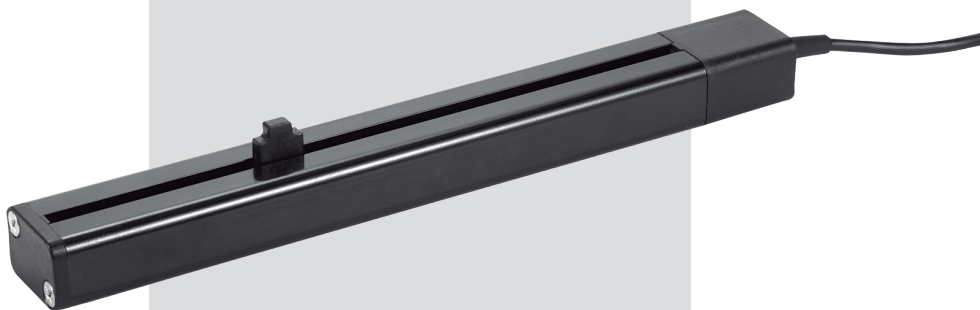

MAGPOT

LINEAR POTENTIOMETER SERIES

User Manual



REGNER®
Improving lives through technology

www.regner.es

MAGPOT LINEAR POTENTIOMETER SERIES USER MANUAL

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Specifications are subject to change without prior notice.

It is the responsibility of the product user to determine the suitability of REGNER® products for a specific application.

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01. Foreword



Thank you for choosing a REGNER® linear potentiometer. MAGPOT is a high-end product, carefully designed and manufactured with premium raw materials in Europe. Our products are also continuously improved to correspond better to the demands of our customers.

This manual will familiarize you with operational, maintenance and safety information about the REGNER® linear potentiometer. We urge you to read this manual carefully and follow the recommendations to help assure the highest performance and safe operation.

The REGNER® team

02. Safety

Please read the following safety information carefully and ensure that all the people who will use, connect or install the potentiometer have the necessary skills, information and access to this user manual.

02.01. Safety instructions

Please follow these safety guidelines:

- Only properly qualified personnel are permitted to perform mechanical and electrical installation of this product.
- Do not mount, dismount or perform maintenance work when the potentiometer is in operation.
- Check the potentiometer is correctly mounted before operation.
- Check the equipment can move freely throughout the potentiometer's whole working area before operation.
- Check the potentiometer is connected to a power supply with the correct voltage and current before operation (check electrical specifications).
- Ensure that the connection bolts can withstand the wear and they are secured safely before operation.
- Only use the potentiometer within the specified working limits.
- Ensure that the usage temperature and duty cycle for the potentiometer are respected.
- Ensure that the cable cannot be pressed upon, pulled or subjected to any other stress.
- Never unplug any cables or connectors during operation or with power on.
- Immediately stop using the potentiometer if it seems faulty or broken.

- Never try to open the potentiometer as that will compromise the sealing and the function of the potentiometer.
- Do not step on or kick the potentiometer.
- Periodically check the potentiometer and joints for extraordinary wear.
- Keep out of reach of children.

02.02. Symbols used

Important safety information is described under the following two symbols:



WARNING!

Failing to follow these instructions can cause accidents resulting in serious personal injury.



CAUTION!

Failing to follow these instructions can result in the product suffering damage or being destroyed.

03. Warranty

There is a warranty on REGNER® products against manufacturing faults. The warranty period begins on the purchasing date of the product. The seller is responsible for nonconformities that become apparent within the time stipulated by the applicable law.

Warranty exclusions:

REGNER® is entitled to deny any warranty if:

- The product has not been correctly used or the usage specifications (temperature, duty cycle, voltage, current, etc) have not been respected.
- The product has not been correctly serviced.
- The product has been tampered with.
- The product has been exposed to violent or abrasive treatment.

Nonconformities due to age of the product (for example, discoloring of painting) are excluded from warranty.

In case of doubt regarding the existence of a defect or if an inspection is required, REGNER® reserves the right to request the return of the product. Any additional warranty obligations for parts replaced free of charge or for any service provided without charge under this warranty shall be excluded. Warranty of the replaced parts under warranty period will end on the date of expiry of the warranty period of the product in question.

04. Specifications

04.01. Name plate



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MAGPOT M.172

Customer Ref. XXXXXXXX

Batch. No.: XXXXXXX



01. Product reference: MAGPOT M.172

01.01. *MAGPOT*: Linear potentiometer type

01.02. *M.172*: Travel (mm)

02. Customer reference: XXXXXXX

Optional. Customer's reference for the product.

