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› LeMotech ABS Plastic Dustproof Waterproof IP65 Junction Box Universal Electrical Project Enclosure White 5.9 x 4.3 x 2.8 inch (150 x 110 x 70 mm)

LeMotech Imus-whtbox-151170

LeMotech ABS Plastic Dustproof Waterproof IP65 Junction Box

Model: Imus-whtbox-151170

INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your LeMotech ABS Plastic Dustproof Waterproof IP65 Junction Box. This enclosure is designed to protect electrical connections in various environments, offering robust dustproof, waterproof, and shockproof capabilities.

The LeMotech junction box is constructed from high-quality ABS plastic, ensuring durability and electrical insulation. Its IP65 rating signifies protection against dust ingress and low-pressure water jets from any direction, making it suitable for both indoor and outdoor applications.

INCLUDED COMPONENTS

Please verify that all components are present before beginning installation:

- 1 x LeMotech ABS Plastic Junction Box (5.9" x 4.3" x 2.8" / 150 x 110 x 70 mm)
- 1 x Built-in Rubber Grommet (pre-installed in the lid)
- 4 x Stainless Steel Screws (M3*15) for Box Cover
- 4 x Self-tapping Screws (M5x40) for Box Mounting
- 4 x Expansion Bolts

Package List



5.9" x 4.3" x 2.8" Junction Box

Figure 1: Package Contents



Stainless Steel Screws
(M3*15)*4



Self-tapping Screws
for Box Mounting
(M5x40)*4

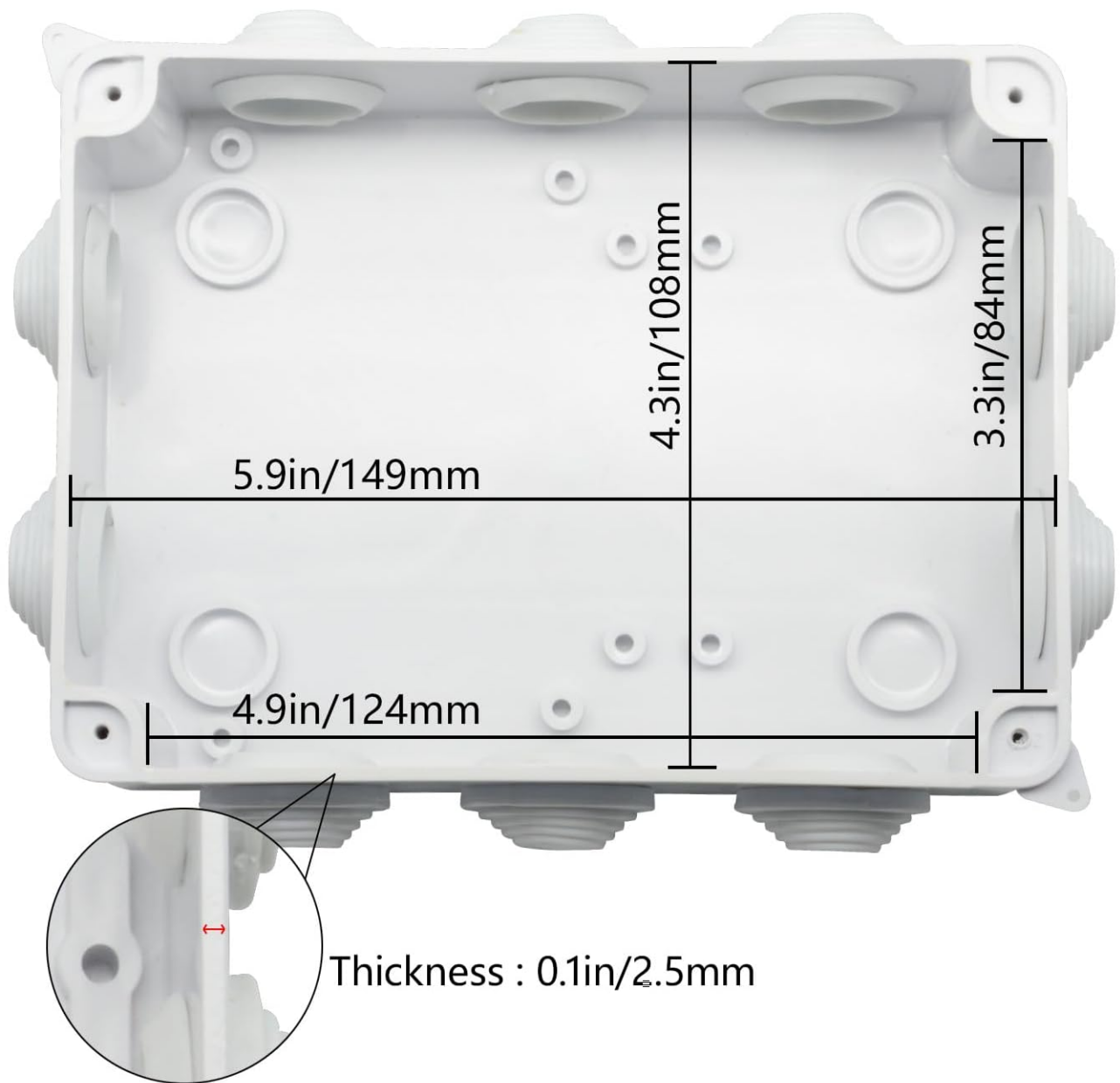


Expansion Bolt *4

SETUP

1. Opening the Enclosure

To access the interior of the junction box, use a Phillips head screwdriver to remove the four screws located at each corner of the lid. Carefully lift the lid to expose the internal compartment.



*For more specific data, please check **detailed demension image** or download **2D CAD file**. (Allowable error= ± 2 mm)

Figure 2: Internal View and Dimensions

2. Ensuring Waterproof Seal

The lid features a pre-installed rubber grommet along its perimeter to ensure an IP65 waterproof and dustproof seal when closed. Before re-securing the lid, ensure this rubber grommet is completely and correctly seated in its groove. The rubber stoppers for cable entries must also be tightly installed or properly sealed around cables.



