

AIR CONDITIONER

Wall mounted type

DESIGN & TECHNICAL MANUAL

INDOOR



ASUH09LMAS
ASUH12LMAS

OUTDOOR



AOUH09LMAS1
AOUH12LMBS1

FUJITSU GENERAL LIMITED

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Part 1. INDOOR UNIT

WALL MOUNTED TYPE:

ASUH09LMAS

ASUH12LMAS

1. Specifications

| Type | | | | Wall mounted | | |
|------------------------------|------------------------|-------------------|---|--|--------------|-----------|
| | | | | Inverter heat pump | | |
| Model name | | | | ASUH09LMAS | ASUH12LMAS | |
| Power supply | | | | 208/230 V~ 60 Hz | | |
| Power supply intake | | | | Outdoor unit | | |
| Available voltage range | | | | 187—253 V | | |
| Capacity | Cooling | Rated | kW | 2.64 | 3.52 | |
| | | | Btu/h | 9,000 | 12,000 | |
| | | Min.—Max. | kW | 1.00—3.20 | 1.00—3.90 | |
| | | | Btu/h | 3,400—10,900 | 3,400—13,300 | |
| | Heating | Rated | kW | 3.52 | 4.10 | |
| | | | Btu/h | 12,000 | 14,000 | |
| | | Min.—Max. | kW | 0.82—4.40 | 0.82—5.60 | |
| | | | Btu/h | 2,800—15,000 | 2,800—19,100 | |
| | Heating (17°F) *1 | Rated | kW | 2.17 | 2.49 | |
| | | | Btu/h | 7,400 | 8,500 | |
| | | Max. | kW | 2.96 | 3.72 | |
| | | | Btu/h | 10,100 | 12,700 | |
| | Heating (5°F) *2 | Rated | kW | 2.96 | 3.02 | |
| | | | Btu/h | 10,100 | 10,300 | |
| Max. | | kW | 2.99 | 3.14 | | |
| | | Btu/h | 10,200 | 10,700 | | |
| Input power | Cooling | Rated | kW | 0.63 | 0.96 | |
| | | | | Min.—Max. | 0.14—0.92 | 0.14—1.27 |
| | Heating | Rated | kW | 0.84 | 0.99 | |
| | | | | Min.—Max. | 0.14—1.61 | 0.14—1.67 |
| | Heating (17°F) *1 | Rated | kW | 0.68 | 0.85 | |
| | | | | Max. | 1.34 | 1.39 |
| | Heating (5°F) *2 | Rated | kW | 1.250 | 1.275 | |
| | | | | Max. | 1.27 | 1.28 |
| | Current | Cooling | Rated | A | 3.1 | 4.7 |
| | | | | | Heating | 4.0 |
| EER2 | Cooling | | kW/kW | 4.19 | 3.66 | |
| | | | Btu/hW | 14.3 | 12.5 | |
| COP2 | Heating | | kW/kW | 4.20 | 4.14 | |
| | | | Btu/hW | 14.3 | 14.1 | |
| SEER2 | Cooling | | Btu/hW | 26.5 | 23.0 | |
| HSPF2 | Heating | | Btu/hW | 12.6 | 11.1 | |
| Power factor | Cooling | | % | 88.4 | 88.8 | |
| | | | | Heating | 91.3 | 89.7 |
| Moisture removal | | | pints/h (L/h) | 2.7 (1.3) | 3.8 (1.8) | |
| Maximum operating current *3 | Cooling | | A | 6.4 | 6.9 | |
| | | | | Heating | 7.9 | 9.4 |
| Fan | Airflow rate | Cooling | CFM (m ³ /h) | HIGH | 453 (770) | |
| | | | | MED | 353 (600) | |
| | | | | LOW | 265 (450) | |
| | | | | QUIET | 147 (250) | |
| | | Heating | HIGH | 453 (770) | | |
| | | | MED | 377 (640) | | |
| | | | LOW | 306 (520) | | |
| | | | QUIET | 182 (310) | | |
| | Type × Qty | Crossflow fan × 1 | | | | |
| | Motor output | | | W | 49 | |
| Sound pressure level *4 | Cooling | | dB (A) | HIGH | 43 | |
| | | | | MED | 36 | |
| | | | | LOW | 30 | |
| | | | | QUIET | 19 | |
| | Heating | | | dB (A) | HIGH | 43 |
| | | | | | MED | 38 |
| | | | | | LOW | 33 |
| | | | | | QUIET | 21 |
| Heat exchanger type | Dimensions (H × W × D) | | in (mm) | Main1: 8-1/4 × 26-3/8 × 1-1/16 (210 × 670 × 26.6) Main2: 4-7/16 × 26-3/8 × 13/16 (112 × 670 × 20) Sub: 3-5/16 × 26-3/8 × 1/2 (84 × 670 × 13.3) | | |
| | Fin pitch | | FPI | Main1: 21 Main2: 23 Sub: 18 | | |
| | Rows × Stages | | | Main1: 2 × 10 Main2: 2 × 7 Sub: 1 × 4 | | |
| | Pipe type | | | Copper | | |
| | Fin type | | | Aluminum | | |
| | Enclosure | | | Polystyrene | | |
| Dimensions (H × W × D) | Net | | in (mm) | 10-5/8 × 32-13/16 × 8-3/4 (270 × 834 × 222) | | |
| | Gross | | | 10-7/8 × 36 × 13-1/16 (277 × 914 × 332) | | |
| | Net | | | 22 (10) | | |
| Weight | Net | | lb (kg) | 22 (10) | | |
| | Gross | | | 29 (13) | | |
| Connection pipe | Size | Liquid | in (mm) | Ø1/4 (Ø6.35) | | |
| | | Gas | | Ø3/8 (Ø9.52) | | |
| | Method | | | Flare | | |
| Drain hose | Material | | PP+HDPE | | | |
| | Tip diameter | | Ø17/32 (Ø13.8) (I.D.), Ø19/32 to 21/32 (Ø15.0 to 16.8) (O.D.) | | | |
| Operation range | Cooling | °F (°C) | | 64 to 90 (18 to 32) | | |
| | | %RH | | 80 or less | | |
| | Heating | °F (°C) | | 60 to 86 (16 to 30) | | |
| Remote controller type | | | | Wireless (Wired, Mobile app*5 [FGLair™] [option]) | | |

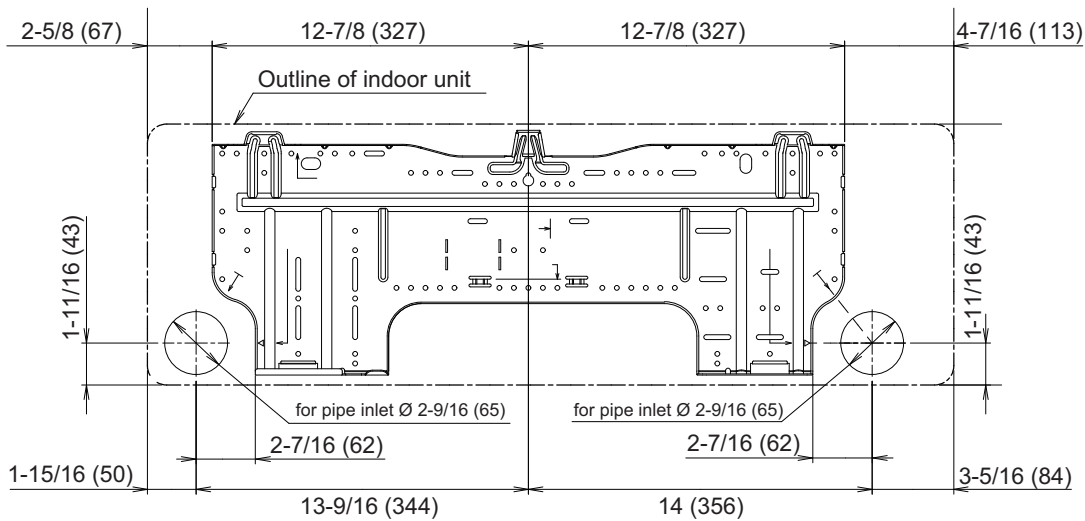
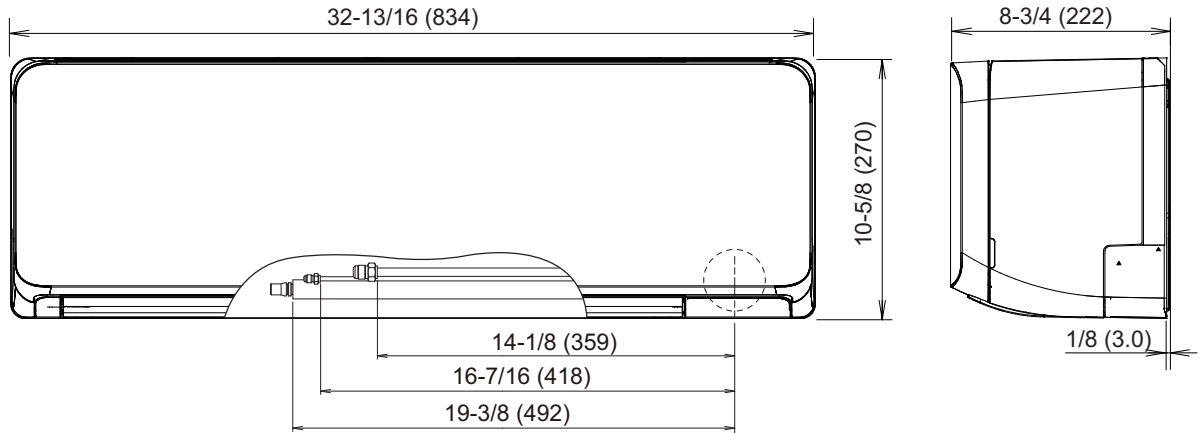
| Type | Wall mounted | |
|---|--------------------|------------|
| | Inverter heat pump | |
| Model name | ASUH09LMAS | ASUH12LMAS |
| NOTES: | | |
| <ul style="list-style-type: none"> • Specifications are based on the following conditions: <ul style="list-style-type: none"> – Cooling: Indoor temperature of 80°FDB (26.67°CDB)/67°FWB (19.44°CWB), and outdoor temperature of 95°FDB (35°CDB)/75°FWB (23.9°CWB). – Heating: Indoor temperature of 70°FDB (21.11°CDB)/60°FWB (15.56°CWB), and outdoor temperature of 47°FDB (8.33°CDB)/43°FWB (6.11°CWB). – *1: Heating (17°F): Indoor temperature of 70°FDB (21.11°CDB)/60°FWB (15.56°CWB), and outdoor temperature of 17°FDB (-8.33°CDB)/15°FWB (-9.44°CWB). – *2: Heating (5°F): Indoor temperature of 70°FDB (21.11°CDB)/60°FWB (15.56°CWB), and outdoor temperature of 5°FDB (-15.0°CDB)/4°FWB (-15.56°CWB). – Test conditions are based on AHRI 210/240 2023. – Pipe length: 25 ft (7.5 m), Height difference: 0 ft (0 m). (Between outdoor unit and indoor unit.) • Protective function might work when using it outside the operation range. • *3: Maximum current is maximum value when operated within the operation range. • *4: Sound pressure level: <ul style="list-style-type: none"> – Measured values in manufacturer's anechoic chamber. – Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here. • *5: Available on Google Play™ store or on App Store®. Optional WLAN Adapter is also required. For details, refer to the setting manual. | | |

| M condition | | | | | | |
|--|------------------|-----------|------------|--------------|-----------|-----|
| Model name | | | ASUH09LMAS | | | |
| Capacity | Cooling | Rated | kW | 2.64 | | |
| | | | Btu/h | 9,000 | | |
| | | Min.—Max. | kW | 1.0—3.2 | | |
| | | | Btu/h | 3,400—10,900 | | |
| | Heating | Rated | kW | 3.52 | | |
| | | | Btu/h | 12,000 | | |
| | | Min.—Max. | kW | 0.82—4.40 | | |
| | | | Btu/h | 2,800—15,000 | | |
| | Heating (17°F) * | Rated | kW | 2.17 | | |
| | | | Btu/h | 7,400 | | |
| | | Max. | kW | 2.96 | | |
| | | | Btu/h | 10,100 | | |
| Input power | Cooling | Rated | kW | 0.63 | | |
| | | | | Min.—Max. | 0.14—0.92 | |
| | Heating | Rated | | 0.84 | | |
| | | | | Min.—Max. | 0.14—1.61 | |
| | Heating (17°F) * | Rated | | 0.68 | | |
| | | | | Max. | 1.34 | |
| | Current | Cooling | | Rated | A | 3.1 |
| | | | | | Heating | 4.0 |
| EER | Cooling | kW/kW | 4.19 | | | |
| | | Btu/hW | 14.3 | | | |
| COP | Heating | kW/kW | 4.2 | | | |
| | | Btu/hW | 14.3 | | | |
| SEER | Cooling | Btu/hW | 26.5 | | | |
| HSPF | Heating | Btu/hW | 13.0 | | | |
| Power factor | Cooling | % | 88.4 | | | |
| | Heating | | 91.3 | | | |
| NOTES: | | | | | | |
| Specifications are based on the following conditions: | | | | | | |
| <ul style="list-style-type: none"> • Cooling: Indoor temperature of 80°FDB (26.67°CDB)/67°FWB (19.44°CWB), and outdoor temperature of 95°FDB (35°CDB)/75°FWB (23.9°CWB). • Heating: Indoor temperature of 70°FDB (21.11°CDB)/60°FWB (15.56°CWB), and outdoor temperature of 47°FDB (8.33°CDB)/43°FWB (6.11°CWB). • *: Heating (17°F): Indoor temperature of 70°FDB (21.11°CDB)/60°FWB (15.56°CWB), and outdoor temperature of 17°FDB (-8.33°CDB)/15°FWB (-9.44°CWB). • Test conditions are based on AHRI 210/240 2017. • Pipe length: 25 ft (7.5 m), Height difference: 0 ft (0 m). (Between outdoor unit and indoor unit.) | | | | | | |

2. Dimensions

2-1. Models: ASUH09LMAS and ASUH12LMAS

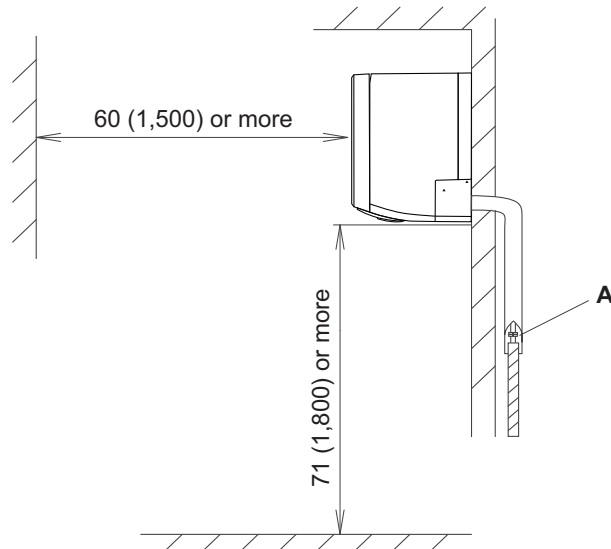
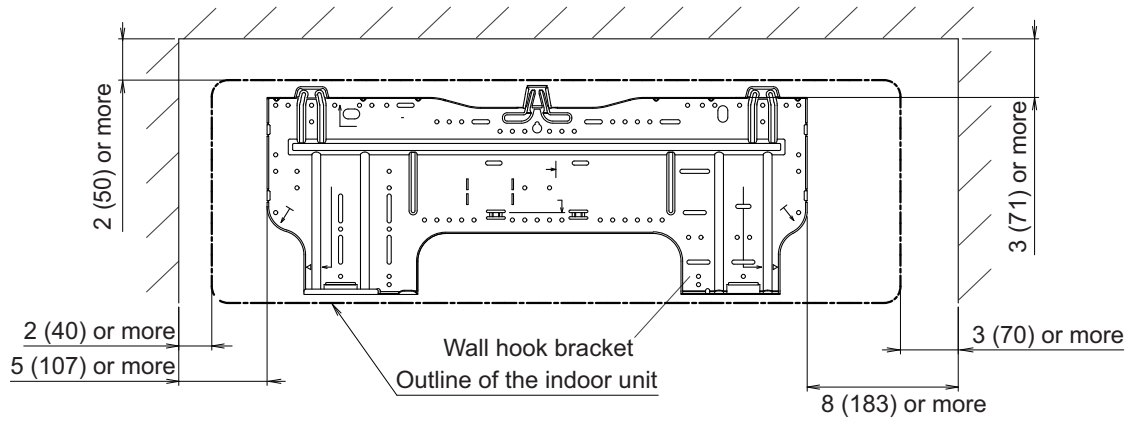
Unit: in (mm)



2-2. Installation space requirement

Provide sufficient installation space for product safety.

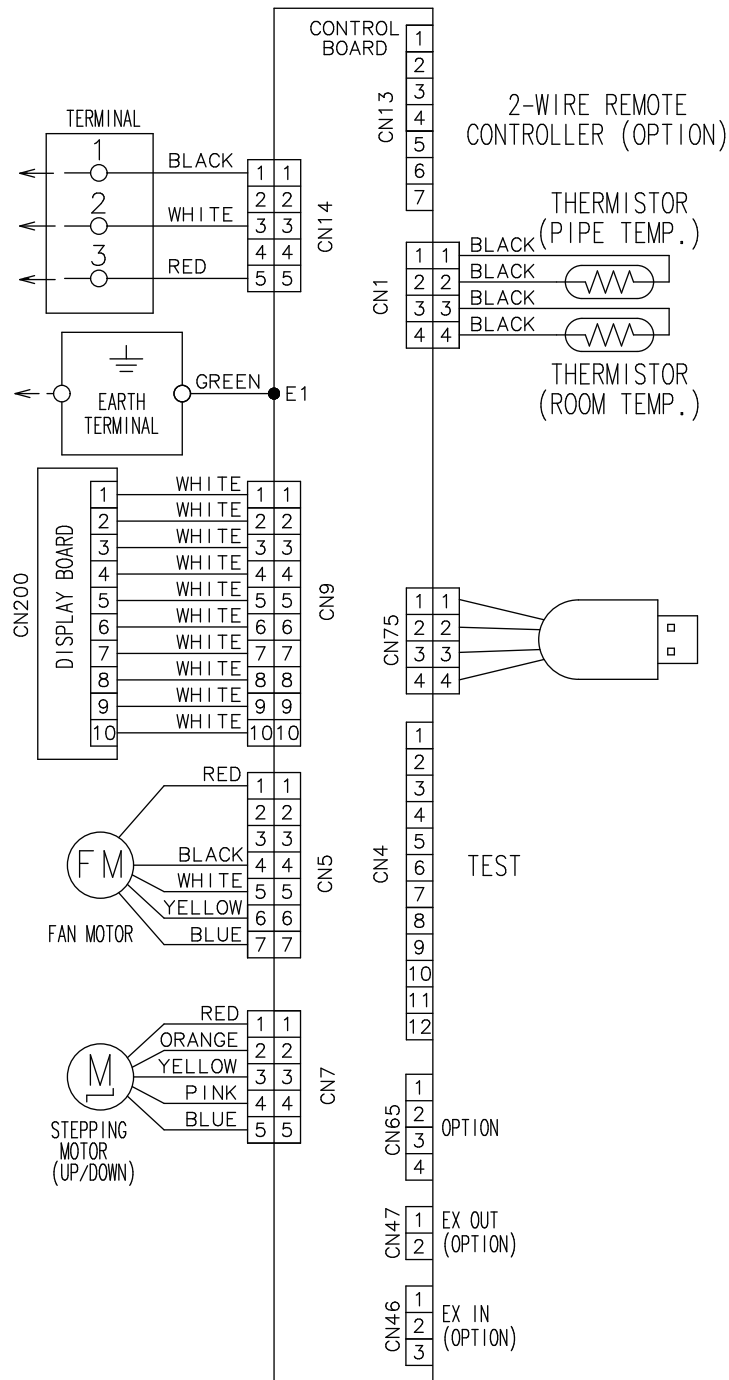
Unit: in (mm)



A: Install so that the flare connection part is outdoors.

3. Wiring diagrams

3-1. Models: ASUH09LMAS and ASUH12LMAS



4. Capacity table

Capacity tables show each of following values calculated based on the outdoor temperature and the indoor temperature, under given Airflow Rate (AFR):

For cooling capacity: Total Capacity (TC), Sensible Heat Capacity (SHC), and Input Power (IP)

For heating capacity: Total Capacity (TC) and Input Power (IP)

4-1. Cooling capacity

■ Model: ASUH09LMAS

| | | |
|-----|-----|-----|
| AFR | CFM | 453 |
|-----|-----|-----|

| | | Indoor temperature | | | | | | | | | | | | | | | | | |
|---------------------|------|--------------------|------|------|------|------|------|-------|------|------|-------|------|------|-------|------|-------|-------|------|------|
| | | 64 | | | 70 | | | 75 | | | 80 | | | 85 | | | 90 | | |
| | | 54 | | | 60 | | | 63 | | | 67 | | | 71 | | | 73 | | |
| Outdoor temperature | °FDB | TC | SHC | IP | TC | SHC | IP | TC | SHC | IP | TC | SHC | IP | TC | SHC | IP | TC | SHC | IP |
| | °FDB | kBTu | | kW | kBTu | | kW | kBTu | | kW | kBTu | | kW | kBTu | | kW | kBTu | | kW |
| | 14 | 8.34 | 5.55 | 0.21 | 9.30 | 6.19 | 0.21 | 10.26 | 6.82 | 0.22 | 10.57 | 7.04 | 0.21 | 11.21 | 7.46 | 0.21 | 11.85 | 7.89 | 0.22 |
| | 23 | 7.95 | 5.29 | 0.23 | 8.86 | 5.90 | 0.23 | 9.78 | 6.51 | 0.24 | 10.08 | 6.71 | 0.23 | 10.69 | 7.11 | 0.24 | 11.30 | 7.52 | 0.24 |
| | 32 | 7.57 | 5.04 | 0.23 | 8.43 | 5.61 | 0.23 | 9.31 | 6.19 | 0.24 | 9.59 | 6.38 | 0.24 | 10.17 | 6.77 | 0.24 | 10.74 | 7.15 | 0.24 |
| | 41 | 7.18 | 4.78 | 0.23 | 8.00 | 5.32 | 0.23 | 8.83 | 5.88 | 0.25 | 9.10 | 6.06 | 0.24 | 9.64 | 6.42 | 0.24 | 10.19 | 6.78 | 0.25 |
| | 50 | 6.80 | 4.52 | 0.21 | 7.56 | 5.03 | 0.21 | 8.36 | 5.56 | 0.22 | 8.61 | 5.73 | 0.22 | 9.12 | 6.07 | 0.22 | 9.63 | 6.41 | 0.23 |
| | 59 | 6.41 | 4.85 | 0.21 | 7.13 | 4.85 | 0.22 | 7.88 | 5.29 | 0.22 | 8.12 | 5.73 | 0.22 | 8.60 | 5.70 | 0.22 | 9.08 | 6.07 | 0.23 |
| | 67 | 8.53 | 5.29 | 0.43 | 9.52 | 5.32 | 0.44 | 10.47 | 5.80 | 0.45 | 10.82 | 6.28 | 0.45 | 11.46 | 6.24 | 0.45 | 12.11 | 6.65 | 0.46 |
| | 77 | 8.02 | 5.29 | 0.49 | 8.94 | 5.32 | 0.50 | 9.86 | 5.83 | 0.50 | 10.17 | 6.28 | 0.51 | 10.78 | 6.24 | 0.51 | 11.40 | 6.65 | 0.52 |
| | 87 | 7.54 | 5.12 | 0.55 | 8.39 | 5.15 | 0.56 | 9.25 | 5.60 | 0.57 | 9.52 | 6.04 | 0.57 | 10.10 | 6.04 | 0.58 | 10.68 | 6.41 | 0.59 |
| 95 | 7.10 | 4.98 | 0.61 | 7.92 | 5.02 | 0.62 | 8.73 | 5.46 | 0.63 | 9.00 | 5.90 | 0.63 | 9.55 | 5.87 | 0.64 | 10.07 | 6.24 | 0.64 | |
| 104 | 5.90 | 4.64 | 0.49 | 6.59 | 4.67 | 0.50 | 7.27 | 5.08 | 0.51 | 7.47 | 5.49 | 0.51 | 7.95 | 5.46 | 0.52 | 8.39 | 5.83 | 0.52 | |
| 115 | 5.54 | 4.08 | 0.49 | 6.06 | 4.46 | 0.49 | 6.65 | 4.89 | 0.50 | 6.85 | 5.04 | 0.51 | 7.30 | 5.37 | 0.52 | 7.78 | 5.73 | 0.52 | |

