

# **RETRACTABLE RESPONSE LEVER**

ENV-112CM

PRODUCT MANUAL

**DOC-050**

**Rev. 1.4**

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notes

## Table of Contents

<b>Chapter 1   Introduction</b> .....	<b>1</b>
Specs.....	1
<b>Chapter 2   Connections</b> .....	<b>2</b>
Operate Connector.....	2
Response Connector.....	2
*Optional Lever Position Connector .....	2
<b>Chapter 3   Adjustable Tensioner</b> .....	<b>3</b>
<b>Chapter 4   Maintenance</b> .....	<b>3</b>
Cleaning.....	3
Cleaning Supplies/Tools .....	3
Instructions .....	4
<b>Appendix A   Contact Information</b> .....	<b>5</b>

## CHAPTER 1 | INTRODUCTION

The ENV-112CM is a low profile stainless steel retractable response lever used in experiments where the user wants to deny subjects access to a response.

The ENV-112CM permits placement just 2.1cm above the grid floor and can be raised as needed with chamber filler panel inserts. This lever is designed to work with ENV-007, ENV-008, and ENV-009 series chambers, and includes (3) SG-216A 18" connection cables.

Figure 1.1 – ENV-112CM

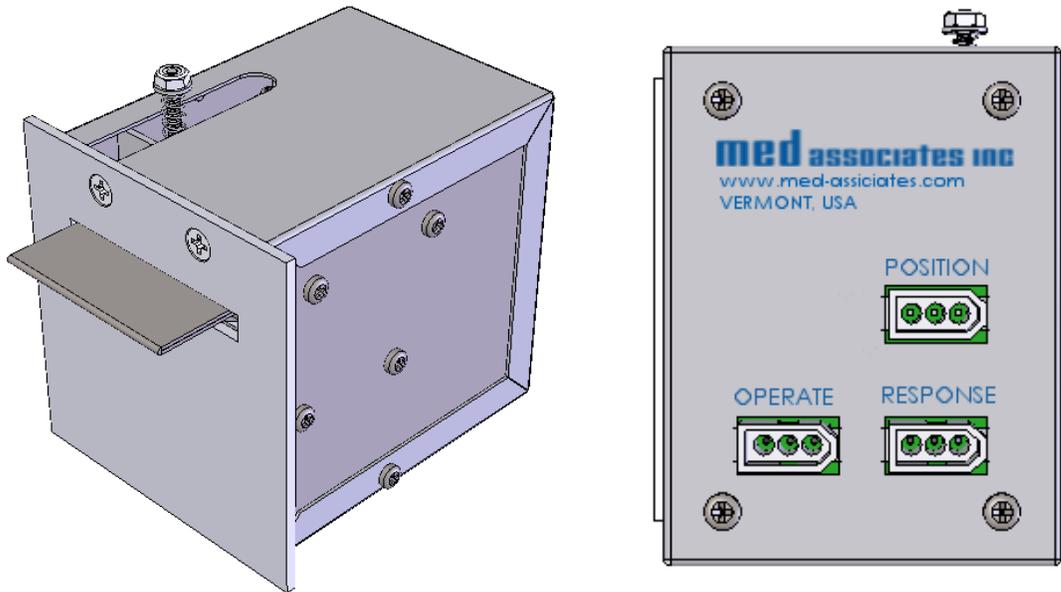


Figure 1.2 – SG-216A 18" Cable



### Specs

- Panel: 3" W x 3.25" H (7.6 x 8.3 cm)
- Lever: 1.88" W x 0.75" D (4.8 x 1.9 cm)
- Lever Protrusion: 0.75" (1.9 cm)
- Position Above Floor Grid: 0.835" (2.1 cm)
- Lever Tension: Factory set to 25 grams

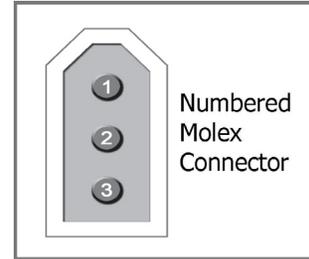
## CHAPTER 2 | CONNECTIONS

The lever extension motor is activated with a single output control line. By turning the output bit “ON” the lever will extend into the chamber. When the output bit is turned “OFF” the lever will retract out of the chamber. When the animal depresses the lever the signal is received on the input bit.

