

# SMART SAVING FOR THE FUTURE

3rd EDITION



MEETING ROOM



HALL WAY



OFFICE



BATH ROOM



OUTDOOR LAMP



PARKING LOT

ESTABLISHED in 1987

To go ahead with advanced technology and credit company

## A Company Leading the Industry with Technology & Trust!



### A Brief history

Since the production of industrial counter in Aug. 1987 immediately after its founding, Han Seung Automatic has tried to improve quality through extensive R&D. It developed and launched limit switches in Apr. 1997 and time switches in 1999, which had been fully imported before. Now Han Seung Automatic develops and launches motion detectors, which is extremely in demand now a day around the world.

Under the slogan of "The Second Inauguration! Quality First!" every staff member of Han Seung Automatic exert his utmost efforts to manufacture products satisfactory to our customers through exhaustive quality control.

August	1987	Incorporated Han Seung Automatic
September	1987	Started to build magnetic counters
April	1988	Launched Digital Counters
May	1990	Moved to expand manufacturing capacity to 1108 Chimsan-1-dong, Buk-gu, Daegu, Korea
June	1996	Developed and produced 2-step pre-setting counters Moved to expand manufacturing capacity to 1108 Chimsan-1-dong, Buk-gu, Daegu, Korea
April	1997	Developed and launched limit switches
February	1999	Developed and produced Time Switches Acquired a CE Certificate for Time Switches Developed and launched Time Switches with memory retention
March	2000	Developed and produced plug-in type Time Switches
May	2000	Acquired ISO 9001 Certification for the quality management
May	2001	Developed an Automatic On/Off Sun Switch (photoelectric switch) for street lamp Acquired an Electric Safety Certificate for photo sensor Developed Photoelectric Auto On/Off Switch (HTS-24MCE) for Street Lamp
August	2001	
September	2001	Developed Digital Time Switches
October	2001	Developed a Digital Auto On/Off Switch (HTS-24MCE) for Street Lamp
June	2002	Obtained a membership of the Korea Illuminating Industry Cooperative
November	2002	Moved to expand manufacturing capacity to 293-3 Hyomok-2-dong, Dong-gu, Daegu, Korea
December	2003	Acquired a Certificate of Date Processing & Communication Equipment for wireless alarm system
May	2004	Acquired an Electric Safety Certificate for plug-in type Time Switch (HTS-24D)
June	2004	Patent pending for wireless alarm system (SCE-SCA)
July	2005	Developed and produced 25A Time Switch Developed a single phase stepper motor for Time Switch
August	2007	Developed a plug-in type Time Switch (FTS-24F) Developed a Digital Time Switch SIT
February	2009	Developed a GPS Auto On/Off Switch (HTS-24MCE) for Street Lamp
September	2009	Developed Digital Weekly Timers (HTS-AT10 & HTS-CT10)
February	2010	Acquired a patent certificate for Digital Time Switch
April	2010	Upgrade SIT
November	2010	Upgrade SIT 2-channel Digital Time Switch
February	2011	Acquired a certificate of confirmation of declaration for Analog Time Switch (with 5 terminals)
September	2011	Developed SMT-series and HTS-AT20S Digital Time Switches
October	2011	Acquired a certificate of confirmation of declaration for Analog Time Switch (with 4 terminals)
July	2012	Incorporated to Han Seung Automatic Co., Ltd.
October	2012	Developed IRT16 series Infinitely Repeated Time Switches
March	2013	Acquired CE Certificate for IRT16 series
May	2014	Developed Motion Detector (PS-12A, PS-16A)
January	2015	Developed Motion Detector (MS-4B, MS-8S), BREAKER(ES-15A)
April	2015	Moved to expand manufacturing capacity to 123, Sinpyeong-ro, Dong-gu, Daegu, Korea
May	2015	Developed Motion Detector (PS-16B)
September	2015	Developed Counter Sensor (CS-10A)





