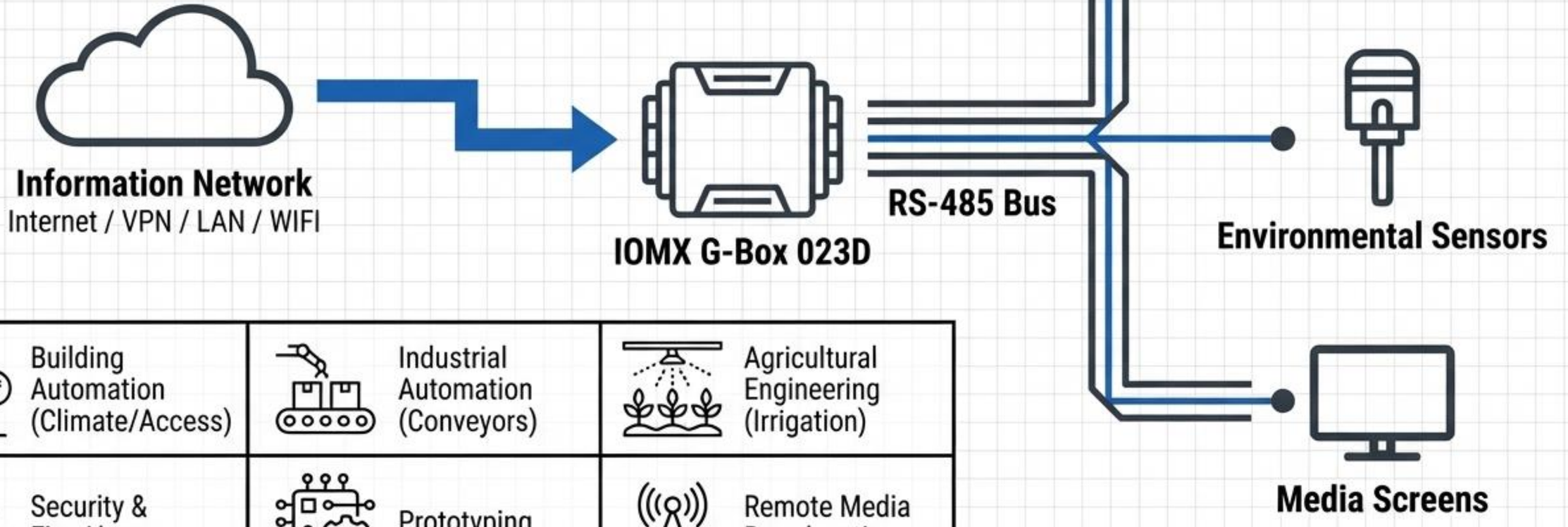
IOMX G-Box 023D Gateway Gatewitn

Field Commissioning & Maintenance Guide

Designed for Technical Specialists: Installation, Commissioning, & Servicing

System Architecture: The Intelligent Bridge

The IOMX G-Box 023D is a professional-grade gateway built for 24/7 operation. It bridges cloud-based management with local RS-485 input/output modules and FHD media displays.



Building Automation (Climate/Access)	Industrial Automation (Conveyors)	Agricultural Engineering (Irrigation)
Security & Fire Alarms	Prototyping	Remote Media Broadcasting

Core Technical Baseline

ioMateX Smart Automation iOMATEX

Network GateWay

IOMX G-Box 023D

Platform	ARM, RK 3566 2Gb/16Gb
Nominal operating voltage (V)	12
Power consumption (maximum, W)	22
Resolution, pixels	1920x1080
Working hours, hours per day	24/7
Warranty period, years	3
Service life, years	7
Protection class	IP 44
Temperature range (°C)	from +5 to +50
iOMATEX controller for automation systems	www.iomatex.com

