

# Autonomous Robotic Drone Station





# Republic of Drone Station!

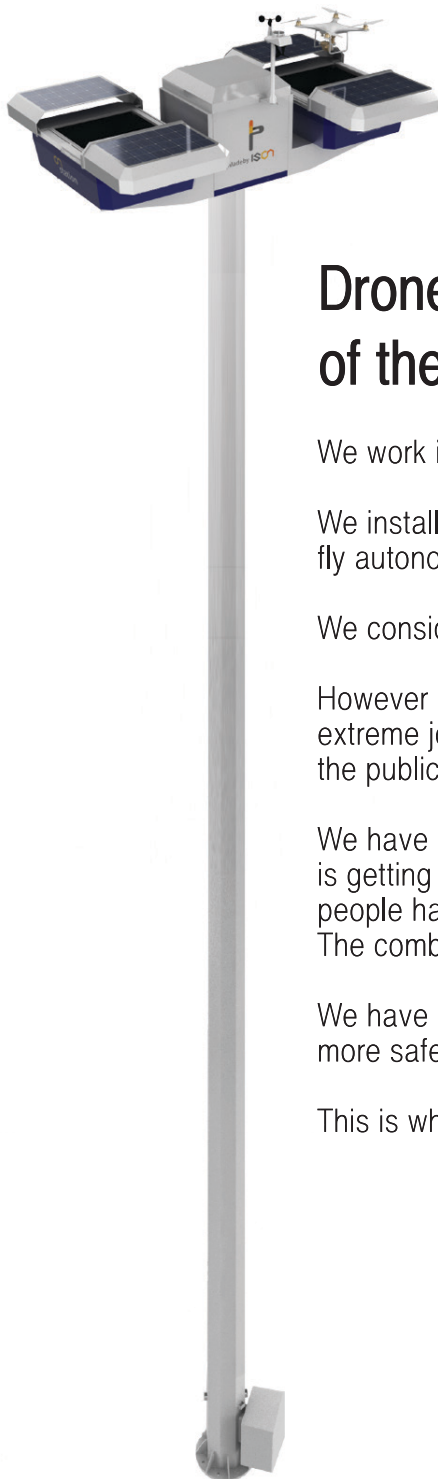
Autonomous charging for Any Drone!!





 station

***We** can make the world  
Safe and Convenient.*



## **Drone Station : To influence the well-being of the nation and its people!!**

We work in the public infrastructure sector.

We install it up high for security and safety purpose and to enable the drone to fly autonomous.

We considered it was innovative for the sake of public well-being.

However our family, friends or someone we know have to go through the extreme job doing the ultimate work in order to provide such infrastructure to the public.

We have been considering to solve this issue and came up with a solution that is getting state of the art technology by lifting and lowering the pole instead of people have to go up high and do the maintenance repair.

The combination of these technologies were just inconceivable rather realistic.

We have ended up to add new technology and have created something that is more safe so people can avoid from exposure to the danger.

This is what I believe to create a happy society!

