HANEOLNURI
Haneolnuri Co.,Ltd.

Solar Energy Haneolnuri Corporate Catalog

Introduction of
HANEOLNURI

HANEOLNURI
Business Areas

HANEOLNURI, a company leading a future society where humans and nature harmonize together with **Eco-friendly renewable energy technology!**

The world and Korea are focusing on the development of new and renewable energy to replace fossil energy due to environmental problems.

Our company is leading the future energy industry, dreaming of a Green New Deal, a sustainable development centered on people and the environment. We will move forward to become a leading company in the new and renewable energy industry based on continuous R&D by actively utilizing the energy provided by nature. In addition, we will practice ethical management that always considers people, customers, families, and society with a humble mind.

Since its establishment in 2001, HANEOLNURI Co., Ltd. started as an electric and specialized firefighting company, and has grown into a technology leading company in the current renewable energy(solar power) industry by receiving certifications for uninterrupted construction certification, a company specializing in underground wiring, and a company specializing in solar power generation construction.

In addition to technological know-how and excellent quality, we lead the future energy industry and pursue the best quality and best service. Through creative efforts and innovative growth, we will grow into a Green New Deal company that harmonizes with people and the environment through the eco-friendly renewable energy industry.

HANEOLNURI HISTORY

2023	· Re-designated as Chungbuk Star Company · KICT(Korea Institute of Construction Technology) Family Enterprise · Ministry of Trade, Industry and Energy 　(Designated as one of the Best Cases for Wind Power-Hybrid)_Chungbuk TP · Patent Registration 　- Hybrid Street Light(No. 10-2486497) 　- LED lighting control system and its method(No. 10-2008684)
2022	· Certification of SMEs in representative industries(CBTP No. 2022-0144) · Occupational Health and Safety Management System Certification - ISO 45001(GSR-O-1326) · Monitoring and remote control program GS Level 1 certification, copyright registration · LED Lamp KC certification, high-efficiency equipment certification · Patent Registration 　- Wireless communication system and data communication method including 　　communication device(No. 10-2047335) 　- Wind Power Simulation System(No. 10-1089606) 　- Street lights using wind power(No. 10-1341411) · Patent Application 　- Street light remote control device and method by group(10-2022-0079981) 　- Map-based Street light remote control device and method(10-2022-007982) 　- Multifunctional Smart Pool(10-2022-0102685) 　- Hybrid Street Light(10-2022-0094856)
2021	· Designated as an energy-specialized company(No. 2021-55) · Certification of material parts equipment specialized company(No. 26119) · Chungbuk Small and Medium Business Award(No. 2021-1054) · Excellent Technology Evaluation Company(T2) Certification(No. NICE-2021-36-000479) · SPC1(Solar Power Controller1) CE certification, KC certification · LED Lamp KC certification, high-efficiency equipment certification · Group standard product certification : carbon steel pipe light support column and 　　　　　　　　　　　　　　　　　　　　stainless steel pipe light support column · Patent Registration 　- Photovoltaic power generation facility maintenance management system(No. 10-2056290)
2020	· Management Innovative Small and Medium Business(MAIN-BIZ) Certification · Technology Innovative Small and Medium Business(INNO-BIZ) Certification · Selected as Chungbuk Star Enterprise 　(Promising Small and Medium Enterprises in Chungbuk Region) · Root Enterprise Certification(20100-09470) · PPS Multiple Supplier Contract - [6 types of stand-alone solar street lights] · LED Lamp KC certification, high-efficiency equipment certification · KS certification of junction box for solar power generation · Patent Registration 　- Street Light Design(No. 30-1066324) 　- Solar tracker(No. 10-2143959) 　- Solar streetlight and operation method thereof(No. 10-2163719) 　- Energy storage system that extends battery life and control method thereof(No. 10-1761035) 　- Method of adjusting the height of photovoltaic structure according to soft ground 　　subsidence(No. 10-1356587)

2019	·Korea Energy Agency's New and Renewable Energy Center - Selected as an AS company for 4 　consecutive years · Excellent Technology Evaluation Company(T3) Certification(No. NICE-2019-36-000447) · Software Business Registration · Trademark registration(No. 40-1518840) · Patent Registration 　- Performance evaluation method of photovoltaic module and system therefor 　　(No. 10-1946380)
2018	· Venture Business Certification(No. 20180107121) · Excellent Technology Evaluation Company(T4) Certification(No. NICE-2018-77-002017) · Patent Registration 　- Control device and control method of stand-alone solar power generation system(No. 10-1294807) 　- Silicon ingot manufacturing apparatus(No. 10-1698540)
2017	· Chungbuk Regional Military Administration - Selected as a military service designated company · Selected as a family-friendly certification company(No. 2017-0288) · Establishment of company-affiliated research institute(No. 2017113086) · Excellent Technology Evaluation Company(T5) Certification(No. NICE-2017-77-003593) · Overseas Construction Business Report(No. 1923) · Environmental Management System Certification - ISO14001(E210717)
2016	· Designated Quality Certification(Q-Mark) 　- 11 types of grid-connected photovoltaic systems(L135(01)-2016-101) 　- 11 types of solar power generation system support structure(S32-2016-003) · Excellent Employment Enterprise Certification(Chungbuk Employment No. 47)
2015	· Factory Registration - Solar Power Generation Equipment · PPS Multiple Supplier Contract - Photovoltaic Power Generation Equipment · Quality Management System Certification - ISO9001(Q427217)
2012	· Korea Electric Power Corporation - Certified as a company specializing in underground power 　distribution[combined construction of uninterrupted construction] · German PFISTERER Company - ACQUIRED 170KV SPECIAL HIGH VOLTAGE CABLE CONNECTION 　LICENSE
2011	· Korea Electric Power Corporation - Registered as a qualified company for the construction of 　bundles conductor overhead transmission lines · Korea Electric Power Corporation - Certified as a qualified company for the construction of 345KV 　substation
2010	· Registered as a company specializing in the installation of renewable energy facilities 　(No. 2010-5925)
2005	· Registered as a firefighting facility construction business(No. 2005-17)
2004	· Korea Electric Power Corporation - Uninterruptible construction completion certification(No. 49) · Headquarters moved - Danyang-gun, Chungcheongbuk-do, Republic of Korea · Name Change - HANEOLNURI Co., Ltd
2001	· Establishment: Daeha Electric Fire Protection Co., Ltd.(Andong-si, Gyeongbuk)

HANEOLNURI
Business Field Introduction

LED Luminaires

· DC LED Street Light
· AC LED Street Light
· AC LED Tunnel Light
· Dimming LED Street Light
· Dimming LED Tunnel Light

Street Light fixture support column

· Stainless Steel
· Iron

Solar Street Light

· Basic
· Premium
· Smart
· Hybrid

LED Dimming Controller

· Motion Sensor
· Illuminance Sensor
· Dimming Control
· Power Failure Compensation
· Remote Control
· Emergency Alarm

Smart Sensor

· HRSM

Solar Street Light Power Controller

· Built-In Display Power Management
· Sunrise/Sunset Information

Remote Monitoring and Power Control system

· Remote Bidirectional control
· Street light Monitoring
· Solar Power Generation System Monitoring

Electrical Work

· Transmission and Substation Construction
· Distribution Construction (Overhead, Underground)
· Railway Electricity
· Landscape Lighting and Street Lighting Construction
· General Construction and Industrial Electrical Construction
· Electric Vehicle Charging (EV) Business

Fire Protection Facilities Construction

· Alarm Equipment
· Fire Extinguishing System
· Evacuation Equipment

Solar Power System

· Silicon Solar
· Building All-in-One Solar
· Support, Junction Box
· BIPV_CIGS

Information and Communication Corporation

· Wired and Wireless Communication Construction
· Communication Power Supply (DC, AC, Storage Battery, Generator, Grounding Construction) Construction Business
· High-Altitude Relay Station Maintenance and Construction Project
· High-Speed Internet
· 5G repeater installation and maintenance business

Certificates and Registrations

It is a certificate and license held by HANEOLNURI that researches and develops every day for good quality products and safe construction.

We will grow and develop further and realize 100% customer satisfaction.

Company Certificate

Chungbuk Star Enterprise Designation	Energy Specialized Company	Management Innovation Company Certificate (Main-Biz)	Technology Innovation SME (Inno-Biz)	Venture Business Certificate	Root Technology Certificate Company	Material & Components Technology Specialized Company
Major Industry SME	Best Family Friendly Management Company	Company R & D Center	KICT Family Enterprise			

Certificate of Registration

Trademark Registration certificate	Business Registration Certificate	Factory Registration Certificate	Electrical Construction Business Registration	Fire Protection Facility Business Registration	Information and Communication Construction Business Registration	Software Business Registration
Overseas Construction Business Notification Confirmation Certificate	Renewable Energy Facility Installation Specialized Company	Group Standard Product Certificate	Direct Production Confirmation Certificate [Solar Power Generation Device]	Direct Production Confirmation Certificate [Street Light Support Column, Attached Materials]	Direct Production Confirmation Certificate [Street Lamp, LED luminaire]	Direct Production Confirmation Certificate [Software Engineering]
Direct Production Confirmation Certificate [Software Maintenance and Support]	Direct Production Confirmation Certificate [System Management]	Direct Production Confirmation Certificate [Management Information System]	Direct Production Confirmation Certificate [Internet Service]	Copyright Registration Certificate [HSPC One Monitoring System v1.0]		

ISO & Product Certificate

Quality Management System Certification ISO-9001	Environmental Management System Certification	Safety and Health Management System Certification ISO-45001	SPC KC Certification	SPC CE Certification	SPC1 KC Certification
SPC1 CE Certification	Solar Power Junction Box KS Certification	Solar Power Junction Box KS Certification	LED Lamp High Efficiency Energy Equipment Certification	GS Quality Certification Grade 1 HSPC1 Monitoring System	

Certificate of Patent

Control Device and Control Method of Off-Grid Photovoltaic Power Generation System	Method of Adjusting the Height of Solar Structure According to Soft Ground Subsidence	Silicon Ingot Manufacturing Device	Energy Storage System That Prolongs Battery Life and Control Method Thereof	Performance Evaluation of Solar Module and System Therefor	Solar Power Generation Facility Maintenance System	Solar Street Lamp and Operation Method Thereof
Solar Tracking Device	Street Light Design	Street Light Using Wind Power Generation	Wireless Communication System and Data Communication Method Including Communication Device	Wind Power Generation Simulation System	Hybrid Street Light	

HANEOLNURI Co., Ltd
LED Luminaires

DC LED Street Light

Direct Couple LED street light is connected to HSPC 1 and 2 Direct with our patent, eliminating unnecessary power conversion for LED lamp driving to realize energy saving.

AC LED Street Light

which is a street light operated by AC input, which has obtained the certification of high-efficiency equipment and uses high-quality high-efficiency converter to achieve service life, and energy saving.

AC LED Tunnel Light

IP-certified housing to withstand the humid environment inside the tunnel and corrosion-resistant housing.

Dimming Street Light

A light that can be changed to the desired illuminance by the user, Illumination changes to save energy during off-peak hours.

Dimming Tunnel Light

When entering and exiting the tunnel, the driver's vision due to the difference in brightness between day and night, Light brightness will change to aid the driver's vision recovery.

