

D4L and D4M digital readouts



Digital readouts D4L and D4M in a robust aluminium housing are designed for use in harsh environments. A wide range of functions enables use in various applications.

Quick and easy installation

Plug-and-play connection in combination with RLS incremental magnetic encoders LM10 and LM15, integrated setup LED and user-friendly startup.

High reliability due to high-quality system components

The robust RLS magnetic scales offer a high degree of protection. For additional protection against swarfs (e.g. metal, stone, glass, wood, etc.) a thin stainless steel cover foil is optionally available.

User-friendly handling

The physical keyboard with logically arranged buttons enables user-friendly handling.

Power saving mode

After inactivity, it can be set to 1 - 60 minutes. It is still possible to measure traverse path even in power saving mode.

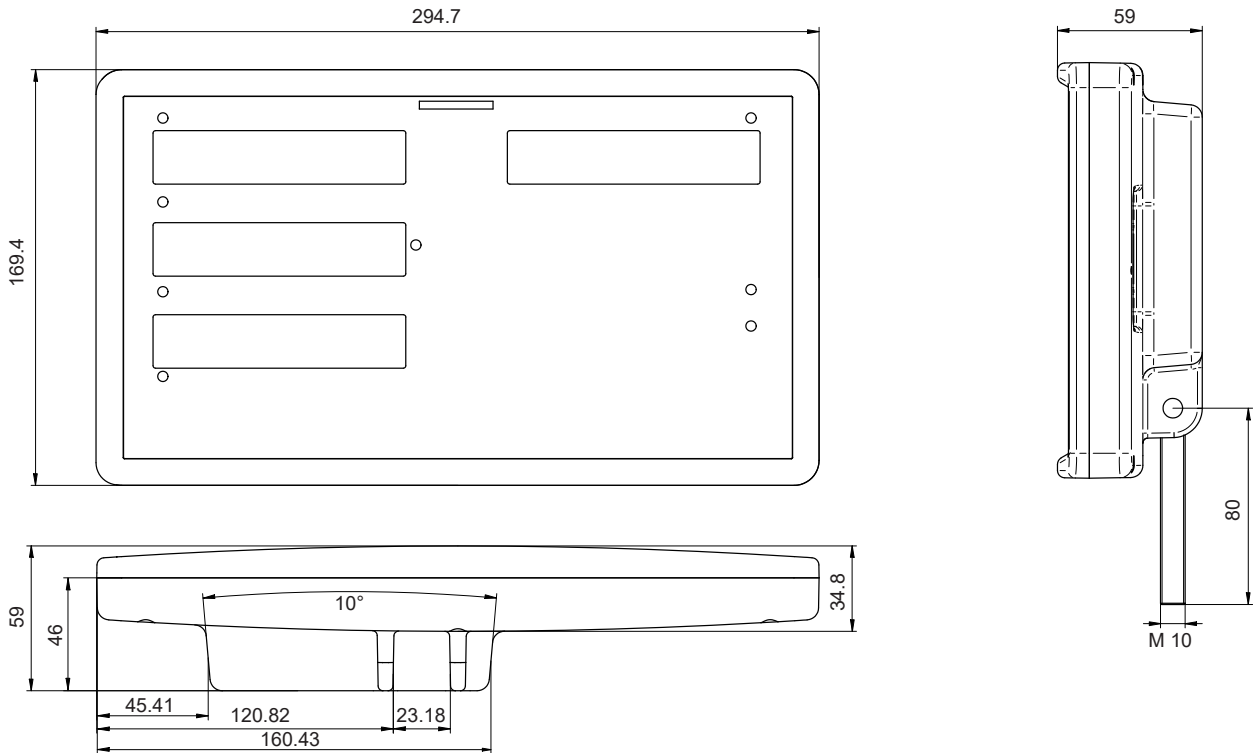
Made for harsh environment

The robust aluminum housing with scratch-resistant display is designed for workshop applications such as lathes, cylindrical grinding machines, milling, drilling and surface grinding machines.

- For up to 4 axes
- Excellent degree of protection
- Measurement of traverse paths even in power-save mode
- Integrated calculator functions
- Linear and multi point error compensation
- Axis lengths up to 10 m
- Direct imperial to metric conversion
- Up to 200 tool offset compensation or datum points
- Very effective ROI: increased productivity, reduced scrap

Dimensions

Dimensions in mm.



