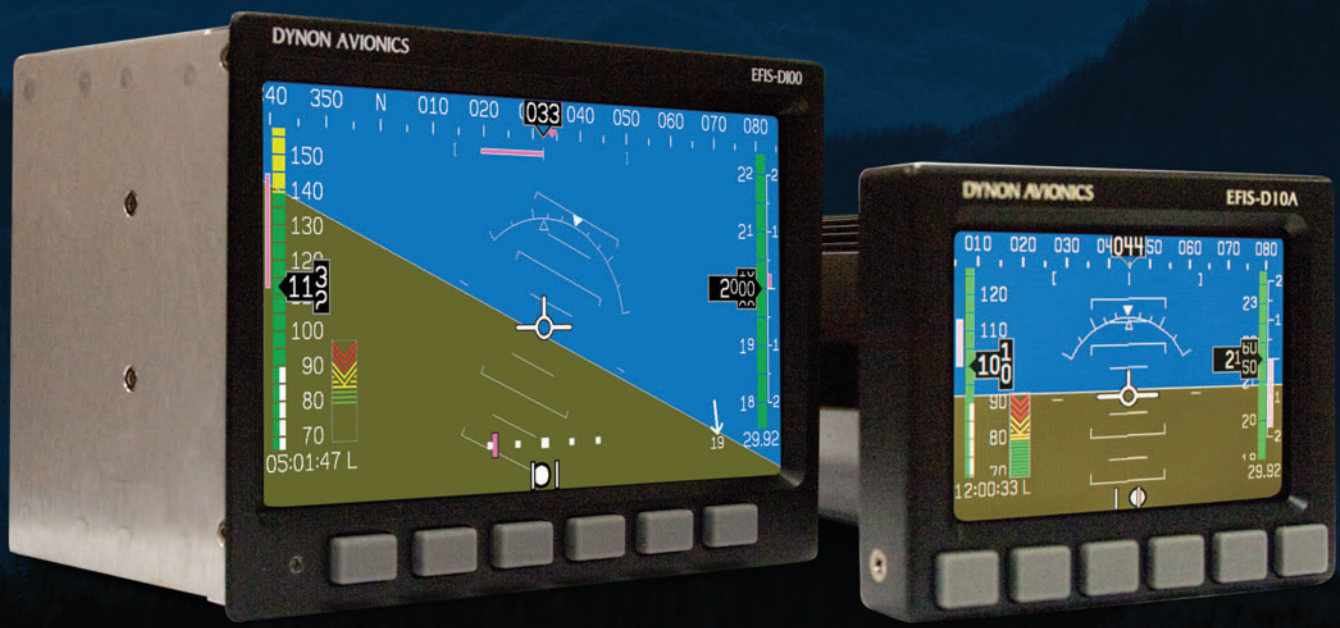
DYNON'S BEST-SELLING

# EFIS-D10A & EFIS-D100

NOW **STC APPROVED** FOR TYPE CERTIFICATED AIRCRAFT




DYNON

# EFIS-D10A AND EFIS-D100

STC APPROVED FOR TYPE CERTIFICATED AIRCRAFT

## DYNON'S EFIS-D10A AND EFIS-D100 ARE NOW STC APPROVED

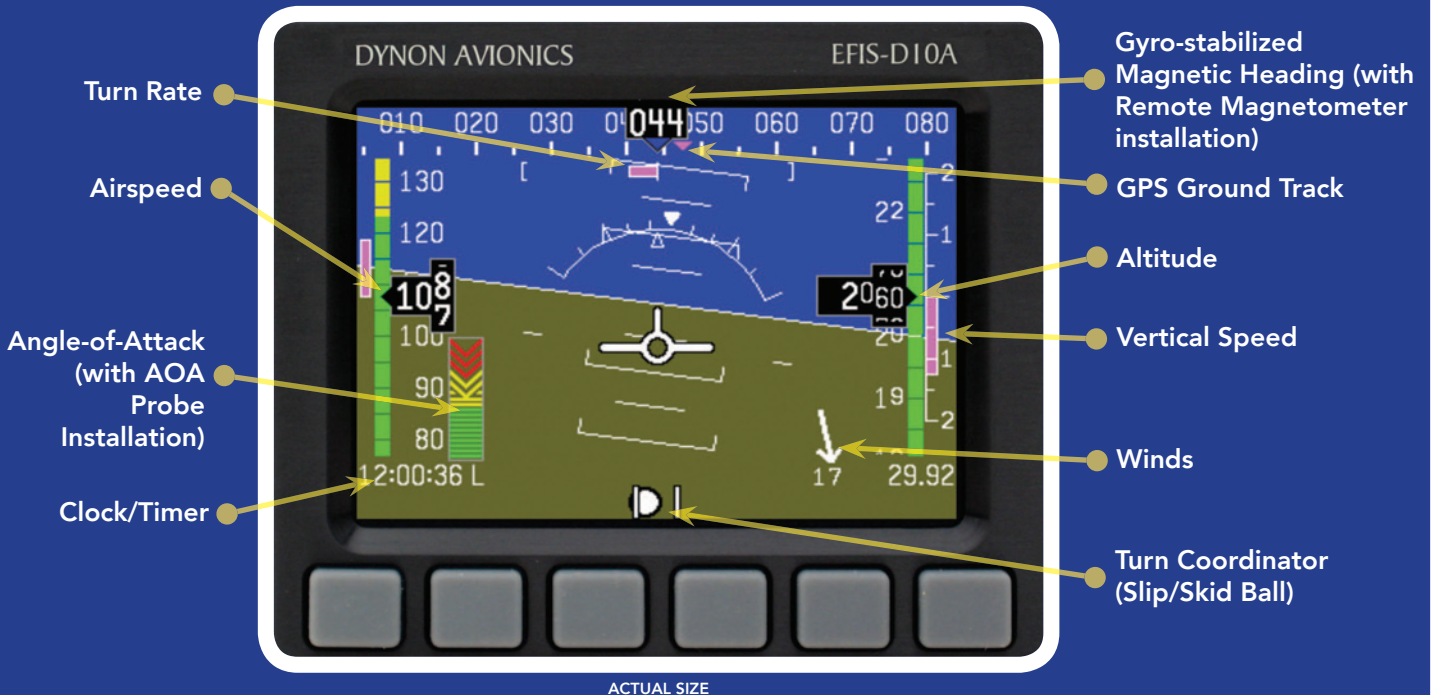
Over 15,000 experimental and light sport aircraft already fly behind Dynon products worldwide. Based on the success developing avionics for this fleet, Dynon recently partnered with EAA and FAA in the EAA's breakthrough STC that allows installation of Dynon's EFIS-D10A into type certificated GA aircraft. The initial STC allows the EFIS-D10A to replace the existing primary attitude indicator in many Cessna and Piper aircraft with a modern EFIS that contains no moving parts. More aircraft approvals are expected to follow.

The EFIS-D10A is a full 4" Primary Flight Display that includes attitude, airspeed, altitude, magnetic heading, turn rate, inclinometer, G-Meter, winds, and more. Other capabilities include Angle-of-Attack and internal backup battery.

Unique to this STC, EAA, Dynon, and the FAA worked together to allow the EFIS-D10A to be installed without the traditional Technical Standard Order (TSO) and Parts Manufacturer Approval (PMA) requirements. Instead, this approval utilizes the FAA's "commercial parts" rule, which allows products that aren't designed for type certificated aircraft to be installed under certain circumstances. This approach allows owners of eligible aircraft to equip with the same affordable Dynon products that experimental and LSA aircraft have utilized for years. Because additional certification costs have been kept to a minimum, pricing remains the same as for the experimental market: A kit of the EFIS-D10A plus minimal required accessories starts at just $2625.

## FEATURES

- The EFIS-D10A and EFIS-D100 is an STC'd replacement for the failure prone attitude indicator in type certificated GA aircraft.
- The EAA STC covers Cessna 150, 152, 172, 175, 177, 182, and Piper PA-24, PA-28, PA-32, and PA-38 models, with more aircraft to follow. Your aircraft must have been equipped with a pneumatically driven attitude indicator at time of manufacture to be eligible. More aircraft approvals expected.
- Proven in thousands of Experimental and LSA aircraft over 10+ years.




