Radio UHF RCS RÆVO
Data Transmission Module

The **RCS RÆVO** radio apparatus is a radio modem that operates in the **UHF** range, responding to the current regulations in force.

The **RCS RÆVO** radio modem is designed to be employed in the creation of networks distributed throughout the territory and can be used as a terminal, a repeater or a radio panel. The operating mode of the single radio modem can be configured both with pairs of frequencies (Tx/Rx) and with a single frequency, in the UHF band.

Radio modems are suited to the creation of Point-to-Point and Point-to-Multipoint connections, even with very complex networks. **RCS RÆVO** is a product with **very low power consumption**, especially designed for use in environmental monitoring and warning systems, where the mains power supply is not always available. As such, the radio is developed to ensure functionality even when powered by a solar panel and buffer battery.

The **RCS RÆVO** facilitates interfacing with external devices via 3 ports:

• **Serial RS485**-Connector M12 code A to 5-pole (+1 for the screen)

• **Serial RS232**-Connector M12 code A to 8-pole (+1 for the screen)

• **Ethernet**-Connector M12 code D to 4-pole (+1 for the screen)

Connection to the antenna is via a female BNC connector (50Ω).

The radio implements **modulations** with a bit rate of 9600 b/s and 14400 b/s, availing of a Forward Error Correction (**FEC**), a mechanism for the detection and subsequent correction of errors.

The **RCS RÆVO** radio is a **CAETech** product and, as such, is capable of **interacting with various devices and applications,** such as commercial dataloggers with standard interfaces, and user or third-party applications. Indeed, the radio is able to transport **standard protocols**: IP over Ethernet and serial ports (PPP) or Modbus RTU on Serial ports. As per all CAEtech products, it implements **Zero Breakdown Technology** logic, hence it is also configurable for sending **diagnostic information** to the operations hub.

The reliability of the radio is further increased by the fact that it is r**eprogrammable even remotely** so as to respond to a decrease in quality caused, for example, by the malfunctioning of apparatus or by changing environmental conditions. This is possible thanks to a special software configuration. The radio also complies with Directives RED 2014/53/EU and 2011/65/EU (ETSI EN 300 113, ETSI EN 301 489-1, ETSI EN 301 489-5, EN 60950-1/A1, EN 60950-1/A2, EN 60950-1/A11, EN 60950-1/A12, EN 50385, EN 50581).

RCS RÆVO radio data transmission module;	
GENERAL FEATURES	
Manufacturer and model name	CAE, RCS RÆVO
Frequency band	403-473 MHz
Chanel rate	12.5 kHz/25 kHz
Interface	RS232, RS485, Ethernet
Operating temperature	-30 ÷ +70° C
Modulation types	4FSK, 8FSK, 16FSK
Radio interface speed in the air	9600 bps 14400 bps
Radiosensitivity	-116 dBm BER 10^{-3} @9600 bps
Data protection	FEC (Forward Error Connection)
Encryption	AES128
Supported protocols	IP, Modbus
ELECTRICAL CHARACTERISTICS	
Power supply range	10 ÷ 16 Vdc
Maximum absorption @12.5 V	100 mA (1.25 W) receiving (Rx) 400 mA (5 W) Transmission (Tx) @ 1 W *with Ethernet on, +30 mA (+375 mW)*
Output power	1 W
MECHANICAL CHARACTERISTICS	
Dimensions	120 X 200 X 60 mm (l x h x w)
Weight	460 g
Electronic enclosure	Polycarbonate, IP65 degree of protection