



The RDC EVO is a bi-directional radio module studied for remote machinery control equipped with a CANbus network.

The device is designed to operate in systems with high safety level architectures. It is compatible with SIL2 and PLd standards.

Radio communication is possible thanks to an adjustable antenna that allows efficient signal detection and a reliable radio link over a wide range. The SMA connector allows the usage of an external antenna.

The polyurethane resin wrap and the DEUTSCH type connector make the controllers suitable for machines operating in harsh working environments.



## TECHNICAL FEATURES

MASTER CODE	RDC.438
POWER SUPPLY	9-30 VDC CURRENT CONSUMPTION: 30 mA (min) – 100 mA (max) @ 24VDC
COMMUNICATION PORTS	NETWORK: CAN BUS 2.0B COMPLIANT – (11, 29 BIT) – ISO 11898-2 UP TO 1Mbit/s RADIO: 868 MHz / 434 MHz BAND
CAN BUS PROTOCOLS	CAN OPEN protocol (CIA DS401 DEVICE PROFILE FOR GENERIC I/O MODULE, WITH DS306 EDS FILE) Baud rate: 10, 20, 50, 100, 125, 250, 500, 1000 kbps (Default = 250 kbps)
RADIO FEATURES	BAND: 868 MHz (869.700-870.00 MHz) / 434 MHz (433.050-434.790 MHz) CHANNELS: 12 ( AUTOMATIC FREQUENCY SCAN) MODULATION: 2-GFSK ANTENNA: EXTERNAL or INTEGRATED (only for 868 MHz)
RADIO PROTOCOL	PACKET TRANSMISSION PROTOCOL BIDIRECTIONAL LINK HAMMING DISTANCE = 4 SAFETY STOP INTERVENTION TIME < 0,5s
CONNECTIONS	MAIN: TE DEUTSCH DTF13-6P ANTENNA: SMA socket
CASE	ENCAPSULATED IN PUR RESIN - SELF-EXTINGUISHING UL94 (V0)
PROTECTION	INTEGRATED ANTENNA: IP68 SMA ANTENNA: IP65
WORKING TEMPERATURE	-40°C +85°C





## ELECTRONIC FEATURES

<b>SLAVE USAGE</b>	EDS FILE
<b>PROGRAMMING</b>	FIRMWARE UPLOAD BY CAN BUS WITH ALOADER SOFTWARE TOOL
<b>CYCLE TIME</b>	RADIO CONNECTION: 50 ms LOGIC: < 1 ms
<b>INTERNAL SYSTEM CONTROL</b>	DUAL REDUNDANT CPU WITH WATCHDOG SELF CHECKED SAFETY OUTPUT RELAY

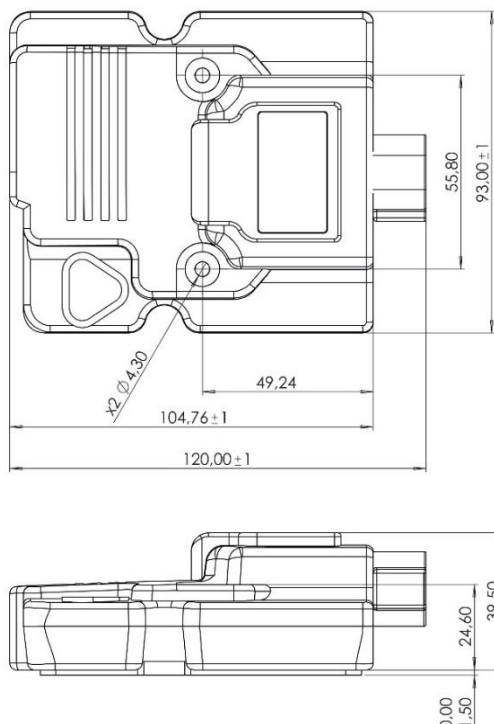
## STANDARDS

<b>ELECTROMAGNETIC (EMC)</b>	ACCORDING TO DIRECTIVE 2014/30/EU: EN 61000-6-4 EN 61000-6-2 EN 50498
<b>ROAD VEHICLES</b>	ISO 7637-2: 2011 ISO 11452-1: 2005
<b>INFORMATION TECHNOLOGY EQUIPMENT – SAFETY</b>	EN 60950-1
<b>RADIO SPECTRUM MATTERS (RED)</b>	ACCORDING TO DIRECTIVE 2014/53/EU: ETSI EN 300.220-1 ETSI EN 300.220-2 ETSI EN 301.489-1 ETSI EN 301.489-3
<b>PERFORMANCE AND SAFETY INTEGRITY LEVEL</b>	EN ISO 13849-1 PLd – SIL2 (DUAL-CHANNEL INTERNAL SCHEME)

