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Orolia S.A.S

INSTALLATION MANUAL
USER MANUAL

REMOTE CONTROL PANEL RC102

P/N: S1820513-21

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1. Introduction

The instructions in this manual provide the information necessary for installation and operation with the RC102 remote control panels.

IMPORTANT: Installation of this RCP is covered by Service Bulletin "SB S1820513-25-02". Please read carefully this Service Bulletin before installing this RCP.

This Service Bulletin applies only to KANNAD 406 AF-COMPACT P/N S1840501-01 at amendment M only.
(KANNAD 406 AF-COMPACT P/N S1840501-01 at amendment N or higher are not concerned by this Service Bulletin).

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2. KANNAD ELTs System Presentation

KANNAD ELTs system is composed of:

1. an ELT transmitter (Refer to B. Compatibility list, page 14) and its mounting bracket;
2. a remote control panel;
3. a DIN-12 connector (P/N S1820514-03) or programming dongle (P/N S1820514-01 or P/N S1820514-06);
4. an outside whip or rod antenna.

The transmitter and bracket are installed in the aircraft near the tail.

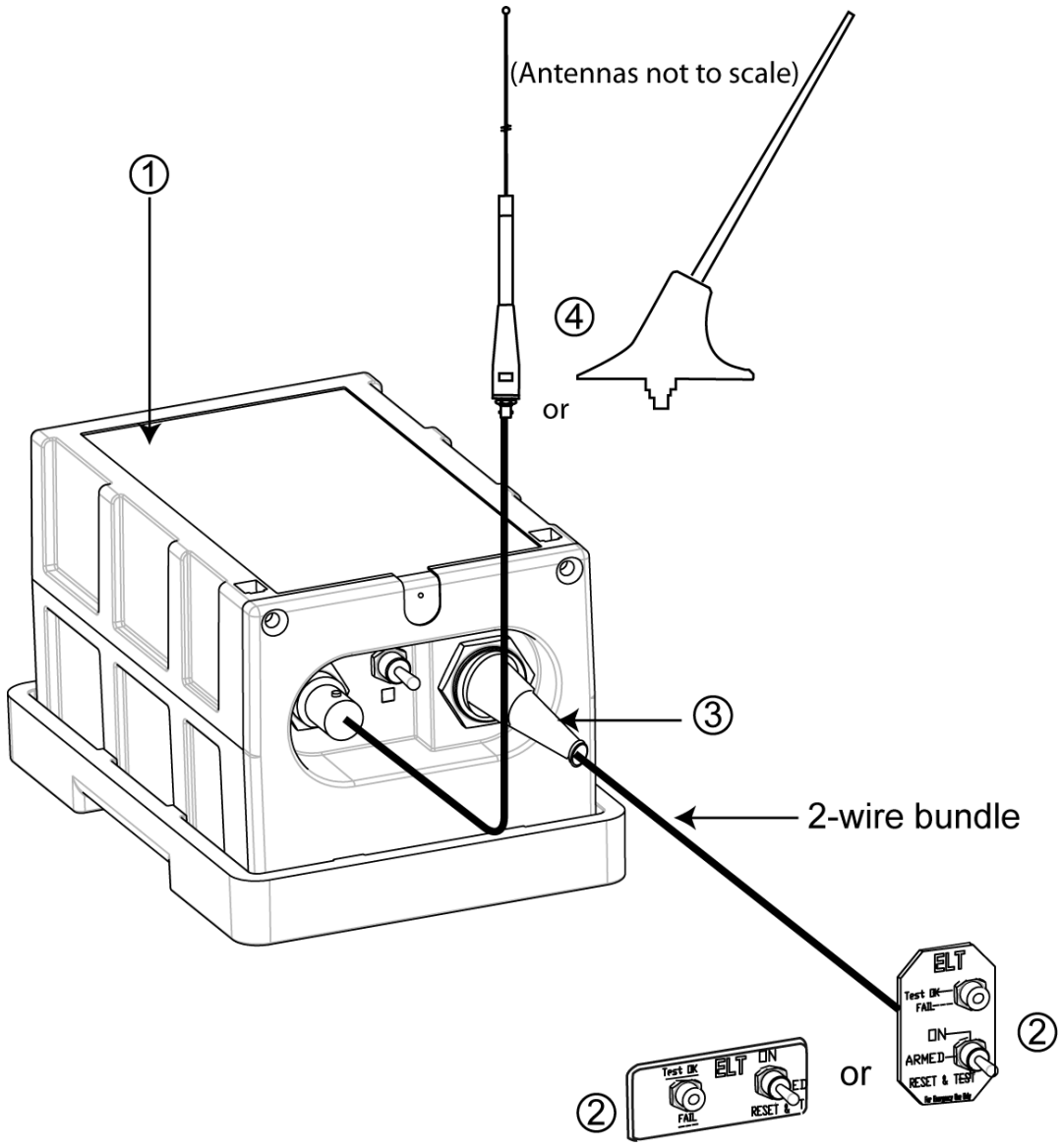
The remote control panel is installed in the cockpit and connected to the ELT with a 2-wire bundle (not supplied).

