

Orolia S.A.S.

RC310 Remote Control Panel

Installation and Operation Manual



P/N S1820513-26

Users are kindly requested to notify Orolia Customer Support of any discrepancy, omission or error found in this manual. Please register a support ticket via the Orolia website: <https://orolia.com/support/>

THIS DOCUMENT IS COPYRIGHT © **2022 OROLIA S.A.S.** ALL RIGHTS ARE STRICTLY RESERVED. THIS DOCUMENT AND ANY ATTACHED MATERIALS CONTAINS PROPRIETARY AND CONFIDENTIAL INFORMATION AND DATA AND IS THE SOLE PROPERTY OF OROLIA S.A.S. THE DOCUMENTS, ANY ATTACHED MATERIALS AND/OR INFORMATION CONTAINED THEREIN MUST NOT BE USED, DISSEMINATED, OR DISTRIBUTED EXCEPT FOR THE AGREED PURPOSE. UNAUTHORIZED USE, REPRODUCTION, OR ISSUE TO ANY THIRD PARTY IS NOT PERMITTED WITHOUT THE PRIOR WRITTEN CONSENT OF THE OROLIA GROUP. THIS DOCUMENT IS TO BE RETURNED TO THE OROLIA GROUP WHEN THE AGREED PURPOSE IS FULFILLED.

CONTENTS

1. INTRODUCTION	1
2. TYPICAL INSTALLATION	1
3. DESCRIPTION	2
4. RCP INSTALLATION AND CONNECTION	3
4.1. Installation Recommendations	3
4.2. Installation	3
4.3. Connections	3
4.3.1. <i>Backlight and Night Vision Functions Connections</i>	3
4.3.2. <i>ELT to RCP Connection with Programming Dongle</i>	4
5. OPERATION	4
5.1. Standby Mode	4
5.2. ON Mode	4
5.3. RESET & TEST	5
5.3.1. <i>Self Test</i>	5
5.3.2. <i>RESET</i>	5
5.4. RCP Operational Tests	5
6. TECHNICAL CHARACTERISTICS	6
6.1. Material	6
6.2. Overall dimensions	6
6.3. Weight	6
6.4. Electrical characteristics	6
6.5. Environmental Characteristics	7
7. COMPATIBILITY LIST	8
7.1. ELTs	8
7.2. Programming Dongles and Connectors	8
8. SCHEMATICS AND DIAGRAMS	9
8.1. Connection with INTEGRA or COMPACT ELT (121.5 / 406 MHz)	9
8.2. Connection with 3-Frequency ELT (121.5 / 243 / 406 MHz)	10
8.3. Outline Dimensions	11

LIST OF FIGURES

Figure 1:	KANNAD ELT System with RC310 RCP	1
Figure 2:	RC310 Description	2
Figure 3:	Connection with Programming Dongle.....	4
Figure 4:	Operating Modes.....	4

1. INTRODUCTION

This manual contains information to install and operate the RC310 Remote Control Panel.

2. TYPICAL INSTALLATION

The RC310 RCP is part of KANNAD ELT system. KANNAD ELT system typical installation with RC310 includes the following:

- ELT transmitter and mounting bracket;
- RC310 Remote Control Panel;
- External antenna
- Programming dongle or DIN-12 connector

