FLYBOX®

CAN-RPM
ROTAX 912iS RPM adapter

Revision#2.0, 13/1/2015

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SECTIONS

Thank you for purchasing a Flybox® product.
We hope it fully satisfy you.

SYMBOLS USED IN THE MANUAL

NOTE: Used to highlight important informations.

CAUTION: Used to warn the user and indicate a potentially hazardous situation or improper use of the product.

WARNING: Used to indicate a dangerous situation that can cause personal injury or death if the instruction is disregarded.

NOTE: *Keep this manual in the aircraft.This document must accompany the device in the event of change of ownership.*

NOTE: *This device is intended for installation onto non type certified aircraft only, because it has no aviation certifications. Refer to your local aviation authorities to check if this device may be installed in your aircraft.*

CAUTION: *Read entirely this manual before installing this device in your aircraft, and follow the installation and operating instructions described here.*

CAUTION: *When the installation is finished you must do a test, prior to flight, switching on all the possible source of electric noise and checking the properly operation of this device.*

WARNING: *Responsibility for installation lies entirely with the installer. Responsibility for operations lies entirely with the operator.*

IMPORTANT: **If you do not agree with the notices above do not install the device in your aircraft, but return the product for a refund.**

Microel s.r.l. reserves the right to change or improve its products. Information in this document is subject to changes without notice.

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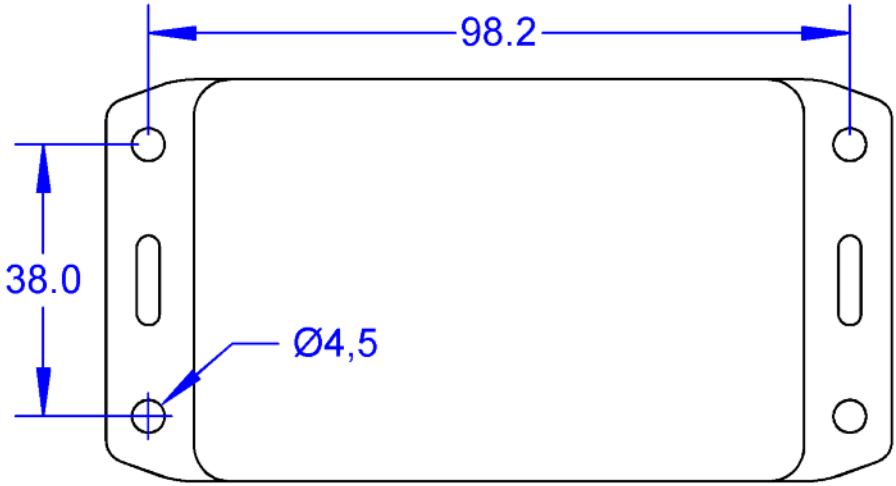
SECTION 1

1.1 MECHANICAL INSTALLATION

Fasten the CAN-RPM device using the mounting ears on the housing; refer to the following drawing for the drilling:



Dimensions in millimeters

SECTION 2

2.1 ELECTRICAL INSTALLATION

Below is the wiring connection for the 6 pin Molex minifit-jr connector of the CAN-RPM device.
Included in the kit there are the corresponding socket connector and the crimp terminals.

Socket connector, view
from wire insertion side.

Pin#	Description
1	+12 V Main supply
2	CAN BUS termination *(not used)*
3	CAN H signal
4	GND Main supply
5	RPM OUT (Tachometer signal)
6	CAN L signal

The ECU of the Rotax 912iS is a dual lane design and each lane has a CAN bus interfaces where all the engine data are transmitted, including the tachometer signal necessary for this device.

There are different types of connecting for the CAN-RPM device, depending on the instruments/devices already connected to the CAN bus of the ECU.

(Figure1) Direct connection between ECU-A and ECU-B CAN lines: in this case all the devices connected to the CAN line must have a maximum stub length of 30 cm.

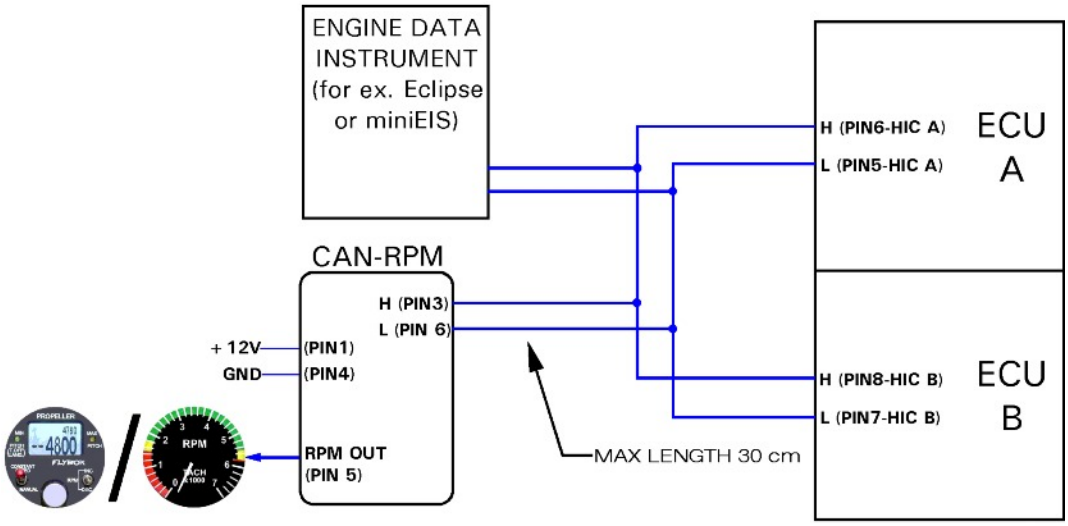


Fig.1: CAN-RPM connectivity with CAN lines connected together.