The DIN-12 connector is used to connect the RCP bundle to the ELT, it may be replaced by a programming dongle fulfilling two functions:

- programming of ELT;
- connection of RCP bundle to ELT.

The outside antenna is mounted on the fuselage near the tail.

Figure 1: ELT system description



3. Description

A. General

The RC102 is the smallest version of remote control panels compatible with KANNAD406 AF-COMPACT series ELTs. It is specially intended for general aviation or helicopters and can also be adapted for «cabin installations» or retrofits on board airliners thanks to its small dimensions.

The 102 enables remote control of the primary functions of KANNAD ELTs (Manual activation, Reset andTest) as well as visual monitoring.

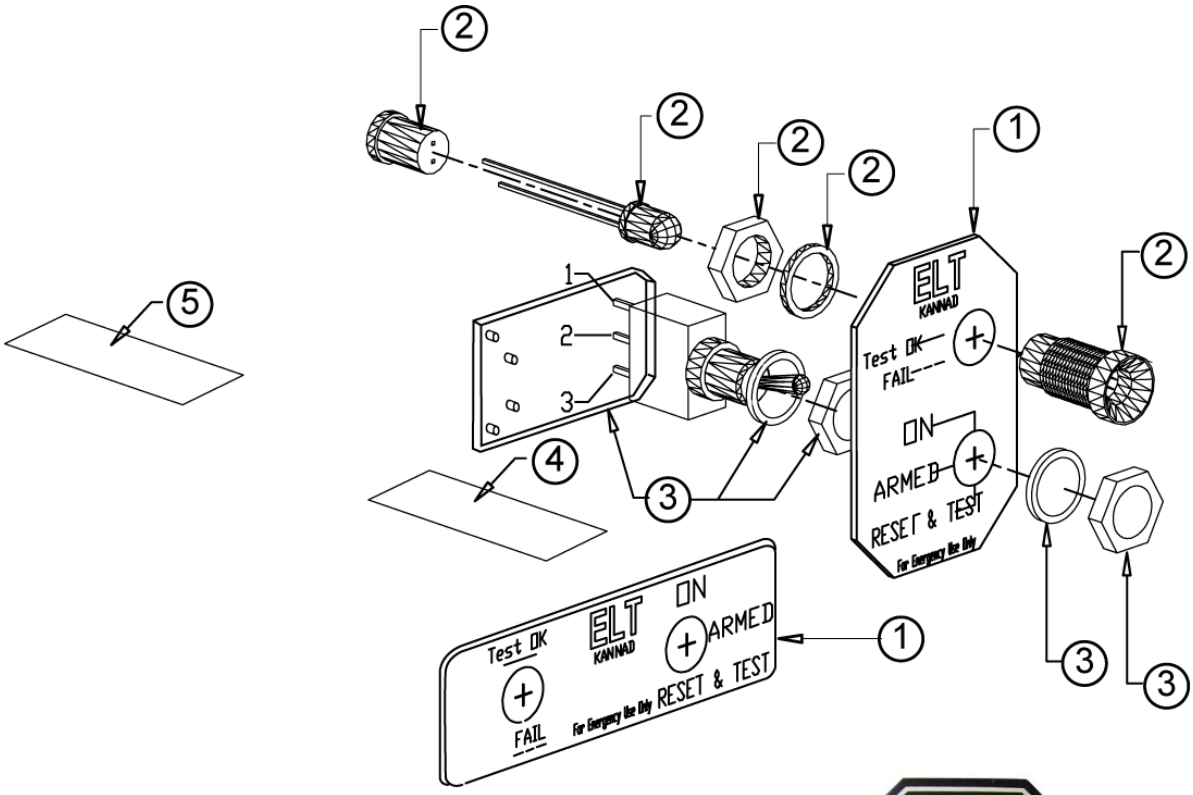
CAUTION: RC102 is not compatible with KANNAD 406 AF COMPACT P/N S1840501-01 at amendment L or lower.

B. Mechanical design

The RC102 kit is composed of:

1. two self adhesive front plates (black with white markings);
2. a red LED annunciator, a led stand, a led mounting, washers and nuts;
3. a PCB on which is soldered a 3-position toggle switch with 2 locked positions and a momentary position plus its washer and nut;
4. an identification label.
5. a CAUTION label

Figure 2: RC102 Remote Control Panel Kit



or

These components are delivered in a kit and must be assembled then directly mounted on the aircraft instrument panel.

4. RCP installation

A. Installation recommendations

IMPORTANT: Installation of this RCP is covered by Service Bulletin "SB S1820513-25-02": Refer to Section 1. Introduction, page 1.

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

CAUTION: RC102 RCP may only be installed with KANNAD 406 AF COMPACT P/N S1840501-01 at amendment M or higher or on KANNAD 406 AF COMPACT ER P/N S1840501-04. A WARNING label is supplied with the kit and must be stuck on the 2-wire bundle on the ELT side.