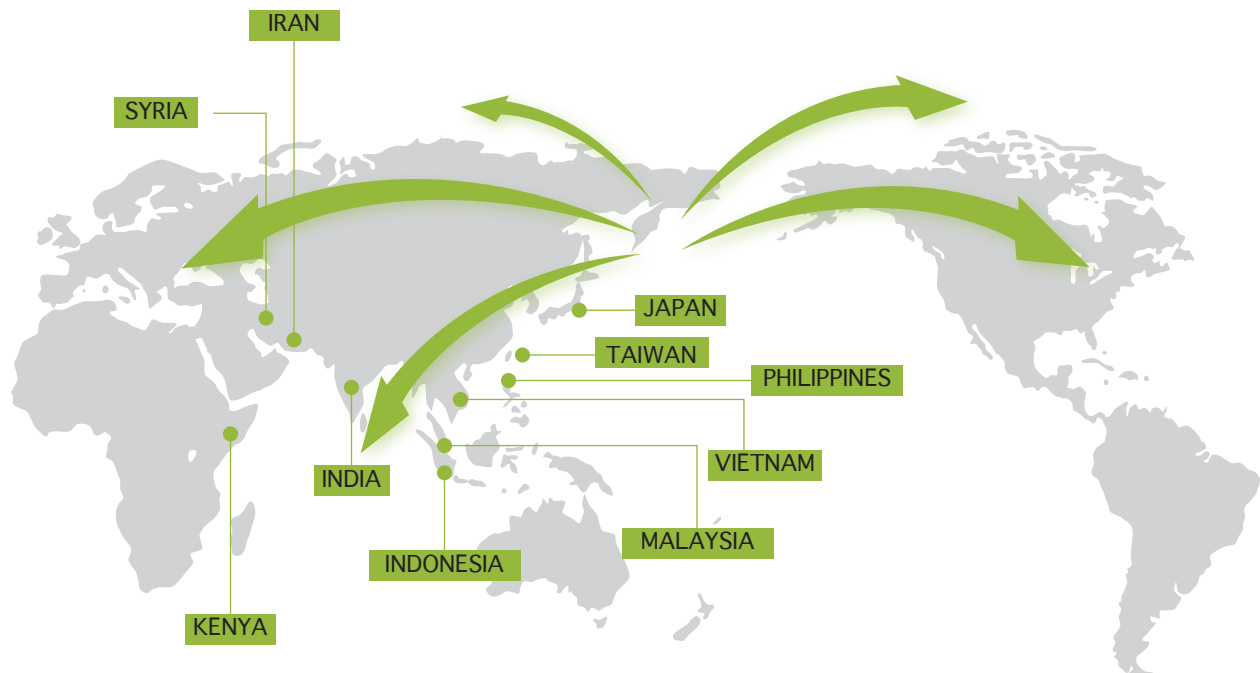
## Dear Customers



Thank you for your interest in  
HAN SEUNG AUTOMATIC.

My name is Gun HWA LEE, I am the founder and  
CEO of this Korean manufacturing company.  
Han Seung started business in factory automation  
field which was occupied by European brands for  
long time. We, With a sense of duty,  
kept developing and brought new products to  
Korean market continuously since the  
establishment, 1987. Now we are ,proudly,  
No. 1 time switch manufacturer in Korea and ready  
to be a powerful contender to new fields. We have  
the considerable potential and vaulting ambition to  
develop into a global market-leading company.  
Thank you again and hope we have a chance to  
hear from you soon.

With very best wishes  
CEO GUN HWA LEE



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## MOTION DETECTOR

**AMAZING ACCURACY!** Microcomputer control  
**USER-CENTERED DESIGN!** Direction adjustable  
**INSTANT EFFECT!** Auto switch on-off



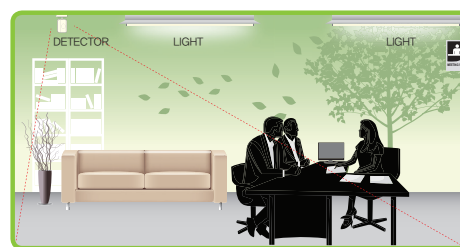
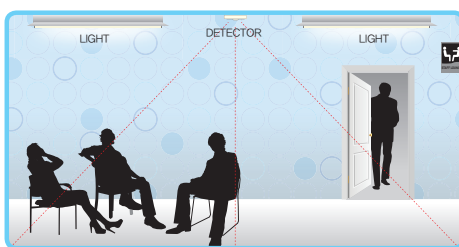
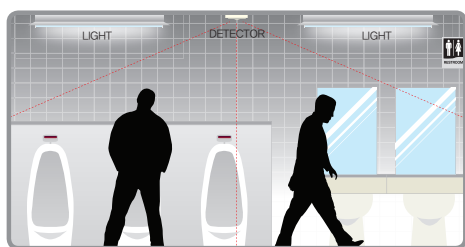
PS-12A / 16A



PS-16B

PS series (PIR SENSOR)			
MODEL	PS-12A	PS-16A	PS-16B
SENSING DISTANCE	10cm ~ 6m		10cm ~ 8m
SENSING ANGLE	100 °		100 ° (direction adjustable)
OPERATING VOLTAGE	AC110~220V, 50/60Hz		
RATED CURRENT	12A(2A)	16A(3A)	
CURRENT CONSUMPTION	LESS THAN 1W		
OUTPUT	Voltage Output Type		
DIMENSION	External Diameter Φ 110mm, Height 29mm		75mm X 118mm X 40mm

\* ILLUMINANCE, OPERATING TIME, SENSITIVITY ADJUSTABLE



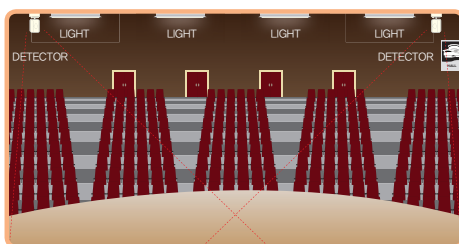
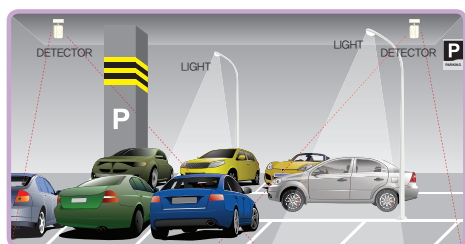
MS-8S



MS-4B

MS series (MICROWAVE SENSOR)		
MODEL	MS-8S	MS-4B
SENSING DISTANCE	FRONT : 15~20m, SIDE : 5~6m, BACK : 1~2m	
SENSING ANGLE	LEFT / RIGHT : 170 °, TOP / BOTTOM : 110 °	
OPERATING VOLTAGE	220VAC, 50/60Hz	
RATED CURRENT	8A(2A)	4A(1A)
CURRENT CONSUMPTION	LESS THAN 1W	
OUTPUT	Voltage Output Type	Change-over Contact
DIMENSION	75mm X 118mm X 40mm	

