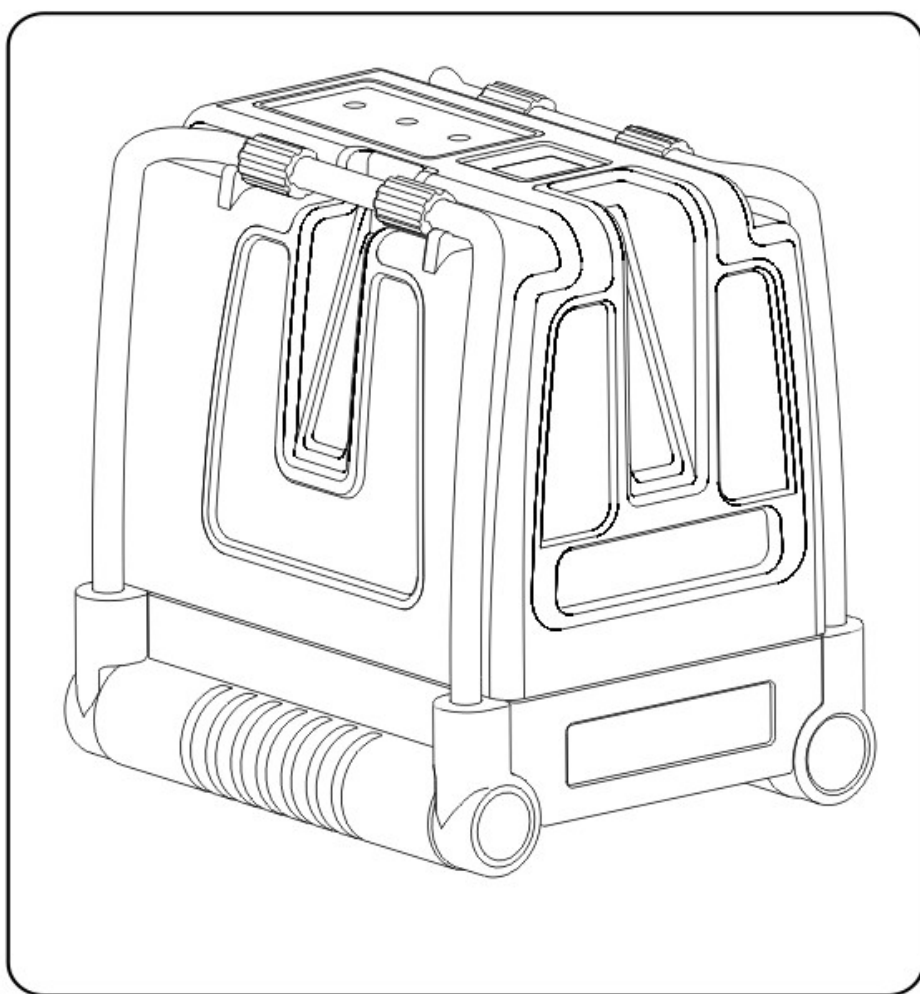


873 Laser level

Maintenance manual



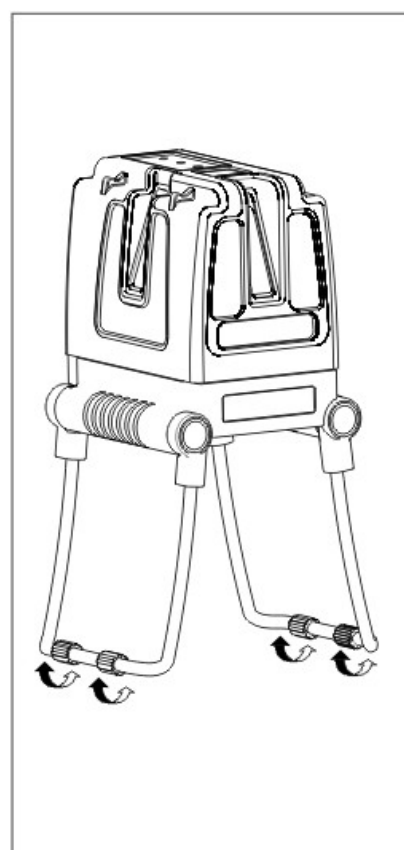
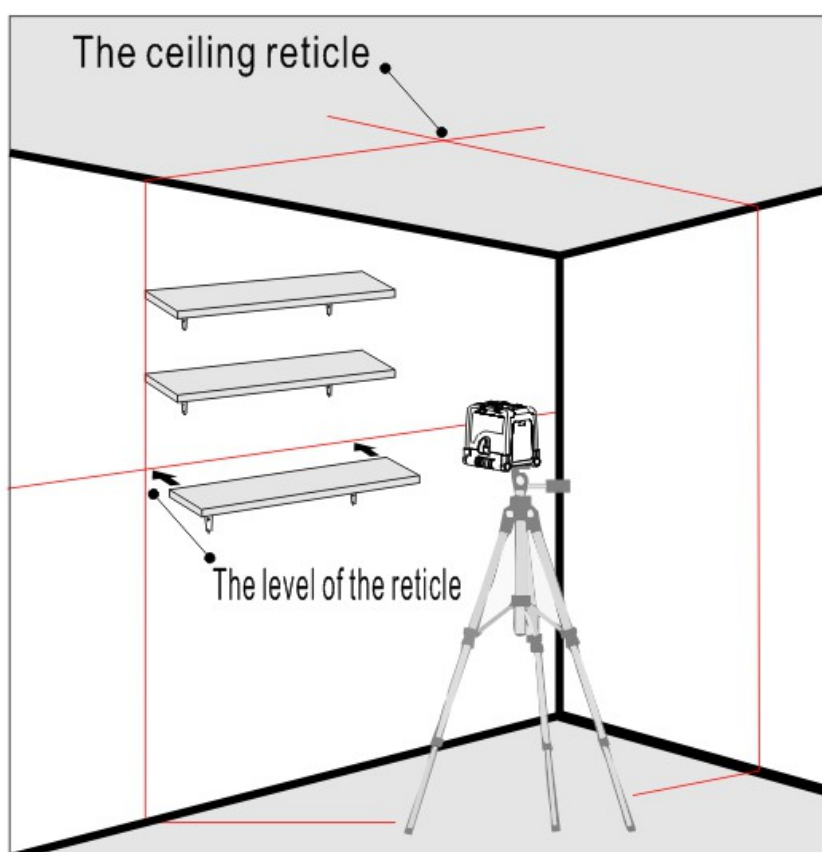
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Content

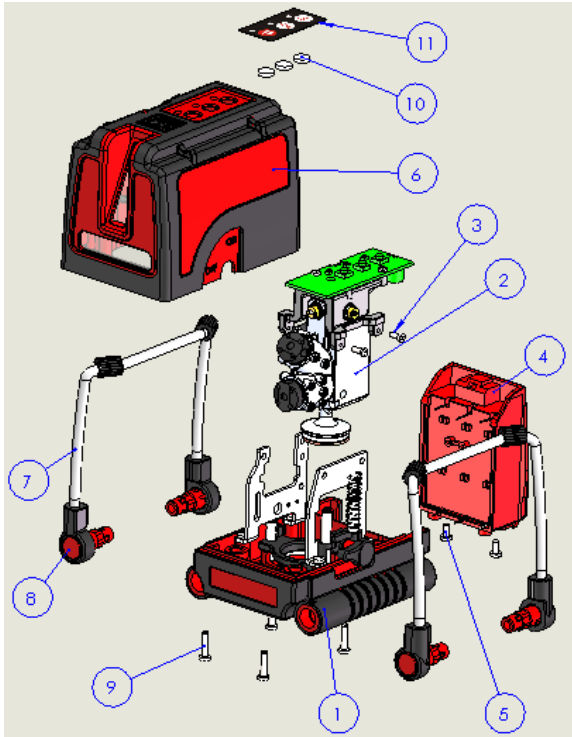
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1. Basic function

The instrument can project three mutually orthogonal laser lines - one horizontal and two vertical. Laser lines forms two intersections - on the wall and on the ceiling - as shown on the picture below.