ACTUAL SIZE

### Other Features

• G-Meter • Voltmeter • OAT (with OAT Probe installation) • Density altitude and TAS (with OAT Probe installation)

# FREQUENTLY ASKED QUESTIONS

### HOW AM I ABLE TO PUT A DYNON EFIS-D10A OR EFIS-D100 IN MY TYPE CERTIFICATED AIRCRAFT?

The EAA, FAA, and Dynon combined their expertise to enable the installation of commercially available avionics systems into certain type certificated GA aircraft. Based on the success of our proven product development process in the experimental market, the FAA is authorizing STC installation of a Dynon EFIS as a replacement for the primary attitude indicator in small GA aircraft. The EAA — with Dynon's help — developed the STC. Customers buy the Dynon EFIS from their Dynon dealer/installer and the STC from EAA. Like any STC, installations must be signed off by an A&P with Inspection Authorization (IA) and will require an FAA form 337.

### WHAT IS THE PRICING AND AVAILABILITY OF THE EFIS SYSTEMS CONFIGURED FOR THESE APPLICATIONS?

Because of the novel approach of the EAA's STC, pilots of type-certificated aircraft will install the same commercial EFIS instrument that is available for experimental and light sport aircraft. Therefore, pricing is the same as well. The EAA STC specifies part number 102778-000, which is the super-set of acceptable components for installing a Dynon EFIS in eligible aircraft. Per the Instructions for Continued Airworthiness for the EAA STC, some of those components are required, while some are optional. See adjacent page for required and optional components.

### WHO IS DYNON?

Dynon Avionics is the leading producer of avionics for Experimental and Light Sport Aircraft, with over 15,000 aircraft equipped all over the world. The EAA chose Dynon for this STC because of its proven success in the market. Dynon's product line spans from the D2 portable attitude indicator to its fully-integrated SkyView system. The EFIS-D10A was one of the first products Dynon released, with thousands installed and flown since 2004.

### WHY DO I BUY THE STC FROM EAA AND NOT DYNON?

The EAA's relationship with the FAA was key to this program's success. The EAA, with Dynon's help, developed this novel STC approach. Dynon is the launch partner for this STC process.

### WHAT AIRCRAFT ARE APPROVED UNDER THIS STC?

The EAA STC allows for installation in Cessna 150, 152, 172, 175, 177, 182, and Piper PA-24, PA-28, PA-32, and PA-38 aircraft, with more aircraft to follow. Your aircraft must have been equipped with a pneumatically driven attitude indicator at time of manufacture to be eligible.

### WHAT IS THE PEDIGREE OF THE DYNON EFIS PRODUCTS?

EAA and Dynon successfully demonstrated that Dynon's commercially-proven manufacturing and development process yields a product that is suitable for use in type certificated aircraft. The Dynon EFIS-D10A and EFIS-D100 are also verified against the recently developed ASTM 3153-15, Standard Specification for Verification of Avionics Systems, which Dynon Avionics was instrumental in creating.

### WILL THE EFIS-D10A OR EFIS-D100 FIT IN MY PANEL?

In a Cessna 172, the EFIS-D10A occupies a slightly larger area than the space available when a conventional attitude indicator is removed. This requires a new subpanel with slightly different spacing.

The 7" EFIS-D100 is 6.95" wide x 4.90" tall x 4.51" deep.
The 4" EFIS-D10A is 4.09" wide x 3.39" tall x 6.85" deep (standard hole mount) OR 7.64" deep (optional flush mount)

### WHEN WILL THE EFIS-D10A, EFIS-D100, AND ASSOCIATED STC BE AVAILABLE?

The STC is available now from EAA. Eligible Dynon products are currently available from Dynon and its dealers.

### IS THE EFIS-D10A/EFIS-D100 TSO'D? DOES DYNON HAVE PMA?

No. This STC demonstrates that Dynon commercial products are suitable for use in type certificated aircraft. Neither TSO nor PMA are required to allow the EFIS-D10A to be installed in aircraft covered by the STC.

### WHAT IS THE PRICING OF THE STC?

The STC costs $100, and is available from the EAA.

