•	•	•
Prog	Number of output operations	Total of 900 operations on 8 circuits, also possible to set 900 operations on just 1 circuit (1,800 timer settings in all, with "ON" and "OE" considered as songrate settings).	•	•	-	•	•	•
	Setting method	Set using keys or iog dial			_			
	Time to a sector t	Conclusion of the second						
			•	•	-	•	•	•
	i imer output	Continuous from set time to set time	•	•	-	•	•	•
	Power failure operating time	Time count: approx. 5 years (Master clock) Program timer memory unit: approx. 10 years	•	•	-	•	•	•
	Chime	Electronic type PCM sound source	-	•	-	•		
		1. "Westminster Chime" 2. "Whittington Chime"		-		-	-	-
	Tune	3. "King's Procession" 4. "Silvery Waves" 5. "Pastoral"	-	•	-	•		•
me		6. "Furusato" (Home Town) 7. "leji" (Goin' Homte)						
Chi	Tune selection	A different tune can be set for each set time	-	•	-	•		
	Output	Impedance: 10 kΩ - 25 dB +/- 3 dB	-	•	-	•		•
	Turning on of amplifier	1 circuit contact make signal (contact capacity AC 250 V, 5 A resistance load)	-	•	-	•	•	•

Unit-Type Master Clock

The product consists of a separate parent clock and monitor clock. The number of lines can be increased when needed.



Main Monitor Unit





 Input signal:
 DC 24 V, 30-sec

 Operating temperature range:
 -10° C - +50° C

 Time display:
 30-second inter

 Case:
 Polished steet p

 Color:
 Gray (N8), glos

 Weight:
 Approx. 35 kg

DC 24 V, 30-second polarized signal -10° C - +50° C 30-second intermittent drive Polished steel plate Gray (N8) , gloss 5 Approx. 3.5 kg





Secondary Cock Circuit Units











If you wish for a panel clock, use a wall-hanging parent clock with a fixing bracket.