Assembly

Each DRO system consists of a compact, sealed readhead with a cable in a protective stainless steel tube and a self-adhesive magnetic scale with magnetised reference mark and selective cover foil (each part of the system must be ordered separately, see [Part numbering](#)).

Each DRO model is also supplied with its own mounting bracket with aluminium attachments.



NOTE: The device should have proper protective grounding. All devices connected to the readout should have conformity certificates for applicable EU standards.

DRO functions

	D4L	D4M
Set zero for all axes	✓	✓
Determine the centre (1/2 value)	✓	✓
mm/inch display	✓	✓
Coordinate input	✓	✓
Absolute and incremental DRO operation mode	✓	✓
Power-off memory (20 years)	✓	✓
Reference value memory for every axis	✓	✓
Tool compensation memory (up to 200 tools)	✓	x
Constant speed machining	✓	x
Machining of radius	✓	x
Axis summation (Z' and Z)	✓	x
Datum points memory (up to 200 points)	x	✓
Automatic calculation of bolt and linear hole patterns	x	✓
Machining of inclined surfaces	x	✓

✓ = available
x = not available

Technical specifications

General data		
Axes	3 + 1 axis	
Interfaces	RS232 / RS485 UART	
Maximum measuring length	10 m	
Repeatability	Better than unit of resolution for movement in the same direction	
Integrated calculator	+, −, ×, ÷, √, trigonometric functions	
Electrical data		
Integrated universal power supply AC	100 V - 240 V (50/60 Hz)	
Power consumption	≈15 W	
Signal input	Rectangular, voltage +5 V	
Relay outputs	0.5 A, 24 V DC	
Acceptable input frequency	1 MHz	
Mechanical data		
Weight	≈1.5 kg	
Housing	Aluminium casting	
Display	Membrane keypad insensitive to dirt and chemicals	
Environmental data		
Temperature	Operating	0 °C to +45 °C
	Storage	−20 °C to +70 °C
Humidity	<75 % annual average; <90 % in rare cases	

NOTE: For technical specifications of the readhead and magnetic scale see the corresponding datasheet from [RLS media center](#).