### WHAT DOES INSTALLATION ENTAIL?

The STC allows the EFIS-D10A or EFIS-D100 to replace your primary attitude indicator. It can also be installed as a second attitude indicator in aircraft that already have one installed. The EFIS-D10A requires power, pitot, static, Dynon's GPS-251 Receiver/Antenna, an internal backup battery, and optionally Dynon's AOA probe, remote magnetometer, and OAT.

### HOW MUCH DOES IT COST TO INSTALL?

Initially, this will depend on the installer's rates and experience. The EFIS-D10A was originally designed to be installed by aircraft homebuilders with minimal experience, so professional installers will be impressed by how easy it goes in. The aircraft that EAA used for FAA acceptance tests was converted to the STC configuration, test flown, AND converted back to its original form all in just days. Some aircraft will need to have existing instrument spacing modified. This will require a new panel.

### CAN I INSTALL IT MYSELF?

STC installations ultimately require approval from an A&P with Inspection Authorization (IA), and will require an FAA form 337. Aircraft owners who work on their aircraft under the supervision and approval of an appropriately rated mechanic could apply this STC to their aircraft in that manner.

### DO THE EFIS SYSTEMS THAT CAN BE INSTALLED IN A TYPE CERTIFICATED AIRCRAFT HAVE THE EXACT FEATURES AS THE EFISES AVAILABLE FOR THE EXPERIMENTAL MARKET?

They are the same product and have the same capabilities. However, there are some features that are not currently approved for use in type certificated aircraft. One of these is autopilot.

### HOW DOES THE INSTALLATION AFFECT THE WEIGHT & BALANCE OF MY AIRCRAFT?

Typically, installing an EFIS-D10A changes the aircraft weight by less than 1 lb.

### THE EFIS WILL NOT FIT IN MY PANEL. WHAT CAN I DO?

You must maintain the "six-pack" orientation of your existing primary flight instruments. In other words, you can not rearrange them. You may, however, use a new panel to change the spacing to accommodate the EFIS.

### INSTALLING THE MAGNETOMETER OR OAT WILL BE HARD IN MY AIRCRAFT. DO I NEED TO INSTALL THEM?

You can choose to not install the magnetometer and/or OAT (the OAT connects through the magnetometer). In these installations, the EFIS-D10A will not be able to display magnetic heading, OAT, or winds. Note that your aircraft's existing magnetic compass must remain in the aircraft regardless.

### THIS EFIS HAS A LOT OF CAPABILITY. ALL I WANT IS AN ATTITUDE INDICATOR.

All of the other functions that the Dynon EFIS can provide are supplemental in nature. Strictly speaking, the EFIS is a replacement for your attitude indicator. All other capabilities, such as airspeed and altitude, can be suppressed. All of your other primary flight instruments are required to remain in your aircraft.

**THERE IS A GPS RECEIVER/ANTENNA FOR THE EFIS, BUT THERE ARE NO MAPPING FUNCTIONS IN THE PRODUCT. WHAT IS THE GPS FOR?**
The EFIS's attitude algorithm is normally aided by pitot-based airspeed information. If the EFIS's airspeed source gets blocked, the EFIS will automatically use GPS ground speed to continue to display accurate attitude. The GPS antenna must be connected in an STC'd installation.

**IS THERE A GYRO INSIDE THE EFIS?**
There are no moving parts or a conventional "gyro" in the EFIS-D10A or EFIS-D100. The attitude-sensing platform uses modern MEMS rate sensors and accelerometers.

**CAN I ADD AN ADDITIONAL EFIS-D10A TO REPLACE MY DG/HSI?**
No. Right now the STC only allows the EFIS-D10A to be used as an attitude indicator. However, you can add a second attitude indicator elsewhere in the panel if you'd like. The STC does not restrict the number of attitude indicators installed in your aircraft.