03. Batch. No.: XXXXXXX

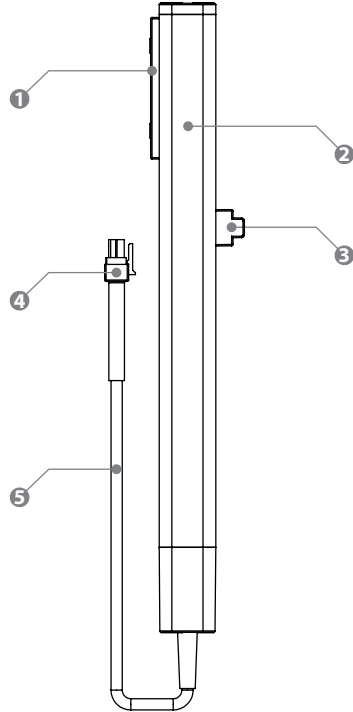
Identification number assigned to a particular lot of products that enables REGNER® to control the product quality and tracing of the constituent parts.

04. Symbols.

The following symbols may be used on the label.

Symbol	Norms	Approvals
	WEEE Directive 2002/96/EC	Wheelie bin
	Compliance to all relevant CE directives	CE

04.02. Terminology



- 1. Sliding bracket
- 2. Housing
- 3. Magnetic position sensor
- 4. Connector
- 5. Cable

04.03. Operation environment

The operation temperature range is between -20 to +85° Celsius (-4 to +185 ° Fahrenheit). The protection degree is IP64 (protection against water and dust).



Min. -20 °C
(-4 °F)



Max. +85 °C
(+185 °F)

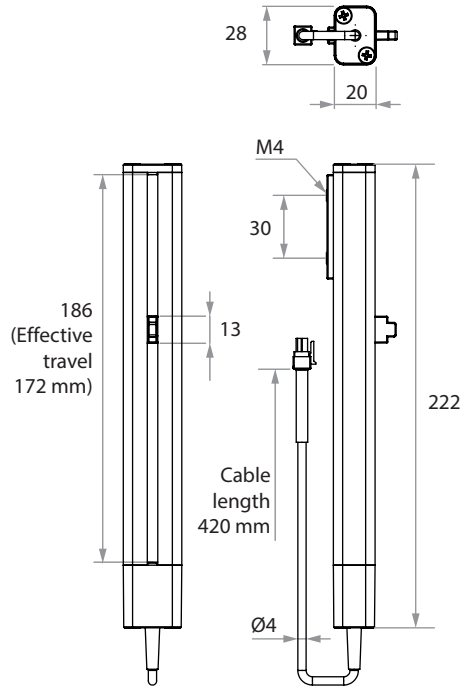


IP54

04.04. Standard specifications

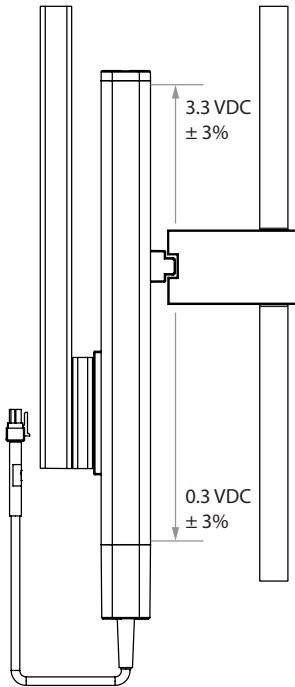
Supply voltage	4.5-5.5 VDC
Output voltage	0.3-3.3 VDC ± 3%
Current consumption	<2 mA
Effective Travel	172 mm
Resolution	Infinite
Independent Linearity	±5%
Hysteresis	3 mm
Cable Length	420 mm (PVC)
Connector type	Molex 43025-0400
Operating temp.	-20 °C to 85 °C
IP rating	IP54
Life Cycle	>1 Million
Housing material	Aluminum 6060 T5
Sliding bracket	50 mm (2xM4 mounting holes)
Color	Black

04.05. Dimensions



05. Installation

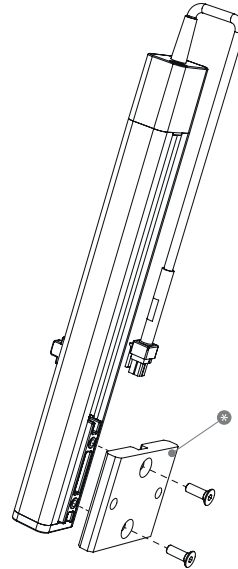
05.01. Operating principle



The MAGPOT reads the cursor position and sends out an electrical current proportional to the position. When the cursor is placed at the start of the travel (beside the connection cable), the output signal is 0.3 VDC \pm 3%. While the cursor moves alongside the travel, the output signal increases proportionally up to 3.3 VDC \pm 3% at the end of the travel.

The sliding bracket moves along the MAGPOT body to provide multiple mounting positions. Tighten the bolts to secure the sliding bracket at the desired position.

05.02. Mechanical mounting



** Bracket not included with the MAGPOT. Contact REGNER® for further information on standard and customized brackets.*

The linear potentiometer can be easily installed by using the sliding bracket: place the MAGPOT and the sliding bracket at the desired position, fit two M4 bolts through the assembly bracket, adjust the MAGPOT position and tighten the bolts.

