Panasonic

Plant Growth Chambers
MLR-352/352H

Incubation

Temperature range (MLR-352)

0°C to +50°C (Light OFF)
+10°C to +50°C (Light ON)

Lighting range

0 lx to 20,000 lx
(Adjustable)

Humidity range (MLR-352H only)

60% RH to 90% RH (Light OFF)
55% RH to 85% RH (Light ON)

Versatile Plant Growth Chambers

- Suits a wide range of applications
  - Culture of plant cells, tissues and organs
  - Acclimation and rearing of plants
  - Incubation and rearing of insects
- Graphic LCD provides easier operation
- Programmable temperature, lighting and humidity functions (MLR-352H)
- Microprocessor PID control and Refrigeration Capacity Control
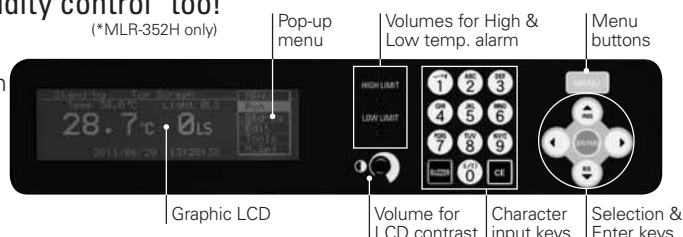- Data logging function

MLR-352H

MLR-352/352H

The wide variety of temperatures and lighting patterns that are essential in plant research can now be accurately reproduced and controlled. And you get humidity control* too!

(*MLR-352H only)

Features

- Microprocessor PID and Refrigeration Capacity Control eliminate temperature fluctuations and thereby improve temperature control. This allows superior precision experiments plus energy and electricity savings.
- Programmable temperature function is perfect for temperature cycle and vernalization treatment research.
  - 12-step programs x 10 patterns can be memorized.
  - Selectable clock mode or timer mode
  - Multiple programs can be linked (Join mode).
  - Starting day and time of operation can be programed.
- Operation data of approximately last 2 weeks (6-minute intervals) can be automatically recorded.
  - Data can be retrieved on the control panel.
  - Data can be transmitted to a PC (CSV data via Ethernet (LAN) Interface MTR-L03 or RS232C/RS485 Interface MTR-480).
  - Easy calibration: temperature and humidity can be calibrated easily from the control panel.
- Small and lightweight, high-molecular membrane-type humidity sensor also boasts a high degree of accuracy and reproducibility. Of the newest high-molecular membrane type, the humidity sensor accurately measures chamber humidity (MLR-352H only).
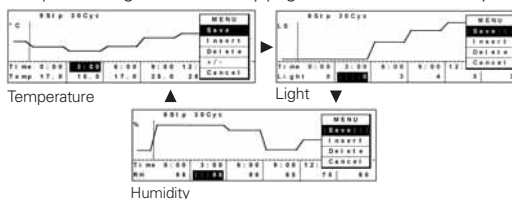
Control Panel

Graphic LCD panel with pop-up menu function on control panel provides more visual display and allows intuitive operation.
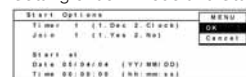
Pop-up menu | Volumes for High & Low temp. alarm | Menu buttons

Graphic LCD | Volume for LCD contrast | Character input keys | Selection & Enter keys

Program Setting Screen

1. Selection of menu

Temperature light and humidity pages scroll with down key

Temperature

Light

Humidity

2. Various ways of starting programs

Selection from Clock mode & Timer mode. Setting of Join mode and Start time available.

3. Data logging function
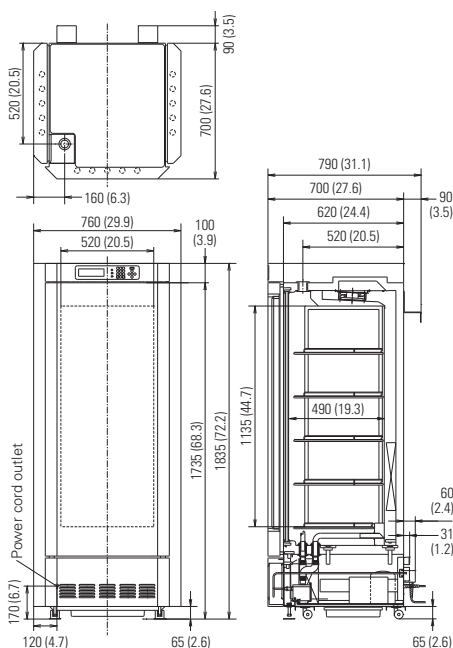
Operation data can be recorded

Dimensions (MLR-352H)   Unit : mm (inch)

