


## INSTALLATION GUIDE

### DI 013 EN D

#### Remote control RC-FIOUL




D	2023/04/17	Pairing new remote controls	TABTI-BENHARI	EB
D	2022/01/20	Evolution of the internal electronics. 4-keys transmitter box	DSM	CHR
Issue	Date	Nature of modifications	Written by	Approved by

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## 1. GENERAL RECOMMENDATIONS

**IN ORDER TO AVOID ANY PROBLEMS CONCERNING THE INSTALLATION, THE USE AND THE MAINTENANCE OF THE EQUIPMENT, WHICH COULD CREATE UNTIMELY DYSFUNCTIONS,**

**WE KINDLY ASK YOU TO RESPECT THE FOLLOWING RECOMMENDATIONS.**


**BEFORE ANY INTERVENTION, MAKE SURE THAT THE EQUIPMENT IS DE-ENERGIZED.**

### 1.1. MECHANICAL RECOMMENDATIONS

- ⇒ Respect the recommendations of the instruction manual specifying the conditions of installation, use and maintenance of ATEX equipment (instruction manual delivered with the equipment).
- ⇒ Be sure to place the equipment in such a way as to facilitate its installation, use and maintenance by the workers (work ergonomics)
- ⇒ Be sure to orientate equipment with a display correctly. The display must be readable by the operator without difficulty.
- ⇒ Apply tightening torque appropriate to the size and material of the fastener unless otherwise specified on the layout drawings or in the installation records.
- ⇒ Mechanically protect the cables with corrugated sheathing if the cables are not ADR (corrugated sheathing adapted to "transport of dangerous goods by road" vehicles - hydrocarbons, LPG ... - and in compliance with the French standard NF R 13-903 or refer to the regulations in force).
- ⇒ Make sure that the cable glands and the cables are mechanically tight and that there is a good seal between the cable glands and the corrugated sleeves.
- ⇒ Respect the bending radii of the cables and sheaths.
- ⇒ Leave enough freedom to the conductors, to avoid all risks of tearing.
- ⇒ Allow the evacuation of water in the low loop (siphon) of the ringed ducts (no retention of water inside the ducts).

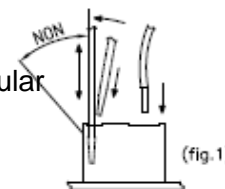



See § ADRIANE TURBINE MOUNTING AND SEALING ADVICE.

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## 1.2. ELECTRICAL RECOMMENDATIONS

- ⇒ With regard to the ATEX or the standards applicable in the country of destination, the degree of protection of the equipment must be adapted to the zone in which it is installed (explosive atmospheres).
- ⇒ Respect the recommendations of the instruction manual specifying the conditions of installation, use and maintenance of ATEX equipment (instruction manual delivered with the equipment).
- ⇒ Connect downstream of the circuit breaker, on the supply reserved for the measured distribution, the equipment supplies.
- ⇒ Install a 5A time-delayed protection upstream of the 24VDC power supply to protect the equipment in case of polarity inversion or overcurrent.
- ⇒ Use specific ADR cable, if this is not the case, use cable that is at least resistant to "RH" hydrocarbons and protect it mechanically with corrugated sheathing (corrugated sheathing adapted to "transport of dangerous goods by road" vehicles - hydrocarbons, LPG, etc. - and in compliance with the French standard NF R 13-903 or refer to the regulations in force)
- ⇒ Take care not to damage the terminal blocks of the various electronic boards when making connections.
  - Screw terminal : Do not damage the screw heads of the terminal blocks.
    - Use insulated cable lugs and ferrules suitable for the cable section.
    - Spring terminals: do not block the springs (blocking a spring on one of the terminals will result in the replacement of the electronic board).
    - Use a flat screwdriver 0.4x2.5 (see fig.1).
    - Insert the screwdriver at a slight angle, then push it in perpendicular to the terminal.
    - Do not go beyond the vertical when the screwdriver is pushed in to avoid blocking the spring.
    - Insert or remove the cable and remove the screwdriver.
- ⇒ Pass the power supply cables (24VDC truck) through the ferrites by making a loop (ALMA supply).
- ⇒ Do not use cables with a section greater than 1.5mm<sup>2</sup>.
- ⇒ Do not insert more than one tip per terminal (unless specifically indicated by ALMA), use a double tip if necessary.
- ⇒ Strictly respect the polarities of the inputs/outputs when making connections, in accordance with the silk-screen printing on the cards and/or the indications in the installation file.
- ⇒ If possible, perform a wire test after wiring.
- ⇒ Respect, as far as possible, the location of the cables recommended in the installation file.
- ⇒ Connect each equipment (external ground) to the chassis ground.
- ⇒ Prefer the shielding of the shielded cables on 360° in the metallic cable glands (see doc. delivered with the equipment).  
If not, connect the shields to the devices inside the equipment (earth terminal, earth bar, earth studs, etc.).