2 types of front plates may be installed. Choose the appropriate front plate according to the aircraft's instrument panel.

Connection of RC102 requires a 2-wire bundle. A pin-to-pin wiring has to be provided by the installer with AWG24 wires. Shielded wires are recommended.

The wires are soldered to a PCB installed on the switch. This operation can be carried out before installation.

On the ELT side, the wires are soldered to a 12-pin plug that can be either a standard "DIN12 connector" (P/N S1820514-03) or a connector with an integrated serial memory module called "Programming Dongle" (P/N S1820514-01).

B. RCP Installation procedure

(1) Mount RCP

(Refer to Figure 3: RCP mounting diagram)

NOTE: Legs of LED must be protected by heat shrinkable sleeves.

Choose one of the front plates (1a or 1b) according to the space available on the instrument panel.

Front plate (1a)

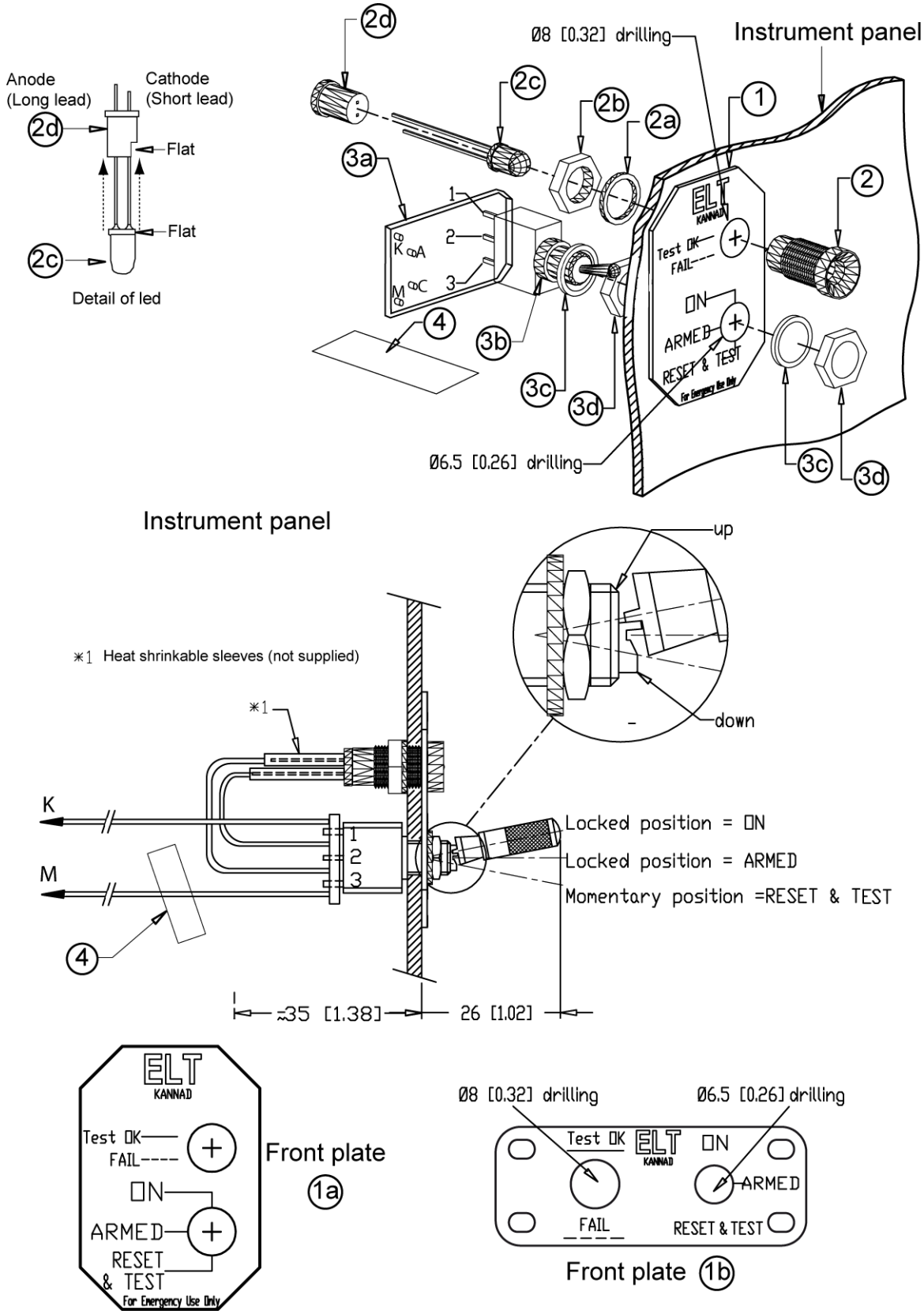
- Place the front plate (1a) on the instrument panel and use it as drilling mask or;
- Trace the centers of the two holes according to drilling mask supplied;
- Drill a hole Ø 8 mm for the LED mounting (2) (top of the panel);
- Drill a hole Ø6.5 mm for the switch (3b) (bottom of the panel);
  Note: the switch (3b) is already soldered to a PCB (3a)
- Tear off protection of front plate (1a) from self-adhesive film;

