

Instruction Manual
For
Retractable levers

Model 4460A for Rat chambers
Model 4461A for Mouse chambers



July 2020
DCN:
4460A Eng V1.0

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Introduction

The 4460A and 4461A Retractable levers are standard accessories for the Campden and Lafayette instrument operant test chambers.

The 4460A lever is intended for rat use and the 4461A is intended for mouse use.

Operation

The 4460/4461 levers should be fitted to the chamber using ISO M3 screws into the front of the unit. See figures 1 and 2. The screws should not be over-tightened. Where use of the two standard mounting points is not possible, various adaptor plates are available.

Connections to the lever are made via the 5-way connection on the top of the 4461A or on the bottom of the 4460A – see figures 1 and 2 above. A Connection cable is supplied.

Connections are as follows:

1. Blue – Operate
2. Black - 0V (Ground or Common)
3. Red Wire – 24-28 VDC
4. White – Lever Press
5. Not used

To use the lever, connect the unit as above.

To extend the lever into the chamber, connect the Operate terminal to Ground (0V).

To retract the lever from the chamber, connect the Operate terminal to 24-28 VDC.

A lever press is reported on the lever Press terminal as a logic low signal. An un-pressed lever will report a logic high signal.

There is a small blue button on the rear of each unit. Pressing the button extends the lever and releasing the button retracts the lever.