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- ⇒ Locate, as far as possible, the cables and conductors according to the installation file in order to facilitate the various interventions after installation.
- ⇒ Respect a homogeneous color coding of the cables.
- ⇒ Color coding according to DIN 47100.
- ⇒ Code de désignation des couleurs selon CEI 60757 (sauf abréviations FR) :

FR				EN	IT	ES	DE
Couleur s	Code s		Norme CEI 60757	Colours	Colori	Colores	Farbe
Blanc	<b>Bc</b>		<b>WH</b>	White	Bianco	Blanco	Weiß
Marron	<b>Mr</b>		<b>BN</b>	Brown	Marrone	Marrón	Braun
Vert	<b>Vt</b>		<b>GN</b>	Green	Verde	Verde	Grün
Jaune	<b>Jn</b>		<b>YE</b>	Yellow	Giallo	Amarillo	Gelb
Gris	<b>Gr</b>		<b>GY</b>	Grey	Grigio	Gris	Grau
Rose	<b>Rs</b>		<b>PK</b>	Pink	Rosa	Rosa	Lila
Bleu	<b>Bl</b>		<b>BU</b>	Blue	Blu	Azul	Blau
Rouge	<b>Rg</b>		<b>RD</b>	Red	Rosso	Rojo	Rot
Noir	<b>Nr</b>		<b>BK</b>	Black	Nero	Negro	Schwarz
Violet	<b>Vi</b>		<b>VL</b>	Violet	Viola	Violeta	Violett
Orange	<b>Or</b>		<b>OG</b>	Orange	Arancio	Naranja	Orange
Vert/Jaune	<b>V/J</b>		<b>GNYE</b>	Green/Yellow	Verde/Giallo	Verde/Amarillo	Grün/Gelb

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# INSTALLATION GUIDE DI 013 END REMOTE CONTROL RC-FIOUL

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**Units of mesure**  
Length : mm  
Angle : degré (° ' ")  
Temperature : °C

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### 1.3. PNEUMATICS RECOMMANDATIONS

- ⇒ Air must be filtered - from 40 to 20µm. Special specifications may be mentioned in the installation files or on the presentation drawings.
- ⇒ The lubrication of the air must be constant and correct in order not to jam the pneumatic components.
- ⇒ The air supply pressure at the equipment inlet must be at least 6 bar and at most 8 bar. Particular specifications may be mentioned in the installation files or on the presentation drawings.
- ⇒ The pneumatic supply tubes (6/4) must be cut straight (no bevelled cuts) and must not be crushed after cutting in order to avoid leaks on the fittings.
- ⇒ Observe the minimum bending radii indicated by the tube manufacturer.
- ⇒ The use of colored tubes facilitates maintenance.
- ⇒ In no case shall the exhaust ports of the pneumatic components be blocked, obstructed, unless clearly specified in the installation files or on the presentation drawings.


The use of silencers is to be avoided (clogging, freezing, ...). Put a tube of sufficient length oriented downwards so that its end is placed in a protected area (L=100mm min.).

- ⇒ Conversion des unités de pression :

CONVERSION DES UNITES DE PRESSION				
Unités	Bar	PSI	Pascal	kg/cm <sup>2</sup>
1 Bar =	1	14,5	100 000 (1x10 <sup>5</sup> )	1,0197
1 PSI =	0.069	1	6894,5	0,07031
1 Pascal =	1x10 <sup>-5</sup>	14,5x10 <sup>-5</sup>	1	1,0197x10 <sup>-5</sup>
1 kg/cm <sup>2</sup> =	0,98	14,22	98066,5	1

PSI = Pound per Square Inch (livre par pouce carré)

1 bar = 100 kPa = 0.1 MPa (1 MPa = 10 bar)

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## 2. GENERAL PRESENTATION

### 2.1. INSTALLATION OF THE REMOTE CONTROL RECEIVER

The remote control receiver box can be installed outside (IP68) or in the cab.

However, some cabs, depending on the truck manufacturer, interfere with the good reception of the signal emitted by the Radio Control transmitter.

If this is the case, the remote control receiver box must be installed outside.




