


INSTALLATION GUIDE

DI 013 EN B

RC-FIOUL REMOTE CONTROL




B	2016/03/01	Update of drawings and general recommendations, configuration of the remote control	DSM	XS
A	2014/02/13	Creation	DSM	MV
Issue	Date	Nature of modifications	Written by	Approved by

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## 1. GENERAL RECOMMENDATIONS

**IN ORDER TO AVOID ALL THE PROBLEMS CONCERNING THE INSTALLATION, THE OPERATION AND THE MAINTENANCE OF THE EQUIPMENTS, BEING ABLE TO CREATE INOPPORTUNE FAILURE, PLEASE RESPECT THE FOLLOWING RECOMMENDATIONS.**

**BEFORE ANY WORK, MAKE SURE THAT THE EQUIPMENTS ARE NOT POWERED.**

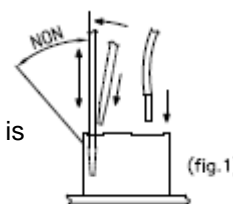
### MECHANICAL RECOMMENDATIONS


- Take care to place the equipments in order to facilitate their installation, operation and maintenance by the technicians (working ergonomics).
- Take care to position properly the equipment; the display must be readable without any difficulty.
- Apply a tightening torque suitable with size and material of the fixation element except particular specifications mentioned on the presentation drawing or in the installation guides.
- Mechanically protect the cables with the corrugated conduit if the cables are not ADR (corrugated conduit adapted to vehicles used for "carriage of dangerous goods of road" - hydrocarbons, LPG ... - and meet the requirements of French standard NF R13-903).
- Ensure there are a good mechanical strength and a good sealing between cable glands and cables, and between cable glands and corrugated conduit.
- Respect cables and corrugated conduit radii of curvature.
- Leave enough flexibility to wires in order to avoid any risk of stripping.
- Allow the drainage of the water in the lower loop (siphon) of the corrugated conduit (not water retention inside the corrugated conduit).

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## ELECTRICAL RECOMMENDATIONS

- Connect the supply of the equipments downstream cut-out, on the power supply reserved to the measured distribution.
- Put a delayed protection of 5A upstream the 24VDC supply to protect equipments in case of reverse polarity or overcurrent.
- Use ADR specific cable, if it is not the case, use at minimum a cable resisting to hydrocarbons. Mechanically protect this cable with a corrugated conduit (corrugated conduit adapted to vehicles used for "carriage of dangerous goods by road" - hydrocarbons, LPG ... - and meet the requirements of French standard NF R13-903).
- Take care not to damage the terminals of the different electronic boards while wiring.
  - Screw terminals: do not damage the screw heads of the terminals.
    - Use insulated lugs and insulated wire ferrules adapted to the section of wires.
  - Spring terminals: do not block the springs (if a spring is blocked, the electronic board must be replaced).
    - Use flat screwdriver 0.4x2.5 (see fig.1).
    - Insert the screwdriver slightly tilted, then push it perpendicularly to the terminal.
    - Do not exceed the upright position when the screwdriver is down in order not to block the spring.
    - Insert or remove the wire and remove the screwdriver.
- Pass the power supply cores (24Vdc truck) through the ferrites by carrying out a loop (ALMA supply).
- Do not use wires of section higher than 1.5mm<sup>2</sup>.
- Do not insert more than two wires in a terminal, if necessary use an insulated twin wire ferrule (unless otherwise indicated).
- Strictly respect the polarities of the input/output when wiring, in accordance with serigraphy on the cards and/or with the installation guide indications.
- Whenever possible, perform a wired test, after wiring and before powering.
- Whenever possible, respect the locations of the cables specified in the installation guide.
- Equipments must be connected to the frame ground (external ground connection).
- Whenever possible, use shielded cables with a 360° connection through the metal cable glands (see the documentation delivered with the equipments). Otherwise, connect the shields to devices inside the equipment (ground terminal, earth bar, earth boss...).
- Whenever possible, label the cables and cores according to the installation guide to facilitate the later maintenance operations.
- Respect a homogeneous wire colour code.
- Printer TMU295: before positioning the printer on its support, check that configuration switches of the data link protocol, located under the printer, are well positioned: No 3 on "ON" and the 7 others on "OFF".



