DATASHEET

RAMOS ACS Access Control System

CONTEG

MONITORING AND SECURITY

RAMOS ACS ACCESS CONTROL SYSTEM

Access control readers

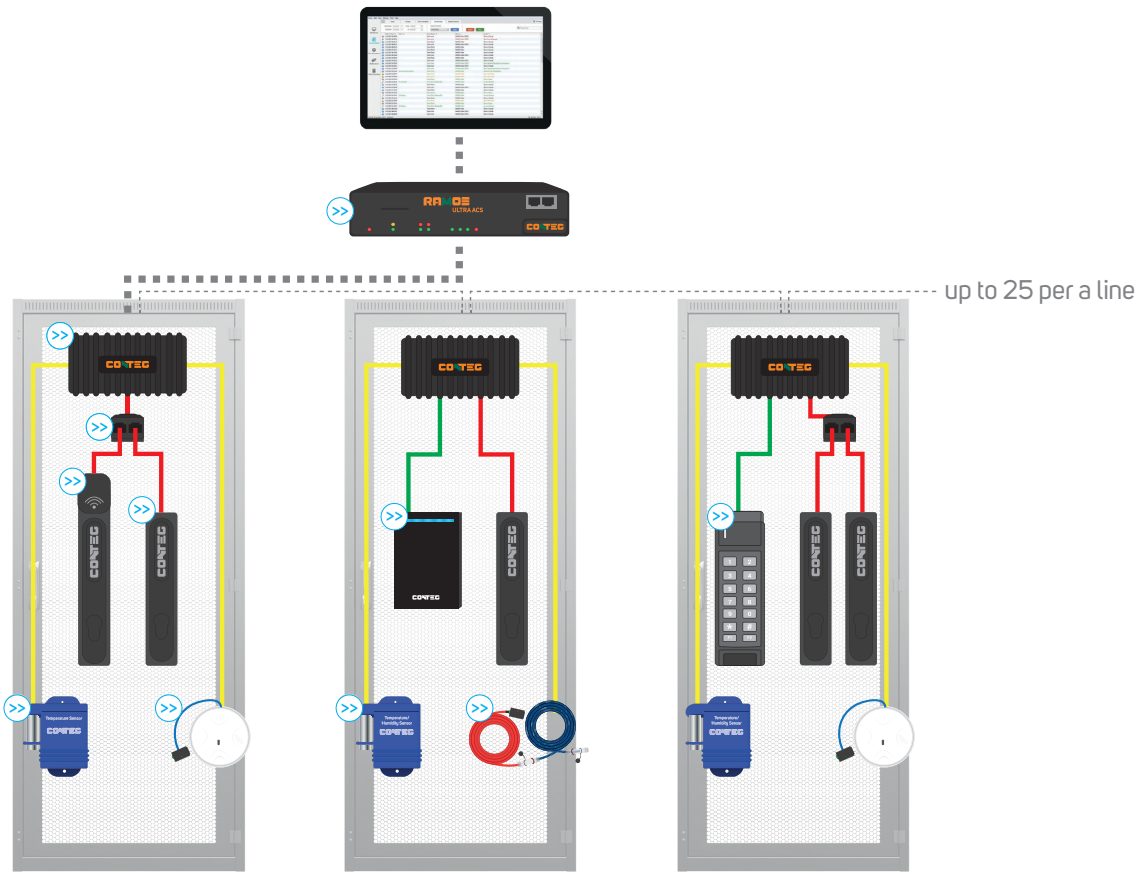
RAMOS Ultra ACS control and monitoring unit

CONTEG Pro Server software with remote web access

RAMOS ACS—centralized electronic access system capable of monitoring access for up to 5,000 doors, monitoring status of the environment (temperature, humidity, water leakage, smoke), integrating additional devices (PDU, UPS, IP cameras, etc.) and allowing remote control. The system consists of hardware components and the control software. The hardware includes a compact RAMOS ULTRA ACS or RAMOS ULTRA main control and monitoring unit along with accessories such as sensors, detectors, locks, readers. etc. The system is controlled by **CONTEG Pro Server** software with a user-friendly web interface for sensor configuration or data collection and featuring extensive options for graphical display of values.

