

TRANSMITTER

Output frequencies	512 Hz/ 9.5 kHz/ 38 kHz/ 80 kHz Dual : Direct mode serves 9.5 kHz & 38 kHz dual mode
Output power	5 watts maximum 1 watt maximum (80 kHz mode only)
Transmitting modes	Direct connection, Inductive, External coil
Battery Type	Eight LR20 "D" size
Battery Life	Direct : 50 hours (Output 4 mA, 68°F/20°C) Inductive and External coil : 20 hours (50% Output, 68°F/20°C)
Battery Status	Low battery indication
Visual Indication	LCD with backlight
Measuring Function	Line Voltage: AC 0 to 250V
Operating Temperature	-20°C to 50°C / -4°F to 122°F
Material	ABS : shock and cold resistant, IP54
Dimensions	When using : 10.3" x 12.4" x 4.3" (261mm x 314mm x 110mm) When straging : 8.9" x 12.4" x 4.3" (227mm x 314mm x 110mm)
Weight	7.9 lbs. (3.6 kg approx.)

RECEIVER

Active Frequencies	512 Hz/ 9.5 kHz/ 38 kHz/ 80 kHz
Passive Radio	9 kHz to 33 kHz
Passive Power	60 Hz : 45 to 65 Hz 120 Hz : 95 to 125 Hz
Measurement Modes	MODE1 : Peak/Null mode (contains both peak and null features) MODE2 : Peak mode (used for accurate locating) MODE3 : Null mode (used for easy locating)
Digital Level	Indicate horizontal level on LCD of the Receiver
Current value	Current value flowing on the conductor is displayed by milli-Amps.
Battery Type	Six Alkaline LR6 "AA"
Battery Life	24 hours (68°F/20°C)
Visual Indication	LCD with backlight
Operating Temperature	-4°F to 122°F / -20°C to 50°C
Dimensions	26.0" x 5.1" x 10.6" (660 x 130 x 270mm)
Weight	4.7 lbs (2.1 kg) approx. including batteries
Data Recording	Memorized 400 points of the depth / current / frequency
Material	ABS : shock and cold resistant, IP54
Interface	Data transfer port
Audio Output	Internal Speaker, Earphone (optional)



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Your Local Contact

The Digital Pipe Locator MPL-H11S

Metal Pipe / Cable / Optical Fiber / etc...

Continuously Measuring Directions and Depths
3 kinds of measurement modes are selectable
More Easily and More Accurately by the new functions



TSC TAKACHIHO SANGYO CO., LTD.

History of the MPL series



Since we, TAKACHIHO SANGYO CO., LTD., released the very first model of MPL series in 1974, We have been keeping the manufacture and sale of underground measuring instrument using electromagnetic induction method for more than 40 years.

The Locator of MPL series has differential coil which minimizes the influence of the external noise to adversely affect the result of a measurement. Since the release of MPL series, MPL is evaluated with its high measurement accuracy. Customers related to the underground infrastructure of all over the world such as survey companies, power companies, telecom companies, and gas companies have been using MPL series.

For 30 years by the high measurement accuracy, it has been being used with the drill head location measurement in jacking method and with the front-end location measurement in HDD method.

Presently, it equips with three coils in a horizontal direction. It can achieve the high measurement accuracy by the differential method in not only the location measurement but also the depth measurement. Moreover, we offer the new release of various optional products for MPL such as small transmitting unit.

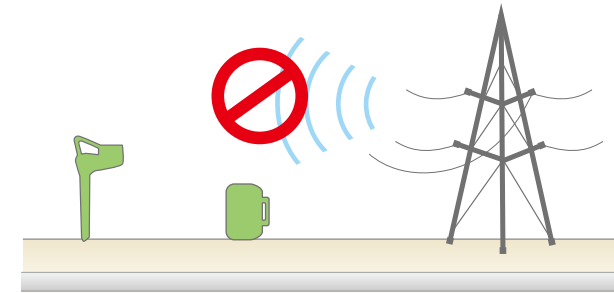
We, TAKACHIHO SANGYO CO., LTD. will make a substantial contribution to maintenance and preservation of underground infrastructure facilities by using the underground survey technology mainly on cable locator.

