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Data Sheet

*lab*CTRL I.1 (Code 3701)

Controller for the data combining and synchronization of HEAD*lab* systems

Overview

The controller *lab*CTRL I.1 is the central connection unit of a HEAD*lab* system and is used for the data combining and synchronization of up to 10 signal modules. A system is configured and controlled via the controller from a notebook/computer by means of the recording software HEAD Recorder.

Each *lab*CTRL I.1 is equipped with a CAN/OBD-2 input and two pulse inputs, and also allows for direct connection of a digital artificial head (HMS III or HMS IV).

For connecting the *lab*CTRL I.1 to the computer the USB 2.0 interface is available. Two controllers can be connected via USB to a PC simultaneously. This allows, for example, to record 240 sample-accurately synchronized external channels with 20 *lab*V12 signal modules.

In larger systems the controllers *lab*CTRL I.1 (USB) and *lab*CTRL I.2 (USB / LAN) are working together.

In a system all controllers must be connected with each other and synchronized via the BNC cable (CBB I.1) respectively the HEAD*link* cable (CLL X.xx).

Features

- Central control module for HEAD*lab* Systems
- Integrated CAN-bus respectively OBD-2 interface
  - A user-specific CAN cable respectively an OBD-2 cable ist additorally required
- Two integrated pulse inputs
- Mixed sampling rates selectable
- Interface for connecting a digital artificial head (HMS III or HMS IV), incl. control
- Low power consumption (typ. 5 W)
- Synchronization of up to 10 signal modules (e.g. *lab*V6 or *lab*V12); for each signal module one individual sampling rate can be adjusted, depending on the system sampling rate
- Connection of one or two controllers with a PC via USB
- Data transmission across a distance of up to 1000 m between controller and signal module with two opto-adaptors *lab*OA
- Electrical isolation between signal inputs, computer connection and power supply to avoid ground loops
- Silent (no fan), low weight, rugged design
- Simple (radial) cabling of connected signal modules
- Integrated locking mechanism (simple mating of the modules)

Scope of supply

- *lab*CTRL I.1 (Code 3701)
  USB controller
- CDX X.3 (Code 3783-3)
  HMS connection cable, 3 m (118″)
- CUSB II.1.5 (Code 5478-1.5)
  Cable USB 2.0, 1.5 m (59″)
- CUSB II.5 (Code 5478-5)
  Cable USB 2.0, 5 m (197″)

Options

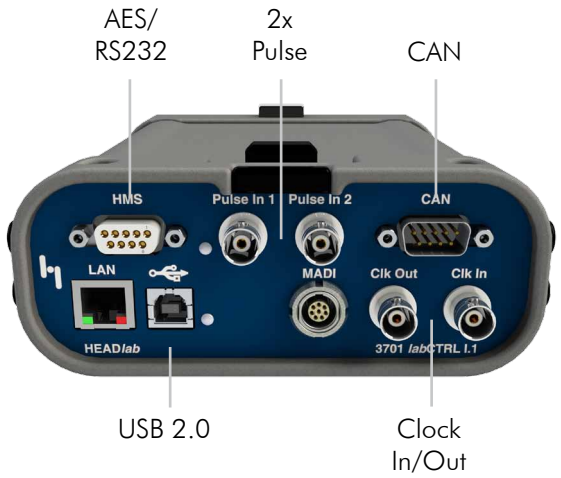
- CDO-X.3 (Code 3786-3)
  OBD-2 connection cable, 3 m (118″)
- *lab*PWR I.1 (Code 3711)
  Power box for HEAD*lab* systems (up to max. 40 W)
- *lab*PWR I.2 (Code 3712)
  Power box for HEAD*lab* systems (up to max. 100 W)
- PSH I.4 (Code 3718)
  Mains power supply for a HEAD*lab* system up to 60 W (without *lab*PWR)
- *lab*OA (Code 3785)
  HEAD*lab* opto-adaptor
- *lab*CTRL I.2 (Code 3702)
  LAN / USB controller
- CBB I.1 (Code 1175-1)
  Cable BNC for synchronization *lab*CTRL I.1 ↔ *lab*CTRL I.1, 1 m
- CLL X.xx (Code 3780-xx)
  Cable HEAD*link* for synchronization *lab*CTRL I.1 ↔ *lab*CTRL I.2

Software (required)

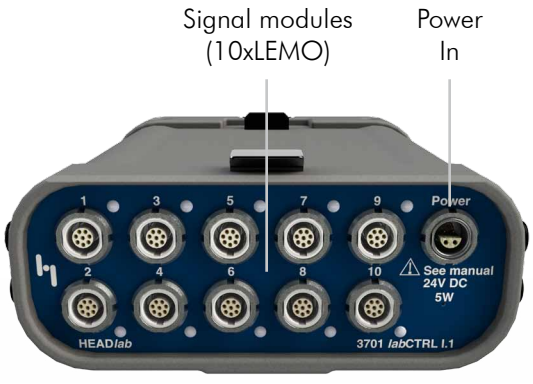
- HEAD Recorder (Code 5000_5004)
  Programmable Recording Module, consisting of:
  - ArtemiS SUITE Basic Framework (Code 5000)
  - ArtemiS SUITE Data Acquisition Module (Code 5004)

Software (optional)

- ArtemiS SUITE (Code 5001ff)
  Additional ArtemiS SUITE Modules



Front view *lab*CTRL I.1



Rear view *lab*CTRL I.1

Technical Data

Module connections:	10xLemo 8 pin
Synchronization of the channels:	sample-accurate
Number of controllers:	up to 2 (USB)
CAN-bus connections:	1xSub D 9 pin. The user must install the line termination in a connector of the user-specific CAN cable respectively the OBD-2 cable, as needed.
HMS III/ IV connections:	1xSub D 9 pin
HMS III/ IV configuration:	Yes, via RS232
Pulse inputs:	2xBNC
Pulse sampling frequency:	1.152 MHz
Level pulse inputs:	0-50 V, internal pull-up
Pulse trigger threshold:	1 V

USB 2.0 Highspeed (Data and control)

Data rate via USB:	480 Mbits/s Net data rate at maximum number of channels: approx. 100 Mbit/s
Maximum cable length USB:	5 m (197“)

General

Power consumption typ.:	5 W
Cooling:	Convection, no fan
Dimensions:	140.4x181x 57 mm (WxDxH) (5.53“x7.13“x2.25“)
incl. locking mechanism and rubber pads:	148x181x63 mm (WxDxH) (5.83“x7.13“x2.5“)
Weight:	605 g (1.33 lb)
Operating temperature:	-10 °C to +60 °C (14 °F to 140 °F)
Storage temperature:	-20 °C to +70 °C (-4 °F to 158 °F)