



Engineering the Luminous Crown

Integrating Active Airflow and Smart Lighting into Classical Architecture



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Uncompromising Architectural Purity

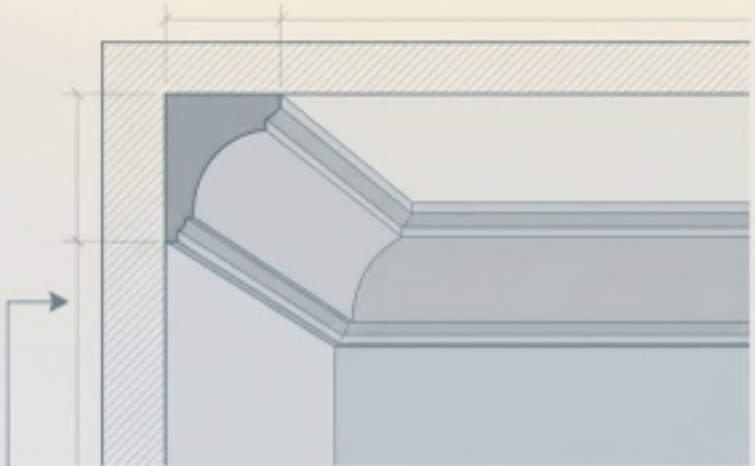
Zero Visual Clutter:
No dropped ceilings, no protruding registers.

Continuous Wash:
Unbroken, shadow-shadow-free illumination.

Hidden Breathing:
High-capacity ventilation seamlessly cut into classical profiles.



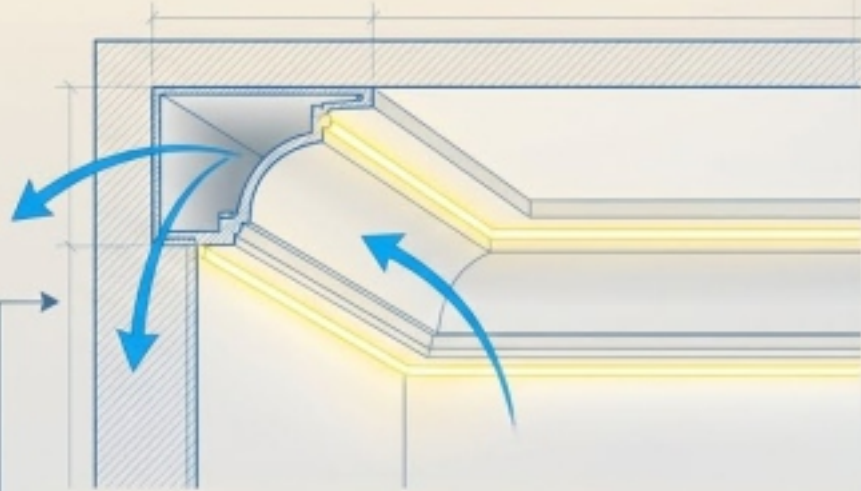
Cinematic Architectural Blueprint Slide



Traditional Molding

Simple Decoration

Solely aesthetic. Requires separate, disruptive wall/ceiling cutouts for modern utilities.



Crown Vent Integrated Profile

Integration of Light, Air, and Architectural Aesthetics

Consolidates HVAC plenums and LED sources into a single, elegant perimeter footprint.



Redefining the Ceiling Perimeter

	Standard Architectural Approach	The Crown Vent System
Aesthetic Disruption	High (Visible ceiling grilles, complex drywall drops).	Zero (Utilities completely hidden behind decorative profile).
Lighting Integration	Fragmented (Requires separate cove framing and finishing).	Seamless (Pre-engineered lip creates continuous, shadow-free indirect lighting).
Air Exchange Efficiency	Centralized/Passive (Relies solely on distant central blower pushing air).	Active/Accelerated (Integrated tangential 12V/24V fans boost local room circulation).
Installation Complexity	Multi-Trade (Requires coordinated drywallers, HVAC routers, electricians, finish carpenters).	Consolidated (Simple groove, mounting strip, and ZIF snap-fit mechanism).