### Operate Connector

Operate connects to any available Output on a Standard MED Connection Panel via an included SG-216A cable.

Molex Pin #	Function	Wire Color
1	28 Volt Ground	Black
2	Extend/Retract Lever	White
3	+28 Volts	Red



### Response Connector

Response connects to any available Input on a Standard MED Connection Panel via an included SG-216A cable.

Molex Pin #	Function	Wire Color
1	28Volt Ground	Black
2	Lever Response	White
3	+ 28 Volts	Red

### \*Optional Lever Position Connector

A lever position feature has been added to the circuitry of this low profile lever. When the lever is extended, a signal is sent to an Input bit. The signal is turned off when the lever is retracted.

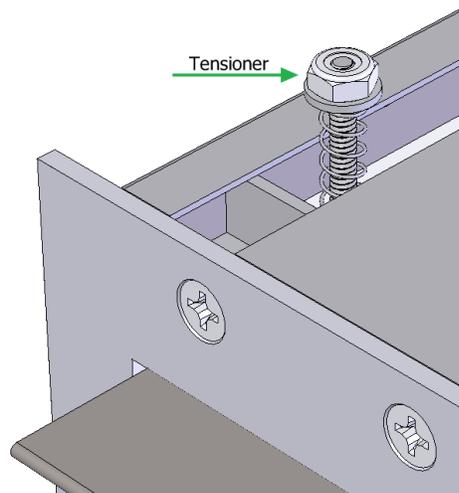
Lever Position connects to any available Input on a Standard MED Connection Panel via an included SG-216A cable.

Molex Pin #	Function	Wire Color
1	28Volt Ground	Black
2	Lever Position	White
3	+ 28 Volts	Red

## CHAPTER 3 | ADJUSTABLE TENSIONER

The adjustable lever tension is factory set to 25 grams but may be adjusted from 15 to 100 grams. Turn the tensioner clockwise to increase lever tension and counter clockwise to decrease lever tension. The tension should not be adjusted without consulting Med Associates Support.

*Figure 3.1 – Tensioner*



## CHAPTER 4 | MAINTENANCE

### Cleaning

It is very important and necessary to schedule periodic cleaning of the ENV-112CM Retractable Response Lever to ensure reliable operation and response detection. This should be done once a week or once a month based on use, to reduce buildup of dander, dust, or debris which can lead to unreliable operation and response detection. Humid environments may require more frequent cleaning. Med-Associates recommends that sticky substances such as sucrose, peanut butter, etc. should not be placed on the paddles of retractable levers as it can cause damage to mechanical and electrical components.

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**NOTE: Items returned for repair that have not been properly cleaned will be not covered under warranty. Please contact Med Associates (see Appendix A | Contact Information) if you would like to send your Retractable Response Lever to us for a routine cleaning service. We will be happy to send you a quote for this service.**

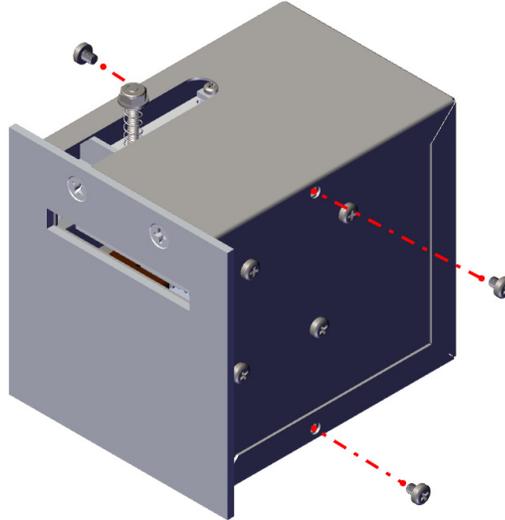
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### Cleaning Supplies/Tools

