

## Radio Remote Control Systems

### MC-3-5/MC-3-6 EX



*Cavotec wants to contribute to a future world that is cleaner, safer and more efficient by providing innovative connection solutions for ships, aircraft and mobile equipment today.*

*For more than 30 years, Cavotec has engineered advanced radio remote control systems in close co-operation with customers worldwide.*

#### Benefits

- Engineered to global standards, our radio remote control systems are ATEX- and IECEx-tested, and NEMKO-approved.
- Other approvals include INMETRO and EAC.
- Tailormade solutions to meet specific customer requirements.
- Entirely EX functional, our receiver units can be specified with serial interface or industry standard analogue and digital I/O and installed with EX enclosures.
- Long life time rechargeable batteries that can be replaced in EX zones, thereby supporting continuous operations.
- Operator terminal layouts are configured according to application and customer requirements:
  - Fitted with analogue or digital joysticks, pushbuttons, toggle switches and rotary switches.
  - Safety features with start-stop push-button, On/Off switch.
  - Optional: LEDs and displays for feedback information, cable back up

#### Applications

Already in use in the most severe conditions and environments, our radio remote controls are designed for applications, among others, in the following areas:

- Oil skimmers and oil recovery systems
- Land based drilling rigs, oil and gas platforms, offshore cranes and winches, oil skimmers, petro chemical plant
- Underground mining equipment



MC-3-5 EX with display



MC-3-6 EX fitted with two joysticks

## Technical characteristics

### Terminal MC-3-5/MC-3-6 EX

- Complete operational control with unique signal encoding prevents unintended operations.
- Activity check on start up to prevent unintended operations.
- Stop relay activation in 50ms/500ms.
- License exempt frequency with low power outputs; European ISM band width 434.050 MHz - 434.775 MHz (other frequencies available on request).
- Redundant radio solution.
- Digital and analogue feedback.
- PLC functionality for interlocking, sequencing and timing functions programmed directly without additional hardware.

### Receiver Unit

- The MC-IRX receiver unit is highly flexible as it can have multiple digital and analogue inputs and outputs.
- Easy use with direct connections to most available fieldbus systems: ProfiBus, ModBus RTU, CANopen, Device Net, ModBus Plus, ModBus TCP, Ethernet IP.
- Back up solution with cable connection for programming and control.
- Multiple terminal and/or multiple receiver unit systems possible, e.g. for tandem operation.

### General data

MC-3-5 EX / MC-3-6 EX Terminal	Approved for Ma, Gb and Db (Mining, Zone 1 and 21), Gas group IIB and Dust group IIIC, Temperature class T4
Digital functions	Depending on functionality
Analogue functions	Depending on functionality
LED	Red, Green, Yellow, Blue, White
Display	Character display
Battery	Default battery package 7,4V / 1100 mAh Li-Ion, intrinsically safe
Recharge time	1 hour
Battery charger	12-24VDC, 110-230VAC
Operating time	Approx. 8-12 hours
Dimensions	230 x 175 x 160 mm (9,05 x 6,88 x 6,29 inch) & 330 x 220 x 200 mm (12,99 x 8,66 x 7,87 inch)
Weight	From 2 to 4 kg (4,4 to 8,8 lbs)
IP	IP65 standard, IP66 optional
Temperature range	-30°C to +60°C (-22°F to +140°F)
Operating distance	Approx. 200m line of sight (650 ft)
Frequency	418 MHz – 870 MHz

## Approvals & Standards

Cavotec radio remote control systems comply with a variety of international rules and regulations. All systems are CE marked and can be used with our FCC Part 90 approved radio. The systems are designed in accordance with the Machinery Directive and comply with IEC 60204 and ISO 13849. In addition, we have a wide range of compliant radios that can be used in type approvals of systems for specific countries worldwide.