kestrel
radar sensors

LOW POWER - LOW COST - SYSTEM INTEGR
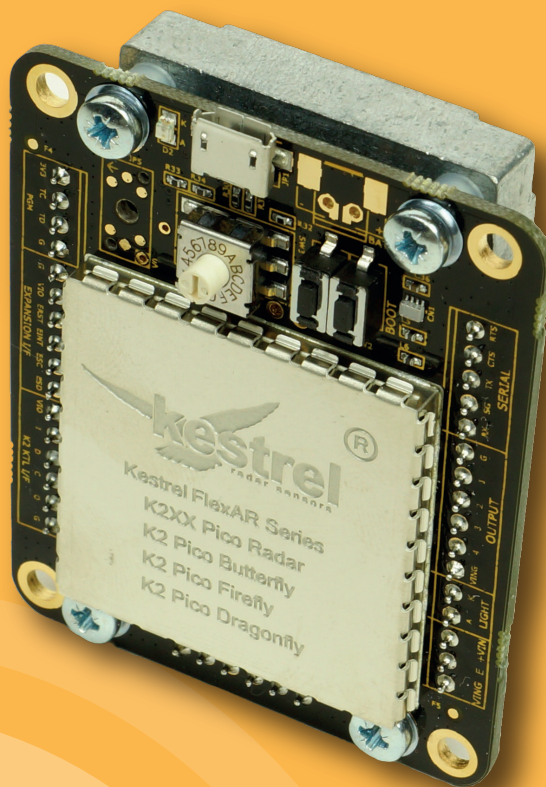
REMOTE OP

DATA COLLECTION -

TRAFFIC CONTROL -

VEHICLE DETECTION -

Introducing the K2 product family

The Kestrel K2 is the next generation of radar products for the vehicle detection market.

Designed for ultra low power, high performance and complete flexibility, the K2 offers not just best in class performance but it defines a whole new class of radar product.

The K2 product family is available with a range of sensor options which provide detection ranges up to 400 metres and all K2 radars can take advantage of data logging, Bluetooth, Modem and GPS options.

A range of standard LED display board products are available for OEM use.

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Designed and manufactured in the UK
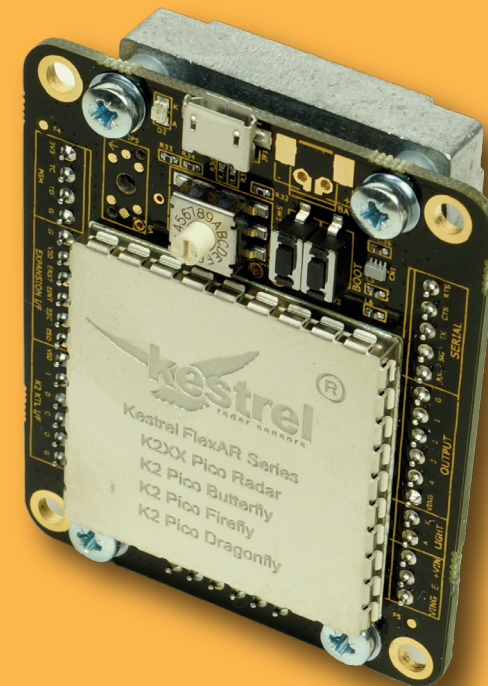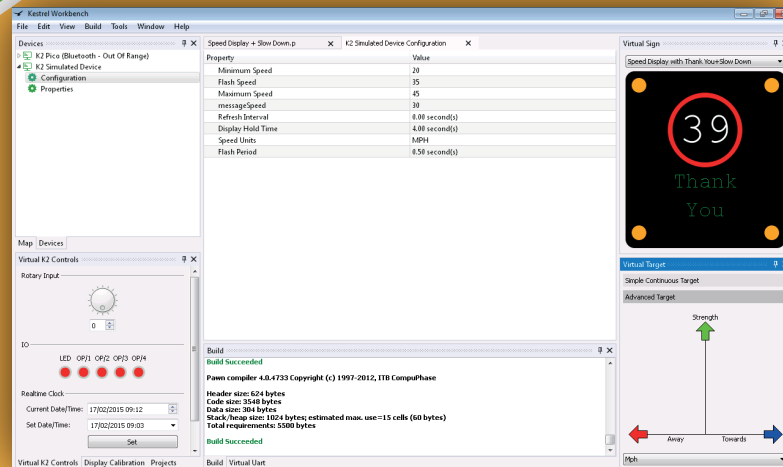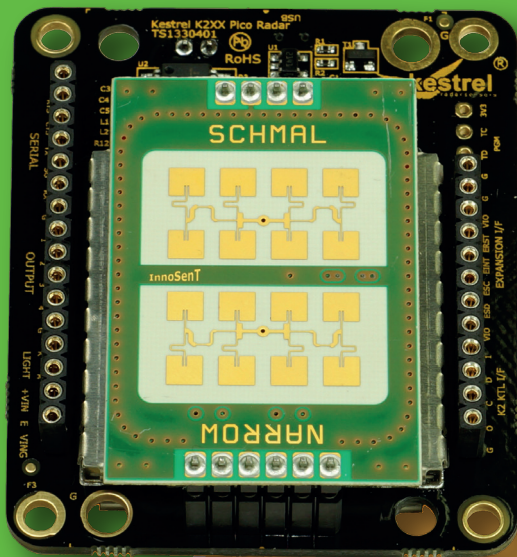
The Complete Package

