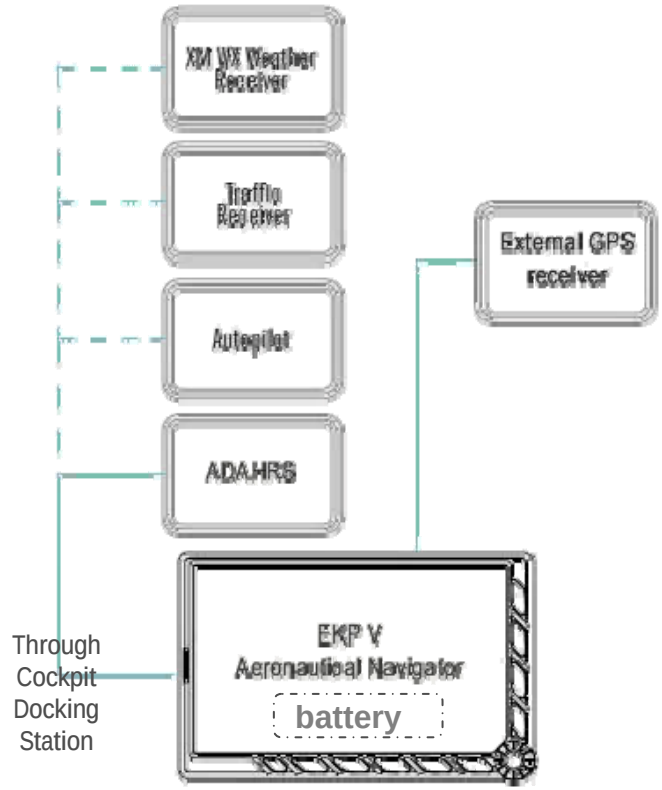
AvMap Portable Glass Cockpit System

Installation guide

EKPV, Cockpit Docking Station, instruments and accessories.

Ver.6.0

Contents:



AvMap Glass Cockpit System

For light-sport, ultra-light and experimental aircrafts

The system consists of:

1. EKP V **GPS navigator, EFB, PFD**
2. Cockpit Docking Station
3. **A2 ADAHRS** module
4. **GPS receiver**

Compatible with:

- ZAON PCAS XRX traffic receiver
- Autopilot
- Enhanced Vision systems
- Weather receiver WxWorx XM WX*

* Service available only in North America

AvMap Glass Cockpit System

- ✓ **Only one Supplier**
- ✓ **Easy to install**
- ✓ **Scalable system**

Key features

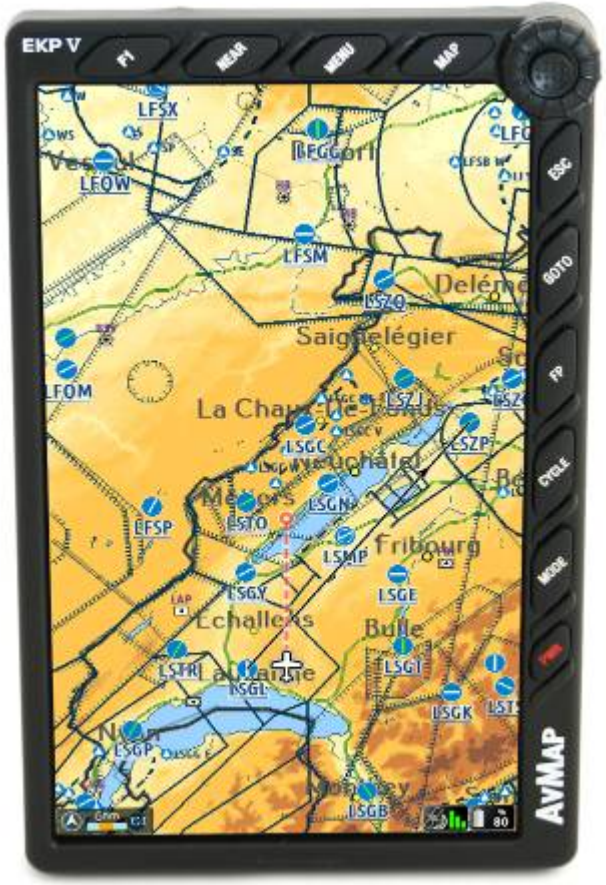
- Navigation, EFB, PFD in a single device
- Cockpit installed + Portable
- Bright LCD TFT 7”, sunlight readable
- Easy to install
- Ultra Light : EKPV + Docking Station + GPS receiver + ADAHRS = 859g (30.3 Oz)
- Offering full Connectivity
- Easy to use
- Customizable: Vertical or Horizontal view and many other customization options
- Removable and Rechargeable battery

Contents:

EKP V: the core of your integrated Glass Cockpit System

AvMap EKP V redefines the role of the GPS inside the cockpit. EKP V is intended to be both a cockpit-installed instrument and a portable device.

The wide and bright 7” LCD becomes multifunctional and capable to display several data useful for your flight.



EKP V

Compact, light yet fully featured

A ultra bright **7” display** only 0.8” thick.
EKP V is slim and light, yet very powerful:
with built in **u-blox 6 GPS receiver**,
removable battery and speakers.

Built-in and portable at the same time!

EKP V is intended to be both a cockpit-installed on board-instrument and a portable device.

EKP V

Complete and easy to update

It is possible to **remove EKP V** from the docking station in order to update its software and maps.

Simply connect EKP V to the PC and use the **AvMap Suite** application to update the device.

You can download updates for:

- **Jeppesen Database**
- **Street maps**
- **Approach plates and Airport diagrams**
- **FAA Sectional / DFS ICAO** (optional charts)

Integrating EKP V into the panel

EKP V can be used both as a portable knee pad and be panel mounted in 2 ways:

- **Cockpit Cradle Kit**

BASIC INTEGRATION

Power supply and connection to the external **GPS** receiver.

- **Cockpit Docking Station**

ADVANCED CONNECTIVITY

The hub for all the electric connections. It allows connecting to EKP V multiple instruments at the same time:

- **GPS receiver**
- **Autopilot**
- **Traffic Receiver PCAS ZAON XRX**
- **ADAHRS**
- **Enhanced vision systems.**

In both cases, it is possible to remove the EKP V from the plane for home playing, theft prevention, training school briefing and debriefing, etc.

Connections

Instrument / accessory	EKP V - portable	COCKPIT CRADLE KIT	COCKPIT DOCKING STATION
	Possible simultaneous Connections		
Power supply 	✓	✓	✓
GPS Receiver 	✓ 1 USB connection choose among GPS receiver or other instruments.	✓	✓
ADAHRS 	✓ 1 USB connection in alternative to the GPS receiver	✗	✓
Autopilot 	✓ 1 USB connection in alternative to the GPS receiver	✗	✓
CAS 	✓ 1 USB connection in alternative to the GPS receiver	✗	✓
EVS Enhanced Vision System 	✗	✗	✓
Weather receiver* *Service available in North America only	✓ 1 USB connection in alternative to the GPS receiver	✗	✓
Others…	✓ 1 USB connection in alternative to the GPS receiver	✗	✓ 4 USB connection, 2 serial connections, audio input and output, video input.

Panel mounting EKP V

EKP V can be installed in **Vertical or Horizontal mode.**

Contents:

Cockpit Cradle kit: basic integration

The Cockpit Cradle Kits is recommended for pilots who want their EKP V conveniently integrated into their cockpit, but do not need advanced connectivity to other on board systems.

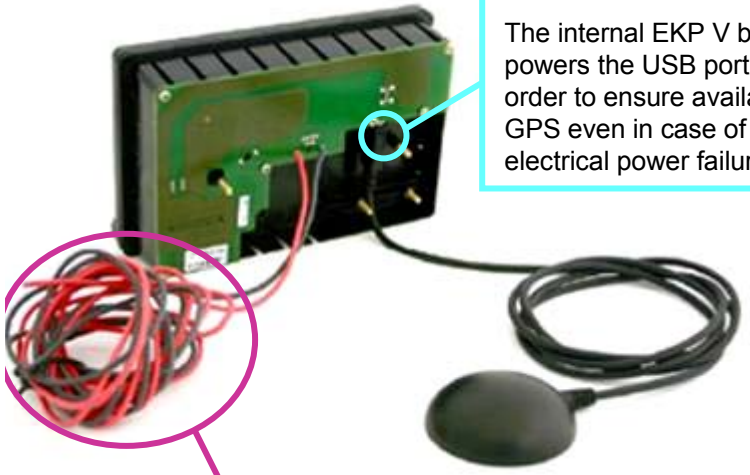
It feeds EKP V and connects it to the GPS receiver.

Cockpit Cradle kit installation

Content of the box:

- Cockpit Cradle
- Flush mount + cables fastening mount
- GPS receiver (USB interface)
- Protective cover
- Power supply cable
- screws and template jig

Rear view

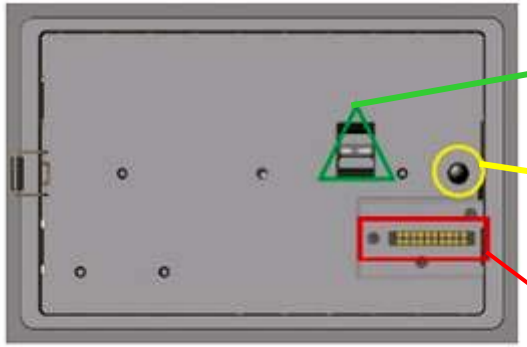


USB: GPS receiver connection

The internal EKP V battery powers the USB port in order to ensure availability of GPS even in case of aircraft electrical power failure.

Power supply cable to be connected to the aircraft electric system. The Cockpit Cradle must be fed with 10-35 VDC (28 W max) voltage.

Front view



3A fuse to be connected to the power supply

Safety switch: disables the power supply when the device is not docked.

Male Pogo Pin connector For EKP V

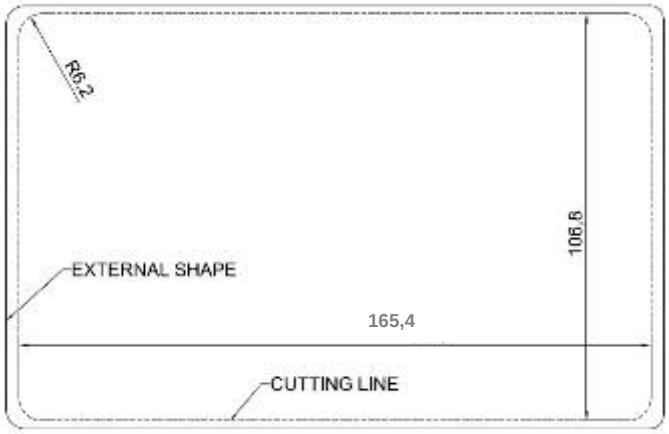
Cockpit Cradle kit Installation

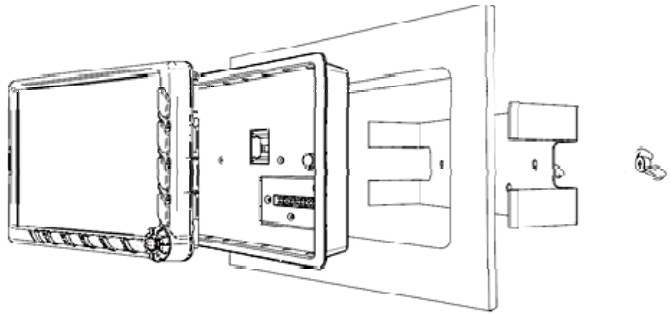
1. Drill the cockpit
with the help of the template Jig. (Dimensions: 165.4 x 106.8 mm)

2. Connect the power supply cable
to the aircraft electric system.

3. Connect the GPS receiver to the USB port
on the back of the cradle and secure the cable fastening the wire lock.

4. Insert the Cradle
in the hole and fix it using the screws and the metal parts provided.





Cockpit Cradle kit installation

5. Re-calibrate the on-board compass, make sure that all on-board instruments and systems perform as expected and verify the presence of heat sources close to the Cradle.

