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### Product Configuration List

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#### FDAQ Main Unit<sup>1</sup>

<b>Base Configuration</b>	Acquisition at 100 Hz	Incl.
<b>Upgrade F1</b>	Acquisition speed increase from 100 to 200 Hz	FRQ-1
<b>Upgrade F2</b>	Acquisition speed increase from 200 to 400 Hz	FRQ-2

#### Inertial Measurement Unit & GNSS<sup>2</sup>

<b>Internal 9DOF IMU/AHRS</b>	Full-featured 3D attitude and heading reference system (AHRS) using an extended Kalman filter-based sensor fusion algorithm. Also able to output acceleration, rate of turn, and magnetic field. Full specifications available. Max acquisition at 100 Hz.	IMU-I
<b>Internal GNSS Module</b>	High performance global satellite navigation system receiver based on u-blox NEO-M8P chipset, which is able to acquire and track multiple satellite constellations including: GPS, Galileo, GLONASS and QZSS to output navigation solution. Max acquisition at 10 Hz.	GPS-I
<b>Xsens MTi-G-710 GNSS/INS (External)</b>	Flagship product of the Xsens MTi line capable of outputting GNSS-enhanced 3D orientation and AHRS-augmented 3D position and velocity, where accuracy is significantly improved compared to a lone GNSS receiver. Also able to output acceleration, rate of turn, magnetic field, navigation solution from the GNSS receiver and static pressure. Full specifications at: <a href="https://www.xsens.com/products/mti-g-710/">https://www.xsens.com/products/mti-g-710/</a> May be purchased by customer directly from XSens. Acquisition from 100 to 400 Hz.	IMU-X
<b>Custom External IMU/GNSS</b>	Custom integrated upon request – contact for details.	N/A

#### Analog Inputs

<b>Base Configuration</b>	32 channels, 0–5 V input, 12-bit resolution.	Incl.
<b>Amplifier for Channels 1-16</b>	8-bit adjustable amplifier able to increase the sensitivity of channels 1-16, yielding an effective input range down to 0-0.05V.	AMP-1
<b>Amplifier for Channels 17-32</b>	8-bit adjustable amplifier able to increase the sensitivity of channels 17-32, yielding an effective input range down to 0-0.05V.	AMP-2

## Servo Inputs<sup>3</sup>

<b>Base Configuration</b>	22 channels, 1000–2000 $\mu$ S PWM, 12-bit resolution	Incl.
<b>Input from Futaba S.Bus</b>	Acquires servo inputs from a Futaba S.Bus serial signal for up to 16 channels. Requires the use of 2 servo input channels.	BUS-F
<b>Input from Other S-Buses</b>	Acquisition of servo inputs from other r/c serial buses can be configured upon request – contact for details.	N/A

## Other Inputs<sup>4</sup>

<b>Pressure and Temperature</b>	Calibrated, 0.25 Pa and 0.01°C resolution, internal	Incl.
<b>Pitot-Static Probe and Unit</b>	5-180 mph pitot-static probe, 0.1 mph resolution, includes calibration curve.	PIT-1
<b>Optical RPM Tachometer</b>	0.05%/FS accuracy for RPM<10,000	RPM-O
<b>Motor-ESC Interface Unit for Castle Creations ESC</b>	Acquisition of motor-esc data from Castle Creations electronic speed controller. Includes: RPM, voltage, current, throttle, etc.	MOT-C
<b>Motor-ESC Interface Unit for Jeti Model ESC</b>	Acquisition of motor-esc data from Jeti Model electronic speed controller. Includes: RPM, voltage, current, throttle, etc.	MOT-J

## Storage<sup>5</sup>

<b>Base Configuration</b>	Data storage of 4GB	Incl.
<b>Upgrade S1</b>	Data storage increase from 4 to 8 GB	STR-1
<b>Upgrade S2</b>	Data storage increase from 8 to 16 GB	STR-2
<b>Upgrade S3</b>	Data storage increase from 16 to 32 GB	STR-3
<b>Upgrade S4</b>	Data storage increase from 32 to 64 GB	STR-4

## RF Link<sup>6</sup>

<b>Integrated 2.4 GHz</b>	Output power adjustable up to 100 mW, 5+ mi LOS.	RFL-2
<b>Integrated 900 MHz</b>	Output power adjustable up to 1 W, 40+ mi LOS.	RFL-9

## Local Output

<b>UART</b>	Serial connection for on-board output	OUT-U
<b>Ethernet</b>	High speed on-board output via 10/100/1000 Ethernet with auto-sensing (802.3, 802.3u, and 802.3ab)	OUT-E

## User Interfacing

<b>WIFI</b>	Managed or ad-hoc via 802.11 a/b/g/n with WEP, WPA, and WPA2 encryption.	Incl.
<b>Ethernet</b>	Supports 10/100/1000 with auto-sensing (802.3, 802.3u, and 802.3ab)	UIX-E
<b>Console</b>	Hand-held unit allows for all operation commands.	UIX-C

## Notes:

1. *Upgrade F2* requires the selection of *Upgrade F1*.
2. Only one external IMU/GNSS may be used at a time. Choosing an external IMU/GNSS does not preclude the selection both the *Internal 9DOF IMU/AHRS* and *Internal GNSS Module*.
3. A maximum of 4 serial buses may be used at a time, where each servo bus requires 2 PWM servo inputs.
4. Up to 18 other input devices may be used at a time, where each 6 inputs require 2 PWM servo inputs.
5. *Upgrade S2* requires the selection of *Upgrade S1*, *Upgrade S3* requires the selection of *Upgrades S1* and *S2*, *Upgrade S4* requires the selection of *Upgrades S1*, *S2*, and *S3*.
6. Only one integrated RF link option may be chosen.