\* ILLUMINANCE, OPERATING TIME, SENSITIVITY ADJUSTABLE







MICROWAVE SENSOR



Receiver



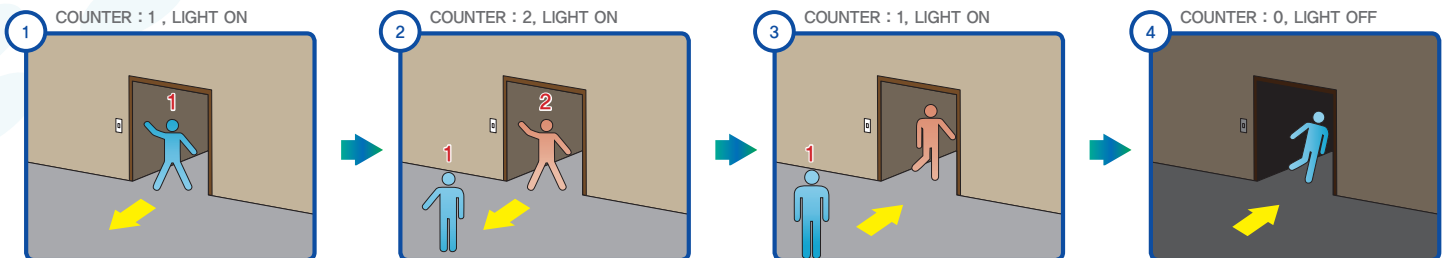
Transmitter

COUNTER SENSER

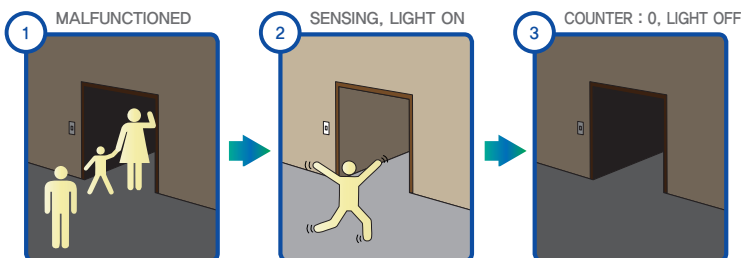
COUNTER SENSOR+ MICROWAVE SENSOR		
MODEL	CS-10A	
SENSING DISTANCE	10cm ~10m	
SENSING ANGLE	LEFT / RIGHT : 170 ° , TOP / BOTTOM : 110 °	
OPERATING VOLTAGE	220VAC , 50/60Hz	
CURRENT CONSUMPTION	LESS THAN 1W	
RATED CURRENT	L1 : 10A	L2 : 10A
OUTPUT	Voltage Output Type	Voltage Output Type
DIMENSION	86mm X 108mm X 46mm (MICROWAVW SENSOR)	
	26mm X 34mm X 11mm (COUNTER SENSOR)	

\* ILLUMINANCE, OPERATING TIME, SENSITIVITY ADJUSTABLE

## OPERATING SEQUENCE



## MALFUNCTION RECOVERY

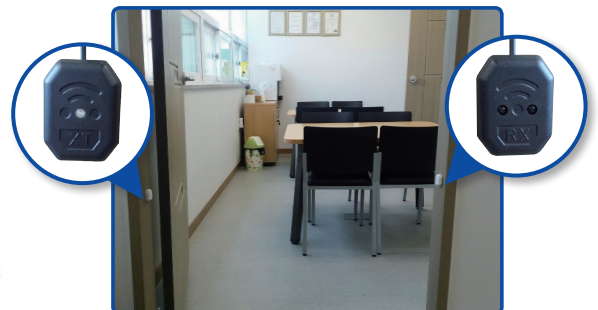


CONTROL SECTION



SENSOR SECTION

## INSTALLATION



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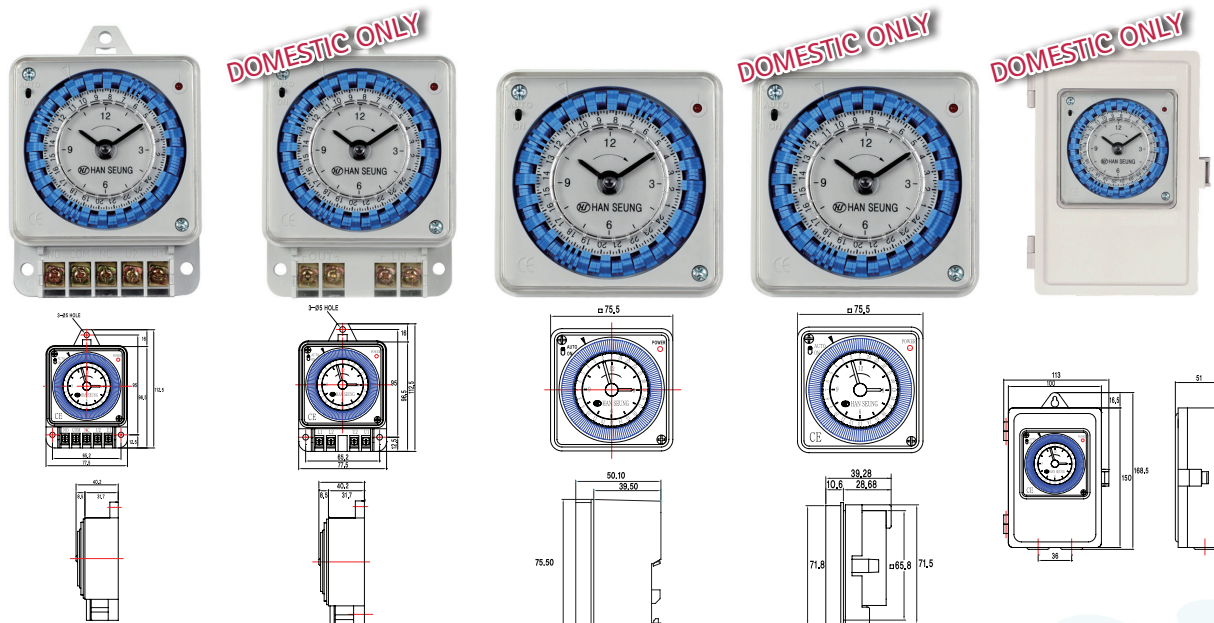