6. Finally, **fasten the wires** in the back of the Cradle to avoid vibrations and stress on the connections.

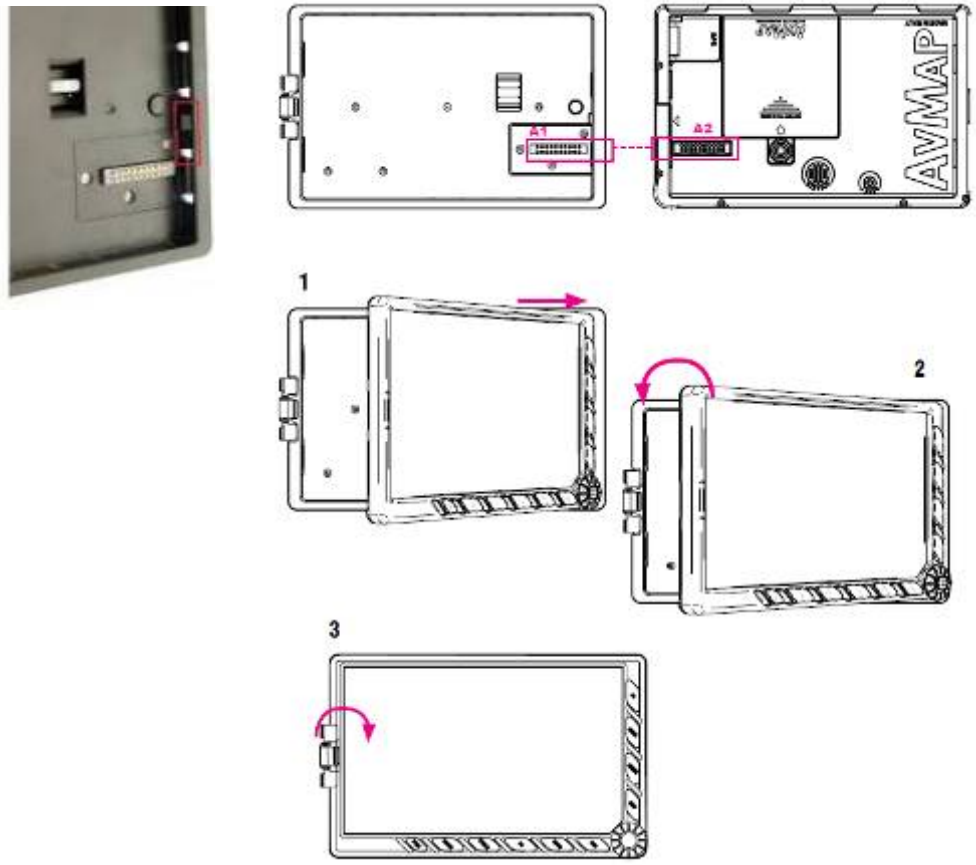
How to dock the EKP V:

1. Insert the EKP V in the Cradle **from the Pogo Pin connector side** taking care of properly block the hook on the right.

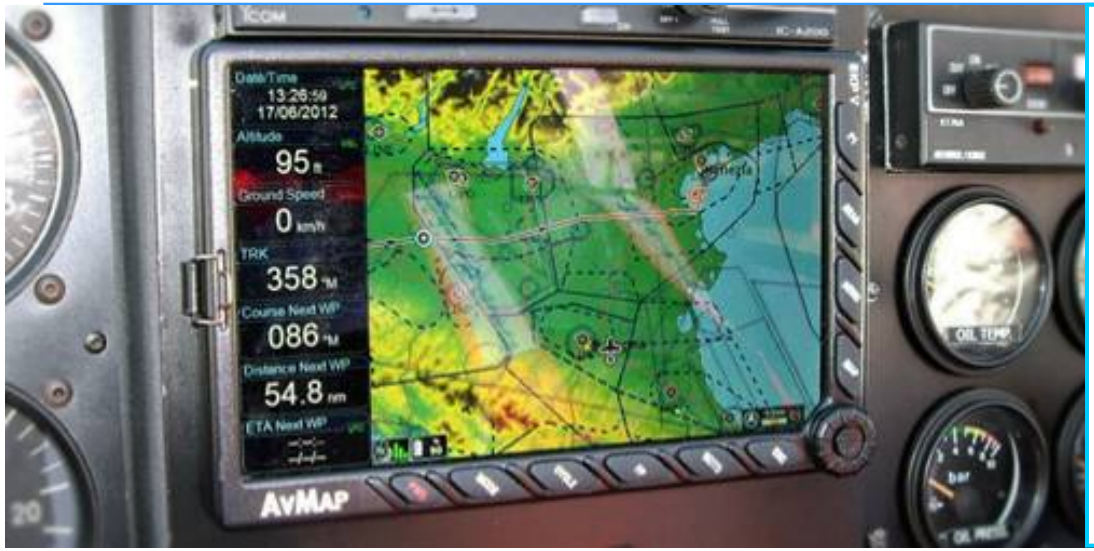
2. then press the opposite part to insert completely the navigator inside the Cradle.

3. Securely fix the EKP V with the **safety hook on the left side.**

Once docked the EKP V will power on automatically.



Contents:



Cockpit Docking Station: advanced connectivity

Thanks to the special Docking Station EKP V **can connect to several on-board devices at the same time** such as: third party autopilot, XM WX Weather*, CAS, A2 ADAHRS, Video Cameras etc.

* Service available in North America only.

Cockpit Docking Station - versions

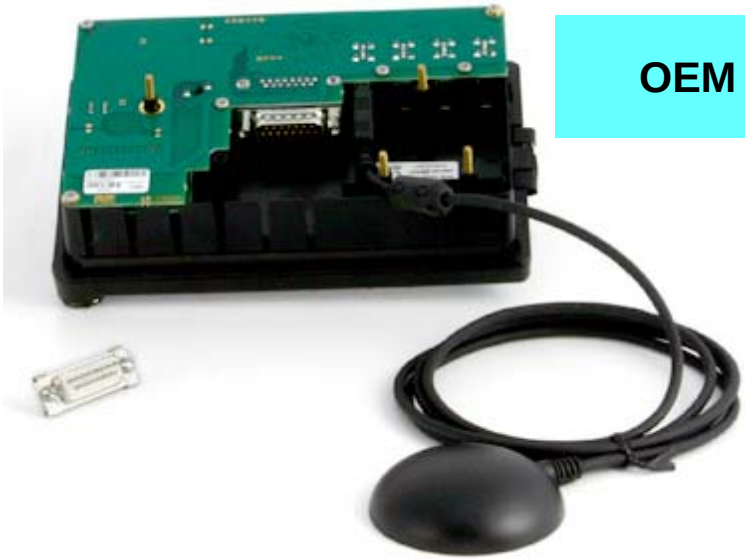
standard

Standard Version

(UX0DS100AM)

DB 15 adapter with clamp board

OEM



OEM Version

(UX0DS200AM)

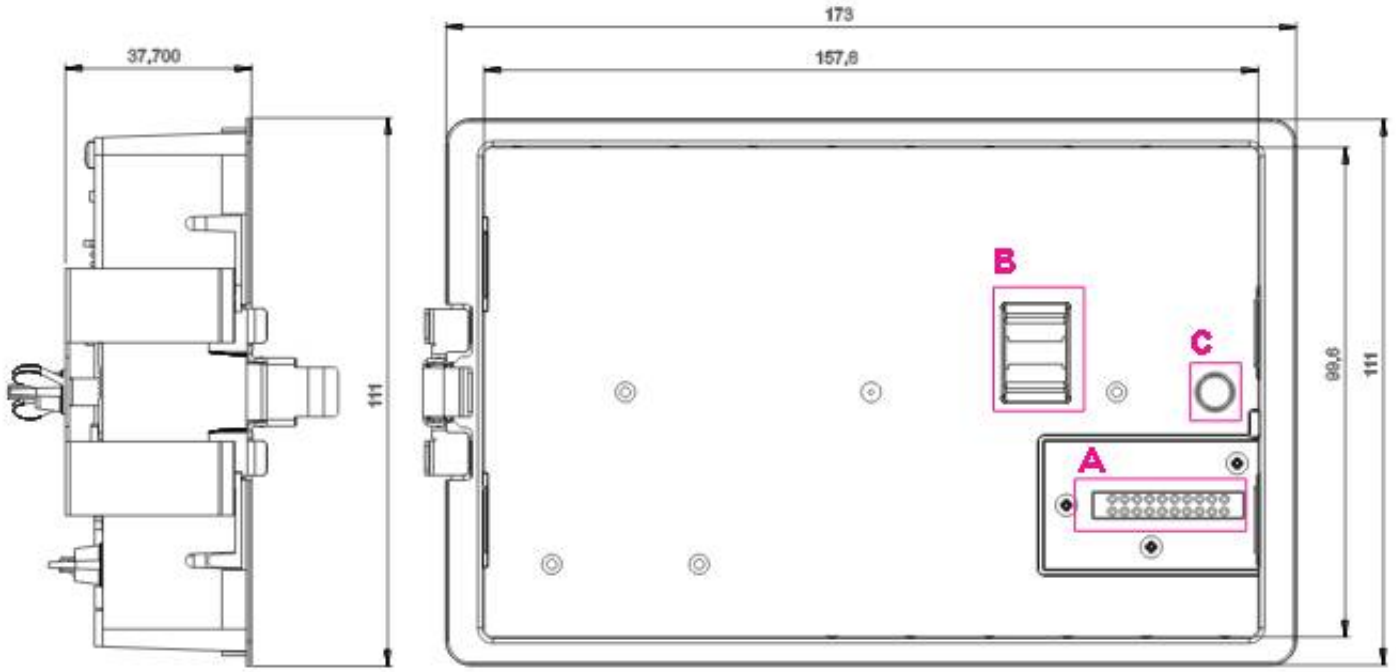
DB 15 connector for direct soldering

Cockpit Docking Station

Content of the box:
- Cockpit Docking Station
- Flush mount + cables fastening mount
- GPS receiver (USB interface)
- Plastic protective cover
- Power supply cable
- screws and template jig