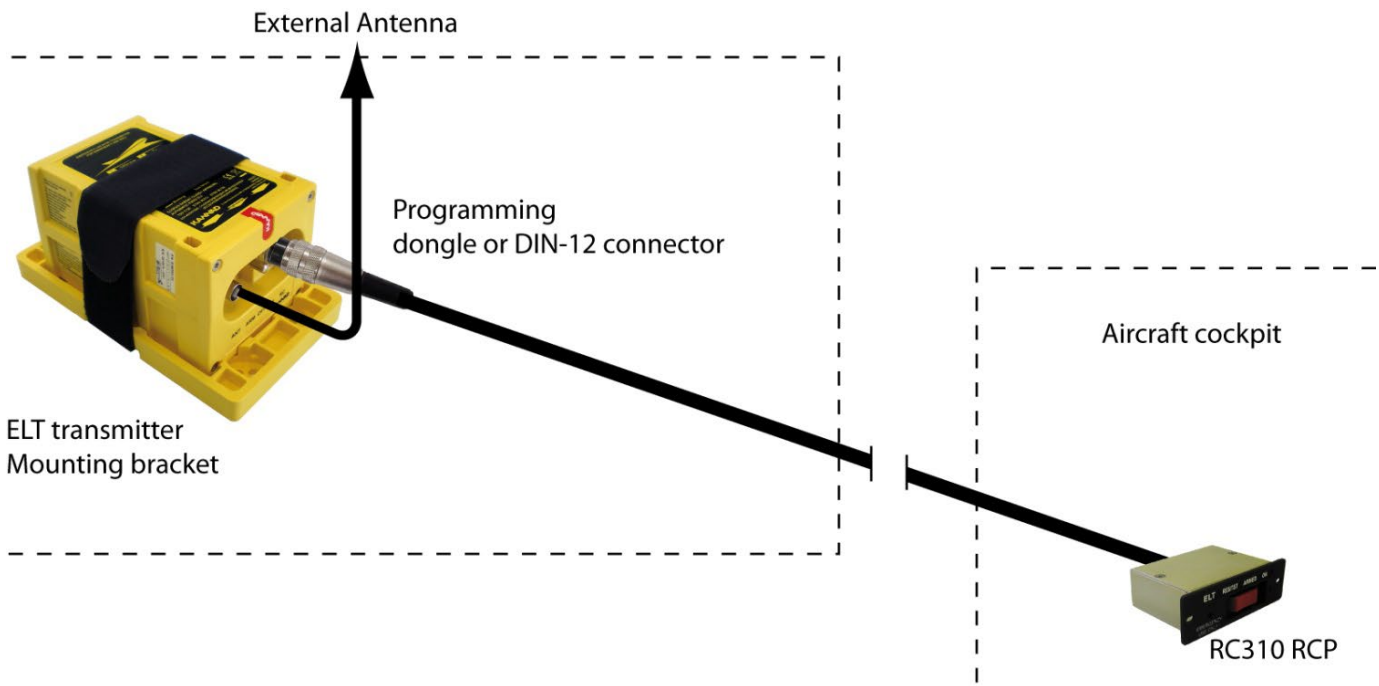


Figure 1: KANNAD ELT System with RC310 RCP

3. DESCRIPTION

The RC310 enables remote control of the primary functions of the KANNAD Emergency Locator Transmitters (Manual activation, Reset, Test) as well as visual monitoring.

The RC310 Remote Control Panel is designed to be installed in the cockpit of civil aircraft, commuters or helicopters with NVIS compatible cockpit to allow the pilot to control the ELT on board. A dimming function is controlled from the cockpit.

THE RC310 is composed of:

1. Front panel.
2. Housing.

The front panel is a black anodized front plate with:

3. Red 3-position switch with 1 unstable position.
4. Blue LED NVIS compatible annunciator.
5. Illuminated markings in backlight area (black surface, white letters, NVIS green B back lighted).
6. Buzzer outlet.
7. Laser engraved labeling.

The housing is an alodizing protected cover with:

8. Male 9 pin D-SUB connector.
9. Ground bolt.

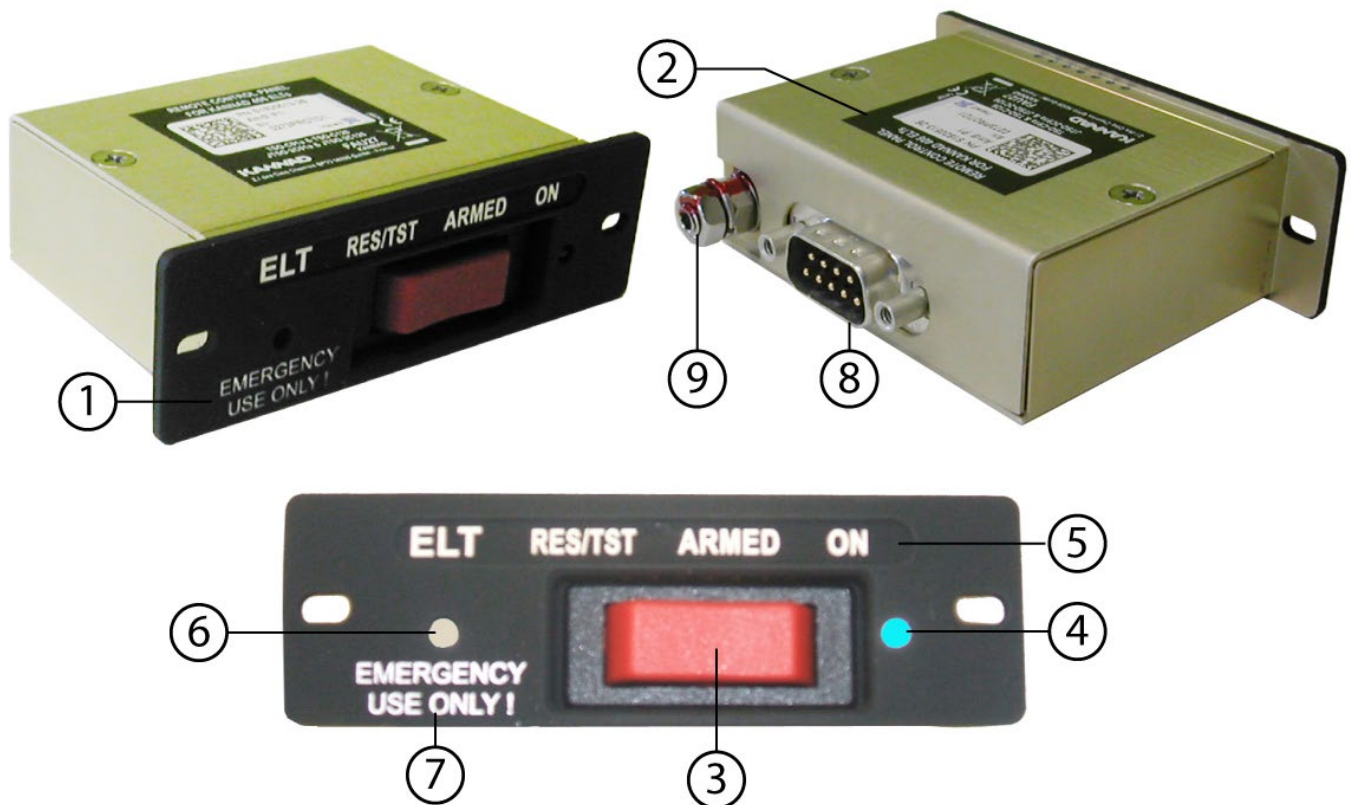


Figure 2: RC310 Description

4. RCP INSTALLATION AND CONNECTION

4.1. Installation Recommendations

The RCP shall be installed in the cockpit. It shall be readily accessible from the pilot's normal seated position.

The following connections are required:

- A 4 or 5-wire bundle for connection with the ELT. A pin-to-pin wiring has to be provided by the installer with AWG24 wires. Shielded cable is recommended.
- 2 wires for NVG function.
- 2 wires for Dimming function.

If a GPS interface is used, a 2 additional wire connection is required to connect the aircraft's GPS NAV/Equipment (refer to the relevant manual) to the ELT.

4.2. Installation

RC310 is designed to be installed on the instrument panel with two screws, washers and nuts.

- Determine RC310 location on the instrument panel.
- Mark a cut out on the instrument panel according to the outline dimensions.
([Refer to § 8.3, Outline Dimensions](#)).
- Make the cut out.
- Mark the 2 holes needed for RC310 using the front panel as a guide.
- Drill the 2 marked holes, diameter depending on screws used (see Note below).
- Install RC310 by fitting into the cut out.
- Secure RC310 using two screws, washers and nuts.

Note: M3 screws LN9439, M3 washers LN9016 and anchor nuts with self-locking threads LN29671 are recommended.

4.3. Connections

The ELT to RCP bundle is a 4 or 5-wire bundle fitted with connectors on ELT and RCP sides. Bundles and connectors are not supplied.

The connector on RCP side must be a female D-SUB 9-Pin connector.