Make sure the screws are solid and without excessive free play to prevent premature wear. Check the area around the housing and make sure no parts can be trapped and cause damage to the application and potentiometer.

Connect the mobile part to be tracked with the cursor of the MAGPOT, in such a way that the cursor moves alongside its travel together with the mobile part of the assembly. Ensure that the assembly is solid and without excessive free play to guarantee an accurate position feedback.

**CAUTION!****Mechanical mounting precautions:**

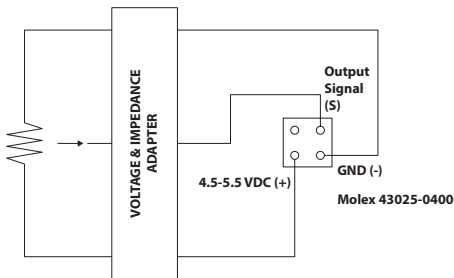
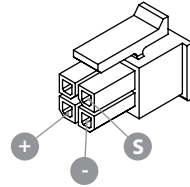
- The screws must have the correct dimension and must be made of a high quality steel grade.
- Prevent excessive free play.
- Do not use an excessive torque on the mounting bolts to prevent from stressing the fixtures.

**WARNING!**

REGNER®'s products are not designed to be used in the following applications: aircrafts and aerospace, explosive environments, nuclear power generation and offshore installations.

05.03. Electrical installation

Plug the MAGPOT. The MAGPOT is build according to the following electrical diagram.


**MAGPOT standard connector:
MOLEX 43025-0400**


Recommended current supply is 4.5-5.5 VDC, but the potentiometer can be operated with currents of up to 24 VDC.

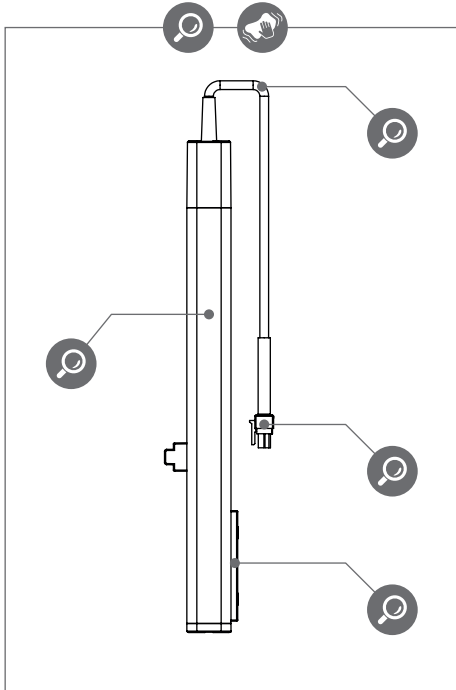
**CAUTION!**
**The potentiometer may operate with different
voltage up to 24 V.**

- Do not use a higher voltage of 24 VDC.
- Standard output for a 4.5-5.5 VDC is 0.3-3.3 VDC \pm 3%. The use of another current will directly modify these values.

**CAUTION!**
Electric installation precautions:

- To increase the potentiometer's protection, use a fuse between the potentiometer and the power source.
- Never work on the potentiometer or the wiring with the power switched on.

06. Maintenance



The potentiometer is a closed unit and requires no internal maintenance. Furthermore, the potentiometer is not to be opened by unauthorized personnel. However, some external maintenance must be performed:

- The MAGPOT must be cleaned at regular intervals with a dry cloth to remove dust and dirt, and inspected for mechanical damages or wear.
- Inspect attachment points, cables, housing and connector, as well as check that the MAGPOT functions correctly.

07. Troubleshooting

Symptom	Possible cause	Action
<i>No output signal.</i>	<ol style="list-style-type: none"> 1. The potentiometer is not properly connected to the power supply. 2. Customer fuse burned. 3. Cable damaged. 	<ol style="list-style-type: none"> A. Check the connection to the power supply or the external control unit (if any). B. Check wire connection on control unit. C. Please contact REGNER®.
<i>Output signal out of range</i>	<ol style="list-style-type: none"> 1. Incorrect power supply. 2. Potentiometer misaligned. 	<ol style="list-style-type: none"> A. Check and correct power supply. B. Correct the potentiometer position and alignment using the sliding bracket. C. Please contact REGNER®.

08. Application policy

The purpose of the application policy is to define areas of responsibilities in relation to applying a REGNER® product related to a customer application. REGNER® products are applicable for a wide range of applications (including healthcare, household equipment, and industrial areas). REGNER® cannot know and check all the conditions under which REGNER® products will be installed and used. So the suitability and functionality of the REGNER® product and its performance under different conditions can only be verified by testing, and shall ultimately be the responsibility of the REGNER® customer using any REGNER® product.

REGNER® shall be responsible solely that REGNER® products comply with the specifications set out by REGNER® and it shall be the responsibility of the REGNER® customer to ensure that the specific REGNER® product can be used for the application in question.

09. Contact

For technical assistance get in touch with the REGNER® technical department through the following e-mail: info@regner.es.

