



GRYF

Manufacturer of Electronic
Measuring Instruments

Application guide

GRYF XB4-S Optical Sensor

Contact

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Switching to GRYF LDO sensors

- Original sensor must utilize 4-20 mA analog output
 - GRYF ... 3 wire
 - Original sensor ... 2 wire
- Power supply:
 - GRYF ... 18-35 V DC
 - Original sensor ... 12-35 V DC
- Measuring range:
 - GRYF ... 0-20 mg/l
 - Original sensor ... 0-20 mg/l

GRYF sensor Hardware Description

The GRYF LDO sensor (see Fig. 1) consists of a cable, sensor head with integrated electronics and an exchangeable cap. The sensor cap is terminated by the optical dissolved oxygen spot, carrying the oxygen sensitive luminophore.



Fig. 1: Electrical connection requirements.

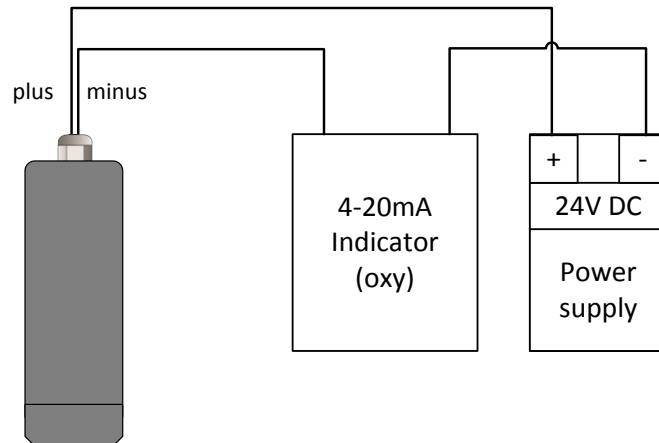
- 1 - Power supply: +24V (brown)**
- 2 - Power supply: GND (black)**
- 3 - Oxygen (4-20 mA) (green)**
- 4 - Data for calibration - do not connect! (white)**
- 5 - Temperature (4-20mA) (yellow)**



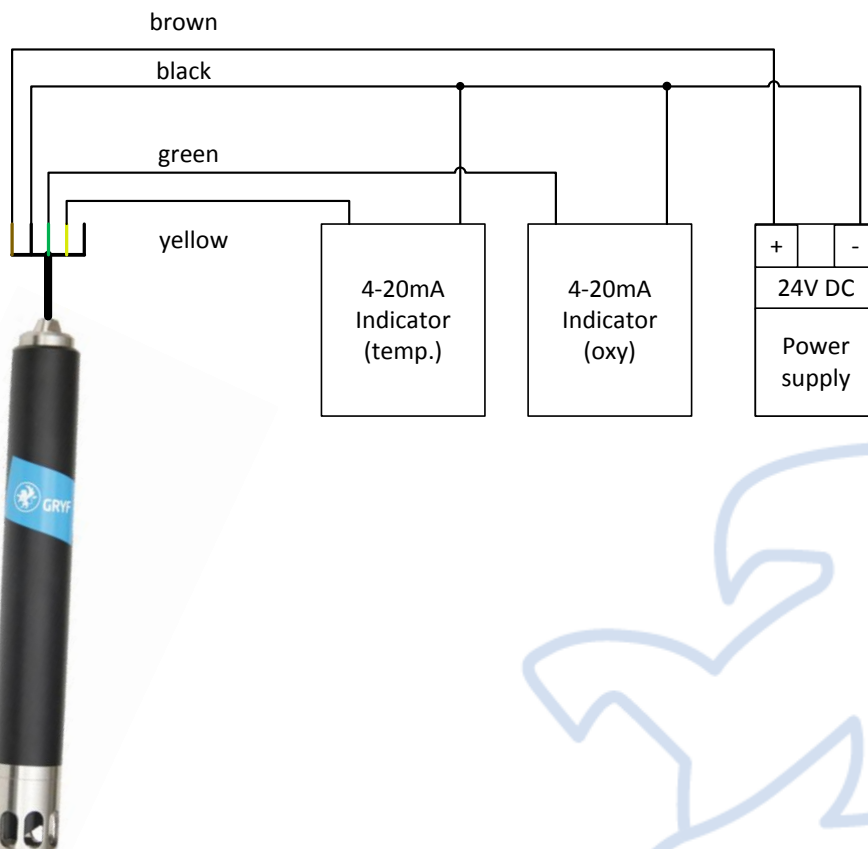
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Original sensor connection



