FLYBOX

INNOVATIVE AVIONICS

PRODUCT CATALOG

empower your flight

APR1

Automatic Propeller Controller

Setting New Standards in Aviation Innovation

Drawing upon years of meticulous testing and refinement, we proudly present the APR1 **Automatic** Propeller Speed Controller. Born from the legacy of our pioneering PR1-P, the APR1 represents the result of our relentless pursuit of excellence in avionic instrumentation.

The heart of the APR1 lies in its revolutionary RPM control algorithm. The RPM are always adjusted according to flight phase, aircraft speed and MAP value.

Panel mount:2-1/4"(57 mm)
Supply voltage: 10~30 Vdc

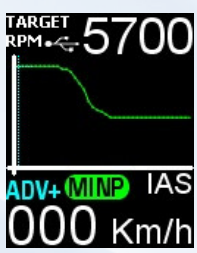
Say goodbye to manual RPM adjustments during any phase of flight: APR1 makes it an effotless **Single Lever Engine** operation.

Crafted for Versatility: APR1 is available in various versions ensuring **integration with a wide range of engines**, including the Rotax iS series, and **compatibility with all propeller** types on the market.

Manual page example

APR1 **optimises speed and fuel consumption**, at each phase of flight, and every position of the throttle.

It also guarantees reliability and accuracy over time. Its built-in sensor automatically adjusts display brightness for optimal visibility, ensuring clear readings in any lighting condition.



RPM/Speed curve

Enhanced Safety Measures: APR1 boasts a 20-amps output and incorporates a **short-circuit protection system** in automatic mode. This advanced feature protects against potential damage, providing peace of mind.

Main page example

Three operating modes:

- **CSPD: Constant speed (as in the picture)**
- **ADV: Advance**
- **ADV+: Advance+**

Some of the solutions APR1 is compatible with:

DUC Helices Propellers

jihostroj AERO TECHNOLOGY & HYDRAULICS

Your electrical propeller

E-Props

Check our website www.flyboxavionics.it for all the products specifications, accessories and prices.

My-EMS

Instinctive data reading

Thanks to years of experience in designing and producing Engine Monitoring Systems, our latest instrument is crafted to satisfy the needs of every pilot who proudly state that **round is better**.

My-EMS is the answer to all the pilots who want everything under control despite the **reduced panel space**, and to those who wish to keep the whole **system as light as possible.**

Our state-of-the-art system is effortlessly installed in a **3-1/8" (80mm) cut-out** on your instrument panel.

Lighter installation, probes and sensors connect directly at the back of the instrument.

Upgrading your panel has never been so cost-effective.

From the simplest to the most sophisticated preferences, each of the **4 version** of "MY-EMS" offers a user-friendly interface that ensures seamless navigation and accessibility to essential functions, empowering pilots with unparalleled control.

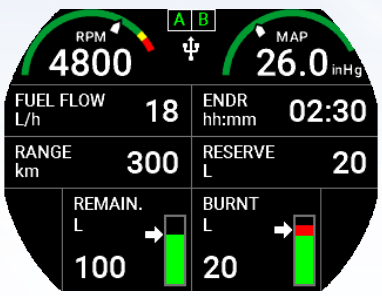
My-EMS **Base**, **Plus** and **Pro** are compatible with all the injected and naturally aspirated Rotax Engines, and can be interfaced with almost all the engines on the market.

My-EMS **CRX** is compatible with Vittorazi Cosmos 300, Rotax 503 and 582, making it the perfect solution for all the microlight powered aircrafts.

Weight:	**230g**
Panel mount:	**3-1/8" (80mm)**
Supply voltage:	**10~30 Vdc**

Base version features	
RPM	COOLANT T.
MAP	CAT/IAT
OIL T.	FUEL P.
OIL P.	FUEL LEVELS (2)
EGT (UP TO 4)	VOLTMETER
CHT (UP TO 4)	4 HOBBS METER

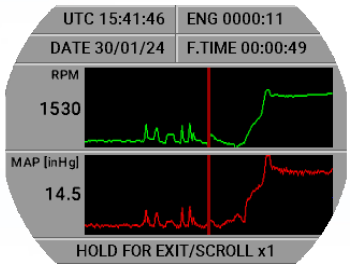
Additional features included: PLUS version
Fuel Computer