Date of manufacture: _____2026

S/N: 023.01.26.001

Compute & OS	Power & Environment	Output & Operation
- RK3566 Quad-core 1.8GHz - Android (Debian) OS - 2GB (4GB) RAM - 16GB (32GB) ROM - SD Card up to 64GB	- 12V/2A Nominal Voltage - 22W Max Consumption - IP44 Protection Class - 100% Passive Cooling	- HDMI 2.0 (1920x1080 FHD) - 3.5mm TRRS Audio - 10/100 Mbps Ethernet & Wi-Fi - Rated for 24/7 continuous operation

Unboxing & Pre-Installation Inventory

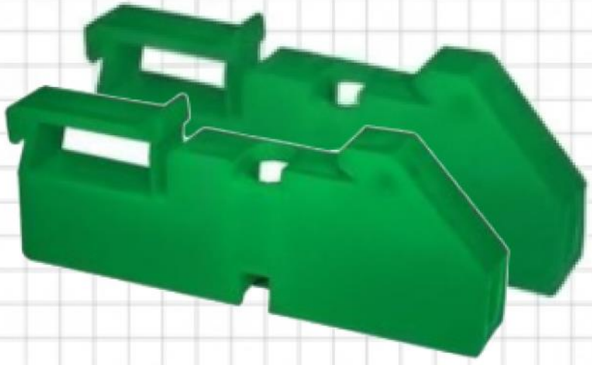
1. Main Central Microprocessor Unit & Wi-Fi Antenna