Anatomy of an Integrated Perimeter

The Shell:

High-density decorative molding, paintable and structurally rigid.

The Luminous Core:

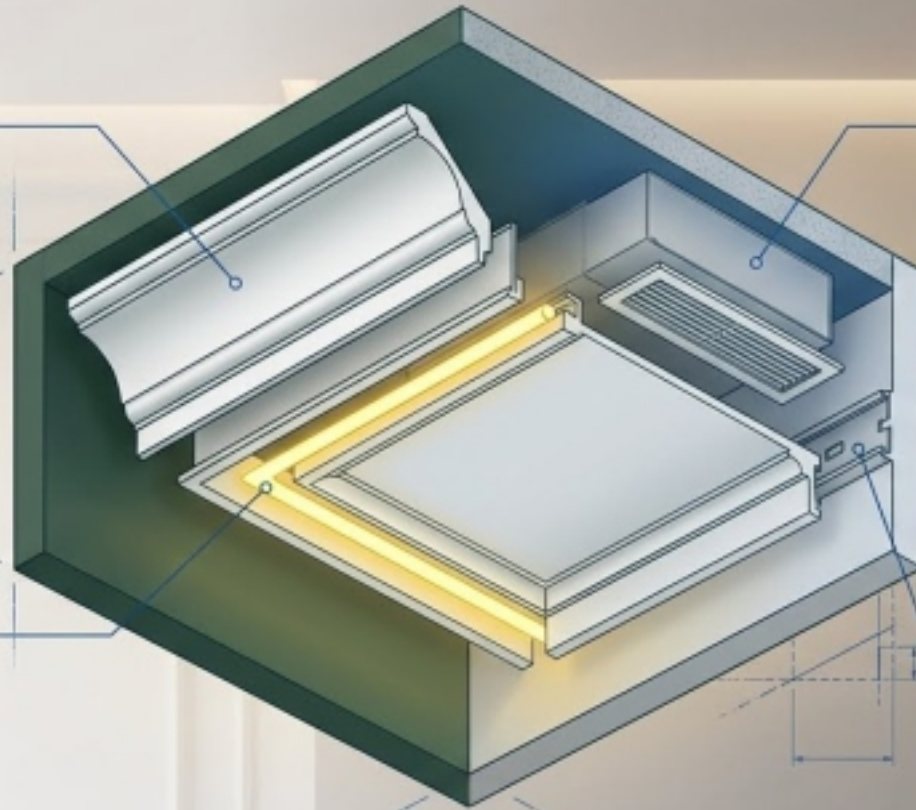
Integrated strip lighting locked into a hidden channel.

The Lungs:

Concealed HVAC air plenum regulating high-volume airflow.

The Anchor:

Hidden mounting strip for Zero Insertion Force (ZIF) snap-fit placement.