Strength of MPL Series

Our Original Differential Coil Method

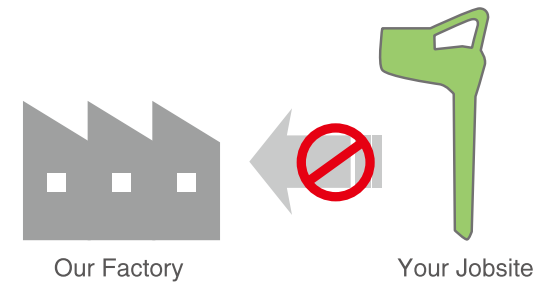
High Noise Resistance

By connecting the both ends of horizontally placed two coils, it is to minimize the measurement error by the outside noise that is known as "differential coil method".



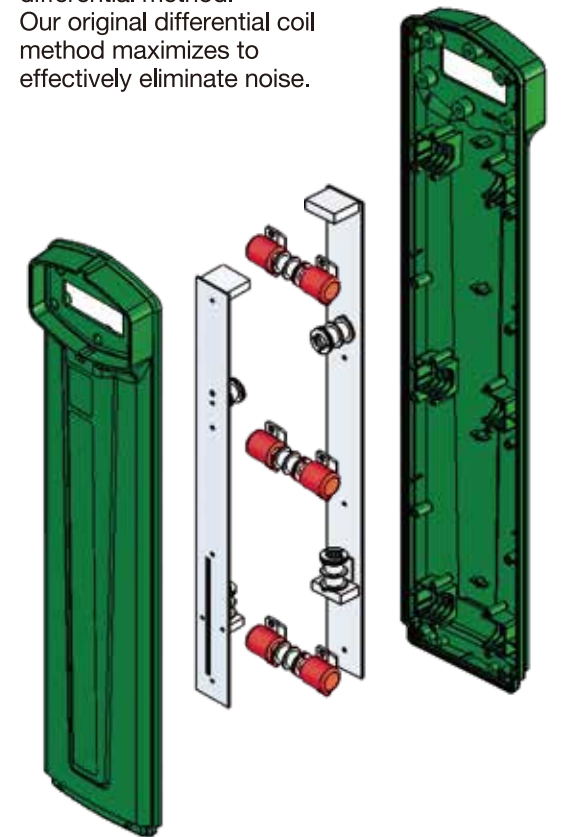
No-Need Calibration

To establish the differential coil method, we, Takachiho products, measure each one of coils' characteristic and adjust its balance. Coils are connected by lead wire. Thus, there is no balance error as time passes by.



Accuracy: Three Horizontal

Merits by the differential method are usually enjoyed in only location measurement because horizontally placed coil used for a cable locator receiver in only two. Takachiho products has three horizontal coils. Location and depth measurement are done with differential method. Our original differential coil method maximizes to effectively eliminate noise.



Accuracy of Inductive Method.

Our original differential coil method reduces the error of the inductive method

There are many spots that External Coil or Direct Connecting Cord are not able to be connected to in the urban area so that it makes Indirect Method to be used. Our product minimizes the environmental noise to affect Inductive Method by the original differential coil method and improves precision of depth measurement and left/right location measurement.



We can detect the buried cables

More "Easily" and "Reliably"

Digital Level

When the Locator inclines at the time of the measurement, the measurement error becomes big. Digital Level installed in the Locator informs the operator the degree of leaning left/right or front/back direction.



Yaw Bar and Digital Level

Yaw Bar indicates the directions of the buried cable.
Digital Level reduces the measurement errors.

Provide fast and easy detections.

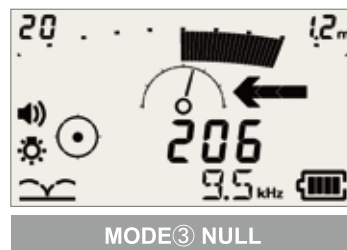
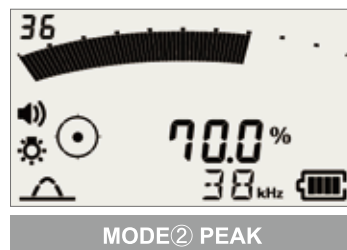
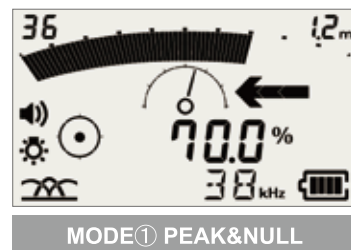
provide fast and easy detections of the buried cable.