2. External Power Supply (Min. 12V/2A)

3. 220V Power Cable

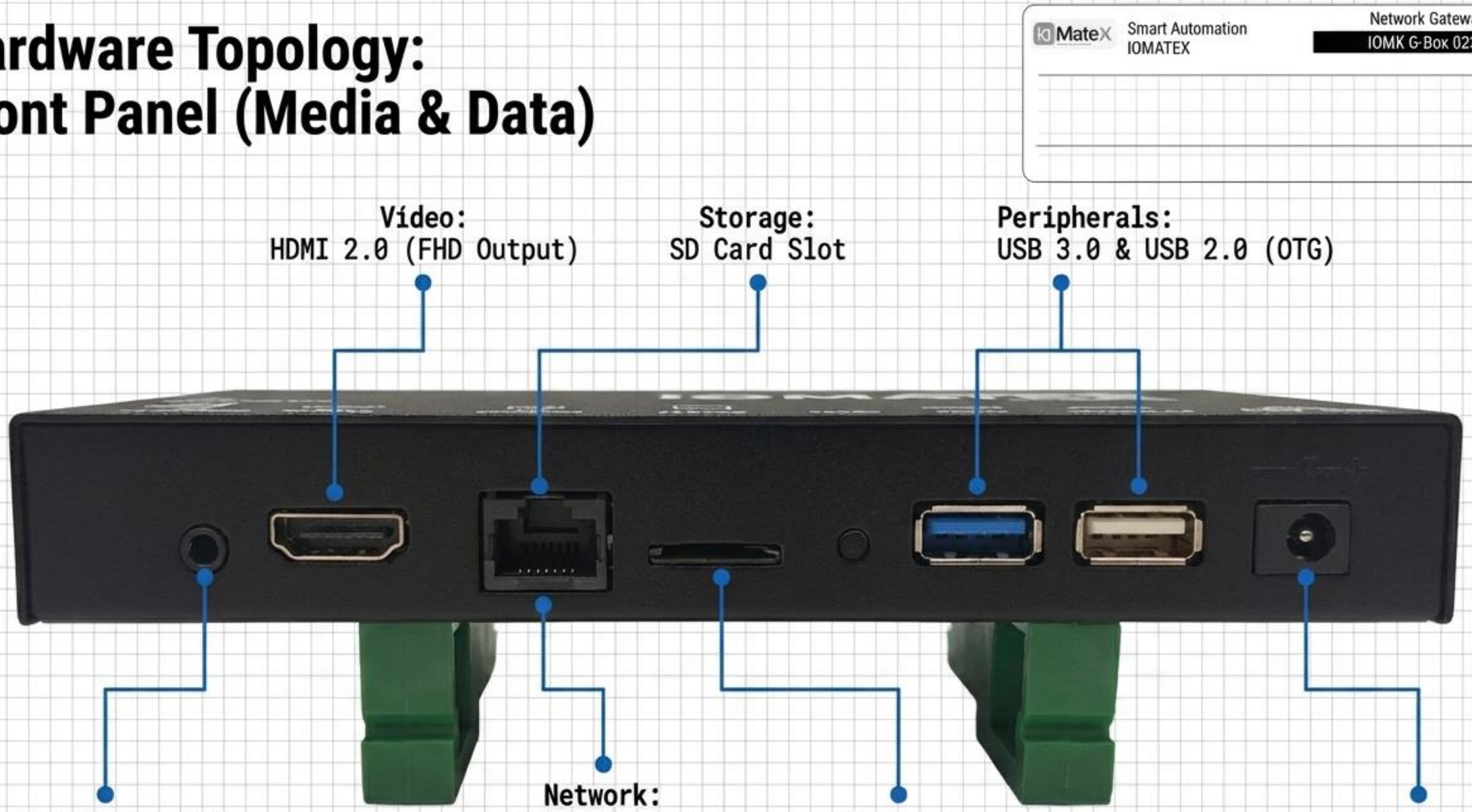
5. 3-pin & 6-pin Terminal Blocks

4. HDMI 2.0 Cable

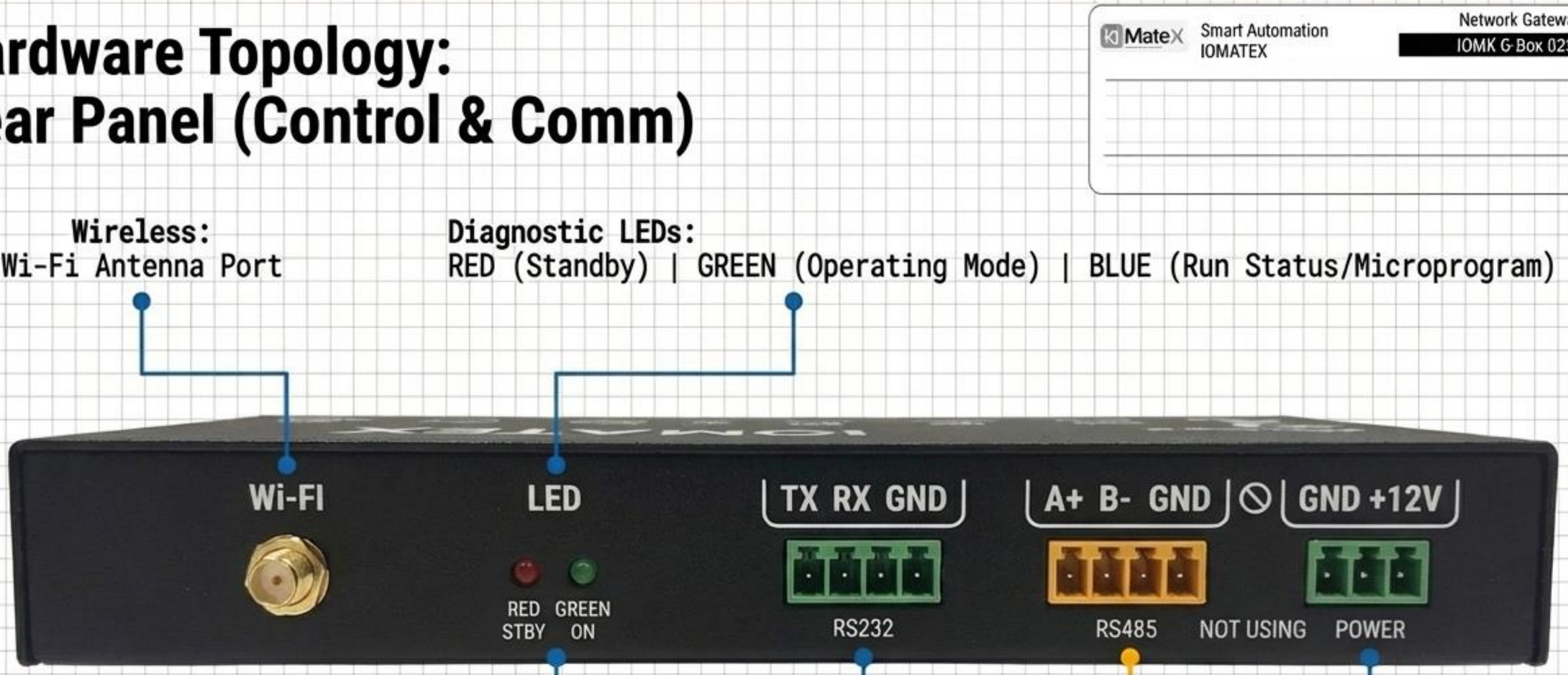


6. 2x DIN Rail Insulators

Hardware Topology: Front Panel (Media & Data)



Hardware Topology: Rear Panel (Control & Comm)



RS-485 Wiring: The Golden Rules

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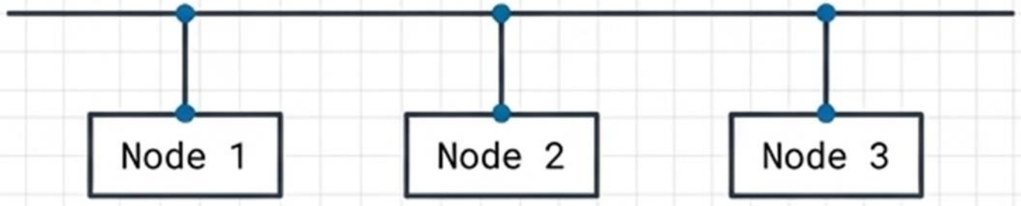
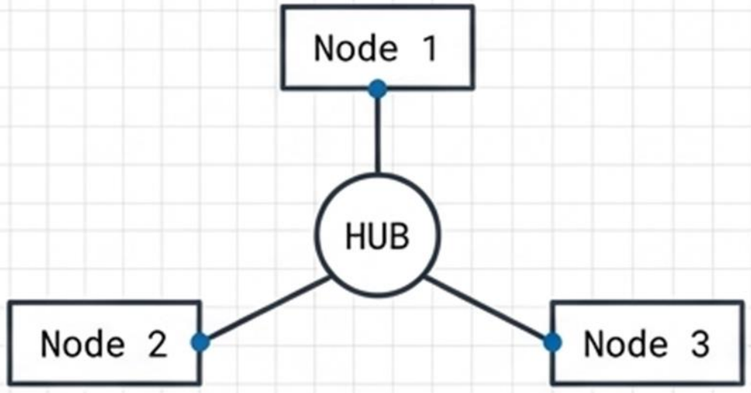
IOMK G-Box 023D
S/N: D-32.DI.26.001

CORRECT: Bus Topology



INCORRECT: Star/Branch Topology



Rule 1: Medium - **MUST** **use twisted pair copper cable. Polarity reversal** (A/B) won't damage the device, but communication will fail.

Rule 2: Topology - **MUST** be wired in a strict Bus topology. Branches or star configurations are **prohibited**.

Rule 3: Termination - Cable ends **MUST** be terminated with 120-ohm resistors (Note: Terminal resistor is installed inside the gateway).