- Stick the front plate (1a) onto the instrument panel;
- Install the LED mounting (2), with washer (2a) and nut (2b). Tighten nut;
- Connect the anode (long leg) of LED (2c) to A of PCB (3a);
- Connect the cathode (short leg) of LED (2c) to C of PCB (3a);
- Connect wires to K and M of PCB (3a);
- Insert the LED into the LED stand (2d) taking care the flat part of the LED be in front of the flat part of the LED stand;
- Insert LED (2c) fitted with LED stand (2d) inside the LED mounting (2);
- Install the switch and PCB assembly (3b+3a) with washers (3c) and nuts (3d), locked position upwards. Tighten nut;
- Stuck the "identification label" (4) on the cable bundle near the PCB.

Front plate (1b)

- Place the front panel (1b) on to the instrument panel and use it as drilling mask or;
- Trace the centers of the two holes according to drilling mask supplied;
- Drill a hole Ø 8 mm for the LED mounting (2) (left of the panel);
- Drill a hole Ø6.5 mm for the switch (3b) (right of the panel);
  Note: the switch (3b) is already soldered to a PCB (3a).
- Drill 4 holes of Ø 3 mm for the screws used to fix the RCP;
- Screw the front plate (1b) onto the instrument panel;
- Install the LED mounting (2), with washer (2a) and nut (2b). Tighten nut;
- Connect the anode (long leg) of LED (2c) to A of PCB (3a);
- Connect the cathode (short leg) of LED (2c) to C of PCB (3a);
- Connect wires to K and M of PCB (3a);
- Insert the LED into the LED stand (2d) taking care the flat part of the LED be in front of the flat part of the LED stand;
- Insert LED (2c) fitted with LED stand (2d) inside the LED mounting (2);
- Install the switch and PCB assembly (3b+3a) with washers (3c) and nuts (3d), locked position upwards. Tighten nut;
- Stuck the "identification label" (4) on the cable bundle near the PCB.

Figure 3: RCP mounting diagram



(2) Connection of RCP bundle to ELT

Refer to Figure 4: Wiring of 2-wire bundle between RC102 and ELT.

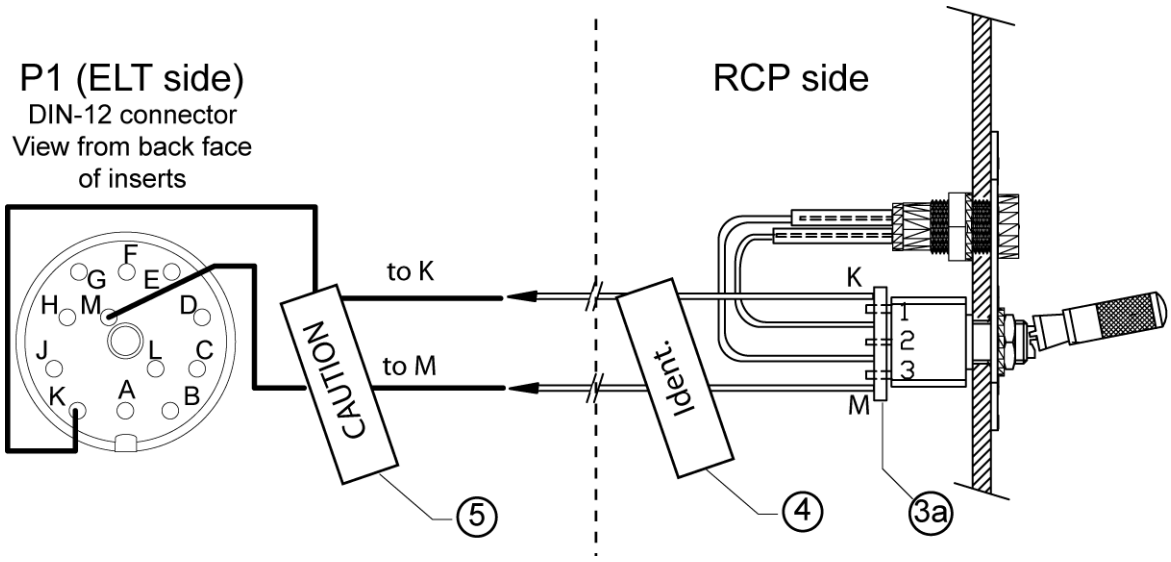
CAUTION: RC102 can be connected only to KANNAD 406 AF-COMPACT ELT transmitter P/N S1840501-01 at amendment equal or higher than M or to any KANNAD 406 AF COMPACT ER P/N S1840501-04.

Solder the DIN12 connector or Programming Dongle on the other side of the bundle (pins K and M):

- Connect the wire from M of PCB (3a) to pin M of DIN12 connector;
- Connect the wire from K of PCB (3a) to pin K of DIN12 connector.
- Stuck the "CAUTION label" (5) on the cable bundle close to the DIN12 connector.

