PGE-1

PRODUCT BRIEF

www.proenium.com

proenium

What is it used for?

1. Converting proprietary serial protocols to OBD2 CAN. It allows using Torque or any other OBD2 software in older or non-OBD2 compliant vehicles, by translating the diagnostic protocol automatically. This means watching all the engine data in real time and reading/clearing fault codes.

2. Digitize additional analog sensors and convert them into OBD2 too. You can connect sensors like wideband AFR, oil pressure or EGT, and visualize/log them together with stock ones. This feature can be used in stock OBD2 vehicles too.

What engine data can be seen?

FROM KW71 OPEL/VAUXHALL

- Engine RPM
- Fuel lambda loop status *(open/close)*
- Coolant temperature
- Intake air temperature *(not available in M2.5)*
- Short term fuel trim
- Intake manifold absolute pressure *(mathematically estimated, except in M2.7)*
- Timing advance
- MAF air flow rate
- Throttle position *(closed/WOT in M2.5)*
- Stock lambda voltage
- Vehicle speed *(only available in M2.7)*
- Engine fuel rate
- Injection pulse width *(extended PID)*
- Injection duty cycle *(extended PID)*
- Idle air controller cycle *(extended PID)*

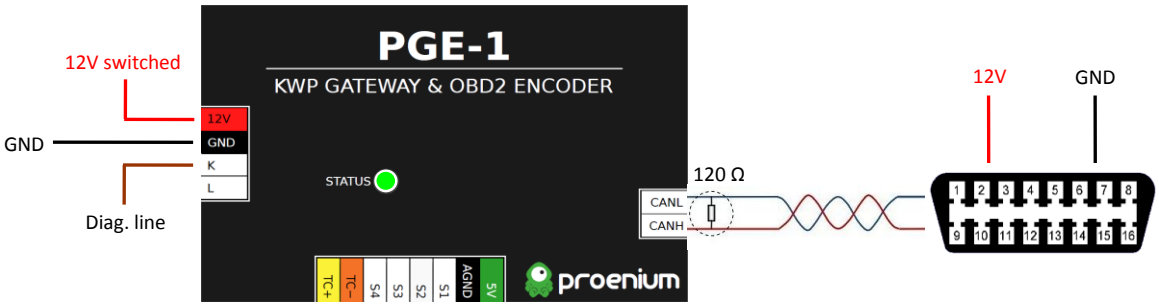
How to read and clear fault codes?

Engine fault codes can be read or cleared at any time, using Torque or any other OBD2 software, with the engine running or stopped. Original fault codes have been translated to their OBD2 equivalent, as shown in the example below:

Opel/Vauxhall fault code 25: injector 1 high voltage

OBD2 equivalent P0262: cylinder 1 injector - signal high.

How to install?



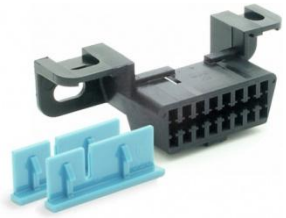
PGE-1 basic connection

INPUTS

- 12V Power supply (switched +12 / ignition voltage recommended).
- Ground
- Diagnostic line (usually known as K-line)
- Generic analog sensors (S1 ... S4)
- Thermocouple K-type (EGT)

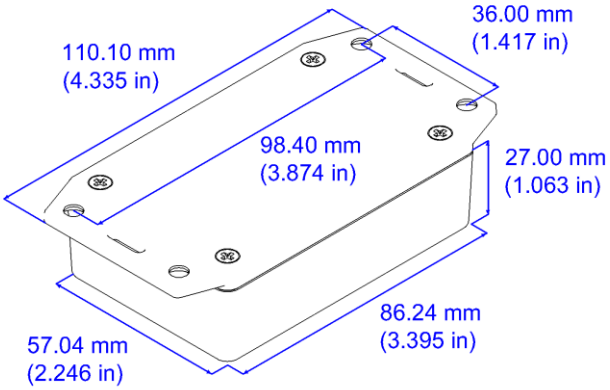
OUTPUTS

- 5V supply for generic analog sensors
- Analog ground for generic analog sensors
- CAN (OBD2 stream)



The OBD2 connector (J1962F) is included with wire leads placed on their corresponding positions

And this is the product dimensions (seen from below). It has two flanged lids with two holes each, for mounting with M4 screws.

