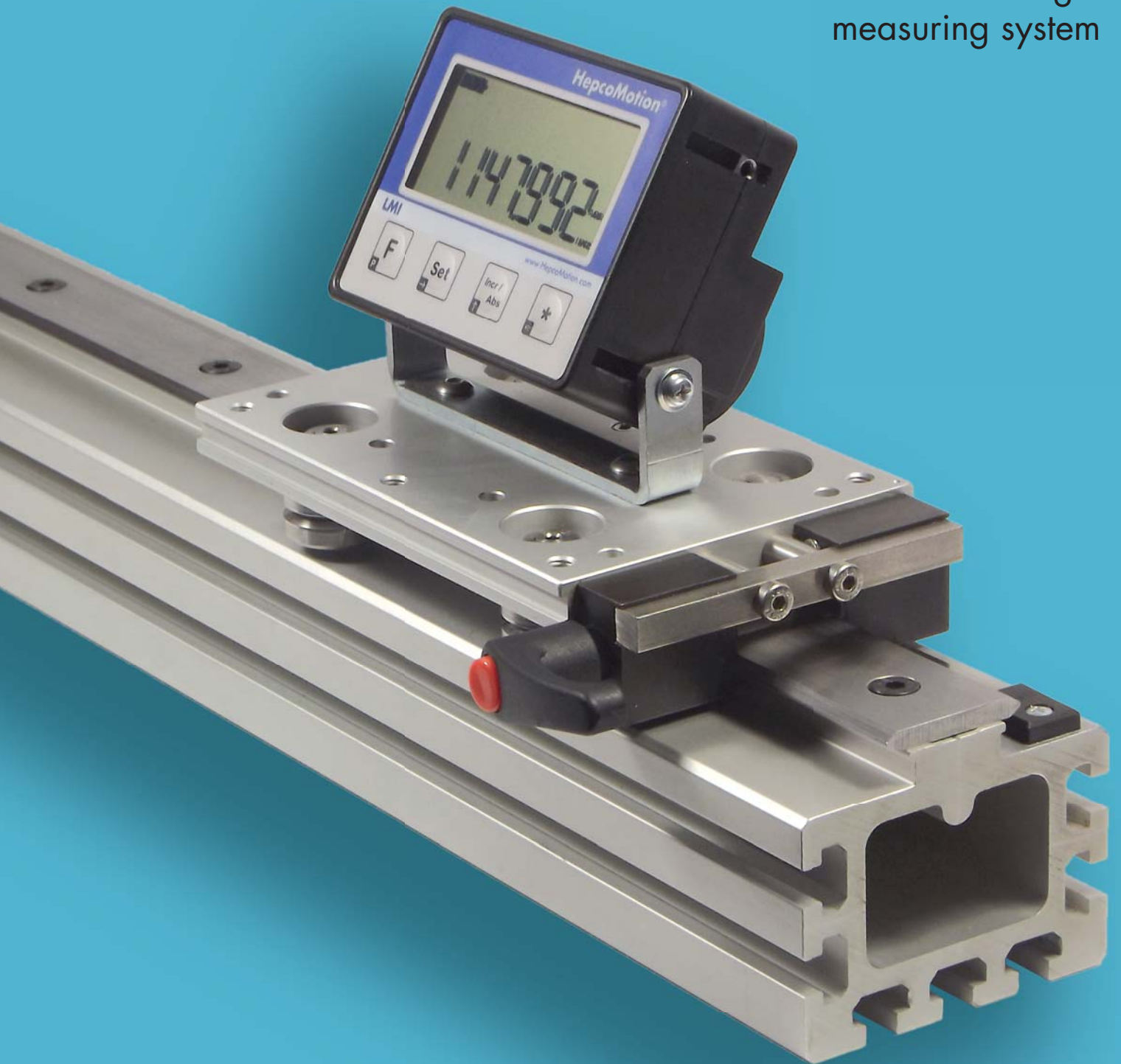


# HepcoMotion®

## LMI

Non contact length  
measuring system



# Improve Productivity / Reduce Rejects

The **LMI** Linear Measuring Indicator from HepcoMotion is an economical and highly versatile length measuring system. LMI will enable **consistent precise measurements** to be taken that will **improve productivity** and **reduce rejects** in many industrial length measurement and positioning applications. These can be found often in wood, paper, metal, stone and glass processing industries. The product is particularly useful in hostile conditions as seen in cut-to-length applications.