Connections:
- 4x USB 2.0
- 2x Serial ports (1x RS-232, 1x TTL levels)
- Audio IN / Audio OUT
- Video IN (PAL o NTSC)
- Antenna GPS receiver
- Power cable: 10 - 35 VDC (28W max)

Cockpit Docking Station



Front view

A. Male Pogo Pin connector For EKP V

B. 3A fuse to be connected to the power supply

C. Safety switch: disables the power supply when the device is not docked.

Cockpit Docking Station: connections

Serial free wires Connections

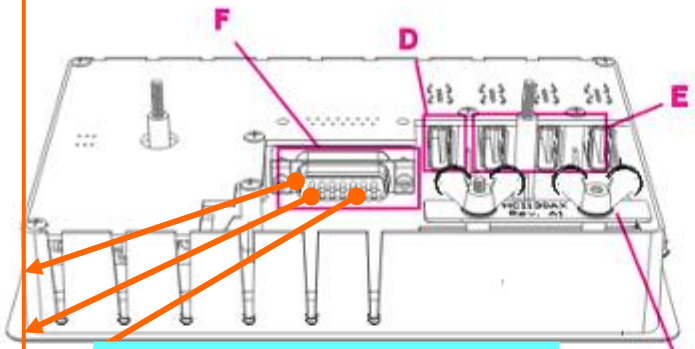
Power supply

Autopilot

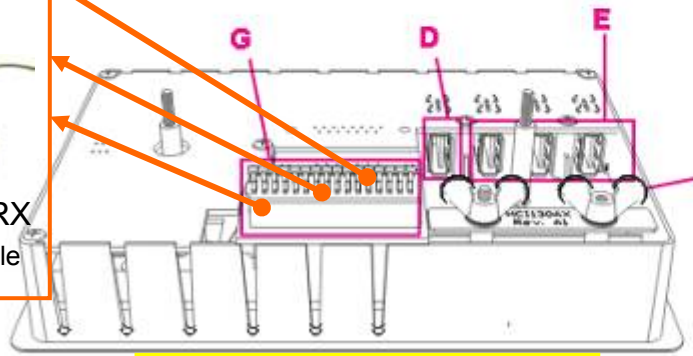
Max-Viz-600

ZAON PCAS XRX

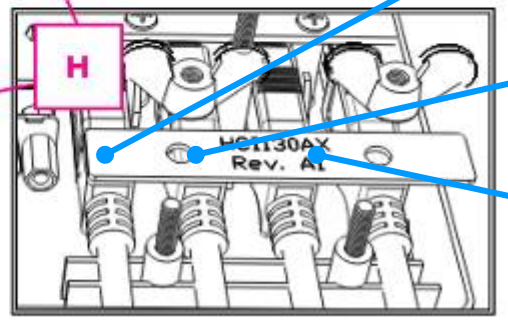
Serial Interface cable



OEM version



standard version



Connections

D Battery powered USB Port: backup power provided by the EKP V internal battery.
E Normal USB Ports: powered by the aircraft electrical system.
F DB 15 direct soldering connector (OEM version only).
G Wire clamp connector (Standard version only).
H Cable locking bar.

USB Connections

GPS receiver

A2 ADAHRS

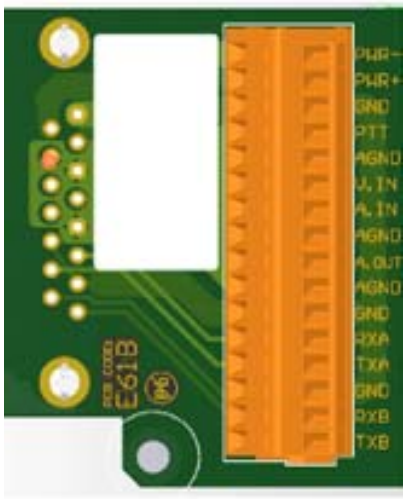
ZAON PCAS XRX

USB-Serial cable

Cockpit Docking Station: serial connections

Standard version

Standard (UX0DS100AM)
DB 15 adaptor with clamp

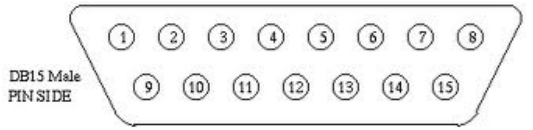


PIN label	Signal
PWR -	External Power supply input (10-35Vdc)
PWR +	
GND	Push to talk
PTT	
AGND	Video Input
V.IN	
A-IN	Audio input
AGND	
A.OUT	Audio Output
AGND	
GND	Serial interface "A" RS232 polarity and levels
RXA	
TXA	
GND	Serial interface "B" RS232 polarity and levels
RXB	
TXB	

OEM (UX0DS200AM)
DB 15 connector for direct soldiering

OEM version

Pin #	Signal	
1	PWR -	External Power supply input (10-35Vdc)
9	PWR +	
2	PTT	Push to talk
10	GND	
3	AGND	Video Input
11	V.IN	
4	A.IN	Audio input
5	AGND	
5	AGND	Audio Output
12	A.OUT	
6	RXA	Serial interface "A" RS232 polarity and levels
13	GND	
14	TXA	
7	GND	Serial interface "B" RS232 polarity and levels
15	RXB	
8	TXB	



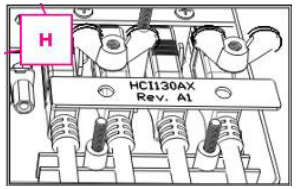
Cockpit Docking Station installation

1. Drill the cockpit with the help of the template Jig. (Dimensions: 165.4 x 106.8 mm)

2. Connect and secure the included DB-15 interface (direct soldering or clamp board, depending on the CDS version) on the back of the CDS

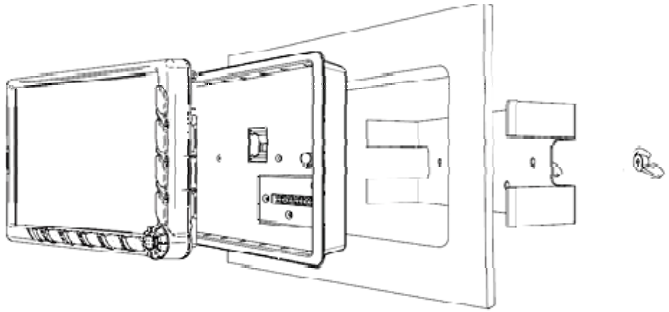
3. Connect the power supply cable to the aircraft electric system. (direct soldering or clamp board, depending on the CDS version) on the back of the CDS

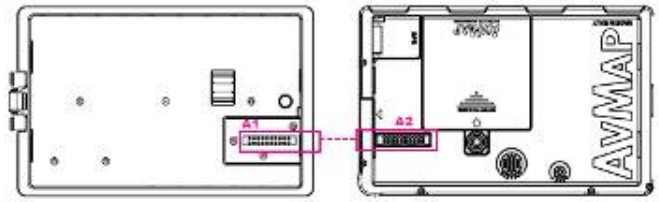
4. Connect the GPS receiver to the USB port on the back of the cradle and secure the cable fastening the wire lock.

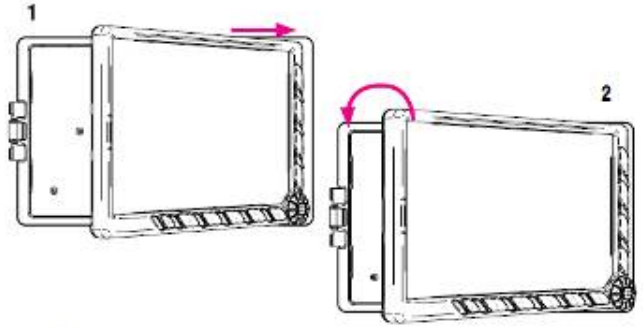


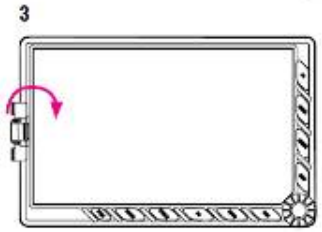
5. Install the docking station in the cockpit hole and secure it with the flush mount. Push the bracket in the center and flex it until it is possible to lock it with the provided nuts.

6. Fasten and secure the wires to the back of the CDS, to avoid vibrations or mechanical OEM Version Standard Version stress on the connections.

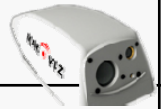








Connections

	COCKPIT DOCKING STATION		
Instruments / accessories	**Interface**	**Extra cables needed**	**Notes**
GPS receiver 	USB 1 (powered by internal battery)	-	4 simultaneous USB connections
ADAHRS 	USB	-	4 simultaneous USB connections
Autopilot 	Free wires (direct soldering or clamp board) to A / B serial	-	2 simultaneous serial connections
	USB	 USB-Serial cable  Serial Interface cable	4 simultaneous USB connections
CAS 	Free wires (direct soldering or clamp board) to A / B serial	PCAS XRX interface cable 	2 simultaneous serial connections
	USB	USB-Serial cable 	4 simultaneous USB connections
EVS enhanced vision systems 	Free wires (direct soldering or clamp board) (to Video and Audio input)	-	
Weather receiver*  *Service available in North America only	USB / Free wires (direct soldering or clamp board) to A / B serial	-	4 simultaneous USB connections
Others	USB, serial audio input and output, video input.	-	4 USB and 2 serial simultaneous connections

EKP V connections

Direct connections to portable EKP V: 1 USB at your choice

Instrument / accessory	Interface	Extra cables needed	Notes
GPS receiver 	USB	-	1 USB connection to be used for GPS or another instrument
ADAHRS 	USB	-	1 USB connection in alternative to GPS receiver
Autopilot 	USB	 USB-Serial cable  Serial Interface cable	1 USB connection in alternative to GPS receiver
CAS 	USB	 USB-Serial cable	1 USB connection in alternative to GPS receiver
Weather receiver*  *Service available in North America only	USB	-	1 USB connection in alternative to GPS receiver

Contents:

GPS receiver installation

1) Direct connection – **USB interface**

EKP V power cable
Included in the box

Instructions:

1.Plug the EKP V power cable into the cigarette lighter socket, and the Hirose connector to the EKP V.

2. Connect the USB female connector of the EKP V power cable to the male USB connector of the GPS receiver.

2) Connection through DOCKING STATION – **USB interface**

Instructions:

Connect the GPS receiver USB female connector to **any USB port of the Cockpit Docking Station.**

N.B. The first USB port on the right is powered by the EKP V internal battery.