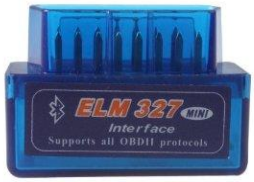


What OBD2 adapters can be used with PGE-1?

Any that supports ISO15765-4 standard (OBD2 over CAN). Common USB and Bluetooth adapters, based on ELM chip, work great with PGE-1. In fact, ELM devices are recommended because there are a lot of software working over them (e.g. Torque), including the PGE-1 config utility.

ELM327 BLUETOOTH

Cheap



Cheap

High quality and fast

ELM327 USB

Cheap

Cheap

Cheap (the oldest)

WARNING

Some cheap units seem to suffer poor build quality and reliability issues. Other units are perfectly fine. Make sure you purchase with a buyer who has a decent returns policy should the unit turn out to be defective. If you have connection issues it is most likely an adapter issue.

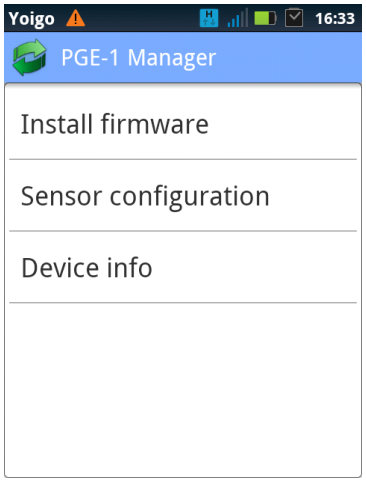
How to configure additional sensors in PGE-1?

We have developed an Android App for this. At this moment, it is only available for Android devices. With this utility you can change or upgrade the firmware, inspect the PGE-1 state, save the VIN number of the car and the most important, configure the analog inputs so the PGE-1 knows what sensors are connected. This configuration is saved permanently in the PGE-1 memory, so you only have to configure once.

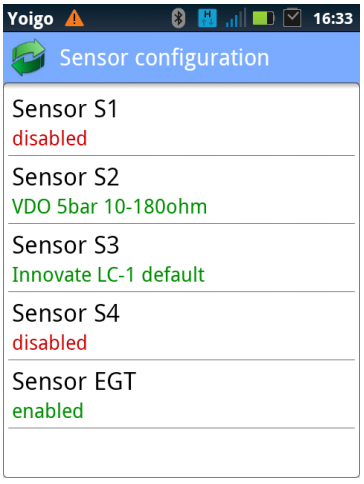
The App connects to the PGE-1 through the ELM adapter. At this moment only bluetooth is supported, but we are working to add USB adapters support as soon as possible.

Inside the App, you can find a library (it is a bit small for now) containing common sensors used by engine tunning enthusiasts. There are some Wideband AFR (Innovate, AEM) and some pressure sensors from VDO. If the desired sensor exists in library, it is as easy as select and save the config. If it does not exist, you can manually insert its technical data, obtaining a custom sensor in the library.

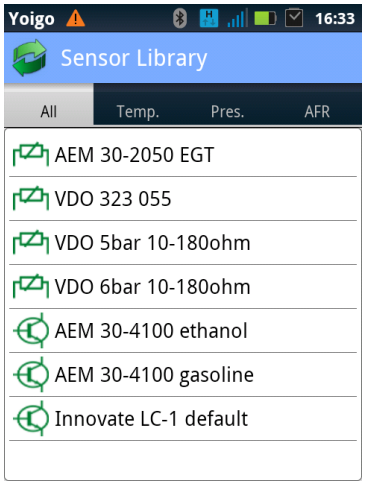
PGE-1 CONFIGURATION UTILITY



Main menu



Assign a sensor to a terminal



Sensor library

NOTE

To visualize the additional sensors data, you will need a software that allows Extended PIDs configuration (e.g. Torque).