2. Instrument structure

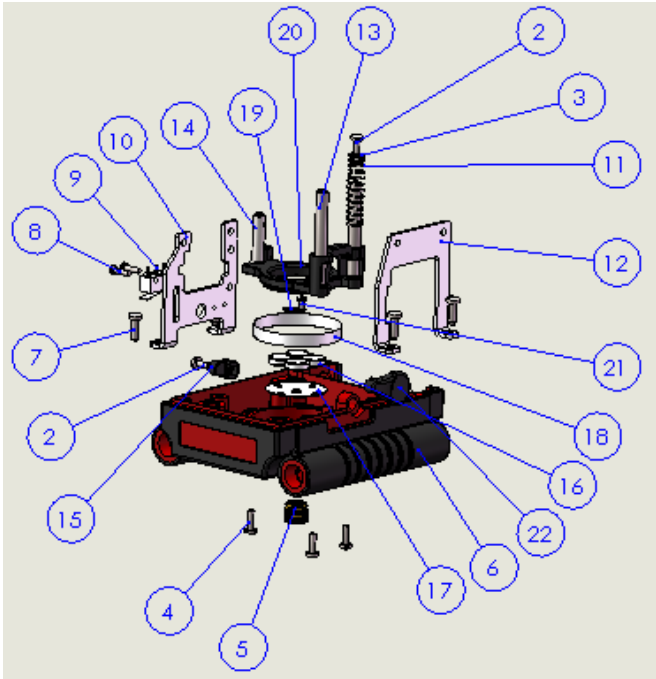


2. 1 Final assembly

NO	NAME	Drawing NO.	QUANTITY
1	873 Base assembly	KTL873-01	1
2	873 Pendulum assembly	KTL873-02	1
3	cross recessed small pan head screws gb,M2.5*6		4
4	873 Battery box assembly	KTL873-05	1
5	GB CROSS SCREWS TYPE1 M3X6-6 H type-N		2
6	873 Casing assembly	KTL873-03	1
7	873 Metal foot assembly	KTL873-04	2
8	872 The center shaft		4

9	GB CROSS SCREWS TYPE128 ST2.9X13 H F-N		4
10	862 the key soft mat		3
11	872 main panel label		1

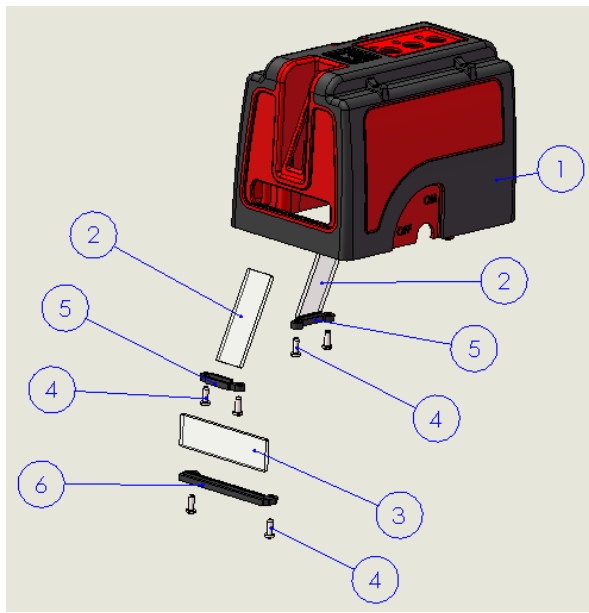
2.2. Base assembly



NO.	NAME	Drawing NO.	QTY
1	873 shaft insert	KTL873-01-03	1
2	GB_CROSS_SCREWS_TYPE1 M2.5X6-6 H type-N		2
3	plain washers--product grade c gb,n3		1
4	cross recessed pan head screws gb,M2. 5*8		3
5	872 Base insert	LA-10-872	1

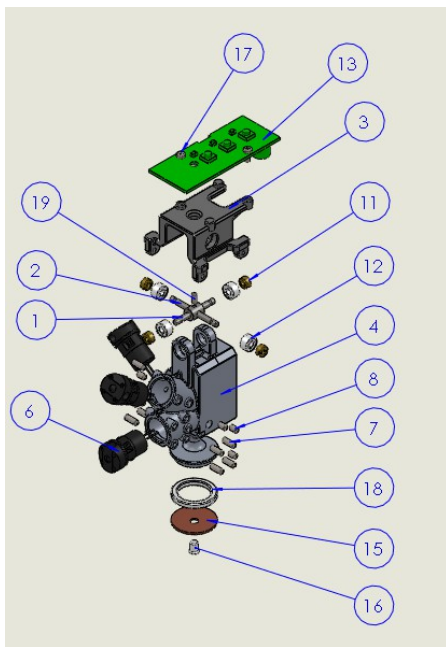
6	873 base	KTL873-01-01	1
7	cross recessed pan head tapping screws gb, ST2.9*9.5		4
8	GB CROSS SCREWS TYPE1 M2X8-8 H type-N		2
9	873 switch	KTL873-01-09	1
10	873 left support	KTL873-01-05	1
11	872 Spring	LA-10-872	1
12	873 right support	KTL873-01-06	1
13	872 Guide pillar-2	LA-10-872	2
14	872 Guide pillar-1	LA-10-872	1
15	872 cam	LA-10-872	1
16	873 magnet	KTL873-01-08	4
17	873 magnet holder	KTL873-01-07	1
18	873 conductive alarm ring	.	1
19	873 Earth terminal	.	1
20	873 lock ring	KTL873-01-02	1
21	cross recessed pan head tapping screws gb, ST2.2*6.5		1
22	873 Locking switch	KTL873-01-04	1

