FOOD-WATER-LIQUID INTAKE MONITOR FOR GROUP-HOUSED RODENTS [HM-2+]

The *HM-2+ drop in cage system* is the only online food-water intake and activity monitor on the market that continuously monitors feeding and drinking activity in two independent channels in group-housed rodents. The channels have been designed for low spillage, for high standards of hygiene, and for ease of operation and cleaning. The feeding and drinking data is collected without human intervention - the system records events with millisecond precision, including meal start time, amount of food consumed, meal duration, and meal end-time. Configurations allow the researcher to establish the parameters for the experiment, study and session in advance. The system can operate with or without refilling the feed hopper and water bottle, due to the event-based nature of the system. Most importantly, it allows feed intake data to be collected automatically without disturbing the animal's normal eating behavior.

Subject Identification [RFID]

Individual animals housed together in the same cage are identified using ISO FDXB RFID tags, e.g. DataMars®, Pet-ID®, e-Vet®. Tagging is a safe way of identifying individual animals, and when integrated with MBRose weigh stations and scanners provides fully automated subject tracking through the entire experiment.

Research Applications

- Obesity & Diabetes
- Metabolic process
- Impact of treatment on health and behaviour

- Feed and liquid preference
- Eating behaviour
- Activity behaviour

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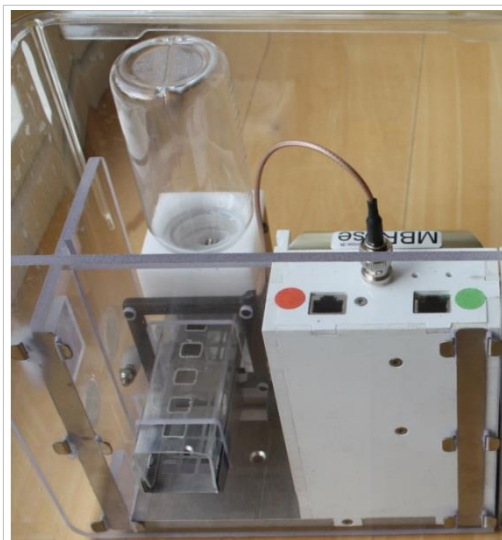
Software

The software that are delivered with the HM-2 system include HM02Lab, HMBase and HMView. The experiments, studies and sessions are centrally controlled by HM02Lab, which runs on a designated PC in the animal facility. The data collection software ensures robust storage of raw data in the HMBase SQL database. Data review is available in HMView which provides an easy 5 step process for the research to move raw data through to completed graphs. In addition, data can be extracted via predefined and custom filters to your preferred data analysis and visualization software, such as SigmaPlot®, Graphpad Prism® or Excel®.

HM-2+ Software Solution

The HM-2+ software solution is based on the HM Framework running on a local computer as a client server solution.

Experimental parameters and raw data are located in a local SQL database with scheduled backup to a shared drive location.
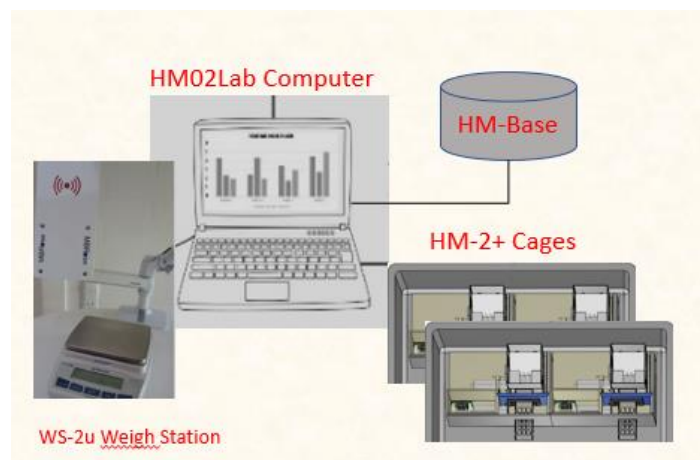
Using remote connection conveniently, the researcher can follow experiment progress from their office, make changes if necessary and even begin analyzing data in real-time. Other team members can use the system as well - they can submit their own project or analyze older data. This efficient multi-stream data collection and analysis process is possible because raw data is saved on a local database shared between the HM02Lab application and the HMView.

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