ComatReleco Messaging System

CMS-10R



From monitoring to alerts to control

- Integrated switching functionality to remotely turn devices ON/OFF
- Reliable operation even in remote locations without local internet or Wi-Fi
- Multi-channel notifications: voice call, push, email, pager, and SMS
- IoT cloud portal as a central access point
- Intuitive dashboard with time-based data logging and clear visualization
- Event-driven alerts with timestamp and detailed event logging
- API and webhook integration for seamless connectivity with external systems and services
- Remote configuration and maintenance of connected devices – anytime, anywhere
- Real-time monitoring and control via mobile app (smartphone & tablet)
- Over-the-air (OTA) updates for continuous system improvements
- Fallback mode ensuring continued operation even during cloud downtime

Critical operational challenges in remote industrial and building infrastructure

Industrial operations face mounting challenges when managing remote and unattended assets. Minor faults escalate into costly unplanned downtime because detection occurs too late. Teams dispatch service vehicles unnecessarily – simply to verify conditions, acknowledge alarms, or perform basic resets that could be handled remotely. Without real time visibility into asset status and critical signal monitoring, operations run essentially blind, leaving management uncertain about equipment health and operational state.

The situation worsens when notification systems fail to deliver alerts promptly or route them to appropriate responders. By the time issues surface, damage has already occurred. Troubleshooting becomes protracted without clear event timelines, making root cause analysis unnecessarily complex. Legacy systems compound these difficulties – older equipment wasn't designed with remote monitoring capabilities, forcing organisations to employ manual workarounds that increase both risk and operational expense.
A further challenge is that solutions must be deployed in locations where Wi-Fi coverage is unavailable; however, systems that rely only on GSM, UMTS or LTE network coverage can be installed virtually anywhere.



Unplanned downtime
Minor issues escalate into costly stoppages because faults aren't detected early.

Excessive site visits
Teams travel just to verify conditions, acknowledge alarms, or perform simple resets.

No operational visibility
Remote assets run without real-time status and critical signal monitoring.

Missed or late alerts
Notifications arrive too late, get overlooked, or don't reach the right responder.

Slow troubleshooting
Without a clear event timeline, root-cause analysis takes longer than it should.

Lack of traceability
Actions and changes aren't auditable – making accountability and compliance difficult.

Comprehensive solution: Monitoring, logging, response & controlling

1

Monitoring (Capture)
CMS-10R continuously monitors industrial digital & analogue signals from remote assets (run/fail, level, pressure, temperature, power, door/tamper, etc.).

Industrial value: Real-time visibility of unattended sites and critical equipment conditions.

2

Logging & Traceability (Prove)
It creates a time-stamped record: events, alarms, state changes, key values (where applicable), plus acknowledgements and user actions for accountability.

Industrial value: Faster troubleshooting & RCA, audit-ready evidence (who/what/when), trend insight for proactive maintenance.

3

Notifications (Respond)
When thresholds or events occur, it sends immediate alerts (portal/app/email/SMS), with escalation/acknowledgement to reach the right responder.

Industrial value: Reduces downtime and avoids missed alarms; speeds up response without dispatching blindly.

4

Relay / Control
Based on logic or operator commands, CMS-10R can switch relay outputs locally or remotely to trigger protective actions (safe-state, interlock, stop/start, siren/light, backup process).

Industrial value: Protects equipment and processes, limits damage, and stabilises operations during incidents.

Data logging & traceability: Essential for industrial operations

Industrial teams don't just need alerts – they need evidence: what happened, when it happened, how long it lasted, and what was done about it. Datalogging with traceability represents the foundation of effective operational management, enabling organisations to move beyond reactive firefighting towards predictive, evidence-based decision-making.

This capability transforms how teams approach maintenance, compliance, and continuous improvement. When every event carries a precise timestamp and every action leaves an auditable trail, the entire operational landscape changes. Troubleshooting becomes systematic rather than speculative. Patterns emerge from historical data that would otherwise remain hidden. Accountability becomes automatic rather than contentious.

Faster RCA through time-stamped events
Precise event sequencing eliminates guesswork during incident investigation.
RCA: root cause analysis

Reduced MTTR by correlating alarms
Link alarms with process values to understand failure modes and accelerate repairs.
MTTR: mean time to repair

Audit and compliance readiness
Auditable trail of events, actions and data satisfies regulatory requirements automatically.