		:	Model code		Secondary clock cire		cuit
		Function	PT-71TL-PE-E (Circuit 1)	PT-71TLC-PE-E (Circuit 1)	LU-72P-PE-E (Circuit 2)	LU-73P-PE-E (Circuit 3)	LU-74P-PE-E (Circuit 4)
	Item	Secondary clock circuit	Circ	uit 1	Circuit 2	Circuit 3	Circuit 4
	Quartz oscillator frequency	4194.304 kHz	•	•	•	•	•
	Accuracy	Error within +/-0.7 s per week Radio synchronization (GPS/long wave/terrestrial digital control/FM radio control): 0 s cumulative error	•	•	•	•	•
	Guaranteed accuracy temperature range	0°C - +40°C	٠	•	•	•	•
	Operating temperature range	-10°C - +50°C	•	•	•	•	•
	Time display	30-second intermittent drive Year, month, date, day of the week, hours, minutes, seconds, digital LCD display	•	•	٠	•	•
	Date/time adjustment	Year, month, date, hours, minutes, seconds adjustment using keys or jog dial	٠	•	•	•	•
	Secondary clock circuit output signal	DC 24 V, 30-second polarized, with overcurrent protection and surge absorber	•	•	•	•	•
clock	Number of secondary clock output circuits		Circ	uit 1	Circuit 2	Circuit 3	Circuit 4
aster	Number of secondary clocks		3 (12 m/	u A each)	60 (12 mA each)	90 (12 mA each)	120 (12 mA each)
Σ	Secondary clock correction	Automatic fast-forwarding (with pulse width error prevention)	•	•	•	•	•
	Daylight saving time function	Set using keys or jog dial; daylight saving time adjustment is automatic	•	•	•	•	•
	Leap second adjustment	Set using keys or jog dial; leap second adjustment is automatic	•	•	•	•	•
	Signal voltage detector	With complete shut-down mechanism activated if signal voltage drops	•	•	•	•	•
	Input signal	Secondary clock channel expansion signal 0.5 sec., 1 sec. And 30 sec. Timing signal : 1sec.	٠	٠	٠	•	•
	Input power supply	AC 100 V - 240 V +/- 10% 50/60 Hz, with AC power supply display LED	Max.	23 W	Max. 28 W	Max. 35 W	Max. 45 W
	Power failure power supply	Built-in sealed nickel-hydrogen storage battery (DC 24 V)	٠	•	•	•	•
	Battery protection	Over-discharge protection device	•	•	•	•	•
	Power failure operating time	Secondary clock drive: approx. 30 hours	•	•	•	•	•
	Case	Front panel: ABS resin, rear case: steel plate	•		•	•	
	Exterior finish	Front panel: gray (N8), rear case: gray (N8) gloss 5	•	•	•	•	•
	Weight		approx	. 4.5 kg		approx. 4.5 kg	
	Received radio signals	GPS satellite radio signals L1 band	•	•	•	•	•
Š	Receiver frequency	1575.42 MHz	•	•	•	•	•
ច	Receiver sensitivity	-145 dBm (during cold start) * Separately available antenna and cable must be installed.	•	•	•	•	•
	Time correction cycles	Twice daily (02:00 and 03:00) or every hour; times can be changed	٠	•	٠	٠	•
rver	Network protocol	NTP v3/v4 SNTP v3/v4	•	•	•	•	•
= 8	Input and output interface	RJ-45 10Base-T/100Base-TX Ethernet	•	•	•	•	
				-	-	-	
	Item Control worth and	Details	•	•	•	•	•
	Output circuite	Use of CPU	•	•	•	•	
		Output can be switched manually for each circuit (Automatic. Off.	•	•	•	•	
	Output operation change	Manual)	•	•	•	•	•
timeı	Load capacity	Minimum applicable load: DC 5 V, 1 mA	•	•	•	•	•
gram	Type of programs	Weekly programs, annual programs, 99 special settings can be configured	•	•	•	•	•
Pro	operations	10tal of 900 operations on 8 circuits, also possible to set 900 operations on just 1 circuit (1,800 timer settings in all, with "ON" and "OFF" considered as separate settings)	•	•	•	•	•
	Setting method	Set using keys or jog dial	•	•	•	•	•
	Time tone output	Can be changed from 1 s to 59 s in 1 s signal width units	•	•	•	•	•
	niner output	Time count: approx 5 years (Master clock)	•			•	
	Power failure operating time	Program timer memory unit: approx. 10 years	•	•	•	•	•
	Chime	Electronic type PCM sound source					
	Tune	1. "Westminster Chime" 2. "Whittington Chime" 3. "King's Procession"	_	•	•	•	•
me	Tune selection	4. "Silvery Waves" 5. "Pastoral" 6. "Furusato" (Home Town) 7. "leji" (Goin' Home)	_				
ਤਿ		Impedance: 10 kO - 25 dB \pm /- 3 dB	_	•	•		•
	Turning on a formall f	1 circuit contact make signal (contact capacity AC 250 V. 5 A resistance				-	
	iurning on of amplifier	load)	-	•	•	•	•
	Input signal	Secondary clock circuit extension signal 0.5 sec., 1 sec. And 30 sec. Timing	-	_	•	•	•
sion	Power failure operating time	Secondary clock drive: approx. 30 hours	_	-	•	•	•
ten	Input power supply	AC 100 V - 240 V +/- 10% 50/60 Hz, with AC power supply display LED	-	-	Max. 28 W	Max. 35 W	Max. 45 W
Ĕ	Weight		approx. 4.5 kg	approx. 4.5 kg		approx. 4.5 kg	J

Secondary Clocks Input signal: DC 24 V, 30-second polarized signal

Indoor Secondary Clocks : Wall-Mounted Models





Semi-Flush Mounting Models





9



Outdoor Models

Basic Specifications

Case:	Steel plate in cream
Dial:	Aluminum in white
Figures:	Printed in black
Hands:	Aluminum in black
Front glass:	Toughened glass

JF-6001

Case:

Dial:

Figures:

Hands:

Lighting:

Power 16 mA Weight: Approx. 10 kg

1**C**

9

8

Steel plate in cream

Acrylic plate in opal

Aluminum in black

30 W using round fluorescent lamps

(with automatic flashing device)

12 11

6

350

such as balls in a school yard.

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Clock Guard

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Printed in black

Front glass: Toughened glass



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Secondary Clock Accessories



Cable Diameter and Voltage

The diameter of the secondary clock cables is determined both by the number of slave clocks to be connected to the channel and the distance of the farthest secondary clock from the master clock. The minimum operating voltage of secondary clocks allows for a voltage drop of 10% from the minimum output voltage of 20 V of the master clock.