2.3. Shell assembly



NO.	NAME	Drawing NO.	QTY
1	873 casing	KTL873-03-01	1
2	873 window glass-Vertical	KTL873-03-04	2
3	873 window glass -Horizontal	KTL873-03-05	1
4	cross recessed pan head tapping screws gb, st2.2*6.5		6
5	873 Vertical glass support	KTL873-03-03	2
6	873 Horizontal glass support	KTL873-03-02	1

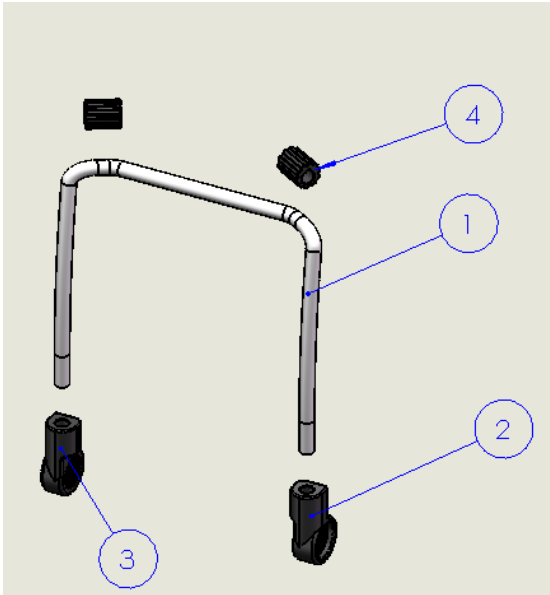
2.4. Pendulum assembly



NO .	NAME	Drawing NO.	QTY
1	872 center shaft 1		1
2	872 center shaft 2		1
3	873 roof		1
4	873 pendulum		1
5	hexagon socket set screws with cup point gb, M2.5*4		12
6	872 line laser		3
7	hexagon socket set screws with cup point gb, M3*8		12
8	hexagon socket set screws with cup point gb, M3*5		6
9	hexagon socket set screws with cup point gb, M3*10		4
10	873 Adapter board		1
11	872 Pressure ring		4

12	bearing		4
13	873 main board		1
14	GB CROSS SCREWS TYPE1 M3X6-6 H type-N		1
15	873 Copper sheet		1
16	873 Copper sheet screw		1
17	cross recessed small pan head screws gb,M2.5*6		2
18	873 Conductive rubber ring		1
19	GB FASTENER SCREWS HSFP M2.5X6-N		1

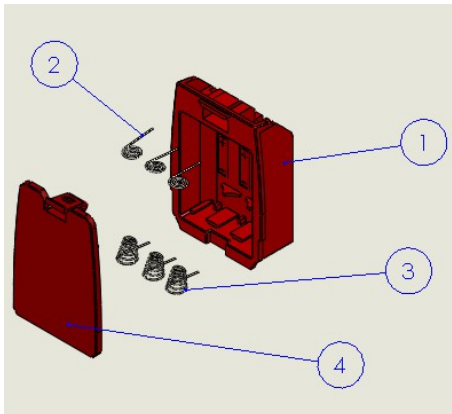
2. 5 .Metal feet assembly



NO.	NAME	Drawing NO.	Material	Quantity
1	872 Metal feet		Q235	1
2	872 Metal feet left		POM	1
3	872 Metal feet right		POM	1