- Flow Meter,
- Endurance,
- Remaining,
- Burned,
- Range
- Q.ty to destination

Additional features included: PRO version
Fuel Computer 100h Datalogger

- 100h Data recording
- Both graphical or numerical representation
- Download of the data in a USB flash drive



Omnia57 and 80

The Omnia series is designed to **revolutionize legacy avionics** systems, while enhancing flight safety and convenience. This comprehensive family of instruments introduces a multitude of cutting-edge features and alarms. The Omnia line boasts **optimal visibility** even in the brightest conditions. Connectivity is facilitated through USB integration, enabling easy firmware upgrades and remote diagnostics. In addition, the incorporation of a dual Can-Bus interface allows Omnia instruments to be clustered and data to be taken directly from the engine.

Almost every instrument is available in the 80mm format, too, for an enhanced visibility.

ALTI/VARIO

A precise and reliable Altimeter/Variometer with altitude bug preselector.
- User settable units
- Altimeter
- VSI
- Altitude preselector

ASI-OAT

Simple and easy to use ASI with max speed alarm and user settable units.
- Both tape and needle view available
- Air Speed Indicator
- Outside Air Temp.

FUEL COMPUTER

Fuel management.
- Fuel flow, used and remaining
- Endurance
- Range with GPS
- Fuel remaining at destination
- Up to 2 (optional) flow meters.

RPM

RPM gauge.
- Engine RPM
- User settable thresholds and alarms
- Uses standard pick-up or ECUs
- Hobbs meters.

EGT/CHT

Engine temperature multigauge, reads probes or ECU signals.
- Up to 4 EGT
- Up to 4 CHT
- Configurable alarm system

FUEL LEVEL

Fuel gauge with warning system.
- Up to 4 tanks
- Capacitive or resistive sensors
- Alarms for each thank
- Fuel Pressure from probe or ECU data.

Check our website www.flyboxavionics.it for all the products specifications, accessories and prices.

Omnia57 and 80

2 AXIS G-METER

G-meter gauge
- Peaks memory
- Current value graphic visualization
- User settable alarms.

LIFT

More than an AOA. Easier and more convenient to install, Omnia LIFT helps to prevent a Stall.
- User settable thresholds and alarms.

OIL T/P COOLANT T.

Three configurable gauges in a single instrument, also for engine with can-bus.
- Oil Pressure
- Oil Temperature
- Coolant Temperature.

RPM/MAP

Dual RPM/MAP instrument with alerting system.
- Last flight timer
- Total accumulated engine time
- User settable thresholds and Alarms.

ROTOR

Multifunction rotor tachometer,
- Visual Alarm on screen
- Transistor Alarm output
- User settable thresholds and Alarms.

VOLT/AMPERE DIAGNOSTIC

Safety instrument that diagnoses the state of your electrical power.
- Voltmeter
- Amperometer
- Electric Supply Status.

MAP

MAP smart gauge.
- Manifold Air Pressure
- User settable thresholds and Alarms.

CHRONO/ GPS DATA

- Local Time
- UTC time
- Chronometer
- Countdown
- GPS data view (requires a GPS connection).

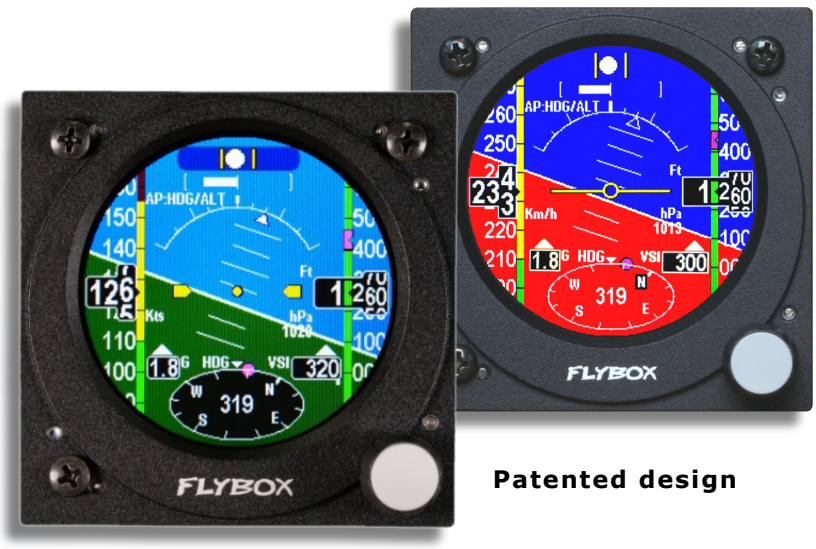
FUEL P

Fuel pressure smart gauge.
- Visual Alarm on screen.
- Transistor Alarm output.