The K2 radar is a true ultra low power device that consumes less than 65mW when operating at 4Hz (for the 100 metre product). It has a powerful CPU which operates at 120MIPS and allows advanced DSP algorithms to be performed on the radar signals. It offers a high degree of functionality including RS232, USB (Host and Device modes), 4 on-board PWM outputs which can directly drive auxiliary LED signs with current of up to 2A per channel, light sensor input, 4GB of on-board storage and operation from 6V to 17V DC.

For true flexibility the K2 uses a virtual machine allowing the you to define the radar functionality. Example projects are provided to show how to use this powerful feature which frees you from "basic fixed modes of operation" and allows you to define your own functionality. Our new Kestrel Workbench software has been built from the ground up to support the K2 family and this software can be used to design radar programs, test them in the built in simulator and then deploy them on real devices.

The K2 is the platform to take your products to the next level.

Our high level of integration means that our LED Drivers, Bluetooth, Modem and GPS modules are available as standard products and feature plug and play functionality with the same low power consumption goals. Also available as a standard product are LED sign kits with built in radar, just apply power!

Kestrel Radar Sensors offers world leading hardware and software solutions for many application areas and strives to produce the highest performance products on the market. New devices and ideas are continually being investigated and we hope to launch many more products in the coming years.
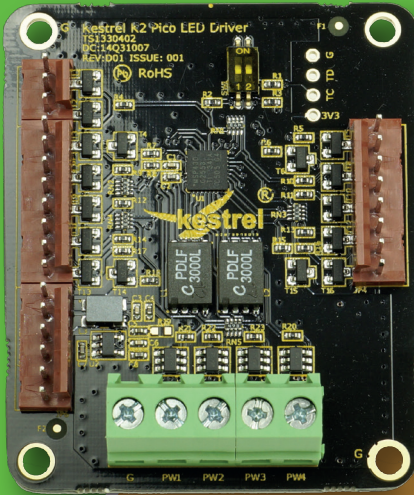
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Input & Output Devices

LED Driver

The K2 Pico LED Driver module is a versatile product capable of driving digits and auxiliary signs using pulse width modulation (PWM).

✔ 15 drive channels for segment control of 2 digit or 2 + 1/2 digit signs.

✔ 500mA sink current per segment.

✔ 4 auxiliary PWM channels with 2A per channel drive capability.