Perform an RCP test (Refer to D. RCP operational tests, page 12).

Figure 4: Wiring of 2-wire bundle between RC102 and ELT



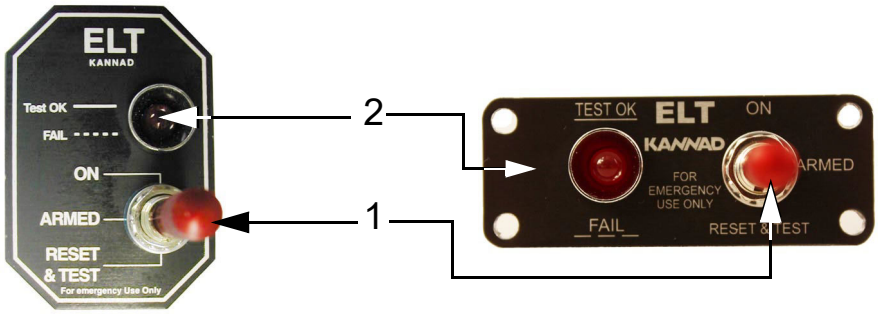
5. Working mode

A. Controls

The following elements are to be found on the RC102 remote control panel:

1. a 3-position switch (ON, ARMED, RESET & TEST);
2. a red or white visual indicator.

Figure 5: RCP controls



The visual indicator gives an indication on 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;
  - a series of short flash indicates the test has failed.
- In operation mode:
  - periodic flashes during 121.5 transmissions;
  - long flash during 406 transmission.

B. Working mode information

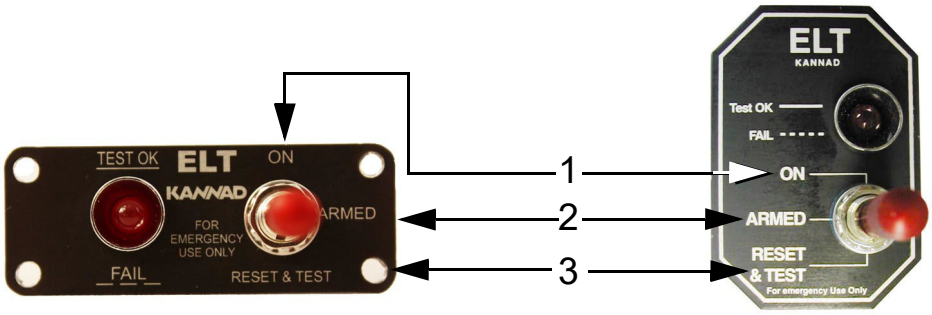
The RC102 remote control panel enables remote control and remote monitoring of the KANNAD ELTs **provided that the ELT switch is in armed position.**

(1) Remote control

Remote control is done through a 3-position switch:

1. ON (transmission) enables manual activation of the ELT;
2. ARMED (stand by mode to enable automatic activation by the shock sensor of ELT) is an idle position. Unless there is an emergency, the switch must stay in this position.
3. RESET & TEST is used either to stop the ELT transmission if activated or to perform a self-test.

Figure 6: 3-position switch



The OFF mode is not available on the remote control panel but directly on the ELT itself by switching it in OFF position.

Important notice: TEST/RESET (downwards) is a momentary position.

Refer to operation manual of the ELT for precise information on these modes.

(2) Monitoring

Monitoring is done through a visual indicator operating in the same way than the one of the ELT:

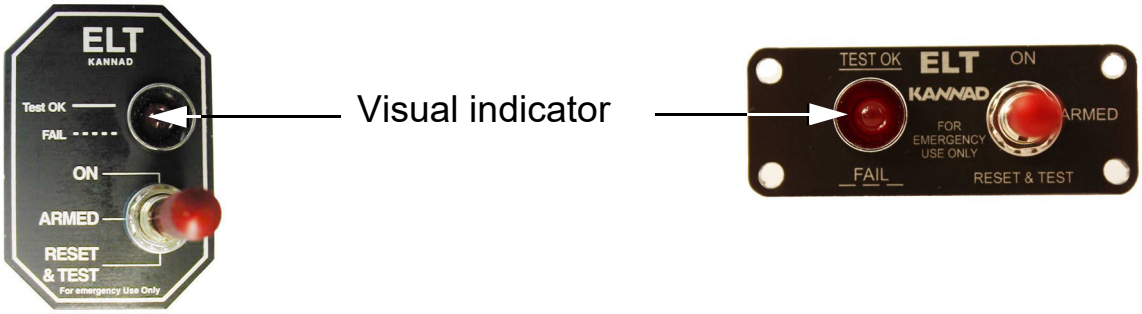
Transmission:

- 1.5 Hz pulse signal (recurrence 0.7 s) during ELT transmission on 121.5 MHz;
- 1 long flash during ELT transmission on 406 MHz every 50 seconds.

Self-test:

(Refer to C. RESET & TEST, page 11).