RAMOS ULTRA ACS is a universal yet compact control and monitoring unit powered by 12 V DC. A single unit monitors up to 500 sensors and checks up to 50 racks via expanders (RDU). When using control and monitoring unit **RAMOS ULTRA**, the access control system allows monitoring up to 100 racks. Door access is then controlled via readers which allow access to the secured area after presenting a contact-less smart card/chip, a mobile phone with NFC, entering a numerical code or face recognition. These combined with IP cameras can then create full records of all activity in the area.

Example Configurations of RAMOS ACS



BASIC ACCESSORIES TO **RAMOS ACS**

RAMOS ULTRA ACS

The RAMOS ULTRA ACS main control and monitoring unit monitors up to 50 racks via rack door units (RDUs) which are connected in a daisy chain to 2 expansion ports. In addition, the use of RAMOS ULTRA EX-I8 expansion module allows the control unit to monitor up to 500 sensors.

- 2 autodetection ports which can be set as either input or output
- 2 ports for card readers or keypads
- 1 port for an electronic deadbolt or electromagnetic lock
- 2 USB ports for readers
- USB 2.0 for GSM, Bluetooth or Wi-Fi adapter connection
- RS485 port for Modbus communication
- 80 virtual sensors for monitoring third party hardware via Modbus, SNMP, ping etc.

Several access control options available, such as PIN codes or cards. The unit is fitted with status indication LEDs.

Package includes: 12 V DC power supply with cable, mounts with screws, lock port converter and installation CD

Dimensions: 46 × 216 × 138 mm

Order Code	Description
RAMOS Ultra ACS	RAMOS Ultra ACS main control and monitoring unit
RAMOS ULTRA EX-I8	Expansion module adding 8 smart ports, power adapter with EU power cable, 1U tall mount with screws and 1.5 m LAN cable

RAMOS ULTRA

The RAMOS ULTRA main control and monitoring unit monitors up to 100 racks via rack door units (RDUs) which are connected in a daisy chain to 4 expansion ports. In addition, the use of RAMOS ULTRA EX-I8 expansion module allows the control unit to monitor up to 500 sensors.

- 8 autodetection ports which can be set as either input or output
- RS485 port for Modbus communication
- 80 virtual sensors for monitoring third party hardware via Modbus, SNMP, ping etc.

Several access control options available, such as PIN codes or cards. The unit is fitted with status indication LEDs.

Package includes: 7.5 V DC power supply with EU cable, 1.5 m long crossover connecting network cable, 1U tall mount with screws and installation CD

Dimensions: 46 × 216 × 138 mm

Order Code	Description
RAMOS Ultra	RAMOS Ultra main control and monitoring unit
RAMOS ULTRA EX-I8	Expansion module adding 8 smart ports, power adapter with EU power cable, 1U tall mount with screws and 1.5 m LAN cable

Rack Door Unit (RDU)

RDUs are connected in a daisy chain to control and monitoring units via expansion ports. Each RDU can be connected to one reader and one lock or two handles via a hub.

- 1 (green) port for a card reader or keypad
- 1 (red) port for an electronic handle or an electromagnetic lock
- 2 (yellow) smart autodetection ports
- LED indicators signaling connection and power status

The RDU is connected via RJ-45 extension ports using a standard LAN CAT 5 cable. Each expansion port of the control and monitoring unit can support up to 25 RDUs in series connection. The maximum length of the connecting cable (LAN CAT 5/6) for communication between rack door units and the control and monitoring unit is 300 meters.

Package includes: 12 V DC power supply with power cable and 1.5 m LAN cable

Dimensions: 132 × 54 × 34 mm

Order Code	Description
RMS-ACS-U-RDU	Rack door unit (RDU)

Face Recognition Door Reader with a Multi-Format RFID Reader

The on-wall biometric reader for face recognition with a multi-format RFID reader can be programmed to open a door 3 different ways, by recognizing the geometry of a face, or by recognizing a face and an RFID medium, or simply by using an RFID medium. The integrated multi-format RFID reader offers the possibility of reading RFID media on both 125 kHz and 13.56 MHz (e.g. MIFARE®). Thanks to the operational lighting of the terminal from 0 lx to 25,000 lx, this device can operate reliably even in complete darkness at the place of installation. IR camera for capturing the face is equipped with an infrared-based fake face blocking technology (LFD), thus prevents spoofing by printed images and LCDs. The device is connected to the RAMOS ACS access control system via a Wiegand protocol.