RPM+ROT

Multifunction engine tachometer.
- 4 Hobbs meters
- Chronometer
- Automatic flight timer
- Last flight RPM peak
- Max RPM peak ever
- RPM Rotor indicator.

Oblò and Oblò2



Patented design

Oblò integrates a **digital attitude indicator**, primary **flight data display**, and an **optional autopilot** into a singular, compact, and lightweight instrument (**300g**). Easy to install, it **fits in a standard 3-1/8" (80 mm) cutout.**

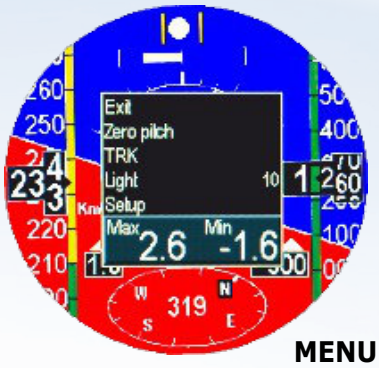
Primary designed as a backup instrument, but also ideal for who wants to replace the analog six pack.

Using a state-of-the-art custom TFT LCD, Oblò guarantees an excellent visibility also in the direct sunlight.

The brightness is easily adjustable. Adding Oblò-Rep to the primary Oblò Efis unit, allows the user to have a second screen with an always default configured EHSI or Drum altimeter.

Oblò displays true aircraft attitude thanks to the integrated AHRS inertial platform, equipped with solid-state sensors (gyros, accelerometers and magnetometers) and a complex adaptive algorithm.

In addition to the standard functions of the standard version, with **Oblò2** you get new colours, new graphics and the ability to **receive flight plans** from tablets and iPads. Thanks to its **Wi-Fi** capability, and by adding the optional Flybox Connect Kit, you can fly to your destination safely using the HSI function of the instrument, or, if connected to our autopilot system, it will automatically follow the plan enhancing your flight experience.



MENU

Easily readable menu cells, with auto-zoom on the selected item.
Accessing the desired information is easy and intuitive. Parameters setting is quick and straightforward.
This picture shows the reading of the G-meter peak memory. All measure units are user configurable.

EHSI

When receiving a direct to or a flight plan from an external GPS , the EHSI (Electronic Horizontal Situation Indicator) function provides: cross track error, heading, distance and time to go.

OBLÒ, ALSO A MASTER ALTIMETER

With the new improved feature Oblò becomes a real drum altimeter. Setting the reference pressure is as easy as it gets with the double pressure windows.

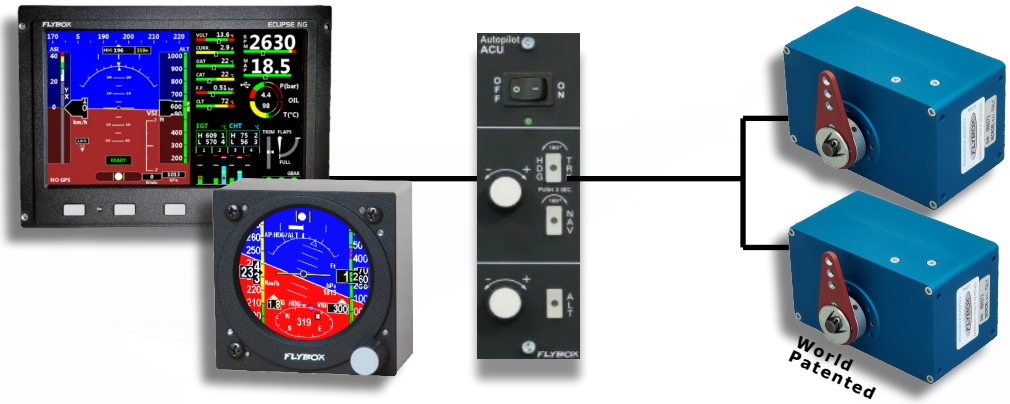
Oblò2 has an embedded Wi-Fi capability to receive flight plans. Just add the Connect Kit, and enjoy your planned flights!