Continuous improvement
Spot trends and recurring fault patterns to implement preventive measures.

What the solution delivers

CMS-10R brings a practical, industrial-grade approach to traceability that meets the demands of modern operations:

Time-stamped event history
Complete record for inputs, alarms, and output switching with user/action traceability.

Operational data logging
Continuous recording of level, pressure, temperature where applicable.

CSV export for integration
Easily share data with spreadsheets, databases, and analytics platforms.

Webhook integration
Send time stamped logs and events to external systems for advanced analysis or archiving.

Key benefits across industrial operations

Higher safety & risk reduction
Early fault detection and automated protective actions prevent incidents before they escalate, protecting personnel and assets whilst minimising exposure to hazardous conditions.

Faster troubleshooting & RCA
Time-stamped event records and correlated data streams transform troubleshooting from guesswork into systematic analysis, dramatically reducing diagnostic time.

Increased uptime
Proactive monitoring and rapid response capabilities keep operations running smoothly, reducing unplanned outages and maximising productive hours across all assets.

Audit-ready traceability
Complete documentation of who did what and when creates an immutable operational record that satisfies regulatory requirements and supports continuous improvement initiatives.

Reliable operations anywhere
Comprehensive visibility and control over distributed assets eliminate operational blind spots, enabling confident decision making without physical site presence.

Fewer site visits
Remote verification, acknowledgement, and basic control actions eliminate unnecessary dispatches, allowing field teams to focus efforts where hands-on intervention genuinely adds value.

Faster response, no missed alarms
Intelligent notification routing with escalation ensures critical alerts reach appropriate responders immediately, eliminating communication gaps that delay action.

Lower operating costs (OPEX)
Reduced downtime, optimised resource deployment, and preventive maintenance scheduling deliver substantial operational savings that accumulate quarter after quarter.

Real applications for smarter remote monitoring and demand-based service

The CMS-10R from ComatReleco helps customers monitor remote installations, receive alerts in real time and trigger actions from a distance in a simple and reliable way. Connected through the ComatReleco IoT Portal and accessible via app or web interface, it turns complex field operations into faster, more manageable processes. Whether the challenge is critical road infrastructure or flexible public transport, CMS-10R helps operators react quickly, reduce unnecessary site visits and improve day-to-day efficiency.





Office for the Operation of National Roads (AfBN)

Remote monitoring for critical road infrastructure

A clear example is the **Office for the Operation of National Roads (AfBN**) in Switzerland. Based in Flüelen, AfBN is responsible on behalf of the Swiss federal government for the operation and minor structural maintenance of the **A2 and A4 national roads** between **Airolo, Küssnacht, Beckenried and the Gotthard Pass.** In this environment, roads, tunnels and ancillary facilities must remain available at all times, even when some control systems are installed in remote locations and are not integrated into the internal communication network.

With **CMS-10R**, transmitter modules are installed at decentralised monitoring points along road and tunnel sections. When an incident occurs, they send a predefined message via **SMS over the GSM network** to specific recipients through the **ComatReleco IoT Portal.** The message is then evaluated in the control centre, where the corresponding command can be executed and a fault message generated. The portal also acts as a distribution hub for **e-mails, SMS and push notifications,** making it much easier to supervise multiple sites from one place.

For maintenance teams, this means better visibility and faster decision-making. Through the **ComatReleco app** or the web interface, users can check the status of each module, simplify troubleshooting and even issue selected control commands remotely. In the application report, one example shows how a fan in a rarely used gallery can be switched on by mobile phone before maintenance work begins. This kind of functionality helps teams intervene faster and travel on site only when an issue cannot be solved remotely.

Why this application stands out

- **Customer:** Office for the Operation of National Roads (AfBN)
- **Application:** remote monitoring of roads, tunnels and ancillary facilities
- **Core strengths:** Monitor. Alert. Control.
- **Operational value:** faster fault handling, fewer unnecessary interventions and remote management directly from the office or a mobile device

BernMobil

Demand-based public transport with greater flexibility

Another strong example comes from **BernMobil**, the public transportation company of the city and region of Bern. BernMobil operates a large network with **more than 1,000 employees, 57 trams, 160 buses and over 100 million passengers per year.** In one specific application, CMS-10R supports a seasonal bus stop in Münsingen that is only served during the bathing season and only when passengers actually request it.

