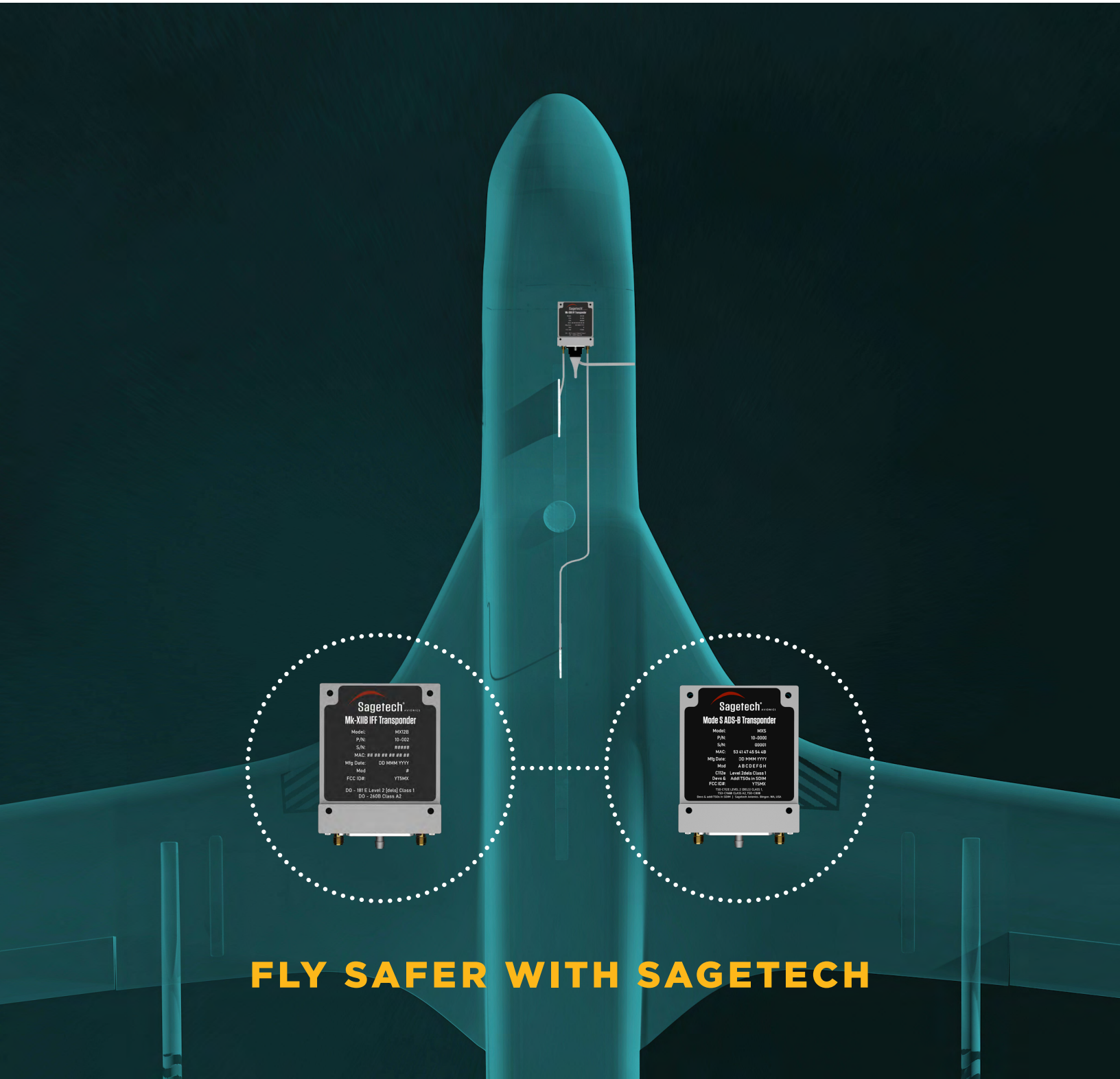
Sagetech®
AVIONICS

MX Series SITUATIONAL AWARENESS SOLUTIONS

MODE 5 IFF & MODE S TRANSPONDERS | DEFENSE, CIVIL & COMMERCIAL



FLY SAFER WITH SAGETECH

MX

THE WORLD'S MOST ADVANCED PLATFORM FOR SITUATIONAL AWARENESS

MX12B TRANSPONDER

MXS TRANSPONDER

DAA SOLUTIONS

MCX ADAPTER

SOFTWARE

CUSTOM ENGINEERING

INTEGRATION SERVICES

Put Sagetech's long heritage of rugged-duty micro transponders to work for you with our next-gen MX Series.