Now, thanks to a cooperation with SkyDemon, follow your flight plan without troubles thanks to the constant comunication between the two systems!

Check our website www.flyboxavionics.it for all the products specifications, accessories and prices.

Autopilot system

Through the Connect Kit the autopilot can interface with:
- Skydemon
- Enroute Flight navigation
- AirMate
- Horizon Portable Glass Cockpit
- Runway HD



Our autopilot system can be used with each of our EFIS instruments: Eclipse NG and Oblò-A/P line.

Oblò-A/P, Oblò2-A/P and Eclipse NG also work as a precise **horizontal navigation** and **altitude hold-vertical climb/descent 2 axis autopilot**, with **safety features on min/max permitted speed**.

Manually set altitude and heading or let the autopilot fly the planned route for you. (Compatible with most of the GPS systems on the market that use NMEA output.)

When **Oblò2-A/P** is connected to the autopilot components, together with the optional **Connect Kit**, the **flight plans** or direct to **will be followed automatically**, allowing an enhanced flight experience.

The **Autopilot Control Unit** is the interface between instrument and servos, with direct controls for each mode of operation and two knobs for quick set of heading/tracking and altitude. The ACU is available in vertical or horizontal version.

The **three operating modes** are:

-HDG/TRK to hold magnetic heading or GPS tracking, depending on what you have currently selected in the instrument;
-NAV is used for horizontal navigation, tracking a host GPS flight plane or a Direct To;

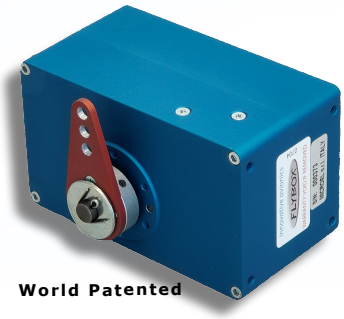
-ALT to hold and change altitude.

An added safety features such as **automatic course reversal**, performs a useful 180° turn in both selectionable directions in case of unwanted entering in IMC conditions when an immediate reverse direction is needed.

A new reference point in the servomotor market: FX75

- Completely disconnected when not engaged, no residual torque at all.
- Equipped with a powerful brushless motor.
- Fully CNC machined and anodized alloy case.
- No moving plastic parts.
- Custom made steel gears.
- Compact and lightweight, at the same time tough and reliable.
- All in 750 g.

The servomotor comes with an anti rotation flange, that can be oriented in 24 different positions, to limit the direction of the working zone in function of the type of installation. The two mounting brackets fixed in one of the possible positions, allow a better installation flexibility of the servomotor.



Vigilus

Vigilus offers unparalleled control over engine parameters and onboard fuel management. It consists of **a graphical display** (3.5" with adjustable brightness, clearly visible even when exposed to direct sunlight) **and an external probe connection module** (Remote Module).

Designed to fit into a standard 3-1/8" (**80mm**) hole, Vigilus combines intuitive functionality with a user-friendly graphical interface, providing pilots with clear and concise data presentation across multiple pages.

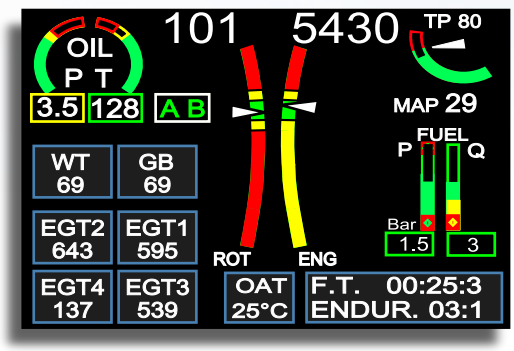
Compact yet packed with all the essential data, Vigilus is also customizable to suit various engine types, and to set alarms and audio alerts according to your preferences. Whenever a parameter exceeds its limits, you're immediately notified, ensuring a safe and smooth flight.

Weight:	**185g (+180g remote module)**
Panel mount:	**3-1/8" (80mm)**
Supply voltage:	**12~30 Vdc**

Visualize up to 3 color cameras

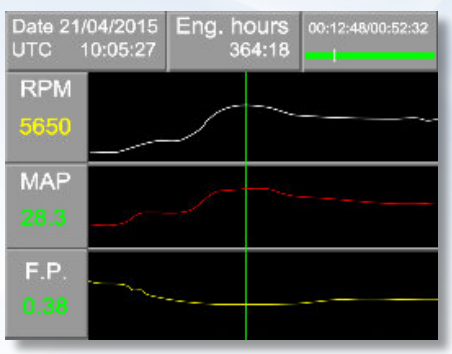
Up to 3 color cameras can be connected to Vigilus through the Video Grabber, to monitor your landing gear or under belly insights of the aircraft.

