

Influx

K-BOX



Multi-DAQ Modules



P/N: INF2201



•CAN Output



•Voltages



•Digital Signals



•Digital Analog



•Temp Reading

Advantages

- Combined Voltage, Thermocouple and PWM/Digital measurements.
- Software switchable voltage input ranges from $\pm 80V$ to $\pm 10V$.
- Very high accuracy- Analogue $\pm 0.0015\%$, Thermocouples ± 1 degree C.
- Cold junction compensation for accurate thermocouple measurement.
- High input impedance on analogue inputs.
- WakeOnCAN and power down deep sleep mode.

K-Box -Multi-DAQ Modules

Measuring Thermocouples, Voltages, Currents and PWM

Designed for accurate sensor measurement, with captured data being transmitted on the CAN Bus. The Multi-DAQ K-Box is ideal for applications that require a quick set-up and collection of thermocouples, analogue, digital and PWM inputs. The most cost effective and flexible method available to measure multiple sensor types. This avoids higher costs, complexity, cables and space.

Stackable with all of our K-series instrumentation modules, the K-Box includes our unique power down and WakeOnCAN feature, enabling quick installation on long term unattended fleet test vehicles.

Accurate sensor measurement data is transmitted periodically on the CAN Bus enabling multiple K-Series modules to be connected together and data recorded via our CAN data loggers.

Key features

- Up to 8 K-type connections at up to 10 Hz sampling rate.
- 8 Analogue inputs with variable input sampling rates. (8 channels at 1kHz, 2 channels at 10kHz)
- PWM: 3 inputs for frequency measurements, counters, duty cycle, RPM or duration pulse measurements.
- Outputs: 4 Relay outputs. (Optional)
- Regulated +5V and +24V output power supply for ext. sensors.
- Supplied with configuration software, Influx K-Cal for Windows® and configurable via a DBC file.
- Instrumentation data time synchronised with recorded vehicle network data via CAN.
- Galvanic isolation between modules (enclosure; power supply & CAN bus & digital channels; analogue channels).
- Measurement accuracy: ± 1 degree C, Measurement resolution: 0.1 degree C.
- Analogue channel over-voltage protection ± 150 Volt.
- Stackable ABS enclosure.

Function	Description
Power supply	6V to 36V DC
Interfaces	CAN Bus
PC interfaces	None (CAN interface hardware required.)
Enclosure	Dimension (L115 x H46 x W105) unit: mm Weight 530g IP65 ABS
Environmental	-40degC to +85degC Work temperature; Humidity max 90%
Output Voltages	5 V sensor supply max current 75mAmp (total power < 1.8W)
	24 V sensor supply max current 75mAmp (total power < 1.8W)
Analogue Inputs	
Number of channels	8x Bipolar differential inputs
Accuracy	±0.0015%
Software switchable Range	±80V, ±40V, ±20V, ±10V
Resolution (ADC)	16 Bit
Max Sampling Rate	1 kHz @ all 8 channels *2 kHz @ 8 channels, 5kHz @ 4 channels, 10 kHz @ 2 channels
Input Impedance	> 4 M Ohm
Max input voltage	±75V vs Analogue Ground; ±150V between Analogue inputs

*For higher sampling rate of Analogue Inputs than 1 kHz, digital, thermocouple and other analogue channels need to be switched off due to CAN bus bandwidth limitation.

Function	Thermocouple Inputs
Number of channels	8x K, J, T-type inputs
Accuracy	±1 degC accuracy, resolution: 0.1 degree C
Measurement Range	-200degC to 1200degC
Max Sampling Rate	10 Hz (all 8 channels)
Maximum input voltage	±3.3 V
	Digital Input / Output
Number of channels	4 unipolar single-ended hardware configured as inputs or outputs
Input Switching Thresholds	Low < 1.5V
	Height > 2.0V (up to 12V)
Input leakage current	< 10nA
Output States	(Optional) Open collector & 510 Ohm
Output Drive Capability (OK): Collector-emitter voltage	45V max
Collector current (DC)	10mA max
Saturation voltage (OK on)	< 0.15V
Equivalent on-resistance	< 510Ohm
Leakage Current at OK off	< 5uA
Min-Max Applied Voltage	Digital input -8V to +12V; digital output 0V to +40V power supply, limits to 10mA
PWM	3 digital inputs frequency measurements up to 100kHz or pulse measurements. (min 100 Nano seconds, min time between pulses 10 microseconds)



K-Box Kit



1x Influx Technology K-Box



1x Influx Technology K-Bob



1x Kvaser™ Leaf Light



1x Kvaser™ T-Connector



1x 9 Way-9 Way Cable



1x 25-Way D-Sub terminal



1x 120 Ohm CAN Bus termination D-Sub



1x Influx carry case

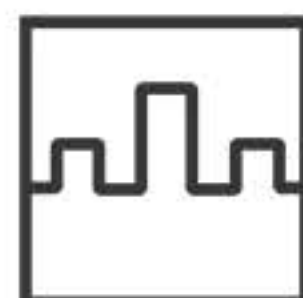
P/N: INF2202



•CAN Output



•Voltages



•Digital Signals



•Digital Analog



•PT100

This **K-Box Kit** contains everything needed to get the K-Box set up and tested on a work bench. To help with connecting sensors to the analogue and digital ports the **K-BoB** enables easy connection with BNC connectors. Influx K-Cal is easily connected via the Kvaser LeafLight interface and Kvaser T-connector. (Using the Kvaser T-connector to power up the K-Box (at the desk) and terminate the CAN bus). This kit is supplied in the Influx carry case.

Highly Recommended for new K-Box user – very easy to setup and test on a work bench. For example when calibrating.

Our versatile multi-DAQ **K-Box Kit** is a cost effective solution to measure multiple sensor types within one module. Extremely easy to use and ideal for applications that will measure inputs such as temperatures, pressures, voltages, currents (using a current clamp), PWM, RPM, digital counters or IEPE sensors. Multiple K-Series modules can be stacked, connected and configured to work together. All K-Series instrumentation modules allow the measurement of signals and the periodic transmission of sensor measurement data on a CAN 2.0 network.

Typical Applications

- Vehicle testing with additional instrumentation requiring a wide range of sensors. (For example, voltage, pressure, fuel flow, RPM, event counters, acceleration, temperature etc.).
- Competitor bench testing (reverse engineering). Instrumentation combined with vehicle CAN data. (Collected via our Rebel data loggers).
- Vehicle engineering component testing. (Using K-series add on modules for IEPE, PT100/PT1000 sensors)

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K-Series Instrumentation Solution

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