| | | |
|-----|-------------------|-----|
| AFR | m ³ /h | 770 |
|-----|-------------------|-----|

| | | Indoor temperature | | | | | | | | | | | | | | | | | |
|---------------------|-------|--------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | | 17.8 | | | 21.1 | | | 23.9 | | | 26.7 | | | 29.4 | | | 32.2 | | |
| | | 12.2 | | | 15.6 | | | 17.2 | | | 19.4 | | | 21.7 | | | 22.8 | | |
| Outdoor temperature | °CDB | TC | SHC | IP | TC | SHC | IP | TC | SHC | IP | TC | SHC | IP | TC | SHC | IP | TC | SHC | IP |
| | °CDB | kW | | | kW | | | kW | | | kW | | | kW | | | kW | | |
| | -10.0 | 2.44 | 1.63 | 0.21 | 2.72 | 1.81 | 0.21 | 3.01 | 2.00 | 0.22 | 3.10 | 2.06 | 0.21 | 3.29 | 2.19 | 0.21 | 3.47 | 2.31 | 0.22 |
| | -5.0 | 2.33 | 1.55 | 0.23 | 2.60 | 1.73 | 0.23 | 2.87 | 1.91 | 0.24 | 2.96 | 1.97 | 0.23 | 3.13 | 2.09 | 0.24 | 3.31 | 2.20 | 0.24 |
| | 0.0 | 2.22 | 1.48 | 0.23 | 2.47 | 1.64 | 0.23 | 2.73 | 1.82 | 0.24 | 2.81 | 1.87 | 0.24 | 2.98 | 1.98 | 0.24 | 3.15 | 2.10 | 0.24 |
| | 5.0 | 2.10 | 1.40 | 0.23 | 2.34 | 1.56 | 0.23 | 2.59 | 1.72 | 0.25 | 2.67 | 1.78 | 0.24 | 2.83 | 1.88 | 0.24 | 2.99 | 1.99 | 0.25 |
| | 10.0 | 1.99 | 1.33 | 0.21 | 2.22 | 1.48 | 0.21 | 2.45 | 1.63 | 0.22 | 2.52 | 1.68 | 0.22 | 2.67 | 1.78 | 0.22 | 2.82 | 1.88 | 0.23 |
| | 15.0 | 1.88 | 1.42 | 0.21 | 2.09 | 1.42 | 0.22 | 2.31 | 1.55 | 0.22 | 2.38 | 1.68 | 0.22 | 2.52 | 1.67 | 0.22 | 2.66 | 1.78 | 0.23 |
| | 19.4 | 2.50 | 1.55 | 0.43 | 2.79 | 1.56 | 0.44 | 3.07 | 1.70 | 0.45 | 3.17 | 1.84 | 0.45 | 3.36 | 1.83 | 0.45 | 3.55 | 1.95 | 0.46 |
| | 25.0 | 2.35 | 1.55 | 0.49 | 2.62 | 1.56 | 0.50 | 2.89 | 1.71 | 0.50 | 2.98 | 1.84 | 0.51 | 3.16 | 1.83 | 0.51 | 3.34 | 1.95 | 0.52 |
| | 30.6 | 2.21 | 1.50 | 0.55 | 2.46 | 1.51 | 0.56 | 2.71 | 1.64 | 0.57 | 2.79 | 1.77 | 0.57 | 2.96 | 1.77 | 0.58 | 3.13 | 1.88 | 0.59 |
| 35.0 | 2.08 | 1.46 | 0.61 | 2.32 | 1.47 | 0.62 | 2.56 | 1.60 | 0.63 | 2.64 | 1.73 | 0.63 | 2.80 | 1.72 | 0.64 | 2.95 | 1.83 | 0.64 | |
| 40.0 | 1.73 | 1.36 | 0.49 | 1.93 | 1.37 | 0.50 | 2.13 | 1.49 | 0.51 | 2.19 | 1.61 | 0.51 | 2.33 | 1.60 | 0.52 | 2.46 | 1.71 | 0.52 | |
| 46.1 | 1.62 | 1.19 | 0.49 | 1.78 | 1.31 | 0.49 | 1.95 | 1.43 | 0.50 | 2.01 | 1.48 | 0.51 | 2.14 | 1.57 | 0.52 | 2.28 | 1.68 | 0.52 | |

Model: ASUH12LMAS

| | | |
|-----|-----|-----|
| AFR | CFM | 453 |
|-----|-----|-----|

| | | Indoor temperature | | | | | | | | | | | | | | | | | |
|---------------------|-------|--------------------|------|-------|-------|------|-------|-------|------|-------|-------|------|-------|-------|-------|-------|-------|-------|------|
| | | 64 | | | 70 | | | 75 | | | 80 | | | 85 | | | 90 | | |
| | | 54 | | | 60 | | | 63 | | | 67 | | | 71 | | | 73 | | |
| Outdoor temperature | °FDB | TC | SHC | IP | TC | SHC | IP | TC | SHC | IP | TC | SHC | IP | TC | SHC | IP | TC | SHC | IP |
| | °FWB | kBTu | | | kBTu | | | kBTu | | | kBTu | | | kBTu | | | kBTu | | |
| | | kW | | | kW | | | kW | | | kW | | | kW | | | kW | | |
| | 14 | 11.25 | 7.76 | 0.33 | 12.53 | 8.65 | 0.33 | 13.80 | 9.53 | 0.35 | 14.23 | 9.82 | 0.34 | 15.08 | 10.41 | 0.34 | 15.93 | 11.00 | 0.35 |
| | 23 | 10.66 | 7.36 | 0.37 | 11.87 | 8.19 | 0.38 | 13.08 | 9.03 | 0.40 | 13.49 | 9.31 | 0.39 | 14.30 | 9.87 | 0.39 | 15.10 | 10.42 | 0.40 |
| | 32 | 10.07 | 6.95 | 0.40 | 11.21 | 7.74 | 0.40 | 12.36 | 8.53 | 0.42 | 12.74 | 8.79 | 0.41 | 13.51 | 9.33 | 0.41 | 14.27 | 9.85 | 0.42 |
| | 41 | 9.47 | 6.54 | 0.40 | 10.56 | 7.29 | 0.40 | 11.64 | 8.04 | 0.42 | 12.00 | 8.28 | 0.41 | 12.73 | 8.78 | 0.41 | 13.44 | 9.27 | 0.43 |
| | 50 | 8.88 | 6.13 | 0.39 | 9.90 | 6.84 | 0.39 | 10.92 | 7.54 | 0.41 | 11.25 | 7.77 | 0.40 | 11.94 | 8.24 | 0.40 | 12.60 | 8.70 | 0.41 |
| | 59 | 8.29 | 6.35 | 0.40 | 9.25 | 6.38 | 0.41 | 10.20 | 6.96 | 0.42 | 10.51 | 7.51 | 0.42 | 11.16 | 7.47 | 0.42 | 11.77 | 7.98 | 0.43 |
| | 67 | 11.43 | 7.47 | 0.65 | 12.73 | 7.51 | 0.66 | 14.06 | 8.19 | 0.67 | 14.47 | 8.84 | 0.68 | 15.35 | 8.80 | 0.68 | 16.21 | 9.38 | 0.69 |
| 77 | 10.82 | 7.13 | 0.75 | 12.04 | 7.17 | 0.76 | 13.27 | 7.85 | 0.77 | 13.68 | 8.46 | 0.77 | 14.50 | 8.43 | 0.78 | 15.32 | 8.97 | 0.79 | |
| 87 | 10.10 | 6.99 | 0.85 | 11.26 | 7.03 | 0.86 | 12.39 | 7.68 | 0.87 | 12.80 | 8.29 | 0.88 | 13.55 | 8.26 | 0.88 | 14.30 | 8.77 | 0.89 | |
| 95 | 9.49 | 6.69 | 0.93 | 10.58 | 6.72 | 0.94 | 11.63 | 7.34 | 0.96 | 12.00 | 7.92 | 0.96 | 12.73 | 7.88 | 0.97 | 13.44 | 8.39 | 0.98 | |
| 104 | 8.05 | 6.35 | 0.87 | 8.97 | 6.38 | 0.89 | 9.89 | 6.96 | 0.90 | 10.20 | 7.51 | 0.91 | 10.78 | 7.51 | 0.92 | 11.40 | 7.98 | 0.92 | |
| 115 | 5.66 | 5.15 | 0.69 | 6.28 | 5.19 | 0.70 | 6.93 | 5.63 | 0.71 | 7.17 | 6.11 | 0.71 | 7.57 | 6.07 | 0.72 | 8.02 | 6.48 | 0.73 | |

| | | |
|-----|------|-----|
| AFR | m³/h | 770 |
|-----|------|-----|

| | | Indoor temperature | | | | | | | | | | | | | | | | | |
|---------------------|-------|--------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | | 17.8 | | | 21.1 | | | 23.9 | | | 26.7 | | | 29.4 | | | 32.2 | | |
| | | 12.2 | | | 15.6 | | | 17.2 | | | 19.4 | | | 21.7 | | | 22.8 | | |
| Outdoor temperature | °CDB | TC | SHC | IP | TC | SHC | IP | TC | SHC | IP | TC | SHC | IP | TC | SHC | IP | TC | SHC | IP |
| | °CWB | kW | | | kW | | | kW | | | kW | | | kW | | | kW | | |
| | -10.0 | 3.30 | 2.28 | 0.33 | 3.67 | 2.53 | 0.33 | 4.05 | 2.79 | 0.35 | 4.17 | 2.88 | 0.34 | 4.42 | 3.05 | 0.34 | 4.67 | 3.22 | 0.35 |
| | -5.0 | 3.12 | 2.16 | 0.37 | 3.48 | 2.40 | 0.38 | 3.83 | 2.65 | 0.40 | 3.95 | 2.73 | 0.39 | 4.19 | 2.89 | 0.39 | 4.43 | 3.05 | 0.40 |
| | 0.0 | 2.95 | 2.04 | 0.40 | 3.29 | 2.27 | 0.40 | 3.62 | 2.50 | 0.42 | 3.73 | 2.58 | 0.41 | 3.96 | 2.73 | 0.41 | 4.18 | 2.89 | 0.42 |
| | 5.0 | 2.78 | 1.92 | 0.40 | 3.09 | 2.14 | 0.40 | 3.41 | 2.36 | 0.42 | 3.52 | 2.43 | 0.41 | 3.73 | 2.57 | 0.41 | 3.94 | 2.72 | 0.43 |
| | 10.0 | 2.60 | 1.80 | 0.39 | 2.90 | 2.00 | 0.39 | 3.20 | 2.21 | 0.41 | 3.30 | 2.28 | 0.40 | 3.50 | 2.42 | 0.40 | 3.69 | 2.55 | 0.41 |
| | 15.0 | 2.43 | 1.86 | 0.40 | 2.71 | 1.87 | 0.41 | 2.99 | 2.04 | 0.42 | 3.08 | 2.20 | 0.42 | 3.27 | 2.19 | 0.42 | 3.45 | 2.34 | 0.43 |
| | 19.4 | 3.35 | 2.19 | 0.65 | 3.73 | 2.20 | 0.66 | 4.12 | 2.40 | 0.67 | 4.24 | 2.59 | 0.68 | 4.50 | 2.58 | 0.68 | 4.75 | 2.75 | 0.69 |
| | 25.0 | 3.17 | 2.09 | 0.75 | 3.53 | 2.10 | 0.76 | 3.89 | 2.30 | 0.77 | 4.01 | 2.48 | 0.77 | 4.25 | 2.47 | 0.78 | 4.49 | 2.63 | 0.79 |
| 30.6 | 2.96 | 2.05 | 0.85 | 3.30 | 2.06 | 0.86 | 3.63 | 2.25 | 0.87 | 3.75 | 2.43 | 0.88 | 3.97 | 2.42 | 0.88 | 4.19 | 2.57 | 0.89 | |
| 35.0 | 2.78 | 1.96 | 0.93 | 3.10 | 1.97 | 0.94 | 3.41 | 2.15 | 0.96 | 3.52 | 2.32 | 0.96 | 3.73 | 2.31 | 0.97 | 3.94 | 2.46 | 0.98 | |
| 40.0 | 2.36 | 1.86 | 0.87 | 2.63 | 1.87 | 0.89 | 2.90 | 2.04 | 0.90 | 2.99 | 2.20 | 0.91 | 3.16 | 2.20 | 0.92 | 3.34 | 2.34 | 0.92 | |
| 46.1 | 1.66 | 1.51 | 0.69 | 1.84 | 1.52 | 0.70 | 2.03 | 1.65 | 0.71 | 2.10 | 1.79 | 0.71 | 2.22 | 1.78 | 0.72 | 2.35 | 1.90 | 0.73 | |

4-2. Heating capacity

NOTE: Values mentioned in the table are calculated based on the maximum capacity.

Model: ASUH09LMAS

| | | |
|-----|-----|-----|
| AFR | CFM | 453 |
|-----|-----|-----|

| | | Indoor temperature | | | | | | | | | | |
|---------------------|------|--------------------|-------|------|-------|------|-------|------|-------|------|-------|------|
| Outdoor temperature | °FDB | °FDB | 60 | | 65 | | 70 | | 72 | | 75 | |
| | | °FWB | TC | IP | TC | IP | TC | IP | TC | IP | TC | IP |
| | | | kBtu | kW | kBtu | kW | kBtu | kW | kBtu | kW | kBtu | kW |
| | 5 | 3 | 10.76 | 1.22 | 10.48 | 1.24 | 10.20 | 1.27 | 9.92 | 1.29 | 9.64 | 1.32 |
| | 14 | 12 | 11.85 | 1.29 | 11.54 | 1.31 | 11.23 | 1.34 | 10.92 | 1.37 | 10.61 | 1.39 |
| | 23 | 19 | 12.95 | 1.36 | 12.61 | 1.39 | 12.27 | 1.42 | 11.93 | 1.45 | 11.59 | 1.47 |
| | 32 | 28 | 14.03 | 1.43 | 13.67 | 1.46 | 13.30 | 1.49 | 12.93 | 1.52 | 12.57 | 1.55 |
| | 41 | 37 | 15.12 | 1.50 | 14.73 | 1.53 | 14.33 | 1.56 | 13.93 | 1.59 | 13.54 | 1.62 |
| | 47 | 43 | 15.84 | 1.54 | 15.43 | 1.57 | 15.00 | 1.61 | 14.60 | 1.63 | 14.18 | 1.66 |
| | 50 | 47 | 15.92 | 1.56 | 15.51 | 1.59 | 15.09 | 1.62 | 14.67 | 1.65 | 14.26 | 1.68 |
| | 59 | 50 | 16.09 | 1.47 | 15.67 | 1.49 | 15.25 | 1.53 | 14.83 | 1.56 | 14.41 | 1.58 |
| | 68 | 59 | 15.18 | 1.14 | 14.78 | 1.17 | 14.38 | 1.19 | 13.99 | 1.21 | 13.59 | 1.24 |
| | 75 | 64 | 15.68 | 1.20 | 15.27 | 1.22 | 14.86 | 1.25 | 14.45 | 1.27 | 14.03 | 1.30 |

| | | |
|-----|-------------------|-----|
| AFR | m ³ /h | 770 |
|-----|-------------------|-----|

| | | Indoor temperature | | | | | | | | | | |
|---------------------|-------|--------------------|------|------|------|------|------|------|------|------|------|------|
| Outdoor temperature | °CDB | °CWB | 15.6 | | 18.3 | | 21.1 | | 22.2 | | 23.9 | |
| | | | TC | IP | TC | IP | TC | IP | TC | IP | TC | IP |
| | | | kW | | kW | | kW | | kW | | kW | |
| | -15.0 | -16.1 | 3.15 | 1.22 | 3.07 | 1.24 | 2.99 | 1.27 | 2.91 | 1.29 | 2.82 | 1.32 |
| | -10.0 | -11.1 | 3.47 | 1.29 | 3.38 | 1.31 | 3.29 | 1.34 | 3.20 | 1.37 | 3.11 | 1.39 |
| | -5.0 | -7.2 | 3.79 | 1.36 | 3.70 | 1.39 | 3.60 | 1.42 | 3.50 | 1.45 | 3.40 | 1.47 |
| | 0.0 | -2.2 | 4.11 | 1.43 | 4.01 | 1.46 | 3.90 | 1.49 | 3.79 | 1.52 | 3.68 | 1.55 |
| | 5.0 | 2.8 | 4.43 | 1.50 | 4.32 | 1.53 | 4.20 | 1.56 | 4.08 | 1.59 | 3.97 | 1.62 |
| | 8.3 | 6.1 | 4.64 | 1.54 | 4.52 | 1.57 | 4.40 | 1.61 | 4.28 | 1.63 | 4.16 | 1.66 |
| | 10.0 | 8.3 | 4.67 | 1.56 | 4.55 | 1.59 | 4.42 | 1.62 | 4.30 | 1.65 | 4.18 | 1.68 |
| | 15.0 | 10.0 | 4.72 | 1.47 | 4.59 | 1.49 | 4.47 | 1.53 | 4.35 | 1.56 | 4.22 | 1.58 |
| | 20.0 | 15.0 | 4.45 | 1.14 | 4.33 | 1.17 | 4.22 | 1.19 | 4.10 | 1.21 | 3.98 | 1.24 |
| | 24.0 | 18.0 | 4.59 | 1.20 | 4.47 | 1.22 | 4.35 | 1.25 | 4.23 | 1.27 | 4.11 | 1.30 |

Model: ASUH12LMAS

| | | |
|-----|-----|-----|
| AFR | CFM | 453 |
|-----|-----|-----|

| | | Indoor temperature | | | | | | | | | | |
|---------------------|------|--------------------|-------|------|-------|------|-------|------|-------|------|-------|------|
| Outdoor temperature | °FDB | °FDB | 60 | | 65 | | 70 | | 72 | | 75 | |
| | | °FWB | TC | IP | TC | IP | TC | IP | TC | IP | TC | IP |
| | | | kBtu | kW | kBtu | kW | kBtu | kW | kBtu | kW | kBtu | kW |
| | 5 | 3 | 11.29 | 1.23 | 11.00 | 1.25 | 10.70 | 1.28 | 10.40 | 1.30 | 10.11 | 1.33 |
| | 14 | 12 | 12.56 | 1.31 | 12.23 | 1.33 | 11.90 | 1.36 | 11.57 | 1.39 | 11.24 | 1.41 |
| | 23 | 19 | 14.77 | 1.38 | 14.39 | 1.41 | 14.00 | 1.44 | 13.61 | 1.47 | 13.23 | 1.50 |
| | 32 | 28 | 16.78 | 1.49 | 16.34 | 1.52 | 15.90 | 1.55 | 15.46 | 1.58 | 15.02 | 1.61 |
| | 41 | 37 | 18.57 | 1.58 | 18.09 | 1.62 | 17.60 | 1.65 | 17.11 | 1.68 | 16.63 | 1.71 |
| | 47 | 43 | 20.16 | 1.60 | 19.63 | 1.63 | 19.10 | 1.67 | 18.57 | 1.70 | 18.04 | 1.73 |
| | 50 | 47 | 20.26 | 1.62 | 19.73 | 1.65 | 19.20 | 1.69 | 18.67 | 1.72 | 18.14 | 1.75 |
| | 59 | 50 | 20.47 | 1.53 | 19.94 | 1.56 | 19.40 | 1.59 | 18.86 | 1.62 | 18.33 | 1.65 |
| | 68 | 59 | 19.31 | 1.19 | 18.81 | 1.21 | 18.30 | 1.24 | 17.79 | 1.26 | 17.29 | 1.29 |
| | 75 | 64 | 19.94 | 1.25 | 19.42 | 1.27 | 18.90 | 1.30 | 18.38 | 1.32 | 17.86 | 1.35 |

| | | |
|-----|-------------------|-----|
| AFR | m ³ /h | 770 |
|-----|-------------------|-----|

| | | Indoor temperature | | | | | | | | | | |
|---------------------|-------|--------------------|------|------|------|------|------|------|------|------|------|------|
| Outdoor temperature | °CDB | °CWB | 15.6 | | 18.3 | | 21.1 | | 22.2 | | 23.9 | |
| | | | TC | IP | TC | IP | TC | IP | TC | IP | TC | IP |
| | | | kW | | kW | | kW | | kW | | kW | |
| | -15.0 | -16.1 | 3.31 | 1.23 | 3.22 | 1.25 | 3.14 | 1.28 | 3.05 | 1.30 | 2.96 | 1.33 |
| | -10.0 | -11.1 | 3.68 | 1.31 | 3.58 | 1.33 | 3.49 | 1.36 | 3.39 | 1.39 | 3.30 | 1.41 |
| | -5.0 | -7.2 | 4.33 | 1.38 | 4.22 | 1.41 | 4.10 | 1.44 | 3.99 | 1.47 | 3.88 | 1.50 |
| | 0.0 | -2.2 | 4.92 | 1.49 | 4.79 | 1.52 | 4.66 | 1.55 | 4.53 | 1.58 | 4.40 | 1.61 |
| | 5.0 | 2.8 | 5.44 | 1.58 | 5.30 | 1.62 | 5.16 | 1.65 | 5.02 | 1.68 | 4.87 | 1.71 |
| | 8.3 | 6.1 | 5.91 | 1.60 | 5.75 | 1.63 | 5.60 | 1.67 | 5.44 | 1.70 | 5.29 | 1.73 |
| | 10.0 | 8.3 | 5.94 | 1.62 | 5.78 | 1.65 | 5.63 | 1.69 | 5.47 | 1.72 | 5.32 | 1.75 |
| | 15.0 | 10.0 | 6.00 | 1.53 | 5.84 | 1.56 | 5.69 | 1.59 | 5.53 | 1.62 | 5.37 | 1.65 |
| | 20.0 | 15.0 | 5.66 | 1.19 | 5.51 | 1.21 | 5.36 | 1.24 | 5.22 | 1.26 | 5.07 | 1.29 |
| | 24.0 | 18.0 | 5.85 | 1.25 | 5.69 | 1.27 | 5.54 | 1.30 | 5.39 | 1.32 | 5.23 | 1.35 |

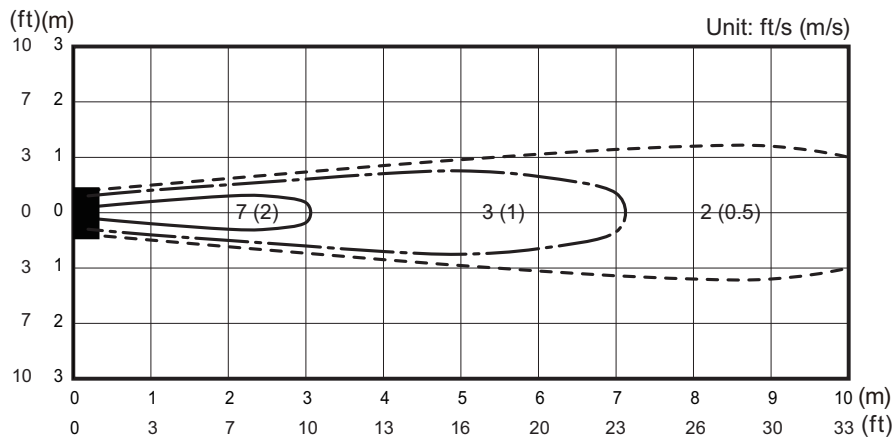
5. Fan performance

5-1. Air velocity distributions

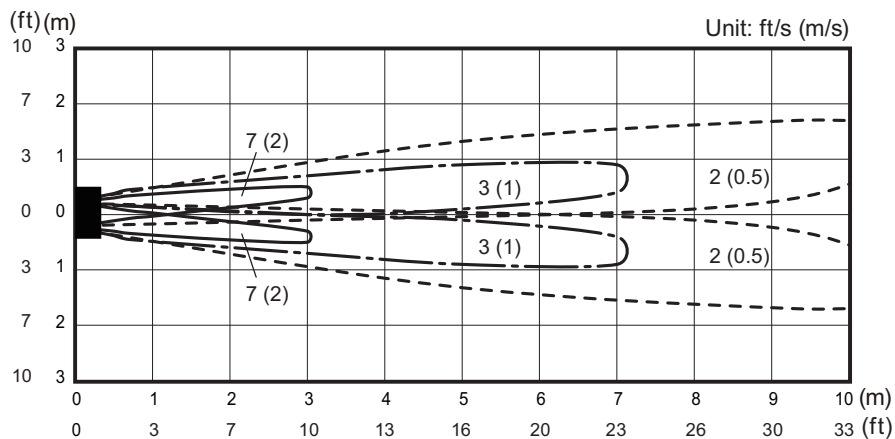
■ Models: ASUH09LMAS and ASUH12LMAS

| | | |
|----------------------|-----------|----------------|
| Measuring conditions | Fan speed | Operation mode |
| | HIGH | FAN |

