



Moon Lifter

Intelligent Assist Balancer

Please note that specifications and designs of the products on this catalog may be changed without notice for product improvements.

UNIPULSE INSTRUMENTS PVT LTD

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Lightweight Type



The hard, heavy-muscle work that used to be done by hand is now an easy work done by anyone! Compact and lightweight, ideal for workplaces with low ceilings. Smooth horizontal movement when installed on rails.

ML-40K

Maximum lifting load 40 kg
Maximum lifting/lowering speed 500 mm/s

MLS-60K

Maximum lifting load 60 kg
Maximum lifting/lowering speed 250 mm/s

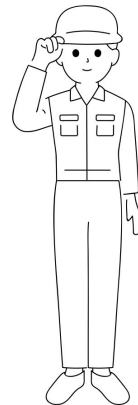
468 mm
(When chain is reeled up to the limit)



Power 100 to or 200 to
supply AC 110 V or 240 V

Chain
lifting height 2.3 or 4.3 m

Lower hook Convertible to
Chain stainless steel



The main unit weighs only **8.5 kg !!**

Space-saving installation!

For support of operations done by human power!

20 kg door fitting operation



For sorting 20 kg cardboard boxes



The electric balancer Moon Lifter is a completely new power-assist device that allows workpieces to be handled as if they were weightless.

Dust-Proof & All-Weather Type



Dust-proof and drip-proof type suitable for outdoor work. Furthermore, stainless chain is equipped as a standard. No external fan allows for use in oil mist or dusty environments.



MLT-60K

Maximum lifting load 60 kg
Maximum lifting/lowering speed 500 mm/s

MLT-120K

Maximum lifting load 120 kg
Maximum lifting/lowering speed 250 mm/s

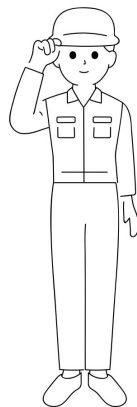
MLT-240K

Maximum lifting load 240 kg
Maximum lifting/lowering speed 125 mm/s

635 mm
(When chain is reeled up to the limit)



- Power supply AC 100 to 200 to 120 V or 240 V
- Chain lifting height 2.3 or 4.3 m
- Lower hook Convertible to stainless steel



Dust-Proof & Drip-Proof type

For receiving and unloading cargo outdoors

Fanless and can be used in dusty environments

Standard & High Speed Type



Make worksites used to be operated by human power or by hoist more comfortable. Useful in a wide range of applications. Both hands can be used freely, making it ideal for transporting long or delicate workpieces.

ML-60K

Maximum lifting load 60 kg
Maximum lifting/lowering speed 500 mm/s

ML-120K

Maximum lifting load 120 kg
Maximum lifting/lowering speed 250 mm/s

ML-240K

Maximum lifting load 240 kg
Maximum lifting/lowering speed 125 mm/s

ML-480K

Maximum lifting load 480 kg
Maximum lifting/lowering speed 62.5 mm/s

ML-60K/120K/240K

584 mm
(When chain is reeled up to the limit)



Power supply AC 100 to 200 to 110 V or 240 V

Chain lifting height 2.3 or 4.3 m

Lower hook Chain Convertible to stainless steel

Only for ML-60K/120K

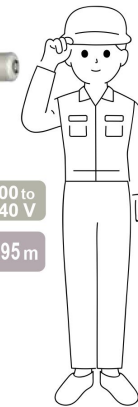
ML-480K

770 mm
(When chain is reeled up to the limit)



Power supply AC 100 to 200 to 110 V or 240 V

Chain lifting height 1.95 or 3.95 m



For precise positioning and assembly work

Gently transport large glass products, etc.

Safe and comfortable work for all people and all workplaces

The electric balancer Moon Lifter is a completely new power-assist device that can freely control both position and speed with the force of the hand applied to the workpiece. The workpiece can be moved while directly holding it with both hands, allowing the workpiece to be moved to the target location and positioned exactly where it is supposed to be! Make gentle handling without scratching the workpiece come true.

This is **BALANCE mode!**

Assist Power
VS.
Weight of Workpiece



- ✓ Always detect weight with sensor
- ✓ Operates just by plugging into an outlet
- ✓ Can be positioned down to the millimeters
- ✓ Customize movements to suit the work
- ✓ Handling workpieces of different weights flexibly
- ✓ Wide variety of options such as gripping tools and installation jigs



Q Is it different from hoist cranes?

A Workpieces in balance mode can be moved **intuitively and effortlessly by human hands.**

Positioning and assembly of heavy objects can also be done with both hands.

Q Are electric balancers safe? I am concerned about the movement.

A Moon Lifter's unique control allows it to **move only as long as force is applied by hand, and stops as soon as the hand is released,** for safe and efficient operation.

Q Does it only move up and down? How do you hold the workpiece?

A **Lateral movement** can be done by combining with an installation jig. We offer gripping tools for holding workpieces too.

Q What if the layout is changed?

A It will be ready to use only with **AC 100-110 V** or **AC 200-240 V power supply.**

The light weight of the main unit allows for easy layout changes.

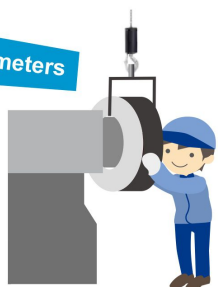


You can do it because of Moon Lifter

You can watch the videos from the QR codes.