Package includes: 24VDC/2.5A power supply in a connection box with power and connection cable, wall-mounting kit

Dimensions: 80 × 160,3 × 71,8 mm

Order Code	Description
RMS-ACS-U-FACE	Face recognition door reader with a multi-format RFID reader

Contactless Reader

The dual contactless reader offers the capability to read RFID media on both the 125 kHz and 13.56 MHz frequency band (such as MIFARE® or NFC). Aside from standard RFID cards or fobs, the reader is also compatible with mobile phones equipped with NFC technology with Android® 4.4 Kit Kat OS (or higher) and the corresponding NFC application. The front section of the reader is protected by tempered glass and comes in black. Designed for mounting in indoor or outdoor unprotected areas (IP 55 enclosure). The reader is equipped with a buzzer and status indication LEDs. Low power consumption of only 65 mA in standard operation, max. 180 mA. Powered from the main unit.

Package includes: 4.5 m long cable with a green color-coded RJ-45 connector, 2 fastening screws

Dimensions: 96 × 67 × 13.5 mm

Order Code	Description
RMS-ACS-U-MCR	Dual contactless reader

Keypad with Card Reader

Backlit keypad with built-in card reader (EM format) enables authentication either using only a card on the 125 kHz frequency band, or using a combination of a card along with a four-character code. Easy connection to an RDU via a cable with color-coded RJ-45 connector. The reader is equipped with a buzzer and status indication LEDs. Suitable for installation in indoor areas. Low power consumption of only 65 mA in standard operation. Powered from the main unit.

Package includes: 4.5 m long cable with a green color-coded RJ-45 connector and 3 fastening screws

Dimensions: 152 × 46 × 25 mm

Order Code	Description
RMS-ACS-U-KER	Backlit keypad with built-in card reader

USB Card Reader

This desktop dual card reader for PC is a handy peripheral for user card administration in the CONTEG Pro Server application. The reader operates on 125 kHz and 13.56 MHz frequency. It is capable of working with 125 kHz identification media for access control and is fitted with LED signalization and a buzzer. The reader connects to the computer's USB port, from which it also draws power.

Package includes: 0.5 long USB cable

Dimensions: 105 × 70 × 13 mm

Order Code	Description
RMS-ACS-DCR	Desktop USB card reader

Electronic Handle

The electronic handle is designed for mounting directly onto a rack door with a standard 25 × 150 mm mounting hole. The handle with half-cylindrical insert can be opened using a key and can be mounted onto a door with a multi-point or single-point locking mechanism. The body is fitted with LED indication of status—unlocked, locked, open and breach. The handle is highly energy efficient, requiring less than 50 mA when idle, and less than 250 mA when in working mode, and is powered from the main unit.

Package includes: 4.5 m long cable with a black color-coded RJ-45 connector

Order Code	Description
DP-ZM-E1	Electronic handle

Electronic Handle with Card Reader

The electronic handle with card reader is designed for mounting directly onto a rack door with standard 25 × 150 mm mounting hole. The handle with half-cylindrical insert can be opened using a key and can be mounted onto a door with a multi-point or single-point locking mechanism. The body is fitted with LED indication of status—unlocked, locked, open and breach. The built-in miniature reader is located in the upper portion of the handle body and has a maximum reading distance of 3 cm. It is capable of reading EM and HID Prox 125 kHz cards and communicates via the Wiegand 26b protocol. The handle is highly energy efficient, requiring less than 50 mA when idle, and less than 250 mA when in working mode, and is powered from the main unit.

Package includes: 2x 4.5 m long cables with a green color-coded RJ-45 connector for the reader and a black color-coded RJ-45 connector for the handle

Order Code	Description
DP-ZM-E2	Electronic handle with card reader

Hub for Two Handles

Hub for connecting two handles onto a single rack door unit (RDU); allows splitting output in two to control two CONTEG handles on a single rack. Fitted with three RJ-45 ports (1 input and 2 outputs). Using the hub on an RDU makes it impossible to differentiate the individual handles in the system since they are both displayed as one handle. If any of the handles is opened or unlocked with a key, the system will display the status for both handles. Using the hub for RDUs allows connecting up to 100 racks (200 handles) through a single control and monitoring unit. The hub cannot be used for electromagnetic locks.