**LeaderwithIdeation**  
**CEO     Brightkim**

# How it works.



**BAT. CHARGING**  
**ROBOTIC CHARGING**  
100% BATTERY CHARGING IN 45 MIN.



**DRONE STATION**  
**PROTECTION HOUSING**  
RAIN, SNOW, DUST PROOF FYPE (IP54)



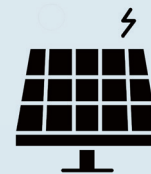
**WEATHER MEASUREMENT SENSOR**  
**WIND DIRECTION,**  
**WIND SPEED, RAINFALL**



**HIGHMAST POLE**  
RAISE & LOWER UNIT & HIGHMAST POLE  
HEIGHT: 10-30M



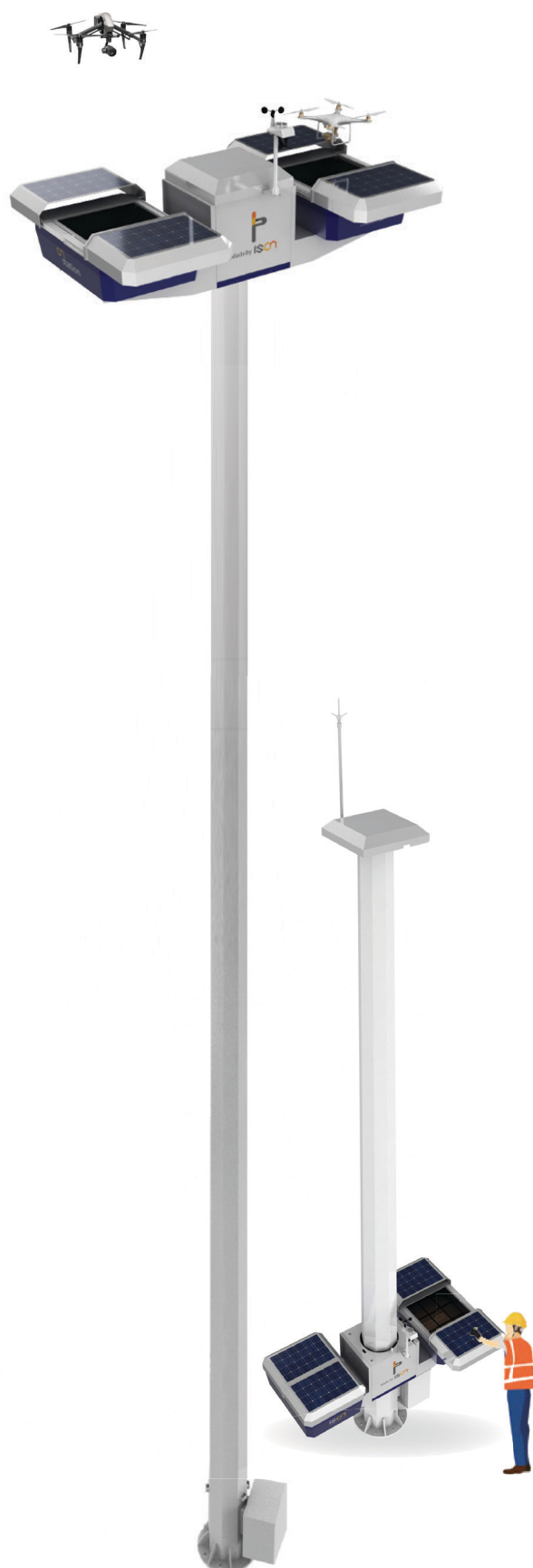
**NETWORK**  
**WIFI / LTE**  
DRONE TO STATION, STATION TO STATION,  
LTE/5G COMMUNICATION BETWEEN STATION TO GCS



**SOLAR POWER**  
**OFF GRID POWER**  
SOLAR CELL & BAT.



**APPLICATION S/W**  
**AIRLINE FINDER PROGRAM**  
3D AUTONOMOUS ROUTE S/W



## High Mast Drone Station For Outdoor

No fear of unsafety and theft  
Remarkable Solution to charge drones

This solution allows drones to open its doors of the station and fly autonomously on designated routes while is on standby for its missions in the station where it is installed at all times.

Control and video signal are based on 5G communication and installation height is about 10~30m

Drone Hangar and charging station of drones can be 1~4 and maintenance is the best drone station for convenient and safe operation down to the ground.

### Specification

PARTS	DESCRIPTION
Station	<ul style="list-style-type: none"> <li>• Number of hangar : 1~2</li> <li>• Landing platform : 700 x 700mm</li> <li>• Size : 1,200 x 1,200 x 500h</li> <li>• Auto- Quick charging port</li> <li>• Weather proof housing ( IP-54 )</li> </ul>
High Mast Pole	<ul style="list-style-type: none"> <li>• Height : Max 30m</li> <li>• Lifting &amp; Lowering device Raise &amp; Lower Unit</li> <li>• ( Elec. winch &amp; Wire rope )</li> </ul>
Others	<ul style="list-style-type: none"> <li>• Anemometer</li> <li>• Rain sensor</li> <li>• Solar module</li> <li>• CCTV camera</li> <li>• Airborne obstacle light</li> <li>• LED lighting</li> </ul>

Convenient After Service and Inspection  
(Pole : Enable to be raised and lowered)

# Charging Station

## Brief Information

The simplest and most powerful charging method in the world.