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- Current of the MICROCOMPT+ and printer:

ALMA equipment	Supply voltage	Current mini.	Current maxi.
MICROCOMPT+	24VDC +/-10%	0.7 A	1.5 A
IMPRIMANTE	24VDC +/-10%	0.1 A	5.5 A (switch-on)

- Colour code according to DIN 47100.
- Code for designation of colours according to IEC 60757 (except FR codes):

FR				EN	IT	ES	DE
Couleurs	Codes		Standard codes 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>GYNE</b>	Green/Yellow	Verde/Giallo	Verde/Amarillo	Grün/Gelb

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## PNEUMATIC RECOMMENDATIONS

- Air must be filtered – from 40 to 20µm. Specific recommendations may be added in the installation guides or on the presentation drawings.
- The air lubrication must be permanent and correct to avoid any damage on the pneumatic components.
- The air supply pressure to the inlet of the equipments must be at least 6 bar and max 8 bar. Specific recommendations may be added in the installation guides or on the presentation drawings.
- The pneumatic supply pipes (6/4) must be cut straight (no slanting cut) and should not be crushed after cutting to prevent leakage on fittings.
- Respect the radii of curvature of the pneumatic pipes indicated by the manufacturer.
- Use colored pneumatic pipes to ease maintenance operation.
- In no case the exhaust holes of the pneumatic organs should be plugged, obstructed, unless if that is clearly specified in the installation guides or on presentation drawings.
- The use of muffler is not allowed under any circumstances (fouling, frost...). Put a pneumatic pipe of sufficient length, pointed downwards, so that its end is placed in a protected area (L = 100 mm min.).
- Pressure unit conversion:

PRESSURE UNIT CONVERSION				
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

### INSTALLATION OF THE RC-FIOUL REMOTE CONTROL RECEIVER

The RC-FIOUL REMOTE CONTROL RECEIVER can be installed outside (IP68) or inside the driver's cab. However, some driver's cabs interfere with the reception of the RC-FIOUL transmitter signal. If that is the case, the RC-FIOUL REMOTE CONTROL RECEIVER must be installed outside.





#### THE DRIVER'S CAB MUST NOT INTERFERE WITH THE SIGNAL RECEPTION.

Test the reception of the RC-FIOUL transmitter signal before you set the RC-FIOUL REMOTE CONTROL RECEIVER.

## 3. PART LIST

### EQUIPMENTS INCLUDED IN THE MEASURING SYSTEM DELIVERED BY ALMA

Item	Equipment	Designation	Qty	Option*
1		RC-FIOUL REMOTE CONTROL RECEIVER	1	
2		RC-FIOUL REMOTE CONTROL TRANSMITTER 3 or 4 switch (Provided with mural holder)	1	

Option\*: equipment sold as an option by ALMA must be installed on the measuring system if required by the certificate.

Non-contractual pictures

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#### 4. RC-FIOUL REMOTE CONTROL

**ALMA RC-FIOUL REMOTE CONTROL**

RC-FIOUL REMOTE CONTROL 3 SWITCH - Code: 0337

RC-FIOUL REMOTE CONTROL 4 SWITCH - Code: 0338

**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: 3 or 4 (cable Ø5 to 10).
  - Mass: 1 kg
- **TRANSMITTER:**
  - Enclosure ABS black (Non ATEX)
  - Protection classification: IP68.
  - Battery type: 3xAAA (supplied)
  - Switch: 3 or 4 according to model.
  - Mass: 0.123 kg

**RECEIVER**

239 10 13 4 4.3 153 11 97 106 19 78 19 33 251 268

M6 (SS A4) through hole ground

Cable gland if RC-FIOUL 4 switch

**TRANSMITTER**  
(3 or 4 switch)

177.5 91.5 68.5 24.5

**WALL MOUNTING CRADLE**

45 2.4 78 40 6 4 Ø8 22

**PRESENTATION DRAWING PPN710**

REMOTE CONTROL

RC-FIOUL

907 PPN710 B 2/2 Modified on : 10/07/2014 by EG EG verified by MV FDS

Dev N° Drawing N° Rev. Folio Created on : 16/01/2014

Service Development 13127 Vitrolles Code : Voir tableau

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Drawing N° associated with the related CET file

Metro : ABBEY

Description of the amendment N° 44 :

- On the transmitter keyboards, addition of a translucent area for the green led.

Document available on website [alma-alma.fr](http://alma-alma.fr)

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## ELECTRICAL WIRING REMOTE CONTROL RECEIVER

Connect the ground to the through-hole ground terminal of the RC-FIOUL receiver

### TERMINAL ASSIGNMENT OF THE ELECTRONIC BOARD



EQUIPMENTS CONNECTED TO THE RC-FIOUL REMOTE RECEIVER								RECEIVER ELECTRONIC BOARD			
Option	Matériels	Câble (pour information)				Fonction	Couleur ou N°	Bornier	Borne	Fonction	Observation
		N°	PE*	Alma	Type						
	POWER SUPPLY TRUCK				ADR 2x1	0V 24VDC		BN1	0V +V	0V 24VDC	Poxer supply
	MICROCOMPT+				ADR 2x1	Run / Stop		BN2	NO COM	0V	Run / Stop
						LF/HF		BN3	NO COM	0V	Low flow / High flow
	EMERGENCY STOP RELAY				ADR 2x1	E.S.		BN4	NO COM NC		Emergency stop
•	HOSE REEL CONTROL				ADR 2x1	Ctrl		BN5	NO COM NC		Control