Positioning in millimeters

Smooth movement makes precise positioning easy.



Can work with both hands

You can work on long workpieces safely with both hands!



It's okay if the workpiece changes

Even if the weight or shape of the workpiece changes, it can be handled with the same operation!



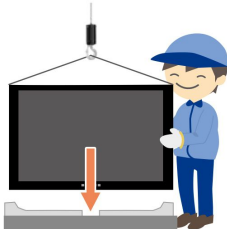
Buttonless operation mode

Completely no button operations required! Shorten takt time!

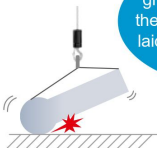


Offset assist load

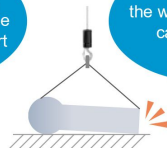
The amount of assistance can be reduced comparing to the weight of the workpiece.



If the center of gravity is unbalanced, the workpiece cannot be laid down when the part of it grounds.



By offsetting, the whole workpiece can be safely grounded.

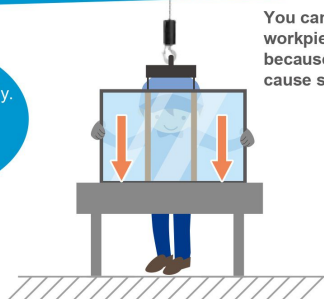


Descend slowly until grounding is detected

Press the button to start descending slowly. Assisting mode gradually turns off after grounding.

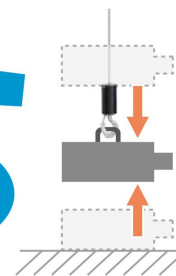


You can handle delicate workpieces with a relief because it does not cause shocks!



Move to position with one button

Convenient when the height to be worked on is fixed each time.



Automatically moves to an assigned position no matter where the workpiece is. It is safe due to load restrictions during movement.



Automatic unchucking gripping tool



So troublesome...



"Gently grounding" and "automatically unchucking" can be operated at a time.



Pouring mode

Pouring from cans and paper bags can be done at the ideal height.



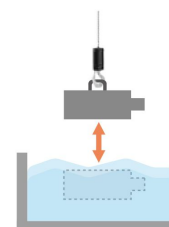
When the can is tilted, the pail will hit the can.



The can rises according to the weight so it does not hit anything.

Automatic iterative lifting and lowering

You can even control movements such as repeating lift up and down movements within a certain range.



Then keep balance and transport safely!

Ideal for applications where workpieces are poured in and out of liquid many times, such as cleaning or painting.

HOLD mode

HOLD!

Hold the workpiece in the air, assembling & inputting raw materials is possible in a suspended situation! Even if the weight changes, rebalance with one touch!



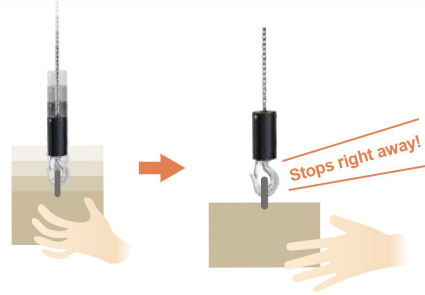
Improve work efficiency by holding at the ideal height!

Moon Lifter's unique function

Unique

"Inertia Canceller" of Moon Lifter

Even with electric balancers that can handle heavy objects as if it were weightless, it was necessary to continue applying force in the opposite direction in order to stop a workpiece that has gained momentum. Enabling "Inertia Canceller" allows you to raise and lower safely while increasing work efficiency.



Emphasis on safety:
"When your hands off, it stops immediately."

You can stop the workpiece immediately by simply relaxing your hand pressure being added to it.



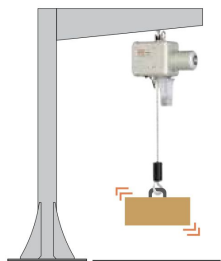
Emphasis on workability:
"When touched a little, it stops immediately."

When the hand is released, the workpiece moves due to inertia but it will stop as soon as being touched by a human or hitting something.



Tips Safety features in case of emergency

Blackout



The brake prevents the workpiece from falling.



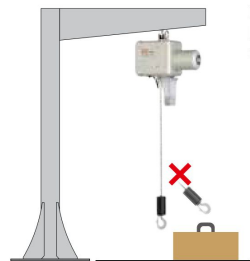
Overload



Moon Lifter constantly detects force and does not generate force exceeding the specified load.



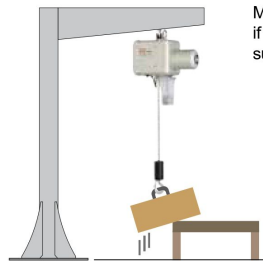
Buck-jumping



Moon Lifter will not buckjump even if the hook is unexpectedly released.



Falling



Moon Lifter will be locked if the hook is pulled suddenly.



Full range of options

You can watch the videos from the QR codes.

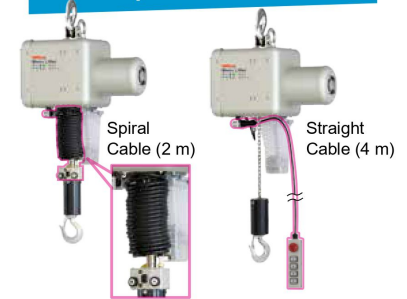
Controller mounting bracket



Input/output signal cable for control

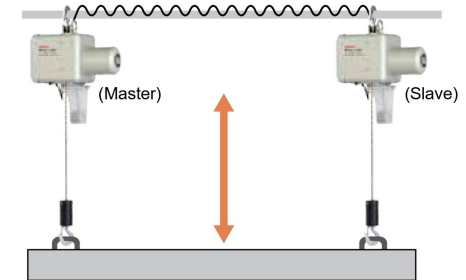


Wired controller specifications



Parallel operation option

Balance movements are possible no matter where you hold the workpiece while maintaining it level!