90 (3.5)
520 (20.5)
700 (27.6)
160 (6.3)
760 (29.9)
520 (20.5)
790 (31.1)
700 (27.6)
90 (3.5)
620 (24.4)
100 (3.9)
520 (20.5)
490 (19.3)
Power cord outlet
1135 (44.7)
1735 (68.3)
1835 (72.2)
60 (2.4)
31 (1.2)
170 (6.7)
120 (4.7)
65 (2.6)
65 (2.6)

Specifications

	MLR-352	MLR-352H
External dimensions (W x D x H)*1	760 x 700 x 1835 (mm) / 29.9 x 27.6 x 72.2 (inch)	
Internal dimensions (W x D x H)	520 x 490 x 1135 (mm) / 20.5 x 19.3 x 44.7 (inch)	
Effective capacity	294 litres (10.4 cu.ft.)	
Shelves	PE coated steel wire, 4 pcs. Inner dimensions: W465 x D450 (mm) / 18.3 x 17.7 (inch), Maximum load: 25kg/shelf PE coated steel wire with stainless steel cover, 1 pc. (bottom) Inner dimensions: W355 x D395 (mm) / 14.0 x 15.6 (inch), Maximum load: 25kg/shelf	
Access port	40mm diameter x 1 (chamber top position)	
Casters	4	
Air circulation	Forced air circulation	
Compressor	Hermetic type, 250 W	
Heater	334 W	381 W
Defrost	Automatic defrost (2 patterns in MLR-352, 3 patterns in MLR-352H), Manual defrost	
Option	Data acquisition system: MTR-5000-PW / MTR-L03-PW or MTR-480-PW	
Net weight (approx.)	226kg (498 lbs.)	235kg (518 lbs.)
Control related specifications		
Temperature control range (AT 20°C, no load)	0°C to +50°C (light off) +10°C to +50°C (light on)	+5°C to +50°C (light off) +10°C to +50°C (light on)
Temperature distribution	±3.5°C (light on), ±1.5°C (light off) (AT 20°C, no load) ±2.5°C (light on), ±1.0°C (light off) (Set temperature 25°C, AT 20°C, no load)	
Temperature fluctuation	±0.3°C (Set temperature 25°C, AT 20°C, no load)	
Temperature control	Microcomputer PID and Refrigeration capacity control	
Lighting range	0 lx to 20,000 lx Fluorescent lamp 40 W x 15, 6 increments (0, 1, 2, 3, 4, 5)	
Humidity	N/A	Ultrasonic humidifier PID control
Humidity control range	N/A	60%RH to 90%RH (+15°C to +45°C and light off) 55%RH to 85%RH (+15°C to +45°C and light on)
Program function	Temperature and light	Temperature, light and humidity
	12-step repeat from 1 - 98 times or unlimited. Max. 10 programs memorized. Clock mode, Timer mode and Join mode available, Start date and time reservation function	
Data logging function	Up to approx. 14 days with 6-minute intervals (record cannot be logged during a power failure), The daily information can be shown in graph display. (Older data will be overwritten automatically when memory becomes full.)	
Real time clock	Battery back-up for clock function	
Analog output for recording	0mV to 100mV / Temperature: 0°C to +50°C / Light: 0 to 5 / Humidity: 0%RH to 100%RH	
Alarms and safety	Temperature alarm, High and low temperature limit, Humidity alarm	

Voltage specification by destination		Model No.	
Representative destination	Europe 230V, 50Hz (CE)	MLR-352-PE	MLR-352H-PE
	Korea 220V, 60Hz	MLR-352-PK	MLR-352H-PK
	Thailand 220V, 50Hz	MLR-352-PB	MLR-352H-PB

Caution: Panasonic guarantees the product under certain warranty conditions. Panasonic in no way shall be responsible for any loss of content or damage to content.
- Appearance and specifications are subject to change without notice.
*1 Exterior dimensions of main cabinet only - see dimension drawings showing handles and other external projections.

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