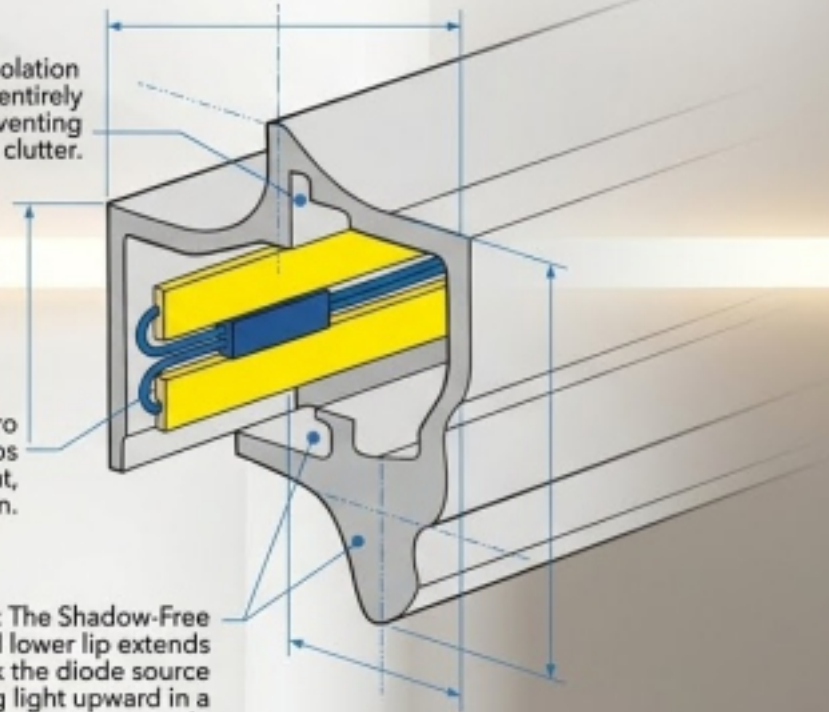


Engineered for Perfect Light Bounce

Hidden Cabling Channel: Total Wire Isolation
The upper cavity routes power lines entirely independent of the light source, preventing internal shadows or wire clutter.

LED Strip Connectors (ZIF): Zero Insertion Force. The gold-contact strips lock in effortlessly, maintaining a neat, consistent, and continuous connection.

Seamless Light Connection: The Shadow-Free Lip. The precisely angled lower lip extends just far enough to mask the diode source from the floor, reflecting light upward in a perfect, continuous wash.



Active “Active High-Velocity Air Exchange”

1 Modular Air Plenum:
Routes existing HVAC supply directly behind the crown.

2 Accelerated Air Exchange:
Hidden, low-profile tangential fans actively push air out of the hidden plenum.

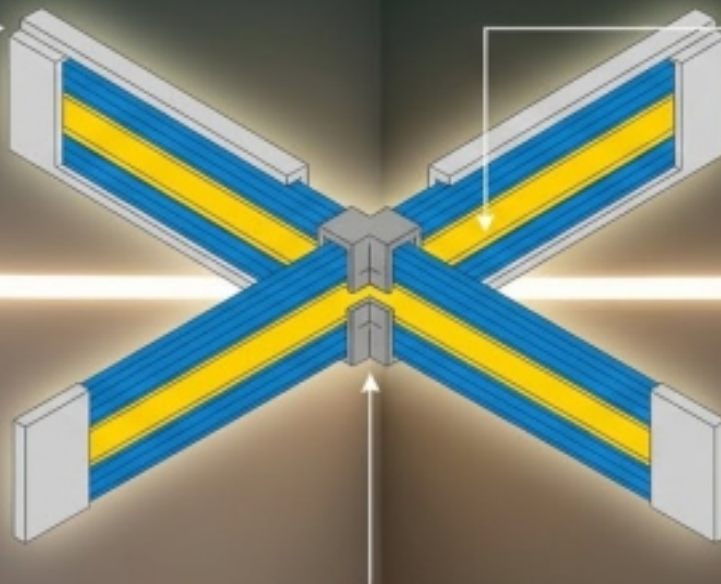
3 12V/24V Power Supply:
Low-voltage integration directly onto the mounting track for safe, concealed power.

4 Result: Faster air movement in rooms with external walls, entirely hidden by a removable capping.



A Modular, Continuous Perimeter

Mounting Strip: The continuous track that anchors the entire system to the wall.



Modular Air Plenum: Ensures uninterrupted airflow across joints.

Section Joint Coupling: Precision corner-blocks that perfectly align tracks, eliminating light leaks and air gaps at the trickiest architectural points.



Three-Step Zero Force Installation



Step 1: Precision Grooving

A simple tool cuts a precise 1/4 inch D x 3/8 inch W groove exactly 1/2 inch below the ceiling line.



Step 2: Anchoring the Track

The low-profile track is leveled and secured, serving as the universal anchor for both power and molding.