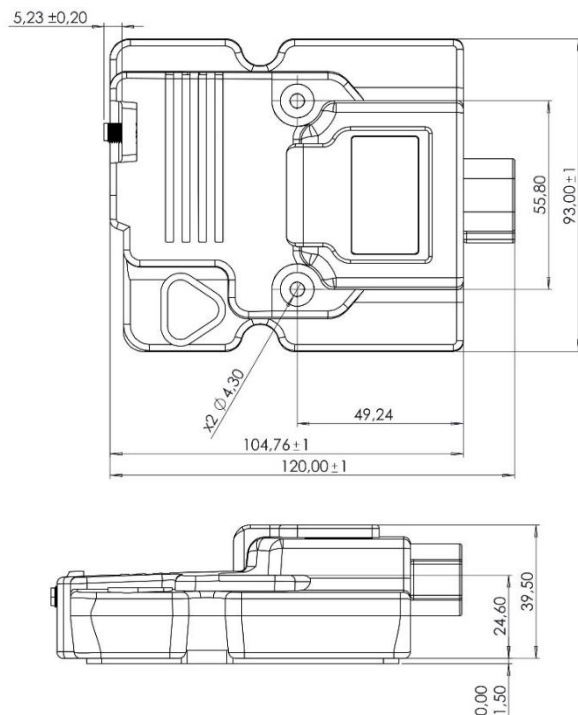


## SIZE (mm)

Integrated antenna



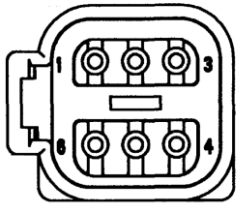
SMA antenna connector





## CONNECTOR PINOUT

### MAIN CONNECTOR



PIN	DESCRIPTION
1	POSITIVE POWER SUPPLY
2	SAFETY DRY CONTACT OUT
3	SAFETY DRY CONTACT IN
4	CAN L
5	CAN H
6	GND

### MATING CONNECTOR CODES

CONNECTOR: DT06-6S  
 TERMINALS: 1062-16-1422/1062-16-1222 or similar (x6)  
 CAP: W6S



DT06-6S



TERMINALS



W6S

### SMA EXTERNAL CONNECTOR



**WHIP ADJUSTABLE ANTENNA**  
 SMA PLUG  
 868 / 433 MHz BAND  
 Housed in a rugged flexible plastic



### PUK RUGGED ANTENNA

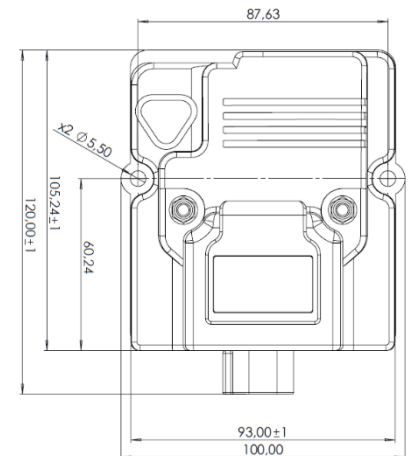
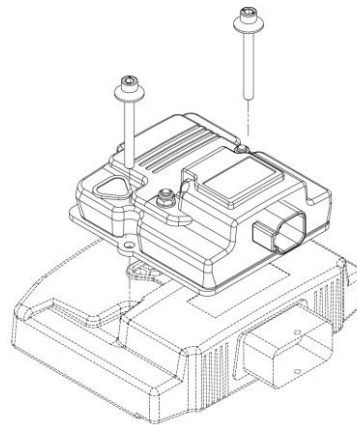
SMA PLUG with RG174 CABLE LENGHT 1,5 m  
 868 & 433 MHz BAND  
 Housed in waterproof IP67 rugged low-profile  
 Fixed through M14

## FEATURES

### OPTIONAL: RETRO-FIT KIT

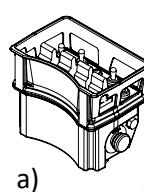
For RD.CAN.S02/03/11/15 replacement composed by:

- STEEL BASEHOLE ADAPTER PLATE
- RETROFIT ADAPTER CONNECTOR



### RADIO PAIRING WITH ALMEC PRODUCTS:

- AL50RC radio console series with proportional controllers
- ALNWR radio pushbutton series
- RDC EVO device for point-to-point radio link



a)



b)



c)



c)



**ALMEC**  
MECHATRONICS

NOTE