Figure 7: Monitoring

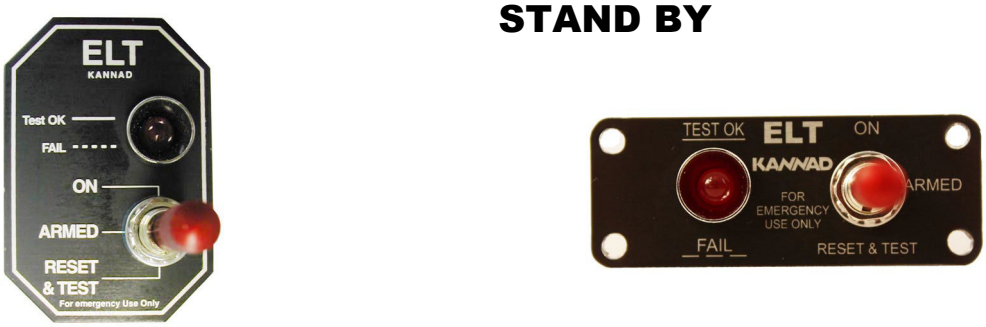


Refer to operation manuals of the ELTs for precise information on these modes.

6. Operation

Figure 8: Operating modes

STAND BY



ON

RESET / TEST

A. Stand by mode

The stand by 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.

B. ON mode

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

- Pull and lift the switch upwards.
  A self test is first performed (Refer to C. RESET & TEST, page 11).
- After the self-test (max. duration 15 seconds), the ELT starts to transmit:
  - The visual indicator is flashing in the same way than the one of the ELT.

C. RESET & TEST

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

(1) Self test

IMPORTANT: Do not perform self-test without the antenna connected.

Self-test must be performed regularly by a pilot or maintenance personnel from the Remote Control Panel but should not be done more than specified in the ELT user manual.

However, each self-test consumes energy from the battery. Should self-tests be carried out more often than the maximum allowed, the battery life-time of the ELT might be shorter than specified.

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

The visual indicator is flashing 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;
- a series of short flashes indicates the test has failed:
  Refer to the ELT manual.

(2) RESET

This mode is used to stop the ELT when activated.

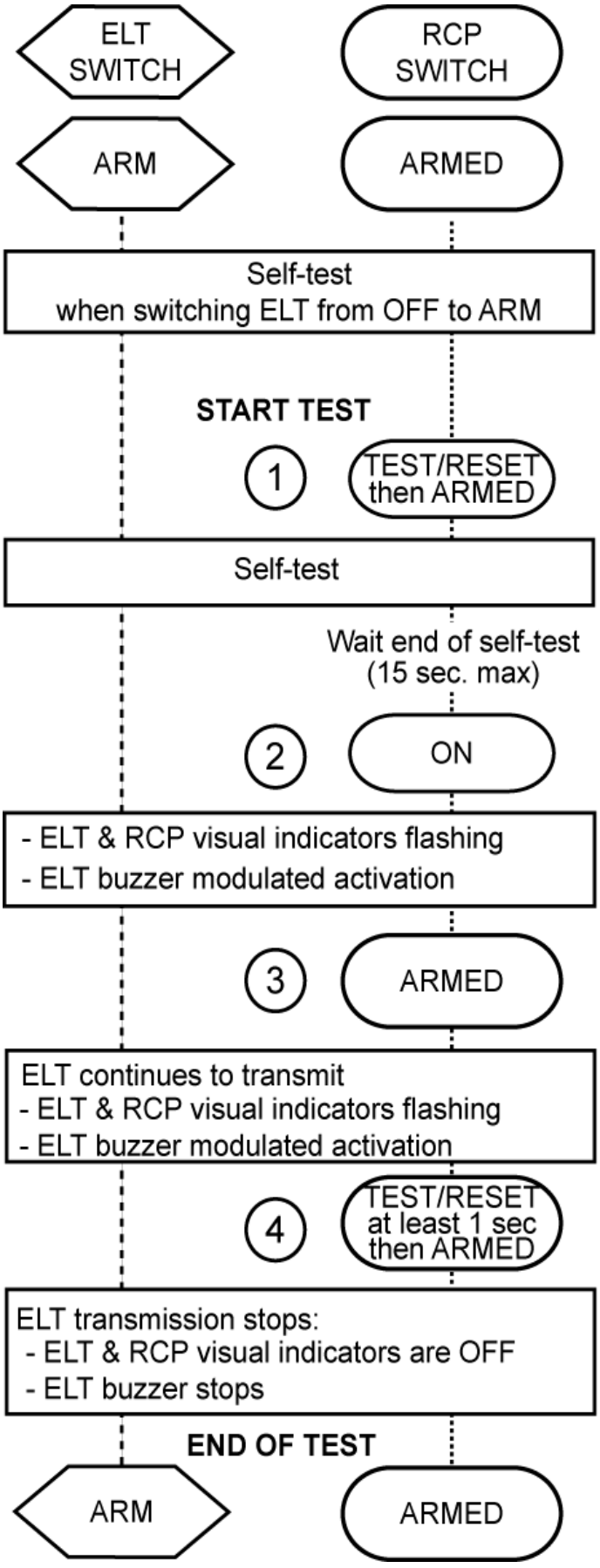
If the ELT is activated, the visual indicator of RCP is flashing in the same way than the one of the ELT:

- Press the switch downwards for at least 1 second then release it (the switch comes back in ARMED position):
  - the ELT comes back in stand by mode.