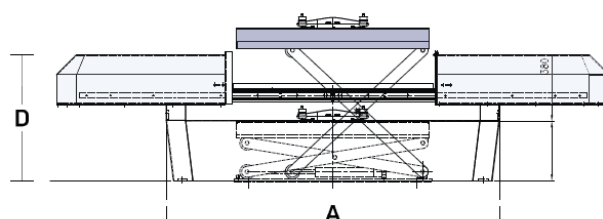
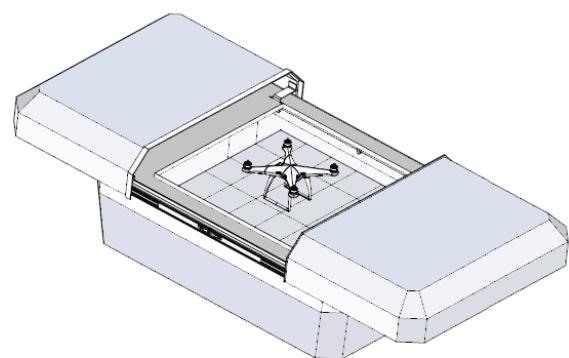
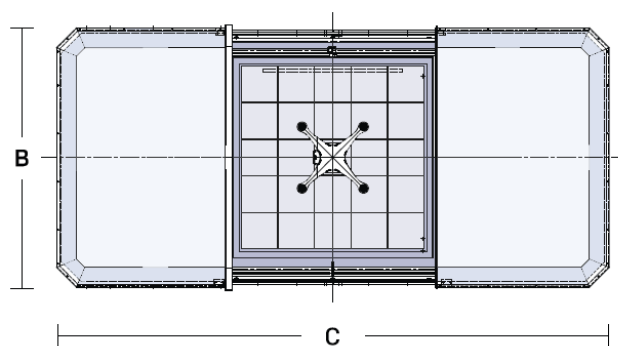
- Any drones can be charged
- Capabilities of unmanned remote management
- Structures suitable for external environments



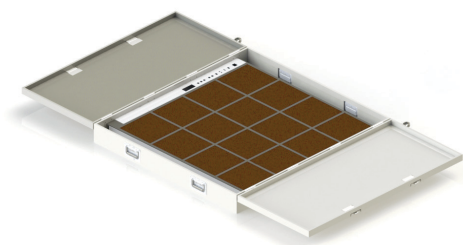
## Specification

Classification	On station – Navi	On station – Mission
Size of Drone	small	medium
Power Capacity	60VDC, 20A	60VDC, 20A
Input Voltage	220V, 1ph, 400W	220V, 1ph, 500W
Ambient Temperature	-40°C ~ + 60°C	-40°C ~ + 60°C
Dimension (mm)	1384 x 1077 x 524 (h)	1500 x 1864 x 950 (h)
Weight	Abt. 170 Kg	Abt. 260 Kg
DPMS (Option)	Drone Power Management System - Battery Charging Voltage, Current, Efficiency - Sending information of drone ID and information of the counterpart - Weight:150g	

## Dimension



# Portable Charging Station



## Brief Information

It is a charging station that can be used at a place where movement is required, and it is light in weight and compact size

- Lightweight and durable using high intensity aluminum frames and sus accessories
- Rugger and durable locks
- Easy to go handles and wheel attachments

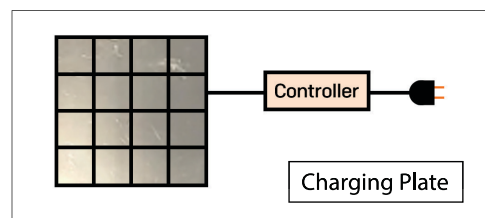
## Specification

Classification	PCS --1200	PCS --800
Type	Portable Charging Station	Portable Charging Station
Grid Plate	4 x 4 ( □ 300mm)	5 x 5 ( □ 150mm)
Material	Conductor : CU Cr Plated Insulator : Bekrite	Conductor : CU Cr Plated Insulator : Bekrite
Controller	Charger : DC48V, 20A	Charger : DC48V, 20A
Dimension (mm)	1430 x 1580 x 200 (h)	1030 x 1180 x 200 (h)
Ambient Temperature	-40℃ ~ + 50℃	-40℃ ~ + 50℃

※ The above specifications can be customized upon the request



Charging Station



Controller

# Charging Plate

## Brief Information

It is a method that can be applied to any drone and it is the most stable contact-type wired charging method. The structure is to install only contact plug-type terminals on the drone, and when the drone lands on the charging station, the socket of the station and the plug attached to the drone are automatically connected and charged. It is characterized by a number of check plate structures and is charged no matter which plate it is connected to.



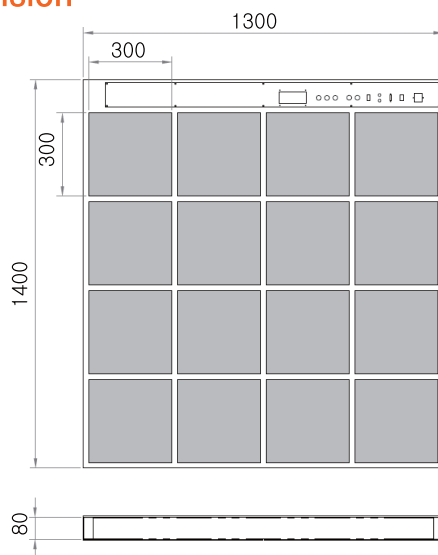
## Specialties

- Charging all vertical take-off and landing drones
- 95% of charging efficiency
- Rechargeable right away without relocation
- High capacity battery can be charged
- The most reliable wired charging method
- The simplest structure