Remote Module



Main screen helicopter version

Datalogger screen



All data are recorded and stored in memory for over 200 hours of recording.

The data can be viewed directly on the display or downloaded for viewing and archiving on a PC.

Vigilus is available for Rotax 912/914, Rotax iS series, Rotax 503/582, Jabiru, D-motor, Lycoming, Continental, Edge performance, UL-Power, and other engines are under development. Available for helicopter and gyrocopters, too.

Check our website www.flyboxavionics.it for all the products specifications, accessories and prices.

Engimaster

For Fixed Wing-
Horizontal

For Rotary Wing-
Vertical

Dimensions:	**125x83,7x18mm**
Weight: 185g (+180g remote module)	
Panel mount:	**105x76,5mm**
Supply voltage:	**12~30 Vdc**

Building upon the success of Vigilus, we proudly introduce EngiMaster, a **compact** and streamlined Engine Monitoring System designed to meet the unique needs of both **rotary-wing** and **fixed-wing** aircraft. Its **versatile mounting options** and **lightweight** construction make it the ideal choice for aircraft of all sizes and configurations, even for the smallest panels.

Featuring a **4.3" screen**, EngiMaster delivers a lot of crucial information, including up to **6** Exhaust Gas Temperatures (**EGTs**) and Cylinder Head Temperatures (**CHTs**). With **three** easily accessible **screens visualization**, pilots can effortlessly navigate through a wide range of optional features, ensuring personalized control and insight into engine performance. The possibility to **set alarms and audio alerts** according to your preferences, guarantees that you're immediately notified when a parameter exceeds its limits.

3 embedded camera input will allow you to monitor your landing gear or under belly insights of the aircraft.

Engine **data are sampled 20 times per second**, to have up-to-date informations and alerts instantly when detected.

The main page shows: Rotor RPM, Engine RPM, MAP, Oil, Pressure and Temp, Coolant temp, EGTs, CHTs, Fuel pressure and quantity.

The second page features Volt, Amp, IAT and OAT gauges, as well as the different Hobbs meters measures.

The third page (datalogger) features an easy to use data viewer which allows to scroll through all the engine and optional probes collected data.

It is compatible with all the injected and naturally aspirated Rotax Engines, and can be interfaced with almost all the engines on the market.

Check our website www.flyboxavionics.it for all the products specifications, accessories and prices.

Eclipse NG

Weight: 900 g

Screen: 7”

Supply voltage: 10~30 Vdc

Compact 7” EFIS

Whether you're seeking a simplified monitoring solution or an answer to your limited panel space, Eclipse NG provides a reliable, no-frills option for efficient flight and engine data management.

Despite its smaller footprint, Eclipse NG doesn't compromise on performance. Its **sunlight-readable display** ensures clear visibility of critical information, while intuitive organization simplifies data interpretation. **Vocal alarms provide instant alerts**, enhancing situational awareness without overwhelming pilots with unnecessary distractions.

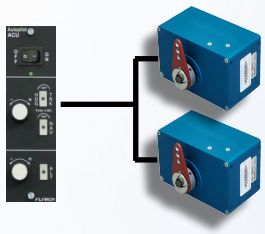
The **three pages** can be selected through the buttons, so that you can choose at any time what to visualise. The **first page** shows features **attitude indicator and flight data on the left side**, while you have a shot on the essential **engine parameters** on the **right side**.

The **PFD page** has a full page **attitude indicator** that enhances all the **flight data** in a single screen.

The **EIS page** is composed by all the **engine parameters**, the **hour meters** section and the **fuel management** section.

Eclipse NG can be connected to its MFD version, with only 2 wires. As slave instrument, it allows the viewing of all the available data from the main ECLIPSE NG master unit. The MFD can be used only in two screen glass cockpit configuration.