## ANALOG TIME SWITCH

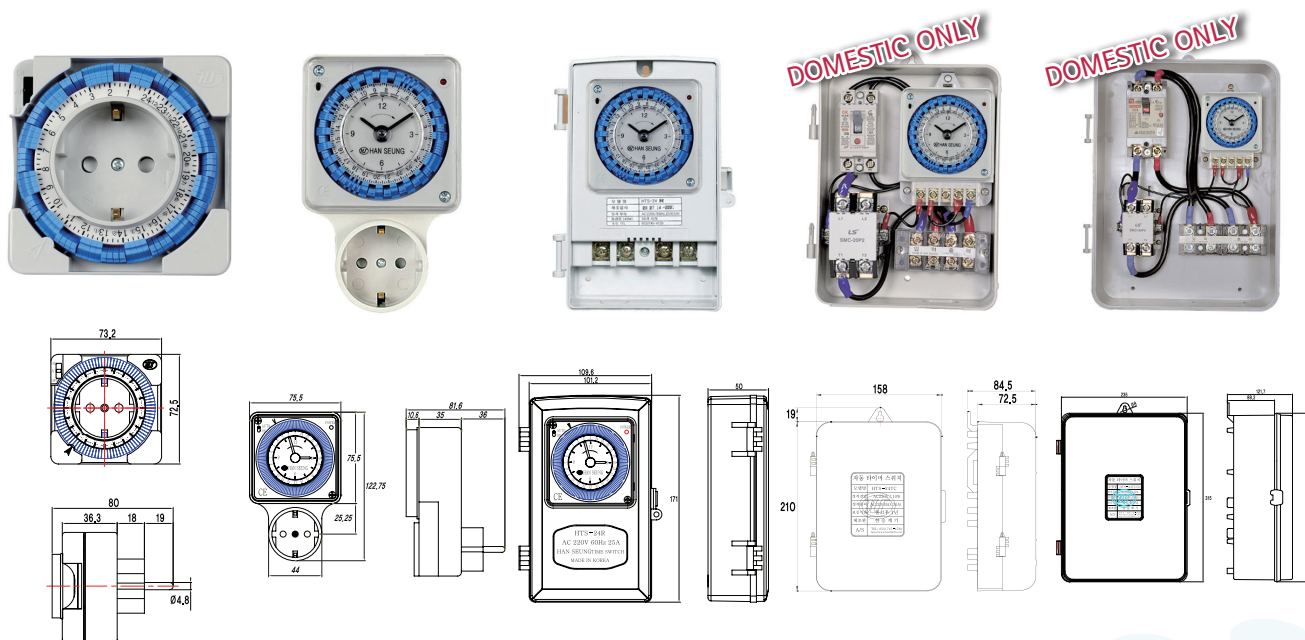
*SIMPLE SET! 24hours with 144pins*

*STABLE OPERATION! Ni-MH battery embedded*

*HIGH QUALITY! KOREA No.1 since launched*



MODEL	HTS-24BB	HTS-24BS	HTS-24BA	HTS-24BM	HTS-24BC
TYPE	Wall-mounted, DIN Rail, Power reserved	Wall-mounted, DIN Rail, Power reserved	Flush-mounted, DIN Rail, Power reserved	Flush-mounted, Power reserved	Wall-mounted, Rainproof, Power reserved
OPERATING VOLTAGE	110~220V 50/60Hz	110~220V 50/60Hz	110~220V 50/60Hz	110~220V 50/60Hz	110~220V 50/60Hz
RATED CURRENT	16A(3A)	16A(3A)	16A(3A)	16A(3A)	16A(3A)
OUTPUT	change-over contact	Voltage Output	change-over contact	change-over contact	Voltage Output
TEMPERATURE	-10±2°C~60±5°C	-10±2°C~60±5°C	-10±2°C~60±5°C	-10±2°C~60±5°C	-10±2°C~60±5°C
MIN. SWITCHINGTIMES	10 min	10 min	10 min	10 min	10 min
FLUORESCENT LAMP(40 W)	25EA	25EA	25EA	25EA	25EA
WIRE GAUGE	AWG 17	AWG 17	AWG 17	AWG 17	AWG 17
DIMENSION	112.5X77.5X40.2	112.5X77.5X40.2	71.8X75.5X50.1	71.8X75.5X39.3	168.5X113.0X51.0



HTS-24BF	HTS-24BD	HTS-24BR	HTS-24TCB	HTS-24TC50B
Plug-in type, Power reserved	Plug-in type, Power reserved	Rainproof, Power reserved	Rainproof, Power reserved	Rainproof, Power reserved
250V 50/60Hz	250V 50/60Hz	220V 50/60Hz	220V ~ 240V 50/60Hz	220V ~ 240V 50/60Hz
16A(3A)	16A(3A)	25A(15A)	30A	50A
Voltage Output	Voltage Output	Relay Output	Magnetic switch Output	Magnetic switch Output
-10±2°C~60±5°C	-10±2°C~60±5°C	-10±2°C~60±5°C	-10±2°C~60±5°C	-10±2°C~60±5°C
15 min	10 min	10 min	10 min	10 min
25EA	25EA	45EA	60EA	90EA
—	—	AWG 15	AWG 14	AWG 10
73.2X72.5X61.0	122.75X75.5X62.6	171.0X109.6X50.0	229.0X169.0X84.5	315.0X235.0X121.7



