

PRODUCT CATALOG · 2025

ALL-IN-ONE SMART SOLAR STREET LIGHT

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First Step Toward Carbon Neutrality — 365·24 Self-Powered Lighting

Public Procurement Catalog · Public Procurement Edition



AWARDS & RECOGNITION

▣ **2021**
Jang Yeong-sil Int'l Science & Culture
Award
Grand Prize · Energy Sector

▣ **2023**
Korea ESG Academy
Eco-Friendly Battery Grand Prize

BK DONGYEONG TECH CO.,LTD

Solid Metal Battery, and the Standard for Self-Powered Lighting

BK Dongyeong Tech Co., Ltd. is an R&D-driven company that develops and produces next-generation LFS (Lithium Ferrum Solid Metal) batteries in-house, supplying the public and private markets with **The Smart All-in-One Solar Street Light** solutions that integrate solar panel, LED, and battery into a single module.

HISTORY · KEY MILESTONES

- 2020

Company founded · Started LFS battery R&D
- 2021

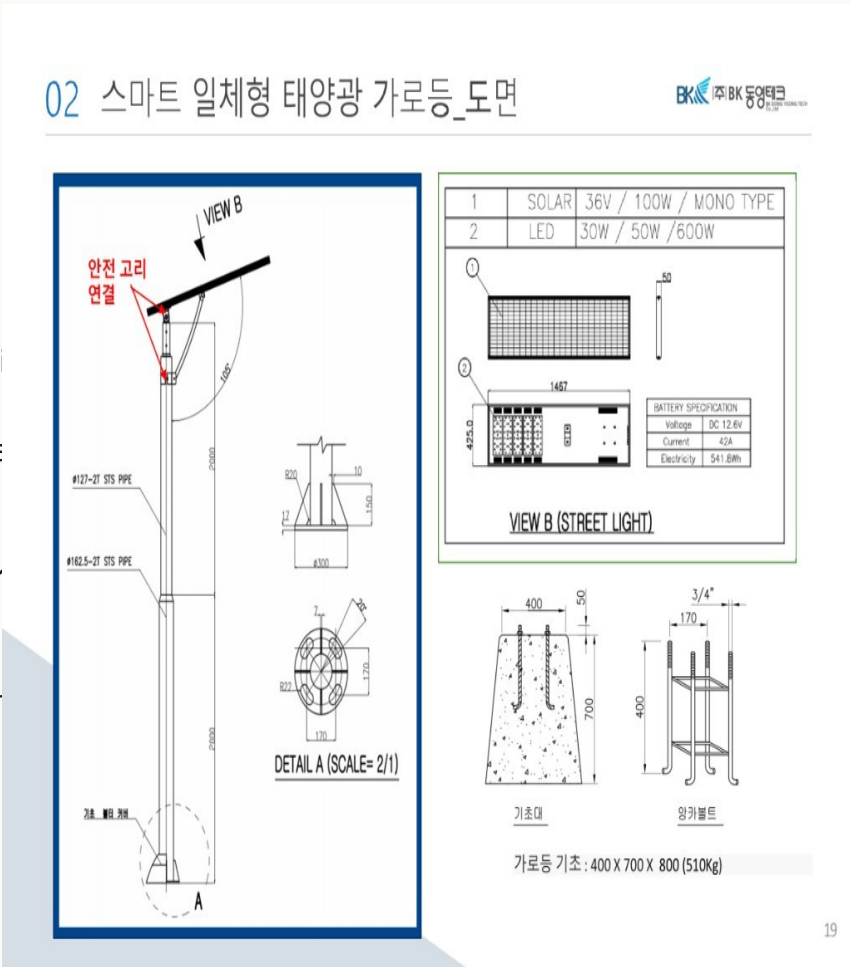
☐ Jang Yeong-sil Int'l Science & Culture Award **Grand Prize** awarded · Corporate R&D Center accredited
- 2022

ETRI Gwangju Tech Transfer · All-in-One Street Light mass production started
- 2023