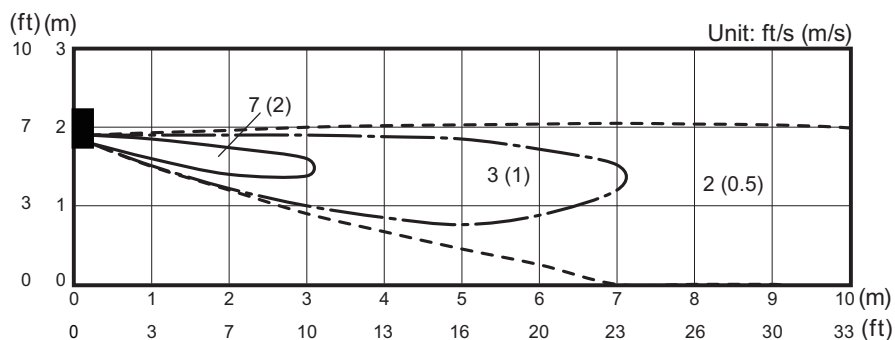
Top view
Horizontal louver: Up
Vertical louver: Center



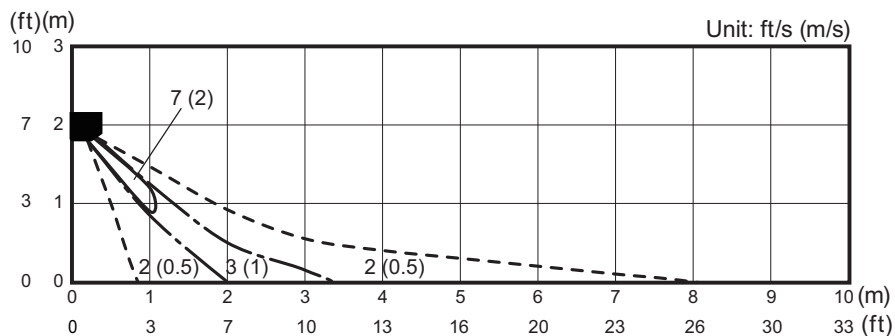
Top view
Horizontal louver: Up
Vertical louver: Left & Right



Side view
Horizontal louver: Up
Vertical louver: Center



Side view
Horizontal louver: Down
Vertical louver: Center



5-2. Airflow

■ Models: ASUH09LMAS and ASUH12LMAS

● Cooling

| Fan speed | Airflow | |
|-----------|-------------------|-----|
| HIGH | m ³ /h | 770 |
| | l/s | 214 |
| | CFM | 453 |
| MED | m ³ /h | 600 |
| | l/s | 167 |
| | CFM | 353 |
| LOW | m ³ /h | 450 |
| | l/s | 125 |
| | CFM | 265 |
| QUIET | m ³ /h | 250 |
| | l/s | 69 |
| | CFM | 147 |

● Heating

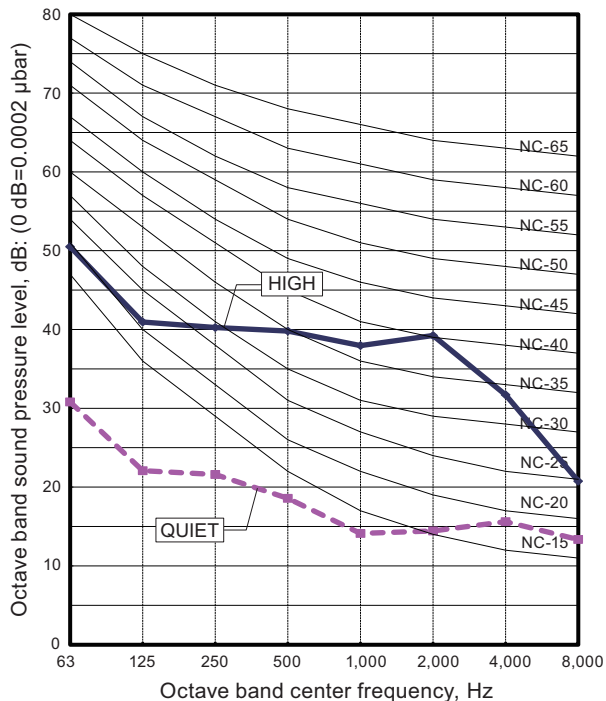
| Fan speed | Airflow | |
|-----------|-------------------|-----|
| HIGH | m ³ /h | 770 |
| | l/s | 214 |
| | CFM | 453 |
| MED | m ³ /h | 640 |
| | l/s | 178 |
| | CFM | 377 |
| LOW | m ³ /h | 520 |
| | l/s | 144 |
| | CFM | 306 |
| QUIET | m ³ /h | 310 |
| | l/s | 86 |
| | CFM | 182 |

6. Operation noise (sound pressure)

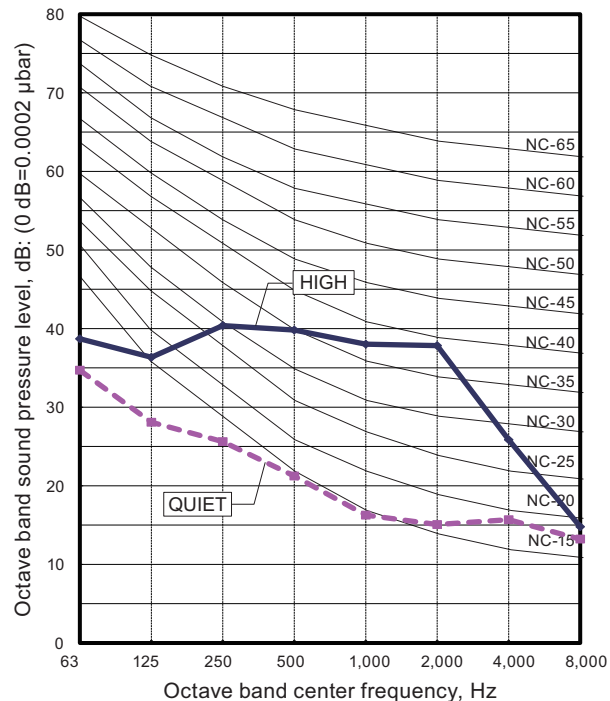
6-1. Noise level curve

Models: ASUH09LMAS and ASUH12LMAS

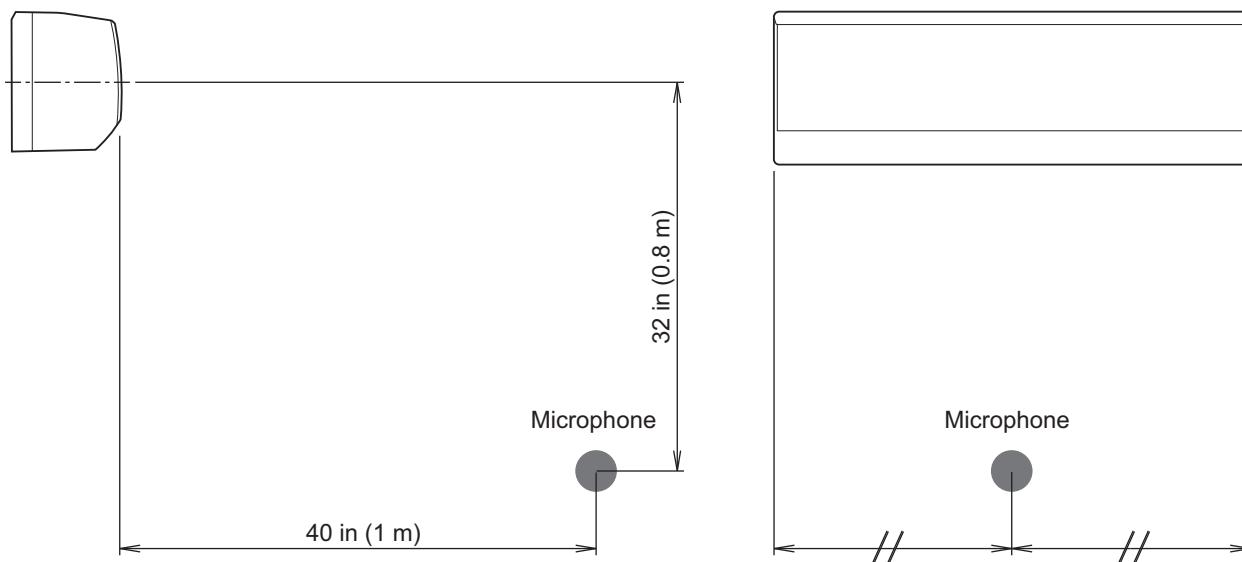
● Cooling



● Heating



6-2. Sound level check point



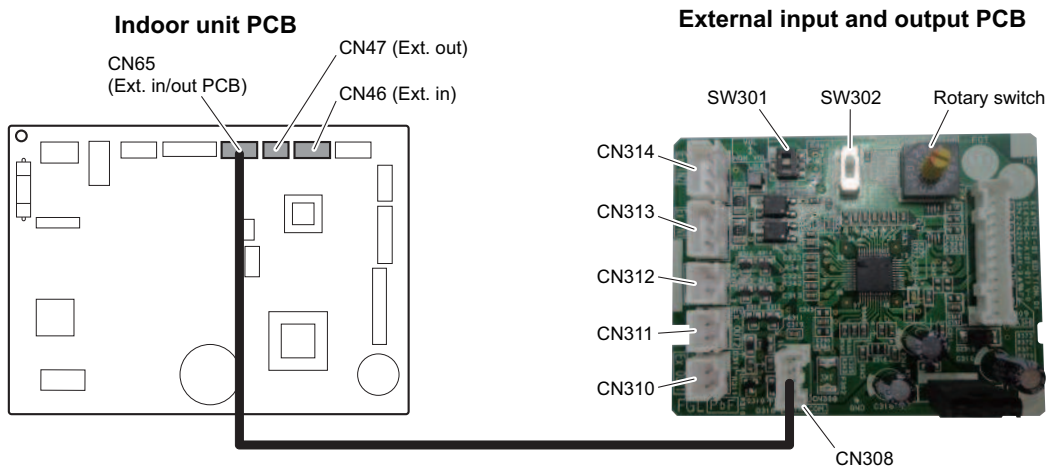
NOTE: Detailed shape of the actual indoor unit might be slightly different from the one illustrated above.

7. Safety devices

| Type of protection | Protection form | | Model |
|----------------------|--------------------------------------|----------|--|
| | | | ASUH09LMAS and ASUH12LMAS |
| Circuit protection | Current fuse (PCB*) | | 250 V, 3.15 A |
| Fan motor protection | Power IC thermal shutdown protection | Activate | 257 ±18°F (125 ±10°C) Fan motor stop |
| | | Reset | 212 ±18°F (100 ±10°C) Fan motor restart |

*PCB: Printed Circuit Board

8. External input and output



| PCB | External input | External output | Connector | Input select | Input signal |
|--|----------------------------------|----------------------------------|-----------------|-------------------------------|--------------|
| Indoor unit | Operation/Stop | — | CN46 | Dry contact | Edge |
| | Forced stop | | | | |
| | — | Operation status | CN47 | — | — |
| | | Error status | | | |
| | | Indoor unit fan operation status | | | |
| | | Cooling thermostat On | | | |
| — | Heating thermostat On | — | — | — | |
| | External heater output | | | | |
| External input and output (UTY-XCSXZ2) | Operation/Stop | — | CN313/ CN314 | Dry contact/ Apply voltage | Edge/Pulse |
| | Forced stop | | CN313 | | Edge |
| | Forced thermostat off | | — | CN310/ CN311/ CN312 | — |
| | Operation status | | | | |
| | Error status | | | | |
| | Indoor unit fan operation status | | | | |
| | External heater output | | | | |
| | Remote controller output | — | — | — | — |
| Cooling high/low output | | | | | |
| Heating thermostat On | — | — | — | — | |

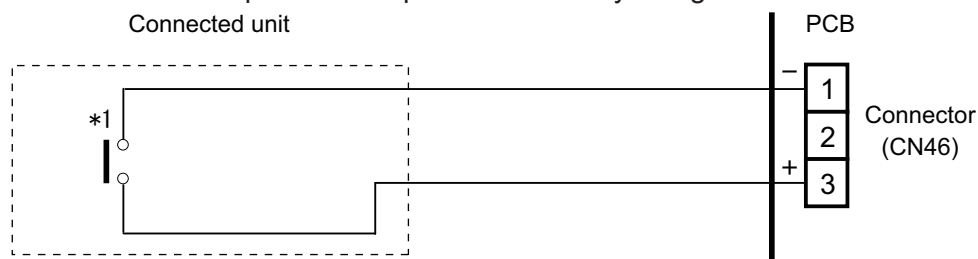
8-1. External input

With using external input function, some functions on this product can be controlled from an external device.

- "Operation/Stop" mode or "Forced stop" mode can be selected with function setting of indoor unit.
- A twisted pair cable (22AWG) should be used. Maximum length of cable is 492 ft (150 m).
- The wire connection should be separate from the power cable line.

■ Indoor unit

Indoor unit functions such as Operation/Stop can be done by using indoor unit connectors.



*1: The switch can be used on the following condition: DC 12 V to 24 V, 1 mA to 15 mA.

External Input and Output PCB

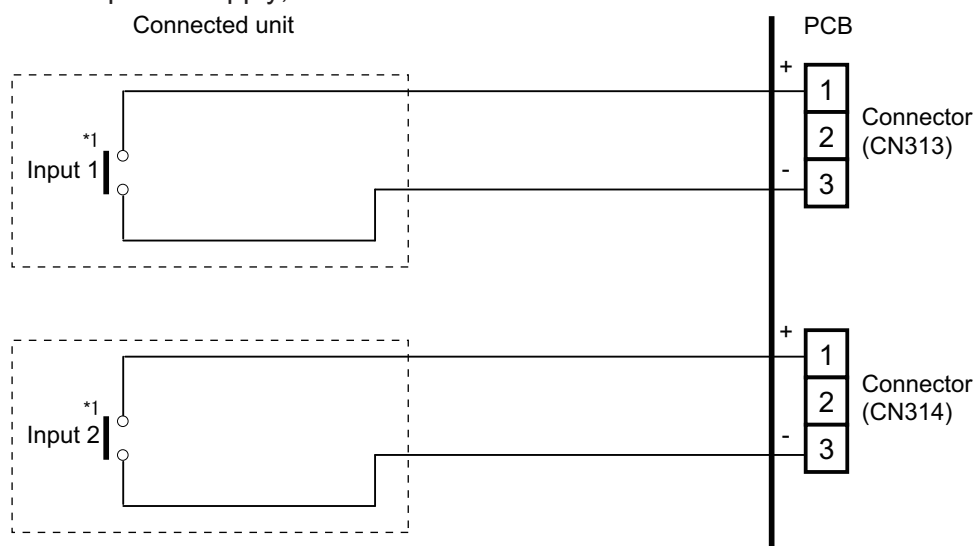
The indoor unit Operation/Stop can be set by using the input connector on the PCB.

• Input select:

Use either one of these types of connectors according to the application. (Both types of connectors cannot be used simultaneously.)

– Dry contact

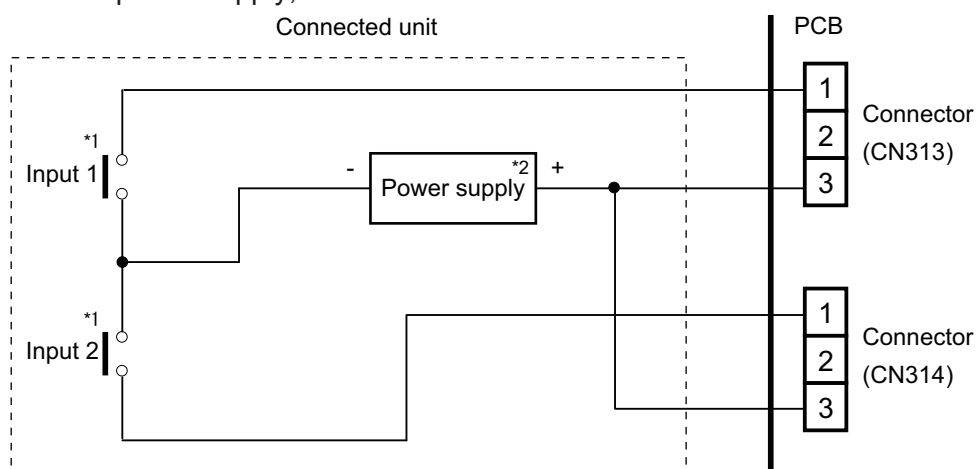
In case of internal power supply, set the slide switch of SW301 to "NON VOL" side.



*1: The switches can be used on the following condition: DC 12 V to 24 V, 1 mA to 15 mA.

– Apply voltage

In case of external power supply, set the slide switch of SW301 to "VOL" side.



*1: The switches can be used on the following condition: DC 12 V to 24 V, 1 mA to 15 mA.

*2: Make the power supply DC 12 to 24 V, 10 mA or more.

8-2. External output

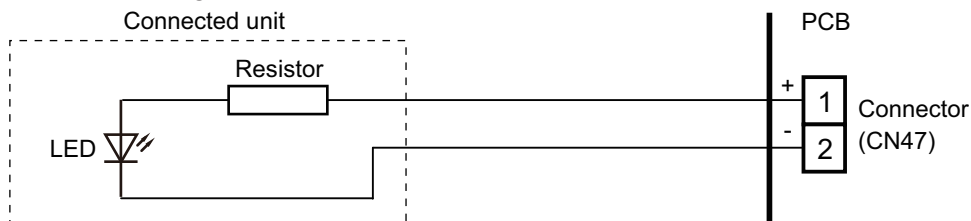
Use an external output cable with appropriate external dimension, depending on the number of cables to be installed.

Indoor unit

- A twisted pair cable (22AWG) should be used. Maximum length of cable is 82 ft (25 m).
- Output voltage: High DC 12 V \pm 2 V, Low 0 V.
- Permissible current: 50 mA
- For details, refer to ["Combination of external input and output"](#) on page 19.

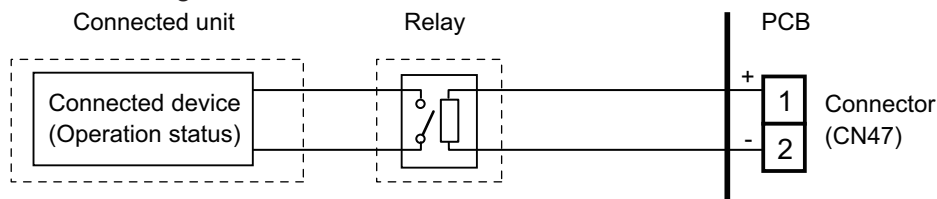
When indicator or other components are connected directly

Example: Function setting 60 is set to "00"



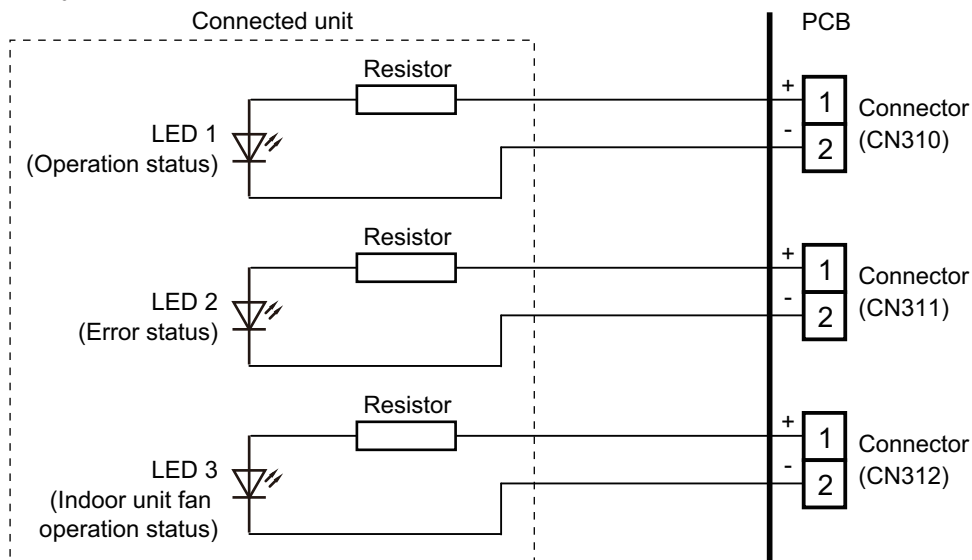
When connecting with a device equipped with a power supply

Example: Function setting 60 is set to "00"

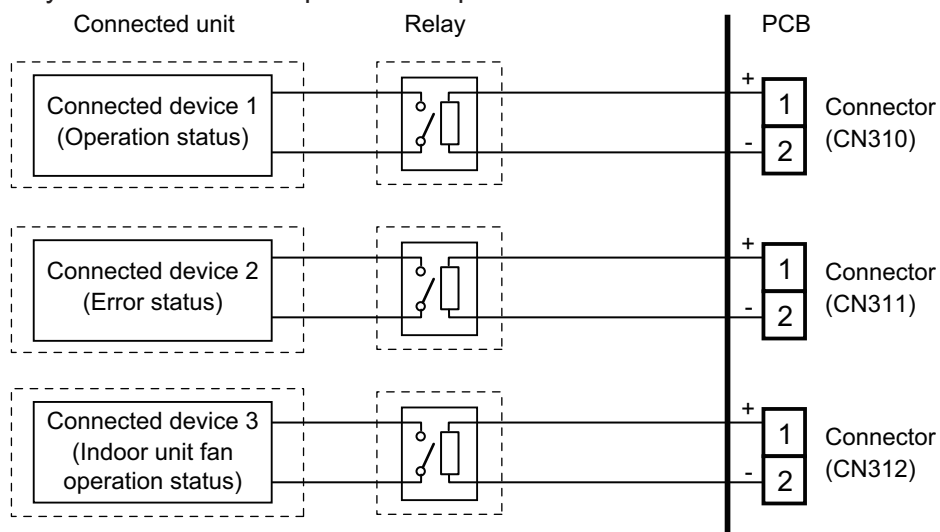


External Input and Output PCB

- A twisted pair cable (22AWG) should be used. Maximum length of cable is 82 ft (25 m).
 - Output voltage: High DC 12 V±2 V, Low 0 V.
 - Permissible current: 50 mA
 - For details, refer to "[Combination of external input and output](#)" on page 19.
- **When indicator or other components are connected directly:**
Example: Rotary SW on External Input and Output PCB is set to "1".



- **When connecting with a device equipped with a power supply:**
Example: Rotary SW on External Input and Output PCB is set to "1".



8-3. Combination of external input and output

By combining the function setting of the indoor unit and rotary switch setting of the External Input and Output PCB, you can select various combinations of functions.