D. RCP operational tests

Check correct operation of RCP visual indicator by switching ELT and RCP as described in the following sequential procedure, Figure 9: RCP visual indicator operation (with ELT switch in the «ARM» position).

Figure 9: RCP visual indicator operation



7. Technical characteristics and compatibility

A. Technical characteristics

(1) Environmental characteristics

Dimensions:

Refer to A. RC102 Outline dimensions and drilling mask, page 15

- RC102 with front plate 1a:
  30 x 44 x 35 mm (1.73 x 1.18 x 1.38 in.).
- RC102 with front plate 1b:
  53 x19.4 x 35 mm (2.08 x 0.76 x 1.38 in.).

Weight: 13 g. (0.028lbs).

Operating temperatures: -20°C to +55°C.

Storage temperatures: -55°C to +85°C.

(2) Electrical characteristics

3-position switch

- Type: ON / MOM / ARM.
- Contact type: Gold plate compatible with low current.

Visual indicator (LED)

- Color: red.

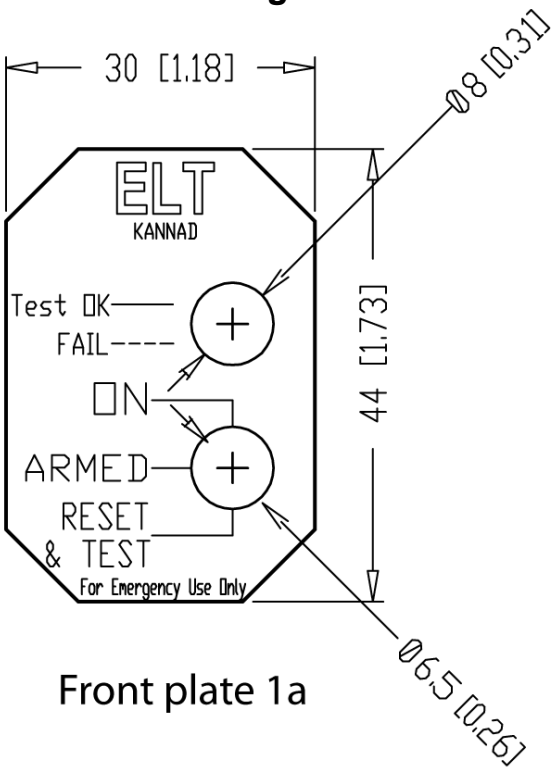
B. Compatibility list

ELT	PART NUMBER
KANNAD 406 AF COMPACT	S1840501-01 at amendment equal or higher than M.
KANNAD 406 AF COMPACT (ER)	S1840501-04
AP INTEGRA (ER)	S1850501-01
AP INTEGRA	S1850501-02
AP INTEGRA (ER-N)	S1850501-03
AF INTEGRA (ER)	S1851501-01
AF INTEGRA	S1851501-02
AF INTEGRA (ER-N)	S1851501-03
AF-H INTEGRA (ER)	S1852501-01
AF-H INTEGRA	S1852501-02
AF-H INTEGRA (ER-N)	S1852501-03

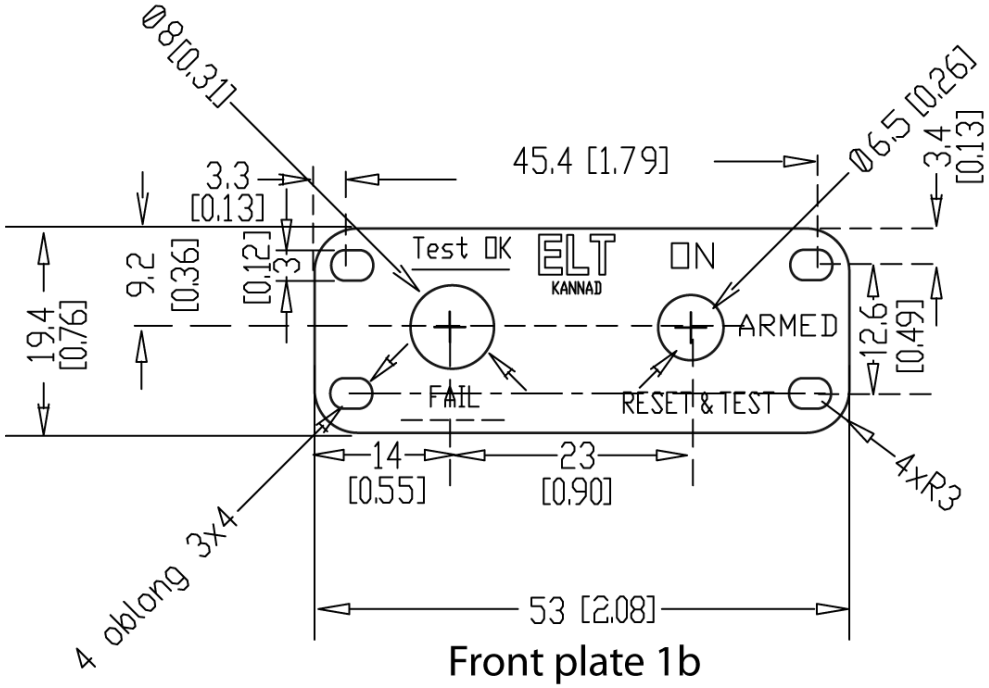
ELT	PART NUMBER
AP-H INTEGRA (ER)	S1854501-01
AP-H INTEGRA	S1854501-02
AP-H INTEGRA (ER-N)	S1854501-03