On ELT side the connector can be:

- Either a Programming Dongle, (for compatibility list, [see § 7.2 Programming Dongles](#)) ; or,
- A DIN-12 connector, P/N S1820514-03

4.3.1. Backlight and Night Vision Functions Connections

For backlight and Night Vision functions, 4 wires shall be connected to the female D-SUB 9-Pin connector as follows:

- Slide heat-shrinkable sleeves on connector sides of each wire.
- Pin 3 has to be connected to Dimming voltage of aircraft.
- Pin 4 has to be connected to NVG in of aircraft.
- Pin 5 has to be connected to Night in of aircraft.
- Pin 8 has to be connected to GND Dimming voltage.
- Put heat-shrinkable sleeves to protect the pins

4.3.2. ELT to RCP Connection with Programming Dongle

In order to easily remove the programming dongle when connected, it is recommended to fit its cable with a stopping connector as close as possible to it. A stopping connector can be made using a DIN-12 female (ref. BINDER 09-330-00-12) and a DIN-12 male (ref. BINDER 09-329-00-12) ([Refer to § 4.3.3 Connection with Stopping Connector](#)).

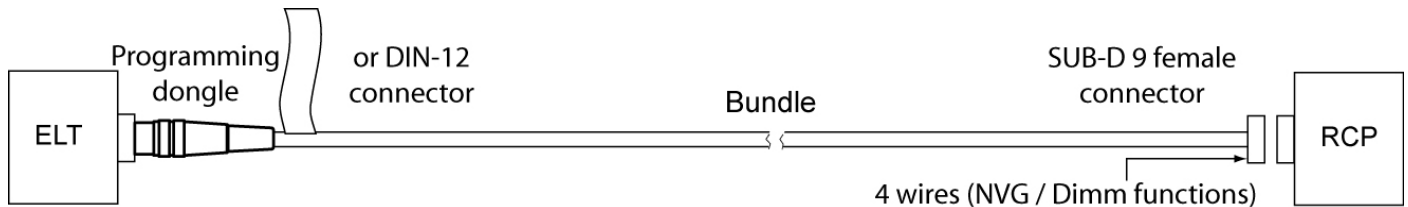


Figure 3: Connection with Programming Dongle

Connect:

- The DIN12 connector of the programming dongle to the DIN-12 socket of the ELT.
- The female D-SUB 9-Pin connector to the male D-SUB 9-Pin connector of the RCP.

5. OPERATION



Figure 4: Operating Modes

The visual indicator ([refer to Figure 2: RC310 Description](#)) gives an indication of the working mode of the ELT

- After the self-test:
 - one long flash indicates that the system is operational and that no error were found;
 - series of short flashes indicates the test has failed.
- In operation mode:
 - one short flash every 0.7 seconds during 121.5 MHz transmission;
 - one long flash during 406 MHz transmission (every 50 seconds).
 - The RCP buzzer operates in the same way than the ELT buzzer

5.1. Standby Mode

The standby mode is the ARMED position (idle position). The switch is in the middle position.

This mode is used to enable automatic activation by the shock sensor of the ELT provided that the ELT switch is in armed position. Unless there is an emergency, the switch must stay in this position.

5.2. ON Mode

This mode is used to manually activate the ELT. When this mode is selected, the ELT transmission is activated.

- Pull the switch towards right.

A self test is first performed ([Refer to § 6.3. RESET & TEST](#))

- After the self-test (duration about 10 seconds), the ELT starts to transmit:
The visual indicator is flashing in the same way than the one of the ELT.

5.3. RESET & TEST

This mode is used either to perform a self-test or to stop the ELT transmission if activated.

5.3.1. Self Test

Self-test must be performed regularly by a pilot or maintenance personnel from the Remote Control Panel.

Note: each self-test consumes energy from the battery. Should self-tests be carried out more often than the maximum specified in the ELT user manual, the battery life-time of the ELT might be shorter than specified.

Press the switch towards left for at least 1 second then release it (the switch comes back to the ARMED position):

The visual indicator flashes as follows:

- One short flash at the beginning of the self-test sequence.

After a few seconds, the test result is displayed with the visual indicator as follows:

- One long flash indicates the system is operational and that no error conditions were found;
- Series of short flashes indicates the test has failed: Refer to the ELT manual.