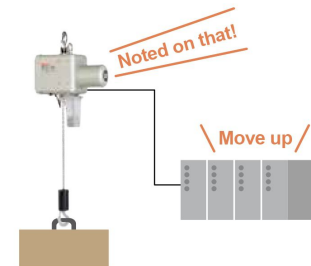
External input/output options

Make your work safer and more comfortable!

Safety can be enhanced by interlocking with area sensors, patrol lamps, and workpiece chucking signals.

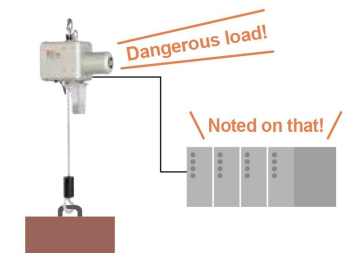
Supports full and semi-automation by the input signal!

Issue commands to Moon Lifter from PLC
Preset weight and tare can be switched from PLC



Detects danger and stops with output signal!

Notify the control situation from Moon Lifter to PLC
Output abnormalities from Moon Lifter to PLC



Such as operation commands, load comparisons and feed position settings and more, 4 bits of input and 4 bits of output can be assigned to Moon Lifter.

Gripping tool

Work becomes more comfortable with a workpiece-specific gripping tool. Please leave the special design to us.

You can watch the videos from the QR codes.

For paper bags

Insertion type

Just insert it into the bottom of the paper bag!
Perfect for speedy transport.



Clamping type

Clamp the thin part at the top of the bag!
Ideal for charging raw materials.



For cardboard box

Horizontal clamping type

Easy clamping & unclamping!
Ideal for palletizing.



Clamping type at both ends

Clamp both ends of the cardboard!
Can be transported without tilting.



Insertion type

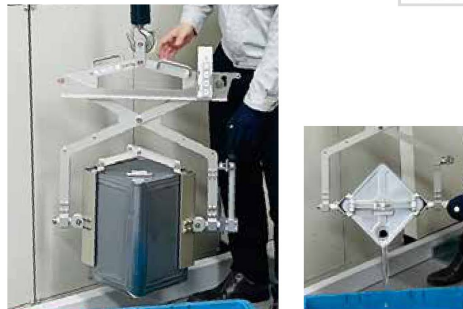
Just insert it into the bottom of the cardboard!
Perfect for speedy transport.



For 5-gallon square can

Clamping type

Insert and clamp! With rotating mechanism.



For container

Equipped with a rotating mechanism for easy removal of contents.



Magnet type

Clamp with magnet.
Easy to attach and detach with ON/OFF switch.



Adsorption type

Clamped by vacuum adsorption.
Perfect for window glass.



Screw clamp type

Insert into screw hole and clamp.
Easy attachment and detachment by inserting and removing screw threads with a button operation.



Easy to put on and take off with just the push of a button!



Belt type

Recommend for container and folding container.
Belt length can be adjusted freely.



U-shaped

Set workpieces smoothly even in deep places with shelves and ceilings.



For cylindrical workpieces

Chuck and lift the inner diameter.
The workpiece can be tilted sideways.



Hammock gear sling

Recommended for cylinders and spheres that are difficult to grasp with a clamping type.



Installation example

Moon Lifter is used hanging in midair. Please select the installation jig that is compatible for your usage method.



Jib crane

Movable range up to 4970 mm



Ceiling crane

There are no pillars, so you can use the space freely



Gantry crane

Adjustable height for easy movement



Ceiling rail

Can also be used on curved rails



Optional accessories

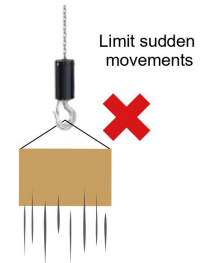
You can watch the videos from the QR codes.

Easily change settings with the free PC application ML-RF2USB (Wireless)/ML-UN2USB (Wired)



You can make settings like this!

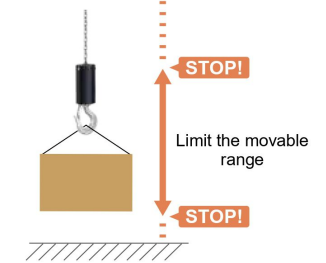
Speed Moving slowly



Feeling Moving lightly



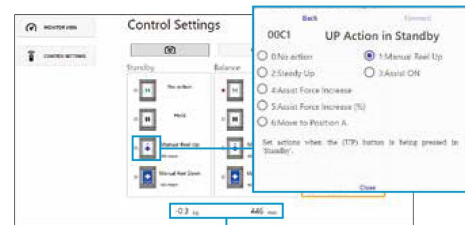
Movable range Do not let the work grounded



Easy settings, just select the functions you want to use

Can also be used on tablet PC

Choose and set!



Displaying workpiece weight and feeding amount

Quick recovery from trouble!

You can check the error information that have occurred. Because error info can be sent by e-mail, smooth to inquire!