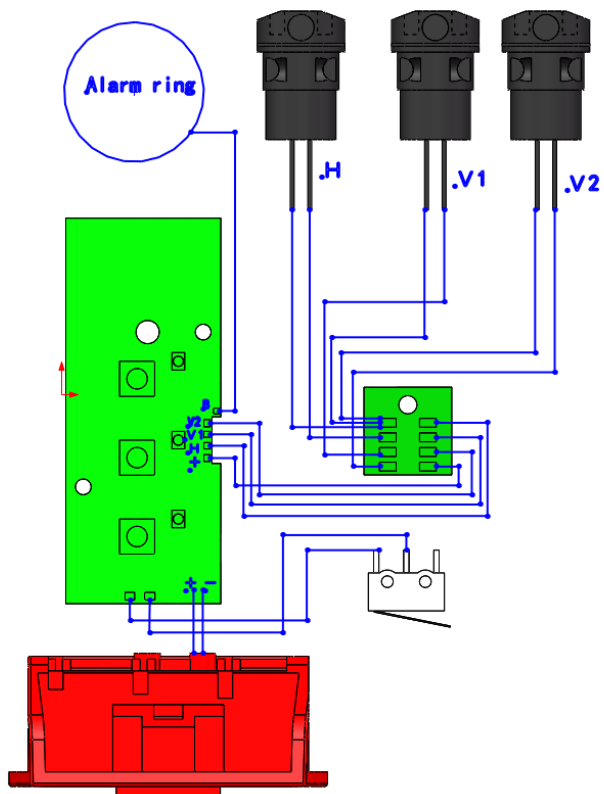
4	873 Resin feet sleeve		NBR	1
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2.6. Battery box assembly



NO.	NAME	Figure NO.	Material	Quantity
1	872 The battery box	LA-10-892-501	ABS	1
2	872 Positive terminal	LA-10-892-502	65Mn	3
3	872 spring terminal	LA-10-892-503	65Mn	3
4	872 battery cover	LA-10-892-504		1

2.7 Electrical jobs chart



3. Inspection and calibration of the instrument

3.1. Instrument accuracy

H Laser line $\pm 2\text{mm}/10\text{m}$

V1 Laser line $\pm 2\text{mm}/10\text{m}$,

If the instrument accuracy is poor, unscrew the four #9 screws as shown in fig. 1, open the shell and calibrate the device.

4. Common faults and eliminating methods

4.1 Don't start up

Cause	analysis:
(1) Three dry cells working voltage is lower than 3 V	
(2) The power plug contact with the motherboard is insufficient	
(3) The travel switch contact is insufficient	

Troubleshooting:

(1) Replace the batteries in time

(2) Open the shell, reinstall the power plug

(3) Open the shell to adjust the position of the switch

Note: keyboard or motherboard damage can also cause "don't start up" (less likely), open the shell to replace the main board.

4.2 No laser line after startup

Cause	analysis:
(1) Instrument tilt is too large, beyond the self-leveling range	
(2) laser diode to main board contact is poor or broken	

Troubleshooting:

(1) Adjust the tilt of the device to work within the self-leveling range

(2) Open the shell to repair the laser diode to main board contact

Note: keyboard or motherboard damage can also cause "No laser line after startup" (less likely), open the shell to replace the main board.

4.3 Cannot level himself after startup

Cause	analysis:
(1) The pendulum stuck due to oxidation/corrosion of bearing surface	
(2) The pendulum stuck due to contamination / debris near alarm ring	

Troubleshooting: (1) Open the shell to replace the damaged bearings

(2) Open the shell to clear the alarm ring area from contamination / debris

5. SPEC

Laser beams output pattern	Horizontal+Vertical-1+Vertical-2; Horizontal+Vertical-1;Horizontal; Vertical-1;Vertical-2
Laser range	• Indoor - 100ft (30m) • Outdoor with detector 165ft (50m)
Accuracy	± 0.0002 in/in (0.2mm/m)
Beam angle	$120^{\circ} \pm 5^{\circ}$
Self-leveling range	$\pm 5^{\circ}$
Laser line width	0.10" ± 0.02 " at 20' (2mm ± 0.5 mm/5m)
Wavelength	635 ± 5 nm - Laser Class II
Power supply	3 AA batteries (not included)
Battery life	20 hours of continuous operation
Operating temp	14°F - 131°F (-10 °C - 45 °C)
Storage temp	-4°F - 131°F (-20 °C - 55 °C)
Water & dust proof	IP54
Dimensions	4.1"x3.4"x4" (10.6cmx8.8cmx10.4cm)
Weight including batteries	1.544lbs.(700gr)