☐ Korea ESG Academy Eco-Friendly **Secondary Battery Grand Prize** · Telecom 3-Carrier MOU signed
- 2024

PPS Bidding Qualification Registered · Direct Production Certificate obtained
- 2025

BK-LG Series 5-Model Lineup completed · Public Procurement Catalog published



AWARDS · RECOGNITION HISTORY

☐ 2021

Jang Yeong-sil Int'l Science & Culture Award **Grand Prize**
Energy Sector

☐ 2023.12

Korea ESG Academy **Eco-Friendly Battery Grand Prize**
Secondary Battery ESG Sector

BUSINESS PILLARS · 4 CORE AREAS

PILLAR 01

**LFS Solid Metal
Battery Manufacturing**

522.13 Wh/L · 6,000-Cycle Verified

PILLAR 02

**BMS
(Battery Management System)**

In-house BK-CSC Controller

PILLAR 03 · CORE

**SOLAR STREET LIGHT
SOLUTION ★**

5-Model Lineup · Public Procurement

PILLAR 04

**Telecom 3-Carrier MOU
Monitoring System**

LG U+ · KT · SKT

CERTIFICATIONS · SUMMARY

ISO
9001:2015

EU/US
CE · FCC · UL

KS
KS C 8562

PROCUR.
PPS Registration

Direct Production Certificate · Broadcasting & Telecom Equipment Compliance · Corporate R&D Center · Factory Registration

R&D PARTNERS · TECHNOLOGY PARTNERSHIPS

ETRI Gwangju Tech Transfer | Telecom 3 Carriers Monitoring MOU (LGU+·KT·SKT) | 7 Patents Filed

PRODUCT DEFINITION

Single Module, 4 Core Components Integrated

The **Smart All-in-One Solar Street Light** integrates solar panel, LED, LFS battery, and smart controller into a single module — a next-generation self-powered lighting solution that operates 365 days without external power, dramatically reducing installation time and maintenance cost vs. separated-type units.

CONVENTIONAL
Separated-Type Streetlight

- Panel·LED·Battery installed separately (3 units)
- Multiple cables, mostly externally exposed
- Multiple waterproof/dustproof weak points
- Multi-zone, high-cost maintenance
- Long installation time, complex appearance

BK ALL-IN-ONE
All-in-One Streetlight

- ◆ **4-in-1 single module** integrated design
- ◆ Internal wiring, **elegant exterior**
- ◆ **IP65** waterproof/dustproof integration
- ◆ Installation **1/3 the time**, single-point maintenance
- ◆ **-36°C ~ 70°C** extreme-environment operation

3-LAYER SANDWICH
3-Layer All-in-One Structure



TOP
Solar Panel
60-180W · Sky-facing



INTERNAL
LFS Battery
504Wh + BK-CSC



BOTTOM
LED Module
30-120W · Ground-facing



BK 올인원 스마트 태양광 가로등 헤드 모듈 구조

3중 샌드위치 구조로 하나의 완성된 모듈



EXPLODED MODULE STRUCTURE

BK-LG SERIES · 5 MODELS



BK-LG-30: 30W LED



BK-LG-50: 50W LED



BK-LG-70: 70W LED



BK-LG-100: 100W LED



BK-LG-120: 120W LED

실제 골목길 야간 조명 비교

기존 분리형 가로등 (50W)



조도(LUX) 약 35 LUX

빛이 좁게 퍼져 시각장애가 많고, 골목 전체가 어두워 야간 보행 시 불안감이 있습니다.
조명 커버리지 **약 78%**

BK 일체형 스마트 가로등 (50W)



조도(LUX) 56~110 LUX

빛이 넓고 균일하게 퍼져 골목 전체를 밝게 비춰, 보행 안전성과 시인성이 뛰어납니다.
조명 커버리지 **약 99%**

MODEL	LED	SOLAR	POLE HEIGHT	APPLICATION · Use Case
BK-LG-30	30W	60W	4 m	Walkways · Trails · Park entrances
BK-LG-50	50W	100W	5 ~ 6 m	General roads · Parks · Parking lots
BK-LG-70	70W	120W	6 ~ 7 m	Wide roads · Intersections · School zones
BK-LG-100	100W	150W	7 ~ 8 m	Arterial roads · Industrial complexes
BK-LG-120	120W	180W	8 ~ 9 m	Major roads · Large facilities · Ports