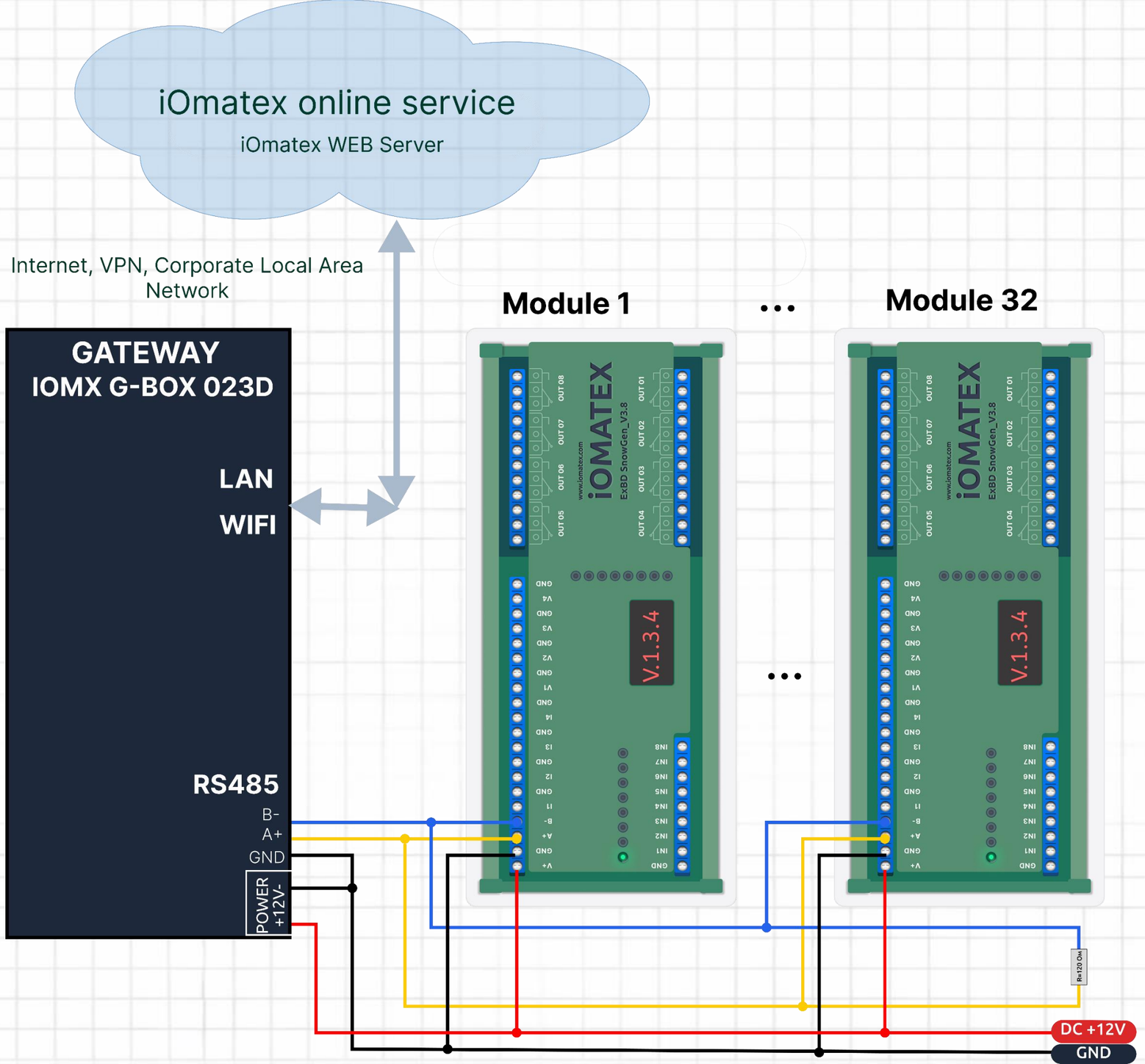
Rule 4: Distance vs. Speed - Max **120 meters** at **10 Mbps** | Max **1200 meters** at **100 kbps**.