DC LED Security Light, Street Light

HSL-L60D

HSL-L120D

AC LED Security Light

HSL-L25A

HSL-L50A

Product Identification Num

Model Name	HSL-L60D
Dimensions (mm)	498*230*105
Watt	60W
CCT	5700K
Initial luminous flux (lm)	11486
approval	Green Certification
CRI(RA)	79
LM/W	181
PKG	Samsung
Input voltage	12V
IP	66

Product Identification Num

Model Name	HSL-L120D
Dimensions (mm)	634*271*108
Watt	120W
CCT	5700K
Initial luminous flux (lm)	18840
approval	Green Certification
CRI(RA)	79
LM/W	151
PKG	Samsung
Input voltage	12V
IP	66

Product Identification Num 24389412

Model Name	HSL-L25A
Dimensions (mm)	498*230*105
Watt	25W
CCT	5700K
Initial luminous flux (lm)	3558
approval	KC Certification, High efficiency certification
CRI(RA)	75
LM/W	142
PKG	Samsung
Input voltage	95V~235V
IP	65

Product Identification Num 24389413

Model Name	HSL-L50A
Dimensions (mm)	498*230*105
Watt	50W
CCT	5700K
Initial luminous flux (lm)	7179
approval	KC Certification, High efficiency certification
CRI(RA)	75
LM/W	144
PKG	Samsung
Input voltage	95V~235V
IP	65

AC LED Security Light

HSL-L75A

Product Identification Num 24393367

Model Name	HSL-L75A
Dimensions (mm)	498*230*105
Watt	75W
CCT	5700K
Initial luminous flux (lm)	10858
approval	KC Certification, High efficiency certification
CRI(RA)	75
LM/W	148
PKG	Samsung
Input voltage	95V~235V
IP	65

HSL-L60AD

디밍
Dimming

Product Identification Num 24680511

Model Name	HSL-L60AD
Dimensions (mm)	498*230*105
Watt	60W
CCT	5700K
Initial luminous flux (lm)	7609
approval	KC Certification, High efficiency certification
CRI(RA)	85
LM/W	126
PKG	Samsung
Input voltage	95V~235V
IP	66
Key features	Dimming control

HSL-L75AD

디밍
Dimming

Product Identification Num 24680501

Model Name	HSL-L75AD
Dimensions (mm)	498*230*105
Watt	75W
CCT	5700K
Initial luminous flux (lm)	9792
approval	KC Certification, High efficiency certification
CRI(RA)	85
LM/W	131
PKG	Samsung
Input voltage	95V~235V
IP	66
Key features	Dimming control

AC LED Street Light

HSL-L60A

Product Identification Num 24273911

Model Name	HSL-L60A
Dimensions (mm)	498*230*105
Watt	60W
CCT	5300K
Initial luminous flux (lm)	8213
approval	KC Certification, High efficiency certification
CRI(RA)	81
LM/W	139
PKG	Samsung
Input voltage	95V~235V
IPav	65

HSL-L100A

Product Identification Num 24389416

Model Name	HSL-L100A
Dimensions (mm)	634*271*108
Watt	100W
CCT	5700K
Initial luminous flux (lm)	14576
approval	KC Certification, High efficiency certification
CRI(RA)	75
LM/W	147
PKG	Samsung
Input voltage	95V~235V
IP	65

HSL-L120A

Product Identification Num 24254224

Model Name	HSL-L120A
Dimensions (mm)	634*271*108
Watt	120W
CCT	5700K
Initial luminous flux (lm)	16197
approval	KC Certification, High efficiency certification
CRI(RA)	81
LM/W	139
PKG	Samsung
Input voltage	95V~235V
IP	66

HSL-L125A

Product Identification Num 24389417

Model Name	HSL-L125A
Dimensions (mm)	634*271*108
Watt	125W
CCT	5700K
Initial luminous flux (lm)	18035
approval	KC Certification, High efficiency certification
CRI(RA)	75
LM/W	149
PKG	Samsung
Input voltage	95V~235V
IP	65

AC LED Street Light

HSL-L150A

Product Identification Num 24389418

Model Name	HSL-L150A
Dimensions (mm)	634*271*108
Watt	150W
CCT	5700K
Initial luminous flux (lm)	21868
approval	KC Certification, High efficiency certification
CRI(RA)	75
LM/W	150
PKG	Samsung
Input voltage	95V~235V
IP	65

HSL-L200A

Product Identification Num 24389419

Model Name	HSL-L200A
Dimensions (mm)	634*271*108
Watt	200W
CCT	5700K
Initial luminous flux (lm)	28052
approval	KC Certification, High efficiency certification
CRI(RA)	80
LM/W	141
PKG	Samsung
Input voltage	95V~235V
IP	65

HSL-L100AD

디밍 Dimming

Product Identification Num 24680502

Model Name	HSL-L100AD
Dimensions (mm)	634*271*108
Watt	100W
CCT	5700K
Initial luminous flux (lm)	13403
approval	KC Certification, High efficiency certification
CRI(RA)	85
LM/W	133
PKG	Samsung
Input voltage	95V~235V
IP	66
Key features	Dimming control

HSL-L120AD

디밍 Dimming

Product Identification Num 24680503

Model Name	HSL-L120AD
Dimensions (mm)	634*271*108
Watt	120W
CCT	5700K
Initial luminous flux (lm)	15434
approval	KC Certification, High efficiency certification
CRI(RA)	86
LM/W	128
PKG	Samsung
Input voltage	95V~235V
IP	66
Key features	Dimming control

AC LED Street Light

HSL-L125AD

디밍 Dimming

Product Identification Num 24680504

Model Name	HSL-L125AD
Dimensions (mm)	634*271*108
Watt	125W
CCT	5700K
Initial luminous flux (lm)	16313
approval	KC Certification, High efficiency certification
CRI(RA)	86
LM/W	134
PKG	Samsung
Input voltage	95V~235V
IP	66
Key features	Dimming control

HSL-L150AD

디밍 Dimming

Product Identification Num 24680505

Model Name	HSL-L150AD
Dimensions (mm)	634*271*108
Watt	150W
CCT	5700K
Initial luminous flux (lm)	19837
approval	KC Certification, High efficiency certification
CRI(RA)	85
LM/W	134
PKG	Samsung
Input voltage	95V~235V
IP	66
Key features	Dimming control

HSL-L200AD

디밍 Dimming

Product Identification Num 24680506

Model Name	HSL-L200AD
Dimensions (mm)	634*271*108
Watt	200W
CCT	5700K
Initial luminous flux (lm)	25260
approval	KC Certification, High efficiency certification
CRI(RA)	87
LM/W	128
PKG	Samsung
Input voltage	95V~235V
IP	66
Key features	Dimming control

HSL - L NUM A

Haneol Street Light

L : LED

W : Watt

A : AC Luminaires
D : DC Luminaires
AD : AC Luminaires, Dimming
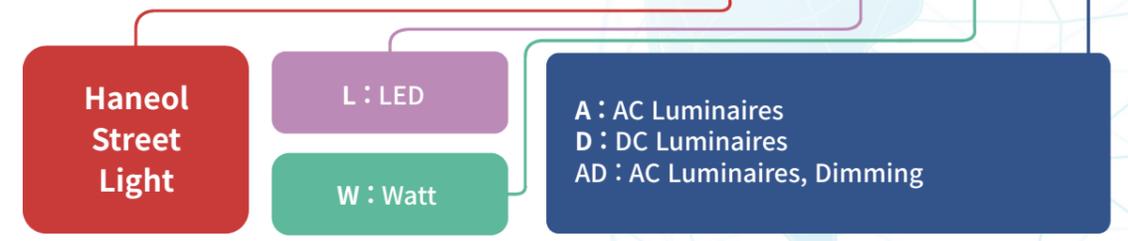
LED Tunnel Light

HTL-L50A

Model Name	HTL-L50A
Dimensions (mm)	514*408*106
Watt	50W
CCT	5700K
Initial luminous flux (lm)	7051
approval	KC Certification, High efficiency certification
CRI(RA)	76
LM/W	141
PKG	Samsung
Input voltage	95V~235V
IP	66

HTL-L75A

Product Identification Num 24389405

Model Name	HTL-L75A
Dimensions (mm)	514*408*106
Watt	75W
CCT	5700K
Initial luminous flux (lm)	10576
approval	KC Certification, High efficiency certification
CRI(RA)	76
LM/W	145
PKG	Samsung
Input voltage	95V~235V
IP	66

HTL-L100A

Product Identification Num 24292038

Model Name	HTL-L100A
Dimensions (mm)	514*408*106
Watt	100W
CCT	5700K
Initial luminous flux (lm)	14080
approval	KC Certification, High efficiency certification
CRI(RA)	79
LM/W	141
PKG	Samsung
Input voltage	95V~235V
IP	66

LED Tunnel Light

HTL-L150A

Product Identification Num 24389406

Model Name	HTL-L150A
Dimensions (mm)	683*408*106
Watt	150W
CCT	5700K
Initial luminous flux (lm)	21212
approval	KC Certification, High efficiency certification
CRI(RA)	76
LM/W	147
PKG	Samsung
Input voltage	95V~235V
IP	66

HTL-L200A

Product Identification Num 24292039

Model Name	HTL-L200A
Dimensions (mm)	683*408*106
Watt	200W
CCT	5700K
Initial luminous flux (lm)	28932
approval	KC Certification, High efficiency certification
CRI(RA)	80
LM/W	145
PKG	Samsung
Input voltage	95V~235V
IP	66

HTL-L75AD

디밍
Dimming

Product Identification Num 24680507

Model Name	HTL-L75AD
Dimensions (mm)	514*408*106
Watt	75W
CCT	5700K
Initial luminous flux (lm)	9634
approval	KC Certification, High efficiency certification
CRI(RA)	86
LM/W	130
PKG	Samsung
Input voltage	95V~235V
IP	66
Key features	Dimming control

LED Tunnel Light

HTL-L100AD

디밍
Dimming

Product Identification Num 24680508

Model Name	HTL-L100AD
Dimensions (mm)	514*408*106
Watt	100W
CCT	5700K
Initial luminous flux (lm)	12997
approval	KC Certification, High efficiency certification
CRI(RA)	86
LM/W	130
PKG	Samsung
Input voltage	95V~235V
IP	66
Key features	Dimming control

HTL-L150AD

디밍
Dimming

Product Identification Num 24680509

Model Name	HTL-L150AD
Dimensions (mm)	683*408*106
Watt	150W
CCT	5700K
Initial luminous flux (lm)	19280
approval	KC Certification, High efficiency certification
CRI(RA)	85
LM/W	131
PKG	Samsung
Input voltage	95V~235V
IP	66
Key features	Dimming control

HTL-L200AD

디밍
Dimming

Product Identification Num 24680510

Model Name	HTL-L200AD
Dimensions (mm)	683*408*106
Watt	200W
CCT	5700K
Initial luminous flux (lm)	26132
approval	KC Certification, High efficiency certification
CRI(RA)	86
LM/W	136
PKG	Samsung
Input voltage	95V~235V
IP	66
Key features	Dimming control

HTL - L NUM A

Haneol Tunnel Light

L : LED

W : Watt

A : AC Luminaires
D : DC Luminaires
AD : AC Luminaires, Dimming
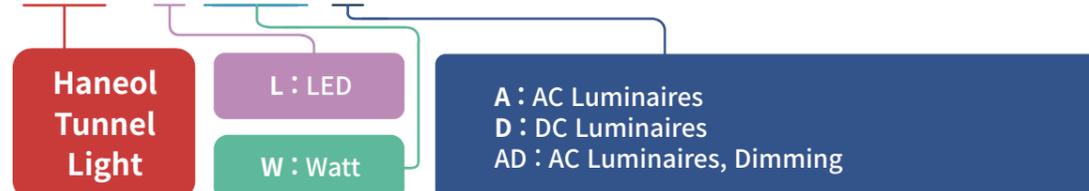
LED Dimming Controller