Please check and make sure rubber grommet being completely filled around the lid and the rubber stoppers is tightly installed on the junction box to ensure the effect of the IP65 waterproof.

Figure 3: Rubber Grommet and Stoppers

3. Mounting the Junction Box

The junction box offers multiple mounting options. It can be mounted directly to a wall or other flat surface using the four self-tapping screws and expansion bolts provided. There are designated screw points within the box for secure installation.

4. Cable Entry

The enclosure is equipped with ten pre-drilled cable entry points: two on the bottom, two on the top, and three on each side. These points are covered by removable rubber stoppers. To route cables, carefully make a small cut in the center of the desired rubber stopper with a sharp knife, then gently push the cable through. This creates a tight, waterproof seal around the cable.



*** Please kindly check the size of cable entry hole before purchasing.**

Figure 4: Cable Entry Points

Ensure the cable diameter is appropriate for the entry point to maintain the IP65 seal. For optimal sealing, consider using compatible cable glands (NPT 1/2" is available).

OPERATING THE JUNCTION BOX

Once installed and all electrical connections are made and secured within the enclosure, close the lid and fasten it with the four stainless steel screws. The LeMotech junction box functions as a protective housing for your electrical components, shielding them from environmental factors such as dust, water, and physical impact. Its robust design ensures reliable operation in various conditions.



Figure 5: Outdoor Application Example (Solar Panel)



Figure 6: Outdoor Application Example (Power Cord)



Figure 7: Multiple Box Installation Example

MAINTENANCE

Regular maintenance helps ensure the longevity and continued protective capabilities of your junction box:

- **Cleaning:** Periodically wipe down the exterior of the box with a damp cloth to remove dust and debris. Avoid using harsh chemicals or abrasive cleaners.
- **Seal Inspection:** Annually, or more frequently in harsh environments, inspect the rubber grommet around the lid and the rubber stoppers/glands at cable entry points. Ensure they are free from cracks, tears, or signs of degradation. Replace if necessary to maintain the IP65 rating.

