



 DATASHEET

RAMOS ACS

Access control system

CONTEG

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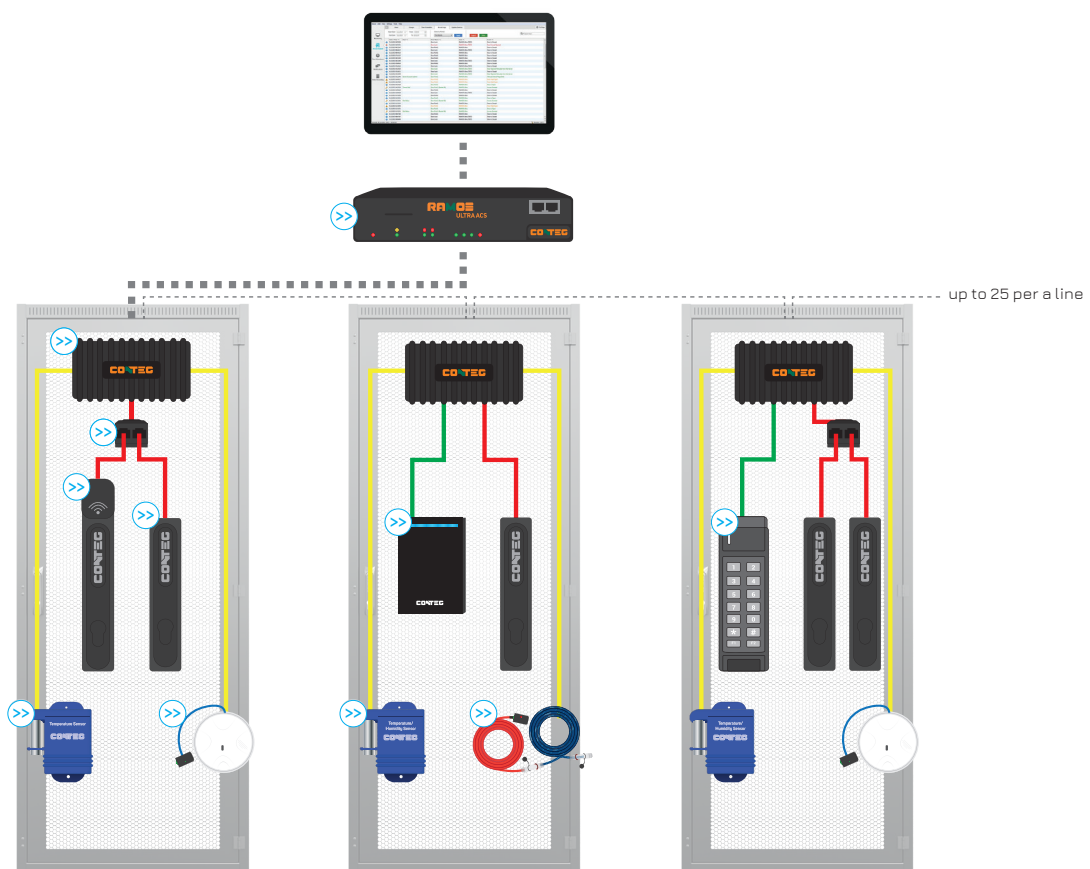
RAMOS ACS AND ACCESSORIES



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



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

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.
- USB 2.0 for connecting GSM, Bluetooth or Wi-Fi adapter

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

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

Expansion module RAMOS ULTRA-EX-I8



An expansion module that has 8 intelligent sensor ports and is connected to any expansion ports located on the front panel of the RAMOS Ultra or RAMOS Ultra ACS base units. They are connected using a standard CAT5 LAN cable.

The expander may also be daisy-chained using the E-Out/E-In ports on other Expanders. For Expansion can be used cable with max length of 300 m between each unit.

Compatible with RAMOS Ultra, RAMOS Ultra ACS, and RAMOS Optimax standard expansion ports. The front pair of LEDs indicate the status of the connected accessories of all 8 intelligent ports.

Package includes: 7.5 V DC 3A external power supply with exchangeable power cable, 1U high bracket with screws, 1.5 m LAN CAT 5 cable

Code	Description
RAMOS ULTRA-EX-I8	Expander with 8 intelligent sensor ports

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

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

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

Dimensions: 96 × 67 × 13.5 mm

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

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

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

Code	Description
DP-ZM-E1	Electronic handle

Electronic Handle with Card Reader



The electronic handle with card reader is located on the door of the switchboard itself with a standard mounting hole of 25 × 150 mm. The handle with semi-cylindrical insert can be opened with a key and can be fitted to doors with multi-point and single-point locking mechanisms. The handle body has LED signalling indicating the status: unlocked, locked, open and intrusion. A built-in miniature reader is located at the top of the handle body with a reading distance of 3 cm.

DP-ZM-E2 reads EM and HID Prox 125 kHz cards and communicates via Wiegand 26b protocol. DP-ZM-E3 reads Mifare and iClass 13.56 MHz cards and communicates via the Wiegand protocol.

The handle has low power consumption, less than 50 mA in normal state and less than 250 mA in operating mode, and is powered from the main unit.

Package includes: 2 × 4.5 m long cable with green cap for the reader and black cap for the handle on the RJ-45 connector for proper connection.

Code	Description
DP-ZM-E2	Electronic handle with 125 kHz card reader
DP-ZM-E3	Elektronická klika s čtečkou karet 13,56 MHz

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

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

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

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

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 × 4.5 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 and Humidity Sensor

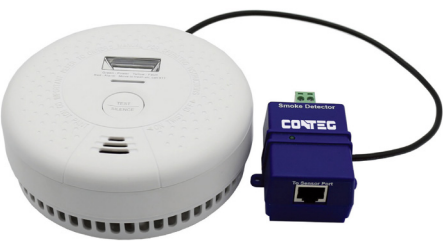


The encased temperature and humidity sensor is designed for placement inside racks and measures temperature in -55 °C to +75 °C range and humidity in 0 – 100 % range. The sensor can be extended for reach of up to 300 m using a LAN CAT 5/6 cable.

Package includes: 1.5 m long loose cable

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

Smoke Detector



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. It should be mounted on to the ceiling for maximum smoke detection ability. This device 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 150 m. Has a built-in flash light to alert when smoke is detected.

Package includes: 1.5 m LAN CAT 5 cable

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

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