Function	Description
Motion sensor x 2CH	24GHz radar sensor
	External input(CCTV signal)
Illuminance sensor x 2CH	CDS sensor(for dimming brightness control by measuring ambient brightness)
Error check x 2CH	LED output voltage measurement
	LED output current measurement
Dimming control x 2CH	0-10V(zero ten) method
	PWM method
Power failure compensation	Save the controller's setting value
Remote Control	Wireless(CAT-M1)
	Wireless(ZIGBEE)
	Wired(LAN)
	Wired(RS-485)
Emergency Alarm	Emergency Switch
	Emergency Warning Light
Time	RTC(Real Time Clock)
LED Output x 2CH	LED input/output port
LCD	Mono LCD With backlight
Switch	Button(Modify/Save Settings)
Fine dust traffic light	Three levels of fine dust control in the installation area

● **Smart Sensor** (HRSM)

Functions	Details
Operation detecting sensor	▷ 24 GHz radar sensor (dual 2 channels) : The sensor recognition angle can be adjusted in 6 steps at 15 degrees horizontal interval (220 degrees detected) : The sensor recognition angle can be adjusted in 6 steps at 15 degrees horizontal (90 degrees detected) : 220 degrees horizontal and 90 degrees vertical without detection blind spots : Unaffected by surroundings (temperature, humidity, wind, dust, light) ▷ Traffic volume can be accumulated : Vehicle movement direction and amount of movement can be calculated by hour and day
Illumination sensor	▷ CDS Optical Sensor : Automatically sense surrounding brightness to check sunrise and dim LED lighting
Fine dust indicator	▷ Indicating fine dust : Turning on the LED lights on the fine dust situation in the area by color
	[How to Indicate]
	1) Blue light = fine dust is good
	2) Green light = Fine dust normal
	3) Yellow light = bad fine dust
	4) Red light = Fine dust is very bad

● Stainles Lamppost

Model Name	HAN-SP02-41
Type	Stainless Street Light Fixture Support column
Identification Num	24481099
Key Features	4m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-SP02-51
Type	Stainless Street Light Fixture Support column
Identification Num	24481100
Key Features	5m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-SP08-82
Type	Stainless Street Light Fixture Support column
Identification Num	24485333
Key Features	8m, 1Single Lamp + Walking Light
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-SP08-92
Type	Stainless Street Light Fixture Support column
Identification Num	24485332
Key Features	9m, 1Single Lamp + Walking Light
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-SP08-102
Type	Stainless Street Light Fixture Support column
Identification Num	24485331
Key Features	10m, 1Single Lamp + Walking Light
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-SP05-82
Type	Stainless Street Light Fixture Support column
Identification Num	24485336
Key Features	8m, 2Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-SP05-92
Type	Stainless Street Light Fixture Support column
Identification Num	24485335
Key Features	9m, 2Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-SP05-102
Type	Stainless Street Light Fixture Support column
Identification Num	24485334
Key Features	10m, 2Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

A형
B형
C형
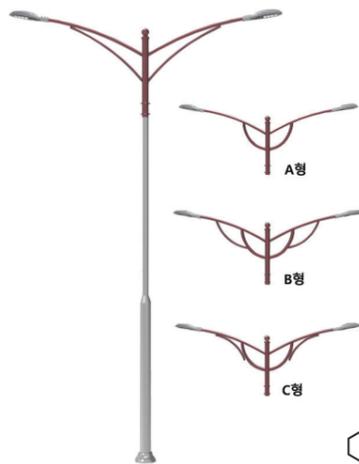
Model Name	HAN-SP07-81
Type	Stainless Street Light Fixture Support column
Identification Num	24485333
Key Features	8m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-SP07-91
Type	Stainless Street Light Fixture Support column
Identification Num	24485338
Key Features	9m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-SP07-101
Type	Stainless Street Light Fixture Support column
Identification Num	24485337
Key Features	10m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-SP06-81
Type	Stainless Street Light Fixture Support column
Identification Num	24485342
Key Features	8m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-SP06-91
Type	Stainless Street Light Fixture Support column
Identification Num	24485341
Key Features	9m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-SP06-101
Type	Stainless Street Light Fixture Support column
Identification Num	24485340
Key Features	10m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately
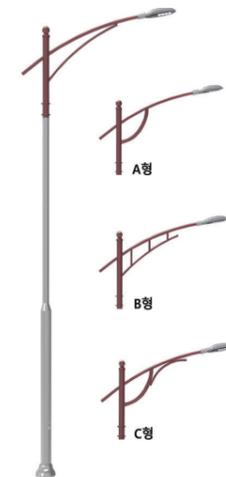
| Model Name	HAN-SP05-81
Type	Stainless Street Light Fixture Support column
Identification Num	24485345
Key Features	8m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-SP05-91
Type	Stainless Street Light Fixture Support column
Identification Num	24485344
Key Features	9m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-SP05-101
Type	Stainless Street Light Fixture Support column
Identification Num	24485343
Key Features	10m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

A형
B형
C형

단체표준인증

● **Stainles** Lamppost

A형
B형
C형
단체표준인증
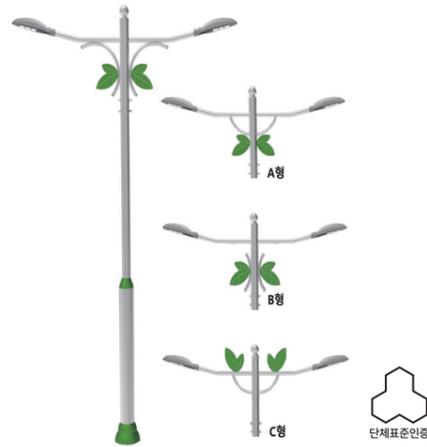
Model Name	HAN-SP04-42
Type	Stainless Street Light Fixture Support column
Identification Num	24485347
Key Features	4m, 2Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-SP04-52
Type	Stainless Street Light Fixture Support column
Identification Num	24485346
Key Features	5m, 2Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

A형
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단체표준인증
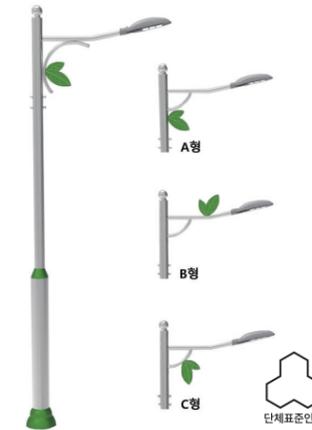
Model Name	HAN-SP04-41
Type	Stainless Street Light Fixture Support column
Identification Num	24485353
Key Features	4m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

| Model Name	HAN-SP04-51
Type	Stainless Street Light Fixture Support column
Identification Num	24485352
Key Features	5m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

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단체표준인증
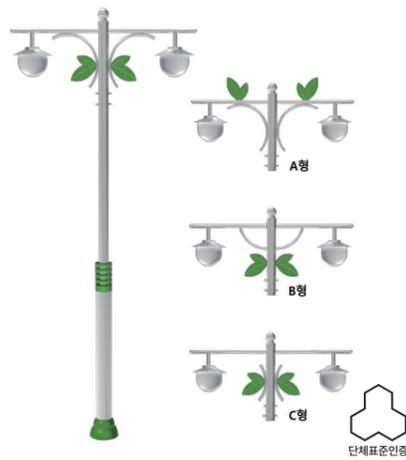
Model Name	HAN-SP03-42
Type	Stainless Street Light Fixture Support column
Identification Num	24485349
Key Features	4m, 2Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-SP03-52
Type	Stainless Street Light Fixture Support column
Identification Num	24485348
Key Features	5m, 2Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

A형
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단체표준인증
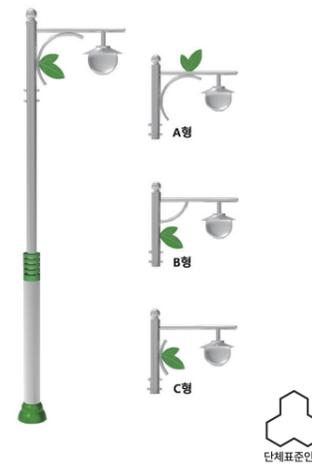
Model Name	HAN-SP03-41
Type	Stainless Street Light Fixture Support column
Identification Num	24485355
Key Features	4m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-SP03-51
Type	Stainless Street Light Fixture Support column
Identification Num	24485354
Key Features	5m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

A형
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C형
단체표준인증
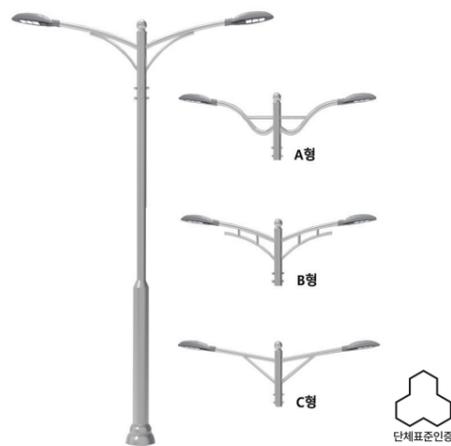
| Model Name	HAN-SP01-42
Type	Stainless Street Light Fixture Support column
Identification Num	24485351
Key Features	5m, 2Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-SP01-52
Type	Stainless Street Light Fixture Support column
Identification Num	24485350
Key Features	5m, 2Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

A형
B형
C형
단체표준인증
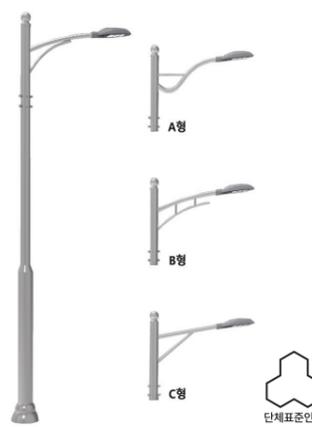
Model Name	HAN-SP01-41
Type	Stainless Street Light Fixture Support column
Identification Num	24485357
Key Features	4m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-SP01-51
Type	Stainless Street Light Fixture Support column
Identification Num	24485356
Key Features	5m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

🔵 **Steel** Lamppost

Model Name	HAN-CP01-41
Type	Steel Street Light Fixture Support Column
Identification Num	24481101
Key Features	4m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-CP01-51
Type	Steel Street Light Fixture Support Column
Identification Num	24481102
Key Features	5m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-CP02-41
Type	Steel Street Light Fixture Support Column
Identification Num	24481103
Key Features	4m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-CP02-51
Type	Steel Street Light Fixture Support Column
Identification Num	24481104
Key Features	5m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-CP03-81
Type	Steel Street Light Fixture Support Column
Identification Num	24481105
Key Features	8m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-CP03-91
Type	Steel Street Light Fixture Support Column
Identification Num	24481106
Key Features	9m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-CP03-101
Type	Steel Street Light Fixture Support Column
Identification Num	24481107
Key Features	10m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-CP04-81
Type	Steel Street Light Fixture Support Column
Identification Num	24481108
Key Features	8m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-CP04-91
Type	Steel Street Light Fixture Support Column
Identification Num	24481109
Key Features	9m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-CP04-101
Type	Steel Street Light Fixture Support Column
Identification Num	24481110
Key Features	10m, 1Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-CP03-82
Type	Steel Street Light Fixture Support Column
Identification Num	24481111
Key Features	8m, 2Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-CP03-92
Type	Steel Street Light Fixture Support Column
Identification Num	24481112
Key Features	9m, 2Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-CP03-102
Type	Steel Street Light Fixture Support Column
Identification Num	24481113
Key Features	10m, 2Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-CP03-82
Type	Steel Street Light Fixture Support Column
Identification Num	24481111
Key Features	8m, 2Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-CP03-92
Type	Steel Street Light Fixture Support Column
Identification Num	24481113
Key Features	9m, 2Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-CP03-102
Type	Steel Street Light Fixture Support Column
Identification Num	24481113
Key Features	10m, 2Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