Combination examples of external input and output are as follows:

| Mode | Function setting | Rotary SW | External input | | |
|------|------------------|-----------|--|-------------------------------|---------------|
| | | | Indoor unit | External Input and Output PCB | |
| | | | CN46 | 1 CN313 | 2 CN314 |
| 0-1 | 60—00 | 1 | Operation/Stop mode1 (Function setting 46-00) or Forced stop mode (Function setting 46-02) or Operation/Stop mode2 (Function setting 46-03) | Operation/Stop | Not available |
| 0-2 | 60-00 | 2 | | Operation | Stop |
| 1 | 60-01 | 3 | | Forced thermostat Off | Not available |
| 2 | 60-02 | 4 | | Mechanical cooling Off | |
| 3 | 60-03 | 5 | | Forced thermostat Off | |
| 4 | 60-04 | 6 | | Mechanical cooling On | |
| 5 | 60-05 | 7 | | Mechanical cooling On | |
| 6 | 60-06 | 8 | | Forced thermostat Off | |
| 7 | 60-07 | 9 | | Forced thermostat Off | |
| 8 | 60-08 | A | | Mechanical cooling Off | |
| 9 | 60-09 | B | | Forced thermostat Off | |
| 10 | 60-10 | C | Forced thermostat Off | | |
| 11 | 60-11 | D | Forced thermostat Off | | |

NOTE: Input of Operation/Stop depends on the setting of function setting 46.

00: Operation/Stop mode 1 (Remote controller enabled)

01: (Setting prohibited)

02: Forced stop

03: Operation/Stop mode 2 (Remote controller disabled)

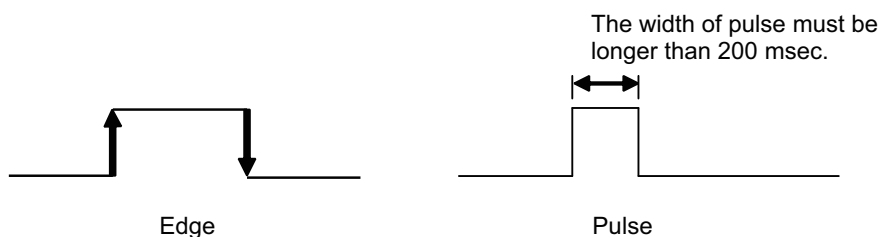
| Mode | Function setting | Rotary SW | External output | | | |
|------|------------------|-----------|----------------------------------|-------------------------------|----------------------------------|----------------------------------|
| | | | Indoor unit | External Input and Output PCB | | |
| | | | CN47 | 1 CN310 | 2 CN311 | 3 CN312 |
| 0-1 | 60-00 | 1 | Operation/Stop | Operation/Stop | Error status | Indoor unit fan operation status |
| 0-2 | 60-00 | 2 | Operation/Stop | Error status | Indoor unit fan operation status | External heater output |
| 1 | 60-01 | 3 | Cooling thermostat On | Error status | Indoor unit fan operation status | External heater output |
| 2 | 60-02 | 4 | Cooling thermostat On | Error status | Remote controller output | External heater output |
| 3 | 60-03 | 5 | Cooling thermostat On | Cooling high/low output | Remote controller output | External heater output |
| 4 | 60-04 | 6 | Cooling thermostat On | Error status | Remote controller output | Cooling high/low output |
| 5 | 60-05 | 7 | Heating thermostat On | Error status | Indoor unit fan operation status | External heater output |
| 6 | 60-06 | 8 | Operation/Stop | Error status | Indoor unit fan operation status | Heating thermostat On |
| 7 | 60-07 | 9 | Cooling thermostat On | Error status | Heating thermostat On | External heater output |
| 8 | 60-08 | A | Cooling thermostat On | Heating thermostat On | Remote controller output | External heater output |
| 9 | 60-09 | B | Error status | Operation/Stop | Indoor unit fan operation status | External heater output |
| 10 | 60-10 | C | Indoor unit fan operation status | Operation/Stop | Error status | External heater output |
| 11 | 60-11 | D | External heater output | Operation/Stop | Indoor unit fan operation status | Error status |

Input signal type

External Input and Output PCB:

The input signal type can be selected.

Signal type (edge or pulse) can be switched by the DIP switch SW302 on the External Input and Output PCB.

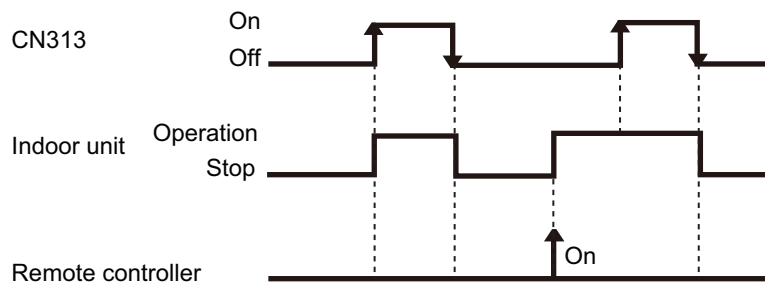


8-4. Details of function

■ Control input function

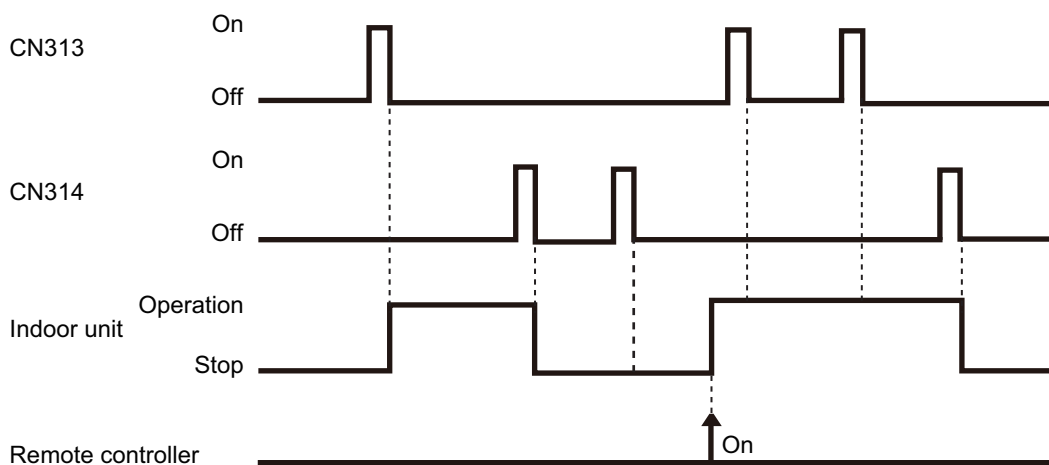
- When function setting is “Operation/Stop” mode 1
 - In the case of “Edge” input:

| Function setting | Rotary SW on External Input and Output PCB | External input | | Input signal | Command |
|------------------|--|-------------------------------|-------|--------------|-----------|
| | | External Input and Output PCB | CN313 | | |
| 46-00 | 1 | | | Off → On | Operation |
| | | | | On → Off | Stop |



- In the case of “Pulse” input:

| Function setting | Rotary SW on External Input and Output PCB | External input | | Input signal | Command |
|------------------|--|-------------------------------|-------|--------------|-----------|
| | | External Input and Output PCB | CN313 | | |
| 46-00 | 1 | | CN313 | Pulse | Operation |
| | | | CN314 | Pulse | Stop |



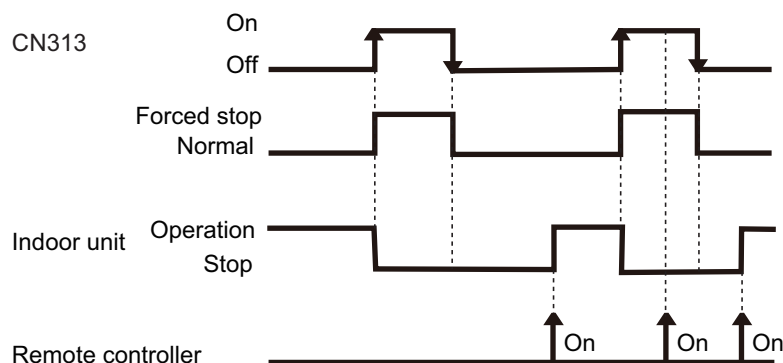
NOTES:

- The last command has priority.
- The indoor units within the same remote controller group operates in the same mode.

• When function setting is “Forced stop” mode

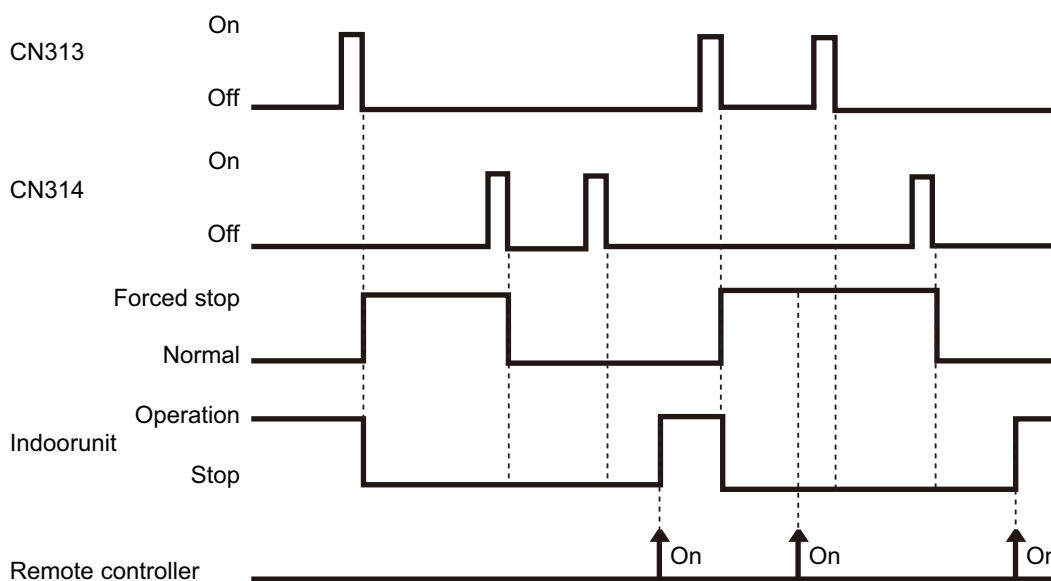
– In the case of “Edge” input:

| Function setting | Rotary SW on External Input and Output PCB | External input | | Input signal | Command |
|------------------|--|-------------------------------|-------|--------------|-------------|
| | | External Input and Output PCB | CN313 | | |
| 46-02 | 1 | | | Off → On | Forced stop |
| | | | | On → Off | Normal |



– In the case of “Pulse” input:

| Function setting | Rotary SW on External Input and Output PCB | External input | | Input signal | Command |
|------------------|--|-------------------------------|----------------|--------------|-------------|
| | | External Input and Output PCB | CN313 CN314 | | |
| 46-02 | 1 | | CN313 | Pulse | Forced stop |
| | | | CN314 | Pulse | Normal |



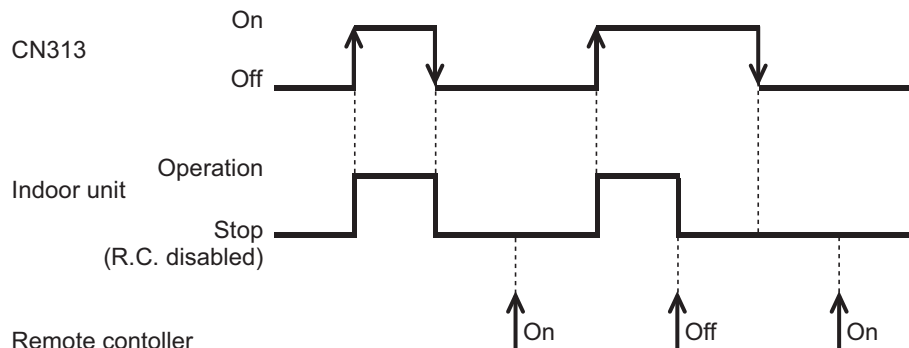
NOTES:

- When the forced stop is triggered, indoor unit stops and Operation/Stop operation by the remote controller is restricted.
- When forced stop function is used with forming a remote controller group, connect the same equipment to each indoor unit within the group.

• When function setting is “Operation/Stop” mode 2

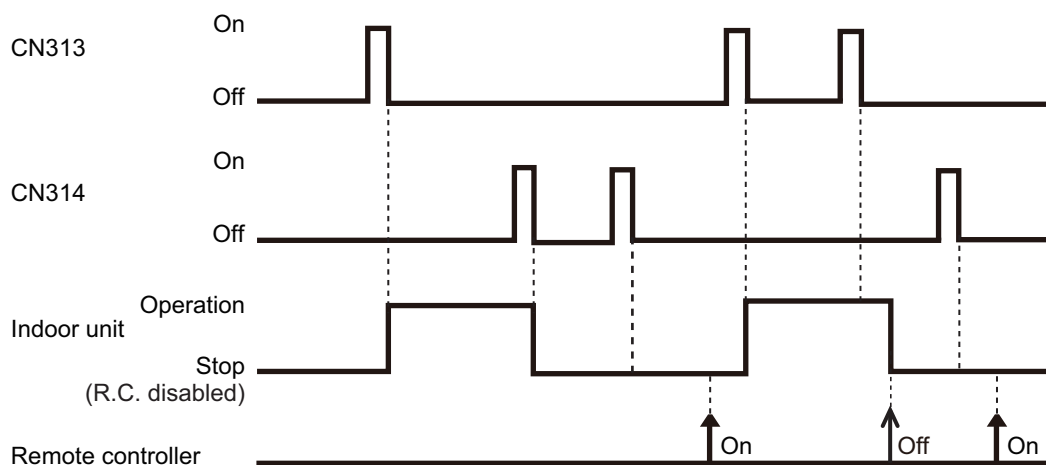
– In the case of “Edge” input:

| Function setting | Rotary SW on External Input and Output PCB | External input | | Input signal | Command |
|------------------|--|-------------------------------|-------|--------------|----------------------|
| 46-03 | 1 | External Input and Output PCB | CN313 | Off → On | Operation |
| | | | | On → Off | Stop (R.C. disabled) |



– In the case of “Pulse” input:

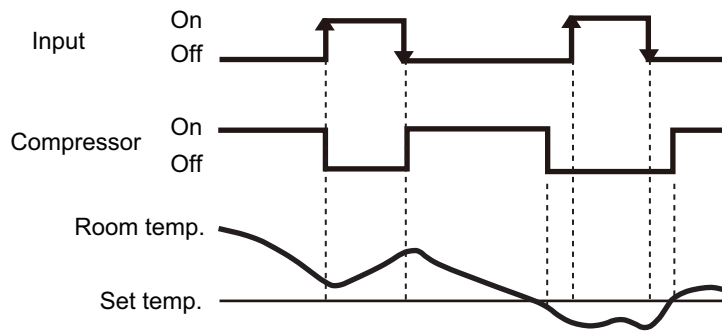
| Function setting | Rotary SW on External Input and Output PCB | External input | | Input signal | Command |
|------------------|--|-------------------------------|-------|--------------|----------------------|
| 46-03 | 1 | External Input and Output PCB | CN313 | Pulse | Operation |
| | | | CN314 | Pulse | Stop (R.C. disabled) |



NOTE: When “Operation/Stop” mode 2 function is used with forming a remote controller group, connect the same equipment to each indoor unit within the group.

• Forced thermostat off function

| Function setting / Rotary SW on External Input and Output PCB | External input | Input signal | Command |
|--|--|--------------|------------------|
| 60-00 / 2 60-02 / 4 60-05 / 7 60-06 / 8 60-08 / A 60-09 / B 60-10 / C 60-11 / D | External Input and Output PCB CN313 | Off → On | Thermostat off |
| | | On → Off | Normal operation |

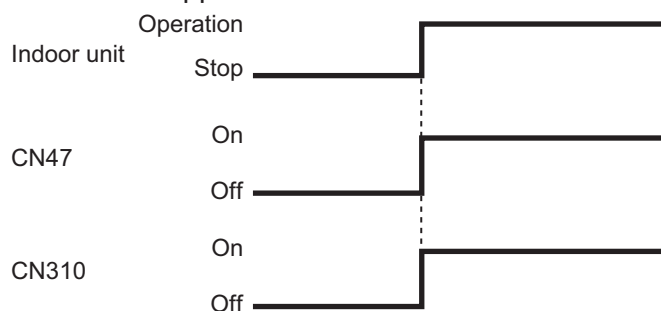


Control output function

• Operation/Stop status

| Function setting / Rotary SW on External Input and Output PCB | External output | | Output signal | Command |
|---|--|-------------------------------|---------------|-----------|
| 60-00 / 1 60-00 / 2 60-06 / 8 | Output of indoor unit | CN47 | Off → On | Operation |
| | | | On → Off | Stop |
| | 60-00 / 1 60-09 / B 60-10 / C 60-11 / D | External Input and Output PCB | CN310 | Off → On |
| On → Off | | | | Stop |

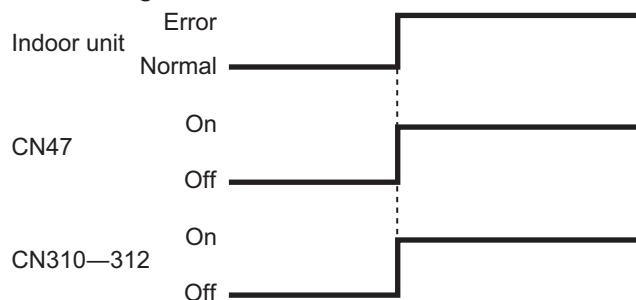
The output is low when the unit is stopped.



• Error status

| Function setting / Rotary SW on External Input and Output PCB | External output | | Output signal | Command |
|--|-------------------------------|-------|---------------|---------|
| 60-09 / B | Output of indoor unit | CN47 | Off → On | Error |
| | | | On → Off | Normal |
| 60-00 / 2 | | CN310 | Off → On | Error |
| | | | On → Off | Normal |
| 60-00 / 1 60-01 / 3 60-02 / 4 60-04 / 6 60-05 / 7 60-06 / 8 60-07 / 9 60-10 / C | External Input and Output PCB | CN311 | Off → On | Error |
| | | | On → Off | Normal |
| | | | Off → On | Error |
| 60-11 / D | | CN312 | Off → On | Error |
| | | | On → Off | Normal |

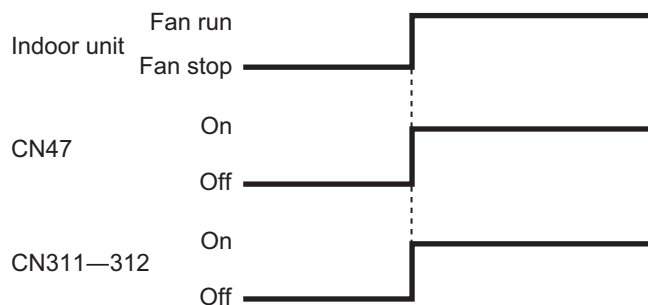
The output is ON when an error is generated for the indoor unit.



- Indoor unit fan operation status

| Function setting / Rotary SW on External Input and Output PCB | External output | Output signal | Command | |
|--|-------------------------------|---------------|----------|----------|
| 60-10 / C | Output of indoor unit | CN47 | Off → On | Fan run |
| | | | On → Off | Fan stop |
| 60-00 / 2 60-01 / 3 60-05 / 7 60-06 / 8 60-09 / B 60-11 / D | External Input and Output PCB | CN311 | Off → On | Fan run |
| | | | On → Off | Fan stop |
| | | CN312 | Off → On | Fan run |
| | | | On → Off | Fan stop |
| 60-00 / 1 | | | | |

| Output signal | Condition |
|-------------------|--|
| On Low → High | The indoor unit fan is operating. |
| Off High → Low | The fan is stopped or during cold air prevention. During thermostat off when in dry mode operation. |



- External heater output

| Function setting / Rotary SW on External Input and Output PCB | External output | Output signal | Command | |
|---|-------------------------------|---------------|----------|------------|
| 60-11 / D | Output of indoor unit | CN47 | Off → On | Heater on |
| | | | On → Off | Heater off |
| 60-00 / 2 60-01 / 3 60-02 / 4 60-03 / 5 60-05 / 7 60-07 / 9 60-08 / A 60-09 / B 60-10 / C | External Input and Output PCB | CN312 | Off → On | Heater on |
| | | | On → Off | Heater off |
| | | | Off → On | Heater on |
| | | | On → Off | Heater off |

External heater output

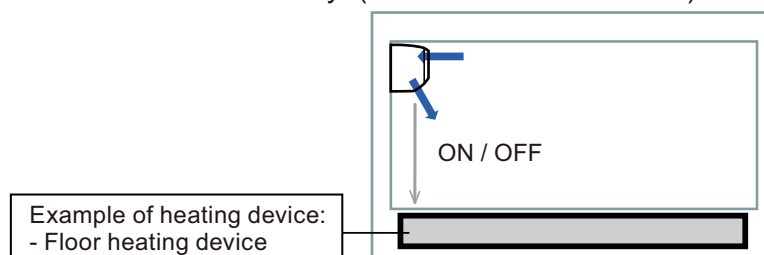
| Control | Primary heater | Auxiliary heater | Function setting | |
|--|-----------------|-------------------|---|---------------------|
| | | | Indoor unit | Wired R. C. |
| | | | Control switching external heaters No. 61 | Sensor activation*2 |
| Auxiliary heater control 1 | Heat pump | External device*1 | 61-00 | — |
| Auxiliary heater control 2 | Heat pump | External device | 61-01 | — |
| Heat pump prohibition control | External device | None | 61-02 | On (Enabled) |
| Auxiliary heater control by outdoor temperature 1 | Heat pump | External device | 61-03 | On (Enabled) |
| Auxiliary heater control by outdoor temperature 2 | Heat Pump | External device | 61-04 | On (Enabled) |
| Auxiliary heater control by outdoor temperature 3 | Heat Pump | External device | 61-05 | On (Enabled) |
| Auxiliary heat pump control | External device | Heat pump | 61-06 | On (Enabled) |
| Auxiliary heat pump control by outdoor temperature 1 | External device | Heat pump | 61-07 | On (Enabled) |
| Auxiliary heat pump control by outdoor temperature 2 | External device | Heat pump | 61-08 | On (Enabled) |
| Auxiliary heat pump control by outdoor temperature 3 | External device | Heat pump | 61-09 | On (Enabled) |

NOTES:

- After turning off the heater, 3 minutes of standby time is required by next power-on of the heater.
- For items marked “—” in the table, any of validate or invalidate of the setting are acceptable.
- *1: External device means Hot water, Electrical heater, etc.
- *2: Sensor activation:
 - Setting change from the factory setting is required.
 - Indoor unit fan setting will be on for safety reason without sensor activation of wired remote controller.

Installation configuration of individual connection

External heating device is installed individually. (No use of indoor unit fan)



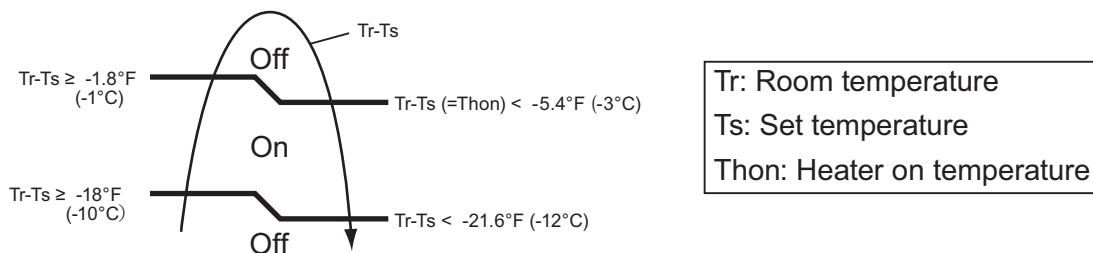
⚠ WARNING

- Design and install external heater appropriately with considering its protection.
 - Inappropriate designing and installation of external heater may cause a fire by emitted heat from the external heater.
 - Fujitsu General Ltd. is not responsible for inappropriate designing or installation of external heating device.
-

● Auxiliary heater control 1

| Operation | Condition |
|------------|--|
| Heater on | Heater is on as shown in following diagram of heating temperature. |
| Heater off | <ul style="list-style-type: none"> • Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off • Fan stop protection |

- Temperature of heater on (Thon): Adjustable by function number 62 (Operating temperature switching of external heaters).
- All control temperatures will shift by adjusting “Thon”.