5.3.2. RESET

This mode is used to stop the ELT when it has been automatically activated.

If the ELT is activated, the visual indicator of the RCP flashes in the same way as the ELT:

- Press the switch towards left for at least 1 second then release it (the switch comes back in ARMED position):

- The ELT comes back in standby mode.

5.4. RCP Operational Tests

Check correct operation of RCP visual indicator by switching ELT and RCP as described in the ELT User Manual.

6. TECHNICAL CHARACTERISTICS

6.1. Material

- Front plate: Material is 3.3547 (AlMg4,5Mn), surface yellow chromated according to DIN50939 additionally coated with "Netfein" varnish
 - Black anodized front plate with backlight illuminated markings.
 - Backlight area: black surface, white letters..
- Housing: Material is 3.3547 (AlMg4,5Mn), surface yellow chromated according to DIN50939.
- Red Arcoelectric Switch

6.2. Overall dimensions

Front Plate and Housing (L x H x D): 80 x 25 x 52 mm

Housing (L x H x D): 64 x 22 x 50 mm

6.3. Weight

96 g.

6.4. Electrical characteristics

- Blue LED NVIS compatible annunciator
- Backlight area: NVIS green B back lighted.

6.5. Environmental Characteristics

DO-160F ENV. Cat. [[ED62]XXB[ED62]RXXXXXXZXXX[ZC]LH[XXG33]XXAX

ENVIRONMENTAL CATEGORIES FORM FOR RC310		
TESTS	DO-160 F	CATEGORY
Temperature and altitude	4	§ 4.4.1 / ED62A (Class 1)
Low Temperature	4.5.1	§ 4.4.1 / ED62A (Class 1)
High Temperature	4.5.2 & 3	§ 4.4.1 / ED62A (Class 1)
In-Flight loss cooling	4.5.5	X
Altitude	4.6.1	ED62A (Class 1) 50,000 ft
Decompression	4.6.2	X
Overpressure	4.6.1	X
Temperature variation	5	B
Humidity	6	B
Operational shocks and crash safety	7	ED62A Special 500g-4ms / 100g-23ms
Vibrations	8	R ⁽¹⁾
Explosion	9	X
Waterproofness	10	X
Fluids Susceptibility	11	X
Sand and Dust	12	X
Fungus	13	X
Salt Spray	14	X
Magnetic Effect	15	Z
Power Input	16	X
Voltage Spike	17	X
Audio Frequency Susceptibility	18	X
Induced Signal Susceptibility	19	ZC
Radio Frequency Susceptibility	20	L
Emission of RF Energy	21	H
Lightning	22	XXG33
Lightning Direct effects	23	X
Icing	24	X
Electrostatic Discharge	25	A
Fire, Flammability	26	X