단체표준인증

Steel Lamppost

Model Name	HAN-CP05-82
Type	Steel Street Light Fixture Support Column
Identification Num	24481114
Key Features	8m, 1Single Lamp + Walking Light
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-CP05-92
Type	Steel Street Light Fixture Support Column
Identification Num	24481115
Key Features	9m, 1Single Lamp + Walking Light
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

| Model Name	HAN-CP05-102
Type	Steel Street Light Fixture Support Column
Identification Num	24481116
Key Features	10m, 1Single Lamp + Walking Light
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Model Name	HAN-CP01-42
Type	Steel Street Light Fixture Support Column
Identification Num	24485330
Key Features	4m, 2Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

| Model Name	HAN-CP01-52
Type	Steel Street Light Fixture Support Column
Identification Num	24485329
Key Features	5m, 2Single Lamp
Option	Luminaire, Ballast, Lamp, HSPC, Base Cover Sold Separately

Accessories
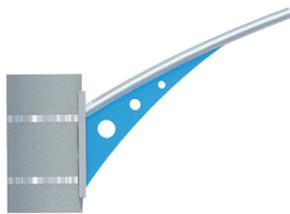
Model Name	HAN-ACA-01
Type	Streetlight Supporting Pole Accessories
Identification Num	24488495
Key Features	Walking Light Supporting arm, 1 single Lamp
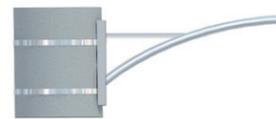
Model Name	HAN-ACA-02
Type	Streetlight Supporting Pole Accessories
Identification Num	24488496
Key Features	Walking Light Supporting arm, 1 Single Lamp

Model Name	HAN-ACA-03
Type	Streetlight Supporting Pole Accessories
Identification Num	24488494
Key Features	Walking Lght Supporting arm, 1 Single Lamp
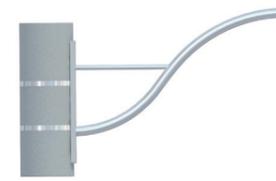
Model Name	HAN-ACA-04
Type	Streetlight Supporting Pole Accessories
Identification Num	24488498
Key Features	Walking Light arm, 1 Single Lamp
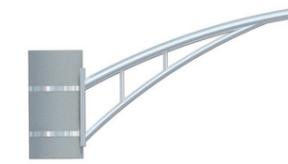
Model Name	HAN-ACA-05
Type	Streetlight Supporting Pole Accessories
Identification Num	24488500
Key Features	Walking Light arm, 1 Single Lamp
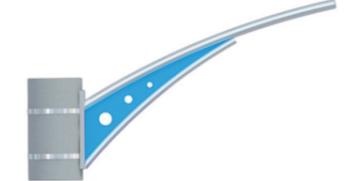
| Model Name	HAN-ACA-06
Type	Streetlight Supporting Pole Accessories
Identification Num	24488501
Key Features	Pole Attachment arm, 1 Single Lamp

Model Name	HAN-ACA-07
Type	Streetlight Supporting Pole Accessories
Identification Num	24485328
Key Features	Park Light arm, 1 Single Lamp

Model Name	HAN-ACA-08
Type	Streetlight Supporting Pole Accessories
Identification Num	24485327
Key Features	Park Light arm, 2 Single Lamp

Model Name	HAN-ACA-09
Type	Streetlight Supporting Pole Accessories
Identification Num	24485326
Key Features	Street Light arm, 1 Single Lamp

Model Name	HAN-ACA-10
Type	Streetlight Supporting Pole Accessories
Identification Num	24485325
Key Features	Street Light arm, 2 Single Lamp

Model Name	HAN-AC-01
Type	Streetlight Supporting Pole Accessories
Identification Num	24485324
Key Features	Base Cover

Model Name	HAN-AC-02
Type	Streetlight Supporting Pole Accessories
Identification Num	24485323
Key Features	Base Cover

Model Name	HAN-AC-03
Type	Streetlight Supporting Pole Accessories
Identification Num	24485322
Key Features	National Flag Holder , 2 Ball

Model Name	HAN-AC-04
Type	Streetlight Supporting Pole Accessories
Identification Num	24485321
Key Features	Banner Hanger

단체표준인증

단체표준인증

Solar Street Light Power Controller
(HSPC)

Solar Power Controller Key Functions

- Lights on and off according to the entered sunset and sunrise information
- Lighting control and energy efficiency management using various IoT sensors
- Turn on and off at the user's desired time
- SKT LoRa, Cat.M1 bidirectional data transfer
- Wireless remote control function (forced light off, forced lighting, reset, charging stop)

Performance Evaluation of Solar Module and System Therefor

Solar Street Lamp and Operation Method Thereof

[HSPC1]

[HSPC3]

LCD Display items

- Real-time power generation, charging, discharge (current, voltage, power)
- Battery level
- Available Operating time
- Cumulative charging, discharging power

Cat.M1 & LoRa modem   PC Screen   Mobile Screen

Solar Panel   HSPC1, 2   Smart Sensors   LED Lamp

Lithium-ion, lithium iron phosphate battery

Real-time measurement

· Measurement of current, voltage, and power generated by solar panels
· Battery charging current, voltage, and power measurements with MPPT function
· Measurement of the current, voltage, and power discharged to the LED Lamp
· Cumulative power generation, charging power measurement

Wireless monitoring and remote control

· Securing reliability using SKT LoRa and "Cat.M1" communication network
· Transmits about 20 HSCP1, 2 status data every 10 minutes
· Users can remotely control solar streetlights as required
(Forced turn-on, forced turn-off, Reset, time setting)

LED lamp dimming control

· Soft turn on and off functions for a natural atmosphere
· AI dimming control according to battery level
· Light power can be set from 0~120W

Rich information display and easy setup with graphic LCD

· Information display using 128*64 graphic LCD
· Easy one key input method using Jog dialogue
· Convenient UI method with separate information display window and set-up window
· Easy device reset with Factory reset function

Ambient environment detection using smart sensors

· Human body and object detection using motion sensor
· Ambient brightness detection using an ambient light sensor
· Energy saving by controlling the brightness of the lamp through ambient environment sensing

Solar Street Light
Basic Type   ※ Monitoring system not installed

● Patent–proven power controller

● Power control through real–time input/output power measurement

● Providing various information via graphic LCD

● Saved setting of sunrise/sunset information

● Equipped with LED dimming function

※ Monitoring systems are not included

Product Identification Num 24722967   STS 304   Li

Model Name	HS-SS30L3	Charge Controller	DC12V 20A / MPPT
Solra Panel	60Wp × 2EA	Product Height	3m
LED Lamp	30W	Lamppost Material	Stainless
Battery Capacity	75Ah / 14.8V(4S)	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
Battery Type	Lithium Ion		

Product Identification Num 24722966   STS 304   Li

Model Name	HS-SS30L4	Charge Controller	DC12V 20A / MPPT
Solra Panel	60Wp x 2EA	Product Height	4m
LED Lamp	30W	Lamppost Material	Stainless
Battery Capacity	75Ah / 14.8V(4S)	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
Battery Type	Lithium Ion		

Product Identification Num 24722965   STS 304   Li

Model Name	HS-SS30L5	Charge Controller	DC12V 20A / MPPT
Solra Panel	60Wp x 2EA	Product Height	5m
LED Lamp	30W	Lamppost Material	Stainless
Battery Capacity	75Ah / 14.8V(4S)	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
Battery Type	Lithium Ion		

Product Identification Num 24722964   STS 304   Li

Model Name	HS-SS40L5	Charge Controller	DC12V 20A / MPPT
Solra Panel	80Wp x 2EA	Product Height	5m
LED Lamp	40W	Lamppost Material	Stainless
Battery Capacity	95Ah / 14.8V(4S)	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
Battery Type	Lithium Ion		

Product Identification Num 24722962   STS 304   Li

Model Name	HS-SS50L5	Charge Controller	DC12V 20A / MPPT
Solra Panel	100Wp x 2EA	Product Height	5m
LED Lamp	50W	Lamppost Material	Stainless
Battery Capacity	115Ah / 14.8V(4S)	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
Battery Type	Lithium Ion		

| Steel / Lithium Ion | Steel / Lithium Iron Phosphate | Stainless Steel / Lithium Ion | Stainless Steel / Lithium Iron Phosphate |

Product Identification Num 24722960   STS 304 Li

Model Name	HS-SS60L6	Charge Controller	DC12V 20A / MPPT
Solra Panel	120Wp x 2EA	Product Height	6m
LED Lamp	60W	Lamppost Material	Stainless
Battery Capacity	140Ah / 14.8V(4S)	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
Battery Type	Lithium Ion		

Product Identification Num 24722963   STS 304 LFP

Model Name	HS-SS40F5	Charge Controller	DC12V 20A / MPPT
Solra Panel	80Wp x 2EA	Product Height	5m
LED Lamp	40W	Lamppost Material	Stainless
Battery Capacity	110Ah / 12.8V(4S)	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
Battery Type	Lithium Iron Phosphate		

Product Identification Num 24722961   STS 304 LFP

Model Name	HS-SS50F5	Charge Controller	DC12V 20A / MPPT
Solra Panel	100Wp x 2EA	Product Height	5m
LED Lamp	50W	Lamppost Material	Stainless
Battery Capacity	135Ah / 12.8V(4S)	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
Battery Type	Lithium Iron Phosphate		

Product Identification Num 24722959   STS 304 LFP

Model Name	HS-SS60F6	Charge Controller	DC12V 20A / MPPT
Solra Panel	120Wp x 2EA	Product Height	6m
LED Lamp	60W	Lamppost Material	Stainless
Battery Capacity	160Ah / 12.8V(4S)	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
Battery Type	Lithium Iron Phosphate		

Product Identification Num 24722958   STS 304 LFP AC

Model Name	HS-SS60F6L	Charge Controller	DC12V 20A / MPPT
Solra Panel	80Wp x 2EA	Product Height	6m
LED Lamp	60W	Lamppost Material	Stainless
Battery Capacity	110Ah / 12.8V(4S)	AC Connection	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Product Identification Num 24722957   Fe LFP

Model Name	HS-SF100F9	Charge Controller	DC12V 20A / MPPT
Solra Panel	150Wp x 2EA	Product Height	9m
LED Lamp	100W	Lamppost Material	Steel
Battery Capacity	220Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Product Identification Num 24722956   Fe LFP AC

Model Name	HS-SF100F9L	Charge Controller	DC12V 20A / MPPT
Solra Panel	100Wp x 2EA	Product Height	9m
LED Lamp	100W	Lamppost Material	Steel
Battery Capacity	135Ah / 14.8V(4S)	AC Connection	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Basic
Premium
Smart
Hybrid

HS - M S 60 F 5 L

Haneol Solar street

S：Unable to monitor
M：Able to monitor

S：Stainless
F：Steel

LED lamp Watt (W)

L：Lithium Ion
F：Lithium Iron Phospahate

Product Height (m)