Package includes: 0.25 m long red LAN cable

Order Code	Description
RMS-CON-ACS	Hub for connecting two handles onto a single rack door unit (RDU)

Expander for Smart Port

The expander allows creating 8 inputs/outputs on a single smart port of the main control and monitoring unit. The expander's input contact is capable of supporting any type of door contact (e.g. RMS-MK-01). The device is automatically recognized and powered from the main unit. The expander is connected using a standard LAN CAT 5/6 cable. Maximum cable extension length is 300 m.

Package includes: 1.5 m LAN cable for connection

Order Code	Description
RAMOS Ultra-EX-D8-8	Expander for smart port

Magnetic Contact

Magnetic door contact with mount, designed as a tool for monitoring the opening of rack doors.

Package includes: 2.5 m long cable, mount and fasteners

Order Code	Description
RMS-MK-01	Magnetic door contact

Electromagnetic Lock—Small

This small electromagnetic door lock with holding force of 700 N, which corresponds to 70 kg, is suitable for racks which cannot be fitted with a CONTEG electronic handle. LED indicates the status of the lock: unlocked, locked, open or breach. Powered from the main unit.

Package includes: 3 m long cable with a red color-coded RJ-45 connector and fastening screws

Dimensions: 90 × 33 × 19 mm

Weight: 0.7 kg

Order Code	Description
DP-ZM-EML-S	Small electromagnetic door lock

Electromagnetic Lock—Large

This water-tight electromagnetic door lock with holding force of 3,500 N, which corresponds to 350 kg, is suitable for mounting onto entrance doors. LED indicates the status of the lock: unlocked, locked, open or breach. Powered from the main unit.

Package includes: 3 m long cable with a red color-coded RJ-45 connector and fastening screws.

Dimensions: 273 × 44 × 28 mm

Weight: 2.5 kg

Order Code	Description
DP-ZM-EML-LW	Large electromagnetic door lock

RFID Media—Cards

EM and HID Prox. identification cards with a frequency of 125 kHz (LF), and MIFARE Classic cards with a frequency of 13,56 MHz (HF), in white color, sized 86 × 54 × 0.8 mm (ISO format).

Order Code	Description
RMS-ACS-EMC-10	10x EM identification cards
RMS-ACS-EMC-25	25x EM identification cards
MS-ACS-HID-10	10x HID Prox identification cards
MS-ACS-HID-25	25x HID Prox identification cards
RMS-ACS-MIFC-10	10x MIFARE Classic identification cards
RMS-ACS-MIFC-25	25x MIFARE Classic identification cards

RFID Media—Fobs

EM identification fobs with frequency of 125 kHz (LF), and MIFARE Classic identification fobs with frequency of 13,56 MHz (HF), sized 31 × 40 × 4.8 mm.

Order Code	Description
RMS-ACS-EMT-10	10x EM identification fobs
RMS-ACS-EMT-25	25x EM identification fobs
RMS-ACS-MIFT-10	10x MIFARE Classic identification fobs
RMS-ACS-MIFT-25	25x MIFARE Classic identification fobs

Temperature Sensor for Daisy Chain Connection

The temperature sensor is designed for placement inside racks and measures temperature in -55 °C to +75 °C range. Up to 8 sensors can be chain linked to a single smart port. The sensor is powered from the main unit. Extension is done using a standard LAN CAT 5/6 cable. Maximum cable extension length is 150 m for 8 sensors.

Package includes: 1.5 m long loose cable

Order Code	Description
RMS-U-DST	Temperature sensor for daisy chain connection
RMS-U-DST-8	Pack of 8 temperature sensors for daisy chain connection

Temperature and Humidity Sensor

The encased temperature and humidity sensor is designed for placement inside racks and measures temperature in -55 °C to +75 °C range and humidity in 0 – 100 % range. The sensor can be extended for reach of up to 300 m using a LAN CAT 5/6 cable.