✔ Available in two connector formats. Pin socket for direct PCB mounting or pin headers for cabled solutions.
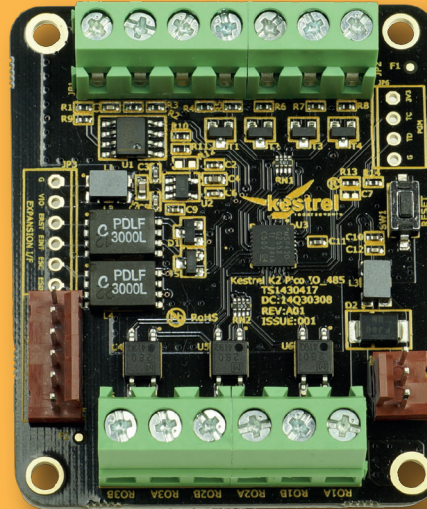
IO 485

The K2 Pico IO 485 module has been designed to enhance the capabilities of the K2 Radar. The versatility of this module allows many complex system integration issues to be resolved with minimal effort.

✔ 4 digital inputs.

✔ 3 OPTO isolated outputs for AC or DC switching control.

✔ RS485 for low data rate control (PLC interface).

✔ Available in two connector formats. Pin socket for direct PCB mounting or pin headers for cabled solutions.
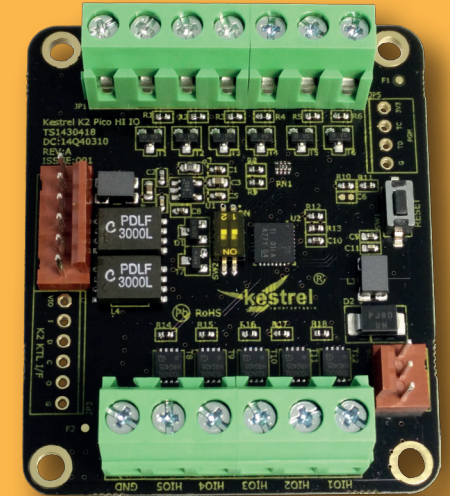
HI IO

The K2 Pico HI_IO module is designed primarily for driving larger LED string arrays in static signs. The outputs can sink peak pulse currents as high as 15 Amps with a continuous rating of 5 Amps.

✔ 6 digital inputs.

✔ 5 PWM high current outputs.

✔ Available in two connector formats. Pin socket for direct PCB mounting or pin headers for cabled solutions.

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Communication Devices
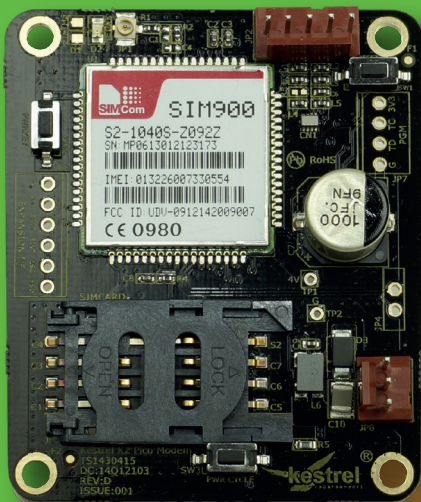
GSM Modem

The K2 modem has been designed to allow remote access, firmware updates, application updates and setting modifications remotely over the GSM network.

- ✔ Quad band GPRS modem.

- ✔ Allows remote access to K2 radars.

- ✔ Allows remote data upload/download and firmware updates.

- ✔ Time synchronisation to network time for data logging applications.

- ✔ Available in two connector formats. Pin socket for direct PCB mounting or pin headers for cabled solutions.
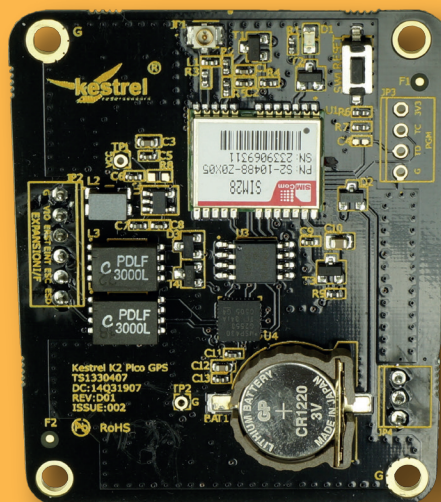
GPS

The K2 GPS module allows the radar to retrieve precise coordinates from a network of satellites and can also be used as a source for precise clock information.