L：KEPCO-linked
C：CCTV housing separate mobile phone charging device
D：electronic display, emergency bell mobile phone charging device
E：C + D
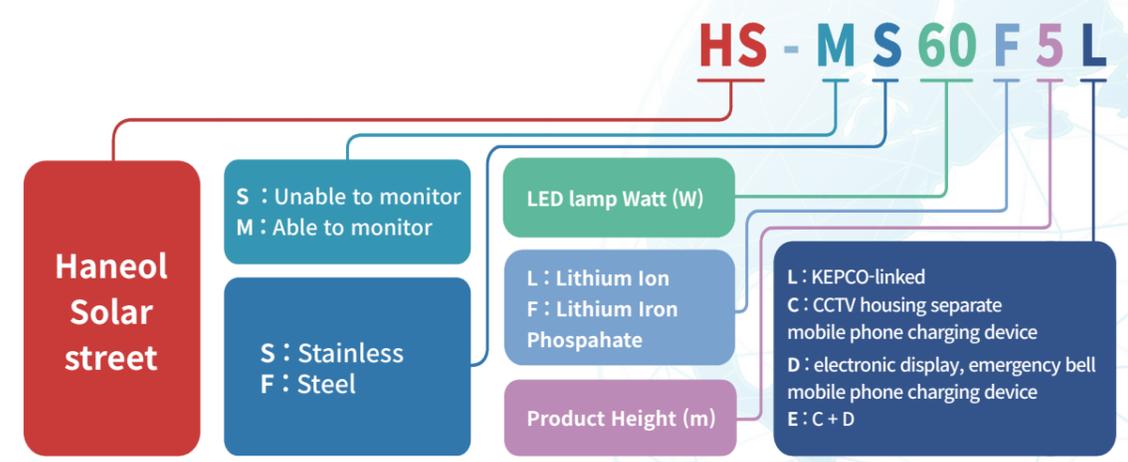
Solar Street Light
Premium Type
※ Monitoring system installed

- Basic features included
- Two-way monitoring remote control
- Remote adjustment of on/off time
- Provides various information by supporting LoRa or Cat.M1
- Controls lights by ambient conditions
- Controls lighting and manages energy efficiency with motion detection sensors

※ Monitoring systems are included

Product Identification Num 24722951   Fe Li

Model Name	HS-MF40L5	Charge Controller	DC12V 20A / MPPT
Solra Panel	80Wp x 2EA	Product Height	5m
LED Lamp	40W	Lamppost Material	Steel
Battery Capacity	95Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Product Identification Num 24722948   Fe Li

Model Name	HS-MF50L5	Charge Controller	DC12V 20A / MPPT
Solra Panel	100Wp x 2EA	Product Height	5m
LED Lamp	50W	Lamppost Material	Steel
Battery Capacity	115Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Product Identification Num 24722944   Fe Li

Model Name	HS-MF60L6	Charge Controller	DC12V 20A / MPPT
Solra Panel	120Wp x 2EA	Product Height	6m
LED Lamp	60W	Lamppost Material	Steel
Battery Capacity	140Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Product Identification Num 24722943   Fe Li AC

Model Name	HS-MF60L6L	Charge Controller	DC12V 20A / MPPT
Solra Panel	80Wp x 2EA	Product Height	6m
LED Lamp	60W	Lamppost Material	Steel
Battery Capacity	95Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
AC Connection	Yes		

Product Identification Num 24722936   Fe Li

Model Name	HS-MF100L9	Charge Controller	DC12V 20A / MPPT
Solra Panel	150Wp x 2EA	Product Height	9m
LED Lamp	100W	Lamppost Material	Steel
Battery Capacity	200Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Basic

Premium

Smart

Hybrid

Steel / Lithium Ion	Steel / Lithium Iron Phosphate	Stainless Steel / Lithium Ion	Stainless Steel / Lithium Iron Phosphate

Product Identification Num 24722935   Fe Li AC

Model Name	HS-MF100L9L	Charge Controller	DC12V 20A / MPPT
Solra Panel	100Wp x 2EA	Product Height	9m
LED Lamp	100W	Lamppost Material	Steel
Battery Capacity	115Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
AC Connection	Yes		

Product Identification Num 24722922   Fe Li

Model Name	HS-MF100L10	Charge Controller	DC12V 20A / MPPT
Solra Panel	150Wp x 2EA	Product Height	10m
LED Lamp	100W	Lamppost Material	Steel
Battery Capacity	200Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Product Identification Num 24722950   Fe LFP

Model Name	HS-MF40F5	Charge Controller	DC12V 20A / MPPT
Solra Panel	80Wp x 2EA	Product Height	5m
LED Lamp	40W	Lamppost Material	Steel
Battery Capacity	110Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Product Identification Num 24722947   Fe LFP

Model Name	HS-MF50F5	Charge Controller	DC12V 20A / MPPT
Solra Panel	100Wp x 2EA	Product Height	5m
LED Lamp	50W	Lamppost Material	Steel
Battery Capacity	135Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Product Identification Num 24722942   Fe LFP

Model Name	HS-MF60F6	Charge Controller	DC12V 20A / MPPT
Solra Panel	120Wp x 2EA	Product Height	6m
LED Lamp	60W	Lamppost Material	Steel
Battery Capacity	160Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Product Identification Num 24722941   Fe LFP AC

Model Name	HS-MF60F6L	Charge Controller	DC12V 20A / MPPT
Solra Panel	80Wp x 2EA	Product Height	6m
LED Lamp	60W	Lamppost Material	Steel
Battery Capacity	110Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
AC Connection	Yes		

Product Identification Num 24722934   Fe LFP

Model Name	HS-MF100F9	Charge Controller	DC12V 20A / MPPT
Solra Panel	150Wp x 2EA	Product Height	9m
LED Lamp	100W	Lamppost Material	Steel
Battery Capacity	220Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Product Identification Num 24722933   Fe LFP AC

Model Name	HS-MF100F9L	Charge Controller	DC12V 20A / MPPT
Solra Panel	100Wp x 2EA	Product Height	9m
LED Lamp	100W	Lamppost Material	Steel
Battery Capacity	135Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
AC Connection	Yes		

Product Identification Num 24722921   Fe LFP

Model Name	HS-MF100F10	Charge Controller	DC12V 20A / MPPT
Solra Panel	150Wp x 2EA	Product Height	10m
LED Lamp	100W	Lamppost Material	Steel
Battery Capacity	220Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Basic
Premium
Smart
Hybrid

| Steel / Lithium Ion | Steel / Lithium Iron Phosphate | Stainless Steel / Lithium Ion | Stainless Steel / Lithium Iron Phosphate |

Product Identification Num 24722955 — STS 304 / Li

Model Name	HS-MS30L3	Charge Controller	DC12V 20A / MPPT
Solra Panel	60Wp x 2EA	Product Height	3m
LED Lamp	30W	Lamppost Material	Stainless
Battery Capacity	75Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Product Identification Num 24722954 — STS 304 / Li

Model Name	HS-MS30L4	Charge Controller	DC12V 20A / MPPT
Solra Panel	60Wp x 2EA	Product Height	4m
LED Lamp	30W	Lamppost Material	Stainless
Battery Capacity	75Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Product Identification Num 24722953 — STS 304 / Li

Model Name	HS-MS30L5	Charge Controller	DC12V 20A / MPPT
Solra Panel	60Wp x 2EA	Product Height	5m
LED Lamp	30W	Lamppost Material	Stainless
Battery Capacity	75Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Product Identification Num 24722952 — STS 304 / Li

Model Name	HS-MS40L5	Charge Controller	DC12V 20A / MPPT
Solra Panel	80Wp x 2EA	Product Height	5m
LED Lamp	40W	Lamppost Material	Stainless
Battery Capacity	95Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Product Identification Num 24722946 — STS 304 / Li

Model Name	HS-MS50L5	Charge Controller	DC12V 20A / MPPT
Solra Panel	100Wp x 2EA	Product Height	5m
LED Lamp	50W	Lamppost Material	Stainless
Battery Capacity	115Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Product Identification Num 24722940 — STS 304 / Li

Model Name	HS-MS60L6	Charge Controller	DC12V 20A / MPPT
Solra Panel	120Wp x 2EA	Product Height	6m
LED Lamp	60W	Lamppost Material	Stainless
Battery Capacity	140Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Product Identification Num 24722939 — STS 304 / Li / AC

Model Name	HS-MS60L6L	Charge Controller	DC12V 20A / MPPT
Solra Panel	80Wp x 2EA	Product Height	6m
LED Lamp	60W	Lamppost Material	Stainless
Battery Capacity	95Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
AC Connection	Yes		

Product Identification Num 24722932 — STS 304 / Li

Model Name	HS-MS100L9	Charge Controller	DC12V 20A / MPPT
Solra Panel	150Wp x 2EA	Product Height	9m
LED Lamp	100W	Lamppost Material	Stainless
Battery Capacity	200Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Product Identification Num 24722927 — STS 304 / Li / AC

Model Name	HS-MF100L9L	Charge Controller	DC12V 20A / MPPT
Solra Panel	100Wp x 2EA	Product Height	9m
LED Lamp	100W	Lamppost Material	Steel
Battery Capacity	115Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
AC Connection	Yes		

Product Identification Num 24722920 — STS 304 / Li

Model Name	HS-MS100L10	Charge Controller	DC12V 20A / MPPT
Solra Panel	150Wp x 2EA	Product Height	10m
LED Lamp	100W	Lamppost Material	Stainless
Battery Capacity	200Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Basic
Premium
Smart
Hybrid

Steel / Lithium Ion	Steel / Lithium Iron Phosphate	Stainless Steel / Lithium Ion	Stainless Steel / Lithium Iron Phosphate

Product Identification Num 24722949   STS 304   LFP

Model Name	HS-MS40F5	Charge Controller	DC12V 20A / MPPT
Solra Panel	80Wp x 2EA	Product Height	5m
LED Lamp	40W	Lamppost Material	Stainless
Battery Capacity	110Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Product Identification Num 24722945   STS 304   LFP

Model Name	HS-MS50F5	Charge Controller	DC12V 20A / MPPT
Solra Panel	100Wp x 2EA	Product Height	5m
LED Lamp	50W	Lamppost Material	Stainless
Battery Capacity	135Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Product Identification Num 24722938   STS 304   LFP

Model Name	HS-MS60F6	Charge Controller	DC12V 20A / MPPT
Solra Panel	120Wp x 2EA	Product Height	6m
LED Lamp	60W	Lamppost Material	Stainless
Battery Capacity	160Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Product Identification Num 24722937   STS 304   LFP   AC

Model Name	HS-MS60F6L	Charge Controller	DC12V 20A / MPPT
Solra Panel	80Wp x 2EA	Product Height	6m
LED Lamp	60W	Lamppost Material	Stainless
Battery Capacity	110Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
AC Connection	Yes		

Product Identification Num 24722925   STS 304   LFP

Model Name	HS-MS100F9	Charge Controller	DC12V 20A / MPPT
Solra Panel	150Wp x 2EA	Product Height	9m
LED Lamp	100W	Lamppost Material	Stainless
Battery Capacity	220Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

Product Identification Num 24722924   STS 304   LFP   AC

Model Name	HS-MS100F9L	Charge Controller	DC12V 20A / MPPT
Solra Panel	100Wp x 2EA	Product Height	9m
LED Lamp	100W	Lamppost Material	Stainless
Battery Capacity	135Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
AC Connection	Yes		

Product Identification Num 24722919   STS 304   LFP

Model Name	HS-MS100F10	Charge Controller	DC12V 20A / MPPT
Solra Panel	150Wp x 2EA	Product Height	10m
LED Lamp	100W	Lamppost Material	Stainless
Battery Capacity	220Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification

HS - M S 60 F 5 L

- Haneol Solar street
- S : Unable to monitor
  M : Able to monitor
- S : Stainless
  F : Steel
- LED lamp Watt (W)
- L : Lithium Ion
  F : Lithium Iron Phospahate
- Product Height (m)
- L : KEPCO-linked
  C : CCTV housing separate mobile phone charging device
  D : electronic display, emergency bell mobile phone charging device
  E : C + D
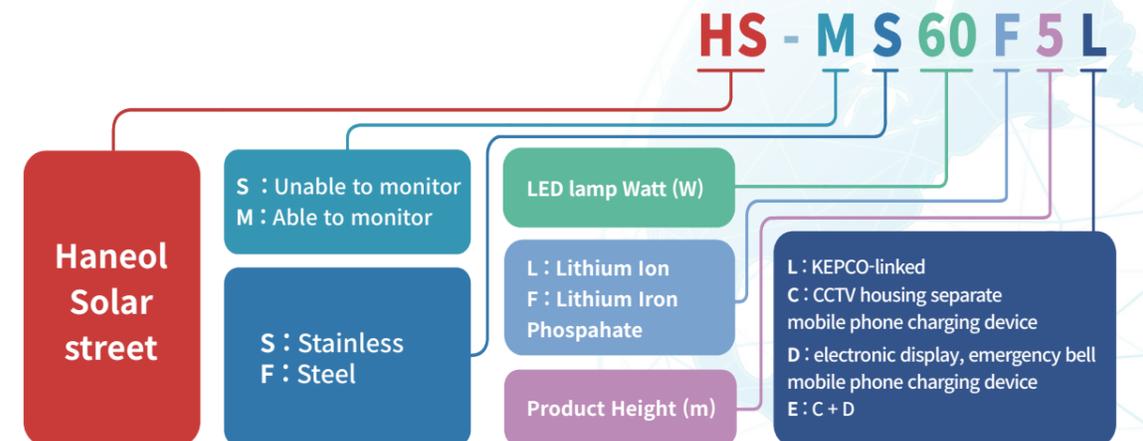
Basic

Premium

Smart

Hybrid

Solar Street Light
Smart Type   ※ Monitoring system installed

- Premium street light function included
- CCTV mounting and housing provided
- Enhance safety and security through emergency bell
- Provide useful information through display
- Mobile phone charging function included

※ Monitoring systems are included

● Introduction of solar street light
Smart type

Quality assurance and CCTV video transmission and recording possible through integrated LED light and CCTV

Installation of warning lights to ensure safety in case of emergency

Optimal angle design for maximum output of photovoltaic panels

CCTV holder provides with CCTV mounting support for users

By providing stainless steel and steel light poles, user can choose according to the location and use

Securing the good appearance of streetlights that harmonize with the installation site

Provides useful information through LED signage

Security securing using emergency button

Mobile phone charging function with USB charging port

Solar Power Controller (HSPC) With patented power controller MPPT power management and LED light dimming control

Two-way communication method (Lora or Cat.M1) Real-time status monitoring and remote control possible

By loading lithium iron phosphate and lithium-ion batteries, the lifespan, temperature characteristics, and stability of streetlights are ensured.

Basic

Premium

Smart

Hybrid

Steel / Lithium Ion	Steel / Lithium Iron Phosphate	Stainless Steel / Lithium Ion	Stainless Steel / Lithium Iron Phosphate

HANEOLNURI Solar Street Light Key POINT

Through patent-proven power control technology, HANEOLNURI solar streetlight challenges the limits of solar streetlight

Patent-proven power controller

HANEOLNURI's patented power control technology prevents overcharging or complete discharging of batteries, extending the lifespan of batteries and streetlights and preventing lighting failure

Monitoring and remote control two-way through communication

Two-way communication using LoRa or "Cat.M1" with high data rate and transmission, transmits the status of solar streetlights in real time, monitoring and remote control possible through PC or mobile according to user needs

Lighting control via IoT sensor

Efficient energy saving and optimized for use environment by controlling lighting brightness and power through motion detection sensor

LED lamps that do not require power conversion

Direct Couple LED streetlight is connected to HSPC 1, 2 Direct to which our patent has been applied, eliminating unnecessary power conversion for LED light driving, thus realizing energy saving

IoT technology-based smart streetlight

Using various IoT sensors to detect the surroundings of streetlights and provide useful information through display

Hybrid streetlights using indirect wind power

Improve power generation efficiency by using wind power such as vehicles around streetlights by installing wind power generators on street lamps

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Product Identification Num — STS 304 — Li

Model Name	HS-MS60L6C	Charge Controller	DC12V 20A / MPPT
Solra Panel	150Wp x 2EA	Product Height	6m
LED Lamp	60W	Lamppost Material	Stainless
Battery Capacity	200Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
Option		CCTV housing separately, mobile phone charging device	

Product Identification Num — STS 304 — Li

Model Name	HS-MS60L6D	Charge Controller	DC12V 20A / MPPT
Solra Panel	335Wp x 1EA	Product Height	6m
LED Lamp	60W	Lamppost Material	Stainless
Battery Capacity	220Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
Option		Electronic signages, emergency bells, mobile phone charging devices	

Product Identification Num — STS 304 — Li

Model Name	HS-MS60L6E	Charge Controller	DC12V 20A / MPPT
Solra Panel	400Wp x 1EA	Product Height	6m
LED Lamp	60W	Lamppost Material	Stainless
Battery Capacity	280Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
Option		CCTV housing separately, electronic signages, emergency bell, mobile phone charging device	

Product Identification Num — STS 304 — Li

Model Name	HS-MS100L9C	Charge Controller	DC12V 20A / MPPT
Solra Panel	150Wp x 2EA	Product Height	9m
LED Lamp	100W	Lamppost Material	Stainless
Battery Capacity	200Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
Option		CCTV housing separately, mobile phone charging device	

Product Identification Num — STS 304 — Li

| Model Name	HS-MS100L9D	Charge Controller	DC12V 20A / MPPT
Solra Panel	400Wp x 1EA	Product Height	9m
LED Lamp	100W	Lamppost Material	Stainless
Battery Capacity	220Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
Option		Electronic signages, emergency bells, mobile phone charging devices	

Basic

Premium

Smart

Hybrid

HANEOLNURI Co., Ltd
Smart Solar Street Light

Steel / Lithium Ion	Steel / Lithium Iron Phosphate	Stainless Steel / Lithium Ion	Stainless Steel / Lithium Iron Phosphate

Product Identification Num — STS 304 / Li

Model Name	HS-MS100L9E	Charge Controller	DC12V 20A / MPPT
Solra Panel	450Wp x 1EA	Product Height	9m
LED Lamp	100W	Lamppost Material	Stainless
Battery Capacity	280Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
Option	CCTV housing separately, electronic signages, emergency bell, mobile phone charging device		

Product Identification Num — STS 304 / LFP

Model Name	HS-MS60F6C	Charge Controller	DC12V 20A / MPPT
Solra Panel	150Wp x 2EA	Product Height	6m
LED Lamp	60W	Lamppost Material	Stainless
Battery Capacity	160Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
Option	CCTV housing separately, mobile phone charging device		

Product Identification Num — STS 304 / LFP

Model Name	HS-MS60F6D	Charge Controller	DC12V 20A / MPPT
Solra Panel	335Wp x 1EA	Product Height	6m
LED Lamp	60W	Lamppost Material	Stainless
Battery Capacity	220Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
Option	Electronic signages, emergency bells, mobile phone charging devices		

Product Identification Num — STS 304 / LFP

Model Name	HS-MS60F6E	Charge Controller	DC12V 20A / MPPT
Solra Panel	400Wp x 1EA	Product Height	6m
LED Lamp	60W	Lamppost Material	Stainless
Battery Capacity	270Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
Option	CCTV housing separately, electronic signages, emergency bell, mobile phone charging device		

Product Identification Num — STS 304 / LFP

Model Name	HS-MS100F9C	Charge Controller	DC12V 20A / MPPT
Solra Panel	150Wp x 2EA	Product Height	9m
LED Lamp	100W	Lamppost Material	Stainless
Battery Capacity	220Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
Option	CCTV housing separately, mobile phone charging device		

Product Identification Num — STS 304 / LFP

Model Name	HS-MS100F9D	Charge Controller	DC12V 20A / MPPT
Solra Panel	400Wp x 1EA	Product Height	9m
LED Lamp	100W	Lamppost Material	Stainless
Battery Capacity	270Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
Option	Electronic signages, emergency bells, mobile phone charging devices		

Product Identification Num — STS 304 / LFP

Model Name	HS-MS100F9E	Charge Controller	DC12V 20A / MPPT
Solra Panel	450Wp x 1EA	Product Height	9m
LED Lamp	100W	Lamppost Material	Stainless
Battery Capacity	320Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
Option	CCTV housing separately, electronic signages, emergency bell, mobile phone charging device		

Basic
Premium
Smart
Hybrid

HS - M S 60 F 5 L

Haneol Solar street

- S : Unable to monitor
- M : Able to monitor

- S : Stainless
- F : Steel

- LED lamp Watt (W)

- L : Lithium Ion
- F : Lithium Iron Phospahate

- Product Height (m)

- L : KEPCO-linked
- C : CCTV housing separate mobile phone charging device
- D : electronic display, emergency bell mobile phone charging device
- E : C + D
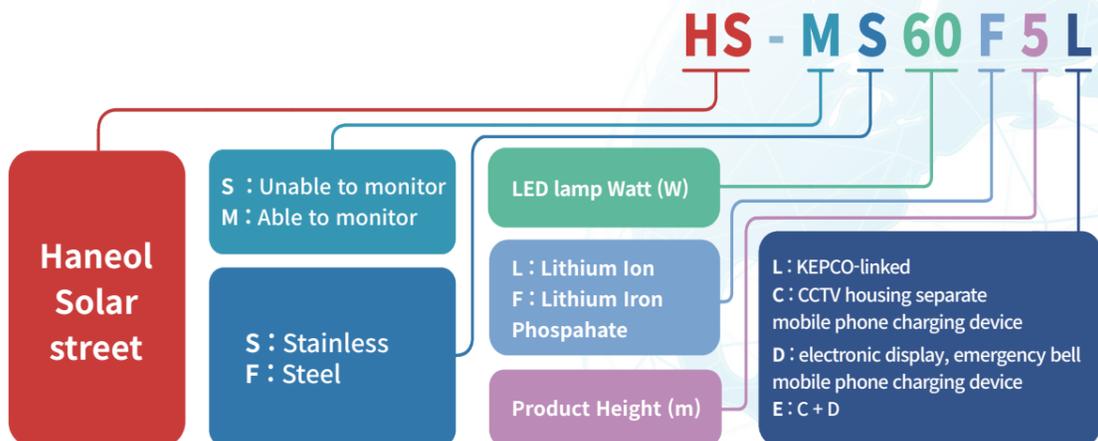
Solar Street Light
Hybrid Type ※ Monitoring system installed

- Premium street light function included
- Gain wind efficiency due to building, terrain impact
- Extended number of days of relief for streetlights through wind power generation
- Minimize wind blade rotational noise
- Improve power generation efficiency through driving vehicle wind power

※ Monitoring systems are included

Product Identification Num — STS 304 / Li

Model Name	HS-HS60L6T	Charge Controller	DC12V 20A / MPPT
Solra Panel	120Wp x 2EA	Product Height	6m
LED Lamp	60W	Lamppost Material	Stainless
Battery Capacity	140Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
Wind power	Top		

Product Identification Num — STS 304 / LFP

Model Name	HS-HS60F6T	Charge Controller	DC12V 20A / MPPT
Solra Panel	120Wp x 2EA	Product Height	6m
LED Lamp	60W	Lamppost Material	Stainless
Battery Capacity	160Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2163719) · KC Certification · CE Certification
Wind power	Top		

Product Identification Num — STS 304 / Li

Model Name	HS-HS60L6M	Charge Controller	DC12V 20A / MPPT
Solra Panel	120Wp x 2EA	Product Height	6m
LED Lamp	60W	Lamppost Material	Stainless
Battery Capacity	140Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2486497) · Patent(10-2163719) · KC Certification · CE Certification
Wind power	Center(indirect wind)		

