

Kmuun DCF

In outdoor applications, an access control system is not just a security barrier but a vital link between inside and outside. Yet, extreme conditions constantly put this line of defense to the test—from southern storms and scorching sun to northern freezing cold and extreme heat; from coastal salt spray to industrial acid rain and desert sandstorms. Traditional access control often fails under such harsh environments. Kmuun accurately identified these pain points. Leveraging proven P5 technology, we introduce the DCF Wall-Mounted Embedded Face Recognition Access Terminal—engineered for superior weather resistance and performance to redefine outdoor security. Whatever the conditions, DCF remains on duty. Kmuun DCF, all-weather reliability guarding your outdoor safety.

Freeze? Self-heating enables instant cold-start and smooth biometrics. In scorching Heat? Efficient cooling ensures steady performance.

Heavy rain? IP65 rating keeps it fully protected. Dust storms? and resistant to salt or acid corrosion—DCF stands strong. Breakthrough optics read wet/worn fingerprints clearly. Multiple access methods suit all users, and remote temporary passwords make guest entry easy. The split design offers mounting flexibility for diverse scenarios.

Kmuun DCF doesn't just adapt to the environment—it redefines outdoor security. Choose DCF for all-weather peace of mind, making every entry secure and effortless.

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Wall-Mounted Embedded Facial Recognition Access Control
The All-Weather Fortress for Outdoor Security



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Harsh outdoor challenges for access

DCF: Engineered for exceptional quality

China's vast size means huge differences in climate, creating tough conditions for outdoor access control. In the northeast, extremely cold winters can bring temperatures as low as -30°C or even -40°C . In this kind of cold, normal systems struggle: batteries weaken, and electronics slow down or stop working.

In the southern coasts, summers are hot and rainy, with frequent typhoons. Access systems must be waterproof, windproof, and able to resist strong sun that can damage outer materials. Salt in the air also causes metal and electronic parts to rust and corrode. In industrial cities, acid rain is another problem. It breaks down protective coatings and speeds up rust on metal surfaces.

Standard access control often can't handle these challenges. They break down more often, don't last as long, and cost more to maintain. This causes hassle and extra costs for users—making a strong, reliable system that works in all conditions a real necessity.