Note (1): According to SPX902A0002E01 Issue E Section 5.1 Group 1, 2, 3, Zone B

7. COMPATIBILITY LIST

7.1. ELTs

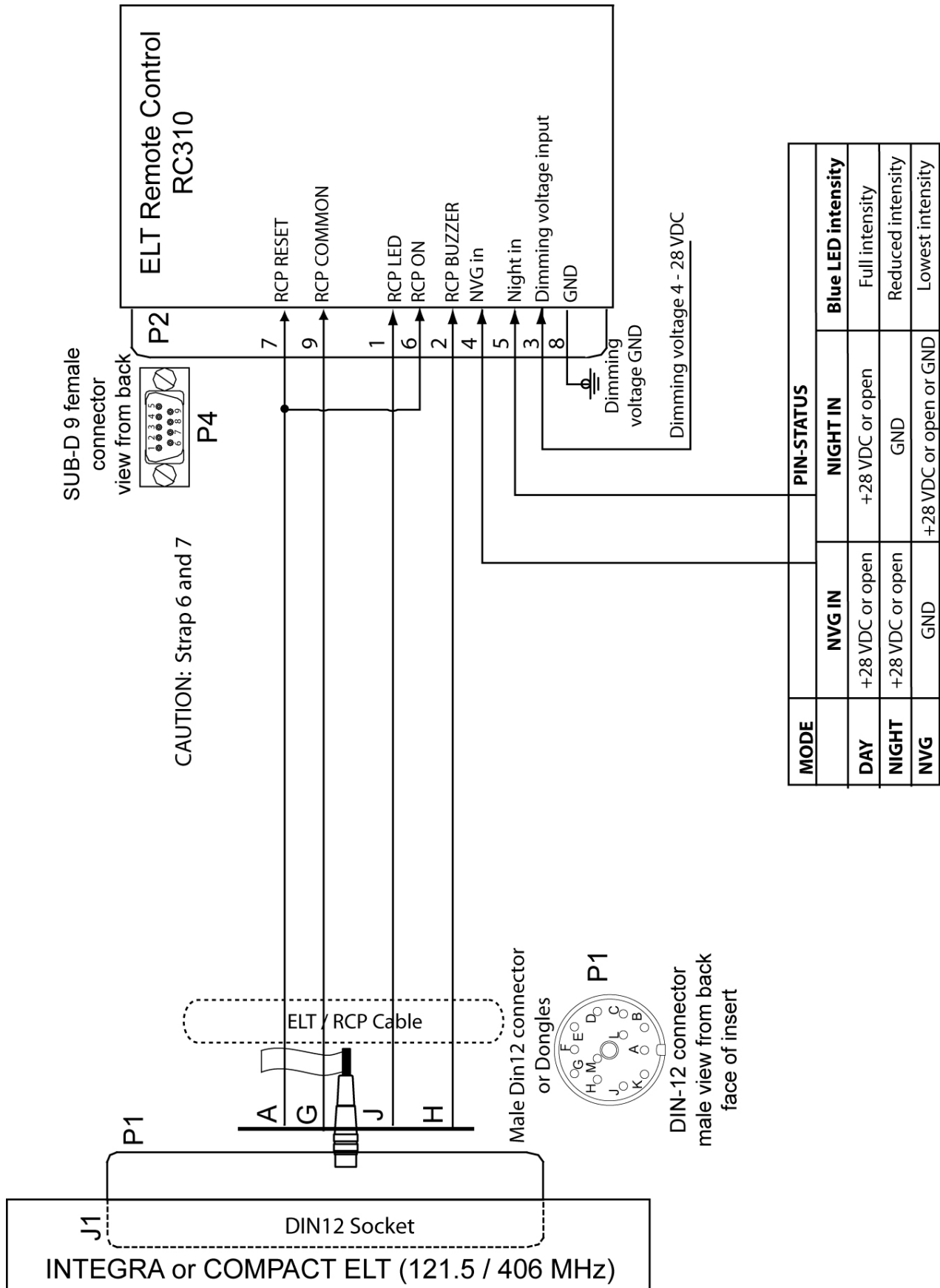
121.5 / 406 MHz ELTs	3-frequency ELTs
- INTEGRA AP (ER), P/N S1850501-01	- KANNAD 406 AP, P/N S1820502-02
- INTEGRA AP, P/N S1850501-02	- KANNAD 406 AP-H, P/N S1820502-04
- INTEGRA AF (ER), P/N S1851501-01	- KANNAD 406 AF, P/N S1821502-02
- INTEGRA AF, P/N S1851501-02	- KANNAD 406 AF (6D), P/N S1821502-06
- INTEGRA AF-H (ER), P/N S1852501-01	- KANNAD 406 AF-H, P/N S1822502-02
- INTEGRA AF-H, P/N S1852501-02	
- INTEGRA AP-H (ER), P/N S1854501-01	
- INTEGRA AP-H, P/N S1854501-02	
- KANNAD 406 AF COMPACT, P/N S1840510-01	
- INTEGRA AP (ER-N), S1850501-03	
- INTEGRA AP-H (ER-N) S1854501-03	
- INTEGRA AF (ER-N) S1851501-03	
- INTEGRA AF-H (ER-N) S1852501-03	

