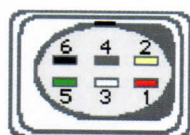


## LSU4.9

VEMS v3

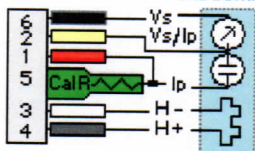
(2014-11-30)

## 17 025 Sensor



Front of connector

Sensor Connector



0 258 017 025

LSU4.9 sensor has

**faster response** (than LSU4.2),

and **longer life** expected

under similar conditions.

**ALWAYS identify LSU4.9 pin5 (sensor wire missing, not a real signal !)**

| Function | COLOR  | LSU4.9 pin | EC18 pin |                                    |
|----------|--------|------------|----------|------------------------------------|
| pump+    | red    | 1          | EC18/9   |                                    |
| pump-    | yellow | 2          | EC18/7   |                                    |
| nernst   | black  | 6          | EC18/13  | see pullup resistor note below     |
| heater-  | white  | 3          | EC18/18  |                                    |
| heater+  | grey   | 4          | +12V     |                                    |
| Rcal     | -      | 5          | NC       | no wire to sensor (see Rcal below) |

**Check** sensor-connector orientation by LSU4.9 / pin5 (**sensor wire missing**), and by **sensor wire colors**,  
Do not just follow drawing without checking.

Power up ECU and measure nernt voltage (with nothing connected. Config does not matter at this point). If less than 4V (above GND), then install a **27k resistor between nernt and +5V** for correct operation (pullup resistor for nernt reference current according to Bosch requirement: nernt reference current replaces the LSU4.2 reference oxygen gas connection-tube, which was sensitive to clogging).

If the 27k nerntpullup resistor is installed (inside the box or outside), nernt measures >4V (typically appr 4.9V) when open circuit. With a 1k pulldown (test resistor towards GND) measures typically appr 175-180 mV => don't install another 27k externally if already installed internally.

**LSU4.9 must be selected in config (Wideband settings: independently possible for 1st and 2nd WBO2 channel). Other than that, same PID values work (eg. Ri target is 165).**

Rcal = 84.5 Ohm; calibration 149

Rcal = 105.9 Ohm; calibration 166

Rcal = 158.3 Ohm; calibration = 208

**Rcal verification Ohm measurement:**

**Between LSU4.9 sensor pin1 and pin5**

(pin5 is resistor in connector, no wire to sensor)

0.8 81.4 Expected wbo2\_calibration = Rcal \* 0.8 + 81.4

| Rcal | calibration | (examples) | Rcal | calibration |
|------|-------------|------------|------|-------------|
| 60   | 129.4       |            | 140  | 193.4       |
| 65   | 133.4       |            | 145  | 197.4       |
| 70   | 137.4       |            | 150  | 201.4       |
| 75   | 141.4       |            | 155  | 205.4       |
| 80   | 145.4       |            | 160  | 209.4       |
| 85   | 149.4       |            | 165  | 213.4       |
| 90   | 153.4       |            | 170  | 217.4       |
| 95   | 157.4       |            | 175  | 221.4       |
| 100  | 161.4       |            | 180  | 225.4       |
| 105  | 165.4       |            | 185  | 229.4       |
| 110  | 169.4       |            | 190  | 233.4       |
| 115  | 173.4       |            | 195  | 237.4       |
| 120  | 177.4       |            | 200  | 241.4       |
| 125  | 181.4       |            | 205  | 245.4       |
| 130  | 185.4       |            | 210  | 249.4       |
| 135  | 189.4       |            | 215  | 253.4       |
|      |             |            | 218  | 255.8       |

Continued ==>