AUTOPILOT COMPATIBLE

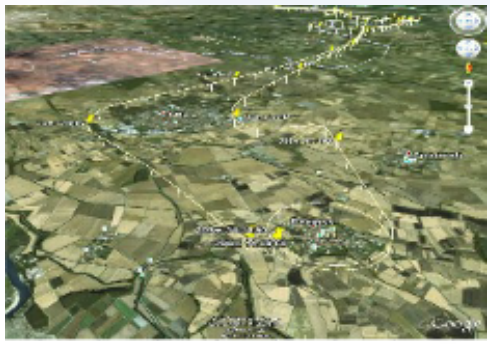


WI-FI CAPABILITY TO RECEIVE FLIGHT PLANS

A built-in datalogger with 1 second sampling over 200h records and show all the available parameters, also with graphic representations.

All the data can also be exported in Excel (CSV) format for viewing on the PC.

It also exports GPS data for easy viewing of the trip, using Google Earth on the PC.



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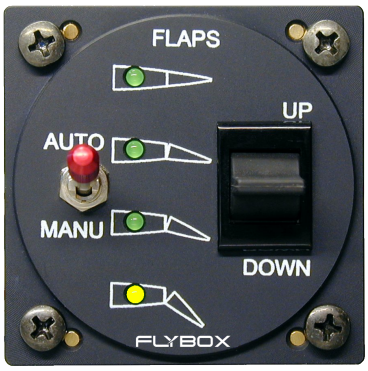
Flap Controllers



Panel mount:2-1/4”(57 mm)

ALWAYS COMPATIBLE WITH:

LINEAR ACTUATOR (cod. 105000)

LINEAR POTENTIOMETER (cod. 104000)

AIR EFC

EFC57 PLUS

Since its release, our electronic flap control system has been helping pilots control the flap position, reducing the workload especially during landing.

The two new versions, **EFC57 PLUS** and **AIR EFC**, feature **additional short-circuit protection**, a **USB input** for firmware upgrades, and the **capability to connect a slave unit**. The now well-known reliability of the previous system is further improved, thus providing the pilot with all the comfort of a known solution, with implemented safety.

The mode of operation of **EFC57 PLUS** remains unchanged: simply **select one of four positions previously stored** by the user, then your **new Controller will automatically move the flaps to the exact position.**

In addition, in the **AIR EFC** version, the pilot associates **each flap position with a maximum speed**, **beyond which the flap cannot be lowered**, thus **preventing** the risk of flap **breakage**.

The **“Auto/Manu” safety function** allows the pilot to have **complete control** even **in case of failure**, **bypassing the electronics** completely when switching to Manual mode.

Both versions can be connected to a **slave** (or **repeater**) unit, thatallows the second pilot to take control of the flaps when needed.

Propeller Controller

Patented

Panel mount:2-1/4”(57 mm)

The Semi-Automatic Propeller Controller

PR1-P is designed to make flying easier and safer. **PR1-P controls and keeps the engine speed constant by varying the propeller pitch.**

Just **set the desired engine speed** and **PR1-P will do all the work**, **displaying the target speed and the actual speed** measured by the engine. It is completely adaptable to the characteristics of the various propellers thanks to **settable parameters** that allow to obtain the maximum adjustment precision.

PR1-P is able to maintain the target speed with an **accuracy of +/- 20 RPM.**

The safety switch exclude electronic control in case of failure, enhancing even more the safety of the system. The possibility of connecting an external switch to adjust the pitch from the stick grip, and the possibility of connecting an external potentiometer or Flybox lever make it unique on the market.

FLYBOX
INNOVATIVE AVIONICS

PRODUCT CATALOGUE

ABOUT US

We, Microel srl, have been designing and manufacturing electronic boards for the industrial automation market since 1982, and we gave birth to Flybox Avionics as an aeronautical division in 2003.

Alongside a team of pilots, we started developing a line of instruments exclusively for ultralight and experimental aircrafts, born from the passion of flying.

Flybox is now a leading resource for all experimental and light aviation enthusiasts internationally.

OUR GOALS

Our dedicated team work diligently to guarantee a reliable line of avionics instruments that combine innovation with user-friendly interfaces and smart solutions to optimise every customer's flight experience.

We are passionate about our products, from conceptualisation to launch and beyond. Every detail is important to us and we value continued study and research to engineer the best design, without forgetting the main aspects: safety and practicality.

And you, our customers, are part of the innovation, as we work with and welcome your experience and feedback to constantly improve our instruments and services to ensure we meet and fulfil the latest market needs.

Product images, functions and technical characteristics shown in this
are for illustrative purposes only and may differ from the actual

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