Enabling the external GPS

1. Press the **Menu** button
2. Select **Tools**
3. Set External GPS as: **ON**

Contents:

Autopilot installation

There are 3 possible ways to connect EKP V to the autopilot

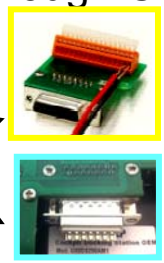
1) Direct connection – **USB interface**

EKP power cable
Included in the box

USB – Serial cable
Optional

Serial Interface cable
Optional

2) Connection through Cockpit DOCKING STATION



Free wires

3) Connection through Cockpit DOCKING STATION

USB – Serial cable
Optional

Serial Interface cable
Optional

Autopilot

EKP V can be connected to third parties Autopilots.

EKP V can send NMEA strings with info relative to GPS position and navigation.

Autopilot installation

1) Direct connection - **USB interface**

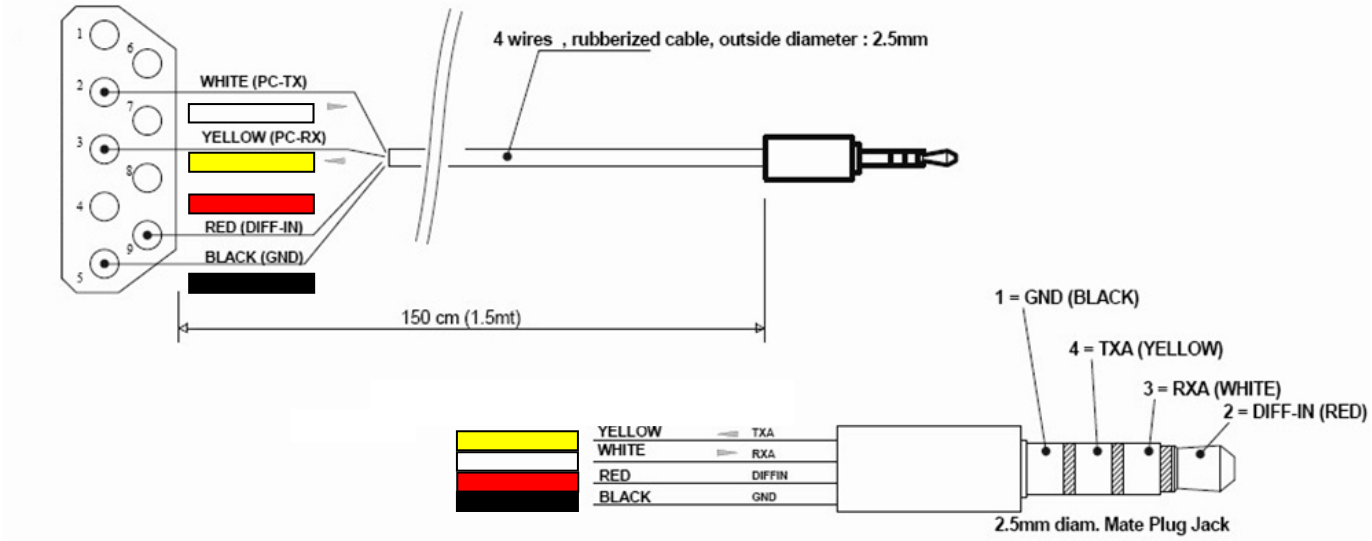
EKP V Power cable
Included in the box

USB – Serial
Optional

Serial Interface cable
Optional

Cut the serial interface cable to uncover the 4 wires.

DB 9 FEMALE



WHAT IS NEEDED:

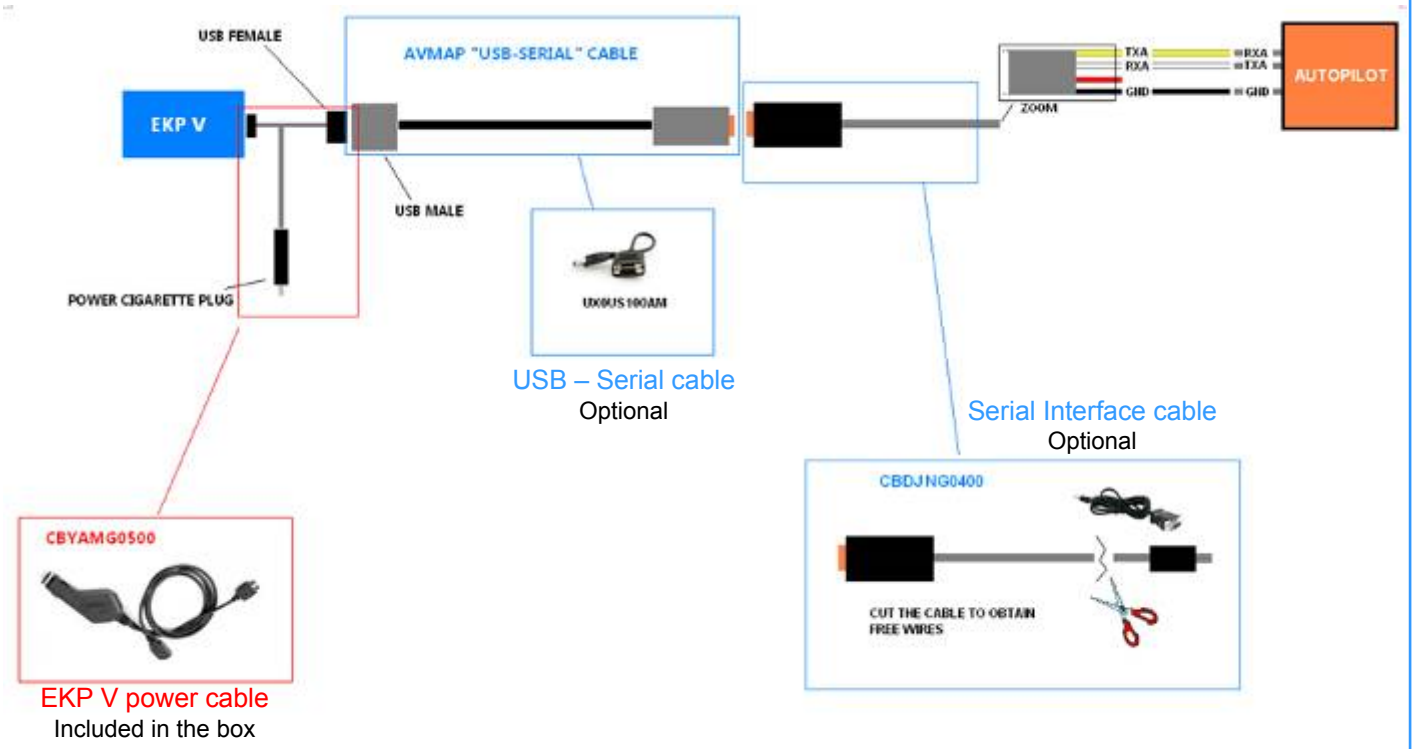
• EKP V Power cable
Included in the box
(product code **CBYAMG0500**)
With double connector:
USB female and Hirose power supply connector.

• USB-SERIAL cable
Optional (product code **UX0US100AM**)

• Serial Interface cable
Optional (product code **CBDJNG0400**) the cable must be cut to uncover the 4 free wires.

Autopilot installation

1) Direct Connection - **USB interface**



USB – Serial cable
Optional

Serial Interface cable
Optional

EKP V power cable
Included in the box

Instructions:

1.Plug the EKP V Power cable into the cigarette lighter socket.

2. Connect the female USB connector of the EKP V Power cable to the USB-Serial cable male USB connector.

3. Cut the serial interface cable.

4. Connect the **white RXA wire** of the serial interface cable to the Autopilot DB connector labeled as **TXA.**

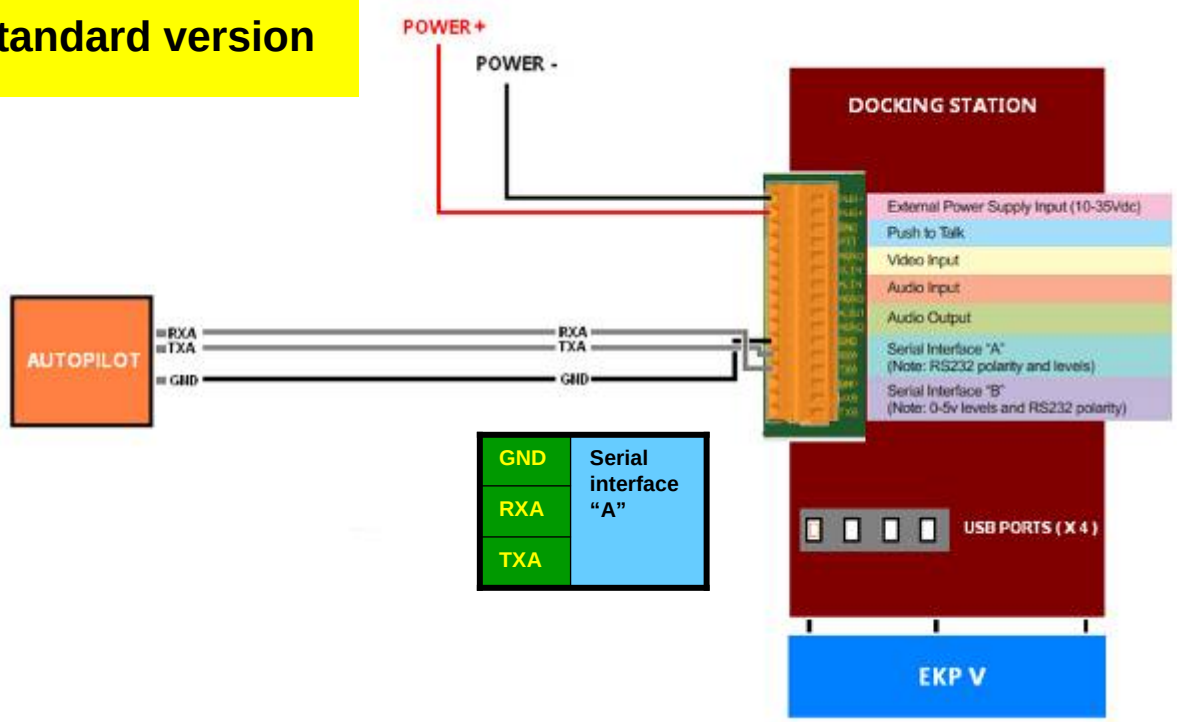
5. Connect the **yellow TXA wire** of the serial interface cable to the Autopilot DB connector labeled as **RXA.**

6. Connect the **black GND wire** of the serial interface cable to the Autopilot DB connector labeled as **GND.**

Autopilot installation

2) Connection through Cockpit DOCKING STATION

standard version



Instructions:

1. Connect the Autopilot **white RXA cable** to the Docking Station clamp board: pin labeled with **TXA.**

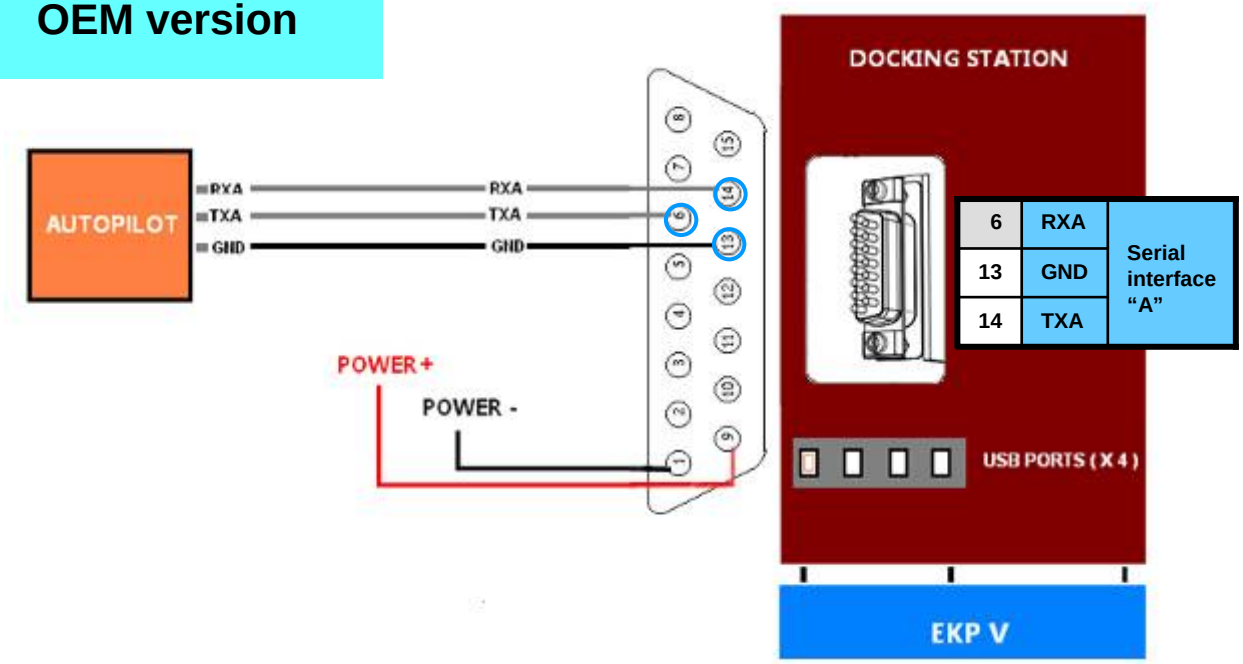
2. Connect the Autopilot **yellow TXA** cable to the Docking Station clamp board: pin labeled with **RXA.**

3. Connect the Autopilot **black GND** cable to the Docking Station clamp board: pin labeled with **GND.**

Autopilot Installation

2) Connection through Cockpit DOCKING STATION

OEM version



Instructions:

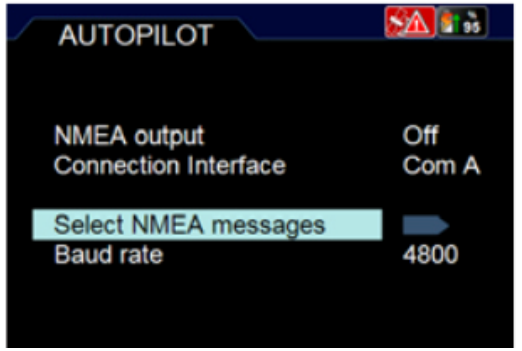
1. Connect the Autopilot **white RXA cable** to the Docking Station DB connector: **pin 14.**

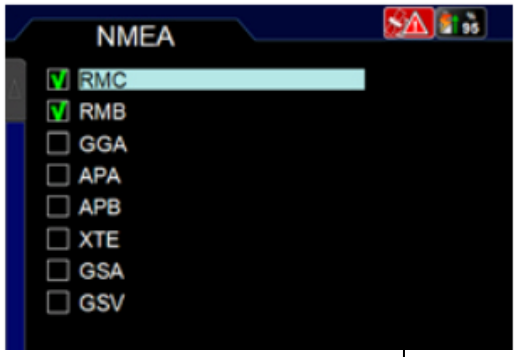
2. Connect the Autopilot **yellow TXA** cable to the Docking Station DB connector: **pin 6.**

3. Connect the Autopilot **black GND** cable to the Docking Station DB connector: **pin 13.**

Enabling the Autopilot on EKP V

1. Press the **Menu** button
2. Select **Tools**
3. Select **Autopilot**
4. **Set**:





- **NMEA Output: ON**

- **Connection interface:**

USB / COM A / COM B

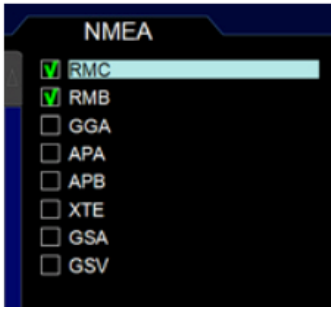
- **Select NMEA Messages:**

Select the NMEA messages to be sent to the autopilot.

- **Baud rate:**

Select the Baud rate according to the Autopilot requirements.

Setting the communication with the Autopilot



1. Press the **Menu** button
2. Select **Tools**
3. Select **Autopilot**
4. Select **NMEA Messages** to choose which sentences to send to the Autopilot:

APA: Autopilot sentence (obsolete)
APB: Heading/Track Controller (Autopilot Sentence “B”)
GGA: Global Positioning system fix data
GSA: GNSS DOP and Active Satellites
GSV: GNSS Satellites in View
RMB: Recommended minimum navigation information
RMC: Recommended minimum specific GNSS data
XTE: Cross-Track Error

Contents:

PCAS XRX ZAON installation

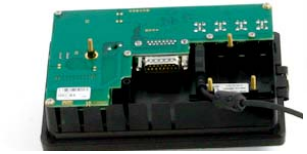
There are 3 possible ways to connect EKP V to the Zaon PCAS XRX:

1) Direct connection - **USB interface**

EKP V power cable
Included in the box

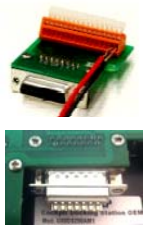
USB – Serial cable
Optional

2) Connection through DOCKING STATION - **USB interface**



USB – Serial cable
Optional

3) Connection through DOCKING STATION - **Serial interface**



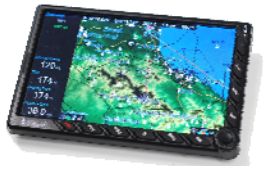
PCAS XRX interface cable
Optional

ZAON
FLIGHT SYSTEMS

ZAON PCAS XRX
Traffic receiver:
If connected to EKP V, the detected aircraft are displayed on the 7” LCD with relative altitude and distance.

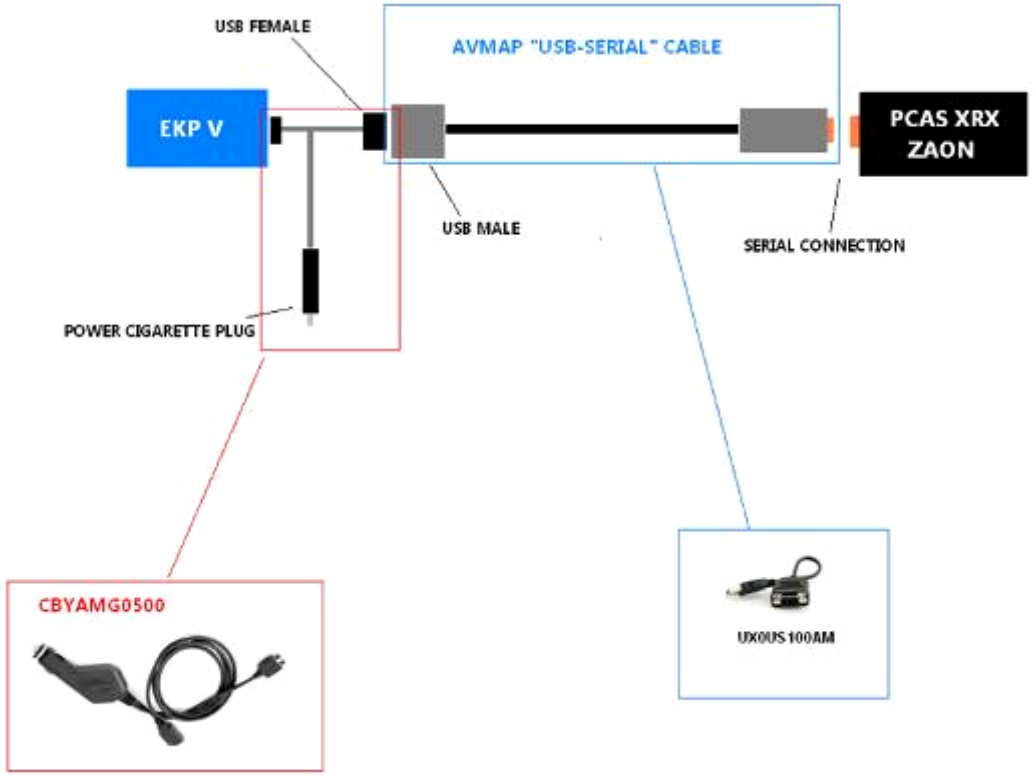
ZAON PCAS XRX installation

1) Direct connection – **USB interface**



EKP V power cable
Included in the box
CBYAMG0500

USB – Serial cable
Optional
UX0US100AM



WHAT IS NEEDED:

• **EKP V Power cable**
Included in the box
(product code **CBYAMG0500**)
With double connector: USB female and Hirose power supply connector.

• **USB-SERIAL cable**
Optional (product code **UX0US100AM**)

Instructions:

1. Plug the EKP V Power cable into the cigarette lighter socket.

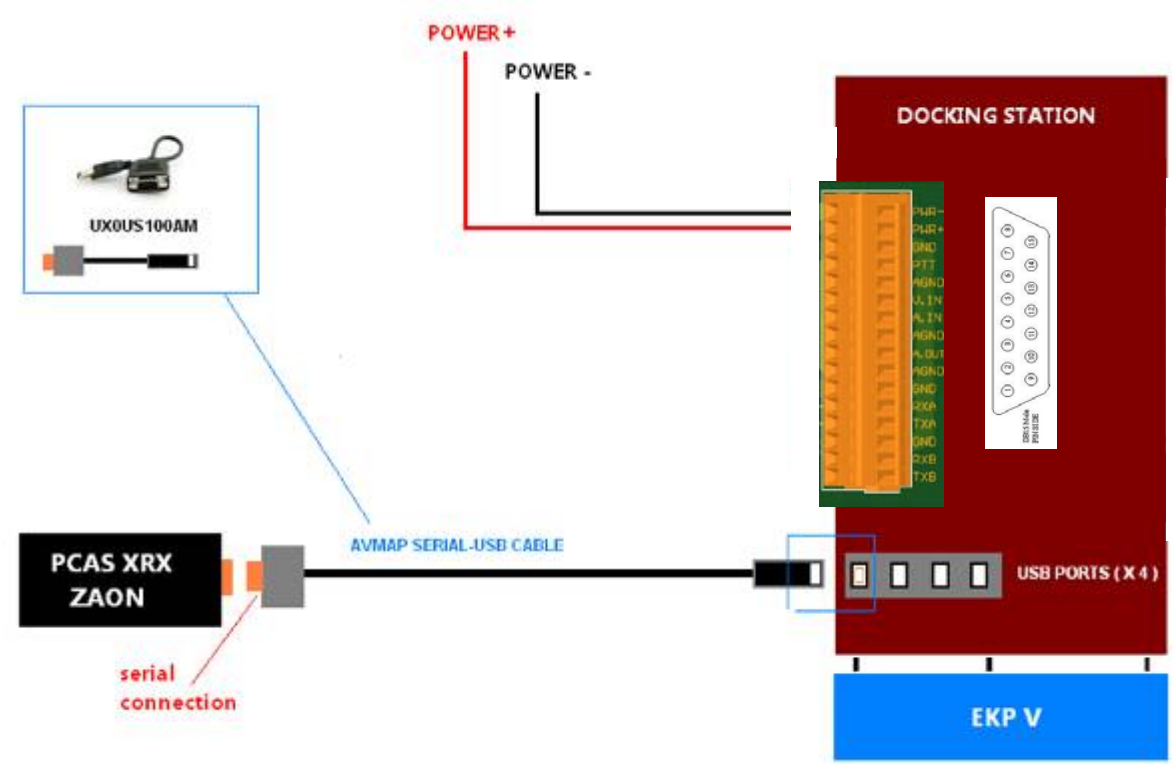
2. Connect the female USB connector of the EKP V Power cable to the USB-Serial cable male USB connector.