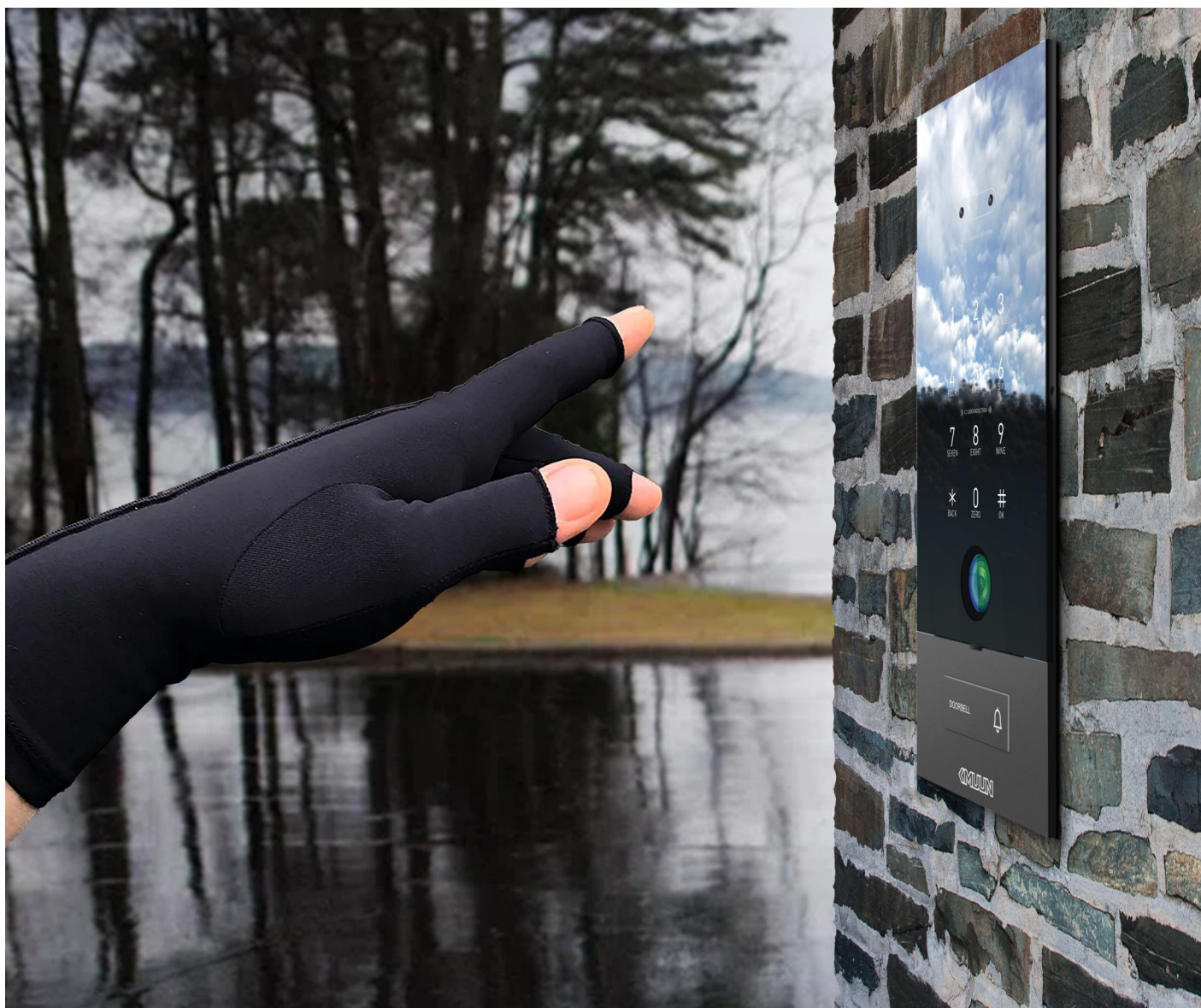
Kmuun DCF wall-mounted face recognition access control was born from Kmuun's deep understanding of user needs and strong technical skills.

Early on, the team studied customer feedback from across China. They found key problems: in the north, devices froze in extreme cold; in the south, rain caused fingerprint readers to fail; near the coast, salt air corroded and broke devices quickly.

These issues showed that most access systems couldn't handle tough weather.

Kmuun decided to build a high-performance system that works in all climates. But it wasn't easy. Standard fingerprint sensors don't work well in wet or cold weather, so the team chose optical sensors instead. They improved both the hardware and software.

The product was tested in real extreme conditions: -40°C cold in the northeast, heavy typhoon-level rain in southern labs, and salt spray corrosion tests in coastal areas. The test results helped create a truly all-weather access control system.



All-Climate Protection

DCF Formula for Extreme Weather Resistance

DCF access control system excels in temperature adaptability, easily handling extreme cold to intense heat. To resist freezing conditions, DCF offers an optional self-heating module. In severe cold, this module quickly raises the internal temperature to keep key components such as the battery and electronics functioning within an optimal range. Even at temperatures as low as -30°C to -40°C , the system operates reliably—fingerprint and facial recognition remain accurate, ensuring smooth access for users.

In high-temperature environments, DCF utilizes an efficient heat dissipation design. The housing material conducts heat effectively, while an internal smart temperature control system automatically adjusts the cooling fan speed based on real-time conditions. When temperatures rise, the fan accelerates to enhance cooling and prevent overheating. Even on scorching summer days reaching 40°C to 50°C , DCF maintains stable operation and consistent security protection.

DCF system boasts an IP65 rating, ensuring excellent protection against water and dust. Its multi-layer sealing structure effectively blocks rainwater, while a special coating on the internal circuit board provides additional waterproofing. Even during heavy rain or temporary submersion, DCF remains fully operational.

For dust resistance, all vents are equipped with high-precision filters that block fine particles. The clever internal design also protects core components from any minimal dust ingress. In arid, sandy environments like the northwest, DCF reliably resists dust buildup, ensuring smooth and continuous operation.

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All-Environment Corrosion Resistance
Adaptable to Diverse Scenarios

Crafted from CNC-machined aluminum alloy with an anodized finish,DCF housing delivers exceptional corrosion resistance. The anodization process creates a dense oxide layer that reliably shields against corrosive elements like salt spray and acid rain.