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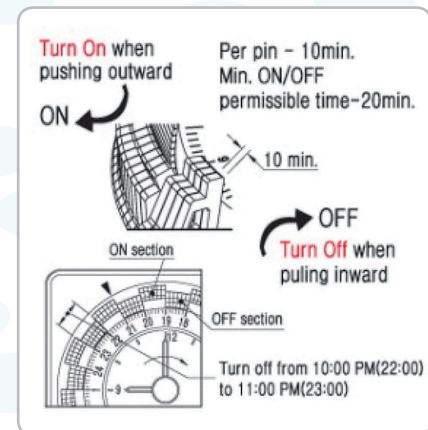
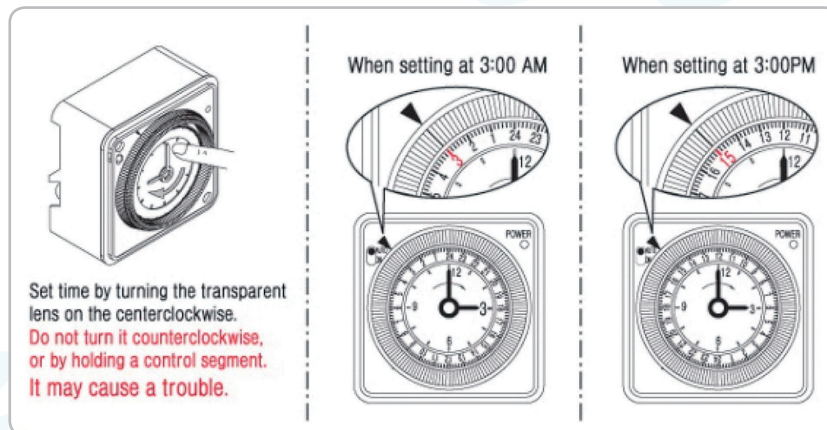
## ANALOG TIME SWITCH

### How to Set the Current Time & On/Off Time

When setting time 3:00 PM by turning the transparent lens in the center clockwise, align the digit 15 (3:00 PM) on the outside 24-hour dial to the arrow mark (▼).

※ If you turning the lens while holding a control segment, it may cause a trouble.  
Please turn the dial by holding the transparent lens.

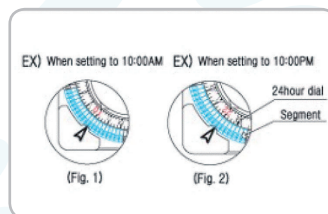
Push the control segment around the clock outward corresponding to the desired time zone to turn on the lamp.



### How to Set the Current Time of HTS-24F & On/Off Time

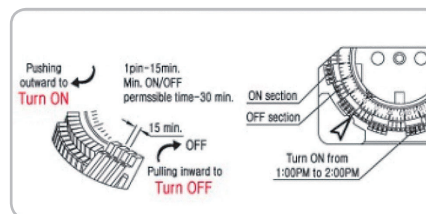
#### ■ Set the current time

turn the 24hour dial (index) clockwise to align the current time with the arrow mark (refer to the figure)

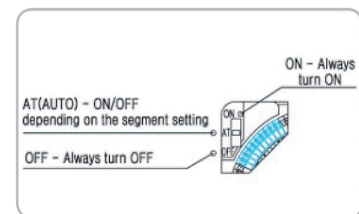


#### ■ How to set On/Off

push the control segment around the clock outward corresponding to the desired time zone to turn on the lamp.



#### ■ How to use conversion switch



## BREAKER



ES-15A

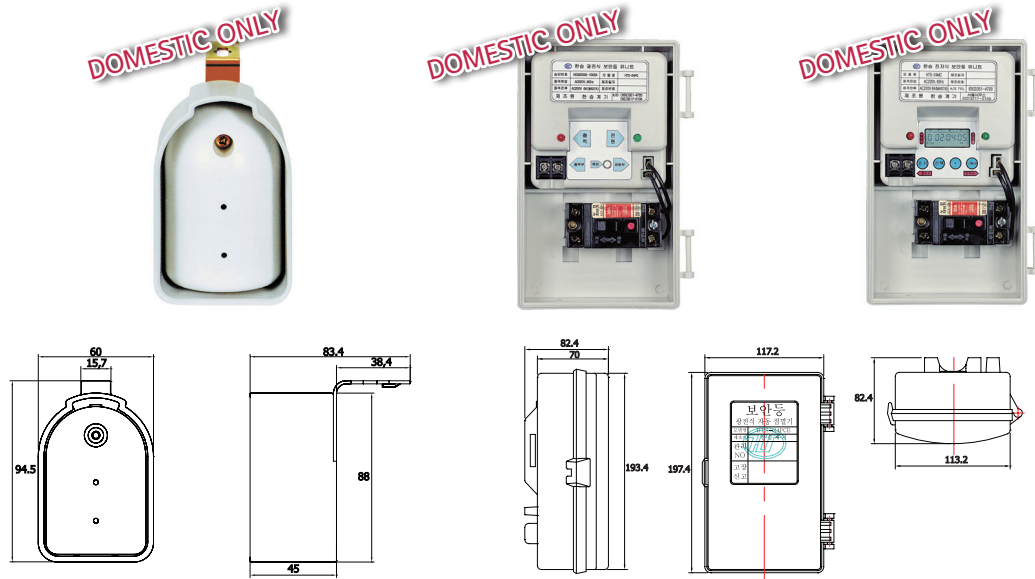
MODEL	ES-15A
TYPE	Wall-mounted, DIN Rail, Power reserved
OPERATING VOLTAGE	220V, 60Hz
RATED CURRENT	15A
OUTPUT	Relay Output
TEMPERATURE	-10±2°C~60±5°C
WIRE GAUGE	AWG 16