These new transponders deliver everything you need for tomorrow's situational awareness programs — FAA certified ADS-B In and Out, DOD certified IFF Mode 5 and Mode 5 Level 2B, detect and avoid, omni-directional surveillance, and other advanced functionality. See and be seen for enhanced safety.

Built from our mission-proven technology platform, our solutions serve as essential equipment on any uncrewed or crewed program.

MX12B MODE 5 IFF TRANSPONDER
WITH ADS-B IN AND OUT

DOD AIMS CERTIFIED

Sagetech's next-gen MX12B miniature transponder is the only micro IFF transponder certified to the DoD AIMS Mk XIIB specification. Packed with all the features your program needs, this unit is at least 93% smaller and 6x lighter than traditional certified military Mode 5 IFF transponders.

Units are available now and ship from stock.

COMPLETE FUNCTIONALITY BUILT ON PROVEN MILITARY HERITAGE

- Certified to DOD AIMS 17-1000 Mark XIIB Specification for uncrewed and crewed aircraft
- Compliant to FAA TSO standards: RTCA DO-181E | RTCA DO-260B | SAE AS8003
- Integrated ADS-B In/Out
- Military Group(s) 1, 2, 3, 4 & 5
- Modes 1, 2, 3/A, C, S
- IFF Mode 5 Levels 1 and 2, level 2B-Out
- Crypto compatibility per AIMS 04-900(A), Option B (KIV-77/79)
- Antenna diversity for full visibility, including space-based ADS-B. Can configure for a single antenna.
- Plug and play with many autopilots
- Small size and weight: 3.4" x 2.5" x 1" 6.7 ounces (190 grams)
- Integrated altitude encoder
- Intuitive command and control software included
- Optional integration kit available

Products described in this communication are subject to export license restrictions and regulations including the ITAR (International Traffic in Arms Regulations) and the Export Administration and Foreign Assets Control Regulations. Further restrictions may apply.

CERTIFIED
AIMS 17-1000 XIIB*

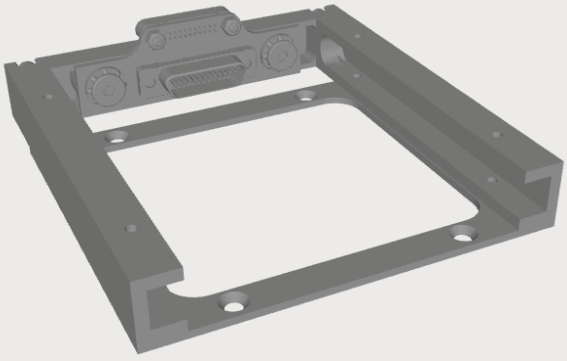
GSA
MULTIPLE AWARD SCHEDULE
NAICS: 334511
CONTRACT #: 47QSWA23D00A5

MILITARY MISSION READY

93% SMALLER THAN TRADITIONAL TRANSPONDERS

INTEGRATED ADS-B RECEIVER

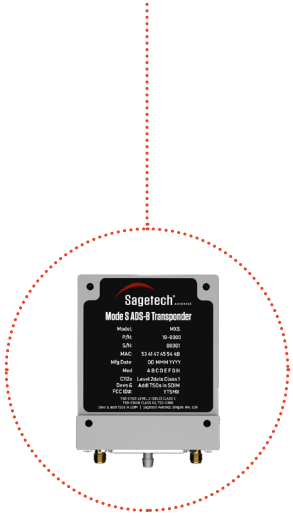
FLEXIBLE I/O INCLUDING ETHERNET



MXS MODE S TRANSPONDER
WITH ADS-B IN AND OUT

FAA TSO CERTIFIED

Sagetech's next-gen MXS miniature transponder provides Mode S and 1090 MHz ADS-B In/Out for worldwide compliance of your crewed or uncrewed system, all integrated in a single tiny package. Featuring top and bottom monopole antennas, this transponder provides full coverage for the ultimate in visibility and safety.



COMPLETE FUNCTIONALITY IN A SINGLE INTEGRATED UNIT

- FAA TSO Certified
- Compliant to FAA TSO standards: TSO-C112e | TSO-C166b | TSO-C88b
- Integrated ADS-B In/Out
- Antenna diversity for full visibility, including space-based ADS-B. Can configure for a single antenna.
- Integrated altitude encoder
- Full output power over temperature range
- FAA MOPS compliant with ADS-B
- Plug and play with many autopilots
- Small size and weight: 3.4" x 2.5" x 1" 6.7 ounces (190 grams)
- Intuitive command and control software included
- Optional integration kit available