**THE CAB MUST NOT INTERFERE WITH THE PROPER RECEPTION OF THE SIGNAL.** Before attaching the Radio Control Receiver Box in the cabin, carry out a test to check the good reception of the signal emitted by the Radio Control transmitter

## 3. NOMENCLATURE

MATERIALS DELIVERED BY ALMA				
Item	Matériel	Désignation	Qté	Option *
1		Radio Control Receiver	1	
2		Radio Control Transmitter 4 keys ( Delivered with wall bracket)	1	
Option* : material(s) sold as an option by ALMA. Does not exempt the installation of this (these) material(s) on the measurement set if the certificate requires it.				

Photos non contractuelles

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## 4. RADIO CONTROLS

**RECEIVER**

**Features**

- Frequency : 868MHz
- Range : 1000m
- Operating temperature : -10 to +50°C

**- RECEIVER :**

- Enclosure : ABS black (Non ATEX)
- Protection classification : IP68
- Supply : 12-32Vcc
- Outputs : 4 relays, 10A 28Vcc (NO-COM-NC).
- Cable glands : 4 (cable Ø6.5 to Ø12)
- Mass : 1 kg

**- TRANSMITTER :**

- Enclosure ABS black (Non ATEX)
- Protection classification: IP68
- Battery type : 3xAAA (supplied)
- Switch : 4
- Mass : 0.123 kg

**WALL MOUNTING CRADLE**

**TRANSMITTER**

**PRESENTATION DRAWING PPN710**

**REMOTE CONTROL**

**RC-FIOUL**

Description of the amendment N° 764 :  
Update of transmitter : add of battery led and wifi led on keyboard

Service Development  
13127 Vitrolles  
www.alma-alma.fr

DEV N° : 907 Code : 0338  
Drawing N° associated with the related CET file  
Metro :  
ATEX:

907 Dev N°

2/2 E Rev

PPN710 Drawing N°

Modified on : 01/03/2021 by BEB

Created on : 16/01/2014 verified by FDS

CHR

Document consultable sur le site [alma-alma.fr](http://alma-alma.fr)

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#### 4.1. ELECTRICAL CONNECTION OF THE RC-OIL RECEIVER BOX

Connect the earth to the through earth terminal of the RC-FIOUL receiver box

##### TERMINAL ASSIGNMENT OF THE RECEIVER BOARD

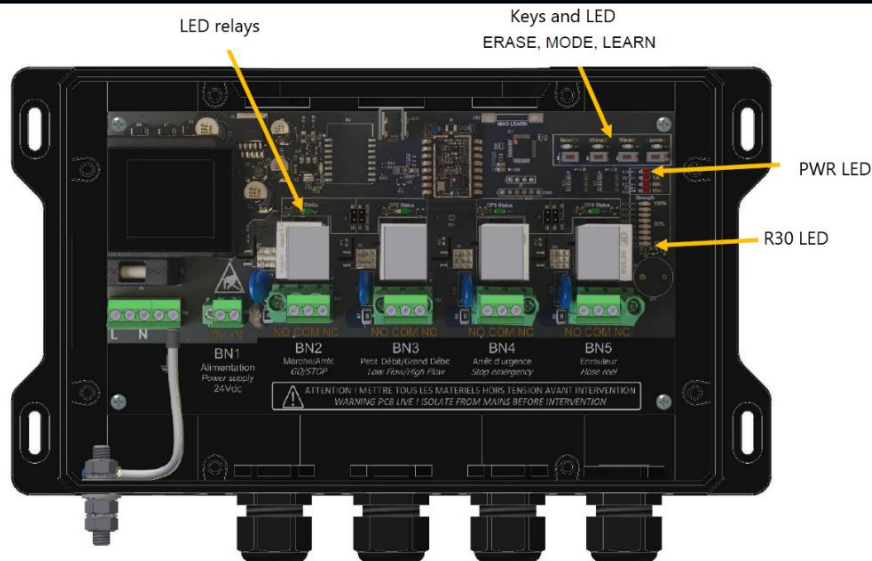


Fig.2 – Receiver box without lid

EQUIPMENT CONNECTED TO THE RECEIVER								RECEIVER CARD					
Option	Equipments	Cable (for information)				Fonction	Color or N°	Terminal blo	Terminal	Fonction		Observation	
		N°	PE*	Alma	Type								
	TRUCK FEED				ADR 2x1	0V		BN1	0V	0V	Power supply		
						24VCC			+V	24VCC			
	MICROCOMPT+				ADR 2x1	M/A		BN2	NO	0V	On / Off	No entry on COM.	
								BN3	COM				
						LF/HF			NO	0V	LF/ HF	No entry on COM.	
									COM				
	EMERGENCY STOP RELAY				ADR 2x1	A.U.		BN4	NO		Arrêt d'urgence	Potential-free contact	
									COM				
									NC				
	REEL CONTROL				ADR 2x1	Cde		BN5	NO		Commande	Potential-free contact	
								COM					
								NC					

\*Refer to the installation instructions for the cable entries (Cable Glands)

**NOTE:** Two models of electronic boards exist for the receiver box but the terminal assignment is the same with the new receiver.