- **Screw Tightness:** Check that all screws (lid and mounting) remain tight. Over time, vibrations or temperature changes can cause screws to loosen.
- **Physical Damage:** Inspect the ABS plastic for any signs of cracks, chips, or other physical damage that could compromise its integrity.

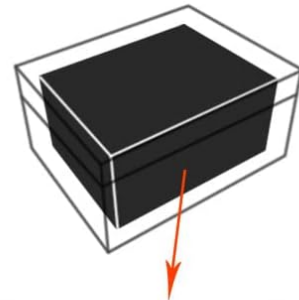
TROUBLESHOOTING

The LeMotech junction box is a passive enclosure, so troubleshooting is primarily related to its physical integrity and sealing.

Problem	Possible Cause	Solution
Water/Dust ingress inside the box	Lid not properly sealed; damaged rubber grommet; improper cable entry seal; loose lid screws.	Ensure lid is correctly aligned and screws are tightened. Inspect and replace rubber grommet if damaged. Verify cable entry points are properly sealed with stoppers or glands.
Box feels loose after mounting	Mounting screws are loose; improper installation into wall material.	Tighten mounting screws. If mounting into drywall, ensure expansion bolts are correctly deployed or use appropriate anchors for the wall type.
Difficulty inserting cables through stoppers	Hole cut too small; cable diameter too large.	Carefully enlarge the cut in the rubber stopper, or use a different entry point if available. Consider using cable glands for larger cables.

SPECIFICATIONS

Feature	Detail
Brand	LeMotech
Model Number	Imus-whtbox-151170
Material	Acrylonitrile Butadiene Styrene (ABS) Plastic
Color	White
Style	Compact
Overall Outer Dimensions (L x W x H)	5.91" x 4.33" x 2.76" (150 x 110 x 70 mm)
Inner Dimensions (L x W x H)	4.9" x 3.3" x 2.5" (124 x 84 x 64 mm)
Plastic Box Thickness	0.1" / 2.5 mm
Item Weight	0.51 Pounds / 8.2 ounces
Installation Type	Screw-In
Special Features	Waterproof (IP65), Dustproof, Shock Resistance
Cable Entry Points	10 (2 top, 2 bottom, 3 each side) with rubber stoppers



Recommended internal available size:
4.9"x3.3"x2.5"/124x84x64mm

*External size data includes the edge of lid and height of protruding the rubber stopper.

Figure 8: External Dimensions

Technical drawing of a rectangular plate. The drawing includes a side view and a top view. The side view shows a plate with a total length of 110, a width of 24, and a thickness of 6. The top view shows a rectangular plate with a length of 48 and a width of 22. There are two circular holes, each with a diameter of $\varnothing 25$, spaced 1.5 units apart from the left edge and 1.5 units apart from the right edge. The distance between the centers of the two holes is 22 units. The plate has a small rectangular feature on the right side, with a width of 1.5 units and a height of 2 units.

Technical drawing of a rectangular plate, showing two views: a front view (left) and a top view (right).

Front View (Left):

- Overall width: 156,1
- Overall height: 116,1
- Inner width: 121
- Inner height: 106
- Plate thickness: 81
- Four mounting holes are located at the corners of the inner frame.

Top View (Right):

- Overall width: 154
- Overall height: 114
- Inner width: 124
- Inner height: 108
- Plate thickness: 84
- Mounting holes are located at the corners and along the edges. Dimensions for hole positions are provided: 24, 10, 65, 68, 110, 138, 150, 156, 1.
- Four mounting holes are located at the corners of the inner frame.
- Four mounting holes are located along the edges, with dimensions 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773

*2D CAD file is available for download

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