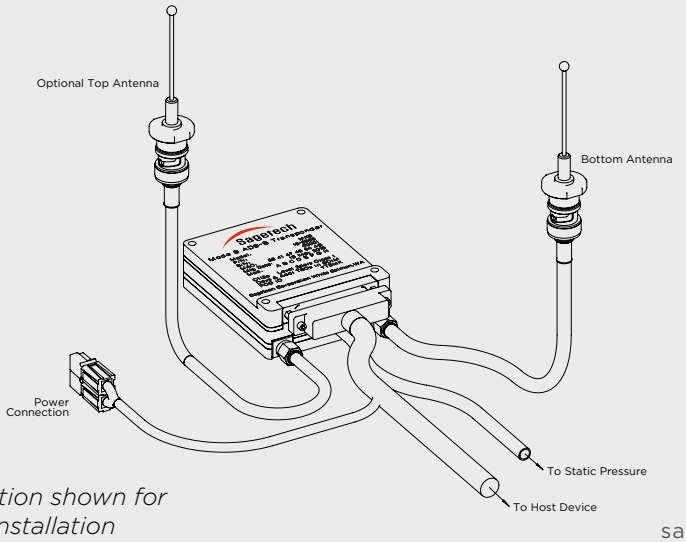
CERTIFIED
FAA TSO

CIVIL BVLOS MISSION READY

UNPRECEDENTED MICRO SWAP

INTEGRATED ADS-B IN/OUT

FLEXIBLE I/O INCLUDING ETHERNET



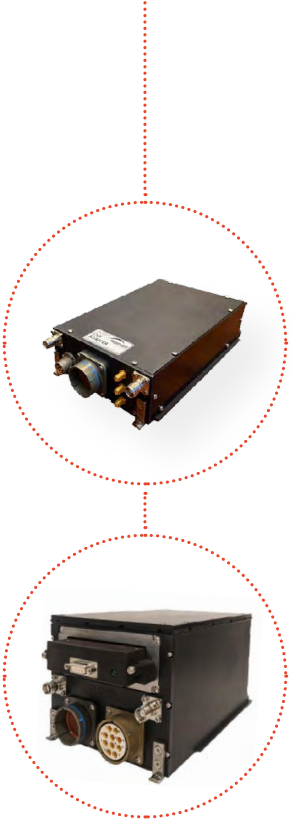
Configuration shown for diversity installation

MCX COMMON TRANSPONDER ADAPTER FOR THE MX12B

WITH MODE 5 LEVEL 2B OUT AND ADS-B IN AND OUT

Sagetech's MCX Common Transponder Adapter adapts the MX12B advanced micro-IFF with Mode 5 Level 2B Out and ADS-B In and Out to existing military IFF trays, allowing a simple upgrade path and avoiding obsolescence issues.

The MCX adapter houses the MX12B Mode 5 Level 2B IFF transponder, the KIV-77 or KIV-79 crypto computers, and all required interface hardware for a fraction of the weight, volume and cost of IFF transponders. Includes MIL-STD-1553, ARINC-429 and optional Bluetooth connection to tablet control and display software. Interface protocol can be open source for full integration.



PHYSICAL PLUG-AND-PLAY COMPATIBILITY WITH CURRENT IFF TRAY – WITH UPGRADED IFF CAPABILITIES

- Fully compliant for crewed and uncrewed aircraft
- Modes 1, 2, 3/A, C, and S
- IFF Mode 5 Levels 1 and 2, and Level 2B-Out
- ADS-B In and Out
- Compatible with 04-900(A) option B crypto (KIV-77/79)
- Antenna diversity for full visibility
- Flexible I/O: RS-232, RS-422, Ethernet, MIL-STD-1553, ARINC-429
- Integrated altitude encoder
- Intuitive command and control software included

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COMPATIBLE WITH EXISTING IFF TRAY