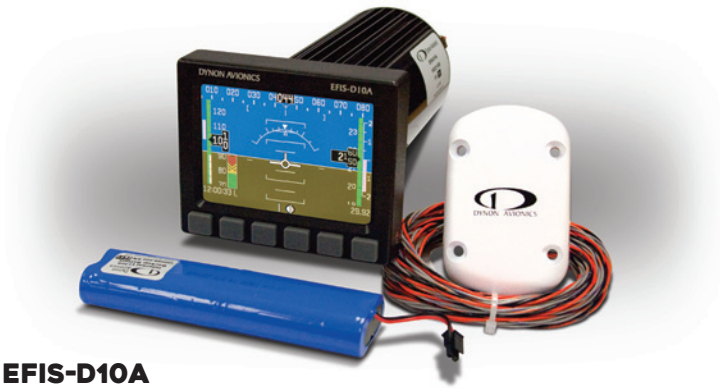
**WILL THE EFIS BE DAMAGED BY AEROBATICS OR UNUSUAL MANEUVERS?**
No. The sensor platform inside of Dynon avionics is able to align only seconds after power up on the ground, and within 15-30 seconds in the air. Most aircraft cannot exceed the EFIS's rate limits of 150 degrees per second of attitude change. If you do, the EFIS will automatically go into a self-recovery mode and re-align after a short period of straight and level flight — typically within 15-30 seconds.

**I'M NOT IN THE US. CAN I INSTALL A DYNON EFIS IN MY TYPE CERTIFICATED AIRCRAFT?**
The FAA STC currently applies to aircraft governed by FAA regulations.

**CAN I ADD A DYNON EFIS TO AN AIRCRAFT THAT WAS NOT ORIGINALLY SHIPPED WITH -- OR DOES NOT HAVE -- AN ATTITUDE INDICATOR?**
Not under the STC, but contact the EAA and they may be able to work with you on a field approval.

# HOW TO PURCHASE YOUR EFIS AND STC

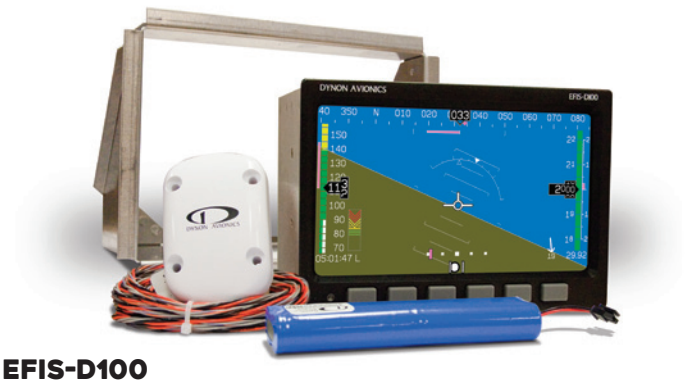
The EAA's STC specifies out a Commercial Parts List, specifying part number 102778-000 (EFIS-D10A EAA Sales Kit), which is the super-set of acceptable components for installing a Dynon EFIS in eligible aircraft . This part is not orderable itself. Per the Instructions for Continued Airworthiness (P/N TJJ-MAN-01) for the EAA STC, some components are required, while some are optional. As of August 2016, those are:



## EFIS-D10A

**Required Components:**
- 100538-000: Dynon EFIS-D10A System, Retail (Includes EFIS-D10A, 100321-000; Mounting Accessories, 100351-000; Short 7/64 Hex Wrench,100556-000)
- 100096-000: Dynon Internal Backup Battery for D10/D100 Series
- 102827-000: Dynon GPS-251 GPS Receiver/Antenna Module for D10/D100 Series

**Optional Components:**
- 100323-000: Dynon EDC-D10A Remote Compass
- 100433-001: Dynon OAT Probe for D10/D100 Series (requires EDC-D10A)
- 100141-000: Dynon AOA/Pitot Probe, Unheated
- 102832-000: Dynon Simplified Wiring Harness for D10/D100 Series w/ GPS-251 support
- 100024-000: D10 Series Flush Mount Bracket



## EFIS-D100

**Required Components:**
- 100534-001: EFIS-D100 with Super-Bright Screen, Instrument only, Retail (Includes Instrument,100488-001; 7/64 Hex Wrench, 100556-000)
- 100096-000: Dynon Internal Backup Battery for D10/D100 Series
- 102827-000: Dynon GPS-251 GPS Receiver/Antenna Module for D10/D100 Series