This is where CMS-10R brings flexibility into daily operations. Passengers waiting at the Parkbad stop can press a button when they want to be picked up. If the request is made within the scheduled time window, the **IoT Portal** activates a warning light at the previous bus stop, letting the driver know that an extra loop is required. After the pickup, the light is turned off and the system is ready for the next request. The application is simple, clear and reliable, and it can include as many drivers or participants as needed.

For BernMobil, the value is not only technical but operational. Instead of sending buses on unnecessary detours, the service is activated only when real demand exists. That means better use of vehicles and drivers, more responsive service for passengers and a smarter balance between availability and efficiency. It is a practical example of how CMS-10R can support more sustainable and demand-oriented mobility services without adding complexity to the operator's workflow.

Why this application stands out

- **Customer:** BernMobil, the public transportation company of the city and region of Bern
- **Application:** passenger-activated stop on demand
- **Core strengths:** resource optimisation, efficiency increase and sustainability
- **Operational value:** greater service flexibility, fewer unnecessary detours and a more efficient use of vehicle and driver time.

What makes CMS-10R different?

From signal to proof to protection
Unlike systems that only generate alarms, CMS-10R captures field signals, creates a complete time-stamped operational record, and enables relay-based protective actions to reduce downtime and support root-cause analysis.

Deploy anywhere – No local internet required
CMS-10R communicates through GSM/UMTS/LTE mobile networks, making it ideal for remote, unattended, or temporary installations where Ethernet, Wi-Fi, or local IT infrastructure are unavailable.

Always reach the right person
Critical events are delivered through multiple notification channels – including voice call, SMS, push notifications, e-mail, and pager – with acknowledgement and escalation chain to ensure alarms are acted upon quickly.

Operational continuity, even during cloud outages
If cloud connectivity is temporarily unavailable, CMS-10R automatically switches to fallback communication via SMS, allowing alarms and remote control functions to continue without interruption.

One platform for monitoring, logging & control
The integrated IoT Portal provides centralized access to live monitoring, dashboards, event history, data logging, configuration, firmware updates, and remote relay control – all from a web browser or mobile app.

Open integration
REST APIs and webhooks enable seamless integration with SCADA (Supervisory Control And Data Acquisition) systems, maintenance platforms, dashboards, and third-party applications, making CMS-10R easy to incorporate into existing industrial environments.

Integration & control capabilities

CMS-10R provides enterprise-grade integration options for seamless connectivity with existing industrial systems and workflows. Beyond basic monitoring, the **CMS-10R** is engineered to be a central hub for sophisticated **industrial operations**, offering advanced automation, real-time data export, and robust control mechanisms that integrate effortlessly into your existing infrastructure.

Event actions: Intelligent automation

The CMS-10R empowers you to configure automatic actions on local and remote outputs based on predefined input events and conditions. This replaces often unreliable and unsafe manual or SMS-based control methods with precise, event-driven automation.

For example, automatically control ventilators based on temperature readings, activate pumps when pressure levels exceed critical thresholds, or manage lighting systems based on occupancy sensors. This ensures safer operations, optimized resource usage, and immediate response to environmental changes without human intervention.

Webhook integration: Real-time data streaming

Leverage HTTP POST requests to send critical events and telemetry data directly to external systems. This includes popular monitoring and analytics platforms like Grafana, Thingsboard, or your own custom dashboards.

Webhook integration is essential for industrial customers requiring realtime event streaming and continuous monitoring. It facilitates proactive alerting, in-depth data visualization, and comprehensive operational intelligence, enabling faster decision-making and predictive maintenance.

Documented API: Synchronous control & system integration

The CMS-10R features a comprehensive, well documented API that allows other systems to exert direct, on-demand control over device outputs via HTTP. Unlike event-driven Webhooks, the API provides synchronous, request response communication, enabling immediate feedback and programmatic command execution.

This capability is crucial for integrating the CMS-10R with third-party control systems, SCADA platforms, or custom applications that require direct, interactive control for remote operations, system diagnostics, and complex automation sequences.