FUNCTION	DESCRIPTION
CUT ELECTRICITY	Cut the electricity when the current exceed certain configurable level and unblock after certain configurable time.
MEASURE ELECTRIC CHARGE	Convert the cumulative amount of electricity to charge



## STREET LAMP SWITCH

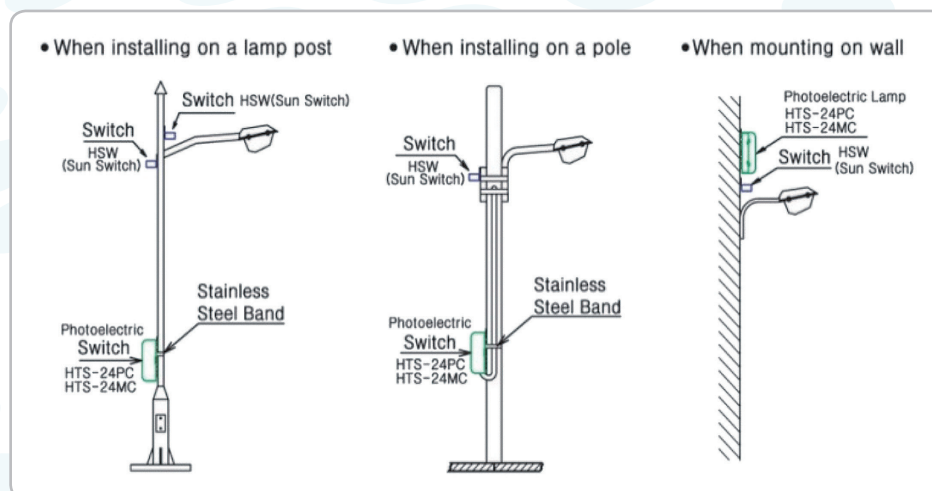
*CONVENIENCE!! Setting unnecessary*



Model	HSW	HTS-24PC	HTS-24MC
TYPE	Rainproof, photocell switch	Rainproof, photocell switch	Rainproof, digital switch
OPERATING VOLTAGE	220V, 60Hz	220V, 60Hz	220V, 60Hz
RATED CURRENT	6A	6A	6A
OUTPUT	Relay Output	Relay Output	Relay Output
TEMPERATURE	-10±2°C~60±5°C	-10±2°C~60±5°C	-10±2°C~60±5°C
ON/OFF SWITCHING	ON < 60 lux < OFF	ON < 60 lux < OFF	Timetable embedded
WIRE GAUGE	AWG 21	AWG 21	AWG 21



## HOW TO INSTALL



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## DIGITAL TIME SWITCH

*VARIETY USE! Multi Function type*

*EASY SET! Rotary switch choice*

*CUSTOMER FRIENDLY! D.C type, local timetable available*

### FUNCTION

#### Sunrise/Sunset

Times for sunrise and sunsets are changing continuously following seasons. A timer with sunrise/sunset function has a built-in database of sunrise and sunset in Seoul area basically. Thus, if you choose a function including a word of sunrise or sunset, the timer will automatically turn on/off at the present sunrise/sunset time based on data stored in the database. Thus, once setting, you don't need to adjust your timer to keep up with changing sunrise/sunset times.

MODEL : SIT-20A, SIT-2CH, SMT-20A, HTS-AT10, HTS-AT20S

#### Time Compensation

If you are using automatic sunrise/sunset time function, then you may wonder if you can adjust time manually. That function is called time compensation. You can set time ahead or behind the present sunrise/sunset time up to two hours. For example, the sun rises at 06:00AM and sets 05:37PM on October 29. You can set your time to turn on 30 minutes before sunset, and turn off after sunrise. The change time will be remained as it is until you will change it again.

MODEL : SIT-20A, SIT-2CH, SMT-20A, HTS-AT10, HTS-AT20S

#### Weekly Timer

When you set on/off time on ant day of the week, this function will repeat the actions on the designated day and time repeatedly. Depending on timer model, You can set day of the week and time from eight to 25 times. Be careful as the function name may differ depending on models such as weekly timer(on HTS-AT10, HTS-AT20S, HTS-CT10 and IRT16 series), Optional on/off(on SIT-2CH), Option-Option(on SMT series). This function will be useful in work places that do not work on weekends. It also allows different settings for each day of the week, so you can use this function in diverse applications.

MODEL : SMT-20A, HTS-AT10, HTS-AT20S, IRT16 series

#### Weekly Cycle

This function activates actions repeating on a weekly basis. You can set specific times on a day of the week as start/end time by 10 minutes repeatedly from 08:00 to 17:00 every Monday through Saturday.

MODEL : HTS-AT10, HTS-AT20S

#### Yearly Timer

You can set any day in a year to start and another day to end. This function can be used in agriculture that is closely tied in seasons. For example, you can set the timer to turn on at 10:00AM and turn off at 01:00PM on every Monday, Wednesday and Friday from March 21 to June 24.

MODEL : HTS-AT10, HTS-AT20S

#### Weekly Pulse

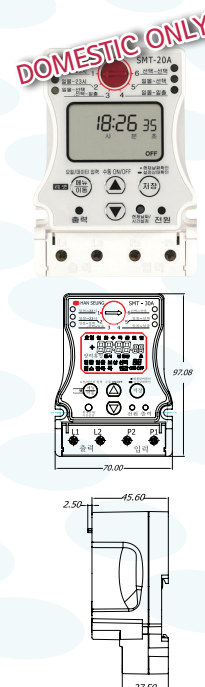
You can set the timer to activate for specific pulse duration at a specific time on a specific day. You can set pulse duration from 1 second to 60 minutes, up to 24 times. For example, you can activate the timer for 10 seconds from 10:00AM of Monday, Tuesday, Wednesday, Thursday and Friday. You can set a day of the week only once, while set the start time up to 24 times.