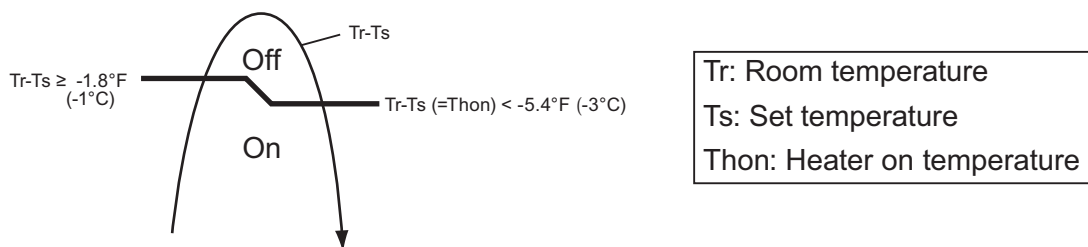
Example: When set temperature (Ts) is 72°F (22°C) (Factory setting),

- and room temperature (Tr) increases above 53.6°F (12°C), signal output is on.
- and room temperature (Tr) increases above 69.8°F (21°C), signal output is off.
- and room temperature (Tr) decreases below 66.2°F (19°C), signal output is on.
- and room temperature (Tr) decreases below 50°F (10°C), signal output is off.

● Auxiliary heater control 2

| Operation | Condition |
|------------|--|
| Heater on | Heater is on as shown in following diagram of heating temperature. |
| Heater off | <ul style="list-style-type: none"> • Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off • Fan stop protection |

- Temperature of heater on (Thon): Adjustable by function number 62 (Operating temperature switching of external heaters).
- All control temperatures will shift by adjusting “Thon”.

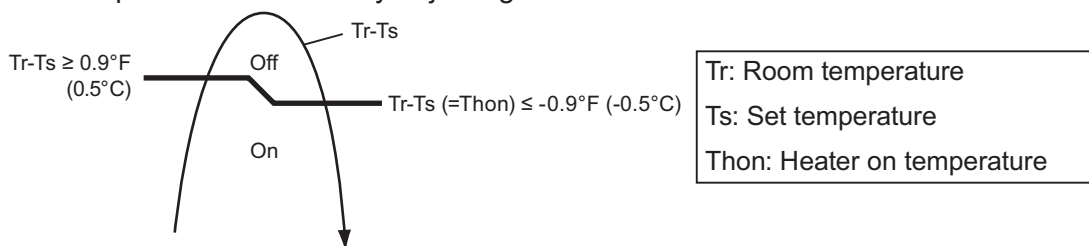


● Heat pump prohibition control

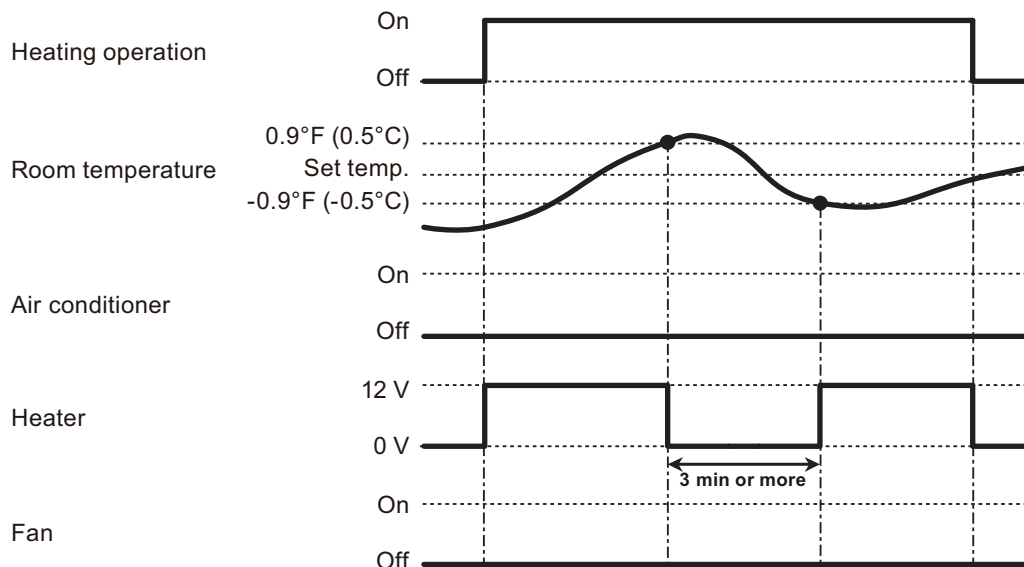
Perform heating by external heater only. Indoor unit is continuous thermostat off.

| Operation | Condition |
|------------|---|
| Heater on | Heater is on as shown in following diagram of heating temperature. |
| Heater off | <ul style="list-style-type: none"> • Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off |

- Temperature of heater on (Thon): Adjustable by function number 62 (Operating temperature switching of external heaters).
- All control temperatures will shift by adjusting “Thon”.



• Operation status



NOTE: In following operations, compressor will be on.

- Other than heating
- Test run

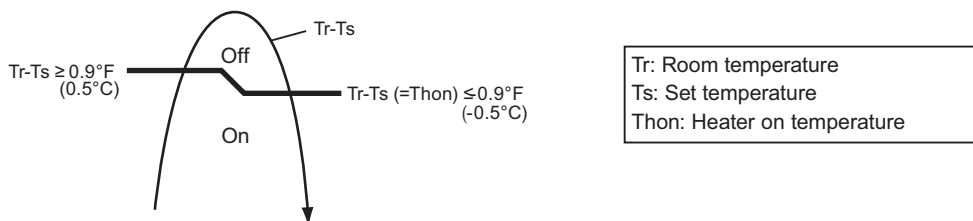
● Auxiliary heater control by outdoor temperature 1

This control selects heat pump or external heater according to the outdoor temperature. When outdoor temperature is high, the heating is performed by using heat pump only.

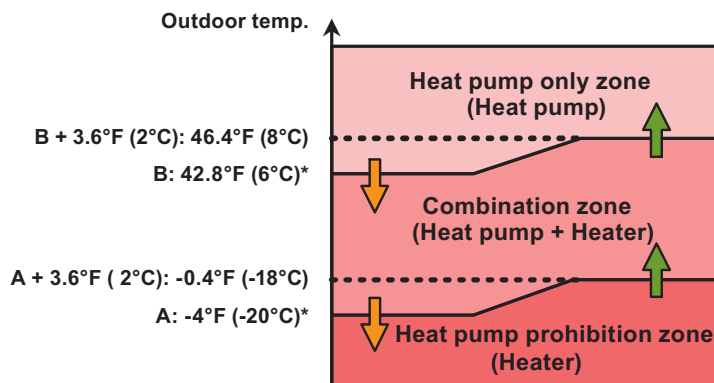
| Operation | Condition |
|------------|--|
| Heater on | Heater is on as shown in following diagram of heating temperature. |
| Heater off | <ul style="list-style-type: none"> • Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off • Heat pump only zone |

- Temperature of heater on (Thon): Adjustable by function number 62 (Operating temperature switching of external heaters).
- All control temperatures will shift by adjusting "Thon".
- Outdoor temperature zone boundary A and B: Adjustable individually by function setting number 66 and 67.

• External heater output

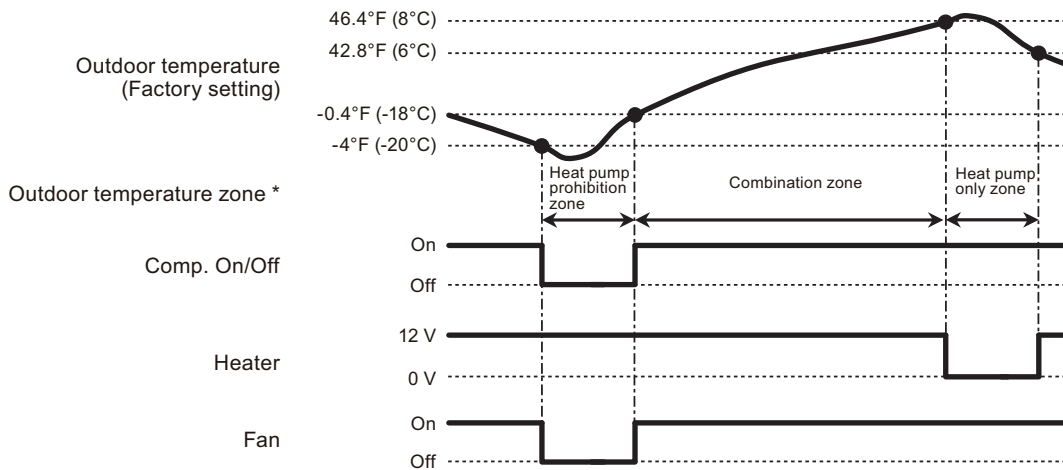


• Outdoor temperature zone



*: Adjustable by function setting 66 and 67

• Operation status



* The outdoor temperature zone transition from one to another will stay in that zone for minimum of 30 min.

NOTE: In following operations, compressor will be on in heat pump prohibition zone.

- Other than heating
- Test run

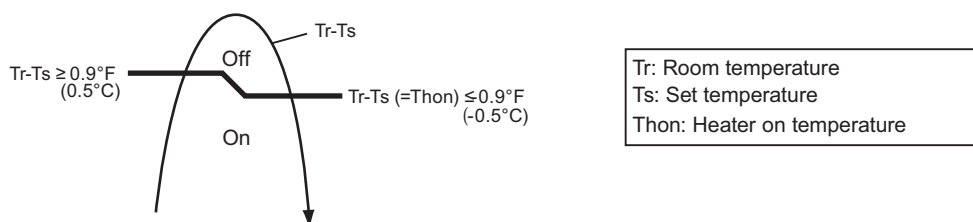
● Auxiliary heater control by outdoor temperature 2

This control selects heat pump or external heater according to the outdoor temperature. Even when outdoor temperature is high, the heating is performed by using both of heat pump and external heater.

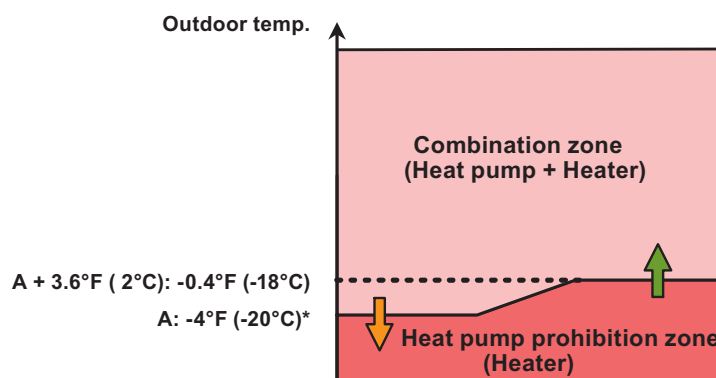
| Operation | Condition |
|------------|---|
| Heater on | Heater is on as shown in following diagram of heating temperature. |
| Heater off | <ul style="list-style-type: none"> • Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off |

- Temperature of heater on (Thon): Adjustable by function number 62 (Operating temperature switching of external heaters).
- All control temperatures will shift by adjusting "Thon".
- Outdoor temperature zone boundary A: Adjustable by function setting number 66.

• External heater output

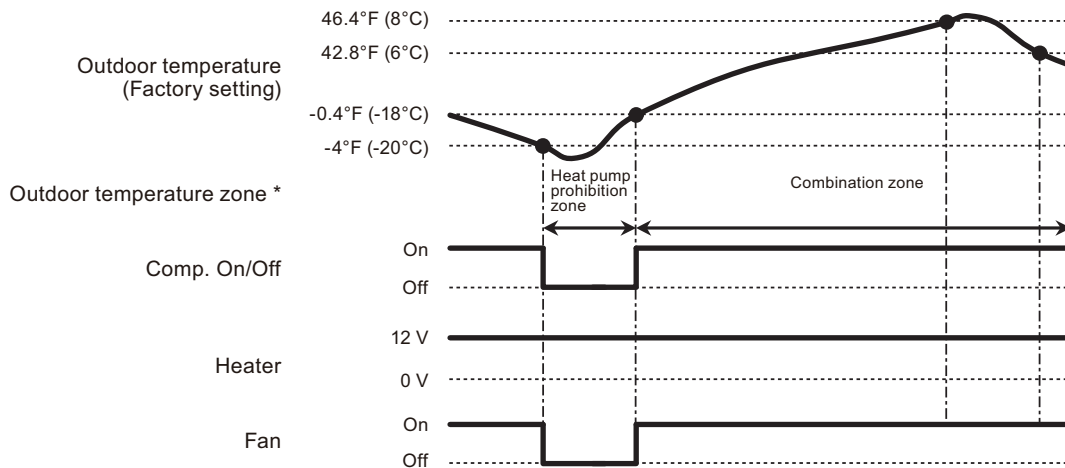


• Outdoor temperature zone



*: Adjustable by function setting 66

• Operation status



* The outdoor temperature zone transition from one to another will stay in that zone for minimum of 30 min.

NOTE: In following operations, compressor will be on in heat pump prohibition zone.

- Other than heating
- Test run

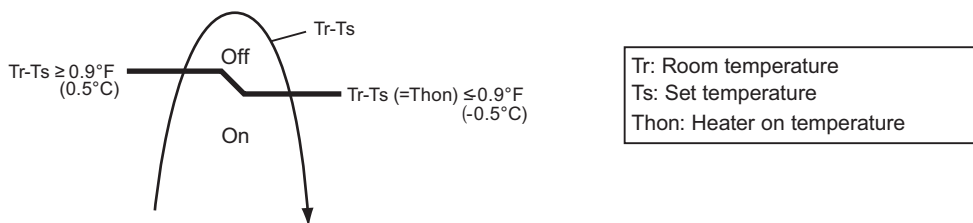
● Auxiliary heater control by outdoor temperature 3

This control selects heat pump or external heater according to the outdoor temperature. Even when outdoor temperature is high, the heating is performed by using both of heat pump and external heater.

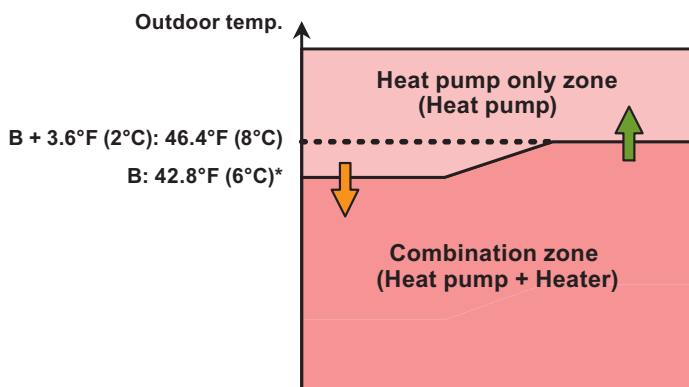
| Operation | Condition |
|------------|---|
| Heater on | Heater is on as shown in following diagram of heating temperature. |
| Heater off | <ul style="list-style-type: none"> • Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off |

- Temperature of heater on (Thon): Adjustable by function number 62 (Operating temperature switching of external heaters).
- All control temperatures will shift by adjusting “Thon”.
- Outdoor temperature zone boundary B: Adjustable by function setting number 67.

• External heater output

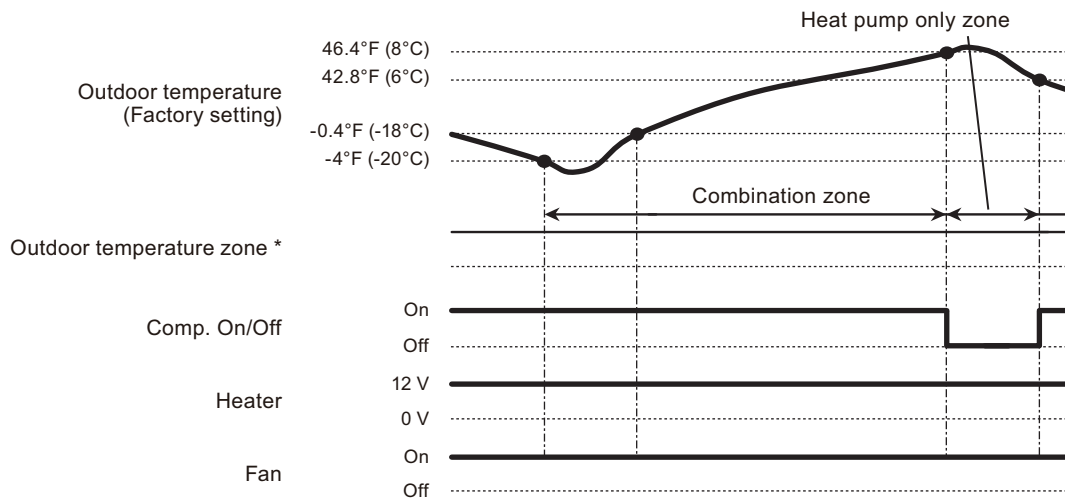


• Outdoor temperature zone



*: Adjustable by function setting 67

• Operation status



* The outdoor temperature zone transition from one to another will stay in that zone for minimum of 30 min.

NOTE: In following operations, compressor will be on in heat pump prohibition zone.

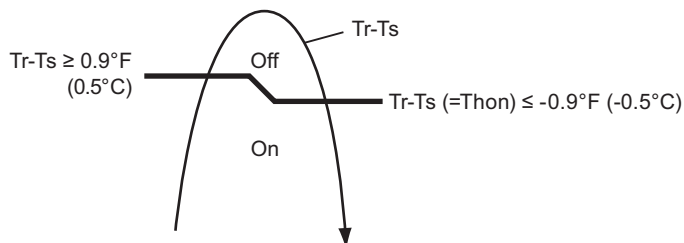
- Other than heating
- Test run

● Auxiliary heat pump control

• External heater output

| Operation | Condition |
|------------|---|
| Heater on | Heater is on as shown in following diagram of heating temperature. |
| Heater off | <ul style="list-style-type: none"> • Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off |

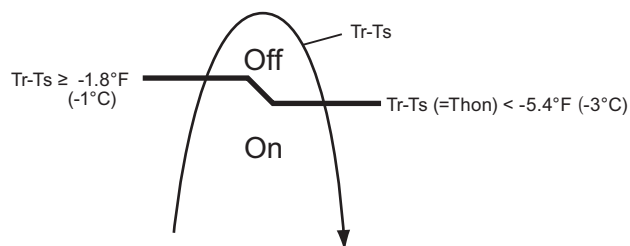
- Temperature of heater on (Thon): Set temperature (Ts) - 0.9 °F (- 0.5 °C)
- Temperature of heater off: Set temperature (Ts) + 0.9 °F (+ 0.5 °C)



Tr: Room temperature
Ts: Set temperature
Thon: Heater on temperature

• Auxiliary heat pump On/Off

- Temperature of heater on (Thon): Adjustable by function number 62 (Operating temperature switching of heat pump).
- All control temperatures will shift by adjusting “Thon”.



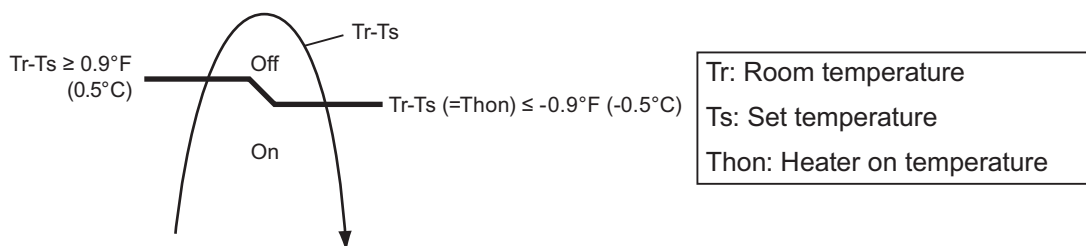
Tr: Room temperature
Ts: Set temperature
Thon: Heater on temperature

● Auxiliary heat pump control by outdoor temperature 1

• External heater output

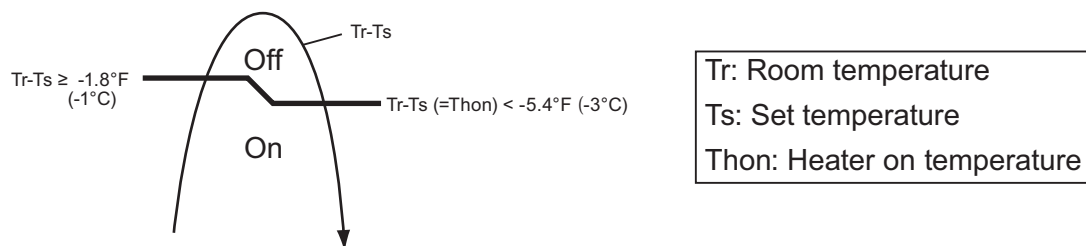
| Operation | Condition |
|------------|---|
| Heater on | Heater is on as shown in following diagram of heating temperature. |
| Heater off | <ul style="list-style-type: none"> • Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off |

- Temperature of heater on (Thon): Set temperature (Ts) - 0.9 °F (- 0.5 °C)
- Temperature of heater off: Set temperature (Ts) + 0.9 °F (+ 0.5 °C)

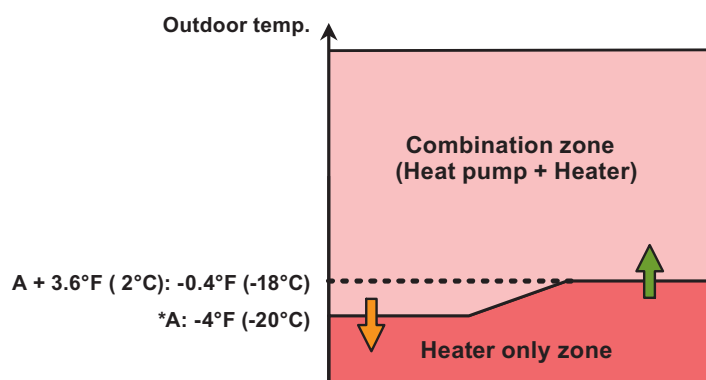


• Auxiliary heat pump On/Off

- Temperature of heater on (Thon): Adjustable by function number 62 (Operating temperature switching of heat pump).
- All control temperatures will shift by adjusting “Thon”.

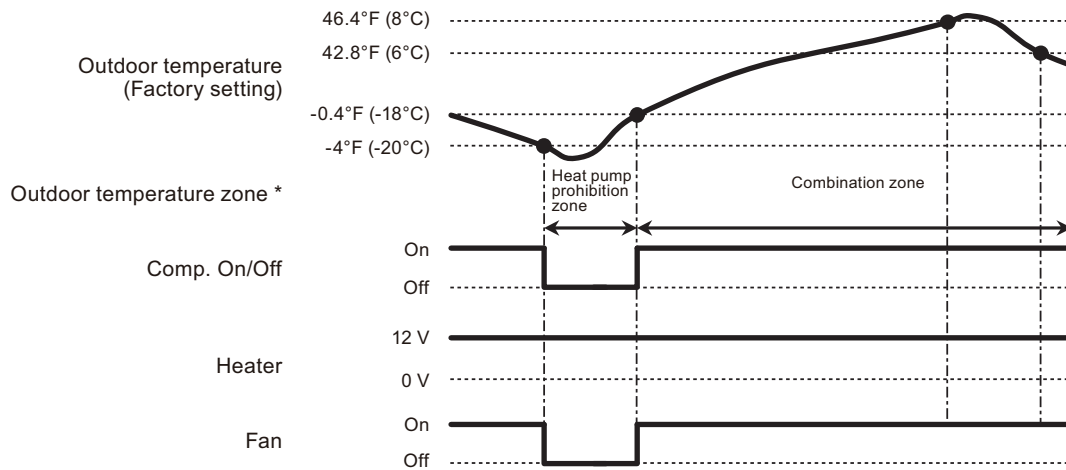


• Outdoor temperature zone



*: Adjustable by function setting 66

• Operation status



* The outdoor temperature zone transition from one to another will stay in that zone for minimum of 30 min.

NOTE: In following operations, compressor will be on in heat pump prohibition zone.