## Highly Versatile Position Indicator

LMI comprises a coded magnetic tape, an external magnetic sensor and a battery powered position indicator. The position indicator can be programmed to display in mm, metres, inches or degrees and with a selectable number of digits displayed. The positive reading direction can also be set along with offsets, an absolute/incremental mode, and the ability to scale measurements.

### LMI-RE (Rugged Enclosure)



### LMI-PM (Panel Mount)



### Non Contacting - No Wear

**There are no wearing parts** as there is no contact between the sensor head and the tape. The sensor should move parallel to the tape with up to 1mm gap.

### Simple Guiding

Guiding of the sensor parallel to the tape is best achieved with a precision guidance system. Our GV3 linear slides are ideal for this function as the sensor can easily be mounted to the underside of a standard carriage. The tape is then fixed to a support. In addition, GV3 slide systems with their self cleaning action can tolerate any dirt that is present. The sensor is sealed to IP67.

### Total Application Flexibility

Customers can either purchase the LMI and incorporate it into their own application or take advantage of our assembled system with tape, sensor and indicator fitted to a GV3 slide beam assembly (see front cover illustration).

## Simple, easy-to-install, precise, guided length measuring system

- HepcoMotion LMI is an **easy-to-install** compact incremental linear measuring system that can also be adapted to rotary applications where angular measurement is required.
- When matched with our popular GV3 slide system, LMI will provide a complete guidance and measuring solution **requiring minimal engineering work to set up.**
- A carriage locking system is available to fit on our GV3 slide carriages providing **positive locking for consistent length control**
- LMI is a robust, wear free sensing solution that can work in **clean factory or hostile environments.**
- Lengths up to 32 metres are available as standard with up to 70 metres on request - GV3 guidance system lengths to match.
- Resolution 0.01mm - display can be programmed to show fewer decimal places.
- System accuracy  $\pm (0.025\text{mm} + 0.00002L)$  where L is the measuring length in mm.
- Battery operated, lasts up to 3 years for the RE type and 2 years for the PM type.
- No wiring is required, 1.5v operational voltage - **no electrical hazard.**
- Can display measurements in mm, metres, inches or degrees.
- Tool offsets can be applied.
- Incremental or absolute mode.
- Compact size Position Indicator Unit **98mm wide x 74mm** high with bright easy-to-read 7 digit LCD display and 4 button touch pad.



# Application Examples

LMI will be an ideal solution for many length measuring and positioning applications. Its versatility also makes it suitable for rotary applications. Whether the environment is clean, hostile or subject to wash down, LMI will provide the economical solution you have been looking for.



## Precision saw backstop

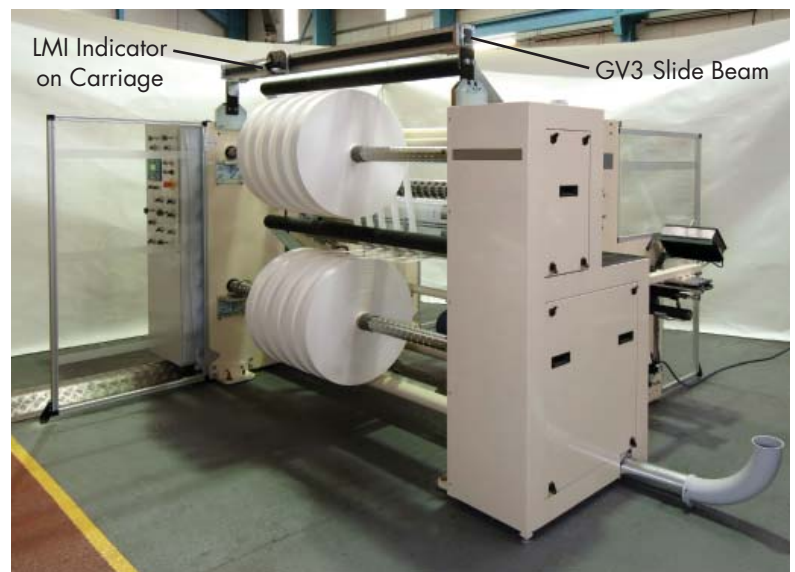
Machine saws can simply be retrofitted with an LMI unit to provide an accurate cut to length facility. The incremental mode is useful for cutting many short lengths of one size from a longer piece, or for creating partial cuts at regular intervals along a length.

