

# Add sensors. Add GPS.

## GPS · shared I2C/GPS header

| GAUGE.S PIN  | GPS MODULE |
|--------------|------------|
| 2 · SCL / TX | RX (R)     |
| 3 · 3V3      | VCC (V)    |
| 4 · EB / RX  | TX (T)     |
| 5 · GND      | GND (G)    |

Leave pin 1 unused for UART GPS. Use a 3.3 V-compatible module. Set "gps": true in the documented config; restart. TX connects to RX.

## Bosch PST-F1

### V5.5 single-header recipe · ANALOG2

| GAUGE.S PIN | BOSCH PIN |
|-------------|-----------|
| 2 · A6      | 5         |
| 3 · A7      | 2         |
| 4 · EE      | 3         |
| 5 · GND     | 4         |

DIP 2, 5, 6 ON; 3, 4, 7, 8 OFF. DIP 1 depends on the CAN network. Load the matching 3-Sensors definition.

Use the exact V5.5/PST-F1 recipe and sensor pin numbers. This EE arrangement is not a general 12 V supply for 5 V sensors.

## Sensor signal limits

A1 / A2: **0–5 V**.  
A3 / A4: **0–3.3 V**, with pullups.  
GPS/I2C: **3.3 V** interface.

Never apply vehicle 12 V to GPS or A1–A4. Leave optional outputs disconnected until their load circuit is specified.

# Power on. Check the data.

## 01 Configure

Load the definition for your ECU/protocol using the documented loader. Restart the gauge. A supported ECU matters as much as correct wiring.

## 02 Check

With ignition on, confirm a plausible live ECU value such as coolant temperature. Voltage alone does not prove ECU communication. Verify shutdown/sleep before final assembly.

## Power, but no data?

- Check K-line or both CAN wires at the correct car connector.
- Check the ECU definition and restart after changes.
- Follow the cap/flap procedure for your actual chassis route.
- K-line needs its vehicle supply; USB alone is not a full test.

No power? Check the supply, ground and fuse. Never bridge a fuse. One missing value? Check whether the ECU exposes it.



## Full diagrams & setup

wiki.sorek.uk  
contact@sorek.uk

For help: send chassis/build, ECU, PCB revision, connector photos and definition/config. The QR opens the existing wiki while this portal is a design proof.

Off-road use only. Professional installation and configuration required.

# GAUGE.S

by sorek

CLASSIC / V5.5 / EN

# WIRE IT. READ IT.

Quick wiring instructions.  
Power, data, then the extras.

3

wires for K-line

4

wires for CAN

## YOUR INSTALLATION

## Chassis quick reference

Select your exact connector / ECU

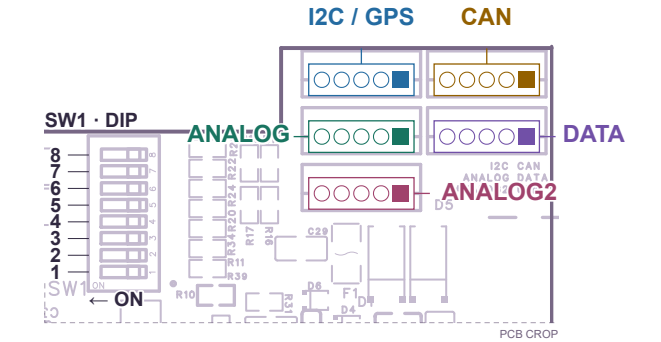
**Before connecting:** match the PCB revision and vehicle connector. Isolate the circuit before moving terminals. Match labels first, wire colours second.

5 connectors · V5.5 OLED  
Open the sheet for pinouts and car connections.

## Reference loom colours by pin

1 Black · 2 Red · 3 White · 4 Yellow · 5 Orange

# Find the connector.



**V5.5 · cropped top view.**  
■ = pin 1. Header colours are not wire colours.  
**SW1: 8 top → 1 bottom. ON ← left.**  
Numbering guide; use your setup's DIP settings.