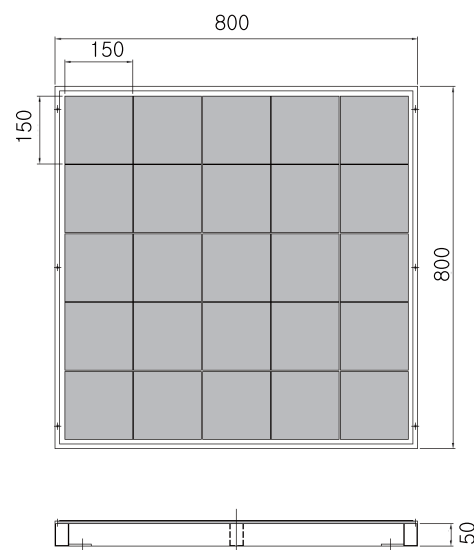
## Specification

Classification	CP-1415-1200	CP-1411-800
Material	Conductor : CU Cr Plated Insulator : Bekrite	Conductor : CU Cr Plated Insulator : Bekrite
Power Capacity	50A	30A
Grid Plate	4 x 4 ( □ 300mm)	5 x 5 ( □ 150mm)
Dimension (mm)	1400 x 1300 x 80 (h)	800 x 800 x 50 (h)
Ambient Temperature	-40℃ ~ + 50℃	-40℃ ~ + 50℃
Applicable Drones	Medium, small sized drones	Medium, small sized drones

## Dimension



CP-1415 -1200



CP-1411 -800

# Charging Pin

## Brief Information

Charging pin that can be easily attached to any drones

- Minimum Drone Payload
- Any drone can be attached without an interference



## Specification

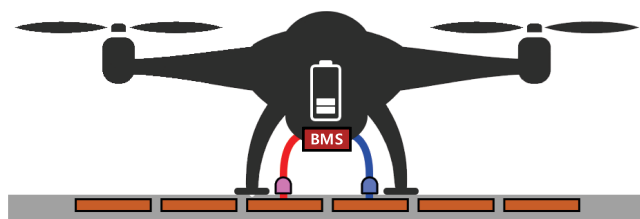
Classification	CP-50A	CP-30A	CP-10A
Material	Conductor : Brass, Gold plate Enclosure : ABS Spring : Stainless Steel	Conductor : Brass, Gold plate Enclosure : ABS Spring : Stainless Steel	Conductor : Brass, Gold plate Enclosure : ABS Spring : Stainless Steel
Power Capacity	50A	30A	10A
Ambient Temperature	-40℃ ~ + 100℃	-40℃ ~ + 100℃	-40℃ ~ + 100℃
Applicable Drones	Large sized drones	Medium sized drones	Small sized drones
Spring Force	250 cN	250 cN	250 cN




# Charging Algorithm

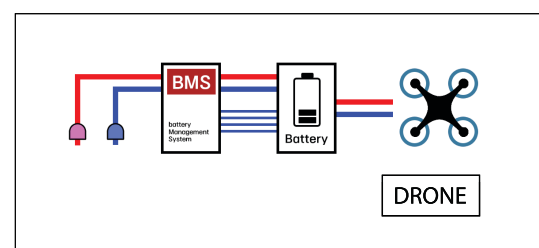
The algorithm is for charging a drone's battery, so is a contact-type charging method that is connected between a charging pin and a charging plate of the charger. BMS for controlling charging power is attached for safe use. It automatically blocks circuits when charging is completed and turn off the power of the drone when waiting. It has the function of turning on the drone power when requesting flight. This method is designed to fit into a drone battery unmanned automatic charging station.

## The function and the specification of BMS

- It remotely controls the drone standby power on/off.
- It blocks the charging circuit when fully charged.
- It remotely monitors the battery's charging.



- BMS** : Battery Management System  
  : Charging Pin  
 : Charging Plate



# Comparison of Installation Methods and Maintenance

## Main Features

- No Fear of theft
- No concern of damage when taking off & landing
- Less Danger of collision when taking off & landing
- Easy maintenance
- Battery Consumption is low



Drone Station On The Ground

Highmast Drone Station

## Applicable Field

Natural Environment	SOC / Industrial Area	Tourism/ Leisure
Forest Protection (Forest Fire Monitoring) National Park Management River Management Coastal Line Management Disaster Management Corp Production Management	Dam Harbor Railway / Road Power Line Bridge National Boundaries Industrial Estate Solar Power Plant City Traffic, Crime Patrol Reconnaissance / Patrol	A Tourist Spot Water Leisure Ski Slopes
		



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