Product Identification Num — STS 304 / LFP

Model Name	HS-HS60F6M	Charge Controller	DC12V 20A / MPPT
Solra Panel	120Wp x 2EA	Product Height	6m
LED Lamp	60W	Lamppost Material	Stainless
Battery Capacity	160Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2486497) · Patent(10-2163719) · KC Certification · CE Certification
Wind power	Center(indirect wind)		

Product Identification Num — STS 304 / Li

Model Name	HS-HS100L12M	Charge Controller	DC12V 20A / MPPT
Solra Panel	150Wp x 2EA	Product Height	12m
LED Lamp	100W	Lamppost Material	Stainless
Battery Capacity	200Ah / 14.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Ion	Tech Certifications	· Patent(10-2486497) · Patent(10-2163719) · KC Certification · CE Certification
Wind power	Center(indirect wind)		

Product Identification Num — STS 304 / LFP

| Model Name	HS-HS100F12M	Charge Controller	DC12V 20A / MPPT
Solra Panel	150Wp x 2EA	Product Height	12m
LED Lamp	100W	Lamppost Material	Stainless
Battery Capacity	220Ah / 12.8V(4S)	Two-Way Remote Control	Yes
Battery Type	Lithium Iron Phosphate	Tech Certifications	· Patent(10-2486497) · Patent(10-2163719) · KC Certification · CE Certification
Wind power	Center(indirect wind)		

HANEOLNURI Co., Ltd
Solar Street Light Installation Case
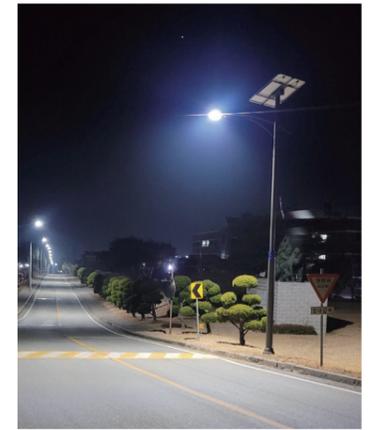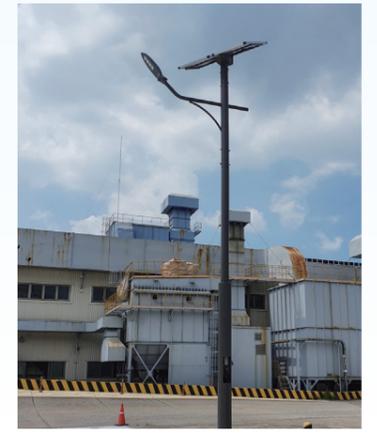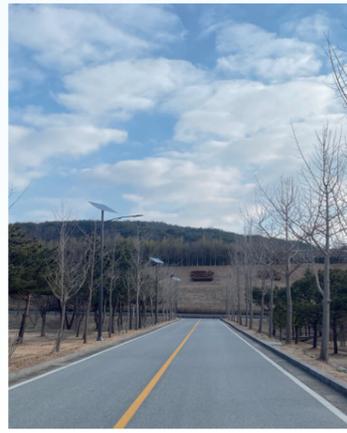
# Remote monitoring and Power control system

This system is a system that monitors solar streetlights in real time and transmits all the status of solar streetlights. Using LoRa or "Cat.M1" network, high reliability is secured with less data loss due to wireless, and operation is possible at a very low cost. In general, rather than a one-way system that transmits the status data of solar streetlights, a two-way system that allows users to remotely control solar streetlights is applied.

About 20 data such as the amount of power generation, charge amount, and discharge amount of the solar streetlight are transmitted, and the user can perform remote control such as forced on, forced off, reset, and charging stop as needed.

Facility diagnosis is possible through the data transmitted from the solar streetlight, and through this, it is possible to prevent and check in advance. Monitoring can be accessed not only from a PC but also from a mobile device, and an user can view the status of solar streetlights anytime, anywhere.
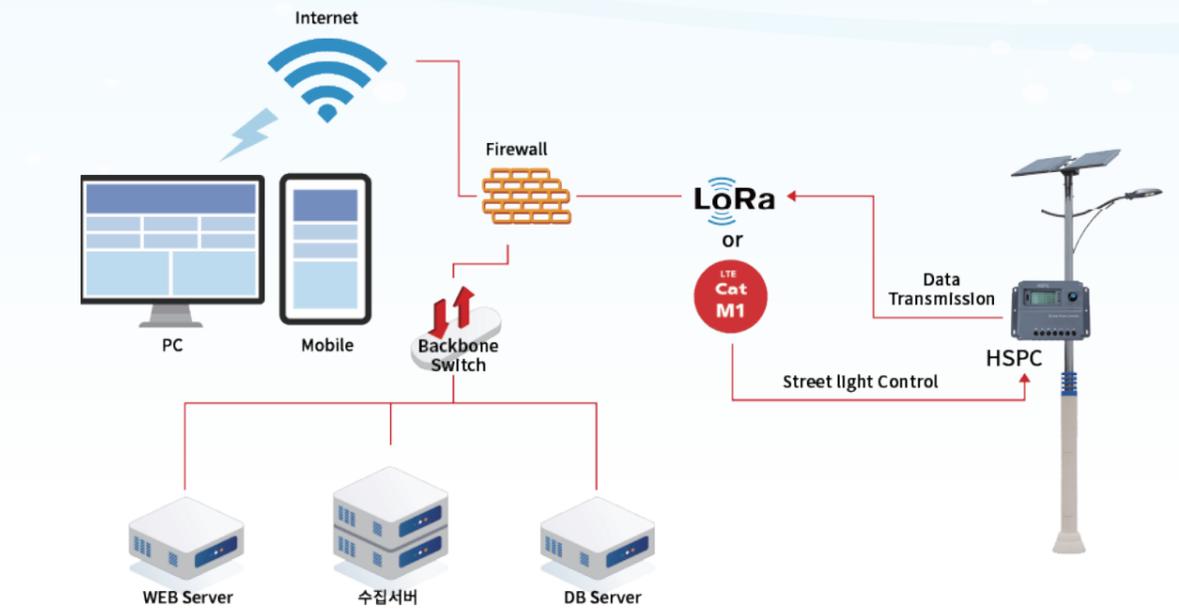
Real-time Data Wireless Data Collection Device
Real-time data transfer to LoRa modem connected to HSPC1

Smart Infrastructure Monitoring System
Optimized for various devices such as PCs and smartphones (IOS, Android)

Security + Safety Data collection and management
All-in-one infrastructure monitoring from data collection to DB management+ security

Remote control
Remote street light status control

Cat.M1, LoRa
Optimization of user selection and street light installation environment and usage method by using various communication methods

Two-way system

PC Screen

Mobile Screen
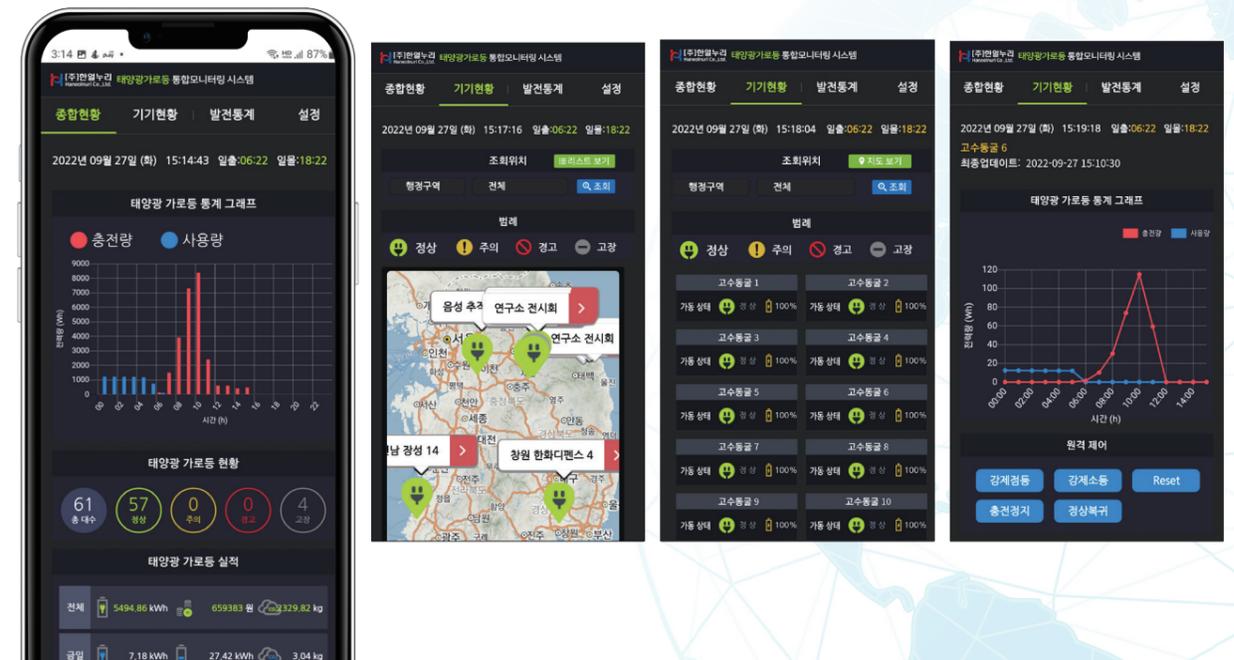
HANEOLNURI Co., Ltd
Solar Power Generation System

The investment cost is the minimum, but the power generation output is the maximum
HANEOLNURI rationally lowers investment cost and increases power generation output with more than 10 years of technology and know-how.

Thinking about the future.
HANEOLNURI research for a better future, sustainable development, and coexistence of people and nature

Thorough monitoring & thorough maintenance
Minimize damage by detecting product abnormalities in advance through the power generation monitor and boast the industry's largest maintenance period

Pursuing customer satisfaction with quality products
We pursue customer satisfaction and happiness with quality products.

Increasing profitability through market analysis
To improve customer profits & benefits, we take a strategic approach by analyzing factors affecting unit price, such as power start-up historical data, power market trends, and global market trends.

The order of solar power generation plant construction

CONSULTING
I. Licensing and permitting assistance
II. Economic analysis
III. Optimization of the system

DESIGN
I. Optimization of specifications
II. Economic design
III. Perfect simulation

CONSTRUCTION
I. Maximize quality
II. Optimal construction
III. Build the best system

OPERATION
I. Commissioning
II. Power generation analysis
III. 3D monitoring

A / S
I. Periodic inspection
II. Maintenance
III. On-site support dispatched 365 days a year

Structure of Solar Power Business Profit

Power generation company obligated to supply

Power generation Profit (REC)

Solar power generation

Power generation Profit (SMP)

Korea Electric Power Corporation

Electricity production

Electricity production

SMP = (System Marginal Price) : The price purchased from KEPCO at the system marginal price
(Contract target: Korea Electric Power Corporation)

REC = (Renewable Energy Certificates) : The price of the supply certificate issued by the Korea Energy Management Corporation
(Contract target: Power generation company obligated to supply)

Annual sales = Annual power generation × (SMP + REC) × weighted index number

Currently, the average amount of sunshine duration per day in Korea is 3.6 hours.
Therefore, annual power generation(kWh)=Solar PV generation(kW) x 3.6(hours) x 365 days

Solar power plant installation case

Gwangil
(Jecheon, Chungbuk)

Natural Recreation Forest
(Sobaek Mountain)

NH Nonghyup
(Cheongju, Chungbuk)

Cheonhuangshan Mountain
(Goseong, Gyeongnam)

Hyundai
(Sangju, Gyeongbuk)

Hoam Gymnasium
(Cheongju, Chungbuk)

Examples of Installation by government supply projects and local government support projects

Residential Solar PV Generation Support Project

Solar PV Generation support project for Senior meeting Club

Building Solar PV Generation Support Project

BIPV_CIGS Flexible Module
(Building Integrated Photovoltaic System)

BIPV zinc solar panel in which CIGS Flexible Module and zinc steel panel are integrated, no additional structure is required! Application of various buildings with ultra–light solar panels!