MODEL : HTS-AT10, HTS-AT20S

#### Infinite repeating

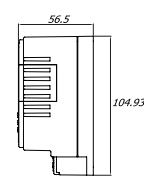
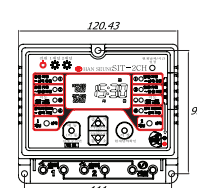
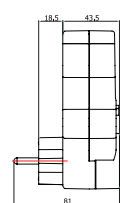
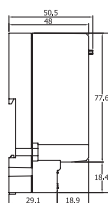
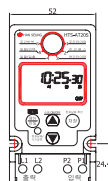
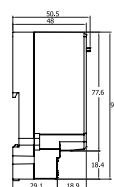
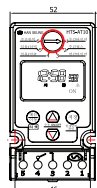
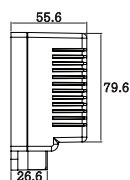
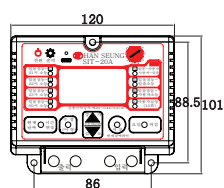
You can set on/off time repeating unlimitedly. Unlike the other functions, this function will work regardless of the present time. If you set the on/off time and press the 'SAVE' button, then the set on time will immediately begin to be reversely counted to activate. You can set the on/off time from a second to 99 seconds, or from a minute to 99 minutes, or from an hour to 99 hours. For example, you can set timer to work for 72hours and then turn off for 10 minutes. After saving the setting, reverse counting will begin from 72hours.

MODEL : IRT16 series



MODEL	SMT-20A
TYPE	Wall-mounted, DIN Rail, Power reserved
OPERATING VOLTAGE	110~220V , 60Hz
RATED CURRENT	20A
OUTPUT	Voltage Output
TEMPERATURE	-10±2°C~60±5 °C
MIN. SWITCHING TIMES	1 min
FLUORESCENT LAMP(40W)	40EA
WIRE GAUGE	AWG 16
DIMENSION	97.1X70.0X45.6





SIT-20A	HTS-AT10	HTS-AT20S	HTS-CT10	SIT-2CH
Wall-mounted, Power reserved	Wall-mounted, DIN Rail, Power reserved	Wall-mounted, DIN Rail, Power reserved	Plug-in type, Power reserved	Wall-mounted, 2 channel, Power reserved
DC 12V, 14V AC 110~240V 50/60Hz	110~220V 50/60Hz	220V, 60Hz	250V, 60Hz	220V, 60Hz
20A	10A	20A	10A	30A / CH.
Voltage Output	change-over contact	Voltage Output	Voltage Output	2ch Voltage Output
-10±2°C~60±5 °C	-10±2°C~60±5 °C	-10±2°C~60±5°C	-10±2°C~60±5°C	-10±2°C~60±5°C
1 min	1 sec	1 sec	1 min	1 min
40EA	30EA	40EA	30EA	60EA / CH.
AWG 16	AWG 20	AWG 16	—	AWG 14
101.0X120.0X55.6	96.0X52.0X50.5	96.0X52.0X50.5	121.5X54.0X62.0	104.9X120.4X56.5

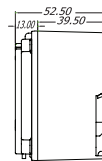
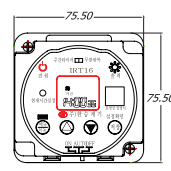
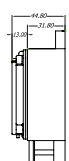
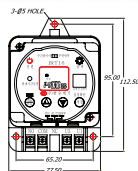
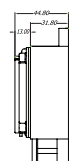
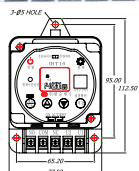
ESTABLISHED in 1987

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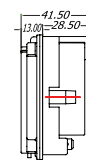
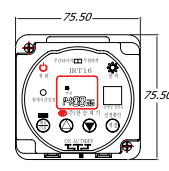


## DIGITAL TIME SWITCH

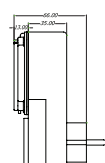
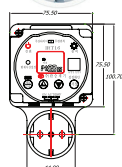
*Infinite Repeated Timer + Weekly Timer in variety of types*



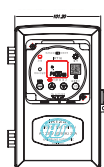
DOMESTIC ONLY



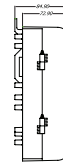
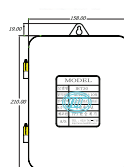
MODEL	IRT16-B	IRT16-S	IRT16-A	IRT16-M
TYPE	Wall-mounted, DIN Rail, Power reserved	Wall-mounted, DIN Rail, Power reserved	Flush-mounted, DIN Rail, Power reserved	Flush-mounted, Power reserved
Operating Voltage	110~220V 50/60Hz	110~220V 50/60Hz	110~220V 50/60Hz	110~220V 50/60Hz
RATED CURRENT	16A(3A)	16A(3A)	16A(3A)	16A(3A)
OUTPUT	change-over contact	Voltage Output	change-over contact	change-over contact
TEMPERATURE	-10±2°C~60±5 °C	-10±2°C~60±5 °C	-10±2°C~60±5 °C	-10±2°C~60±5°C
MIN. SWITCHING TIMES	1~99S, 1~99M,1~99H	1~99S, 1~99M,1~99H	1~99S, 1~99M,1~99H	1~99S, 1~99M,1~99H
FLUORESCENT LAMP(40W)	25EA	25EA	25EA	25EA
WIRE GAUGE	AWG 17	AWG 17	AWG 17	AWG 17
DIMENSION	112.5X77.5X44.8	112.5X77.5X44.8	75.5X75.5X52.5	75.5X75.5X41.5