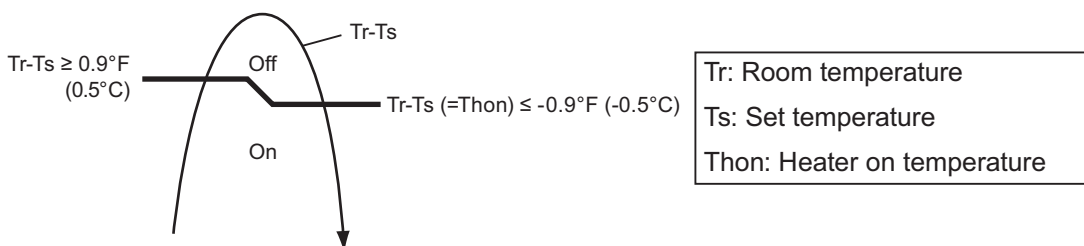
- Other than heating
- Test run

● Auxiliary heat pump control by outdoor temperature 2

• External heater output

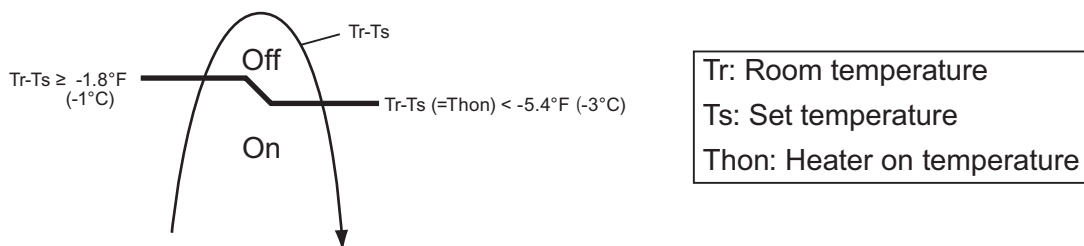
| Operation | Condition |
|------------|---|
| Heater on | Heater is on as shown in following diagram of heating temperature. |
| Heater off | <ul style="list-style-type: none"> • Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off |

- Temperature of heater on (Thon): Set temperature (Ts) - 0.9 °F (- 0.5 °C)
- Temperature of heater off: Set temperature (Ts) + 0.9 °F (+ 0.5 °C)

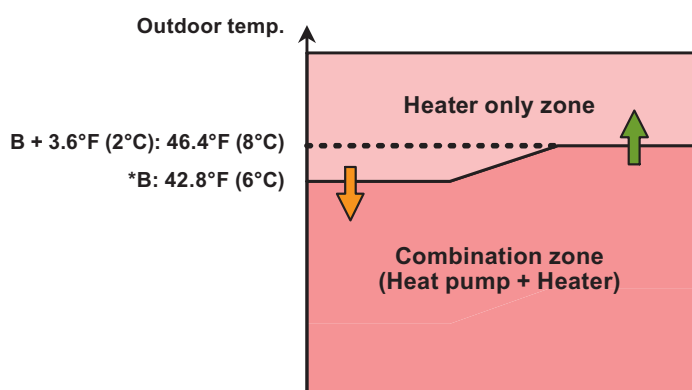


• Auxiliary heat pump On/Off

- Temperature of heater on (Thon): Adjustable by function number 62 (Operating temperature switching of heat pump).
- All control temperatures will shift by adjusting “Thon”.

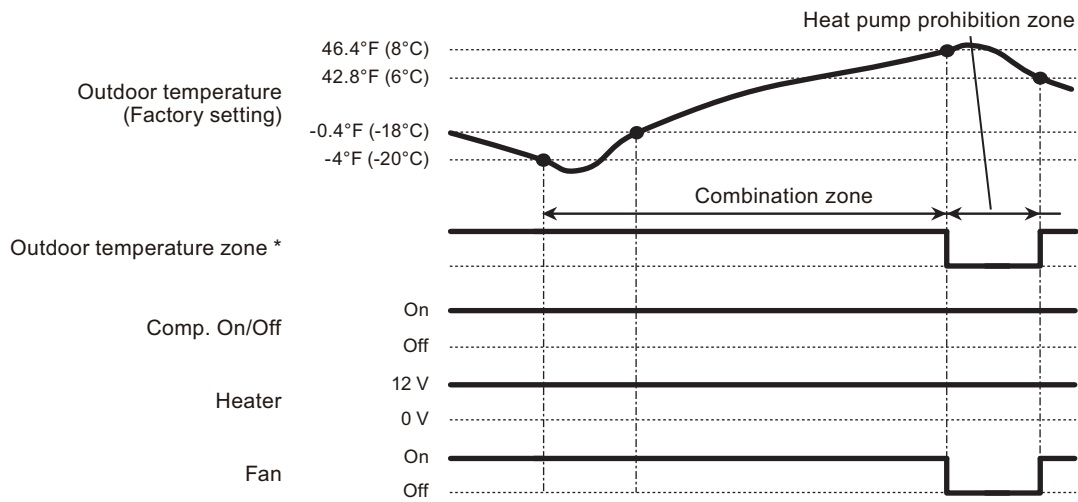


• Outdoor temperature zone



*: Adjustable by function setting 67

• Operation status



* The outdoor temperature zone transition from one to another will stay in that zone for minimum of 30 min.

NOTE: In following operations, compressor will be on in heat pump prohibition zone.

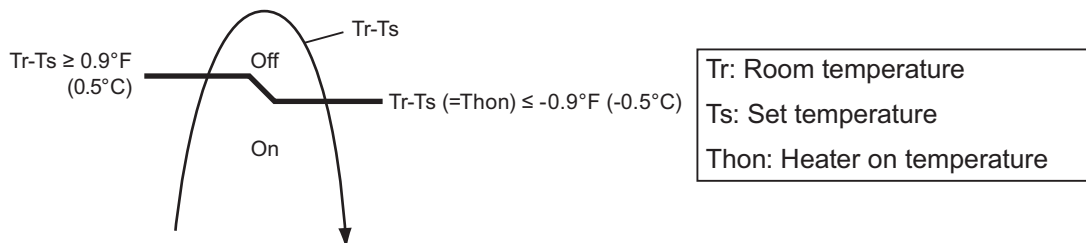
- Other than heating
- Test run

● Auxiliary heat pump control by outdoor temperature 3

• External heater output

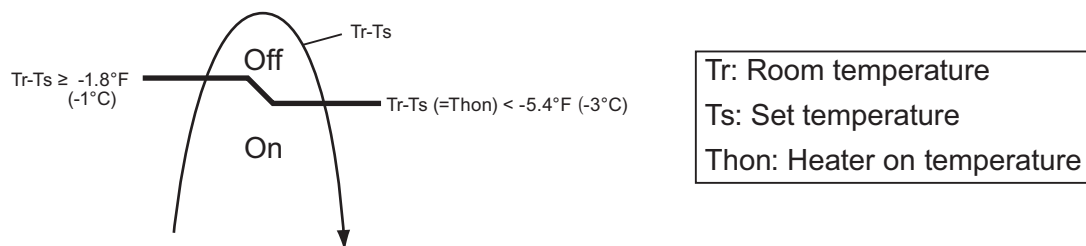
| Operation | Condition |
|------------|---|
| Heater on | Heater is on as shown in following diagram of heating temperature. |
| Heater off | <ul style="list-style-type: none"> • Heater is off as shown in following diagram of heating temperature. • Other than heating mode • Error occurred • Forced thermostat off |

- Temperature of heater on (Thon): Set temperature (Ts) - 0.9 °F (- 0.5 °C)
- Temperature of heater off: Set temperature (Ts) + 0.9 °F (+ 0.5 °C)

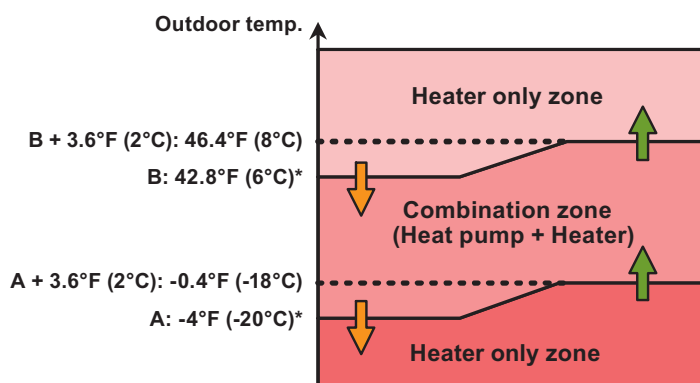


• Auxiliary heat pump On/Off

- Temperature of heater on (Thon): Adjustable by function number 62 (Operating temperature switching of heat pump).
- All control temperatures will shift by adjusting “Thon”.

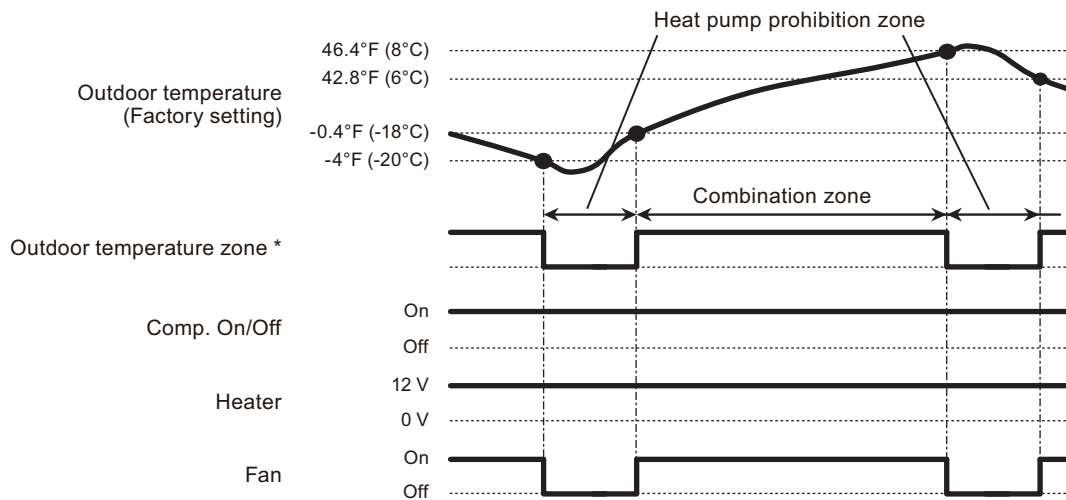


• Outdoor temperature zone



*: Adjustable by function setting 66 and 67

- Operation status



* The outdoor temperature zone transition from one to another will stay in that zone for minimum of 30 min.

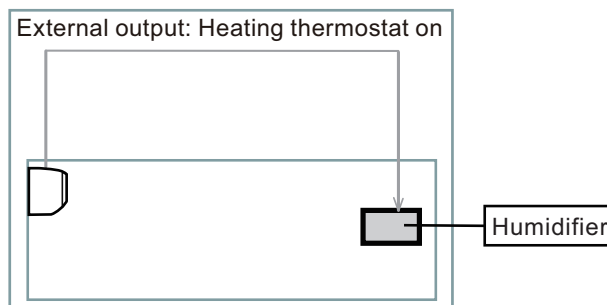
NOTE: In following operations, compressor will be on in heat pump prohibition zone.

- Other than heating
- Test run

■ Heating thermostat on for humidifier

| Situation | Indoor unit | | | | |
|----------------------------------|-------------|------------------------------|-----------|-----------------------|----------------------------------|
| | Mode | Function setting | Rotary SW | External output | |
| | | Heating thermostat on no. 60 | | Heating thermostat on | Indoor unit fan operation status |
| Example of individual connection | 5 | 60-05 | 7 | CN47 | Not used |
| | 6 | 60-06 | 8 | CN312 | |
| | 7 | 60-07 | 9 | CN311 | |
| | 8 | 60-08 | A | CN310 | |

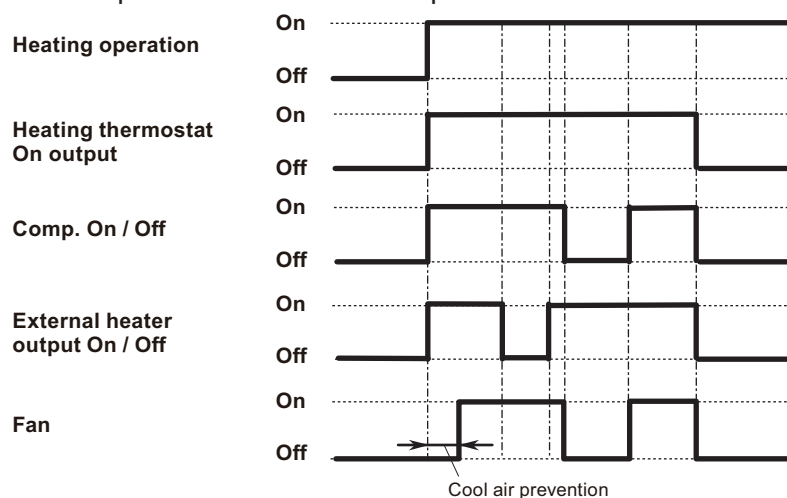
- **Example of individual connection**



- **Operation status**

The heating thermostat output for CNB01 (1-2 or 1-3 or 1- or 1-5) will be on when comp on or external heater on.

The heating thermostat output will be off when comp off and external heater off.



9. Group connection

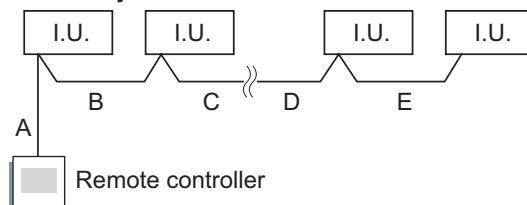
NOTE: Group control cannot be used together with Wireless LAN adapter.

Installation procedure for group control system:

A number of indoor units can be operated at the same time using a single remote controller.

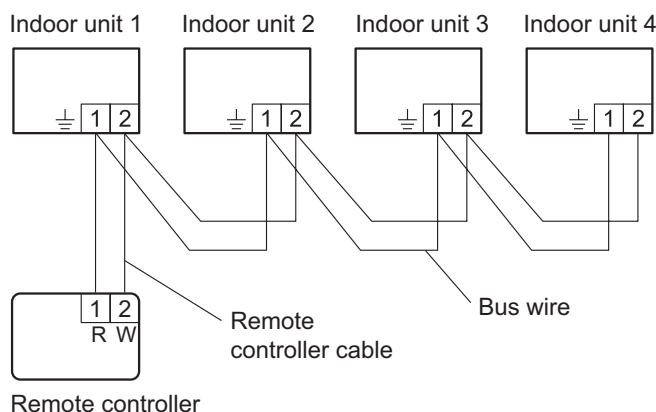
NOTE: When different type of indoor units (such as wall-mounted type and cassette type, cassette type and duct type, or other combinations) are connected using group control system, some functions may no longer be available.

1. Connect up to 16 indoor units in a system.



| | |
|--|---|
| A, B, C, D, E: Remote controller cable | |
| Wiring length limitation | $A + B + C + D + E \leq 546.8 \text{ yd (500 m)}$ |

Example of wiring method



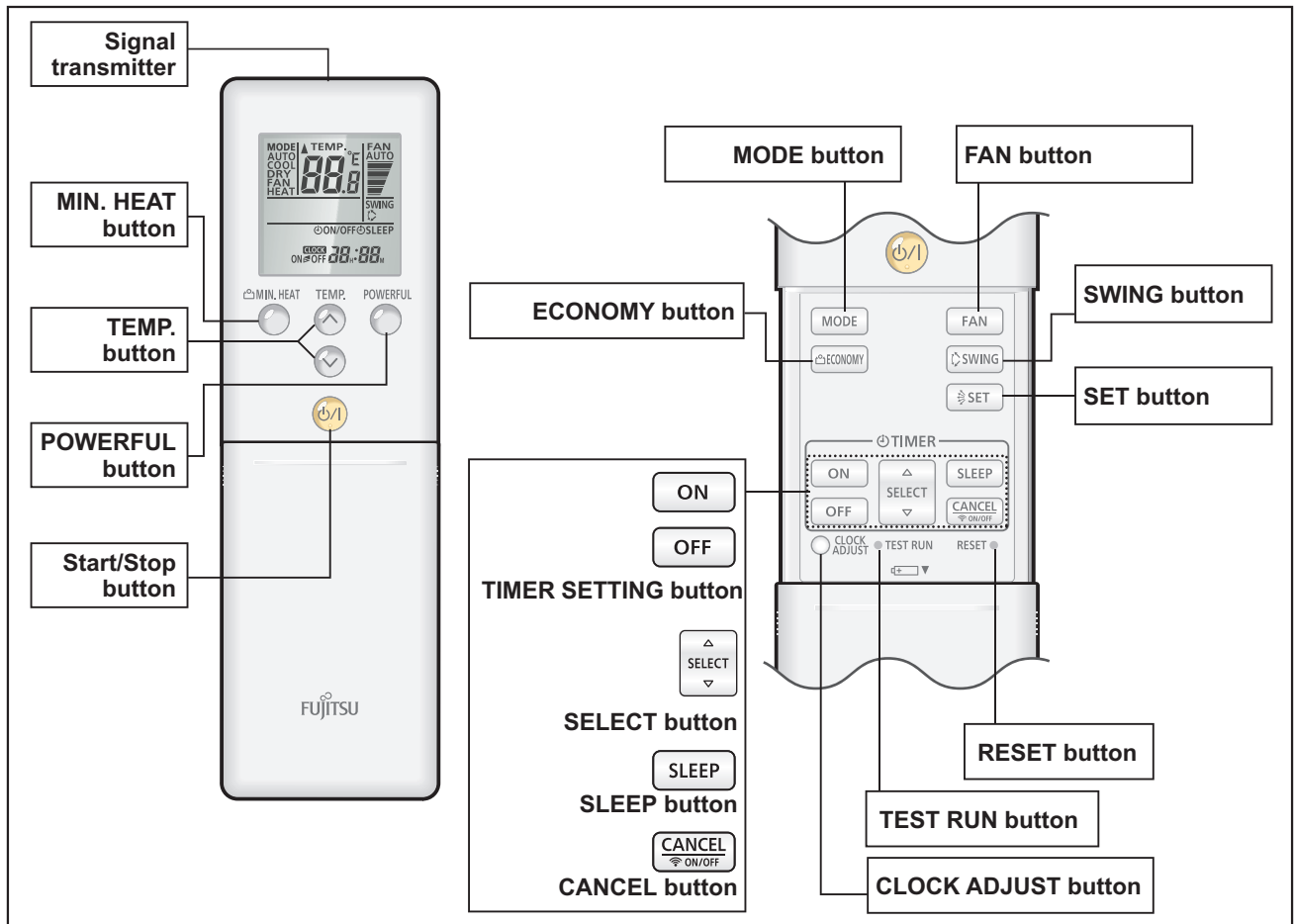
2. Automatic address setting

After the remote controller connection in the system, the automatic address setting runs in the initial starting up. Do not change the remote controller address for the indoor unit.

10. Remote controller

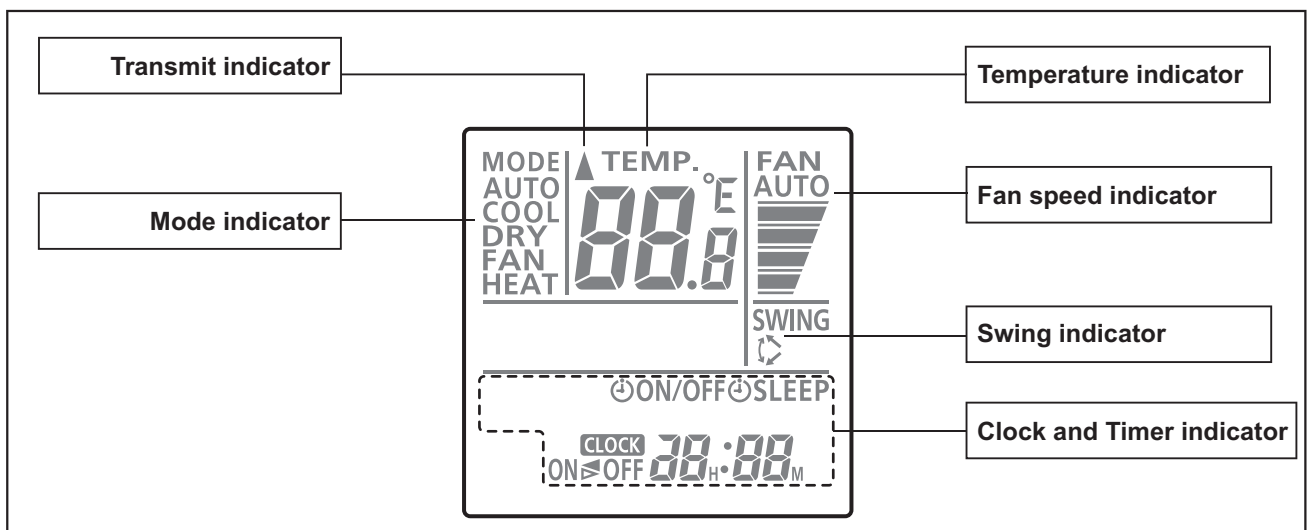
10-1. Wireless remote controller

Overview



NOTE: Functions may differ by type of the indoor unit. For details, refer to the operation manual.

Display panel

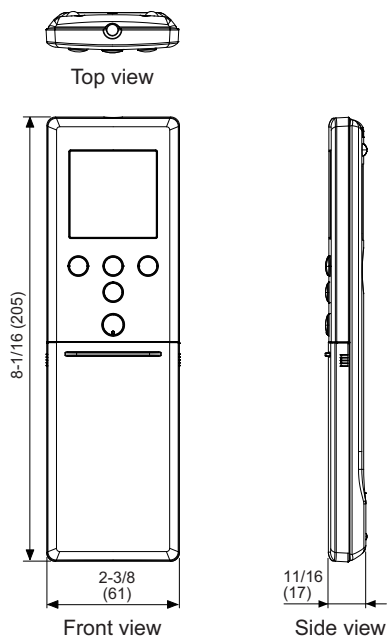


To facilitate explanation, the accompanying illustration has been drawn to show all possible indicators; in actual operation, however, the display will only show those indicators appropriate to the current operation.

Specifications

Controller

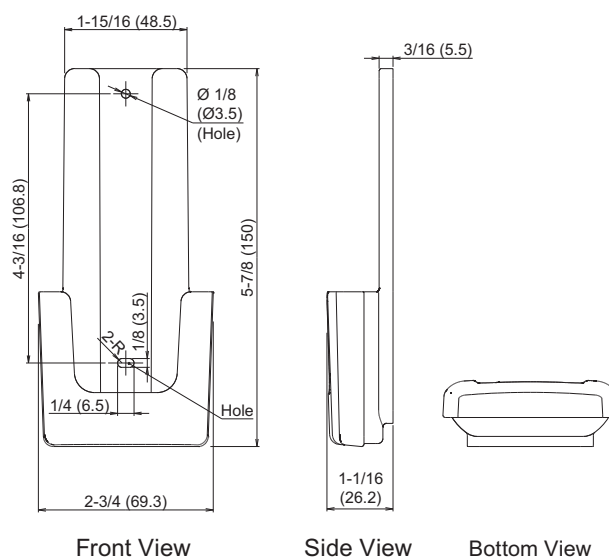
Unit: in (mm)



| | | |
|------------------|---------|--|
| Size (H × W × D) | in (mm) | 8-1/16 × 2-3/8 × 11/16 (205 × 61 × 17) |
| Weight | oz (g) | 4.4 (124) (without batteries) |

Holder

Unit: in (mm)



| | | |
|------------------|---------|--|
| Size (H × W × D) | in (mm) | 5-7/8 × 2-3/4 × 1-1/16 (150 × 69.3 × 26.2) |
| Weight | oz (g) | 1 (27) |

11. Function settings

To adjust the functions of this product according to the installation environment, various types of function settings are available.

NOTE: Incorrect settings can cause a product malfunction.

11-1. Function settings by using remote controller

Some function settings can be changed on the remote controller. After confirming the setting procedure and the content of each function setting, select appropriate functions for your installation environment.

■ Setting procedure by using wireless remote controller

The function number and the associated setting value are displayed on the LCD of the remote controller. Follow the instructions written in the local setup procedure supplied with the remote controller, and select appropriate setting according to the installation environment.

Before connecting the power supply of the indoor unit, reconfirm following items:

- Cover for the electrical enclosure on the outdoor unit is in place.
- There is no wiring mistake.
- Piping air tightness test and vacuuming have been performed firmly.
- All the necessary wiring work for outdoor unit has been finished.