3. Connect the USB-Serial cable to the PCAS XRX ZAON.

ZAON PCAS XRX Installation

2) Connection through DOCKING STATION – **USB interface**

USB – Serial cable
Optional **UX0US100AM**



WHAT IS NEEDED:

USB-SERIAL cable
Optional
(product code **UX0US100AM**)

Instructions:

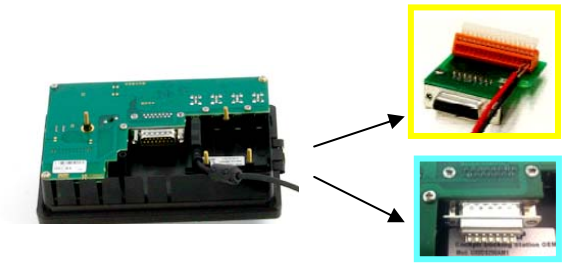
1. Plug the USB connector of the USB-Serial cable to any USB port of the Cockpit Docking Station.

N.B. The first USB port on the left is powered from the EKP V internal battery.

2. Plug the serial connector of the USB-Serial cable to PCAS XRX ZAON.

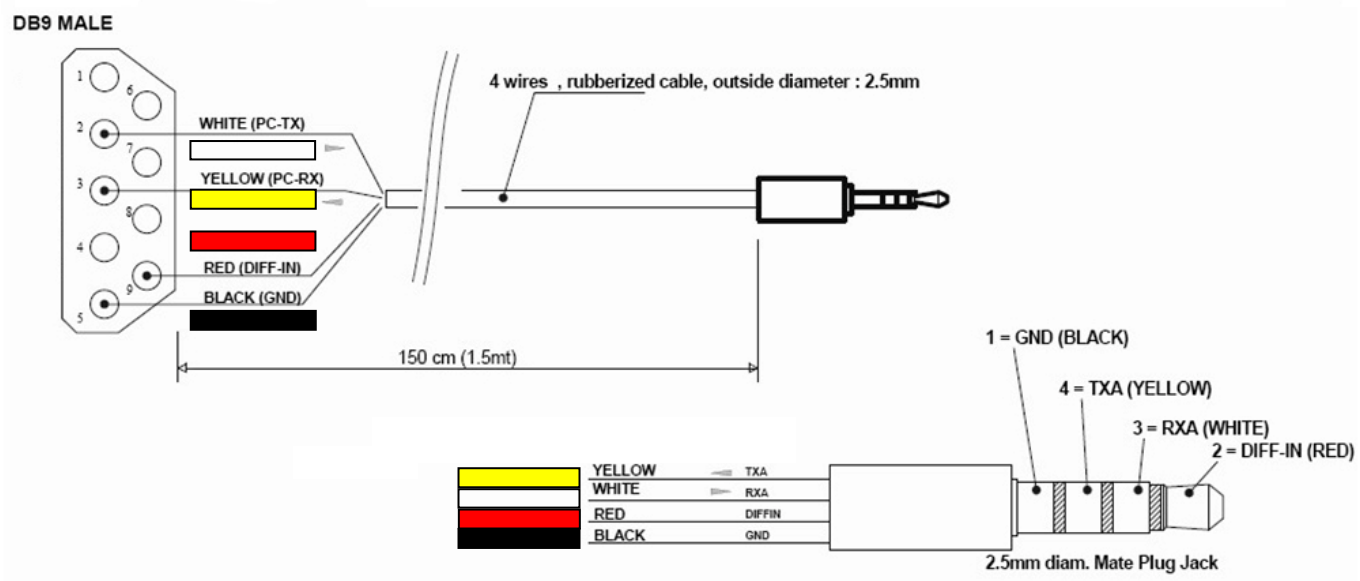
ZAON PCAS XRX installation

3) Connection through DOCKING STATION – **Serial interface**



PCAS XRX interface cable
Optional **CBDJMG0400**

Cut the PCAS XRX interface cable to uncover the 4 free wires.



WHAT IS NEEDED:

PCAS XRX interface cable
Optional (product code **CBDJMG0400**)

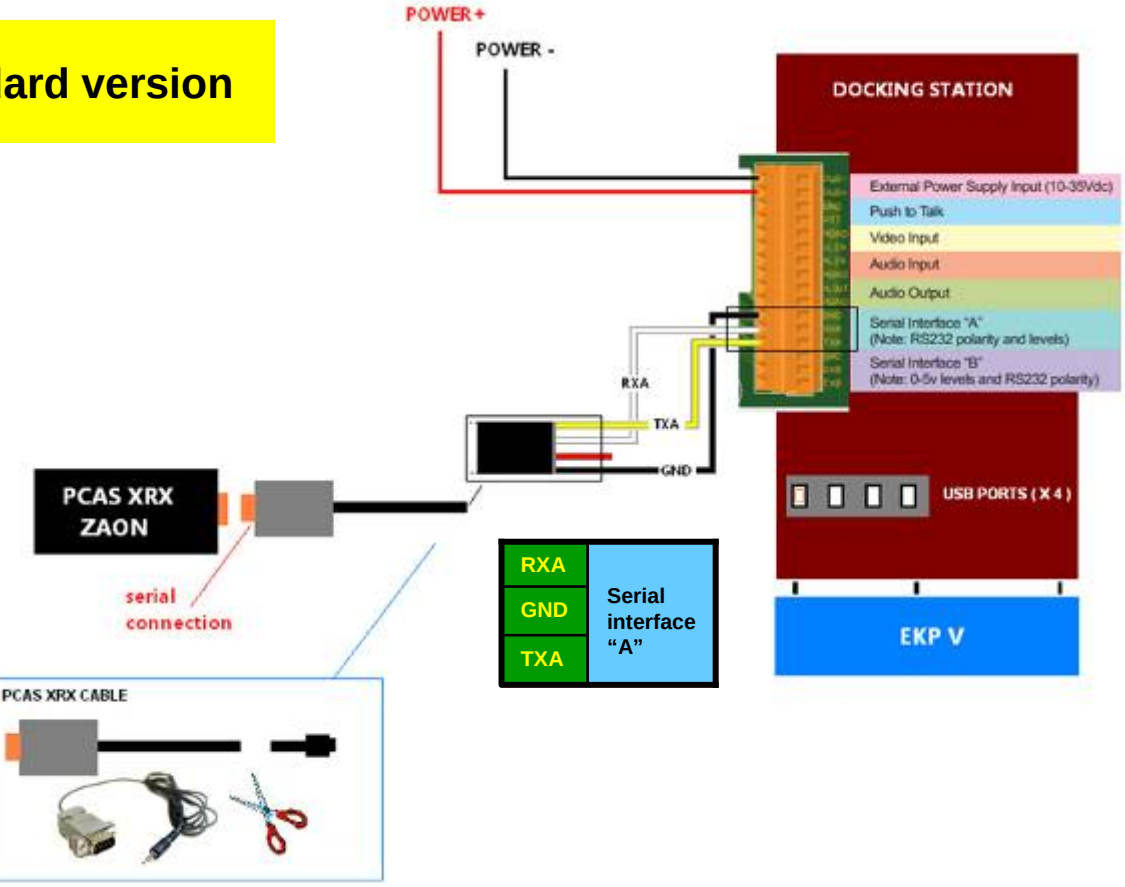
The cable must be cut to uncover the 4 free wires to be connected to the Docking Station.

ZAON PCAS XRX installation

3) Connection through DOCKING STATION – **Serial interface**

PCAS XRX interface cable
Optional **CBDJMG0400**

Standard version



WHAT IS NEEDED:

PCAS XRX interface cable
Optional (product code **CBDJMG0400**)
The cable must be cut to uncover the 4 free wires to connect to the Docking Station.

Instructions:

1.Connect the **white RXA** of the PCAS XRX interface cable to the Docking Station clamp board, PIN labeled as **RXA.**

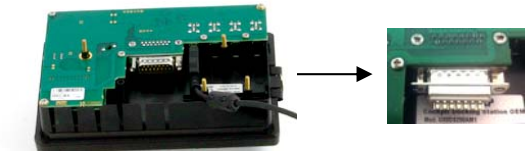
2. Connect the **yellow TXA** of the PCAS XRX interface cable to the Docking Station clamp board, PIN labeled as **TXA.**

