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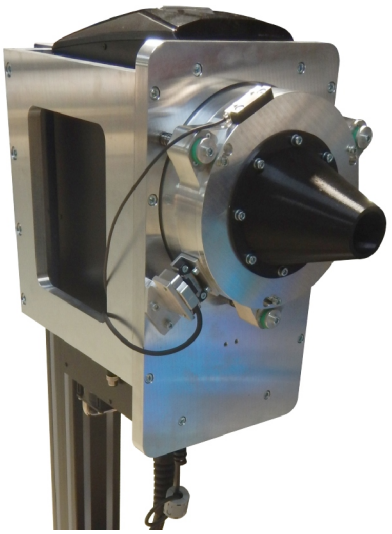
Freehand Laser Safety *for* KEYENCE *laser marking systems*

The safest laser protection system on the market in the smallest space



The laser protection system ensures laser class 1 and performance level A.Unlike other systems, the laser diode on Keyence lasers is switched off when the protective contact is open.

The Freehand Laser Safety laser protection system has been tested according to DIN EN ISO 13849 and meets the requirements of DIN EN 12254.

Freehand Laser Safety for Keyence marking lasers is the compact and intrinsically safe laser protection system for your marking process for laser marking without a protective cabin!
This combination makes the system highly flexible and offers a wide range of possible applications.

Advantages of using Keyence marking lasers

☑ SAFETY

- Intrinsically safe due to 2-channel safety switch
- Switching off the laser diode when the protective circuit is open
- Additional mouthpiece query (optional with coding)
- Additional workpiece query optional
- Safe extraction of smoke and combustion residue directly at the mouthpiece

☑ FLEXIBILITY

- Individual mouthpieces available for almost any workpiece contour
- Mouthpiece can be quickly changed (optionally with coding)
- Labeling field size from small DNC code up to 300 x 300 mm
- Application stationary or mobile
- Optional direct marking control by the laser without workpiece displacement possible
- Component marking from above or from the side
- Suction nozzle on the mouthpiece can be flexibly positioned

☑ SAVINGS

Costs:

- Cost-effective solution compared to complete housing
- Low follow-up costs by achieving Performance Level A
- No further closures necessary

Space:

- Minimal space requirement due to elimination of a laser protection cabin

Time:

- Easy integration of existing Keyence laser
- Low maintenance, resulting in minimal downtime

Areas of application in the following areas, among others

- battery carrier labeling
- Inline labeling of injection-molded plastic parts
- Applying consecutive serial numbers for integration into assembly systems
- Marking of IO parts within a leak testing system
- Marking of safety components
- Applying production key figures to production lines
- Manual prototype and small series labeling
- Marking electronic products with Data Matrix Code for identification
- Industry-independent

And what is
your application?

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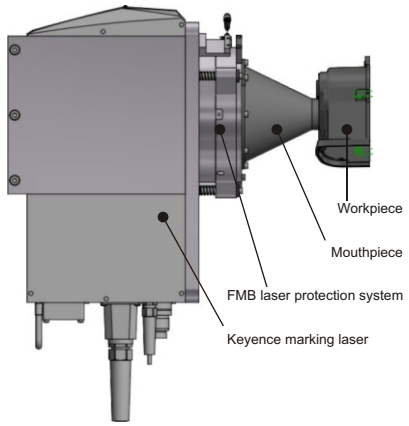
Freehand Laser Safety

Workpiece marking simple and safe

Mode of operation:



1. Guide the product automatically (e.g. by a robot) in front of the mouthpiece, bring the mouthpiece into the end position, and thus close the protective circuit
2. Trigger laser process (ext. PLC)
3. Optionally, immediate checking of the labeling is possible using the integrated code reader
4. After the marking process is complete, remove the product and automatically reopen the protective circuit

Example video at
www.fmb.de/en/products/components/freehand-laser-safety-en

Standard delivery scope:

- Safety Module for the Keyence Laser or for retrofitting existing Keyence Laser
- Format part (mouthpiece) for straight components

Accesories:

- Marking laser according to Keyence design (control unit + marking head) if necessary with optional accessories
- Format part (mouthpiece) for contour parts
- Controlled extraction system - from standard to intelligent
- Individual underframes
- Additional workpiece query
- Small control system with protective circuit protection for direct operator use
- Customer-specific integration including mechanical engineering part from stand-alone solution to fully automated systems

Technical data:

☑ FREEHAND LASER SAFETY

Suitable for.....Keyence marking laser
Safety.....Spring-loaded laser chamber with labyrinth geometry to prevent laser beams from escaping, intrinsically safe thanks to 2-channel safety switch for querying the laser chamber, mouthpiece for sealing on the workpiece (contour sealing possible)
Schmutzaustritt .....Extraction of smoke and combustion residue directly in the mouthpiece

☑ MARKING PARAMETERS

Marking field size .....Up to 300 x 300 mm
Materials .....Various materials (feasibility check by Keyence required)
Workpiece shapes.....Flat and curved (if vertical sealing is possible)
Workpiece temperature.....max. 50°C (higher temperatures on request)
Types of marking.....According to Keyence specification

☑ INTERFACE SPECIFICATION

Queries .....2-channel safety switch for querying “laser chamber in working position”
Query “mouthpiece present” (optionally coded to identify the format part)
Optional query “workpiece present”

Technical data on the Keyence MD-X2 series laser marking systems can be obtained from www.keyence.de or from your Keyence consultant.

MD-X2 series

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