Five Internal Coils

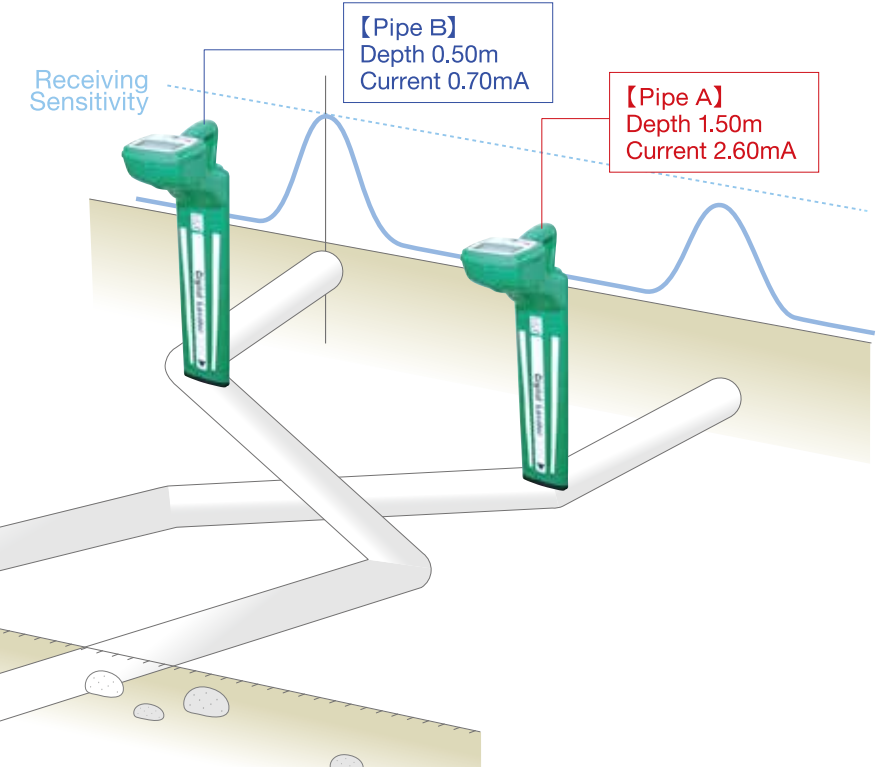
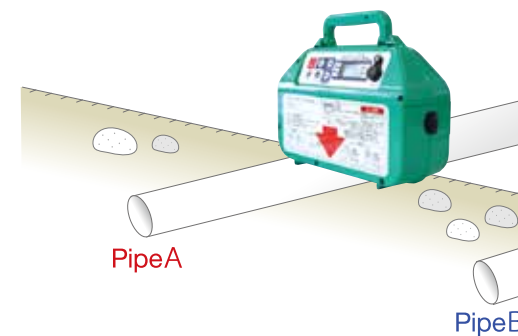
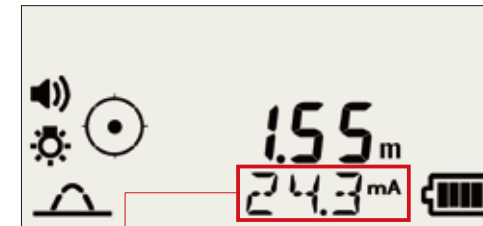
Three measuring modes are selectable.

The best measuring mode can be chosen according to state of the working site.



