UPRG01
Programming Interface

UPRG01 is a USB programming interface for configuring LM10, LM13 and LM15 encoders equipped with the programmable option.

Using the supplied software, users can adjust the resolution, edge separation and count direction. The interface connects directly to a computer via USB.



Related products



LM10 incremental magnetic encoder



LM13 incremental magnetic encoder



LM15 incremental magnetic encoder

Technical specifications

Electrical data

Power supply	5 V
Current consumption	100 mA
USB connector	USB 2.0 and USB 1.1 Full Speed compatible; USB 5 pin mini-B connector
Drivers	Virtual Com Port (VCP) drivers available for: Win 98, 98 SE, 2000/ME, XP, Vista; MAC OS-8, OSC-9, OS X; Linux For other operating systems, download drivers from **here**.

Mechanical data

Dimensions	60 × 33 × 16 mm
Cable	Standard A to mini-B USB cable

Environmental data

Operating temperature	0 °C to +45 °C
Environmental sealing	IP20 (indoor use only)
EMC compliance	EN 61326

Electrical connections

Signal	9 pin D type female connector
–	1
–	2
–	3
A+ (SDA)	4
5 V	5
–	6
–	7
A– (SCL)	8
0 V	9

LM10, LM13 and LM15 encoders require connector option A. Refer to the Electrical connections section in the respective **LM10**, **LM13** and **LM15** data sheets for connector details. The data sheets are available at **RLS Media center**.

Programmable parameters

The programming software allows the following parameters to be configured for LM10, LM13 and LM15 encoders:

- resolution,
- minimum edge separation,
- counting direction.

Installing the programming software

1. Download the programming software from **www.rls.si/uprg**.
2. Unzip the downloadable file.
3. Run the appropriate setup file:
   - ‘setup_LM10_configurator.exe’ for LM10,
   - ‘setup_LM13_configurator.exe’ for LM13, or
   - ‘setup_LM15_configurator.exe’ for LM15.
4. Follow the on-screen instructions to install the software.
5. Once the installation is complete, connect the UPRG01 interface to the encoder.

Programming the encoder

Enter programming mode

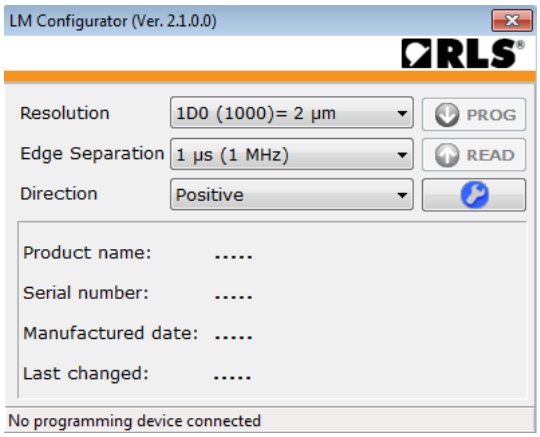
The LM10, LM13 or LM15 can only be programmed when the LED on the readhead is red. This can be achieved in two ways:

1. Remove the readhead from the magnetic scale.
2. Insert a ferrous metal strip between the readhead and the magnetic scale.

> The metal strip used should not be magnetised as it could damage the scale.

Program the encoder

1. Connect the readhead to the programming interface.
2. When the setup LED turns red, the software automatically detects the device.
3. Click READ to load the current settings.
4. Modify the required parameters.
5. Click PROG to program the encoder.
6. If more than one device is connected, select the required port using the Tools button .



LM10 Configurator screen preview

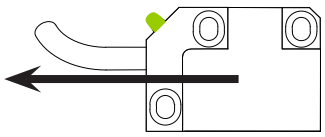
Resolution

LM10, LM13 and LM15 can be used for linear and ring applications, so the resolution is defined by the interpolator factor. Refer to the **LM10**, **LM13** or **LM15** data sheets available at **RLS Media center** on which interpolation factor to use.

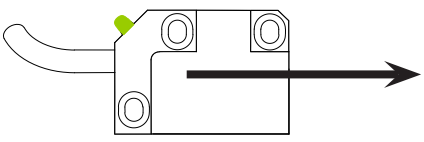
Minimum edge seperation (maximum frequency)

Encoders	LM10, LM13, LM15
Possible settings	0.12 µs, 0.5 µs, 1 µs, 2 µs, 4 µs

Counting direction



Positive: signal A leads signal B if readhead moves in direction of cable exit



Negative: signal B leads signal A if readhead moves in direction away from cable exit

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Visit our **website** to contact your nearest sales representative.

Document issues

Issue	Date	Page	Description
7	29. 7. 2026	-	Document design updated

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