System Wiring Schematic

1. Register the IOMX G-Box 023D gateway on the iOmatex* service network.
2. Configure the device (gateway) using the client organization's (purchaser's) credentials.
3. Add an interface module or modules via the iOmatex service web interface.
4. Create and configure a scenario for the automated operation of connected executive devices.

Footnotes

- The iOmatex-client application and connection to the iOmatex service are not included in the delivery set together with the gateway (optional).
- For more detailed information about the iOmatex/IT-Screen service, please visit: https://wiki.it-screen.com/



Commissioning: Power-On & Boot Sequence

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IOMK G-Box 023D
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Step 1: Supply Power

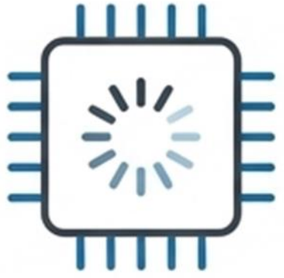
The gateway features Auto-On. No physical switch required; powers up immediately upon receiving 12V DC.

Step 2: LED Verification

Observe rear panel sequence. **RED** (Standby) -> **GREEN** (Operating) -> **BLUE** (Microprogram active).

Step 3: OS Initialization

Android (Debian) operating system boots.



Step 4: Software Launch

The iOmatex-client application auto-starts, readying the system for cloud connection or local media playback.

Cloud Registration & Logical Setup

Step 1: Network Bridge

Register the gateway on the iOmatex service network via LAN or Wi-Fi.

Step 2: Authentication

Configure the gateway using the specific client/purchaser credentials.

Step 3: Module Discovery

Add the physical interface modules (Modules 1-32) via the iOmatex WEB interface.

Step 4: Scenario Building

Create and deploy automated operation scenarios for the connected executive devices.

Note: iOmatex-client software for extended media content playback is an optional component and is managed separately.

Diagnostic Matrix I: Power & Communication

Symptom	Check	Action
Gateway does not turn on.	Outlet voltage & PSU supply.	Re-seat power cable; Restart by switching power supply.
Interface module not detected.	RS485 connection polarity (A/B) & module power supply.	Correct wiring polarity; ensure 120-ohm termination.
Ignores operating commands.	Current software environment instructions.	Verify command availability; restart gateway.

Diagnostic Matrix II: Media & Peripherals

Symptom	Check	Action
No Video / Dark Screen.	HDMI cable & Monitor power; check if LED is flashing.	Change HDMI resolution to 720p; Restart.
No Sound / Distorted Sound.	3.5mm TRRS connection / HDMI audio route.	Adjust OS volume level; check speaker connections.
USB drive unreadable / Long load times.	Flash card formatting.	Reformat drive (current format not supported); allow time for large video files.
Mouse unresponsive.	USB connection.	Restart gateway by power cycling.

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Environmental Standards & Lifecycle Management

Thermal Bounds

Operating range is +5°C to +50°C.

CRITICAL WARNING: Operation below -20°C or above +60°C is strictly prohibited.

Cooling Architecture

100% Passive Cooling system. Requires no fan maintenance, but demands adequate ventilation space around the chassis.

Storage & Transport

Must be transported in original packaging. Storage relative humidity must not exceed 80%.

End of Life: Safe for standard electronic disposal. Note trace precious metals: Gold (0.033g), Silver (0.071g).

Warranty & Compliance Framework

Base Coverage: 12 months from date of sale, guaranteeing reliable operation under stated environmental constraints.

WARRANTY VOID TRIGGERS (Strictly Prohibited Actions):

- **1.** Unauthorized modifications to electrical circuitry.
- **2.** Disassembly or repair by non-authorized personnel.
- **3.** Connection to incorrect voltage/power supply networks.
- **4.** Ingress of foreign objects, liquids, or insects.
- **5.** Mechanical damage from excessive force, chemical exposure, or violations of storage/transport rules.