Wireless SI/F converter ML-RF2SIF

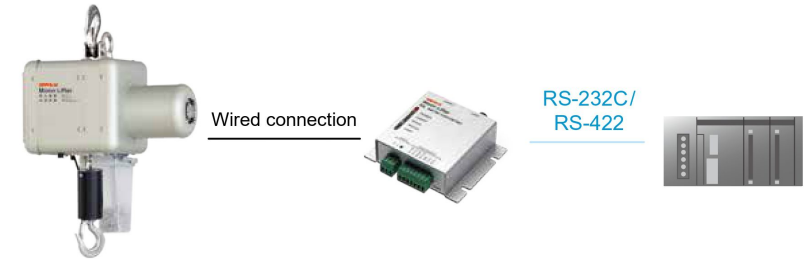
Receiving workpiece weight wirelessly.
A SI/F converter that can be easily
connected to peripheral devices.

(SI/F is a dedicated interface for communicating with UNIPULSE product)



ML SERIAL CONVERTER

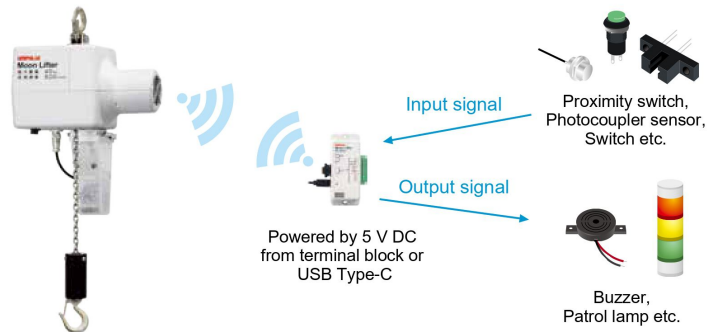
A serial converter for communicating with PLC.
(Cannot be used in conjunction with parallel operation option)



Wireless external controller ML-RFIO

An external controller that sends and receives
control signals to Moon Lifter wirelessly.

- By linking the operation of the gear and the ON/OFF of the switch, it is not necessary to operate on the controller.
- In addition, Moon Lifter state such as BALANCE and HOLD can be output.

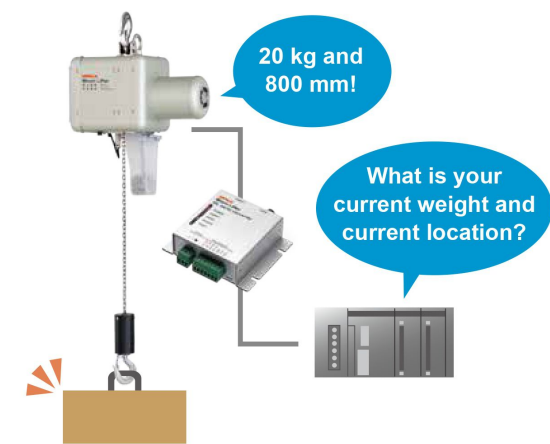


To change the settings of Moon Lifter



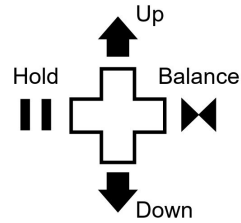
Check in real time

- Current weight
- Current location
- Maximum lifting load
- Total operating time
- Total mileage



Ring-style controller ML-FRC

You can work with both hands on the workpiece without looking remote control.



Recommended for both hands operation!



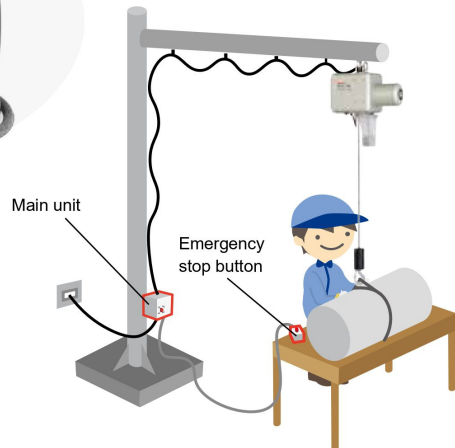
Want to fit it while holding it with both hands so that it does not lift up.



Because it is a fragile item, want to work with both hands from beginning to end.

Emergency stop unit ML-EMG/ML-EMG(SW)

You can install it by simply connecting it to the power line.



Ground large window glass “gently and softly”



Invert large window glass by using only one sling belt

Ground the window glass gently

The ground-fault detection function allows the work progress to be handled safely, even when handling fragile items.

Space-saving inversion work

Window glass inversion work would be a large operation with the air-assisted suction method. With a sling belt, the work can be done easily.

Four-person operation can be done by two people

Large window glass weighing 110 kg or more can be safely transported by two people.

High-quality manufacturing

Good products cannot be made at a site where workers feel burdened by heavy and painful work.

Moon Lifter innovates door fitting operation



Bolt tightening work that used to be done by two persons can now be done by one

Severe & heavy work of door fitting

To fit a door into cabin, we have to stay put while fastening it. Thus this task causes a lot of stress to the waist. Reducing exerted stress assures workplace safety and health.

Positioning with human hands

The outfitting of doors weighing more than 20 kg in the cabin assembly process of construction and agricultural machinery is a typical heavy work. While supporting the door with one hand, the bolt is tightened with the other hand. It is now possible to align the fastening with sensation of a human hand.

Huge promise in automation to encourage women involvements

Applicable machine like Moon Lifter eliminates heavy work, thus women can play more active role in workplace.