**Optional Components:**
- 100323-000: Dynon EDC-D10A Remote Compass
- 100433-001: Dynon OAT Probe for D10/D100 Series (requires EDC-D10A)
- 100141-000: Dynon AOA/Pitot Probe, Unheated
- 102832-000: Dynon Simplified Wiring Harness for D10/D100 Series w/ GPS-251 support
- 100422-000: D100 Series Mounting Tray (although technically "optional" for the STC, The D100 requires this mounting tray for all practical purposes)

info@dynonavionics.com (425) 402-0433

# EFIS-D100

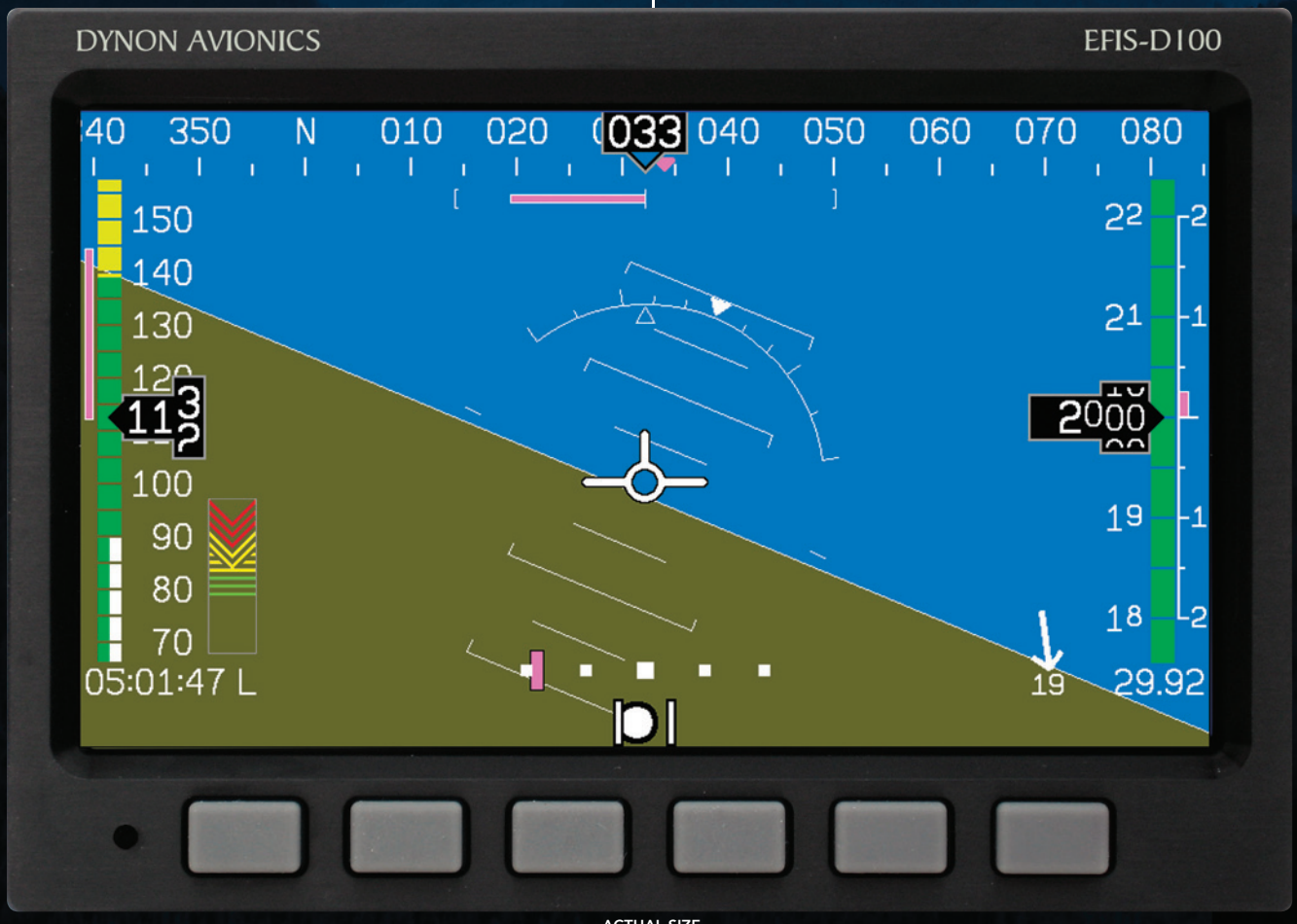
## SPECIFICATIONS

### WEIGHT AND DIMENSIONS

| | |
|---|---|
| EFIS-D100: | 2 lb 4.3 oz |
| Dimensions: | 6.95"W x 4.90"H x 4.51"D |
| Screen: | 7" diagonal |
| Mounting Tray: | 6.1 oz |
| GPS-251 for D10/D100 Series: | 6.7 oz |
| Backup Battery: | 6.4 oz |
| EDC-D10A Remote Magnetometer (optional): | 3.6 oz |
| OAT Probe (optional): | 2.6 oz |
| AOA Probe (optional): | 5.7 oz |
| Wiring Harness (optional): | 9.6 oz |

### CONNECTIONS

| | |
|---|---|
| Wiring: | D-25 male connector |
| Plumbing: | 1/8" NPT (female) each for pitot, static and angle of attack |
| Audio: | Alarm signal for input to intercom or audio panel |