**NOTE:** \*Functioning remains the same between these two models of electronic receiver card, the name and layout of the buttons vary\*.

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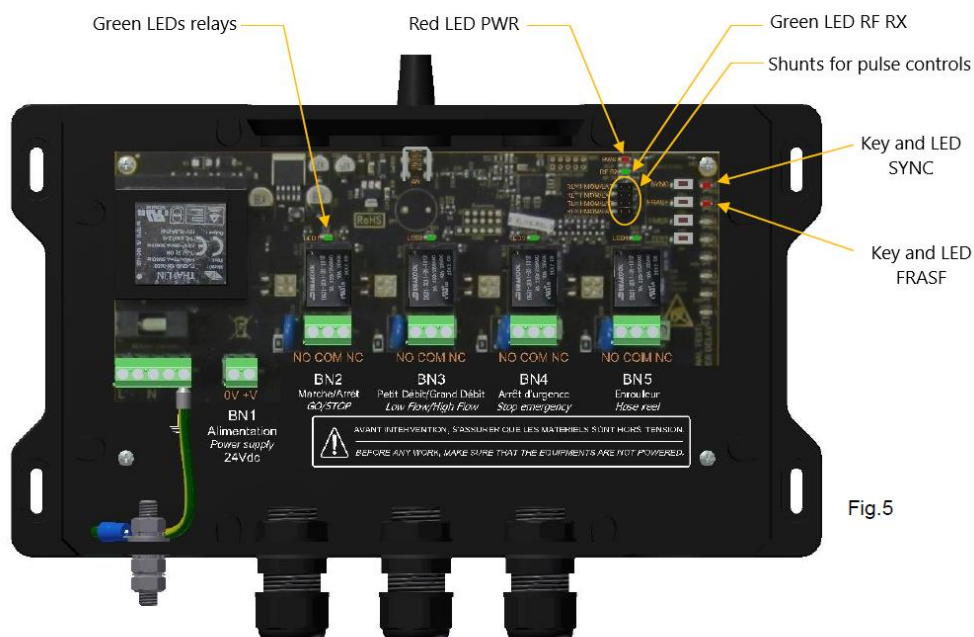
**Units of mesure**  
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## 4.2. RADIO CONTROL CONFIGURATION

### Receiver box (old model)

#### Receiver box without lid



#### Synchronization of the transmitter keys (3 or 4 keys) to the relays of the receiver card :

Synchronization of the transmitter keys to the relays according to the table (Fig.1)

**NOTE:** The antennas on the receiver and transmitter boxes are not required for synchronization

- ⇒ Press (without holding) the SYNC key (Fig.5)
- ⇒ The red SYNC LED and the green LEDs in front of the relays are blinking
- ⇒ Select, by successive presses on the SYNC key, the relay to be synchronized (a green LED flashes in front of the selected relay)
- ⇒ Press (without holding) the button on the transmitter that you want to synchronize to this relay
- ⇒ Synchronization is completed when the red LED to the right of the SYNC button stops flashing
- ⇒ Repeat this operation until complete synchronization of the keys and relays according to the 3 or 4 key configuration of the radio control (Fig.1)
- ⇒ A key can control several relays, just as a relay can be controlled by several keys
- ⇒ Check that the entire synchronization has been memorized by pressing each key on the transmitter (a green LED should light up in front of each relay controlled).

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## Receiver box (new model)