It resists rust in coastal environments and maintains structural integrity in industrial areas, ensuring lasting performance and appearance. This robust protection extends DCF's service life, enabling reliable operation in demanding conditions.



Aesthetic and Practical Modular Design
Separated structure for greater door design freedom

DCF features an innovative modular design that decouples the access terminal from the door itself, eliminating the constraints of traditional integrated systems. This separation allows complete design flexibility—homeowners can freely choose doors in materials like aluminum, glass, or wood to match their style, with no compatibility concerns.

The design also simplifies installation, maintenance, and replacement. If service is needed, technicians can quickly access or replace the unit without affecting the door, significantly reducing downtime and cost.



Biometric Optimization for Harsh Conditions
Breakthrough Fingerprint Recognition Technology

DCF's optical fingerprint system uses video-based recognition to overcome environmental limitations of traditional sensors. It captures clear images by analyzing light reflection differences between fingerprint ridges and valleys.

A water-repellent coating allows wet fingers to be read accurately in rain, while a low-temperature compensation mechanism ensures reliable performance in cold weather. Enhanced by advanced AI algorithms, the system quickly and accurately recognizes worn or soiled fingerprints, delivering fast and dependable access in challenging conditions.





Multiple Ways to Unlock | Easy to Install

Fits different needs | Works in many places

DCF supports a wide range of unlocking methods, including fingerprint, passcode, card access, and facial recognition. Users can choose the most convenient option based on preference or scenario. Passcode can be set as permanent or temporary for visitors. Card access is ideal for users who prefer carrying credentials and supports multiple card types for easy management. Facial recognition stands out as a key feature—using an advanced offline algorithm, it enables fast, contact-free access without requiring an internet connection. The camera automatically adapts to different lighting conditions to accurately capture facial details, ensuring reliable performance day or night. This is especially suitable for health-conscious scenarios like pandemic prevention.

DCF is designed for flexible and robust installation. The outdoor unit adopts Kmuun's classic embedded mounting structure, consisting of 3 parts: the main body, mounting bracket, and pre-embedded box. This system ensures secure and streamlined installation. The pre-embedded box is recessed into the wall to provide a solid foundation, while the mounting bracket attaches firmly to it, offering protection and stability. The main unit then mounts onto the bracket, blending seamlessly into the wall with a clean and low-profile appearance. The indoor unit uses a standard surface-mounted 86-type back box, similar to common switches and sockets, allowing any electrician to install it quickly without special training.

Additionally, DCF operates on a wide voltage range of 12-24V DC, ensuring stable performance in both urban and rural areas—even with unstable power supply. It is suitable for various outdoor applications such as villas, residential communities, and commercial parks.

Wide Voltage Range | Adapts to Unstable Power Supplies

Remote Temporary Passcode | Enhanced Access Convenience

DCF wall-mounted access control supports a wide operating voltage range of 12-24V DC, ensuring strong adaptability to different power conditions. In outdoor settings with unstable electricity supply—such as remote villas or field stations—where traditional devices may fail due to voltage fluctuations, DCF maintains stable operation. This design not only improves product reliability and stability but also reduces the risk of device damage caused by power issues, extending service life and ensuring consistent performance.

DCF also offers a remote temporary password function for added convenience. When away from home, users can generate a time-limited password via the mobile APP and share it with visitors. Within the validity period set by the user, the passcode can be used to unlock the door, after which it automatically expires to ensure security. Ideal for couriers, cleaners, or unexpected guests, this feature allows secure and flexible access without requiring the user's physical presence.



Kmuun DCF Wall-Mounted Embedded Facial Recognition Access Control

Excellent Weather Resistance

Self-heating module and efficient cooling for extreme temperatures

IP65 rating for full water and dust resistance

Aluminum alloy with special treatment resists corrosion

Multiple Access Methods Includes optical fingerprint, Passcode, RFID card, and facial recognition

Remote temporary passwords simplify guest access

Modular Design, Flexible installation, aesthetic integration, and practical durability Ideal for secure, reliable performance in harsh outdoor environments

