ELITE DASH
TECHNOLOGY

ELITE X

STANDALONE SENSOR & I/O CONTROL



INTRODUCING THE
ELITE X
STANDALONE SENSOR & I/O CONTROL MODULE

Elite X is a standalone sensor and input/output control module designed to manage vehicle sensors, inputs, and auxiliary outputs without requiring a separate aftermarket ECU.

Designed for seamless integration with the EliteDash system, it combines dual CAN with Classic CAN and CAN FD support, built in high rate GNSS up to 25 Hz, flexible input and output control, four camera video switching, and live diagnostics in one compact module. Configuration can be completed from any phone or laptop over WiFi.

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KEY FEATURES

CONNECTIVITY & UPDATES

- Built in WiFi setup page. Open 192.168.4.1 in any browser. No app needed.
- Configure from the EliteDash dashboard over CAN
- Dual CAN buses: Classic CAN and CAN FD
- Configurable CAN bit rate (125 kbit/s / 250 kbit/s / 500 kbit/s / 1 Mbit/s)
- Configurable CAN IDs for every message group
- Switchable 120 Ω termination and listen only mode
- CAN bridge between the two buses
- Transmit all sensor data over CAN
- CAN communication monitoring
- WiFi OTA firmware updates
- MCU firmware update from the APK

INPUTS & OUTPUTS

- 8 analog inputs, 0 to 5 V
- 4 digital / frequency inputs with pulse counting
- Selectable standard or low input threshold with adjustable glitch filtering
- 4 low side outputs (relay triggers)
- 2 PWM outputs with frequency and duty cycle control
- Switchable 5 V sensor supply and 12 V output
- RPM source selection (CAN / Frequency / Alternator / Cluster)
- Pulses per revolution configuration
- Output control (ON/OFF, PWM, Frequency)
- Custom naming for every input and output
- Output test mode

CAMERA SYSTEM

- 4 AV camera inputs with video output switching
- Select the camera from the setup page or from EliteDash over CAN
- Automatic camera switching for Reverse, Left and Right, with Manual selection available

GPS & VEHICLE

- Built-in 25 Hz GPS
- Position, speed, course, altitude, satellites and UTC time sent on CAN
- Battery voltage monitoring with CAN transmission

SENSOR MANAGEMENT

- Full sensor calibration (Pressure, Temperature, MAP and more)
- Preset sensor library with custom calibration support
- Switchable 5 V pull up on analog and digital inputs
- Adjustable sensor filtering
- Sensor offset and scaling adjustment

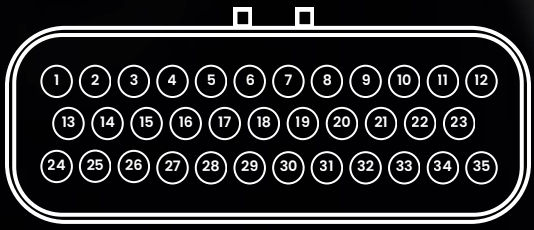
DIAGNOSTICS & RELIABILITY

- Live status page: battery, GPS, both CAN buses, firmware and log health
- Live input and output diagnostics
- Fault logging and diagnostics
- Built in terminal and logs for technicians
- Save all settings to internal memory
- Configuration backup and restore
- Restore factory defaults
- Watchdog and automatic recovery after a firmware crash
- Hardware information display (Firmware Version, Hardware Version, Serial Number)

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MAIN CONNECTOR – 35 PINS

TE AMPSEAL 35-pin header · part no. 2437607-1

The setup page shows pins as J2.n — J2.13 is pin 13.

Pin	Net	Function
1	VCC_BAT	Battery supply
2	LOW_SIDE_OUT_0	Low-side output 0
3	LOW_SIDE_OUT_1	Low-side output 1
4	LOW_SIDE_OUT_2	Low-side output 2
5	LOW_SIDE_OUT_3	Low-side output 3
6	VOUT_5V	5 V supply out
7	VOUT_12V	12 V supply out
8	CANH0	CAN0 high
9	CANL0	CAN0 low
10	CANH1	CAN1 high
11	CANL1	CAN1 low
12	GND	Ground
13	XADC_CH0	Analog input 0
14	XADC_CH1	Analog input 1
15	XADC_CH2	Analog input 2
16	XADC_CH3	Analog input 3
17	XADC_CH4	Analog input 4
18	XADC_CH5	Analog input 5