For checking the appearance of suspended scaffolds after rental and transportation work



Reduction in the number of workers

Transporting a 42 kg suspended scaffold, which used to be hard work for two elderly people, can now be done by one person.

Can work at any height

The ability to lock the unit at any height allows the worker to check the appearance of both sides in a comfortable position.



Wireless controller is the deciding factor

The cord doesn't get in the way when changing directions. The controller can be put anywhere wanted.

Young people are wished to settle down

Heavy-duty work outdoors, especially in winter, was difficult because the range of motion of human body was limited by wearing winter clothes. By eliminating heavy-duty work, the workplace can become more comfortable.

For transporting molds up to 1 ton



Introduction of MLH-1500K*

The MLH-1500K* is used for placing and inverting molds weighing up to 1 ton on the maintenance table.

Smooth fitting of molds

The worker can check the condition of the workpiece while operating the machine, in order to make sure that there is no galling or scratching even when fitting super-heavy loads.

*MLH is the high capacity type for super-heavy workpiece.
Please consult with us if you consider Moon Lifter for the use of transporting super-heavy objects.

Both hands can be used freely

Both hands can be used to operate the molds, which eliminates load shaking and ensures safety.

Utilize subsidies

The Moon Lifter, rails, and installation work were installed at a low cost.

Saving labor & strength for plastic container handling



Move to a corner of the room when not in use
Effective use of space

Lifting container easily with only 1 person

This operation is to repeatedly place heavy plastic containers, which can weigh 15 kg or more, on a cart. No cumbersome operations are required and can be done smoothly with both hands.

Easier alignment

Because it can be operated just like a human hand, positioning of the collapsible plastic crate became not confusing for anyone who works with it.

Moving freely

The main unit is lightweight, which make it easy to move. Moon Lifter can be used anywhere as long as there is a 100 V outlet*.

Creating an environment for willingness to work long-term

Work environment must able to support aging staffs. By eliminating heavy workload, women can work comfortably too.

*Moon Lifter operates at AC 100 to 110 V as well as 200 to 240 V.

Bag-in-box (BIB) Inserting without tearing the inner bag



Speedy operation of stuffing workpieces into cardboard boxes with no gaps



Ground automatically and gently

The machine descends automatically and slowly until it detects the grounding and then releases the assist function.

Space-saving is the deciding factor

The system can be installed in limited space, which is even difficult to install an arm-type assist device.

Operation that anyone can do

Since the work is no longer heavily reinforced, anyone can now do it.

Production of even the gripping tools

The introduction of the special gripping tools, from design to production, went smoothly.

For smooth cardboard sorting work



For the site where automation is difficult

Automation was difficult because visual sorting was required. We were able to eliminate the heavy work without changing the work content or layout.

Quick introduction

We wanted to finish everything from equipment selection to installation during the off-season for fish. The service was smooth, from the demonstration to the quotation and scheduling of the installation.

Quick transport

Up to 8 tons of fish are shipped per day, so speed was important. By eliminating button operations, the work speed improved a lot.

Specifications & External dimensions

unit : mm

Main unit Lightweight type

| Model | ML-40K | MLS-60K |
|--------------------------------|---|----------|
| Maximum lifting load | 40 kg | 60 kg |
| Maximum lifting/lowering speed | 500 mm/s | 250 mm/s |
| Lift | 2300 mm/4300 mm (Option) | |
| Chain | φ 4.0×12 (Electroless nickel plating) | |
| Chain breaking strength | 20 kN or more | |
| Power supply | ML-40K : AC 100 to 110 V (-15% +10%) 7 A MLS-60K : AC 100 to 110 V (-15% +10%) 5 A | |
| Main unit dimensions | 314×179×176 mm | |
| Main unit weight | Approx. 8.5 kg | |
| Operating temperature range | 0 to 40°C | |
| Operating humidity range | 80% RH or less (No condensation) | |
| Durability | Equivalent to M8 | |
| Power cable | Approx. 3 m (Exchangeable) | |

Please contact us if you wish to change the chain or the lower hook and surrounding parts to stainless steel, change the maximum load, change the lifting height to 4 m or higher or extend the power cable.

Structure of product code

ML-40K □

①Option

| Sign | Option |
|-------|---|
| N/A | Standard |
| -200V | AC power supply 200 to 240 V (Single phase) |
| (L4) | Lifting height: 4.3 m (JAB) |
| | Attach bellows |

The lifting height when selecting (JAB) is 2 m, (L4) cannot be selected.

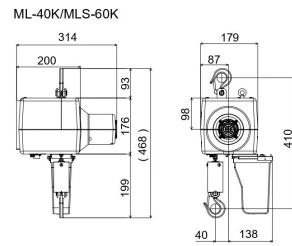
MLS-60K □

①Option

| Sign | Option |
|-------|---|
| N/A | Standard |
| -200V | AC power supply 200 to 240 V (Single phase) |
| (L4) | Lifting height: 4.3 m (JAB) |
| | Attach bellows |

The lifting height when selecting (JAB) is 2 m, (L4) cannot be selected.

