

L86356

Master Light Gate

NFU451

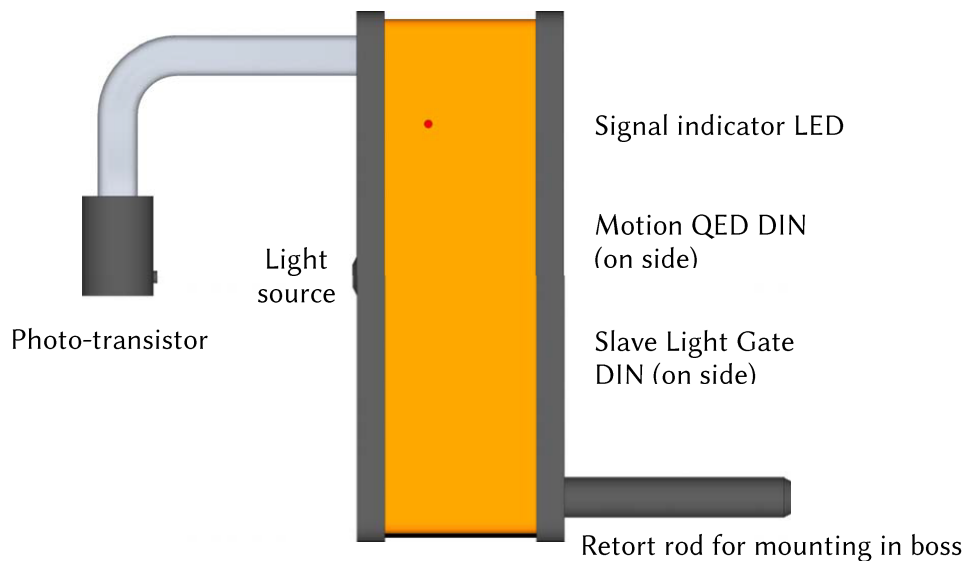


Purpose

The Master Light Gate is designed to work with Motion QED and a standard “Slave” Light Gate, providing a simple to setup two light gate and timing solution.

For example, motion experiments with linear air track vehicles, dynamics trolleys and free fall objects. From timing their passage through a gap, dynamic properties such as speed and acceleration can be derived.

The light gate has a bright red LED in the main body, and a sensitive photo-transistor on its arm. When this path is blocked, the signal LED on the front panel lights.



version L86356.16.01

Potential issue: “Always blocked”

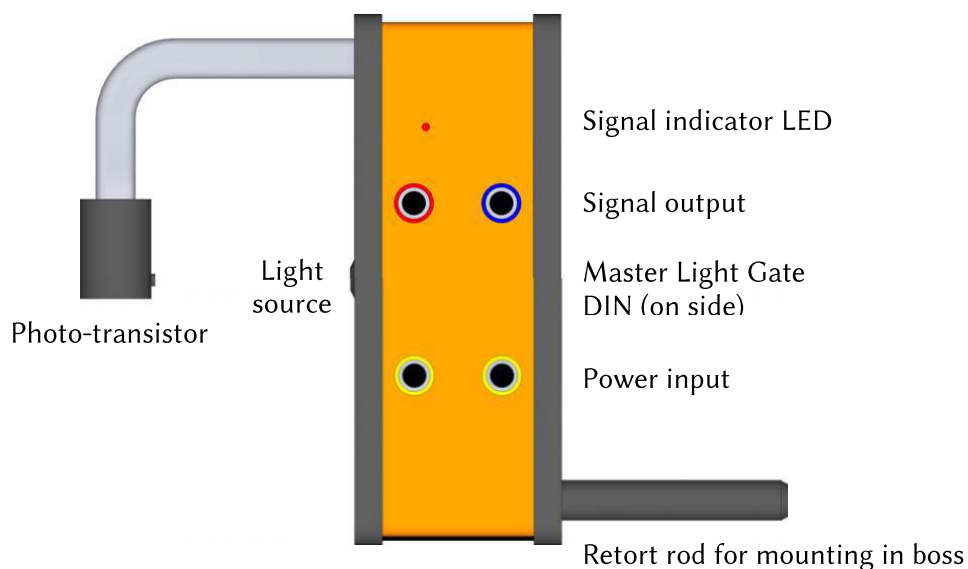
If the signal LED is lit even without an apparent blockage, this is most likely due to the alignment of the light source and photo-transistor. The cylindrical head on the end of the arm can be twisted round gently, until the photo-transistor is facing the light source.