Pin	Net	Function
19	XADC_CH6	Analog input 6
20	XADC_CH7	Analog input 7
21	XPWM0	PWM output 0
22	XPWM1	PWM output 1
23	GND	Ground
24	XDIN0	Digital input 0
25	XDIN1	Digital input 1
26	XDIN2	Digital input 2
27	XDIN3	Digital input 3
28	CAM0	Camera input 0
29	CAM1	Camera input 1
30	CAM2	Camera input 2
31	CAM3	Camera input 3
32	VID_OUT	Video output
33	NC	No connect
34	NC	No connect
35	GND	Ground

Power · Low-side out · CAN · Ground · Analog in · PWM out · Digital in · Video · No connect

WIRING NOTES

- Battery supply: pin 1. Ground: pin 35.
- 5 V supply output: pin 6 provides up to 200 mA for sensor power. Do not exceed the maximum rated load.
- Low side outputs: pins 2 to 5 switch to ground. Use them to control relays or other suitable low current loads. Do not connect high current pumps, fans or compressors directly to these outputs.
- Pull up: analog and digital inputs support a switchable 5 V pull up where applicable. Analog input pull up resistance is 10 kΩ. This can be used with switches to ground and compatible resistive sensors.
- Digital inputs (pins 24–27): standard threshold ≈3.0 V rising / 2.4 V falling; low ≈1.9 V / 1.3 V. Pulses shorter than the glitch filter (default 1,000 ns) are ignored.
- CAN: all devices on the same CAN bus must use the same nominal bit rate. Elite X uses 500 kbit/s as the default setting. Enable the 120 Ω termination only when Elite X is located at one physical end of the CAN bus.
- PWM outputs: pins 21 and 22. Enable the PWM output stage in the configuration before using these pins.
- Cameras (pins 28–32): the video switch starts powered down. Turn on device power and the output, then pick the camera.

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SETUP OVER WI-FI

1. Power up Elite X.
2. Connect your phone or laptop to the ELITEX_ WiFi network.
3. Enter the factory password supplied with the unit.
4. Open a browser and enter 192.168.4.1.
5. Change the WiFi password when prompted.
6. Configure Inputs, Outputs, CAN, GPS, WiFi and System settings from the main menu.
7. Select Submit Changes when required. Elite X will restart automatically.
8. Tip: If your device reports no internet connection, stay connected. This is normal because Elite X uses a local WiFi connection.
9. The Status page displays battery voltage, GPS status, CAN traffic, firmware information and live input and output values.

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CAN BUS, GPS AND CAN IDS

CAN BUS

- CAN0 supports Classic CAN on pins 8 and 9. Default bit rate is 500 kbit/s. Switchable 120 Ω termination and listen only mode are available.
- CAN1 supports CAN FD on pins 10 and 11. Default nominal bit rate is 500 kbit/s with a 2 Mbit/s data rate. Switchable 120 Ω termination is available.
- Elite X can bridge supported CAN traffic between CAN0 and CAN1.
- EliteDash communicates with Elite X for configuration, control and live data.

GPS

- Built in MAX M10S GNSS receiver with update rate up to 25 Hz.
- GPS data includes position, speed, course, altitude, fix status, satellite information and UTC time.
- GPS data can be transmitted over CAN at every fix or at a configurable interval.

DEFAULT CAN IDs

ID	Elite X	Frame	Content
0x6E0	Receives	Config request	Configuration (ISO-TP) request
0x6E8	Sends	Config response	Configuration (ISO-TP) response
0x620	Sends	ANALOG_A	AIN0-3 in mV
0x621	Sends	ANALOG_B	AIN4-7 in mV
0x622	Sends	DIGITAL	DIN levels, pull-ups, outputs, battery, DIN0/1 Hz
0x623	Sends	FREQ_B	DIN2/3 Hz, PWM duty, video switch, AIN pull-ups
0x624	Sends	COUNTERS_A	DIN0/1 pulse counts
0x625	Sends	COUNTERS_B	DIN2/3 pulse counts
0x626	Sends	STATUS	Thresholds, heartbeat, PWM Hz, flags
0x630	Sends	POSITION	latitude, longitude
0x631	Sends	MOTION	Speed, course, altitude
0x632	Sends	FIX	Valid, quality, satellites, HDOP
0x633	Sends	TIME	UTC date and time
0x640	Receives	OUTPUTS	Switches, 5 V / 12 V, pull-ups, thresholds
0x641	Receives	PWM	Stage, frequency, duty
0x642	Receives	VIDEO	Camera, output, power
0x643	Receives	COUNTERS	Reset pulse counters
0x644	Receives	POLL	Send every group now

Default transmission rates depend on the data group. Analog, digital, counters, status and GPS data are transmitted at their configured intervals.

Base CAN IDs can be changed from the setup page. Updated CAN IDs are applied after selecting Submit Changes.

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WE ARE HERE TO HELP!
CONTACT US NOW

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