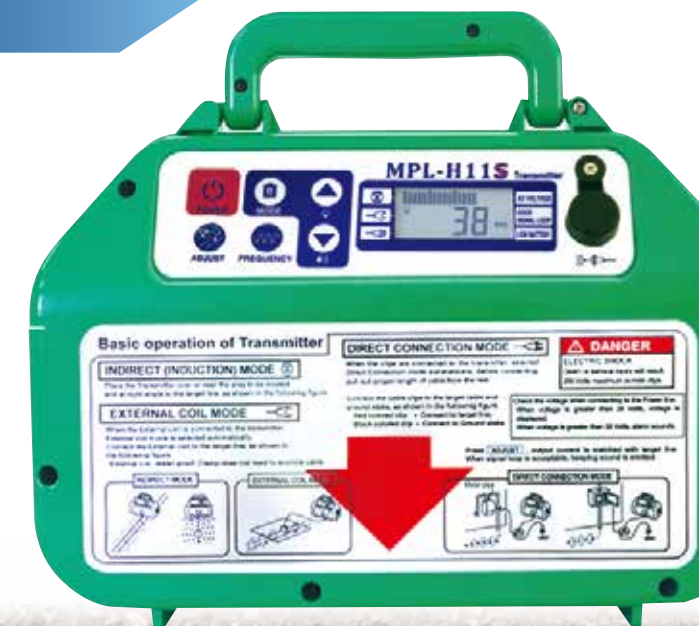
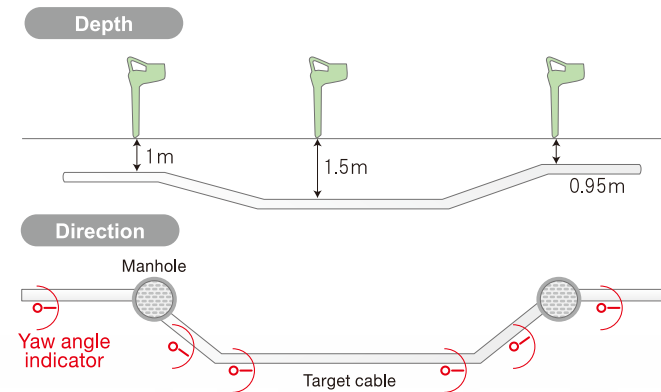
Distinction of the crossing pipes is POSSIBLE.

The objective pipe can be distinguished by comparing each current value.



Continuous Depth and Direction Display

Direction and Depth of the target cable are displayed continuously.
•Feet or Meter switchable.



Basic operation of Transmitter

INDIRECT (INDUCTION) MODE

DIRECT CONNECTION MODE

EXTERNAL COIL MODE

SAFETY LOCK

EXTERNAL COIL

SWITCH CONNECTION MODE

⚠ DANGER ⚠

ELECTRIC SHOCK

When the probe is connected to the transmitter, use the correct connection mode. Otherwise, electric shock may occur. All cables must be connected to the transmitter.

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Optional Accessories of MPL-H11S Cable Locator

MPL-RMC

The transmission coil is built-in in the impact-resistant case. It enables the Indirect Method transmission on the road without traffic regulation.



Grounding Plate

Used in the situation where a ground cannot be taken.



LDR Locating Direction Rod

Used for tracking non-metallic pipe including riser cable.



Depth: 0-16' (5m) Maximum Distance: 430'(130m)
Weight: 29 lbs.(13kg) approx.
Size (L x dia.): 450'(137m) x .25"(6.4)

Magnetic Connecting Cable

It can be used in small valve boxes or the place where the Direct Connecting Cord is hard to connect. The magnet can be attached to the Direct Method transmission point at pinpoint.



RECEIVER



MPL-RMC

Grounding Plate

MPL-STU

Probe

LDR

TRANSMITTER

Magnetic cord

Probes

Used for tracking non-metallic pipe.



MPL-STU Small-size Transmitting Unit

The Direct Transmission method is possible in the manhole.



External Power Supply Unit

Power is supplied from an in-vehicle 12V socket to the Transmitter. It is good for long-time outdoor-work.



LDR-M Locating Direction Rod Mini

Used for tracking non-metallic pipe including riser cable.



Maximum Distance: 130' (40m)
Weight: 6.6 lbs. (3kg) approx.
Size (L x dia.): 164' (50m) x .17" (4.3mm)

9.5kHz/80kHz External Coil

Used for External coil mode.



9.5kHz 80kHz

External Coil for riser cables

Used for External coil mode intended for riser cables.



External Coil for optical cables

Used for External coil mode intended for optical cables.