The readout can be zeroed at any position.

## Laser positioning

In this application, an LMI has been supplied fitted to a GV3 slide beam. A laser pointer is attached to the carriage, and projects a point of light which the operator positions on the edge of the rolls of paper. This allows the non-contact measurement and alignment of the winding process.

The straight, self-supporting GV3 SB beam with LMI fitted is an ideal partner for laser projection in non contact measurement applications.



## Rotary positioning

The LMI tape is highly flexible and can be applied to a cylindrical surface making it suitable for use in turntable applications where an angular measurement is required.

HepcoMotion manufactures a range of standard rings suitable for this function.

Please refer to our PRT2 and HDRT catalogues for more information.

# Installation Made Easy

## Magnetic Tape

The magnetic tape and its stainless steel cover strip have a strong self-adhesive backing. They are easy to install onto a clean, dry and smooth surface.

The tape and cover are supplied cut to length and come with protective caps that cover the ends of the tape. Tapes should be ordered 100mm longer than the length you want to measure, and are easily trimmed with tin snips, if required.

## Sensor

The magnetic sensor should be set parallel to the tape and positioned no more than 1mm away. It is important that the sensor moves accurately parallel with the tape, so some form of guidance is usually necessary.

We can advise on the best guidance system for your application. Often a selection from our standard range of GV3 slides will suffice. Where better corrosion resistance is needed, our SL2 stainless steel slide system may be preferred.

In many cases, the battery powered position indicator can move with the sensor. In these cases, cables can often be short and be contained in solid trunking if required.

In some cases, the sensor will move relative to the position indicator. A flexible 'cable chain' may be useful to hold the cable in these applications. LMI cables have a high flex specification, and are rated for use in cable chains.

## Position Indicator & Cable

Whether you are fitting the indicator to a moving carriage or mounting it remotely, you will need to choose the length of the sensor cable.

If the indicator is to be fitted to a moving carriage it may be simpler to use the RE version as it is supplied with a mounting bracket which can be screwed directly to the carriage and requires no further housing. Cables for this version are connected via a plug and socket to the indicator and the standard cable lengths are 150mm, 500mm, 1000mm, 1600mm and 2400mm. The RE enclosure is sealed to IP50.

The PM panel mounting version can be fitted into a 93 x 67mm cutout in a panel or standard component enclosure, and this may suit applications where the sensor moves relative to the indicator. The standard cable lengths for the PM version are 500mm, 1000mm and 2400mm, with these cables hard wired to the indicator. The front of the PM enclosure is sealed to IP 54 when installed with the gasket provided.

Alternative cable lengths can be supplied for both types of indicator, on request.

## Complete Assembled Solution

**Purchasing the slide system with tape and sensor fitted will save you considerable time on installation.** For details of compatible slide systems, please visit [www.HepcoMotion.com/GV3datauk](http://www.HepcoMotion.com/GV3datauk) and [www.HepcoMotion.com/SL2datauk](http://www.HepcoMotion.com/SL2datauk) and in each case the catalogue can be downloaded.