CMS-10R

ComatReleco Messaging System

Cold chain guardian
Temperature sensor
Alarm transmission

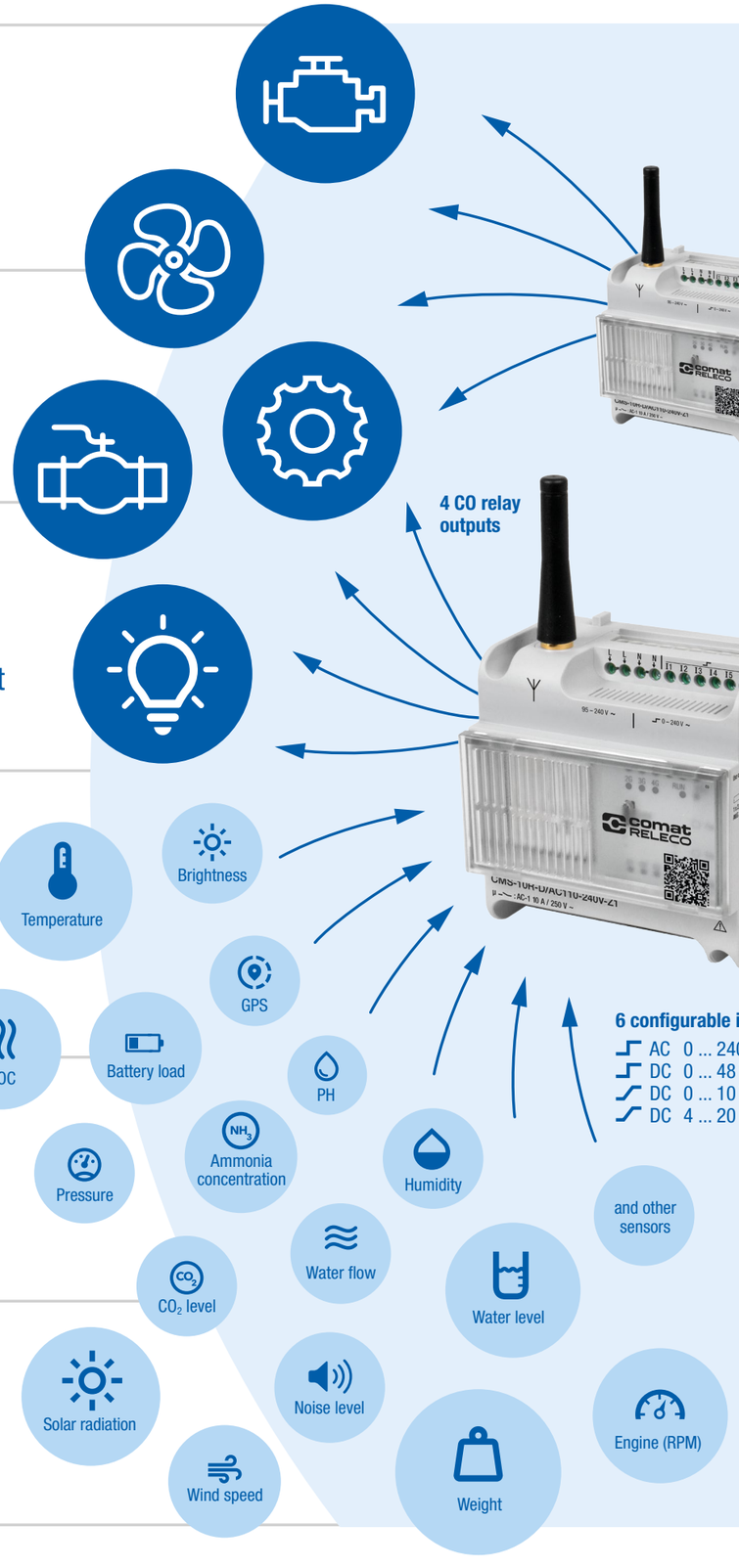
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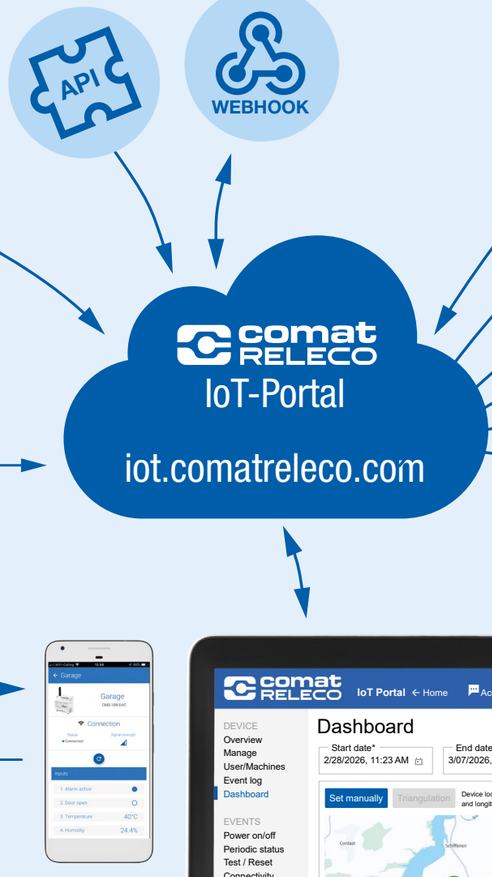
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Water quality sensor