Package includes: 1.5 m long loose cable

Order Code	Description
RMS-I-STHB	Temperature and humidity sensor

Smoke Detector

As a necessary safety feature for data centers and server rooms, a smoke detector should be mounted onto the ceiling for maximum smoke detection ability. The detector emits an 85 dB two-state alarm signal at a distance of 3 m from the unit and is also fitted with LED indication. The detector is powered from the main unit and can be connected to a back-up 9 V battery. It is connected using a standard LAN CAT 5/6 cable with maximum connection length of 90 m. The device is not recognized automatically and requires installing control software included with the product.

Package includes: 1.5 m LAN cable for sensor connection, control software installation medium

Order Code	Description
RMS-I-DE-01	Smoke detector

Water Sensor

The rope water sensor with 3 m long detection rope protects water-sensitive devices stored inside a rack from potential damage. Also capable of short-term detection of accumulator acid. The detection cable can be extended with a 3 m long RMS-I-DE-06-EXT3 extension cable up to a total length of 50 m. The detector is powered from the main unit and is recognized automatically. It is connected using a standard LAN CAT 5/6 cable with maximum connection length of 30 m. The sensor is fitted with a 3 m detection rope and 6 m long durable connecting cable.

Package includes: 1.5 m LAN cable for sensor connection

Order Code	Description
RMS-I-DE-06	Water sensor
RMS-I-DE-06-EXT3	Extension of the detecting portion by another 3 m, maximum extension limit 50 m

PIR Motion Detector

Motion detector with 60° detection angle and 3 m detection distance; used for securing rooms or buildings and sending alerts in case of intrusion into the monitored zone. Fitted with status LED indication. Up to 10 motion sensors can be chain linked to a single smart port. Maximum total LAN CAT 5/6 cable length for 10 sensors is 46 m. Maximum cable length between individual sensors should be less than 6 m. Maximum connectable cable length for a single sensor is 300 m. The detector is recognized automatically and is powered from the main unit.

Package includes: 1.5 m LAN cable for connection

Order Code	Description
RMS-I-DE-02	PIR motion detector

Order Code Table

Order Code	Description
RAMOS Ultra ACS	RAMOS Ultra ACS main control and monitoring unit
RAMOS Ultra	RAMOS Ultra main control and monitoring unit
RAMOS ULTRA EX-I8	Expansion module adding 8 smart ports, power adapter with EU power cable, 1U tall mount with screws and 1.5 m LAN cable
RMS-ACS-U-RDU	Rack door unit (RDU)
RMS-ACS-U-FACE	Face recognition door reader with a multi-format RFID reader
RMS-ACS-U-MCR	Dual contactless reader
RMS-ACS-U-KER	Backlit keypad with built-in card reader
RMS-ACS-DCR	Desktop USB card reader
DP-ZM-E1	Electronic handle
DP-ZM-E2	Electronic handle with card reader
RMS-CON-ACS	Hub for connecting two handles onto a single rack door unit (RDU)
RAMOS Ultra-EX-D8-8	Expander for smart port
RMS-MK-01	Magnetic door contact
DP-ZM-EML-S	Small electromagnetic door lock
DP-ZM-EML-LW	Large electromagnetic door lock
RMS-ACS-EMC-10	10x EM identification cards
RMS-ACS-EMC-25	25x EM identification cards
MS-ACS-HID-10	10x HID Prox identification cards
MS-ACS-HID-25	25x HID Prox identification cards
RMS-ACS-MIFC-10	10x MIFARE Classic identification cards
RMS-ACS-MIFC-25	25x MIFARE Classic identification cards
RMS-ACS-EMT-10	10x EM identification fobs
RMS-ACS-EMT-25	25x EM identification fobs
RMS-ACS-MIFT-10	10x MIFARE Classic identification fobs
RMS-ACS-MIFT-25	25x MIFARE Classic identification fobs
RMS-U-DST	Temperature sensor for daisy chain connection
RMS-U-DST-8	Pack of 8 temperature sensors for daisy chain connection
RMS-I-STHB	Temperature and humidity sensor
RMS-I-DE-01	Smoke detector
RMS-I-DE-06	Water sensor
RMS-I-DE-06-EXT3	Extension of the detecting portion by another 3 m, maximum extension limit 50 m
RMS-I-DE-02	PIR motion detector

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