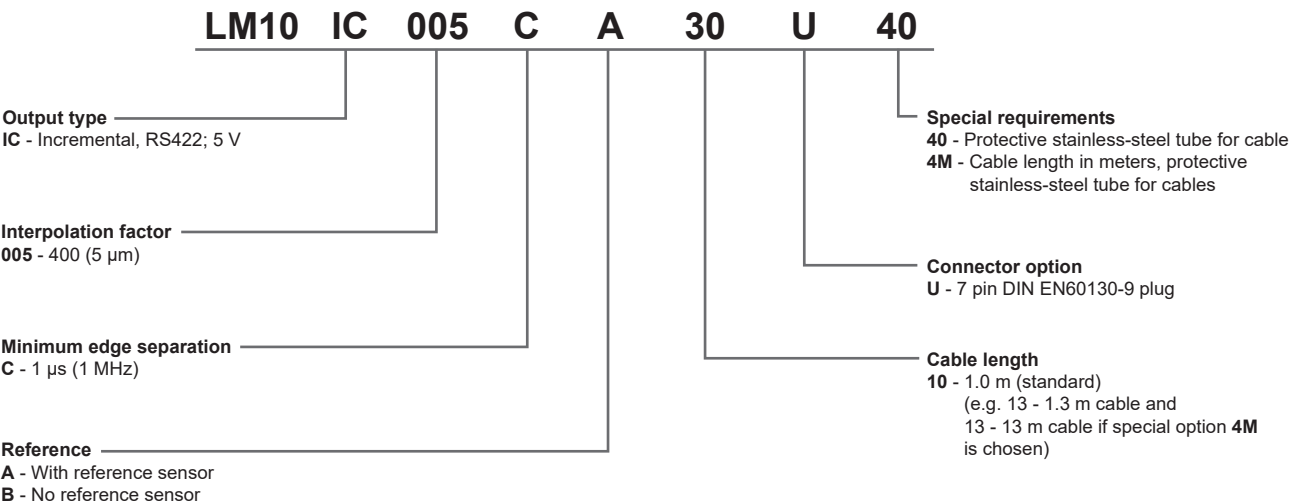
Part numbering

ACC007 - Digital readout D4L (lathe) with mounting bracket

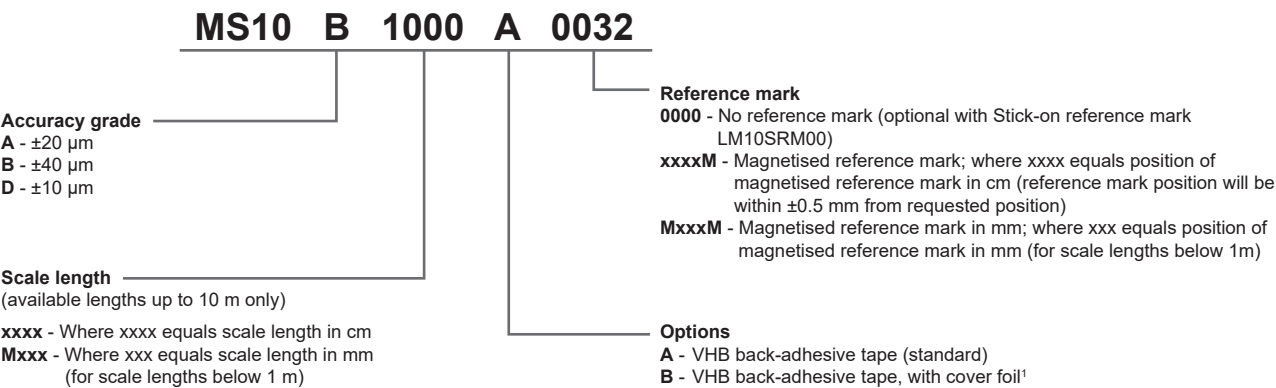
ACC008 - Digital readout D4M (mill) with mounting bracket

Recommended LM10 system

Readhead LM10



Magnetic scale MS10

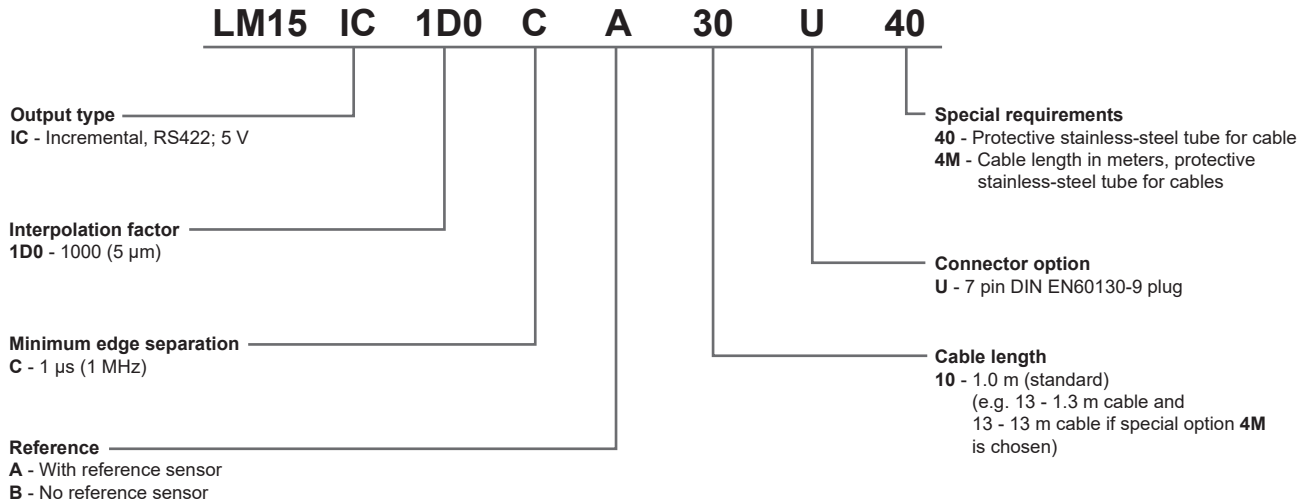


¹ Cover foil supplied separately.