| Voltage: | 10 - 30 Vdc |
| Power: | 13 watts normal operation, 17 watts (max) if internal battery is charging |
| Temperature: | -22 to 122 F (-30 to 50 C) |
| Airspeed: | 20 - 325 knots indicated |
| Altitude: | -1200 to 30,000 Feet |
| Attitude: | Automatic recovery from rates greater than 150 degrees per second in roll, pitch and yaw. In-flight start capability. |
| G-Meter: | -10 g's to +10 g's |
| OAT: | -40 to 140 F (-40 to 60 C) |




ACTUAL SIZE

# EFIS-D10A

## SPECIFICATIONS

### WEIGHT AND DIMENSIONS

| | |
|---|---|
| EFIS-D10A: | 1lb 7.4oz |
| Dimensions: | 4.09"W x 3.39"H x 7.64"D |
| Screen: | 3.8" diagonal |
| GPS-251 for D10/D100 Series: | 7.4 oz |
| Backup Battery: | 6.4 oz |
| Flush Mount Bracket (optional) | 1.9 oz |
| EDC-D10A Remote Magnetometer (optional): | 3.6 oz |
| OAT Probe (optional): | 2.6 oz |
| AOA Probe (optional): | 5.7 oz |
| Wiring Harness (optional): | 9.6 oz |

### CONNECTIONS

| | |
|---|---|
| Wiring: | D-25 male connector |
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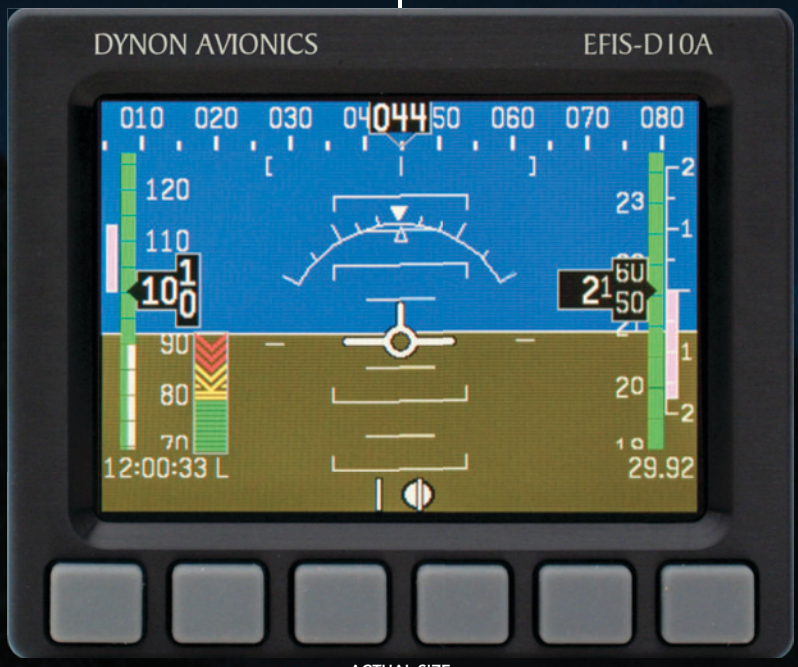


ACTUAL SIZE

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