External dimensions



Main unit Dust-proof & All-weather type

| Model | MLT-60K | MLT-120K | MLT-240K |
|--------------------------------|----------------------------------|----------|----------|
| Maximum lifting load | 60 kg | 120 kg | 240 kg |
| Maximum lifting/lowering speed | 500 mm/s | 250 mm/s | 125 mm/s |
| Lift | 2300 mm/4300 mm (Option) | | |
| Chain | φ 5.0×15 (Stainless steel) | | |
| Chain breaking strength | 20 kN or more | | |
| Power supply | AC 100 to 120 V (-15% +10%) 8 A | | |
| Main unit dimensions | 389×191×223 mm | | |
| Main unit weight | Approx. 18 kg | | |
| Operating temperature range | 0 to 40°C | | |
| Operating humidity range | 80% RH or less (No condensation) | | |
| Durability | Equivalent to M8 | | |
| Power cable | Approx. 3 m (Exchangeable) | | |

Please contact us if you wish to change the chain or the lower hook and surrounding parts to stainless steel, change the maximum load, change the lifting height to 4 m or higher, or attach cable bellows.

Structure of product code

MLT-□K□

① ②

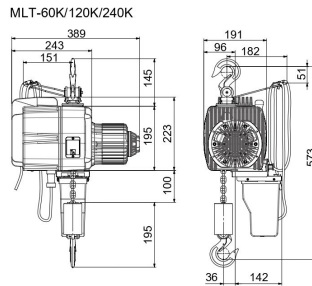
①Maximum lifting load

| Sign | Maximum lifting load |
|------|----------------------|
| 60 | 60 kg |
| 120 | 120 kg |
| 240 | 240 kg |

②Option

| Sign | Option |
|-------|---|
| N/A | Dust-proof & All-weather type, standard |
| -200V | AC power supply 200 to 240 V (Single phase) |
| (M) | Parallel operation |
| (L4) | Lifting height: 4.3 m |
| (EXO) | External I/O |

External dimensions

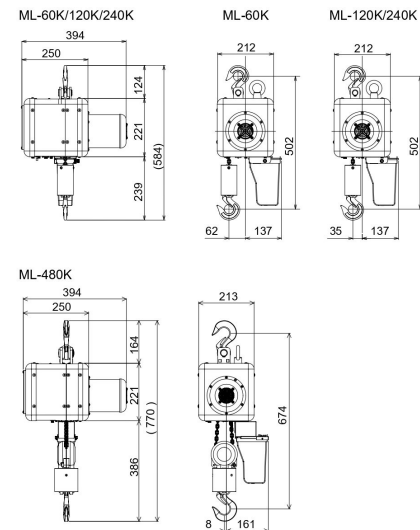


Main unit Standard type

| Model | ML-60K | ML-120K | ML-240K | ML-480K |
|--------------------------------|---------------------------------------|---------------|----------------|-----------|
| Maximum lifting load | 60 kg | 120 kg | 240 kg | 480 kg |
| Maximum lifting/lowering speed | 500 mm/s | 250 mm/s | 125 mm/s | 62.5 mm/s |
| Lift (Standard/Option) | 2300 mm/4300 mm 1950 mm/3950 mm | | | |
| Chain | φ 4.0×12 (Electroless nickel plating) | | | |
| Chain breaking strength | 20 kN or more | | | |
| Power supply | AC 100 to 110 V (-15% +10%) 8 A | | | |
| Main unit dimensions | 394×212×221 mm | | 394×213×221 mm | |
| Main unit weight | Approx. 21 kg | Approx. 20 kg | Approx. 26 kg | |
| Operating temperature range | 0 to 40°C | | | |
| Operating humidity range | 80% RH or less (No condensation) | | | |
| Durability | Equivalent to M8 | | | |
| Power cable | Approx. 3 m (Exchangeable) | | | |

Please contact us if you wish to change the chain or the lower hook and surrounding parts to stainless steel, change the lifting height to 4 m or higher, or extend the power cable.

External dimensions



Structure of product code

ML-□K□

① ②

①Maximum lifting load

| Sign | Maximum lifting load |
|------|----------------------|
| 60 | 60 kg |
| 120 | 120 kg |
| 240 | 240 kg |
| 480 | 480 kg |

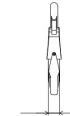
②Option

| Sign | Option |
|-------|---|
| N/A | Standard |
| -200V | AC power supply 200 to 240 V (Single phase) |
| (M) | Parallel operation |
| (L4) | Lifting height: 4.3 m 3.95 m for only ML-480K |
| (PGS) | Wired Controller Spiral Cable |
| (PGW) | Wired Controller Straight Cable |
| (EXO) | External I/O |
| (JAB) | Attach bellows |

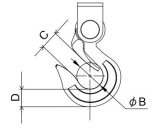
(PGS)(JAB) cannot be selected for ML-480K. The lifting height when selecting (JAB) is 2 m, (L4) cannot be selected.