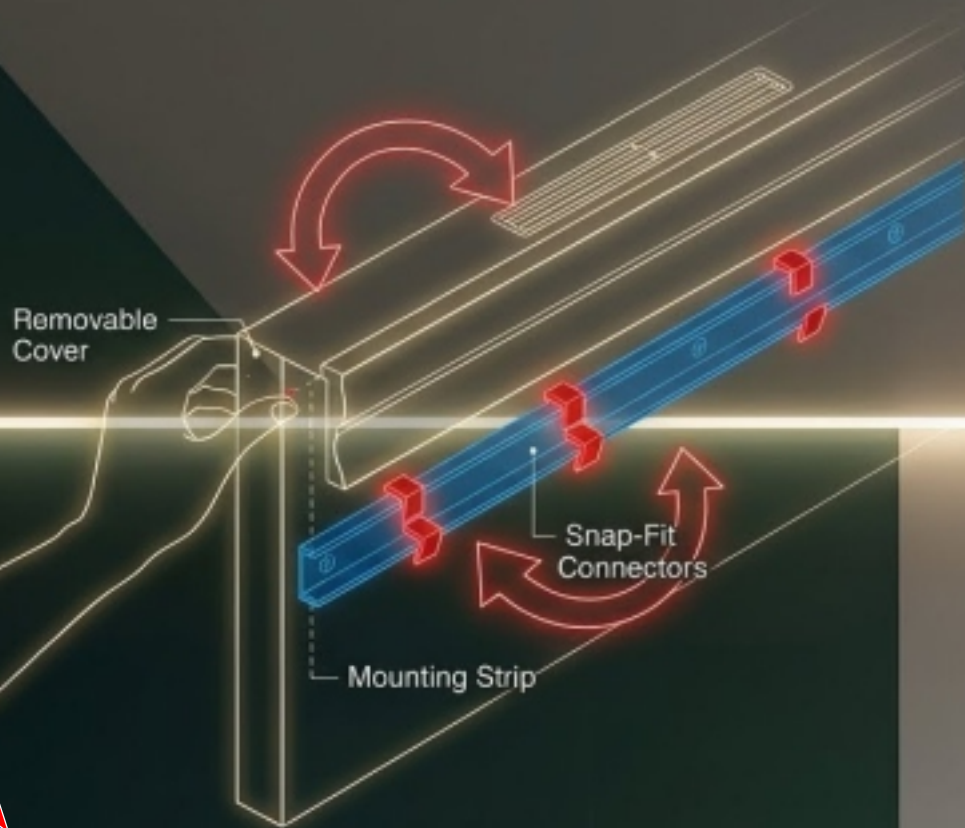


Step 3: ZIF Snap-Fit Assembly

Zero Insertion Force placement allows the pre-painted molding to be snapped into place after all wet work and paint have dried.