7.2. Programming Dongles and Connectors

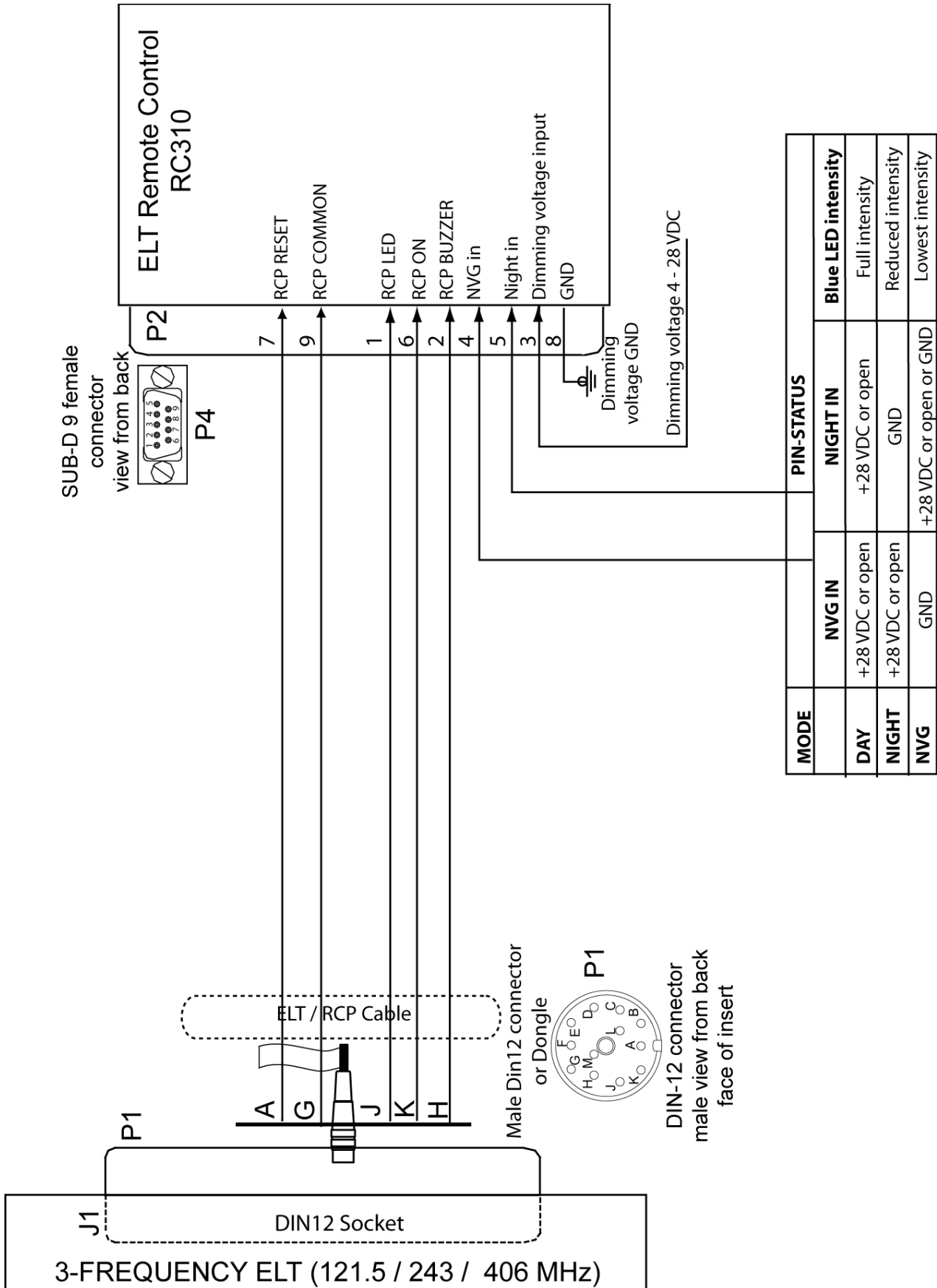
- Programming Dongle P/N S1820514-01
- DIN12 Connector P/N S1820514-03
- Programming Dongle ASSY P/N S1820514-06
- Dongle IF GPS RS232 P/N S1820514-08