- ✔ 22 tracking/66 acquisition channel GNSS receiver.

- ✔ Supports muli-GNSS, SBAS, EGNOS, WAAS, GAGAN.

- ✔ Almanac data can be stored in battery backed storage for rapid reacquisition of satellites.

- ✔ Available in two connector formats. Pin socket for direct PCB mounting or pin headers for cabled solutions.
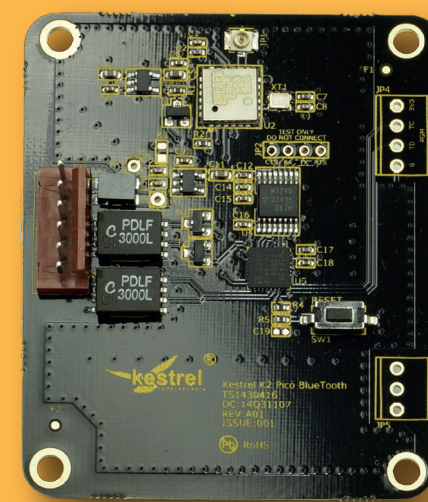
Bluetooth

The K2 Bluetooth module provides a non-contact solution to allow firmware updates, application updates and setting modifications without a physical connection to the radar.
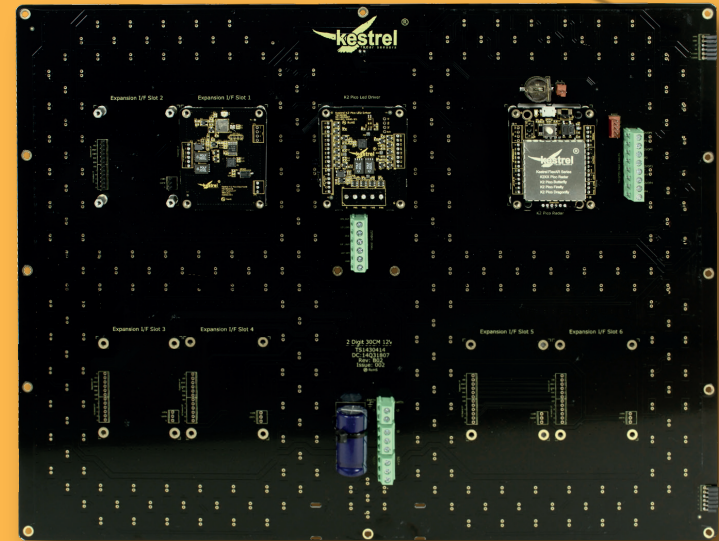
- ✔ Wireless access to K2 radars.

- ✔ Data upload or download.

- ✔ Range up to 100 metres.

- ✔ Available in two connector formats. Pin socket for direct PCB mounting or pin headers for cabled solutions.