8. Schematics and diagrams

A. RC102 Outline dimensions and drilling mask

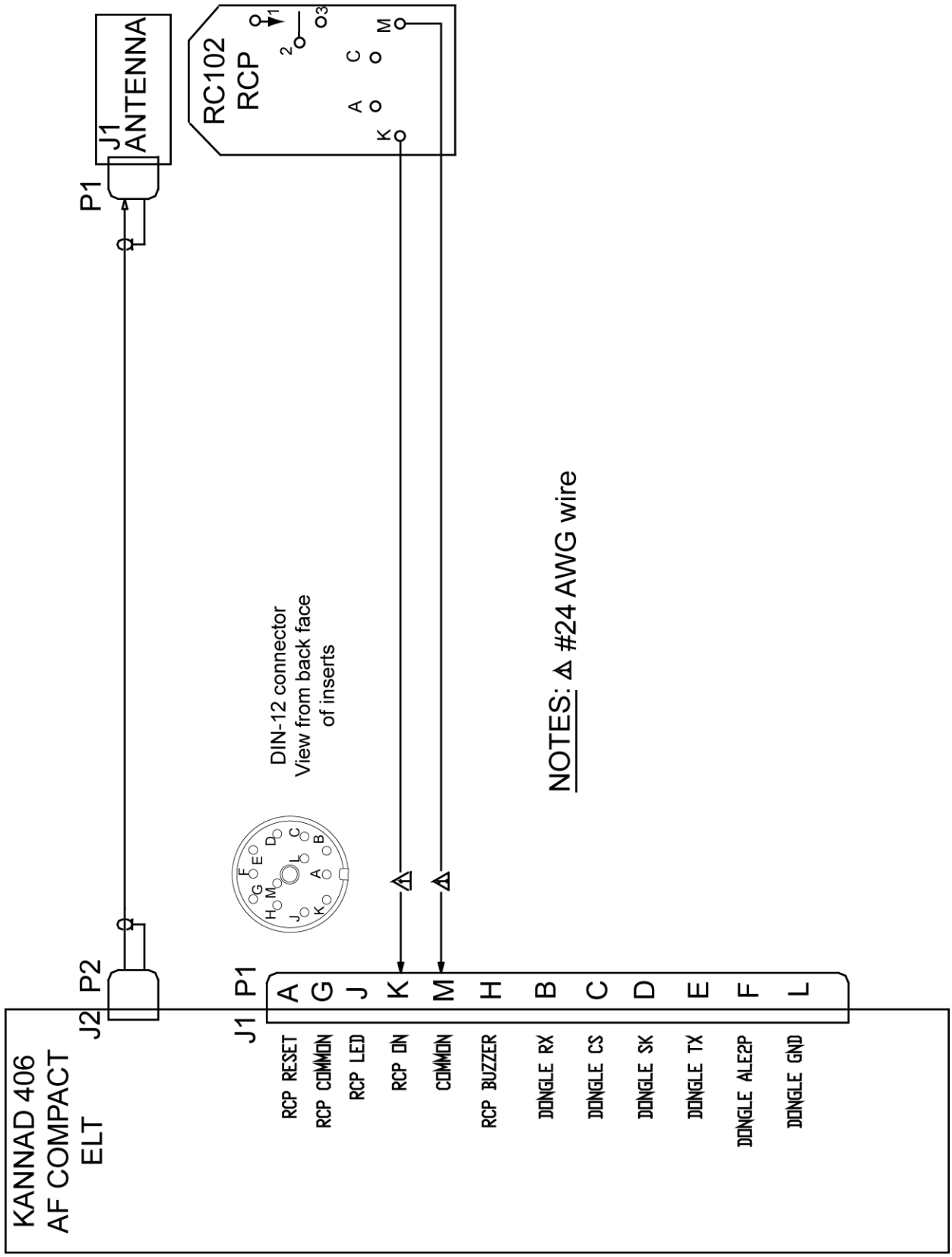


Front plate 1a



Front plate 1b

B. RC102 Wiring diagram



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