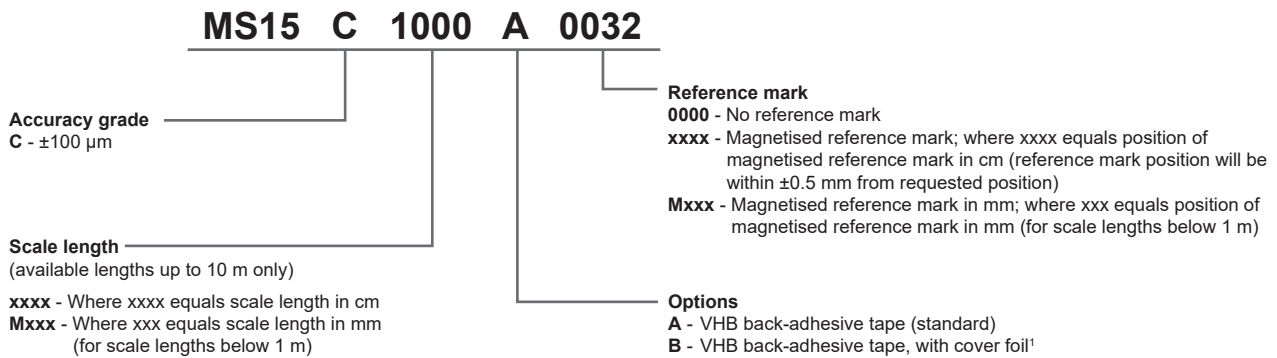
NOTE: For more information on readhead LM10 refer to datasheet [LM10D01](#).

Recommended LM15 system

Readhead LM15



Magnetic scale MS15



¹ Cover foil supplied separately.

NOTE: For more information on readhead LM15 refer to datasheet [LM15D01](#).

Compatible products



D4L/D4M



LM10IC



MS10



LM15IC



MS15

Head office

RLS merilna tehnika d.o.o.

Poslovna cona Žeje pri Komendi
Pod vrbami 2
SI-1218 Komenda
Slovenia

T +386 1 5272100

F +386 1 5272129

E mail@rls.si

www.rls.si

Document issues

Issue	Date	Page	Corrections made
1	9. 6. 2020	General	New document

This product is not designed or intended for use outside the environmental limitations and operating parameters expressly stated on the product's datasheet. Products are not designed or intended for use in medical, military, aerospace, automotive or oil & gas applications or any safety-critical applications where a failure of the product could cause severe environmental or property damage, personal injury or death. Any use in such applications must be specifically agreed to by seller in writing, and is subject to such additional terms as the seller may impose in its sole discretion. Use of products in such applications is at buyer's own risk, and buyer will indemnify and hold harmless seller and its affiliates against any liability, loss, damage or expense arising from such use. Information contained in this datasheet was derived from product testing under controlled laboratory conditions and data reported thereon is subject to the stated tolerances and variations, or if none are stated, then to tolerances and variations consistent with usual trade practices and testing methods. The product's performance outside of laboratory conditions, including when one or more operating parameters is at its maximum range, may not conform to the product's datasheet. Further, information in the product's datasheet does not reflect the performance of the product in any application, end-use or operating environment buyer or its customer may put the product to. Seller and its affiliates make no recommendation, warranty or representation as to the suitability of the product for buyer's application, use, end-product, process or combination with any other product or as to any results buyer or its customer might obtain in their use of the product. Buyer should use its own knowledge, judgment, expertise and testing in selecting the product for buyer's application, end-use and/or operating environment, and should not rely on any oral or written statement, representation, or samples made by seller or its affiliates for any purpose. EXCEPT FOR THE WARRANTIES EXPRESSLY SET FORTH IN THE SELLER'S TERMS AND CONDITIONS OF SALE, SELLER MAKES NO WARRANTY EXPRESS OR IMPLIED WITH RESPECT TO THE PRODUCT, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, WHICH ARE DISCLAIMED AND EXCLUDED. All sales are subject to seller's exclusive terms and conditions of sale which, where the seller is (a) RLS merilna tehnika d.o.o., are available at <https://www.rls.si/customer-service>, (b) Renishaw, Inc., are available at <http://www.renishaw.com/Shop/legal/en/-42186>, or (c) another person, are available on request, and in each case, are incorporated herein by reference, and are the exclusive terms of sale. No other terms and conditions apply. Buyer is not authorized to make any statements or representations that expand upon or extend the environmental limitations and operating parameters of the products, or which imply permitted usage outside of that expressly stated on the datasheet or agreed to in writing by seller.

RLS merilna tehnika d.o.o. has made considerable effort to ensure the content of this document is correct at the date of publication but makes no warranties or representations regarding the content. RLS merilna tehnika d.o.o. excludes liability, howsoever arising, for any inaccuracies in this document. © 2020 RLS d.o.o.