3. Connect the **black GND** of the PCAS XRX interface cable to the Docking Station clamp board, PIN labeled as **GND.**

4. Plug the serial connector of the PCAS XRX interface cable to the Zaon PCAS XRX.

ZAON PCAS XRX installation

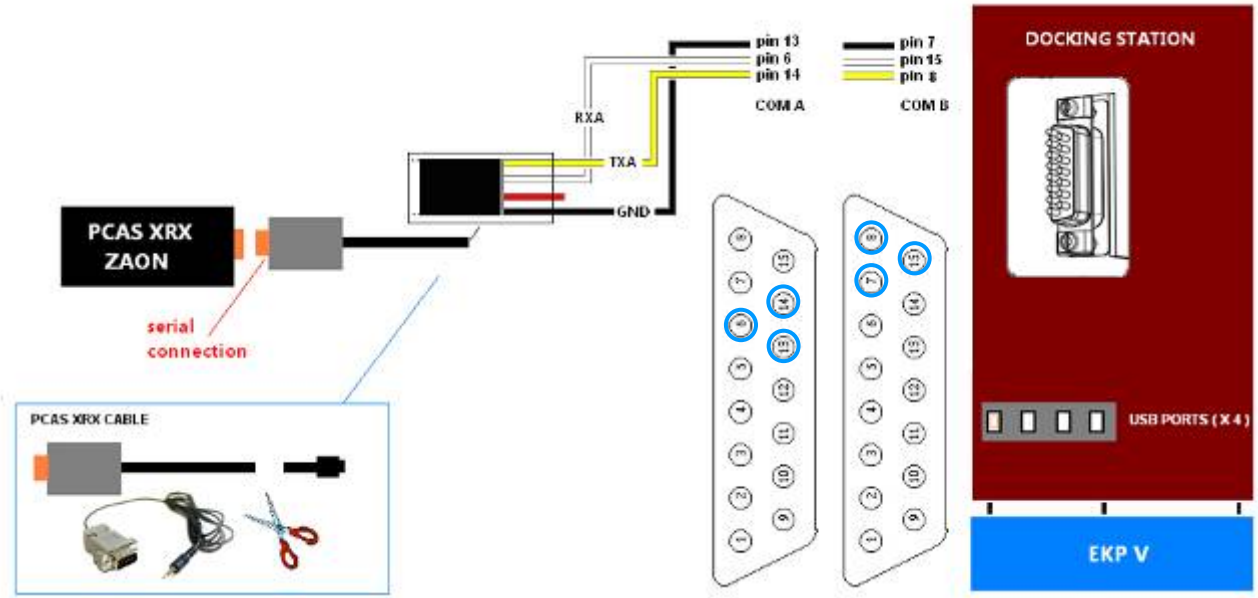
3) Connection through DOCKING STATION – **Serial interface**



PCAS XRX interface cable
Optional **CBDJMG0400**

OEM version

6	RXA	Serial interface "A"	7	GND	Serial interface "B"
13	GND		15	RXB	
14	TXA		8	TXB	



WHAT IS NEEDED:

PCAS XRX interface cable
Optional (product code **CBDJMG0400**)
The cable must be cut to uncover the 4 free wires to connect to the Docking Station.

Instructions:

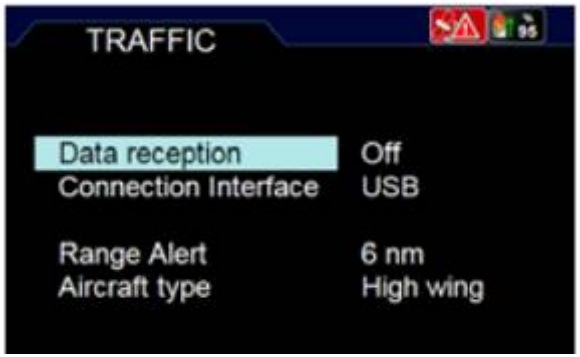
1. Connect the **white RXA** of the PCAS XRX interface cable to the Docking Station DB 15 connector, **PIN N.6 (or N.7)**

2. Connect the **yellow TXA** of the PCAS XRX interface cable to the Docking Station DB 15 connector, **PIN N. 14. (or N.8)**

3. Connect the **black GND** of the PCAS XRX interface cable to the Docking Station DB 15 connector, **PIN N. 13. (or N.15)**

4. Plug the serial connector of the PCAS XRX interface cable to the Zaon PCAS XRX.

Enabling the ZAON PCAS XRX on EKP V



1. Press the **Menu** button
2. Select **Tools**
3. Select **Traffic**
4. Set:

- **DATA reception: ON**

- **Connection interface:**
USB / COM A / COM B

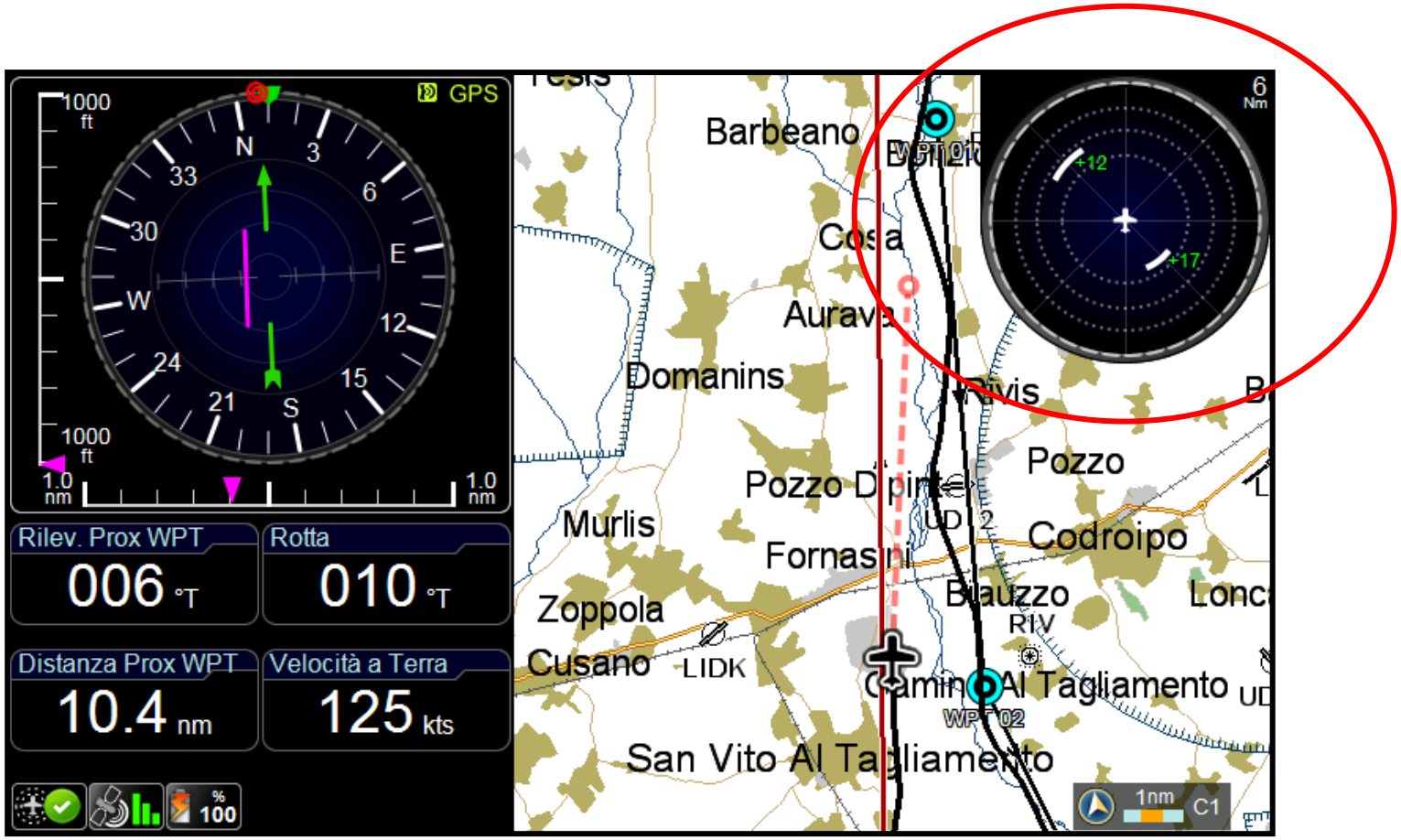
- **Range alert:** select the action range 6 / 3 / 1.5 NM

- **Aircraft type:** choose the type of aircraft (read the ZAON PCAS XRX manual for further info).

Setting the ZAON PCAS XRX

On the ZAON PCAS XRX, open the **COM** menu and select **Profile 1**.

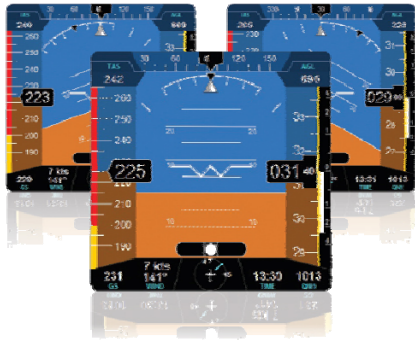
Traffic as displayed on EKP V



Once EKP V is connected to the ZAON PCAS XRX and that both devices have been set, the traffic data are displayed on the EKP V map.

Contents:

A2 ADAHRS: Turns EKP V into an EFIS



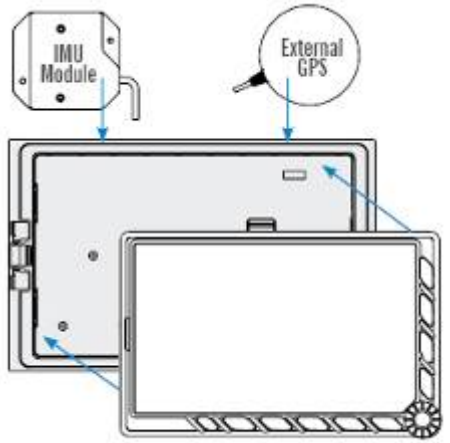
■ The EKP V turns into a full-featured Primary Flight Display when connected to AvMap's A2 ADAHRS module. The AvMap A2 ADAHRS is a compact fixed-install module providing **attitude, heading, altitude and airspeed data** to the system.

■ A2 ADAHRS contains solid-state gyros, accelerometers, magnetic field sensors and air data sensors; it should be **connected to the aircraft pitot-static system**, in order to take full advantage of its functionality.

■ The small and light weighted ADAHRS module easily fits into the aircraft as **it can be installed in any orientation** (a proper calibration procedure must be performed).
It is suggested to install the A2 aligned with the aircraft longitudinal axis, as it simplifies the attitude calibration process.

A2 ADAHRS - specifications

- Dimensions: 2.48” x 2.28” x 0.98”
- Weight: < 1.8 Oz (< 50 g)
- Temperature Range: -40°F to +185°F
- 3-axis gyros, accelerometers and magnetometers
- Acceleration range (3 axis) +/- 8 g
- Rotation range +/- 1600 deg/s
- Air data sensors 0-250 kts; -3000, + 44000 ft)
- UAV Navigation® motion processor
- Advanced data fusion capability
- USB interface (1,5 m cable)
- Guided calibration procedure



Content of the box:

ADAHRS module

A2 ADAHRS installation

1. Choosing the position

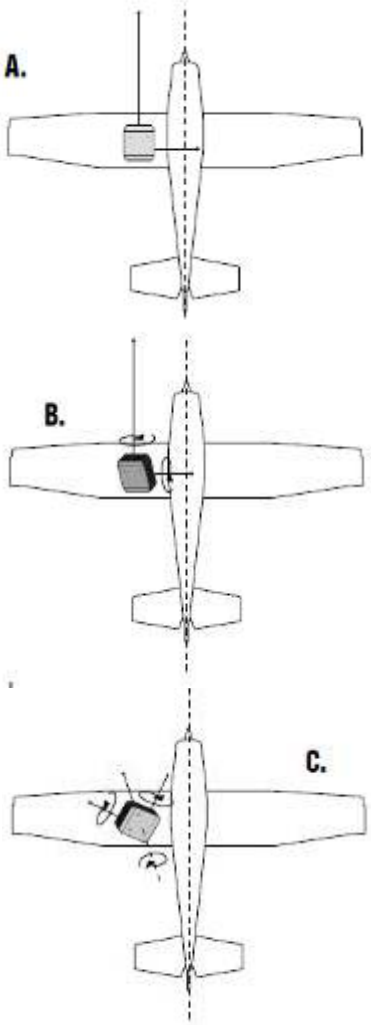
• **Near the pitot and static lines**

• **In a location clear of strong magnetic or electromagnetic disturbances** as much as possible.