🔵 BIPV Features

- → Since the building is utilized, there is no need to create a separate installation site with reducing costs
- → Excellent sun blocking effect, which can replace tempered glass in high-rise buildings
- → The building and sunlight are integrated to realize a clean design
- → Strong durability reduces the risk of damage from hail or worker's footprints
- → Electricity can be supplied through building-integrated self-generation, so the producer and consumer of electricity are the same, minimizing energy loss

🔵 CIGS Flexible BIPV Panel Steel Plate

BIPV zinc solar panel with CIGS Flexible Module and zinc steel panel integrated! Construction at once without the need for additional structures! Applied to various structures with ultra–light solar panels!

🔵 Construction material type (zinc panel type): a zinc panel with a curved or flat surface to replace exterior materials

- · Unit size of product material: 3 types of flat and curved surfaces over 0.7㎡ Prototype(80W,125W, 290W)
- · Power generation efficiency of exterior module: 16% or more
- · Lightweight of exterior material module: Less than 30% of the weight of Crystalline battery based BIPV exterior material of the same area
- · Waterproofing, soundproofing, and thermal insulation performance: Meets the performance requirements of building materials when applied as an exterior wall building material
- · Fire–resistance performance: "Class A" secured in IEC fire test

🔵 Features of BIPV_ CIGS Solar Module

Feature	Description
Light weight	Lighter weight than glass modules, making it easy and quick to transport and install. CIGS is particularly suitable for retrofitting existing buildings or applications where additional weight and/or strong winds and loads are important depending on the nature of the building or structure due to its light weight.
Flexibility	As CIGS can conform to curved surfaces, designers can freely design, so the demand for good looking building-integrated PV (BIPV) is increasing.
Heat resistance (performance at high temperatures)	Thin-film flexible PV products provide better energy production in high module temperatures and warm climates. In real outdoor conditions, the module temperature can be particularly high up to 80 degrees Celsius. At this temperature, thin-film PV products can generate up to 20% more electricity than conventional crystalline solar modules of the same power rating.
Wind resistance	It is also safe from strong winds as it is installed on the roof and wall as an integral part of the building.
Reduced cost with glassless structure	When installing a solar power system on the ground, there is no need for additional structures if there is no glass attachment, which greatly reduces the total cost of the solar system.
Durability	Due to its strong durability, there is little risk of damage caused by hail or worker footprints. Encapsulated in a UV-stabilized weathering polymer, durable CIGS products have been proven for decades in the most extreme conditions imaginable, including satellites, marine buoys and military applications.
Efficiency	High light absorption, high energy conversion efficiency of 18-20% or more of high-efficiency single-crystal cells.
Aesthetics, diversity	As an exterior finishing material, it is an integral part of the building and enhances the good appearance of the building.
Efficiency against Shadow influence	Because CIGS has high light absorption in the blue wavelength range, it provides high outdoor performance under low light diffusion conditions. Thin-film solar panels can provide power even when partially shaded (clouds, etc.) or dirty.

Haneolnuri Corporate BIPV

● **BIPV Installation Case**
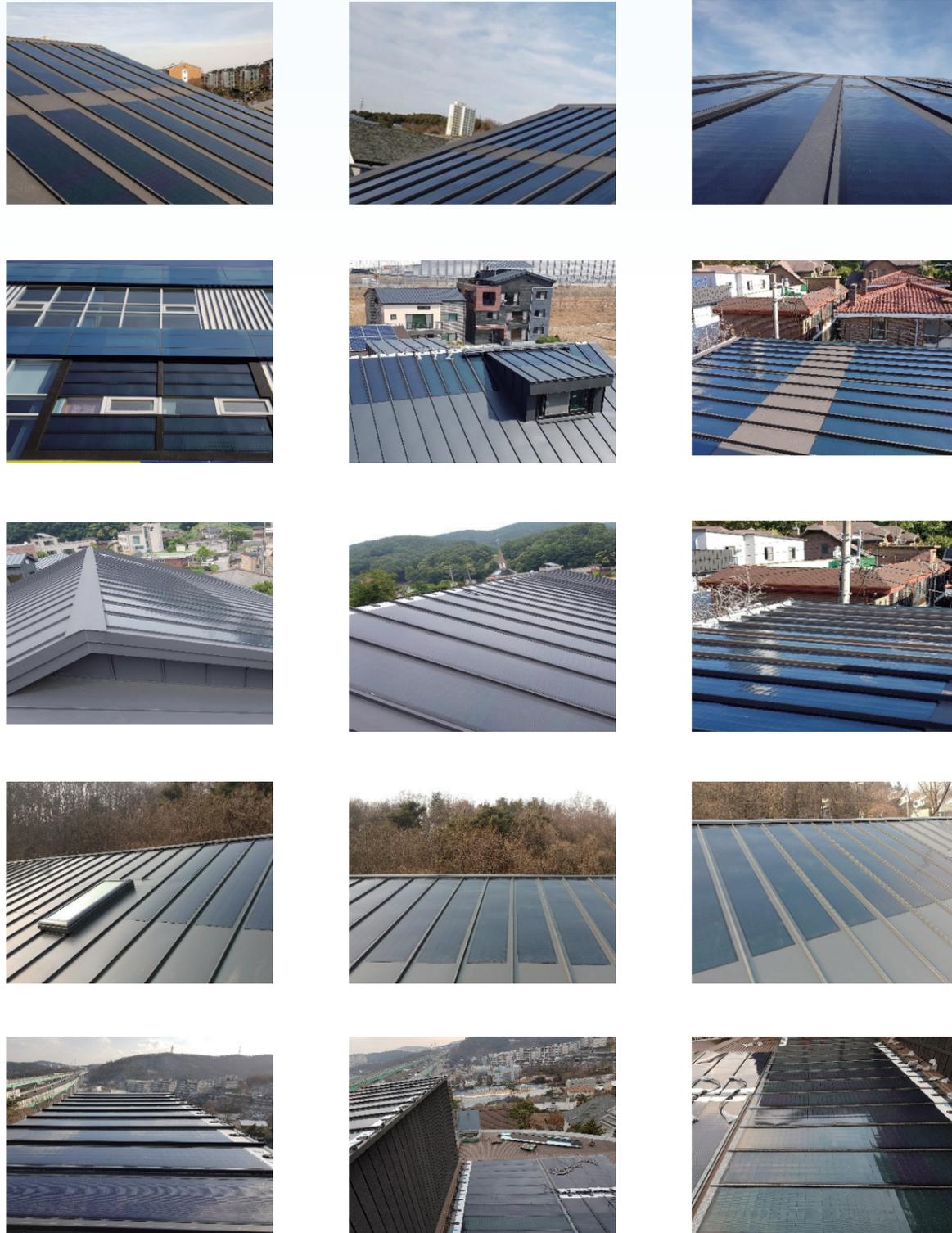
Electrical work

We will makes customer feel impressive through thorough safety management and flawless construction.

Power substation facility

Power distribution construction

Railway electricity · Signal

Building construction

Electrical interior construction

Electrical interior construction

Apartment construction

Plant construction

University construction

Landscape lighting

LED landscape lighting

Plant lighting

Road lighting

Interior lighting

General lighting

Information and Communication Work
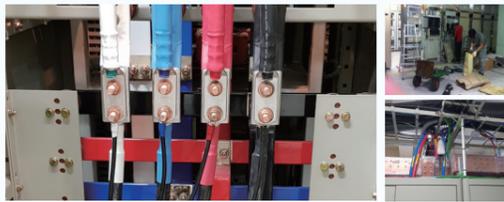
Communication purpose power supply (DC) construction project

Replacement and extension of direct current (DC) equipment beyond its service life (Rectifier, DC urban, DC Distributor for direct current, converter, air conditioner, etc.)

Communication purpose power supply (Generator) construction project

Replacement of generator with excessive service life and maintenance of defective facilities (Generator replacement and maintenance 10kW – 6,000kW)

Communication purpose power supply (AC) construction project

Power substation & power distribution / Replacement and extension work for the excess of the useful life of the UPS facility (Power substation & distribution facility, uninterruptible power supply system, STS facility)

Communication purpose power supply (Grounding work) construction project

Grounding facility construction and supplementary work in information and communication facilities (For communication, security, lightning rod construction)

Communication purpose power supply (Battery) construction project

Replacement of battery with the excess of the useful life and maintenance of defective batteries (Replacement of batteries, replacement of cells with poor battery voltage and impedance)

Relay station maintenance at highland and construction project

Grounding facility management and power facility stabilization maintenance work to prevent lightning strikes
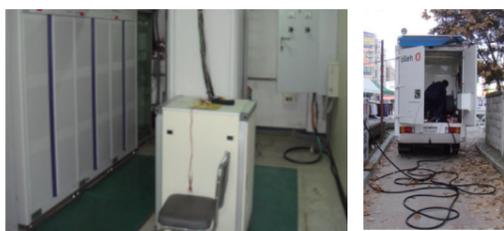
High-speed Internet project

Mobile power generation vehicle support project to stabilize power facilities (BBS, BBC, BBH, BBP, etc.)

Fire Protection Facilities Work

Fire-fighting equipment

MCC panel for firefighting

Alarm equipment

Detector

Basic sprinkler

Fire hydrant equipment

Fire-fighting piping equipment

Fire-fighting piping equipment

Fire hydrant equipment
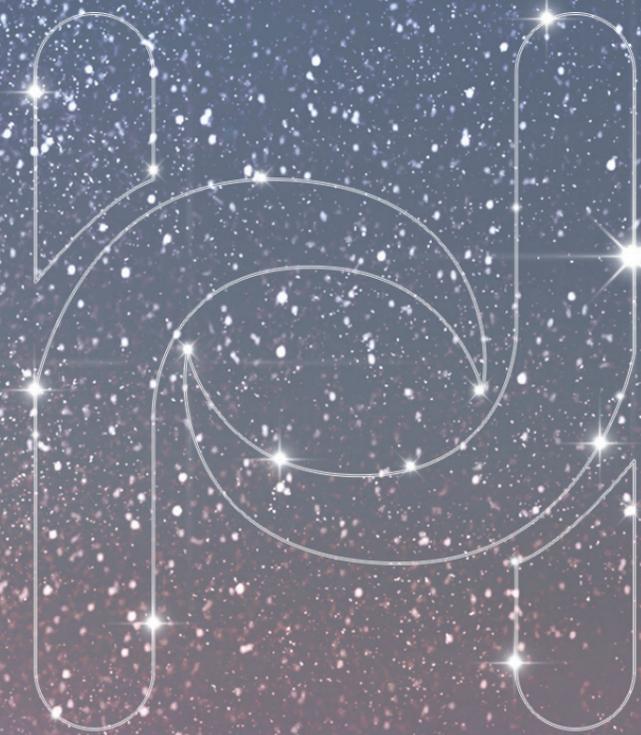
Haneolnuri
Prepare for Tomorrow

With the best design and cutting-edge technology, we transcend the spatial limits and run infinitely toward a clean future with a bold challenging spirit for tomorrow's precious dream.

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