Hook External dimensions

| Model | A | φ B | C | D |
|---------------------------------------|------|------|----|------|
| ML-40K MLS-60K | 12 | φ 22 | 23 | 14 |
| ML-60K/120K/240K MLT-60K/120K/240K | 15.5 | φ 35 | 24 | 23.5 |
| ML-480K | 22 | φ 43 | 28 | 27 |



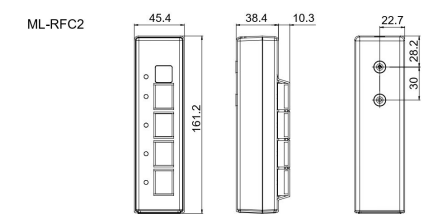
Same dimensions for both upper and lower hooks



Rechargeable wireless controller

| Model | ML-RFC2 |
|---------------------------|--|
| Dimensions | 45.4×38.4×161.2 mm |
| Weight | Approx. 220 g |
| Operating environment | The same as main unit |
| Power supply | Built-in lithium-ion battery |
| Charging time | Approx. 5 hours |
| Continuous operating time | Approx. 1 month (Assuming power is ON for 8 hours a day) |
| Communication frequency | 920.7 to 927.9 MHz |
| Communication range | 10 m |

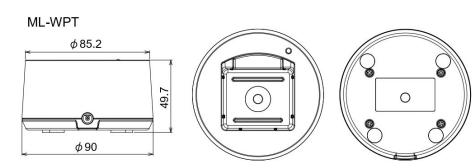
External dimensions



Charging stand

| Model | ML-WPT |
|-----------------------|---|
| Dimensions | φ 90×49.7 mm |
| Weight | Approx. 360 g |
| Operating environment | The same as main unit |
| Power supply | DC 12 V (Dedicated AC adaptor) |
| Accessory | AC adaptor (AC power supply 100 to 240 V, DC 12 V output) |

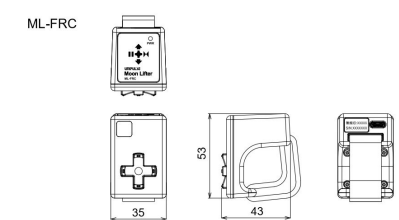
External dimensions



Ring-style controller (Optional accessories)

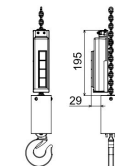
| Model | ML-FRC |
|---------------------------|--|
| Dimensions | 35×43×53 mm |
| Weight | Approx. 50 g |
| Operating environment | The same as main unit |
| Power supply | Built-in lithium polymer battery |
| Charging time | Approx. 3 hours |
| Continuous operating time | Approx. 1 week (Assuming power is ON for 8 hours a day) |
| Communication frequency | 920.7 to 927.9 MHz |
| Communication range | 5 m |
| Accessory | AC adaptor, USB cable, Sticker showing the communication channel |

External dimensions

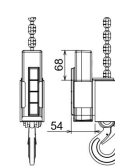


Bracket for mounting controller (Optional accessories) External dimensions

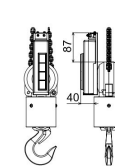
ML-CBR1
(ML-40K, MLS-60K)
(ML-60K/120K/240K)



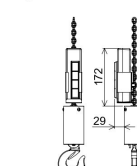
MLT-CBR1
(MLT-60K/120K/240K)



ML-CBR2
(ML-480K)



ML-CBR6
(ML-40K, MLS-60K)
(ML-60K/120K/240K/480K)



The illustration above is an usage example of ML-40K.

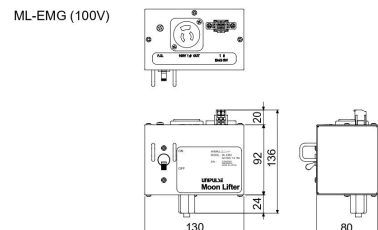
Specifications & External dimensions

unit : mm

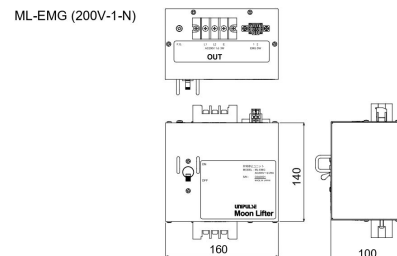
Emergency stop unit (Optional accessories)

| ML-EMG (100V) | |
|-----------------------|--|
| Model | ML-EMG (100V) |
| Dimensions | 130×92×80 mm |
| Weight | Approx. 1.2 kg |
| Operating environment | The same as main unit |
| Power cable | Approx. 2 m |
| Supported series | Each series of ML, MLS, MLT (100V specification) |
| Usage | Use by connecting the power cable of the main unit. Power shut off by opening EMG SW connector. |

External dimensions



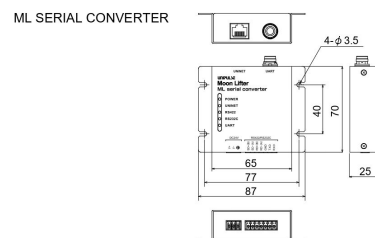
| ML-EMG (200V-1-N) | |
|-----------------------|--|
| Model | ML-EMG(200V-1-N) |
| Dimensions | 160×140×100 mm |
| Weight | Approx. 1.6 kg |
| Operating environment | The same as main unit |
| Power cable | Terminal block |
| Supported series | ML-Series (200V specification) |
| Usage | Use by connecting the power cable of the main unit. Power shut off by opening EMG SW connector. |



ML serial converter (Optional accessories)

| General performance | |
|-----------------------|-----------------------------------|
| Model | ML SERIAL CONVERTER |
| Dimensions | 65×70×25 mm |
| Weight | Approx. 100 g |
| Power supply | DC 24 V (±10%) |
| Power supply voltage | Approx. 0.5 W |
| Operating environment | The same as main unit |
| Accessory | Cable for UNINET connection (5 m) |