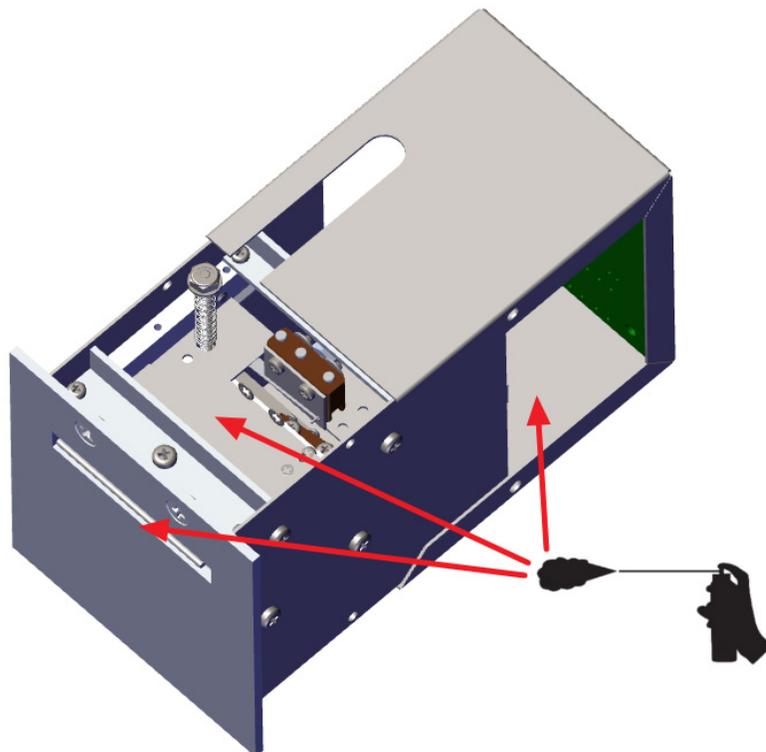
- #1 Philips Screwdriver
- Compressed Air
- Swab and Wipes
- Quatricide or 10% Ethanol

**Instructions**

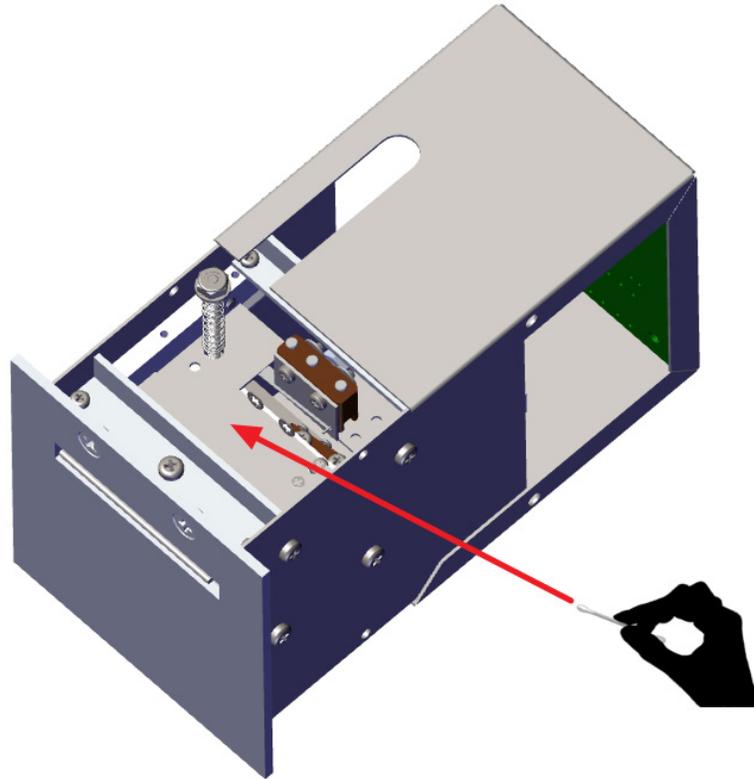
1. Remove Retractable Lever from chamber and disconnect the cables from back of lever.
2. Using a #1 Philips screwdriver, remove the 4 screws (2 on each side) shown below.



3. Slide the case backwards, making sure not to pull completely off as there are wires connecting the circuit board to the lever assembly.
4. Spray compressed air into lever, below the paddle, also spraying into all gaps and crevices to loosen any debris and allowing debris to fall out the lever.



- Using a swab soaked with cleaning solution, clean the lever paddle and any other areas with build-up or residue as needed.



- Spray compressed air (see step 4) again to blow out any remaining debris.
- Slide the case forward and reattach using the 4 screws removed in step 2. Reinstall lever in chamber.

## APPENDIX A | CONTACT INFORMATION

Please contact Med Associates, Inc. for information regarding any of our products.

For Technical questions, email [support@med-associates.com](mailto:support@med-associates.com).

For Sales questions, email [sales@med-associates.com](mailto:sales@med-associates.com).

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