GRYF LDO sensor connection



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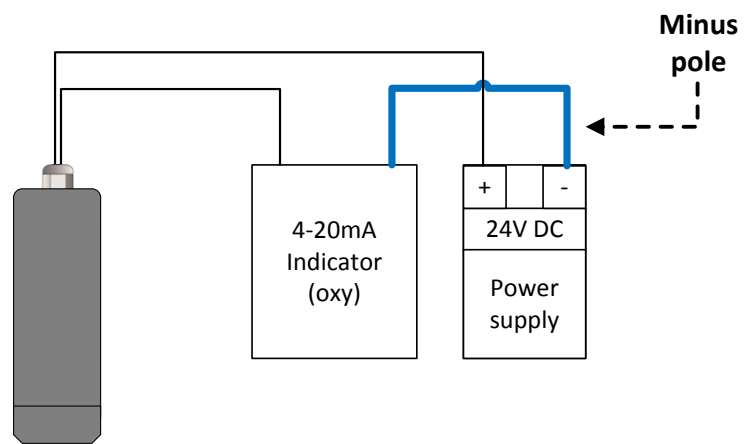


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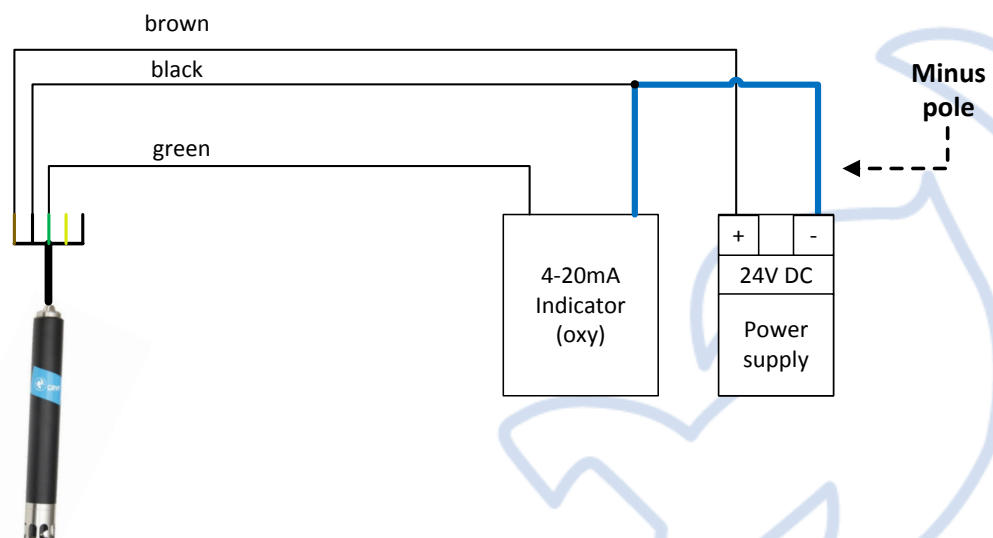
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Sensor replacement

- Disconnect the original sensor
- Connect the power supply plus pole (24V DC) to the brown wire of the GRYF sensor
- Find a power supply minus pole (24V DC) in a switch-board cabinet



- Connect the minus pole to the black wire of the GRYF sensor
- Connect the 4-20 mA oxygen indicator to the green wire of the GRYF sensor



- Optionally connect the 4-20 mA temperature indicator to the yellow wire of the GRYF sensor



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The Original system settings

There are multiple options in which way the original measuring system can be set up.

1st option

- 1a. The original sensor uses 0-20 mg/l measuring range for a 4-20 mA analog output:
- 1b. In this situation, the settings of the original system are identical to that of the GRYF sensors, therefore, there is no need to calibrate the GRYF LDO sensors as they are factory pre-calibrated.

2nd option

- 2a. The original sensor uses different measuring ranges for a 4-20 mA analog output:
- 2b. In this case, the user must change the original measuring range according to step 1a.
- 2c. After completing these steps, information in point 1b are valid.

Note:

- future generation of the GRYF LDO sensors will allow these changes to be made using a portable interface and its special software without a need to interfere with the original system.
- The optical sensor calibration steps are thoroughly described in the corresponding manual



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