




Conventional Fixed-Wing & Helicopter Platforms
UAV Platforms

	DAARC500	DAS500	AARC500	AARC510	AARC52	DAS52	AARC51
							
Stage in life-cycle [a]	Active	Mature	Mature	Active	Active		Mature
Max. number of magnetometer inputs (type) [b]	8 (Cs, K, He)		8 (Cs, K, He)	4 (Cs, K, He)	2 (Cs)		1 (Cs)
Front-End (FE) maximum sampling rate	1280 Hz		1280 Hz	1280 Hz	1280 Hz		1280 Hz
Real-time compensation, total-fields & gradients	Yes	No	Yes	Yes	Yes	No	Yes
Data output/recording rate	80 Hz	160 Hz	80 Hz	80 Hz	160 Hz		80 Hz
Adaptive compensation	Yes	No	Yes	Yes	Yes	No	Yes
Fluxgate (vector) magnetometer included	Yes	Optional	Yes	Yes	Yes	No	Yes
General-purpose data acquisition (DAQ)							
Analog input module [c]	16 DIFF / 32 SE		N/A	N/A	N/A		N/A
FE analog inputs [c]	4 DIFF	N/A	4 DIFF	4 DIFF	2 DIFF		2 DIFF
Serial I/O (RS232)	8 ports		N/A	1 port [d]	1 port [d]		N/A
Ethernet DAQ port (# logical connections)	1-Gbps (2)	1-Gbps (1)	N/A	1-Gbps (3)	1-Gbps (3)		1-Gbps (2)
Ethernet server port [e]	Yes		Shared	Shared	Shared		Shared
Embedded Flash solid-state drive (SSD)	≥ 32 GB		≥ 32 GB	≥ 32 GB	≥ 32 GB		≥ 32 GB
Embedded mass storage (HDD or SSD)	SATA, ≥ 1 TB		No	No	No		No
Redundant real-time recording in two media	Yes	No	No	No	No		No
User-customizable FE processing	✓\$ Advanced		✓\$ Advanced	✓\$ Advanced	✓ Advanced		✓ Advanced
On-board electronics (OBE) compensation	✓\$ (4)	X	✓\$ (4)	✓\$ (4)	✓ (2)	X	✓ (2)
Gating of mag readings for concurrent use with EM	✓\$		✓\$	✓\$	✓		X
Post-flight compensation & analysis functions	✓\$	X	✓\$	✓\$	✓	X	✓
GPS – Interface for external receiver	✓	✓\$	✓\$	✓	✓		✓
Embedded receiver	✓\$	✓\$	✓\$	✓\$	✓\$		X
Embedded barometric-pressure & temp. sensors [f]	✓\$	X	X	✓\$	✓		✓

	DAARC500	DAS500	AARC500	AARC510	AARC52	DAS52	AARC51
Real-time streaming data output – Serial (RS232)	Yes	Yes	Yes	Yes	Yes	Yes	No
Ethernet	Yes	No	Yes	Yes	Yes	Yes	Yes
Real-time chart recorder output – GR33A	Yes, serial		Yes, serial	No	No	No	No
GP300	Yes, serial		Yes, serial	No	No	No	No
Remote control from serial (RS232) port	Yes		Yes	Yes	Yes	Yes	No
Remote control from Windows (via Ethernet)	Yes		Yes	Yes	Yes	Yes	Yes
FTP server (via Ethernet)	Yes		Yes	Yes	Yes	Yes	Yes
Host processor module	Core 2 Duo technology		Core 2 Duo technology	Intel Atom	Intel Atom	Intel Atom	Intel Atom
Serial I/O module	2 nd -gen. HW		N/A	N/A	N/A	N/A	N/A
Other general-purpose I/O	5X USB 2.0		5X USB 2.0	4X USB 2.0	3X USB 2.0	3X USB 2.0	3X USB 2.0
Embedded display/mouse	Yes		Yes	No	No	No	No
External display via standard VGA port	Yes		Yes	Yes	Yes	Yes	Yes
Scan/Error LED indicators	Front & rear panels		Front & rear panels	Rear panel only	Rear panel only	Rear panel only	Rear panel only
Real-time operating system (RTOS)	QNX 6.5		QNX 6.5	QNX 6.5	QNX 6.5	QNX 6.5	QNX 6.5
Features tailored to UAV applications	No		No	Some	Advanced	Advanced	Advanced
Embedded power/decoupler for mag sensors	✓\$		✓\$	✓\$	✓	✓	✓
Mounting	19"-rack		19"-rack	Strap-down	Strap-down	Strap-down	Strap-down
Dimensions	19 x 5¼ x 15"		19 x 5¼ x 15"	8 x 5¼ x 12"	5¼ x 5¼ x 8½"	5¼ x 5¼ x 8½"	5¼ x 5¼ x 8½"
Weight	19 lb (8.6 Kg)		18 lb (8.2 Kg)	10 lb (4.5 Kg)	< 4.4 lb (2.0 Kg)	< 4 lb (1.8 Kg)	< 4 lb (1.8 Kg)
Operating temperature	0 to +50°C		0 to +50°C	0 to +50°C	-10 to +50°C	-10 to +50°C	-10 to +50°C
Limited warranty	2 years [g]	1 year	1 year	2 years [g]	2 years [g]	2 years [g]	1 year
Cost							
Data sheet	DAARC500 Data Sheet	DAS500 Data Sheet	AARC500 Data Sheet	AARC510 Data Sheet	AARC52 Data Sheet	DAS52 Data Sheet	AARC51 Data Sheet

- ✓\$ Available as an option
- ✓ Included
- X Not available

- a. 'Active' products recommended for new designs – undergo continuing enhancements and updates. 'Mature' products are static.
- b. Cs: Cesium-vapour, optically-pumped magnetometers with Larmor output modulated onto power (e.g., CS-3, CS-L, CS-VL, G-822A, G-823A); K: Potassium-vapour magnetometers with Larmor output option on dedicated connection (e.g., GSMP-35A); He: Helium-vapour magnetometers with Larmor output on dedicated connection.
- c. All analog inputs: 16-bit res. DIFF: differential; SE: single-ended. Analog input module: ±10V or ±5V. FE analog inputs: ±5V (standard in AARC51/52 and DAS52, optional in others).
- d. Dedicated to capture & recording of 'Line Number' from AgNav Navigation System.
- e. DAARC500 & DAS500: dedicated port; others: shared with Ethernet DAQ port. Server functions (FTP server, remote control, streaming data output) itemized separately.
- f. Through FE analog inputs. AARC51/52, DAS52: 2 dedicated inputs in addition to 2 general-purpose inputs; DAARC500, AARC510: use 2 of the 4 FE analog inputs.
- g. Two-year warranty for select products sold after 2026-Feb-01. (One-year otherwise.)