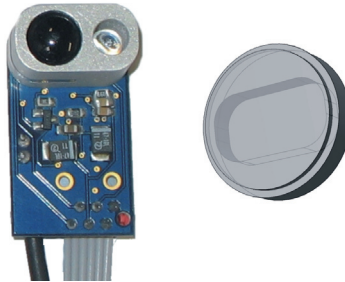


- ✓ Check if everything necessary has been delivered:
 - ▶ PROX-Head
 - ▶ appropriate cover



Software Installation

To evaluate data with the optical head you first have to connect the two plugs of the head to the baseboard. Then you need the HALIOS® configuration tool called *HACo* to calibrate, configure and visualize the data. Always use the current version of *HACo* software. The latest release can be downloaded from WWW.MECHALESS.COM/DOWNLOADS. Here you will also find the related set of documentation and configuration parameters for the HALIOS® evaluation board. Start the self-extraction file and follow the steps. If you already have an older version of *HACo*, it is recommended to choose the same directory as in the previous installation. Confirm to overwrite all existing files.

Calibration of the PROX-Head

The HALIOS® IC must be configured by using the delivered configuration file to work properly with this optical head. If the head has been delivered together with a baseboard, this board is already configured correctly. To configure the IC (or to restore the factory defaults) use the configuration file named *heads.cfg*. You will find this file on the USB stick delivered with HALIOS® Evaluation Kit or WWW.MECHALESS.COM/DOWNLOADS. Using *HACo* together with the configuration file *heads.cfg* will establish four HALIOS® loops (measurement phases 5..8) for different detection ranges. These four loops provide optimum sensor behavior under different situations (sensor covered/uncovered) and different distances from the sensor's surface. The measurement results of all four loops are available simultaneously.

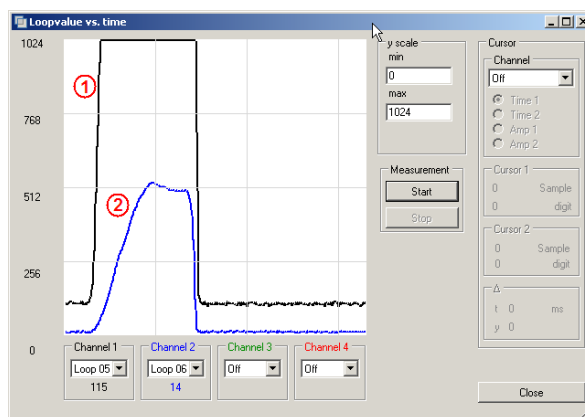
The measurement results of loop 7 and loop 8 are intended to be used with the bare PROX-Head (only head without cover). If you want to cover your sensor, for example with the delivered cover, please use the sensor values delivered by loop 5 and loop 6. With other covers you have to configure your own set of parameters in the *HACo* software. The cover delivered with your PROX-Head is made from a highly infrared transparent material. Physically it will increase your basic optical coupling (idle offset) and therefore decrease the signal noise.

Loop 5: Far Range Motion Detection (Proximity) with Cover

This loop (*HACo* address 65 in *SFR*) is designated for motion detection of a distance up to 3m while the sensor is fitted with a cover. To increase the power of the emitting diode, all four LED outputs (LED1..4) of the HALIOS® IC are connected in parallel to provide maximum current. If you approach the sensor (e.g. with your hand), the value of the loop (measurement result) will rise until the maximum value of the loop is reached. This will happen in distance below approximately 1,5m. To track the further approach of the object to the sensor's surface, please use the values generated by loop 6.

Loop 6: Close Range Motion Detection (Proximity) with Cover

The next loop (*HACo address 75 in SFR*) is designated for motion detection in a closer distance to the sensor while the sensor is equipped with a cover. Loop 6 (see 2) will start to rise as soon as loop 5 (see 1) reaches its maximum. Subsequently the value of this loop will cover the whole approach down to the sensor's surface.



Loop 7 and 8: Far / Close Range Motion Detection (Proximity) without Cover

Loop 7 (*HACo address 85 in SFR*) and loop 8 (*HACo address 95 in SFR*) are intended for being used like loop 5 and loop 6, but with an uncovered *PROX-Head*.

Recovery of the Factory default Values

After changing the configuration of the HALIOS® IC during your development, you can always restore to the factory settings by using *HACo*. To do so, please choose Sensor – Configure from the top menu. A file dialog box shows up where you can click *Open*. Choose the appropriate file for your optical head (e.g. *heads.cfg*) and activate this configuration.

SAFETY ADVICE

Depending on the mode of operation the used LED will emit highly focused, non-visible infrared radiation, which could be dangerous for human eyes.

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