Smart farming
Chicken Farming
Cow Farming
Alarm transmission

Trash compactor
Motor temperature
Amount of cycle

Electrical substation

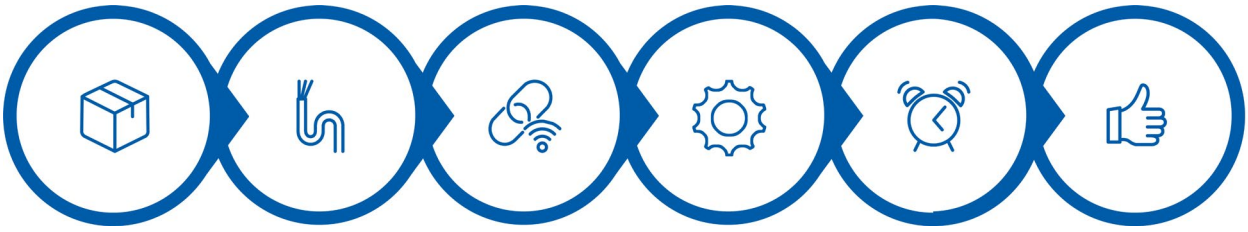




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Installation, integration & next steps



01 I Choose the right variant

CMS-10R-D: AC supply, digital status monitoring
CMS-10R-DA: DC supply, each input selectable digital or 0–10 V
CMS-10R-DAC: DC supply, mixed 0–10 V plus 4–20 mA for instrumentation

02 I Mount & wire (panel-ready)

DIN-rail or panel mounting (IEC 60715). Wire power and connect field signals to the inputs/outputs using standard screw terminals. Wiring diagram available in documentation.

03 I Pair the device with the portal

Use device pairing to connect the unit to your IoT portal account. The operating year starts when the device is paired with the owner account.

04 I Configure in minutes (no special software)

Configure inputs/outputs, recipients, and notifications directly in the IoT portal using a web browser. Reuse an existing configuration file if you're replacing a previous device series.

05 I Set alarms, logging & actions

Define thresholds and rules for events, select notification channels, and configure relay outputs for operational actions. Events are time-stamped and recorded in the portal for operational traceability.

06 I Test, go live, and maintain remotely

Trigger a test event/reset and validate recipients and response flow. Firmware updates are managed via the portal/app and do not require a site visit (configuration is retained).

Product key

CMS-10R - DAC / DC12-48V - Z2 - KIT

Product family

CMS-10R = **C**omatReleco **M**essaging **S**ystem

Inputs

D = 6 x digital
DA = 6 x digital or analog 0 ... 10 V
DAC = 4 x digital or analog 0 ... 10 V / 2 x 4 ... 20 mA

Control voltage

AC110-240V = 110 V ... 240 V ~
DC12-48V = 10 V ... 48 V ⎓

Region

Z1 = Zone 1: worldwide
Z2 = Zone 2: Europe, Middle East, Africa, Korea, Thailand

Packaging

None = CMS-10R including device antenna stubby 50 mm
KIT1 = CMS-10R-... including CMS-ANT-MAG2/2.5M & HDR-15-24
KIT2 = CMS-10R-... including CMS-ANT-MAG2/2.5M & HDR-30-24
BOX1 = CMS-10R-... in the box with terminals
BOX2 = CMS-10R-... in the box without terminals

Next steps

Contact an expert
Reach out to our specialists for personalised guidance and technical support: support@comatreleco.com

Request a demo
Experience the CMS-10R system in action with a live demonstration.

Download datasheet
Access detailed technical specifications and product information: www.comatreleco.com

Service profiles

Approvals

CE UKCA

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