CORE KPI · 6 Key Performance Metrics

LIGHT EFFICIENCY

192

lm / W

Luminous Efficacy · Best-in-Class

COLOR TEMPERATURE

6,000

K

Color Temperature · Optimized Visibility

INGRESS PROTECTION

IP65

Waterproof / Dustproof Rating

Full Dust Seal · Strong Water Jets

OPERATING TEMP

−36 ~ 80

°C

Operating Temp · Extreme Environment

LIFE CYCLE

8

Warranty years

Product Life · Long-Term Operation

BATTERY

BACK-UP DAYS

6 ~ 7

days (Backup Days)

Self-powered operation in bad weather

P. 04 / 06 · LINEUP & SPECIFICATION

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FIELD COMPARISON · Night Lighting

Same 50W, 1.6 ~ 3.1× brighter illuminance



ILLUMINANCE BOOST

+ 220%

Up to 3.1× brighter

COVERAGE

110%

vs. Separated-type 75%

LICENSE-PLATE ID

Clear ✓

CCTV Security Visibility ↑

PROVEN IN THE FIELD

Validated by Field Demonstration Data —Overwhelming Lighting Performance

KIEL·CTK·KTL official test reports · Multiple deployments in Gwangju Metropolitan City demonstration projects

AI ESS & IoT

Smart Monitoring System

BMS

Real-time Battery Diagnostics

DIMMING

Time-based Auto Dimming Control

AUTO ON/OFF

Illuminance Sensor On/Off

REMOTE

Remote Monitoring & Fault Detection

CARRIER PARTNERSHIP

Telecom 3-Carrier MOU (LG U+ · KT · SKT) + ETRI Gwangju Research Center Technology Transfer

ECO VALUE · ENVIRONMENTAL VALUE

₩0 Electricity, 365-Day Self-Operation

⚡

Off-Grid Self-Power

No utility grid connection needed

💰

₩0 Electricity Cost

10-year cost savings

🌱

Carbon Reduction

ESG & Carbon Neutrality aligned

🕒

365·24 Operation

4~7 Days Backup

📅

10-Year Lifespan

LFS 6,000-cycle verified

🏆

ESG Grand Prize

2023 Eco-Friendly Secondary Battery

Public Procurement-Ready 6-Pillar Certification Matrix

National Certification

01 · NATIONAL

Broadcasting & Telecom Equipment Compliance Registration
DC-DC Converter
BK-CSC Controller

International Certification

02 · INTERNATIONAL

CE · FCC · UL
EN 55015:2019+A11
FCC Part 15 Class B
★ UL Certified

Test Reports

03 · TEST LAB

KIEL · CTK · KTL
KS C 8562:2020
Official Test Reports Held
Luminous Efficacy 192 lm/W Verified

Corporate Certification

04 · CORPORATE

ISO 9001:2015
Quality Management System
Corporate R&D Center
Factory Registration

Procurement Qualification

05 · PROCUREMENT ★

Direct Production Verification + PPS Registration
Direct Production Certificate
PPS Bidding Qualification Certificate
Eligible for Public Procurement

R&D

06 · R&D

ETRI Tech Certification
ETRI Gwangju Research Center ★
LFS 522.13 Wh/L
6,000-cycle verified

AWARDS · RECOGNITION HISTORY

2021 Jang Yeong-sil Int'l Science & Culture Award Grand Prize

2023.12 Korea ESG Academy Eco-Friendly Battery Grand Prize

7 Patents Filed · LFS Battery · BMS · All-in-One Structure, etc.



CONTACT US

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WEB · CATALOG

www.bkdongyeong.com
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"A Carbon-Neutral Partner for Public Institutions"