(Figure2) Separate connection of the two CAN lines: in this case the two CAN lines are kept separated. The CAN-RPM can be connected on any of the two lines as the tachometer signal is present on both.

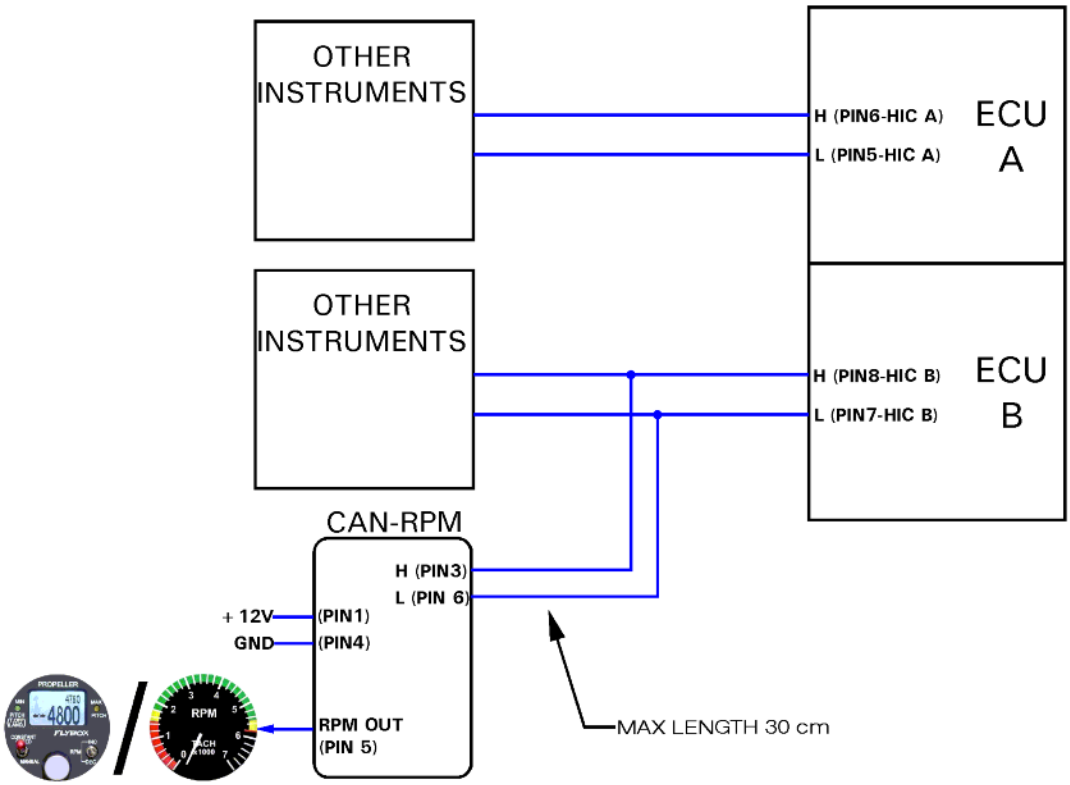


Fig.2: CAN-RPM connectivity with single CAN bus line. The CAN-RPM device can be connected indifferently to any of the two lines.

NOTE:
- Use aeronautic cable for the wiring.
- For the CANbus wires use **twisted or shielded wires**.
- Insert a 1-Ampere circuit breaker to the CAN-RPM power lead (+12V).

CAUTION: Voltage peaks on the supply line that exceeds the operating limits (30V) can damage the device.

SECTION 3

3.1 DESCRIPTION OF OPERATION

CAN-RPM is a device that connects to the CAN output of Rotax 912iS ECU and provides at its output an analog signal, similar to that provided by a pickup and suitable for constant-speed propeller regulators such as Flybox PR1P, PR2P and analog or digital tachometers.

Once powered, the device is ready to operate: as soon as it receives a valid signal from the Rotax ECU it will output the RPM tachometer signal.

CAUTION: in the event of Rotax ECU failure, wiring failure or CAN-RPM device failure, no tachometer signal will be available with these effects:
- The tachometers will indicate zero RPM.
- The propeller regulators (Flybox PR1-P and PR2-P), no longer having the engine RPM reference, will move the propeller to the fine pitch.

SECTION 4

4.1 TECHNICAL SPECIFICATIONS

- Plastic enclosures with flanged lid.

- Dimensions: 110 x 56 x H26 mm.

- Weight: 70 g.

- Operating temperature range: -20~+70°C.

- Relative humidity: 90% max (without condensate).

- Supply voltage: 10~30 V=.

- Supply current: 60 mA.

- 1 CAN input for Rotax control unit connection.

- 1 pulse output (0-30 V), tachometer signal. Minimum impedance of connected instruments = 600 ohms.

WARRANTY:

This product is warranted to be free from defects for a period of 12 months from the user invoice date.

The warranty only covers manufacturer defects; and shall not apply to a product that has been improperly installed, misused or incorrect maintenance, repaired or altered by non-qualified person.

Date	Revision	Description
07/2013	1.2	First release
01/2015	2.0	Layout update

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