After reconfirming the items listed above, connect the power supply of the indoor unit.

NOTES:

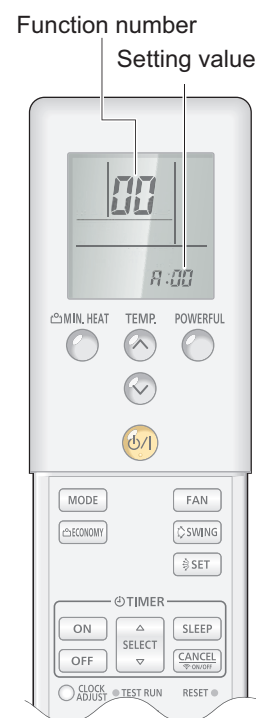
- Settings will not be changed if invalid numbers or setting values are selected.
- When optional wired remote controller is used, refer to the installation manual enclosed with the remote controller.

Entering function setting mode:

While pressing the POWERFUL button and TEMP. (^) button simultaneously, press the RESET button to enter the function setting mode.

Selecting the function number and setting value:






1. Press the MIN. HEAT button. TEMP. (^) (v) buttons to select the function number. Press the MIN. HEAT button to switch between the left and right digits.
2. Press the POWERFUL button to proceed to value setting. To return the function number selection, press the POWERFUL button again.
3. Press the TEMP. (^) (v) buttons to select the setting value. To switch between the left and right digits, press the MIN. HEAT button.
4. Press the MODE button once. Confirm that you hear the beep sound.
5. Press the START/STOP button to fix the function setting. Confirm that you hear the beep sound.
6. Press the RESET button to end the function setting mode.
7. After completing the function setting, be sure to disconnect the power supply and then reconnect it.



⚠ CAUTION

After disconnecting the power supply, wait 30 seconds or more before reconnecting it. The function setting will not become active unless the power supply is disconnected and then reconnected.

NOTES:

- The air conditioner custom code is set to  prior to shipment.
- If you do not know the air conditioner custom code setting, try each of the custom codes ( → 
→  → ) until you find the code that operates the air conditioner.

■ Contents of function setting

Each function setting listed in this section is adjustable in accordance with the installation environment.

NOTE: Setting will not be changed if invalid numbers or setting values are selected.

● Function setting list

| | Function no. | Functions |
|-----|--------------|---|
| 1) | 11 | Filter sign |
| 2) | 30/31 | Room temperature control for indoor unit sensor |
| 3) | 35/36 | Room temperature control for wired remote controller sensor |
| 4) | 40 | Auto restart |
| 5) | 42 | Room temperature sensor switching |
| 6) | 44 | Remote controller custom code |
| 7) | 46 | External input control |
| 8) | 48 | Room temperature sensor switching (Aux.) |
| 9) | 49 | Indoor unit fan control for energy saving for cooling |
| 10) | 60 | Switching functions for external output terminal |
| 11) | 61 | Control switching of external heaters |
| 12) | 62 | Operating temperature switching of external heaters |
| 13) | 66 | Outdoor temperature zone boundary temperature A |
| 14) | 67 | Outdoor temperature zone boundary temperature B |
| 15) | 71 | Standby time for auxiliary equipment operation |
| 16) | 72 | Heat pump backup setting |
| 17) | 73 | Emergency heat for external output terminal |
| 18) | 94 | Fixed operation mode switching |
| 19) | 95 | Heat insulation condition (building insulation) |

1) Filter sign

Select appropriate intervals for displaying the filter sign on the indoor unit according to the estimated amount of dust in the air of the room.

If the indication is not required, select "No indication" (03).

| Function number | Setting value | Setting description | Factory setting |
|-----------------|---------------|-----------------------------|-----------------|
| 11 | 00 | Standard (400 hours) | |
| | 01 | Long interval (1,000 hours) | |
| | 02 | Short interval (200 hours) | |
| | 03 | No indication | ◆ |

2) Room temperature control for indoor unit sensor

NOTE: Before performing this setting, refer to Function 95.

Depending on the installed environment, correction of the room temperature sensor may be required. Select the appropriate control setting according to the installed environment.

The temperature of the room temperature sensor is corrected as follows:

Corrected temp. = Temp. of the room temp. sensor - Correction temp. value

Example of correction:

When the temperature of the room temp. sensor is 78°F and the setting value is "03" (-2°F), the corrected temp. will be 80°F (78°F - [-2°F]).

The temperature correction values show the difference from the Standard setting "00" (manufacturer's recommended value).

*When Function 95-01 (High insulation) is set, the Standard setting "00" will be the same as "No correction 0.0 °F (0.0 °C)" (01).

| Function number | | Setting value | Setting description | Factory setting | |
|---------------------|---------------------|---------------|-------------------------------|------------------------------|--|
| 30 (For cooling) | 31 (For heating) | 00 | Standard setting* | ◆ | |
| | | 01 | No correction 0.0 °F (0.0 °C) | | |
| | | 02 | -1 °F (-0.5 °C) | More cooling Less heating | |
| | | 03 | -2 °F (-1.0 °C) | | |
| | | 04 | -3 °F (-1.5 °C) | | |
| | | 05 | -4 °F (-2.0 °C) | | |
| | | 06 | -5 °F (-2.5 °C) | | |
| | | 07 | -6 °F (-3.0 °C) | | |
| | | 08 | -7 °F (-3.5 °C) | | |
| | | 09 | -8 °F (-4.0 °C) | | |
| | | 10 | +1 °F (+0.5 °C) | Less cooling More heating | |
| | | 11 | +2 °F (+1.0 °C) | | |
| | | 12 | +3 °F (+1.5 °C) | | |
| | | 13 | +4 °F (+2.0 °C) | | |
| | | 14 | +5 °F (+2.5 °C) | | |
| | | 15 | +6 °F (+3.0 °C) | | |
| | | 16 | +7 °F (+3.5 °C) | | |
| 17 | +8 °F (+4.0 °C) | | | | |

3) Room temperature control for wired remote controller sensor

NOTE: Before performing this setting, refer to Function 95.

Depending on the installed environment, correction of the wire remote temperature sensor may be required. Select the appropriate control setting according to the installed environment.

To change this setting, set Function 42 to "Both" (01).

Ensure that the Thermo Sensor icon is displayed on the remote controller screen.

*When Function 95-01 (High insulation) is set, the Standard setting "00" will be the same as "No correction 0.0 °C" (01).

| Function number | | Setting value | Setting description | Factory setting | |
|---------------------|---------------------|---------------|-------------------------------|------------------------------|--|
| 35 (For cooling) | 36 (For heating) | 00 | Standard setting* | ◆ | |
| | | 01 | No correction 0.0 °F (0.0 °C) | | |
| | | 02 | -1 °F (-0.5 °C) | More cooling Less heating | |
| | | 03 | -2 °F (-1.0 °C) | | |
| | | 04 | -3 °F (-1.5 °C) | | |
| | | 05 | -4 °F (-2.0 °C) | | |
| | | 06 | -5 °F (-2.5 °C) | | |
| | | 07 | -6 °F (-3.0 °C) | | |
| | | 08 | -7 °F (-3.5 °C) | | |
| | | 09 | -8 °F (-4.0 °C) | | |
| | | 10 | +1 °F (+0.5 °C) | Less cooling More heating | |
| | | 11 | +2 °F (+1.0 °C) | | |
| | | 12 | +3 °F (+1.5 °C) | | |
| | | 13 | +4 °F (+2.0 °C) | | |
| | | 14 | +5 °F (+2.5 °C) | | |
| | | 15 | +6 °F (+3.0 °C) | | |
| | | 16 | +7 °F (+3.5 °C) | | |
| 17 | +8 °F (+4.0 °C) | | | | |

4) Auto restart

Enables or disables automatic restart after a power interruption.

| Function number | Setting value | Setting description | Factory setting |
|-----------------|---------------|---------------------|-----------------|
| 40 | 00 | Enable | ◆ |
| | 01 | Disable | |

NOTE: Auto restart is an emergency function such as for power outage etc. Do not attempt to use this function in normal operation. Be sure to operate the unit by remote controller or external device.

5) Room temperature sensor switching

(Only for wired remote controller)

When using the wired remote controller temperature sensor, change the setting to "Both" (01).

| Function number | Setting value | Setting description | Factory setting |
|-----------------|---------------|---------------------|-----------------|
| 42 | 00 | Indoor unit | ◆ |
| | 01 | Both | |

00: Sensor on the indoor unit is active.

01: Sensors on both indoor unit and wired remote controller are active.

NOTE: Remote controller sensor must be turned on by using the remote controller.

6) Remote controller custom code

(Only for wireless remote controller)

The indoor unit custom code can be changed. Select the appropriate custom code.

| Function number | Setting value | Setting description | Factory setting |
|-----------------|---------------|---------------------|-----------------|
| 44 | 00 | A | ◆ |
| | 01 | B | |
| | 02 | C | |
| | 03 | D | |

7) External input control

"Operation/Stop" mode or "Forced stop" mode can be selected.

| Function number | Setting value | Setting description | Factory setting |
|-----------------|---------------|---------------------------------------|-----------------|
| 46 | 00 | Operation/Stop mode 1 (R.C. enabled) | ◆ |
| | 01 | (Setting prohibited) | |
| | 02 | Forced stop mode | |
| | 03 | Operation/Stop mode 2 (R.C. disabled) | |

8) Room temperature sensor switching (Aux.)

To use the temperature sensor on the wired remote controller only, change the setting to "Wired remote controller" (01).

This function will only work if the function setting 42 is set at "Both" (01).

When the setting value is set to "Both" (00), more suitable control of the room temperature is possible by setting function setting 30 and 31 too.

| Function number | Setting value | Setting description | Factory setting |
|-----------------|---------------|-------------------------|-----------------|
| 48 | 00 | Both | ◆ |
| | 01 | Wired remote controller | |

9) Indoor unit fan control for energy saving for cooling

Enables or disables the power-saving function by controlling the indoor unit fan rotation when the outdoor unit is stopped during cooling operation.

| Function number | Setting value | Setting description | Factory setting |
|-----------------|---------------|---------------------|-----------------|
| 49 | 00 | Disable | |
| | 01 | Enable | |
| | 02 | Remote controller | ◆ |

00: When the outdoor unit is stopped, the indoor unit fan operates continuously following the setting on the remote controller.

01: When the outdoor unit is stopped, the indoor unit fan operates intermittently at a very low speed.

02: Enable or disable this function by remote controller setting.

NOTES:

- As the factory setting, this setting is initially invalidated.
- Set to "00" or "01" when connecting a remote controller that cannot set the Fan control for energy saving function or connecting a network converter.
To confirm if the remote controller has this setting, refer to the operating manual of each remote controller.

10) Switching functions for external output terminal

Functions of the external output terminal can be switched. For details, refer to “External input and output”.

| Function number | Setting value | Setting description | Factory setting |
|-----------------|---------------|----------------------------------|-----------------|
| 60 | 00 | Operation status | ◆ |
| | 01—04 | Cooling thermostat On | |
| | 05 | Heating operation | |
| | 06 | Operation/Stop | |
| | 07—08 | Cooling thermostat On | |
| | 09 | Error status | |
| | 10 | Indoor unit fan operation status | |
| | 11 | External heater | |

11) Control switching of external heaters

Sets the control method for external heater to be used.

For details, refer to “External heater output” in Chapter 8-4. ["Details of function"](#) on page 21.

| Function number | Setting value | Setting description | Factory setting |
|-----------------|---------------|--|-----------------|
| 61 | 00 | Auxiliary heater control 1 | ◆ |
| | 01 | Auxiliary heater control 2 | |
| | 02 | Heat pump prohibition control | |
| | 03 | Auxiliary heater control by outdoor temperature 1 | |
| | 04 | Auxiliary heater control by outdoor temperature 2 | |
| | 05 | Auxiliary heater control by outdoor temperature 3 | |
| | 06 | Auxiliary heat pump control | |
| | 07 | Auxiliary heat pump control by outdoor temperature 1 | |
| | 08 | Auxiliary heat pump control by outdoor temperature 2 | |
| | 09 | Auxiliary heat pump control by outdoor temperature 3 | |

12) Operating temperature switching of external heaters

Sets the temperature conditions when the external heater is ON.

For details, refer to “External heater output” in Chapter 8-4. ["Details of function"](#) on page 21.

| Function number | Setting value | Setting description | | Factory setting |
|-----------------|---------------|---------------------|-----------------|-----------------|
| | | Heater: On | Heater: Off | |
| 62 | 00 | -5.4 °F (-3 °C) | -1.8 °F (-1 °C) | ◆ |
| | 01 | -3.6 °F (-2 °C) | -1.8 °F (-1 °C) | |
| | 02 | -3.6 °F (-2 °C) | -1.8 °F (-1 °C) | |
| | 03 | -5.4 °F (-3 °C) | -1.8 °F (-1 °C) | |
| | 04 | -7.2 °F (-4 °C) | -1.8 °F (-1 °C) | |
| | 05 | -9.0 °F (-5 °C) | -1.8 °F (-1 °C) | |

13) Outdoor temperature zone boundary temperature A

Setting required if changing of the outdoor temperature setting for heat pump prohibition zone is required when auxiliary heater control by outdoor temperature 1 and 2 are performed on the indoor unit. For details, refer to "External heater output" in Chapter 8-4. "[Details of function](#)" on page 21.

| Function number | Setting value | Setting description | Factory setting |
|-----------------|-----------------|---------------------|-----------------|
| 66 | 00 | -4.0 °F (-20 °C) | ◆ |
| | 01 | -0.4 °F (-18 °C) | |
| | 02 | 3.2 °F (-16 °C) | |
| | 03 | 6.8 °F (-14 °C) | |
| | 04 | 10.4 °F (-12 °C) | |
| | 05 | 14.0 °F (-10 °C) | |
| | 06 | 17.6 °F (-8 °C) | |
| | 07 | 21.2 °F (-6 °C) | |
| 08 | 24.8 °F (-4 °C) | | |

14) Outdoor temperature zone boundary temperature B

Setting required if changing of the outdoor temperature setting for heat pump only zone is required when auxiliary heater control by outdoor temperature 1 is performed on the indoor unit. For details, refer to "External heater output" in Chapter 8-4. "[Details of function](#)" on page 21.

| Function number | Setting value | Setting description | Factory setting |
|-----------------|-----------------|---------------------|-----------------|
| 67 | 00 | 42.8 °F (6 °C) | ◆ |
| | 01 | 14.0 °F (-10 °C) | |
| | 02 | 17.6 °F (-8 °C) | |
| | 03 | 21.2 °F (-6 °C) | |
| | 04 | 24.8 °F (-4 °C) | |
| | 05 | 28.4 °F (-2 °C) | |
| | 06 | 32.0 °F (0 °C) | |
| | 07 | 35.6 °F (2 °C) | |
| | 08 | 39.2 °F (4 °C) | |
| | 09 | 42.8 °F (6 °C) | |
| | 10 | 46.4 °F (8 °C) | |
| | 11 | 50.0 °F (10 °C) | |
| | 12 | 53.6 °F (12 °C) | |
| | 13 | 57.2 °F (14 °C) | |
| | 14 | 60.8 °F (16 °C) | |
| 15 | 64.4 °F (18 °C) | | |

15) Standby time for auxiliary equipment operation

Sets the standby time until the auxiliary equipment operation starts during primary equipment operation.

For details, refer to Chapter 8-4. "[Details of function](#)" on page 21.

| Function number | Setting value | Setting description | Factory setting |
|-----------------|---------------|---------------------|-----------------|
| 71 | 00 | Disable | ◆ |
| | 01 | 1 minute | |
| | 02 | 2 minutes | |
| | • | • | |
| | • | • | |
| | • | • | |
| | 98 | 98 minutes | |
| | 99 | 99 minutes | |

16) Heat pump backup setting

Enables or disables the heat pump backup instruction from the outdoor unit.

This function will be usable provided that the corresponding outdoor unit is connected.

| Function number | Setting value | Setting description | Factory setting |
|-----------------|---------------|---------------------|-----------------|
| 72 | 00 | Disable | ◆ |
| | 01 | Enable | |

17) Emergency heat for external output terminal

Enables or disables emergency heat input.

| Function number | Setting value | Setting description | Factory setting |
|-----------------|---------------|---------------------|-----------------|
| 73 | 00 | Disable | ◆ |
| | 01 | Enable | |

NOTE: When this function is used, IR Receiver Unit is necessary.

18) Fixed operation mode switching

Sets the operation mode to heat pump, heating only, or cooling only.

| Function number | Setting value | Setting description | Factory setting |
|-----------------|---------------|---------------------|-----------------|
| 94 | 00 | Heat pump | ◆ |
| | 01 | Heating only | |
| | 02 | Cooling only | |

19) Heat insulation condition (building insulation)

Heat insulation conditions differ according to the installed environment.

"Standard insulation" (00) allows system to rapidly respond to the cooling or heating load changes.

"High insulation" (01) is when the heat insulation structure of the building is high and does not require system to rapidly respond to cooling or heating load changes.

When "High insulation" (01) is selected:

- Overheating (overcooling) is prevented at the start-up.
- All room-temperature control settings (Function 30, 31, 35, and 36) will reset to "No correction 0.0 °F (0.0 °C)".

| Function number | Setting value | Setting description | Factory setting |
|-----------------|---------------|---------------------|-----------------|
| 95 | 00 | Standard insulation | ◆ |
| | 01 | High insulation | |

NOTE: When changing Function 95, perform this setting before other room-temperature control settings (Function 30, 31, 35, and 36). If Function 95 is not set first, room-temperature control settings (Function 30, 31, 35, and 36) will be reset and you must re-do them again.

11-2. Custom code setting for wireless remote controller

To interconnect the air conditioner and the wireless remote controller, assignment of the custom code for the wireless remote controller is required.

NOTE: Air conditioner cannot receive a signal if the air conditioner has not been set for the custom code.

When 2 or more air conditioners are installed in a room, and the remote controller is operating an air conditioner other than the one you wish to set, change the custom code of the remote controller to operate only the air conditioner you wish to set. (4 selections possible.)

Confirm the setting of the remote controller custom code and the function setting. If these do not match, the remote controller cannot be used to operate for the air conditioner.

1. Press the START/STOP button until only the clock is displayed on the remote controller display.
2. Press the MODE button for at least 5 seconds to display the current custom code. (Initially set to H .)
3. Press the TEMP. (\wedge) (\vee) buttons to change the custom code between $\text{H} \rightarrow \text{b} \rightarrow \text{c} \rightarrow \text{d}$. Match the code on the display to the air conditioner custom code. (Initially set to H .)
4. Press the MODE button again to return to the clock display. The custom code will be changed.


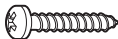


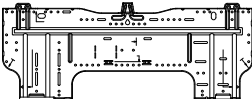




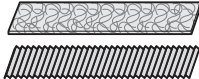



NOTES:

- If no button is pressed within 30 seconds after the custom code is displayed, the system returns to the original clock indicator. In this case, start again from step 1.
- The air conditioner custom code is set to H prior to shipment. To change the custom code, contact your retailer.
- If you do not know the assigned code for the air conditioner, try each of the custom code ($\text{H} \rightarrow \text{b} \rightarrow \text{c} \rightarrow \text{d}$) until you find the code which operates the air conditioner.


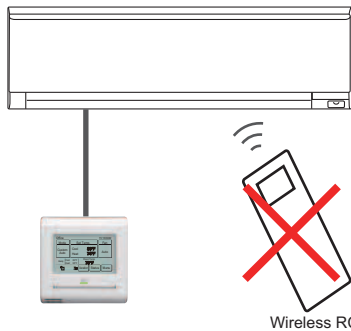

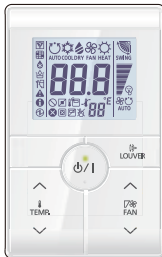
12. Accessories

12-1. Models: ASUH09LMAS and ASUH12LMAS

| Part name | Exterior | Qty | Part name | Exterior | Qty |
|--------------------------|---|-----|-----------------------|--|-----|
| Operation manual |  | 1 | Tapping screw (large) |  | 5 |
| Installation manual |  | 1 | Tapping screw (small) |  | 2 |
| Wall hook bracket |  | 1 | Cloth tape |  | 1 |
| Remote controller |  | 1 | Filter holder |  | 2 |
| Remote controller holder |  | 1 | Air cleaning filters |  | 1 |
| Battery |  | 2 | | | |

13. Optional parts

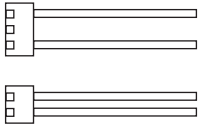
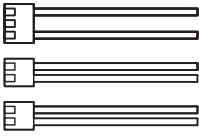

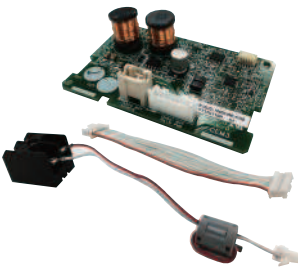


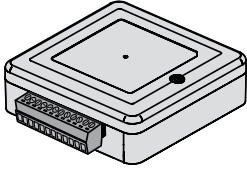

13-1. Controllers

| Exterior | Part name | Model name | Summary |
|---|--------------------------|------------|---|
|  | Wired Remote Controller | UTY-RNRUZ* | <p>Easy finger touch operation with LCD panel. Backlit LCD enables easy operation in a dark room. Wire type: Non-polar 2-wire Optional Communication Kit is necessary for installation.</p> <p>NOTE: When this remote controller is connected, wireless remote controller cannot be used.</p>  <p style="text-align: center;">Wireless RC</p> |
|  | Simple Remote Controller | UTY-RSRY | <p>Compact remote controller concentrates on the basic functions such as Start/Stop, fan control, temperature setting, and operation mode. Wire type: Non-polar 2-wire Optional Communication Kit is necessary for installation.</p> |
|  | Simple Remote Controller | UTY-RHRY | <p>Compact remote controller concentrates on the basic functions such as Start/Stop, fan control, and temperature setting. Wire type: Non-polar 2-wire Optional Communication Kit is necessary for installation.</p> |

NOTES:

- Available functions may differ by the remote controller. For details, refer to the operation manual.
- When using the group controlling system of the Wired Remote Controller, using Wireless LAN adapter is prohibited.