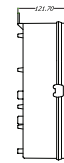
**DOMESTIC ONLY**



**DOMESTIC ONLY**



**DOMESTIC ONLY**



IRT16-D	IRT25	IRT30	IRT50
Plug-in type, Power reserved	Wall-mounted, Rainproof , Power reserved	Wall-mounted, Rainproof, Power reserved	Wall-mounted, Rainproof, Power reserved
250V, 60Hz	220V, 60Hz	220V ~ 240V 50/60Hz	220V ~ 240V 50/60Hz
16A(3A)	25A(15A)	30A	50A
Voltage Output	Relay Output	Magnetic switch output	Magnetic switch output
-10±2°C~60±5°C	-10±2°C~60±5°C	-10±2°C~60±5°C	-10±2°C~60±5°C
1~99S, 1~99M, 1~99H	1~99S, 1~99M, 1~99H	1~99S, 1~99M, 1~99H	1~99S, 1~99M, 1~99H
25EA	45EA	60EA	90EA
—	AWG 15	AWG 14	AWG 10
122.7X75.5X66.0	171.0X109.6X50.0	229.0X169.0X84.5	315.0X235.0X121.7

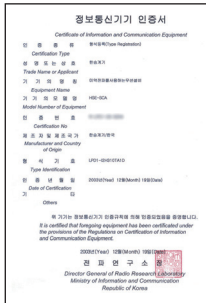




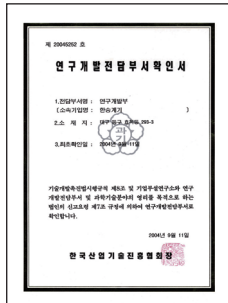
## CERTIFICATES

Visit our Website([www.hsa2000.co.kr](http://www.hsa2000.co.kr)) and see clear and large certificates.

### R&D



DATA COMMUNICATION



R&D DEPARTMENT  
CERTIFICATION



MANUFACTURE FACILITY  
CERTIFICATION

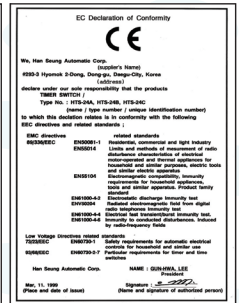
### INTERNATIONAL



ISO 9001

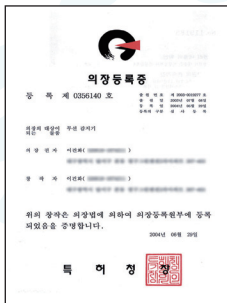


CE FOR IRT SERIES

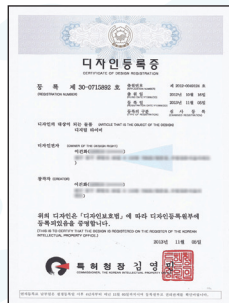


CE FOR ANALOG TIME  
SWITCH

### PATENT



RADIO SENSOR



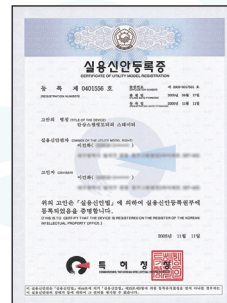
DIGITAL TIME SWITCH



2 CHANNELS TIME SWITCH



ROTARY SWITCH OF DIGITAL  
TIME SWITCH

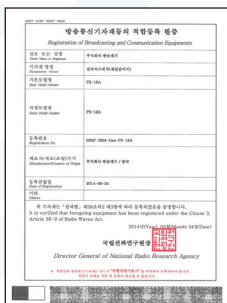


SINGLE PHASE  
STEPPING(UTILITY)

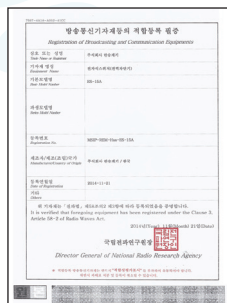


SINGLE PHASE  
STEPPING(DESIGN)

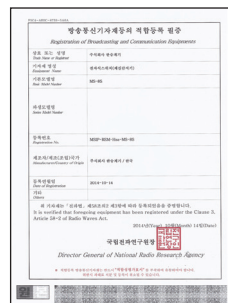
### BROADCASTING AND COMMUNICATION



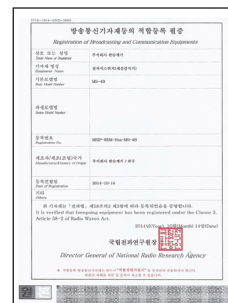
MOTION DETECTOR  
(PS-12, 16A)



ES-15A



MS-8S



MS-4B

### HIGH EFFICIENCY ENERGY CERTIFICATE



PS-12A



PS-16A



MS-4B



MS-8S

## ■ CONFIRMATION LETTER OF DECLARATION



HSW

HTS-24B, HTS-24BB, HTS-24A,  
HTS-24BA, HTS-24M, HTS-24BM

HTS-24D, HTS-24F,  
HTS-24BD

HTS-24MC

HTS-24PC

HTS-CT10



IRT16-D

MS-4B

MS-8S

PS-12A, PS-16A

SIT-20A

SIT-30A

## ■ ELECTRICAL APPLIANCES SAFETY



HSW

HTS-24D, HTS-24BD,  
HTS-24F

HTS-24MC

HTS-24PC

HTS-CT10

IRT16-D



MS-4B

MS-8S

PS-12A, PS-16A

SIT-20A

SIT-30A

## SMART ON/OFF SMART SAVE



**HAN SEUNG AUTOMATIC**

www.hsa2000.co.kr e-mail : hsa@hsa2000.co.kr

123, Sinpyeong-ro, Dong-gu, Daegu, Korea

TEL. 82-53-745-4720 / FAX. 82-53-745-4726



Company website access