External dimensions



Communication condition

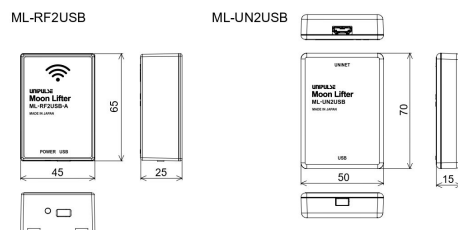
(Fixed as follows based on the communication condition of UNINET)

| | |
|----------------------|--|
| Communication method | Start/stop synchronous half-duplex communication |
| Board rate | 115200 bps |

Communication unit for PC application (Optional accessories)

| ML-RF2USB | | ML-UN2USB | |
|-------------------------------|--------------------------------|---|--|
| Model | ML-RF2USB | ML-UN2USB | |
| Dimensions | 45×25×65 mm | 50×15×70 mm | |
| Weight | Approx. 50 g | Approx. 40 g | |
| Power supply | Supplied via USB port (DC 5 V) | | |
| Operating environment | The same as main unit | | |
| Connection method | Wireless | USB cable | |
| Communication range | 10 m | - | |
| Accessory | USB cable (1.8 m) | USB cable (1.8 m) Wired connection cable (5 m) | |
| Support OS for PC application | Windows 10, 11 | | |

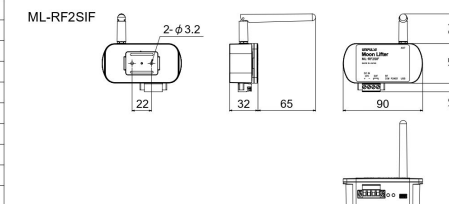
External dimensions



Wireless S/I/F converter (Optional accessories)

| | |
|-------------------------|--|
| Model | ML-RF2SIF |
| Dimensions | 90×32×45 mm (Not including projections) |
| Weight | Approx. 70 g |
| Power supply | DC 24 V (±10%) |
| Power supply voltage | 0.8 W |
| Operating environment | The same as main unit |
| Connection method | Non-polar 2-wire |
| Communication frequency | 920.7 to 927.9 MHz |
| Communication range | 30 m (Depends on communication environment) |
| Accessory | Dedicated antenna, SIF connector, Sticker showing the communication channel |

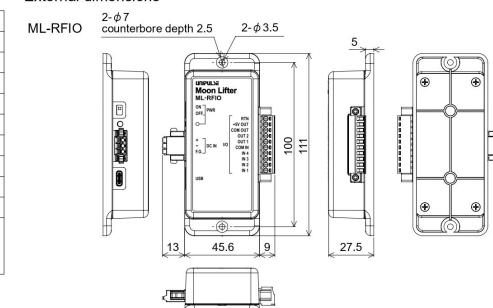
External dimensions



Wireless external controller (Optional accessories)

| | |
|-------------------------|--|
| Model | ML-RFIO |
| Dimensions | 45.6×27.5×111 mm |
| Weight | Approx. 75 g |
| Power supply | DC 5 V (±5%) |
| Power supply voltage | Approx. 0.5 W |
| Operating environment | The same as main unit |
| I/O signal | Input: 4 ch/Output: 2 ch |
| Power output | DC 5 V (±5%) |
| Communication frequency | 920.7 to 927.9 MHz |
| Communication range | 10 m (Depends on communication environment) |
| Accessory | IO connector, Power connector, Mini driver, USB cable (2 m), Sticker showing the communication channel |

External dimensions



I/O signal control cable, loose end (Optional accessories)

| Model | MLX-C-TS2M | MLX-C-TS4M |
|--------------|------------|------------|
| Cable length | 2 m | 4 m |

Maintenance for Moon Lifter main unit

- Use a lubricant which UNIPULSE specifies.
- Clean and lubricate the chain every three months
(More than once a month in case using under harsh conditions such as outside.)

Safety precautions

Make sure to comply with applicable laws concerning to radio communications of a country where Moon Lifter is used. The safety precaution on the operation manual attached to Moon Lifter is meant to ensure correct usage of this product, prevent any harm to customers and protect this product. Be sure to read these precautions carefully, and please keep the instruction manual in a place where you can refer to at any time. The manufacturer is not liable for any personal injury or accidental damage caused by misuse of improper handling.

Moon Lifter

Lightweight

Dust-proof & All weather

Standard



Lineup

Extensive lineup with 3 types, 9 models in total

Lightweight type

| | | |
|---------|----------------------------|---|
| ML-40K | Maximum lifting load 40 kg | Maximum lifting/lowering speed 500 mm/s |
| MLS-60K | Maximum lifting load 60 kg | Maximum lifting/lowering speed 250 mm/s |

Dust-proof & All-weather type

NEW!!

| | | |
|----------|-----------------------------|---|
| MLT-60K | Maximum lifting load 60 kg | Maximum lifting/lowering speed 500 mm/s |
| MLT-120K | Maximum lifting load 120 kg | Maximum lifting/lowering speed 250 mm/s |
| MLT-240K | Maximum lifting load 240 kg | Maximum lifting/lowering speed 125 mm/s |

Standard type

| | | |
|---------|-----------------------------|--|
| ML-60K | Maximum lifting load 60 kg | Maximum lifting/lowering speed 500 mm/s |
| ML-120K | Maximum lifting load 120 kg | Maximum lifting/lowering speed 250 mm/s |
| ML-240K | Maximum lifting load 240 kg | Maximum lifting/lowering speed 125 mm/s |
| ML-480K | Maximum lifting load 480 kg | Maximum lifting/lowering speed 62.5 mm/s |

Video available
on our
YouTube channel!



Memo