8. SCHEMATICS AND DIAGRAMS

8.1. Connection with INTEGRA or COMPACT ELT (121.5 / 406 MHz)

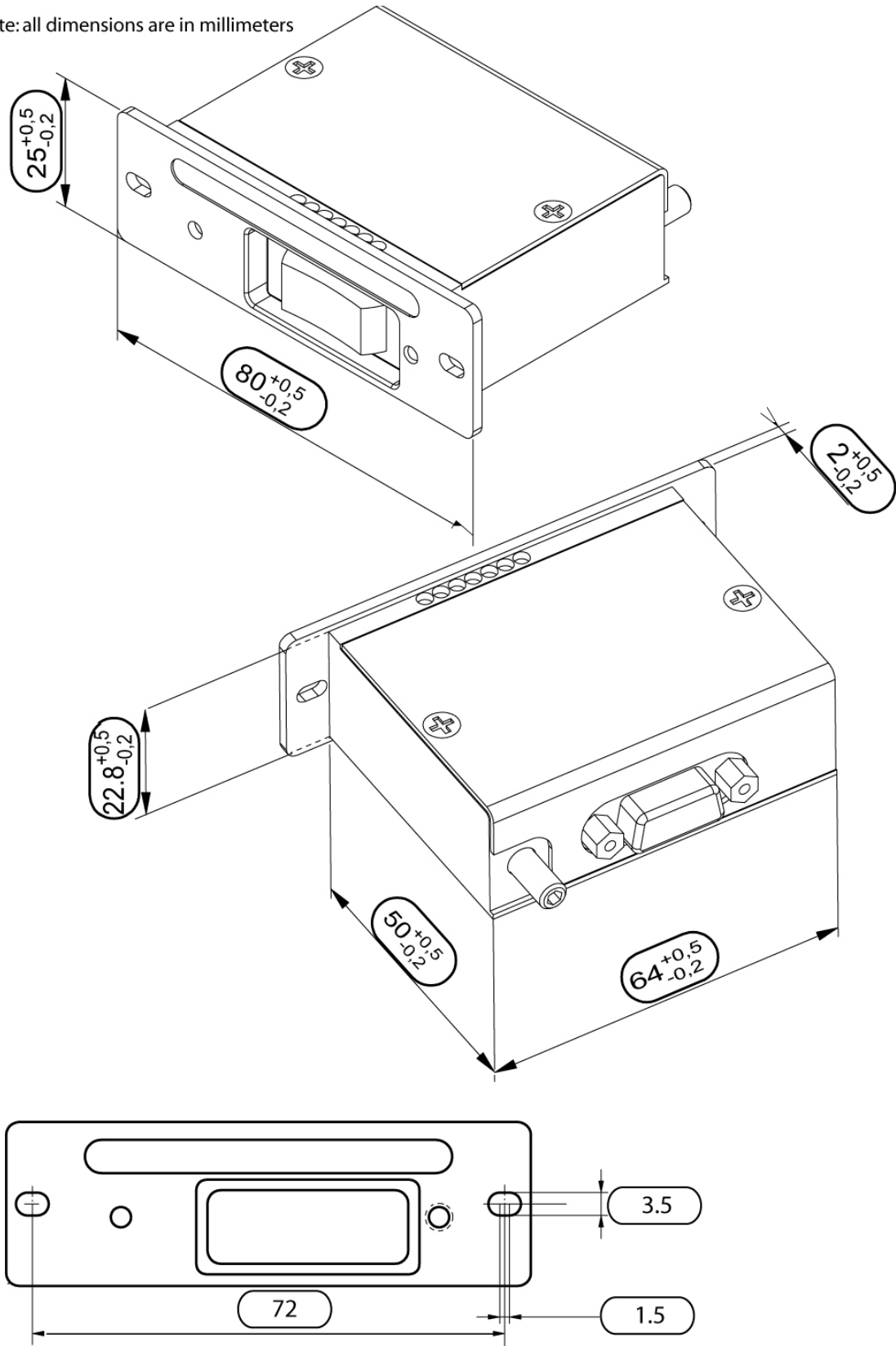


8.2. Connection with 3-Frequency ELT (121.5 / 243 / 406 MHz)



8.3. Outline Dimensions

Note: all dimensions are in millimeters



Orolia S.A.S.
Z.I. des Cinq Chemins CS10028
56520 GUIDEL
FRANCE

Phone: +33 (0)2 97 02 49 49
Website: <https://www.orolia.com>

DOC11043C