Secondary clock			Wire length (single line length) m								
Number of secondary clocks	Current (A)	100	200	300	400	500	600	700	800	900	1000
5	0.06	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.2	1.2	1.2
10	0.12	1.0	1.0	1.0	1.2	1.2	1.2	1.2	1.2	1.6	1.6
15	0.18	1.0	1.0	1.2	1.2	1.6	1.6	1.6	1.6	1.6	2.0
20	0.24	1.0	1.2	1.2	1.6	1.6	1.6	1.6	2.0	2.0	2.0
25	0.30	1.0	1.2	1.6	1.6	2.0	2.0	2.0	2.0	2.6	2.6
30	0.36	1.0	1.2	1.6	1.6	2.0	2.0	2.6	2.6	2.6	2.6

(Use P.V.C cables.)

Case Color Samples

Printed colors may differ slightly from the colors of actual products.



Viewing Distance and Face Size



The graph to the left shows data for a face with black figures on a white background, and assumes 0.6 vision, the lowest figure in the standard range for adults.

Digital Clocks AC Mode / Pulse Mode White LED Models [For Indoor Use]

Wall-Mounted Models / Suspended Models

Basic Specifications

Case:	Steel plate in gray
Display:	4-digit white LED display
Power supply:	AC 110/220 V at 50/60 Hz
Input signal:	DC 24 V 30-second polarized signal, 12 mA
Operating temperature range	: 0° C - +40° C
Emergency power supply:	By lithium battery. Data in memory is backed up, but the time is not displayed.
Clock style:	12 or 24 hour (internally switching)



Display: 80 mm





Power consumption: Weight:

7 W Approx. 3 kg



LDW-12A2

Display: 120 mm

Suspended Models





Power consumption: Weight:

9 W Approx. 5 kg



 \ast Can be set to the pulse or AC mode, according to your requirements.



. :

Red LED Models DGT Series [For Indoor Use]





Weight:

Approx. 7 kg

DGT20-R-K

Display: 200 mm



Weight: Approx. 10 kg ┨_月ᆮᆷ_{╘金曜╘}┠ᆷᇥᄗᆷ_ᄽ

Steel plate in cream gloss 5

AC 110/220 V at 50/60 Hz

12 or 24 hour (internally switching)

DC 24 V 30-second polarized signal, 12 mA

Display: 120 mm

4-φ9

incoming line hole

4-digit red LED display

680 550

Basic Specifications

DGT12-R-K

Operating temperature range: 0° C - +40° C

Power failure compensation: Approx. 30 hours (memory only)

Case:

Display:

Power supply:

Input signal:

Clock style:

* Can be set to the pulse or AC mode, according to your requirements.

Surgical Operation Timers

AC Mode | Pulse Mode





Panel: Brushed stainless steel with black lettering AC 110/220 V at 50/60 Hz Power supply: DC 24 V, 1-second polarized (pulse) Input signal: Crystal oscillation frequency: 4194.304 kHz Weekly error less than \pm 0.7 seconds Accuracy: 51 mm 6-digit red LED display, 00 hours 00 minutes 00 seconds to Time display: 23 hours 59 minutes 59 seconds Emergency power supply: Ni/MH storage battery Battery operation time: Approx. 6 hours (counter only)

Approx. 9 kg

445 88+88~88s 45 270 0000 ő 115 470 130

Anesthesia Time Display Model



14

World Time Clock

WTC-100



This world clock adds a touch of class to the interior of a hotel or airport, or the office of a trading company, bank, securities company, or import/export company.

Centering on an analog clock that tells the time intuitively, the times and days of the week of seven other cities of the world are displayed digitally in a way that makes it easy to check the time difference.

Select eight major cities of the world.

The analog clock displays the local time. The unit also displays the times of seven other cities around the world that you select.

Digital display for quick recognition of the time difference

The times of seven other cities are displayed by 24-hour clocks along with days of the week (represented by two alphabetical characters each), making it easy to distinguish between them all.

Summer time setting

Summer time can also be set on a city by city basis, ensuring that the clocks tell time accurately all year round.

Easy setting operation on the front panel

The times (time differences) and summer times of all cities can be set by using the front control panel.