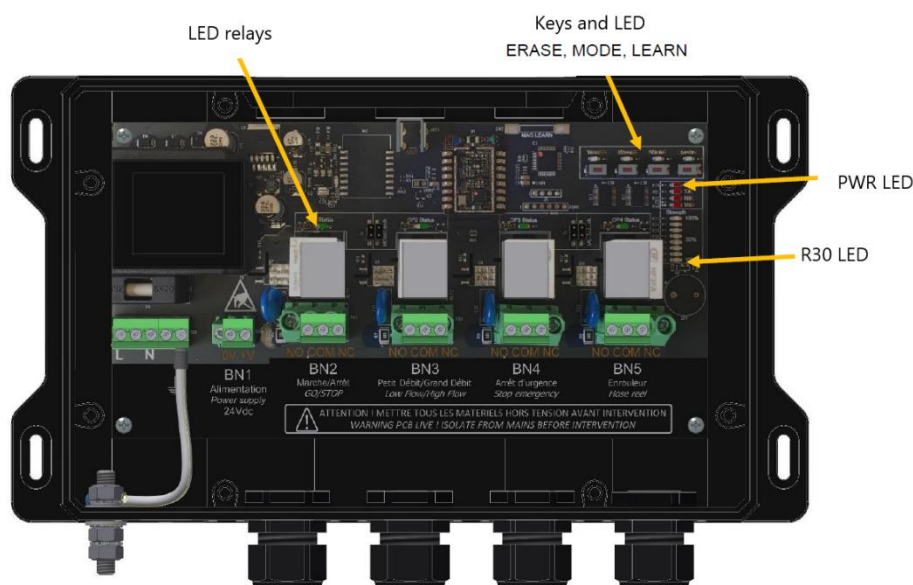



Fig.2 – Receiver box without lid

### Procedure for synchronizing the keys of the transmitter to the relays of the receiver card :

**NOTE:** The antennas on the receiver and transmitter boxes are not required for synchronization

- ⇒ Select the "FM" transmission mode by successively pressing the MODE key, the R30 led must be lit (only one led lit with a 10% inscription beside it)
- ⇒ Synchronize the transmitter keys to the relays according to the table (Fig.1)
- ⇒ Press and hold (3s) the LEARN key (Fig.2) The LEARN LED and the red LEDs on the right of the relays blink
- ⇒ Select the relay to be synchronized by successively pressing the LEARN key (a red LED flashes in front of the selected relay)
- ⇒ Press (without holding) the button on the transmitter that you want to synchronize to this relay
- ⇒ Synchronization is performed when the LEARN LED stops flashing after 2 flashes
- ⇒ Repeat this operation until the keys and relays are completely synchronized according to the configuration of the radio control (Fig.1)
- ⇒ A key can control several relays, just as a relay can be controlled by several keys
- ⇒ Check that the entire synchronization has been memorized by pressing each key on the transmitter (a red LED must light up in front of each relay controlled).

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SYNCHRONIZATION OF TRANSMITTER KEYS AND RECEIVER CARD RELAYS					
		RELAYS 1 BN2	RELAYS 2 BN3	RELAYS 3 BN4	RELAYS 4 BN5
KEYS	STOP				
	M/A				
	LF/HF				
	HOSE REEL				

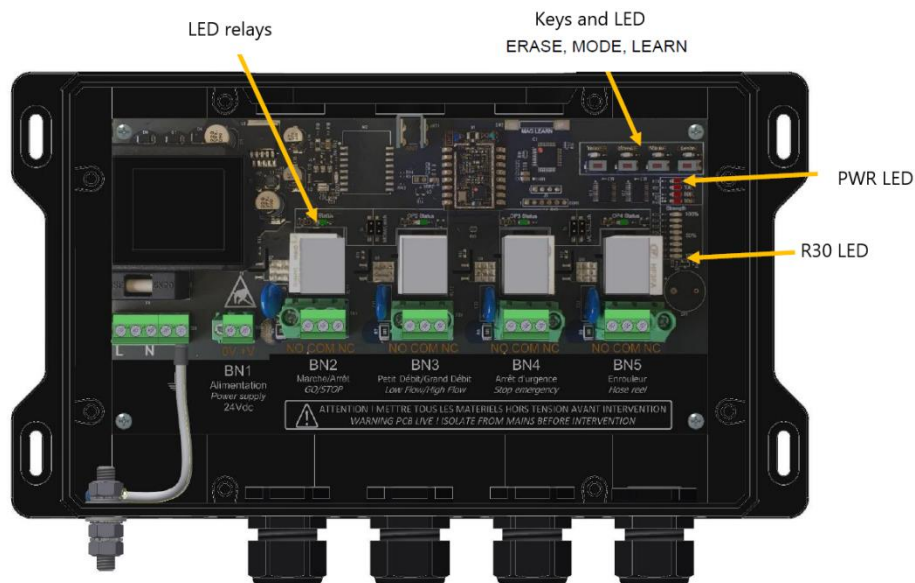



Fig. 2 – Receiver box without lid

**If necessary, in case of a configuration error for example, reset the card:**

Keep the ERASE button pressed for about 10 seconds until the relay LEDs stop flashing (Fig.2).

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