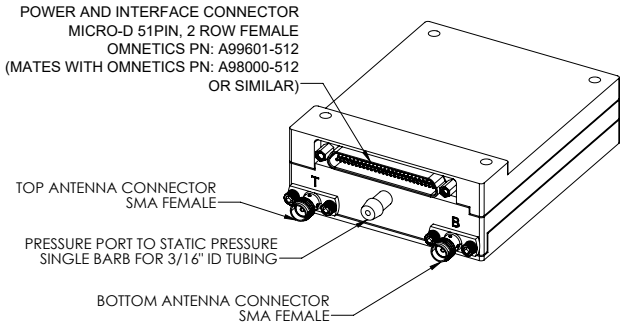
ADVANCED TECHNOLOGY

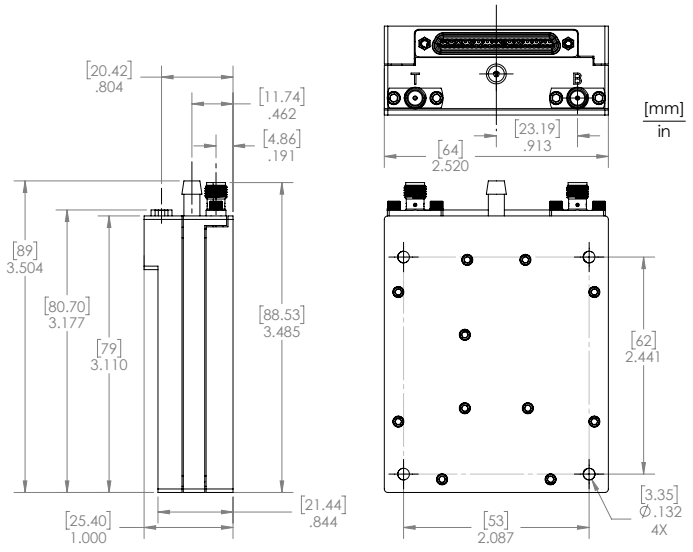
UPGRADEABLE

UNMATCHED SWAP-C

Parameter	MXS Mode S Transponder	MX12B DoD AIMS Mark XIIB Mode 5 Transponder
General / Communications		
Operating Altitude	unrestricted	
Cruising Speed	unrestricted	
Transmit Power at SMA	55 dBm; 316 W	AIMS 17-1000B Standard
1030 Receive Sensitivity	-74 ± 3 dBm	AIMS 17-1000B Standard
1090 ADS-B In Sensitivity	-81 dBm	AIMS 17-1000B Standard
Host Serial Communications	Proprietary protocol	
Standard	RS-232; RS-422; Ethernet (Point to Point)	
BaroAlt Calibration	Up to 85,000 ft	
Diversity	yes	yes
Export Classification	EAR ECCN 7A994	ITAR
Supply Voltage	14-28 V +/- 4VDC	
Power		
Power Consumption	Standby (STBY):	7 W
	Operating:	11 W
	Nominal Airspace:	13 W
	Max:	18 W
Power Notes	N/A	All power values include 3 W for crypto operation
Design Objectives (DAL C)		
Transponder Performance Standard (ref: DO-181E)	Level 2dels Class 1	Level 2dels Class 1
ADS-B Performance Standard (ref: DO-260B)	1090 MHz Class A2	
Pressure Altitude Standard	SAE AS8003	
Mode S Cert.	RTCA DO-181E	RTCAS DO-181E
ADS-B Cert.	RTCA DO-260B	
Alt. Encoder Cert.	SAE AS8003	
Mode 5 Cert.	N/A	AIMS Mark XIIB M5L2, M5L2B-Out
Environmental / EMI	RTCA DO-160G, MIL-STD-810G, MIL-STD-461F	
Physical/Environmental		
Dimensions	86 x 64 x 25 mm (3.4” x 2.5” x 1.0”)	
Mass	190 g (6.7 oz)	
Operating Temperature	-40 to 70 °C	
Storage Temperature	-55 to 85 °C	
Humidity	Max: 100% non-condensing	

MECHANICAL DRAWING





GLOBAL SOLUTIONS

We're a team of connectors, actively building partnerships across the spectrum of companies working on situational awareness solutions for tomorrow's uncrewed and eVTOL aircraft. From industry committees to customers to technology providers, you'll find a bit of Sagetech connection at every point in your situational awareness system journey.

DAA SOLUTIONS

Our transponders, interrogators, and ACAS X processors are perfectly situated to form the core of any DAA solution. Talk to us about our roadmap, and how we can help.

INCLUDED SOFTWARE

All our products include GUI and other software components you need to integrate with your onboard systems.

INTEGRATION MADE EASY

Select from a variety of antennas, cables, and text boxes to quickly integrate transponders into your system.

CUSTOM ENGINEERING

We often work with our customers to optimize a solution for a particular program or develop something new. Just contact us for details.

Sagetech is an aerospace technology company, empowering safe flight with the world's most reliable UAV transponders. Experience serving military and civil duty on most small to medium UAVs, Sagetech solutions are mission-proven and offer decades of program experience, certifications, and millions of flight hours to deliver maximum value over the life of an uncrewed platform.

Today Sagetech is expanding its technology platform to create comprehensive situational awareness systems, such as detect and avoid solutions for uncrewed aircraft as well as collision avoidance for crewed and optionally crewed rotorcraft. Sagetech works in concert with its extensive ecosystem of OEM customers, technology partners, and resellers to ensure aircraft fly safer with Sagetech on board.

Sagetech® AVIONICS

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