In the unlikely event that this does not fix the problem, contact Philip Harris to arrange a repair.

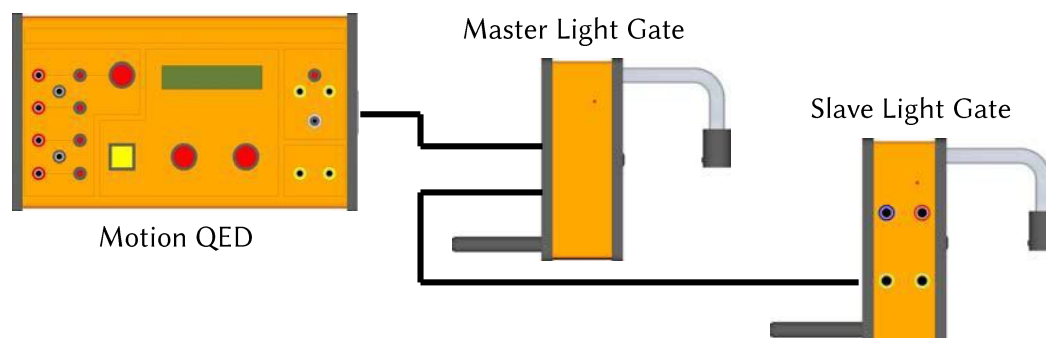
Slave Light Gate

When Master and Slave Light Gates are used together, a DIN lead carries power from Motion QED to the Master Light Gate, and then a further DIN lead carries power from the Master Light Gate to the Slave Light Gate.

The same DIN leads carry the signal back from the Slave Light Gate and Master Light Gate to Motion QED.



The Master Light Gate and Motion QED therefore replace the need for an untidy eight- cable setup and separate power supply, with a tidy two-cable setup, with power supplied by Motion QED's plug-top adaptor.



version L86356.16.01

Older Light Gates

Older versions of the light gate used an incandescent bulb. They may be marked with Unilab catalogue number 414.032, or similar.

It must be run off 12V a.c. or d.c.

Replacing the Bulb

Specification: 12V 2.2W MES, available from Unilab spares or electrical component suppliers.

To replace the bulb, unscrew the two side retaining screws on the main unit. Lift out the side and back casing. It may be necessary to slacken off the two yellow input sockets, this will give enough clearance to remove and replace the bulb.

Associated Equipment

Motion QED, a Master light gate with leads, and Slave light gate is available as the Advanced Motion Measurement Kit from Unilab. For more details on using Motion QED, please refer to NFU 452. Contact Unilab for a copy.

A Unilab Stop-clock and Centisecond Timer Module can be connected to two Slave Light Gates, and some simple motion timing experiments carried out. Please refer to NFU 618 for more details, contact Unilab for a copy.

The light gate can also be used with most standard school timing equipment designed for light gates, such as Scaler-Timers and Digicounters.

Warnings

For your safety, this product should be used in accordance with these instructions, otherwise the protection provided may be impaired.

Disposal of Waste Electrical and Electronic Equipment (WEEE)



Do not dispose of this product with household waste

- For the proper treatment, recovery and recycling please take this product to an appropriate collection point.
- If you are unsure where this is, contact your Local Authority
- By disposing of this product correctly you will be providing positive help to the environment.

Warranty, repairs and spare parts

The Master Light Gate is guaranteed for a period of one year from the date of delivery to the customer. This warranty does not apply to defects resulting from the action of a user such as misuse, improper wiring, any operations outside of its specification, improper maintenance or repair, or unauthorized modification.

Our liability is limited to repair or replacement of the product. Any failure during the warranty period should be referred to Customer Services.

Please contact Customer Services or techsupport@philipharris.co.uk for advice

Instructions for authorized service technicians

Ensure that all earth conductors and protective earth bonding is maintained after service work.

Please refer to the detailed service procedures, safe servicing and continued safety – contact techsupport@philipharris.co.uk for advice.

For any manufacturer specific parts please refer to our recommended repairer.

Please refer to product specific risks that may affect service personnel, the protective measures and verification of the safe state after repair.

Supplier details

Philip Harris Education, 2 Gregory Street, Hyde, Cheshire SK14 4RH

Orders and Information Tel: 0845 120 4521

Fax: 0800 138 8881

Repairs

Tel: 0845 120 3211

E-mail: techsupport@philipharris.co.uk

Website: www.philipharris.co.uk

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