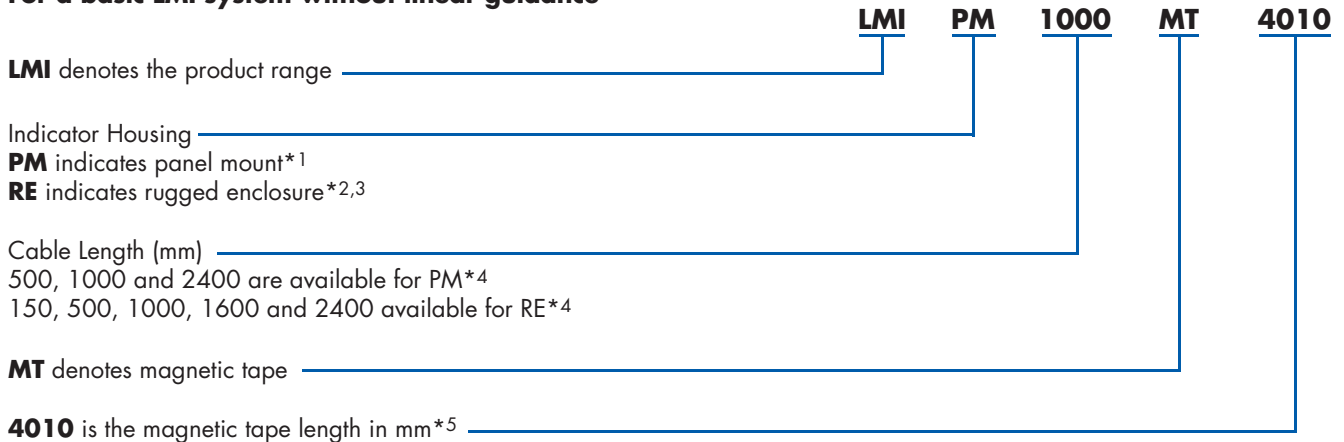
## LMI Operation

The LMI is an incremental measuring system, and can lose position if the sensor is moved away from the tape or the power is lost. Periodic re-zeroing is recommended.

# Ordering Details

To order an LMI system please contact Hepco's sales office direct line 01884 257000 or, for further information or advice to suit a particular application, please contact Hepco's technical sales department.

## For a basic LMI system without linear guidance



## Notes

1. Integrated battery case and cover (for 1 x 1.5V, C/LR14 cell, supplied)
2. Integrated battery case and cover (for 1 x 1.5V, D/LR20 cell, supplied)
3. Rugged enclosures are supplied complete with mounting bracket.
4. Alternative cable lengths are available on request, maximum 2400mm.
5. When specifying the magnetic tape length, a minimum of 100mm (50mm per end) must be added to the measuring distance required. It is easy to trim off any excess with tin snips. The cover strip is supplied to this same length along with 2 end caps and securing screws.

## Examples

LMI PM 500 MT 2650 comprises -

- Panel mount indicator unit with hard-wired sensor, 500mm cable length
- 2650mm of magnetic tape (allowing a measurement range of 2550mm)
- 2650mm of cover tape
- 2 end caps and securing screws
- C type battery
- Panel mount gasket and dust protection stickers
- Operation manual

LMI RE 150 MT 990 comprises -

- Rugged enclosure indicator unit with integral sensor cable connector
- Mounting bracket for indicator unit with necessary fasteners
- Sensor with 150mm of cable and plug
- 990mm of magnetic tape (allowing a measurement range of 890mm)
- 990mm of cover tape
- 2 end caps and securing screws
- D type battery, cover and screws
- Operation manual

## For systems with guidance system

Use the same reference numbers to designate the LMI and indicate that a guidance system is required.

Options are:

GV3 spacer slides ref 24-25 GV3 catalogue

GV3 carriages ref 18-23. Lockable carriages 19a

GV3 Slide Beams (SB) complete with fitted slide 30 – select carriage to suit.

In these cases please indicate whether you want the tape fitted with the sensor set and indicator located onto the carriage. For further assistance please contact our sales office direct line 01884 257000.

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