



API

Automatic Pulse Interface

The API has a compact design so that it can be easily tied into a wire bundle. Use the API for problem-free installation!

Specifications

- Input resistance > 4 MOhm
- Frequency range 0 - 4 kHz (min.) *
- Supply voltage 10-15 Vdc and 15-30 Vdc
- Current consumption 20 mA permanent
- Input sensitivity, adjustable between 1 V and 8 V
- Output 10 V square wave pulse (frequency 1:1)
- Output 10 V square wave pulse (frequency 1:4)
- Temperature range -20°C to +70°C
- Dimensions 50 x 25 x 10 mm

* The frequency range of the API has been tested up to 20kHz. At a WD number (number of pulses per kilometre) of 39000 and a speed of 200 km/h, the number of pulses per second is (=Hz): $39000 \times 200 / 3600 = 2.16$ kHz. The 4 kHz mentioned in the specifications is therefore more than adequate for the frequencies that occur in practice.



Beijer Automotive is manufacturer and supplier of:

- In-car instructions at www.in-car.nl
- Pulse generators and signal interfaces (among others, the API)
 - CAN-Bus interfaces
- Information and signal testing
 - Technical training
- Specific tools for installation specialists

Our company engages among other things in the testing of vehicles in connection with installation instructions for companies that install navigation systems, fleetmanagement systems and cruise control systems. Our engineers are thoroughly trained in both theoretical as well as practical aspects. We have our own R&D department which works out solutions for installation problems and develops interfaces, in close coordination with a professional workshop for the installation of In-car electronic devices.

Does the navigation system continue to run when you stop for a traffic light? Does the speedometer stop running after you have installed a cruise control system? Does your customer come back three weeks later with an error in the engine management system of the car after you have installed a fleetmanagement system? These are some of the many problems that may occur when the electronic speed signal of the vehicle is tapped. An API (Automatic Pulse Interface) can prevent these problems!

There is an increasing number of vehicles in which tapping the speed signal has led to adverse side-effects, for example on connecting up a cruise control system, a navigation system or a fleetmanagement system. Such systems overload the signal for the odometer, due to which the speedometer starts malfunctioning or may even stop functioning altogether. Quite apart from the effect it may have on the engine management system of the car in such cases, problems may only arise much later, in the form of indistinct faults. Manufacturers are increasingly using a weak signal from the engine electronics system to run the speedometer. If you want to tap this signal, you need a good interface to minimise problems! We have developed the API for this very reason: it can be used for various signals in the vehicle. The filter amplifies any given signal (including speed signals, for example) to a 10-volt square wave pulse, which a GPS navigation system, for example, can easily handle. Careful attention is paid to filtering-out peak voltages and the protection of the API and connected devices against voltage surges. Furthermore, the API places a very minor load on the signal in the vehicle, so that even the most sensitive signals are not adversely affected. The API is made of carefully selected, high-quality SMD components, which ensure high degree of accuracy and reliability.

Characteristics of the API, version 4:

1. Suitable for 12 V and 24 V power supply as a standard feature.
2. Built-in "pulse-stop". A special filter that filters the pulses and interference spikes in the peak signal, and ensures that no pulses are generated when the car has come to a standstill.
3. Built-in frequency divider, whereby in addition to a normal, undivided output, an output divided by 4 is available to the API-4.
4. Even better filtering, whereby the output of the API-4 delivers an extremely steady and clear 10-volt square wave pulse.
5. Adjustable input sensitivity. With this facility, the API-4 can convert even highly-distorted speed signals into a perfect signal.
6. As in the earlier API versions, the API-4 has a very high-resistance input due to which the chances of interference/faults in the vehicle are reduced to the minimum.

To pick up signals with a very low amplitude, a sensitive version of the (API4S) can also be supplied. There are also variants of the API that can double the number of pulses generated (API4D).

