Application Examples of LG Innotek UV LEDs

This application note describes the application examples of LG Innotek UV LEDs. Included is a UV LED disinfection concepts and adopted UV LED modules.
LG Innotek UV LED
Water Purifier

- Sterilization of faucet aerator easily contaminated by ambient air
- 99.98% sterilization with UV irradiation for 5 minutes
- Auto mode: Every hour for 5 minutes
- Manual mode: Sterilize for 5 minutes by pressing UV button

Enable to Sterilize a Narrow Space
- Sterilize a narrow space that could not be sterilized before
Water Purifier

- UV LED at preservation stage
- UV LED rays sterilize purified RO water for 75mins after every 6hours
- Protect germs reformation & revitalizes purified stored water
- Energy Saving: Power consumption is very low

- IPx7: Protected from immersion between 15cm and 1m in depth

Thorough Water Quality Management
- UV LED: Possible to turn on and off
- UV lamp: Rapid lifetime reduction occurs when turned on and off
  (10 to 20 minutes stabilization time is required)
Water Server

- IPx8: Protected from long term immersion up to a specified pressure

Fully Waterproof Module
- Long lifetime (more than 10,000hrs)
- Natural convection cooling
- Various settings are available
Air Washer

- UV LED at air washer water tank
- UV LED rays sterilize tank water regularly
- Prevent bacterial growth that is likely to occur in humid environments

Safe Sterilization
- From “Chemical Sterilization” to “Optical Sterilization”
Skin Care Product

- UV LED installed on the cap
- UV LED rays sterilize “skin contact area” of the product
- Portable products that can be driven at low power (Available for 45 days on a single charge)
- America “FDA registered”

Safe Hygiene Management
- UV LED keeps products clean for “everyday use”
Handrail Sterilizer

- Self power generation system using handle movement
- Long lifetime (more than 10,000hrs)
- Confirmed the sterilizing capacity at Korea Testing & Research Institute (KTR)
- Expanding to hospitals and public facilities

8mW UV-C module (6060 4chips)
Refrigerator

- Photocatalytic reaction with UV-A light
- Sterilization and deodorization
- 99.999% sterilization certification
- Not necessary to replace filters (Semi-permanent)
Disinfection Lighting

- 405nm light for disinfection and infection control
- Causing oxidation damage
- Successful inactivation demonstrated for a wide range of organisms
- Safe disinfection for human body

Staphylococcus aureus

0hrs 24hrs (99.9%)

Escherichia coli

0hrs 24hrs (99.9%)
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