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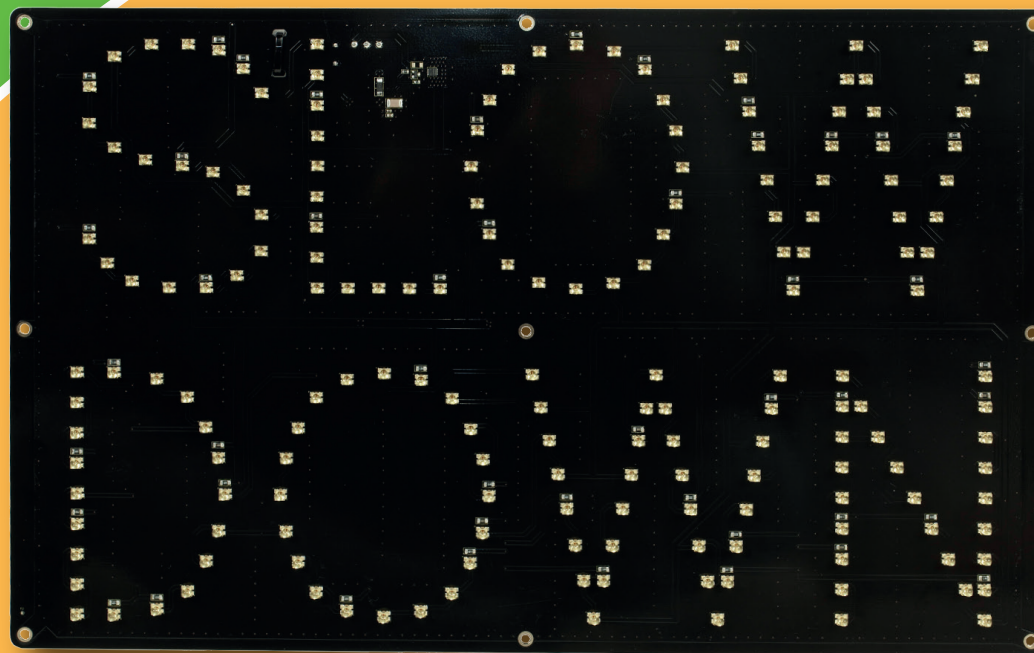
Display Kits
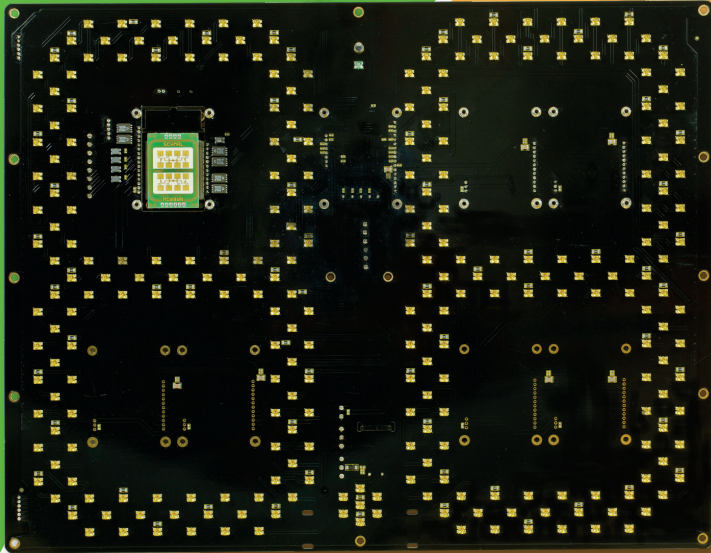
Front View

Back View

Simplicity

The Kestrel 2 Digit 7 segment LED Sign 30cm character height sign supports direct plug and play architecture as it incorporates fixed slots for the K2 Pico 100 or 200 metre radar products in addition to a dedicated LED driver slot. An additional 2 expansion slots are provided as standard with options to extend this by an additional 4 expansion slots.

- ✔ 2 x 7 segment 30cm height character LED sign.

- ✔ Programmable LED dot for below 10mph/kph or below 20mph/kph LED signs.

- ✔ Expandable to 2+1/2 digit with dedicated "1" digit sign.

- ✔ 2 dedicated plug and play slots, one for the radar and one for a LED driver.

- ✔ Two free expansion slots as standard.

- ✔ Option to add 4 expansion slots.

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Expandability

The 2 digit sign has been designed to make OEM integration a simple plug an play operation. Our peripherals all use our standard pin-out which makes adding Bluetooth, ZigBee, Modem, GPS to your product as simple as just plugging in, no other cabling required (apart from your choice of antenna!). In addition the kit is also capable of driving our "SLOW DOWN" sign directly or any other custom sign that follows our design recommendations.

- ✔ Direct drive "SLOW DOWN" from the 2 digit sign. ("SLOW DOWN" also has an optional on-board driver for logic level operation)

- ✔ Beacons also available to create high visibility warning signs.

- ✔ Custom signs can also be driven easily.

- ✔ Design advice service available free of charge to help you create your own custom solutions.