Pin numbers → PCB labels

| HEADER    | 1   | 2         | 3   | 4        | 5   |
|-----------|-----|-----------|-----|----------|-----|
| CAN       | GND | +12V      | K   | H        | L   |
| DATA      | GND | +12V      | K   | EC       | EA  |
| I2C / GPS | SDA | SCL<br>TX | 3V3 | EB<br>RX | GND |
| ANALOG    | A1  | A2        | A3  | A4       | GND |
| ANALOG2   | A5  | A6        | A7  | EE       | GND |

Numbered reference, not a cable-face drawing. Start at the square pad on the board.

## Main connection · CAN header

**K-line:** pins 1, 2 and 3.  
**CAN:** pins 1, 2, 4 and 5.

GND = ground; +12V = vehicle supply; K = diagnostic K-line; H/L = CAN High/Low.

DATA: EC = button input; EA = low-side output. ANALOG2: A5 = 12 V-tolerant input; A6/A7 = DIP-configured inputs; EE = low-side output.

# Choose your route.

K-line: use **1, 2, 3** on CAN header.  
Add H/L only for a matching CAN setup.

## E36 · Euro

X16: white 26-pin · ignition feed

| GAUGE CAN PIN | VEHICLE CONNECTOR / PIN |
|---------------|-------------------------|
| 1 GND         | X16 <b>24</b>           |
| 2 +12V        | X16 <b>23</b>           |
| 3 K           | X16 <b>12</b>           |
| 4 H           | X16 <b>6</b>            |
| 5 L           | X16 <b>7</b>            |

## E46

X11175: black 26-pin · ignition feed

|        |                  |
|--------|------------------|
| 1 GND  | X11175 <b>1</b>  |
| 2 +12V | X11175 <b>5</b>  |
| 3 K    | X11175 <b>25</b> |
| 4 H    | X11175 <b>9</b>  |
| 5 L    | X11175 <b>10</b> |

## E39 · LOW cluster

X11175 black / X11176 white · ignition

|        |                  |
|--------|------------------|
| 1 GND  | X11175 <b>1</b>  |
| 2 +12V | X11175 <b>21</b> |
| 3 K    | X11176 <b>12</b> |
| 4 H    | X11176 <b>24</b> |
| 5 L    | X11176 <b>26</b> |

**E36 Euro:** engine-bay diagnostic cap open for the documented round-cap route.

**E46 / E39 LOW:** follow the wiki's cap-contact procedure, then close the flap. Remove the contact from the **cap**, never socket pin 16.

# More connections.

One wire per row. All gauge pins below belong to the **CAN header**.

## E39 HIGH / E38 · IKE

X10113 white / X10114 blue · ignition

| GAUGE CAN PIN | VEHICLE CONNECTOR / PIN |
|---------------|-------------------------|
| 1 GND         | X10113 <b>9 or 10</b>   |
| 2 +12V        | X10113 <b>16</b>        |
| 3 K           | X10113 <b>1</b>         |
| 4 H           | X10114 <b>8</b>         |
| 5 L           | X10114 <b>9</b>         |

## E8X / E9X / E70 · PT-CAN

X14271 blue / X14272 black · live feed

|        |                          |
|--------|--------------------------|
| 1 GND  | X14272 <b>6</b>          |
| 2 +12V | X14272 <b>1, 3 or 19</b> |
| 4 H    | X14271 <b>1</b>          |
| 5 L    | X14271 <b>2</b>          |

## OBD2 CAN · supported ECU

BMW 03/2007+ · battery feed

|        |                 |
|--------|-----------------|
| 1 GND  | OBD2 <b>4/5</b> |
| 2 +12V | OBD2 <b>16</b>  |
| 4 H    | OBD2 <b>6</b>   |
| 5 L    | OBD2 <b>14</b>  |

**Live supply:** use one X14272 feed; never pin 50 on E9X. Check sleep on live feeds, including OBD2 pin 16.

**US E36 / later Z3:** K-line at OBD2 pin 7; engine-bay cap closed. Other ECUs/builds: use the matching portal route.