Chess Clock

DIT-40



The Meijinsen DIT-40

The Meijinsen Dir-40	
External dimensions:	106 × 180 × 74 mm
Case:	AES resin in metallic blue
Battery:	Two 1.5V size-C batteries
Display:	Reflective LCD
Numeric characters:	4 digits of 7-segment characters x 2 and 2 digits of 7-segment characters x 2 $$
Marks:	Rule (1 to 5) and others/ LED x 2
Audio:	Speech function in Japanese, Chinese, Korean, and English + Buzzer sound
Time setting:	Hours (The time can be set in one minute increments, from 0 minutes to 99 hours and 59 minutes)
	Second (Can be set in one second increments, from 0 to 60 seconds) Number of times (Can be set one by one, from 0 to 99 times)
Weight:	Approx. 400 grams (including batteries)

Frame: Map panel: Analog clock Dial: Hands: Digital display Time LED: Day of the week LED: City name: Input power supply: Duration of operation during

Aluminum, white alumite Aluminum, stain-color alumite (Land parts: Silver leaf sheet)

Acrylic resin, black Aluminum, white alumite in a hairline finish

Red Character height: Approx. 30 mm Red Character height: Approx. 25 mm Black AC100V±10% 50/60Hz Approx. 45VA

Duration of operation during blackout: Approx. one year (memory only)



WTC-GA1 : [Optional] GPS antenna

The unit keeps the correct time by regularly adjusting the clocks via radio waves from GPS satellites.



Speech function adds a whole new sense of realism to chess!

The sense of realism makes you feel like you're actually playing an official game. The speech function is available in four languages, allowing you to play the game with someone from a foreign country.

Examples of words spoken by the unit (English)

Let's start the game 30 seconds, 20 seconds, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1 Time is up Change batteries

Compatibility with various rules

You can select one of five competition modes: Sudden Death, Japanese Byoyomi, Fischer, Canadian overtime, and Xiangqi international.

Ability to play the game with someone who speaks a different language.

Four language selections are available for players: Japanese, Chinese, Korean, and English. This means you can play the game with someone from a foreign country.

Unit memorizes the set rule for the next game.

The last selected rule is memorized by the unit and retained even after you turn off the unit. This allows you to play the game again whenever you want with the normally used rules. (The memory is erased when the battery cells are removed.)

Solar-Powered Clocks

GPS Satellite-Sync Clocks







SG-703E

SG-700E



Basic Specifications

	Stool plate in chocolate
Case.	brown (7 5YR 3/2) gloss 5
Front glass	Transparent t/ toughened
Tione Blass.	glass
Dial:	Black printed numbers on
Diat	white aluminum
Hands:	Black aluminum
Movement:	DC 3.6 V polarized
	30-second drive
Solar panel	
Voltage:	DC 5.4 V, 450 mW
Control unit	
Case:	Metallic silver
Crystal oscillation	frequency: 32.768 kHz
Accuracy:	Error within +/-0.7 s per week
	(GPS Radio synchronization:
	0 s cumulative error)
Operating tempe	rature range: -20° C ∼ +60° C
Guaranteed acc	uracy temperature range:
	$0^{\circ}C \sim +40^{\circ}C$
Battery:	Electric double layer
	capacitor 1300 F
Operation in a	adverse conditions
	Approx. 45 consecutive days
	(of no sunlight)
GPS	
GPS antenna:	[Case]
	Polycarbonate resin, light gray
Receivable radio waves:	GPS satellite radio waves/
	quasi-zenith satellite radio
	waves, LT band
Receiver sensitivity:	-145 dBm (during cold start)
Time correction cycles	Onece daily (00:00 UTC)

765

KSG-750E

12

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765

SG-702E



KSG-752E



KSG-753E



Tower Clocks



Tower clocks can be designed and manufactured to accommodate the specific requirements of individual installations.



Basic Specifications

Dial: Stainless steel Hands: Axis: Stainless steel Power supply: Input signal: Output signal:

Corrosion resistant aluminum AC 100 V at 50/60 Hz DC 24 V, 30-second polarized signal Tower clock return signal

TAM25-A20



TAM25-A25



TAM25-B25





35

35

00000000 - 000

10:08.15

420

----- @ ::

Tower Clock Master Clock KM-71T-1P1M-E

Master clock capable of driving a tower clock and secondry clocks simultaneously.

Tower clock chime and illumination can be controlled using the program timer function (equipped with a tower clock monitor).

 \ast The master clock and program timer specifications are the same as for the KM-70 series. Please refer to page 4.



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354

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Operation box P-4460-1C



The operation and control boxes run on clock signals sent from the master clock. They are equipped with a monitor that is synchronized with the tower clock's hand movements, allowing operations and corrections to be made.



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