Accessible by Design



Non-Destructive Access

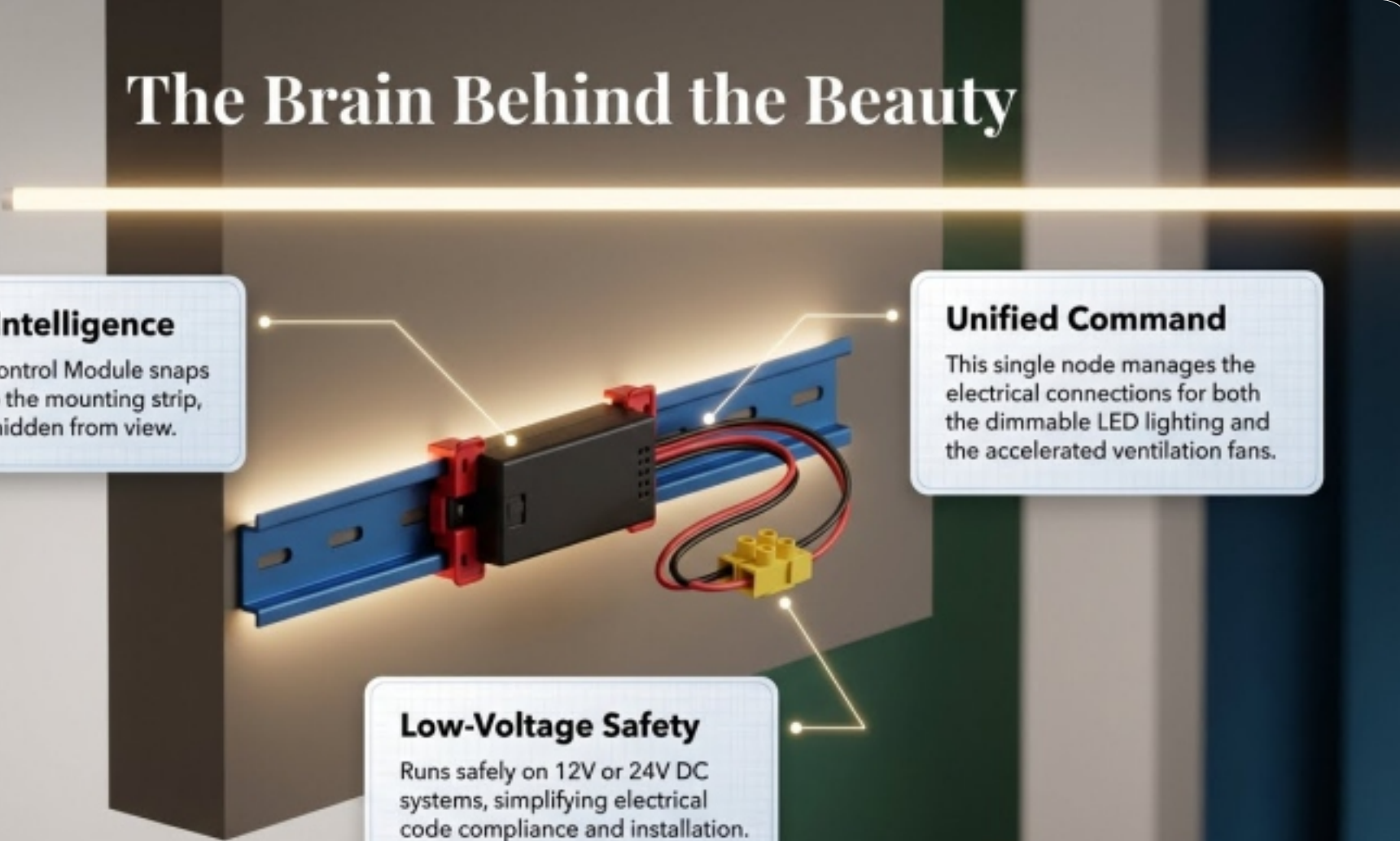
The snap-fit connectors allow the entire crown molding or localized vent covers to be safely removed without damaging drywall or paint.

Future-Proof Maintenance

Easy access to LED strips, fan motors, and wiring for upgrades, repainting, or routine HVAC servicing.



The Brain Behind the Beauty



Hidden Intelligence

The Smart Control Module snaps directly onto the mounting strip, completely hidden from view.

Unified Command

This single node manages the electrical connections for both the dimmable LED lighting and the accelerated ventilation fans.

Low-Voltage Safety

Runs safely on 12V or 24V DC systems, simplifying electrical code compliance and installation.



Total Atmospheric Control



Dimmable, Colored Lighting: Adjust brightness and dial in exact color temperatures (e.g., Warm White) for ambiance or security lighting.

Ventilation Boost: Instantly activate the hidden tangential fans for rapid air exchange via the app or a standard wall switch.

Home Automation Ready: Integrates seamlessly into existing smart home ecosystems.



Classical Form. Modern Intelligence.

The age of the architectural compromise is over. By integrating smart lighting and accelerated airflow into a snap-fit, low-profile track, the Crown Vent system preserves the purity of traditional design while delivering the hidden performance of the future.