• Avoid installing the A2 ADAHRS near electronic equipment (other digital EFIS, radios, transponders, etc), AC or variable DC cables, alternators, electrical motors, ferrous materials, etc. In such cases the proper behavior of the compass is not guaranteed (i.e. the compass may be crossed as “out of order” or may give erroneous indications).

Hint:
Use a hand-held compass to verify the magnetic disturbance in the area selected for installation. If the needle shows relevant changes or unstable indication, the location is not suitable for installation. Make sure to perform this test with all on-board electronic devices switched ON.

A2 ADAHRS installation



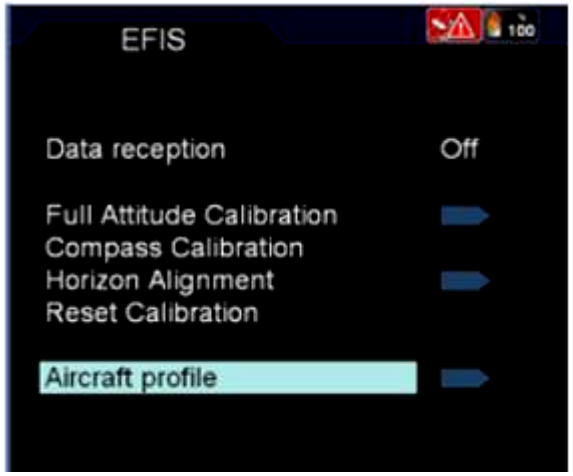
2. Orientation

Scenario A.
No calibration needed.

Scenario B.
A2 ADAHRS is aligned with the aircraft longitudinal axis, is not aligned with straight & level flight attitude but pitch and roll offsets are present: **a Horizon Alignment procedure is required.**

Scenario C.
A2 ADAHRS is not aligned with aircraft longitudinal axis, nor with straight & level flight attitude:
Full Attitude Calibration procedure is required.

Enabling the A2 ADAHRS on the EKP V



1. Press the **Menu** button
2. Select **Tools**
3. Select **EFIS**
4. Set:

- **Data reception: ON**

- **Full attitude calibration**
  Procedure to be performed on the ground to determine the offset in pitch, roll and yaw between A2 installation attitude and the aircraft.

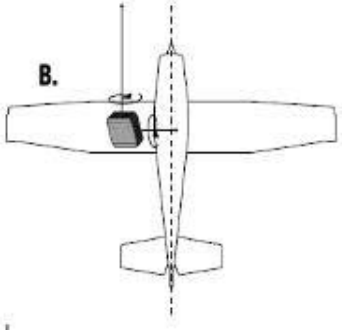
- **Compass calibration**
  Procedure to be performed in-flight to compensate magnetic disturbances the A2 is subject to.

- **Horizon alignment**
  Procedure to be performed on the ground to compensate only pitch/roll offset between the A2 and the aircraft axis.

- **Reset Calibration**

- **Aircraft Profile:** choose the type of aircraft.

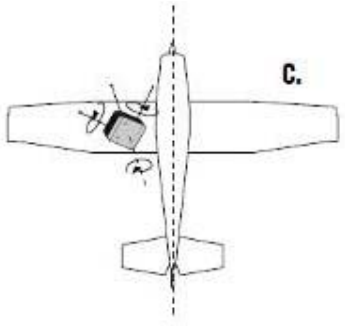
Calibrating A2 ADAHRS



Horizon Alignment

Press **MENU > STRUMENTI > EFIS > Horizon Alignment.**

1. Make sure the aircraft is in straight and level flight attitude
2. Press the joystick to record a sample of pitch and roll angles



Full Attitude Calibration

Press **MENU > STRUMENTI > EFIS > Full Attitude Calibration.**

1. Select if the maneuver will be pitch up or down. For tricycle aircraft the pitch up maneuver can be performed by pushing the tail (pitch up), while tail draggers will execute a pitch down maneuver by raising the tail.

2. Reset A2 ADAHRS calibration data; select Start. Wait until the reset phase is completed.

3. Set the aircraft in level and straight flight attitude by using jacks or blocks (or by asking a friend to push or lift the tail and hold). Press ENTER (joystick click) to record the sample in level & straight flight.

4. Set the aircraft in a pitch up (or down) attitude and press ENTER to record the pitch up/down sample. WARNING: be very careful not to change the aircraft heading while performing the pitch up /down maneuver.

5. Set values to A2 by pressing ENTER. Wait a few minutes for the sensor to stabilize and realign. If pitch and roll after a few minutes are still not aligned fine-tune pitch and roll offset by executing a Horizon Alignment procedure.

Calibrating A2 ADAHRS on EKP V

Compass calibration and test flight

ATTENTION: the magnetometer calibration data is invalidated after every attitude calibration procedure (full attitude calibration and horizon alignment). Make sure to properly calibrate attitude before proceeding with Compass Calibration

The Compass Calibration procedure must be executed in-flight and requires to steer the aircraft in 4 directions and execute some pitch up/down maneuvers. The total duration for this procedure is about 4 minutes.

Press **MENU > TOOLS > EFIS > Compass Calibration.**

The screen switches to **Primary Flight Display** mode, where a flight director (**a magenta frame**) shows the maneuvers to perform. Follow the **magenta frame** until the procedure is finished.

Calibrating A2 ADAHRS on the EKP V

Compass calibration and test flight

Assuming that the calibration is started with the aircraft heading North, the steps required are:

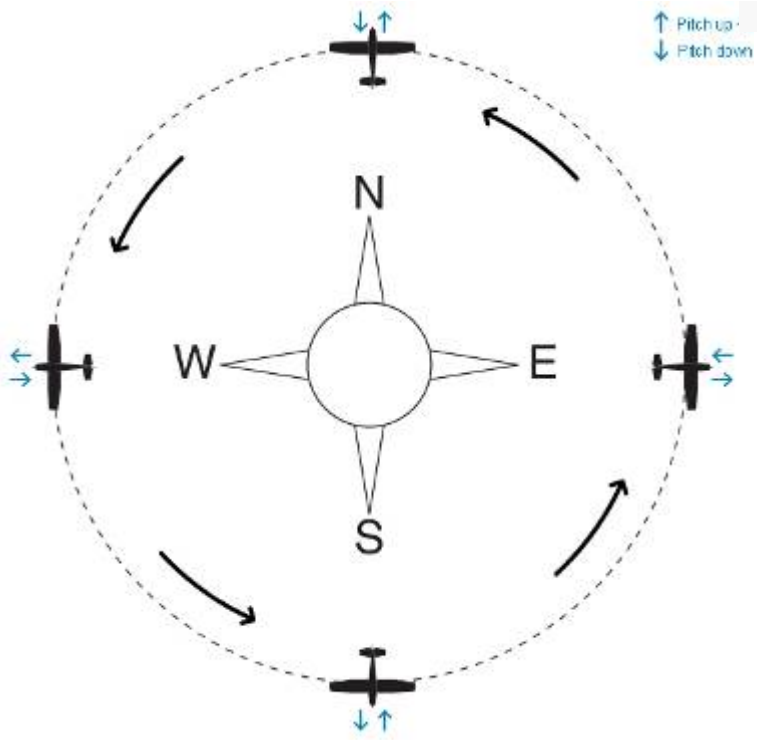
1. Maintaining heading 000° execute: pitch up + 20°, back to straight flight and then pitch down -20°

2. Turn left to heading 270° by performing a standard rate turn (the proper bank will be shown by the flight director). The target heading for each step is shown as a magenta reference inside the heading tape.

3. Execute pitch up/down maneuvers as described in step #1

4. Repeat steps #2 and #3 for headings 180° and 090°, until reaching again the original heading.

5. At the end of a successful calibration procedures the compass instruments is enabled (i.e. red cross removed) and the HSI instrument correctly shows AHRS as data source, meaning that magnetic compass data are now available to the EFIS system.

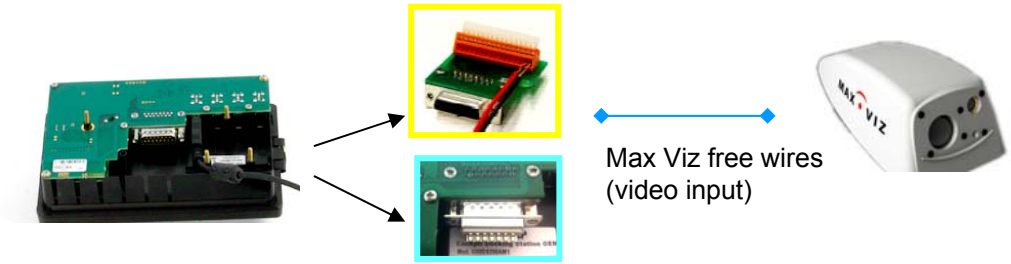


Note: it's not required to start the procedure heading north. Any starting direction is acceptable.
Note: If the calibration fails or the compass indicator is not enabled, repeat the calibration procedure. If several calibration attempts fails review the installation location of the A2. Magnetic disturbance could be too high in the selected area.

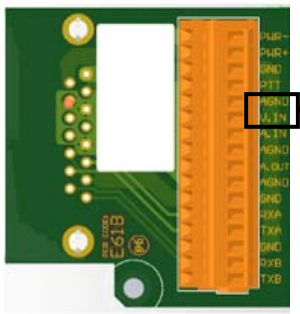
Contents:

EVS Astronics Max-Viz-600 Installation

Connection through Cockpit DOCKING STATION



Standard version



AGND	Video Input
V.IN	

OEM version

3	AGND	Video Input
11	V.IN	

Astronics Max-Viz-600
Enhanced Vision System: an advanced infrared camera that improves the Pilot's situational awareness. It can be connected to the EKP V's 7" LCD.

Instructions:

1. Connect the Max Viz 600 **Video GND cable** to the clamp board / BD connector of the Docking Station, to the pin labeled as **AGND / N.3**

2. Connect the Max Viz 600 **Video Out cable** to the clamp board / BD connector of the Docking Station, to the pin labeled as **V.IN / N.11**

Enabling the video input on EKP V

1. Press the **Menu** button
2. Select **Tools**
3. Select **Video IN**
4. Select **Show Video** to view it on the EKP V display.
5. Adjust saturation, contrast, brightness and shade.

the video from the camera / EVS can be activated setting this option for the configurable button F1.

Contents:

Device Manager on EKP V

The device manager page shows which instruments are connected to EKP V and if the corresponding application are enabled.

1. Press the **Menu** button

2. Select **Tools**

3. Select **Dev. Manager**