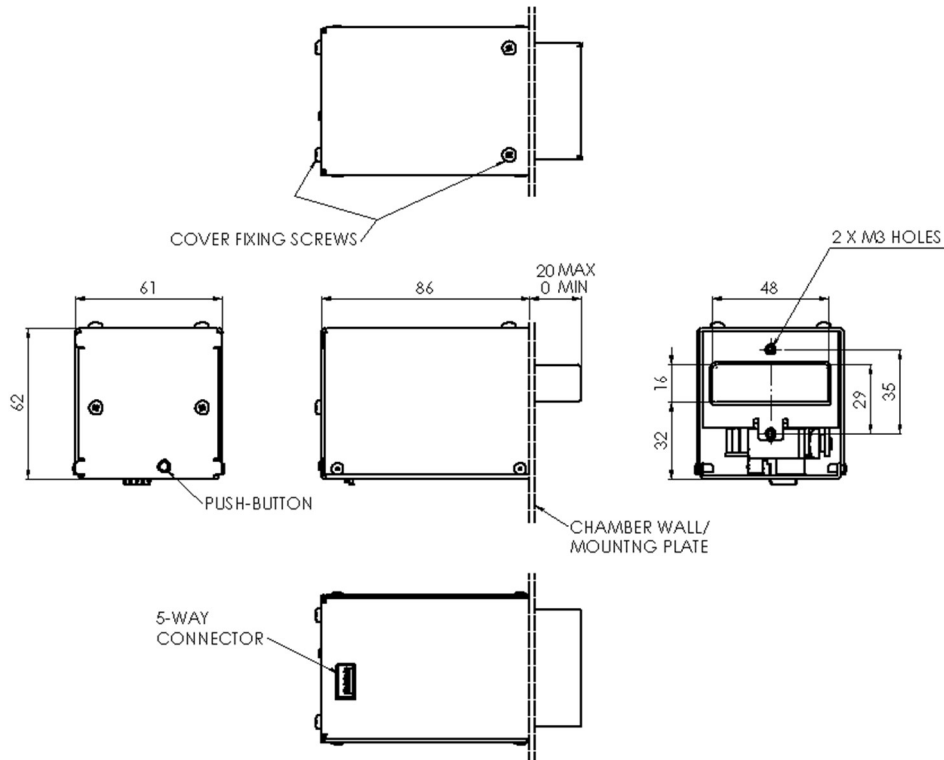


Figure 1 - Overall dimensions of the 4460A Rat lever

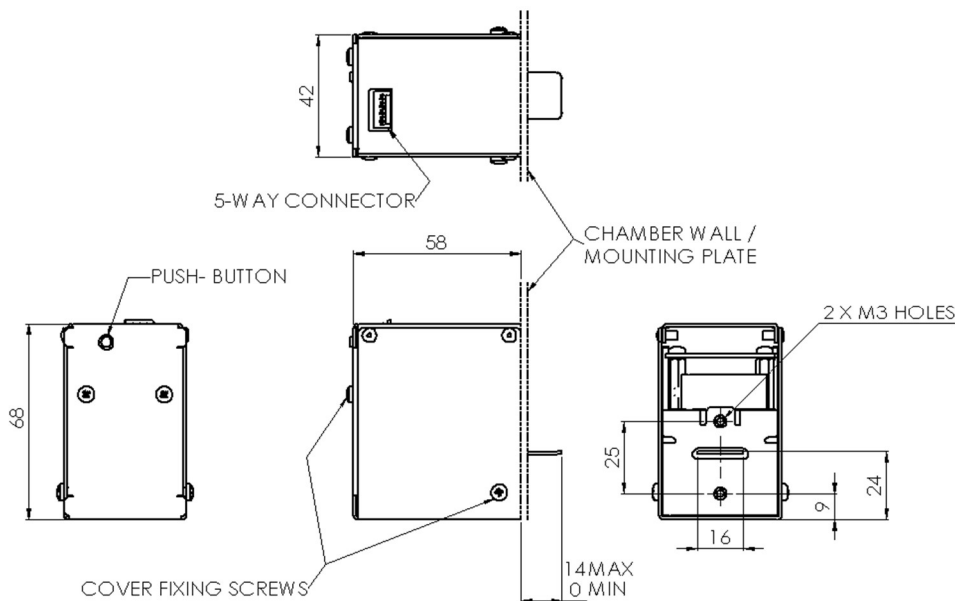


Figure 2 - Overall dimensions of the 4461A Mouse lever

Adjustment (Rat only)

The operating force required can be adjusted to suit the animals being tested.

To adjust the operating force, proceed as follows:

Remove the 4 screws securing the cover.

The rat lever adjustment is shown in figure 3. To adjust, loosen the M3 lock nut from the brass nut. adjust the position of the brass counterbalance along its stud shaft until the correct press weight is found. Tighten the M3 nut to lock the balance weight in place

Moving the weight - closer to the pivot point reduces the force whilst moving it further away increases the force.

Maintenance

All electrical instruments and equipment should be periodically tested to ensure that they remain safe to use. In some countries this may be a statutory requirement. Your local Health and Safety Executive (or equivalent) will be able to advise on this matter.

These units contain no user-serviceable parts. Contact your dealer of Campden Instruments or Lafayette Instrument Co if you require service.

Cleaning

Solvents must not be used to clean any part of the unit.

The covers should be removed periodically and any dust or contamination should be removed to ensure maximum operating efficiency of the lever mechanism.

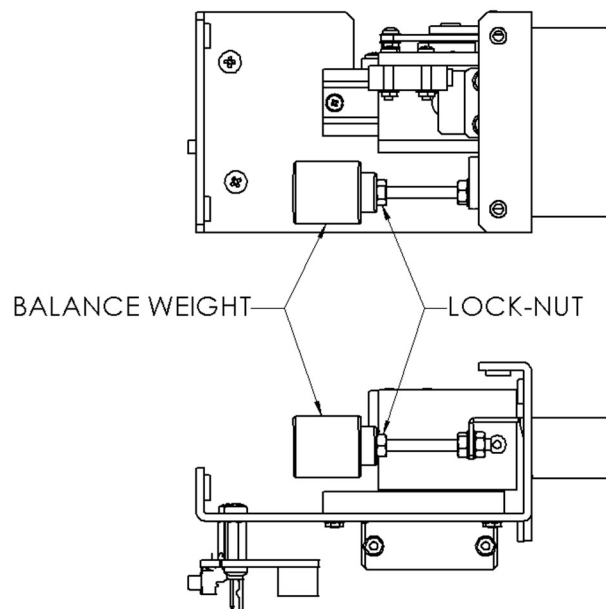


Figure 3 - Rat lever adjustment

Specifications

Voltage requirements:	24-28 VDC
Operating current:	300 mA (when the lever is moving in or out)
Standby current:	40 mA
Operating force – 4460A Rat lever	9 to 45 Grams (adjustable)
Operating force – 4461A Mouse lever	2 Grams

Part numbers:

4460A	Retractable lever – Rat
4461A	Retractable lever – Mouse
4460A-M	Retractable lever for modular chamber – Rat
4461A-M	Retractable lever for modular chamber – Mouse