\*Refer to the Cable Glands Installation Instructions

## CONFIGURATION OF THE RC-FIOUL REMOTE CONTROL

Synchronisation of the transmitter keys (3 or 4 switch) with the receiver relays

- ⇒ Synchronisation of the transmitter keys with the relays is done according to table below (Fig.1)
- ⇒ Note: Antennas are not useful for synchronisation
- ⇒ Tap but not hold the SYNC-key (Fig.5)
- ⇒ The red LED-SYNC and the relays-green LEDs are blinking
- ⇒ Tap SYNC many times to choose the relay to be synchronised (the relevant green led is blinking then)
- ⇒ Tap but not hold the transmitter key to be synchronised with this relay
- ⇒ Synchronisation is done when the red LED-SYNC stops blinking
- ⇒ Repeat the above steps until complete synchronisation according to table below (Fig.1)
- ⇒ A key can control several relays as well as a relay can be controlled by several keys
- ⇒ Check that the synchronisation has been well done by pressing each key of the transmitter. The green LED of the relevant relay must light up.

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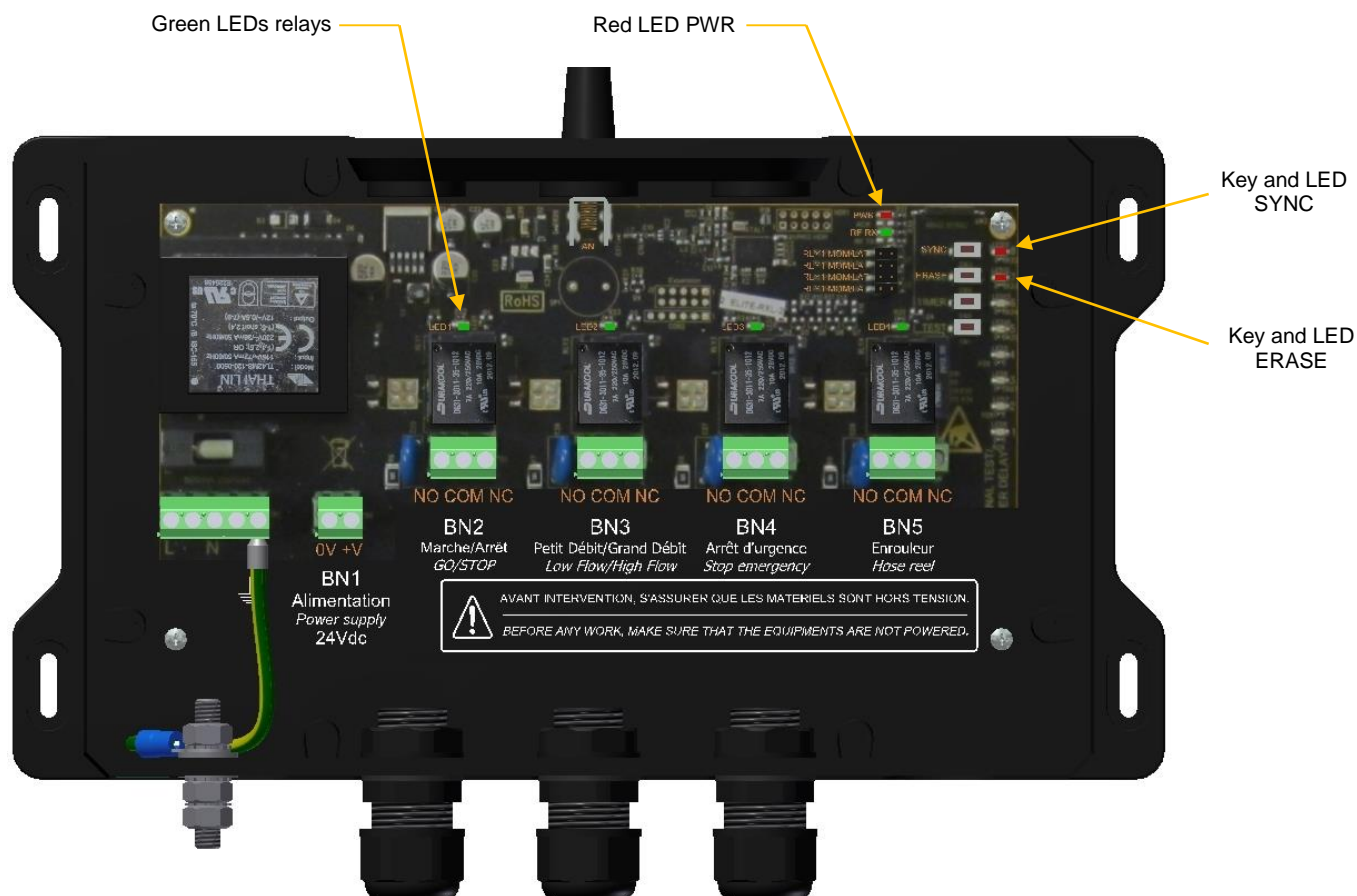
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Fig.1



⇒ Hold for about 3 seconds the ERASE-key (Fig.5) until the green LEDs and the red LED located near the ERASE key stop blinking