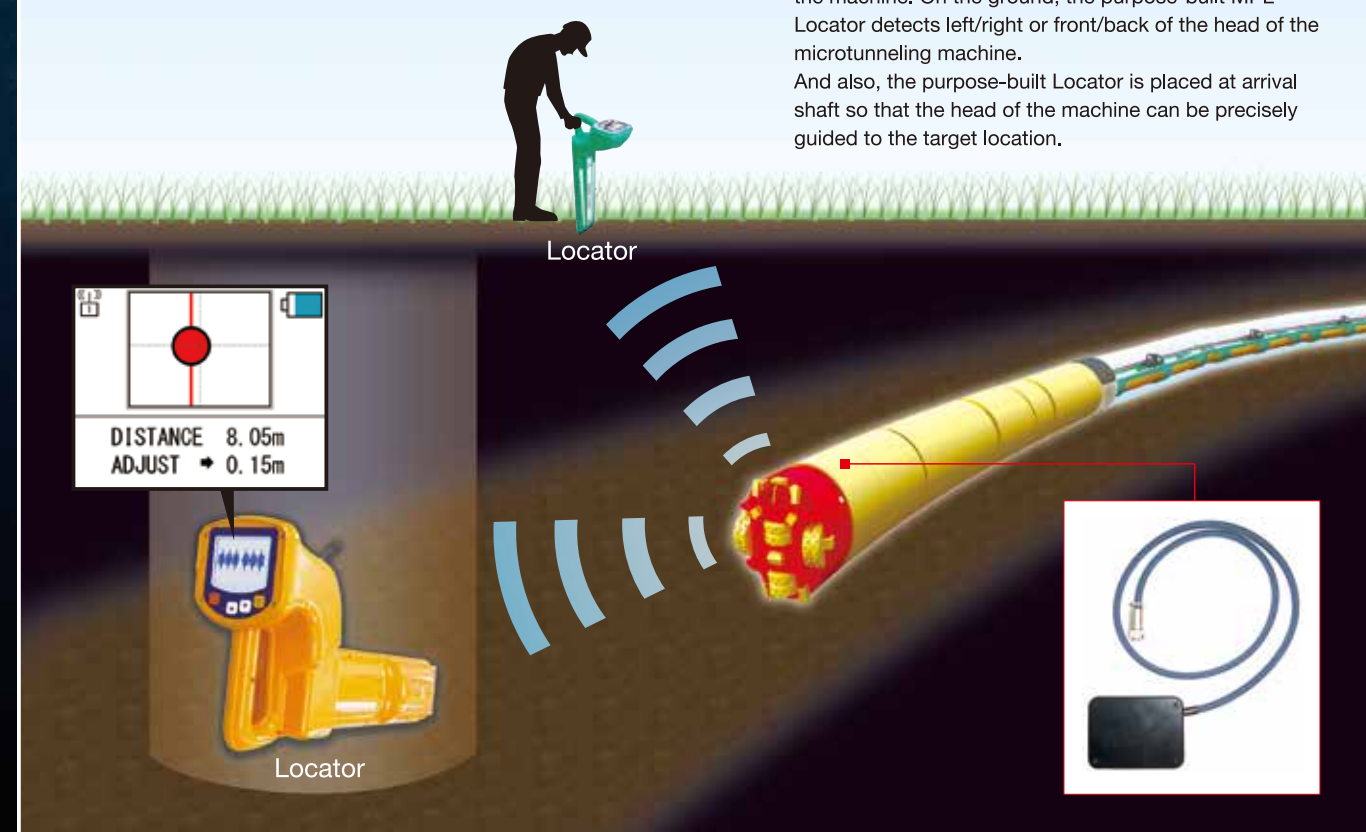
External Receiving Pole

Used for searching near the guardrails.



Locators for Micro Tunneling

The purpose-built coil amplifier is placed on the head of the machine. On the ground, the purpose-built MPL Locator detects left/right or front/back of the head of the microtunneling machine. And also, the purpose-built Locator is placed at arrival shaft so that the head of the machine can be precisely guided to the target location.



Fault Finder MPL-FF

Metal Pipe / Cable / Optical Fiber / etc...

Transformer **Meter** **Transmitter** **Ground Stake** **A-frame**

Fault-Finding with Cable-Locating

MPL-FF possesses the function of fault-finding and cable-locating. Those two functions are accurate and dependable by using Takachiho original technologies. MPL-FF can locate cable with its depth. And it finds ground-return faults of direct buried cable on electric, CATV and telecommunication cables in pinpoint. MPL-FF is a specialized equipment to do those works with only one tool.