13-2. Others

| Exterior | Part name | Model name | Summary |
|---|-------------------------------|------------|--|
|  | External Connect Kit | UTY-XWZX | Use to connect with various peripheral devices and air conditioner PCB. |
|  | External Connect Kit | UTY-XWZXZ5 | Required when external device is connected. |
|  | External Input and Output PCB | UTY-XCSXZ2 | Use to connect with external devices and air conditioner PCB. Optional External Connect Kit is necessary for installation. |
|  | Communication Kit | UTY-TWRXZ2 | Use to connect Non-polar 2-core wired remote controller. |
|  | Wireless LAN adapter | UTY-TFSXF1 | Remotely manage an air conditioning system using mobile devices such as smartphones and tablets. Appropriate application for each region is required to use this option. For details, contact FGL sales company. |
|  | Modbus Converter | UTY-VMSX | For connection between indoor unit with UART interface and a Modbus open network. |
|  | Thermostat Converter | UTY-TTRX | This converter can control Fujitsu General products using a third-party thermostat controller. |
|  | Network Converter | UTY-VTGX | This converter is required when connecting single split system to VRF network system. |

Part 2. OUTDOOR UNIT

SINGLE TYPE:

AOUH09LMAS1

AOUH12LMBS1

1. Specifications

| Type | | | Inverter heat pump | | |
|--|------------------------|------------------------------------|---|---|--|
| Model name | | | AOUH09LMAS1 | AOUH12LMBS1 | |
| Power supply | | | 208/230 V~ 60 Hz | | |
| Power supply intake | | | Outdoor unit | | |
| Available voltage range | | | 187—253 V | | |
| Starting current | | | A | | |
| Fan | Airflow rate | Cooling | 4.0 | 4.8 | |
| | | Heating | 954 (1,620) | 1,065 (1,810) | |
| | Type × Qty | | 954 (1,620) | 1,065 (1,810) | |
| Motor output | | W | Propeller fan × 1 23 | | |
| Sound pressure level *1 | Cooling | dB (A) | 46 | 49 | |
| | Heating | | 48 | 50 | |
| Heat exchanger type | Dimensions (H × W × D) | in (mm) | Main1: 19-13/16 × 34-15/16 × 11/16 (504 × 888 × 18.19) | Main1: 19-13/16 × 34-11/16 × 11/16 (504 × 881 × 18.19) | |
| | Fin pitch | | FPI | 20 | |
| | Rows × Stages | | Main1: 1 × 24 Main2: 1 × 24 | | |
| | Pipe type | | Copper | | |
| | Fin type | Type (Material) | Aluminum | | |
| | | Surface treatment | PC fin | | |
| Compressor | Type | | DC rotary | | |
| | Motor output | W | 900 | | |
| Refrigerant | Type | | R410A | | |
| | Charge | lb oz | 2 lb 2 oz | 2 lb 3 oz | |
| | | g | 950 | 1,000 | |
| Refrigerant oil | Type | | RB68A | | |
| | Amount | in ³ (cm ³) | 20.7 (340) | | |
| Enclosure | Material | | Steel sheet | | |
| | Color | | Beige Approximate color of Munsell 10YR 7.5/1.0 | | |
| Dimensions (H × W × D) | Net | in (mm) | 21-5/16 × 31-7/16 × 11-7/16 (542 × 799 × 290) | | |
| | Gross | | 23-11/16 × 37 × 14-3/4 (602 × 940 × 375) | | |
| Weight | Net | lb (kg) | 68 (31) | 71 (32) | |
| | Gross | | 75 (34) | 77 (35) | |
| Connection pipe | Size | Liquid | in (mm) | Ø1/4 (Ø6.35) | |
| | | Gas | | Ø3/8 (Ø9.52) | |
| | Method | Liquid | ft (m) | Flare | |
| | | Gas | | Flare | |
| | Pre-charge length | | 49 (15) | | |
| | Standard length | | 25 (7.5) | | |
| Max. length | | 66 (20) | | | |
| Max. height difference | | 49 (15) | | | |
| Operation range | Cooling | °F (°C) | 14 to 115 (-10 to 46) | | |
| | Heating | | 5 to 75 (-15 to 24) | | |
| Drain hose | Material | | PP | | |
| | Tip diameter | in (mm) | Ø1/2 (Ø13.0) (I.D.), Ø5/8 to 11/16 (Ø16.0 to 16.8) (O.D.) | | |
| NOTES: | | | | | |
| <ul style="list-style-type: none"> Specifications are based on the following conditions: <ul style="list-style-type: none"> Cooling: Indoor temperature of 80°FDB (26.67°CDB) / 67°FWB (19.44°CWB), and outdoor temperature of 95°FDB (35°CDB) / 75°FWB (23.9°CWB). Heating: Indoor temperature of 70°FDB (21.11°CDB) / 60°FWB (15.56°CWB), and outdoor temperature of 47°FDB (8.33°CDB) / 43°FWB (6.11°CWB). Pipe length: 25 ft (7.5 m). Height difference: 0 ft (0 m). (Between outdoor unit and indoor unit.) Protective function might work when using it outside the operation range. *1: Sound pressure level <ul style="list-style-type: none"> Measured values in manufacturer's anechoic chamber. Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here. | | | | | |

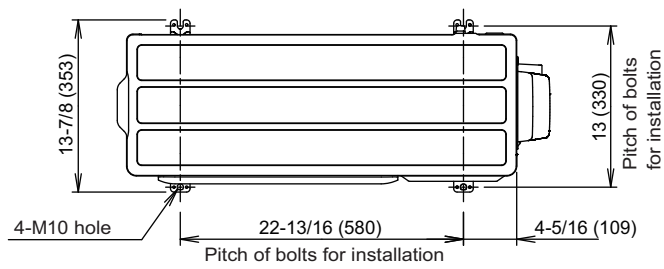
2. Dimensions

2-1. Models: AOUH09LMAS1 and AOUH12LMBS1

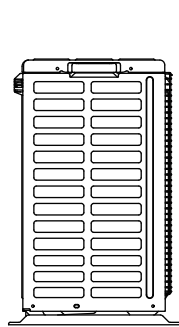
Unit: in (mm)

OUTDOOR UNIT
AOUH09-12LM

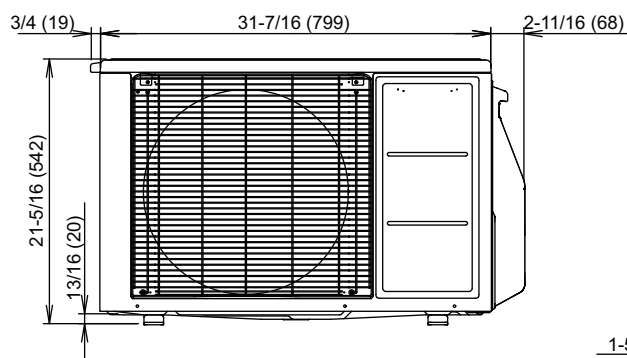
OUTDOOR UNIT
AOUH09-12LM



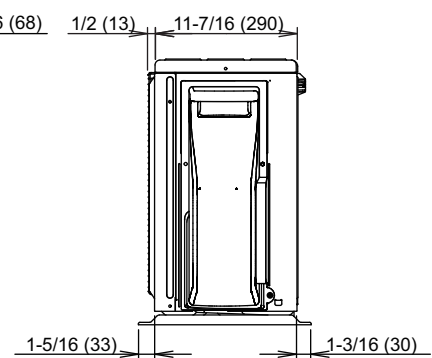
Top view



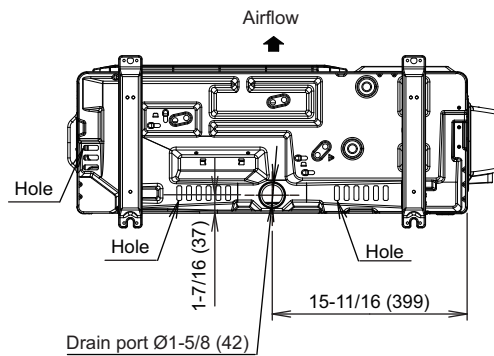
Side view



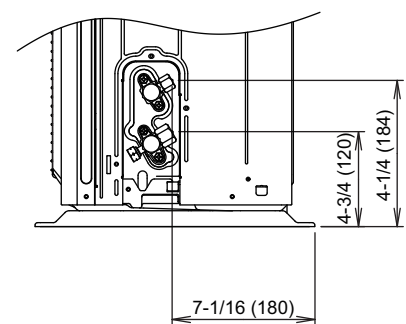
Front view



Side view



Bottom view



Side view (Valve part)

3. Installation space

3-1. Models: AOUH09LMAS1 and AOUH12LMBS1

■ Space requirement

Provide sufficient installation space for product safety.

⚠ CAUTION

Keep the space shown in the installation examples.

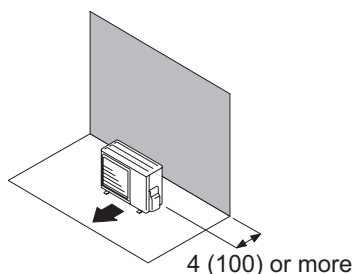
If the installation is not performed accordingly, it could cause a short circuit and result in a lack of operating performance.

● Single outdoor unit installation

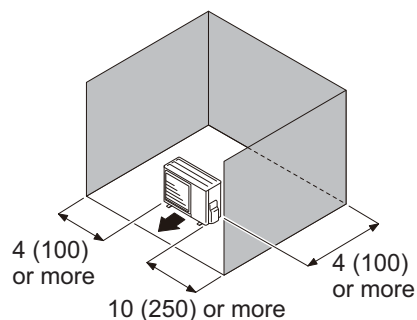
- When the upper space is open:

Unit: in (mm)

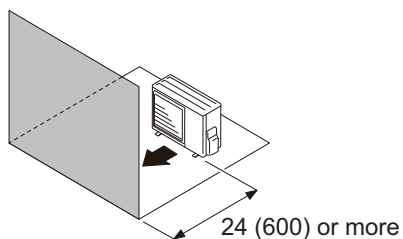
Obstacles at rear only



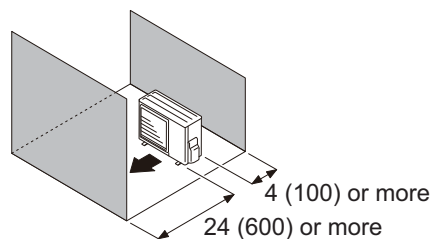
Obstacles at rear and sides



Obstacles at front



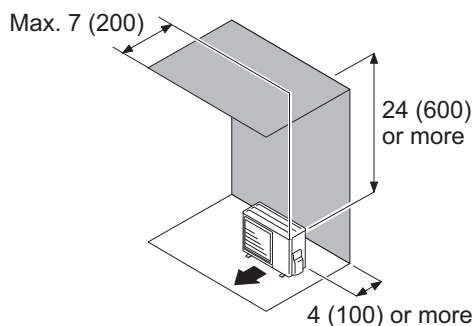
Obstacles at front and rear



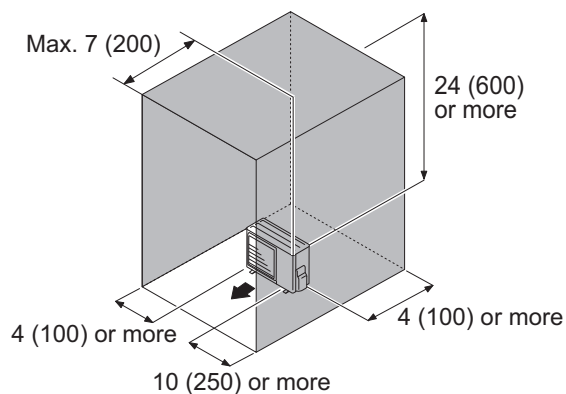
- When an obstruction in the upper space:

Unit: in (mm)

Obstacles at rear and above



Obstacles at rear, sides, and above



● Multiple outdoor unit installation

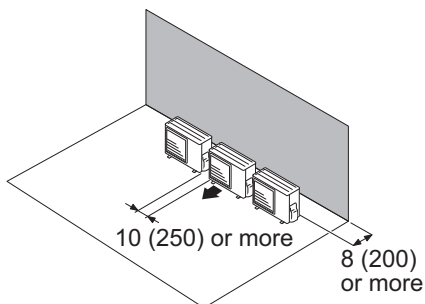
- Provide at least 10 in (250 mm) of space between the outdoor units if multiple units are installed.
- When routing the piping from the side of an outdoor unit, provide space for piping.
- No more than 3 units must be installed side by side.
When 4 units or more are arranged in a line, provide the space as shown in the following example **“When an obstruction in the upper space:”**.
- **When the upper space is open:**

OUTDOOR UNIT
AOUH09-12LM

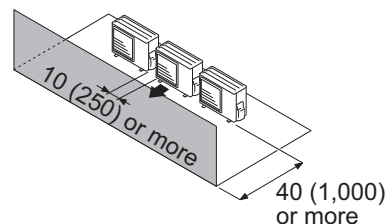
OUTDOOR UNIT
AOUH09-12LM

Unit: in (mm)

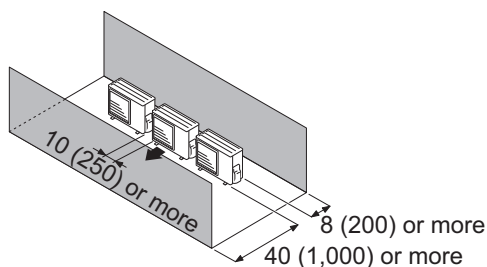
Obstacles at rear only



Obstacles at front only



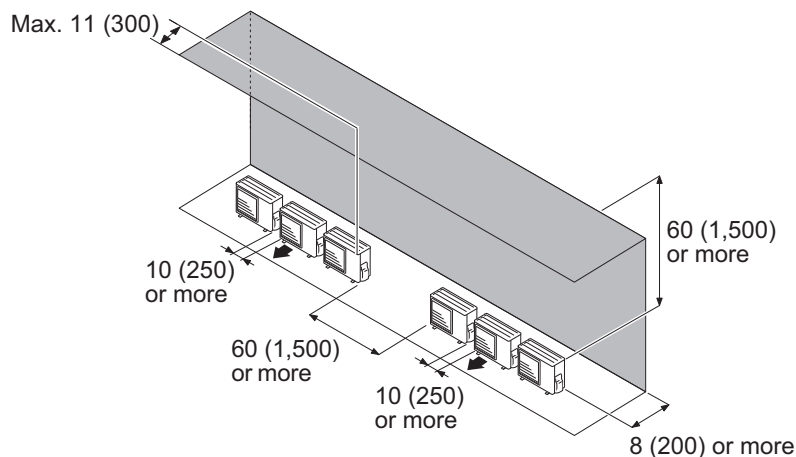
Obstacles at front and rear



- **When an obstruction in the upper space:**

Unit: in (mm)

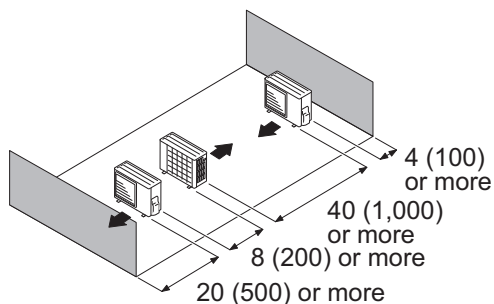
Obstacles at rear and above.



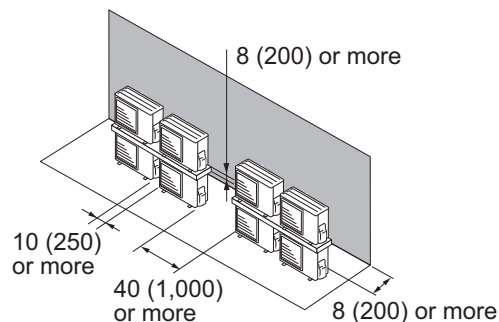
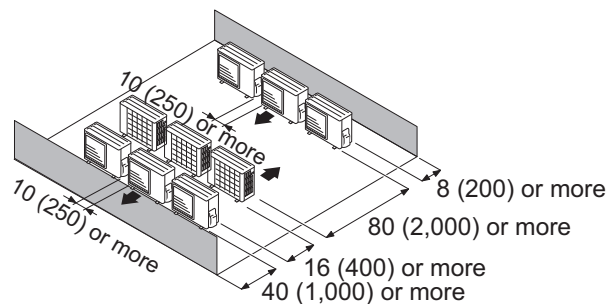
● Outdoor units installation in multi-row

Unit: in (mm)

Single parallel unit arrangement



Multiple parallel unit arrangement

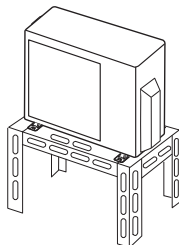


NOTES:

- If the space is larger than stated above, the condition will be the same as when there is no obstacle.
- When installing the outdoor unit, be sure to open the front and left side to obtain better operation efficiency.

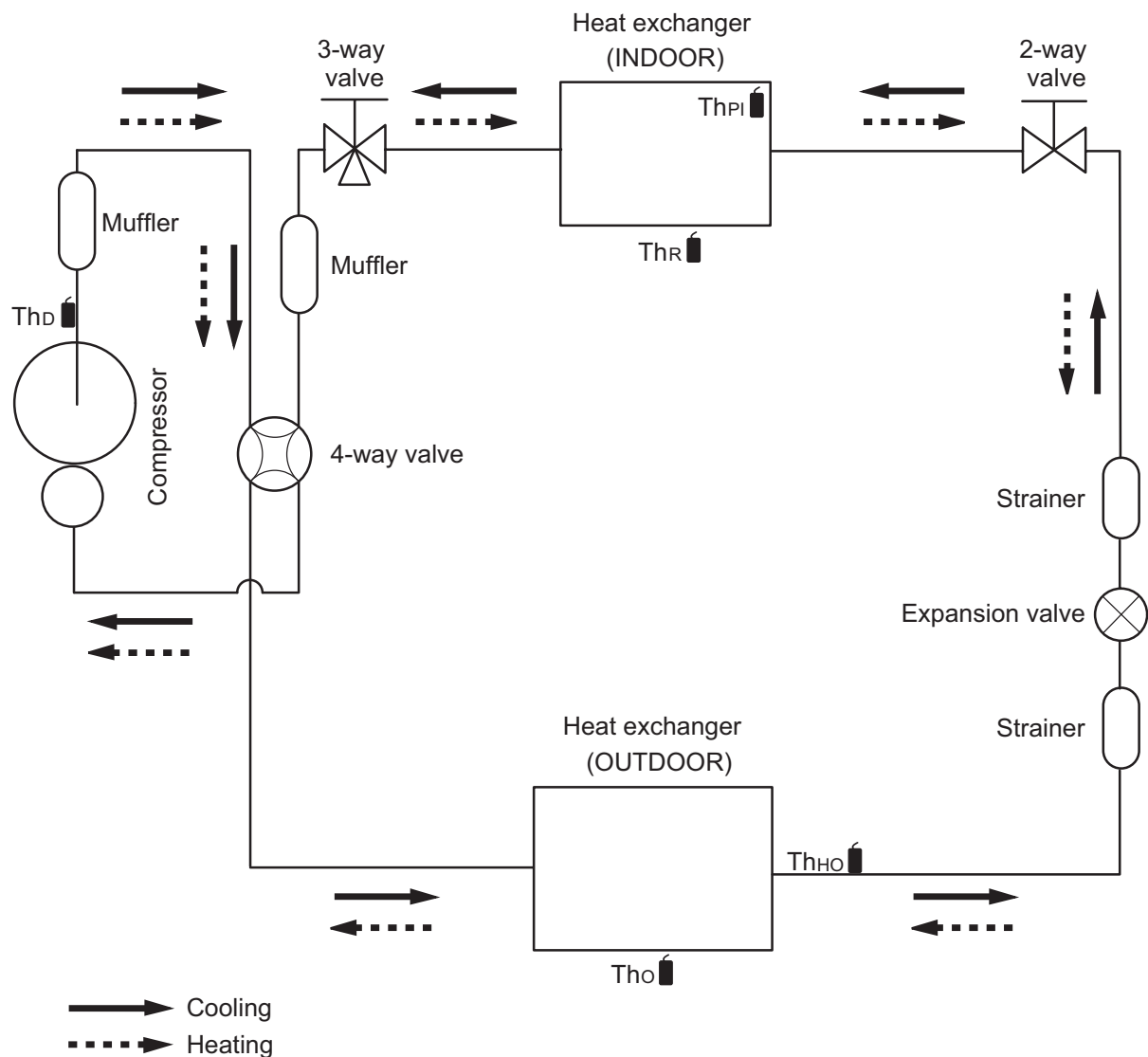
⚠ CAUTION

- Do not install the outdoor unit in two-stage where the drain water could freeze. Otherwise the drainage from the upper unit may form ice and cause a malfunction of the lower unit.
- When the outdoor temperature is 32 °F (0 °C) or less, do not use the accessory drain pipe and drain cap. If the drain pipe and drain cap are used, the drain water in the pipe may freeze in extremely cold climate. (For reverse cycle model only.)
- In area with heavy snowfall, if the inlet and outlet of the outdoor unit is blocked with snow, it might become difficult to get warm, and it is likely to cause product malfunction. Construct a canopy and a pedestal, or place the unit on a high stand that is locally installed.



4. Refrigerant circuit

4-1. Models: AOUH09LMAS1 and AOUH12LMBS1



Th_D : Thermistor (Discharge temperature)

Th_O : Thermistor (Outdoor temperature)

Th_{HO} : Thermistor (Heat exchanger out temperature)

Th_{PI} : Thermistor (Pipe temperature)

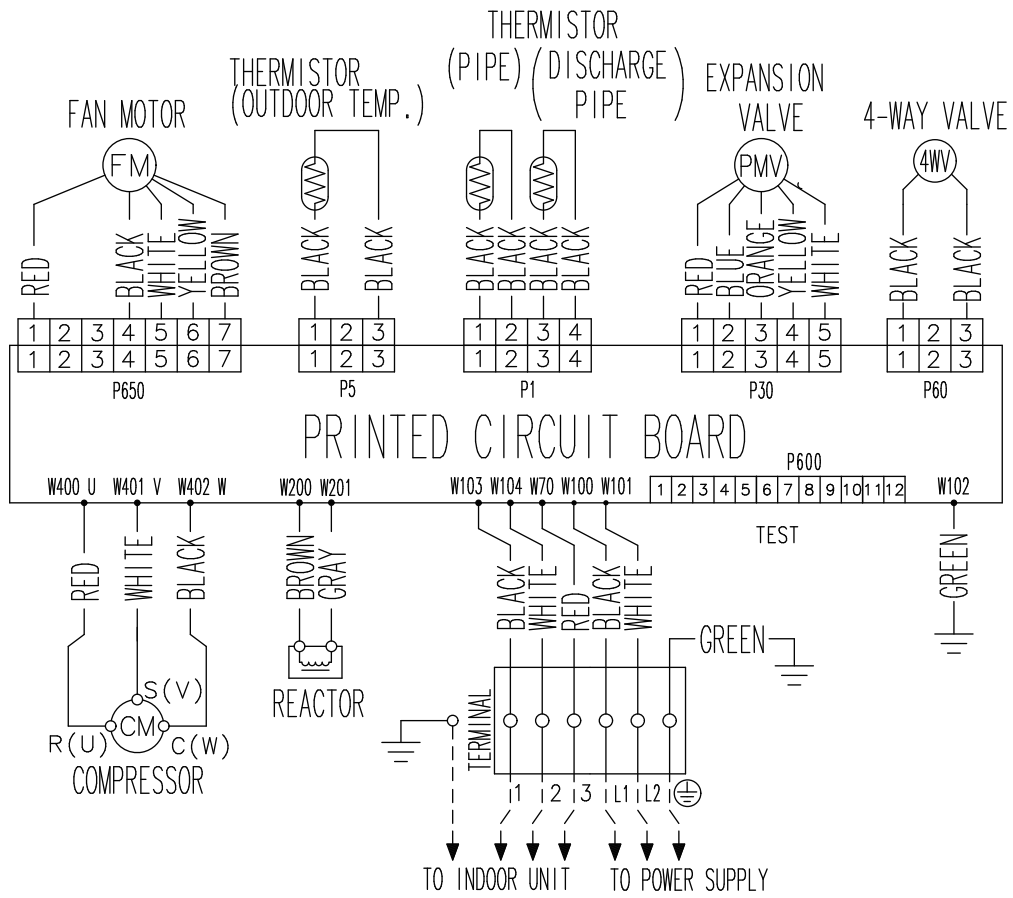
Th_R : Thermistor (Room temperature)

5. Wiring diagrams

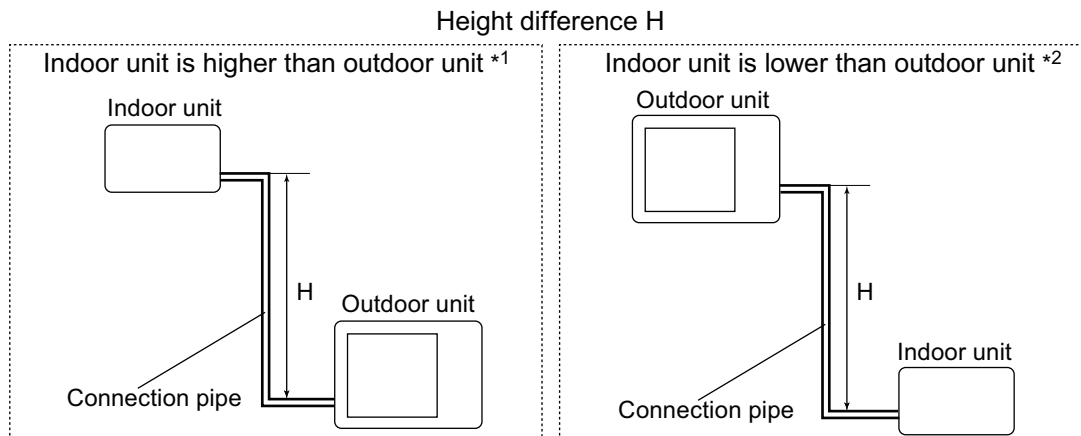
5-1. Models: AOUH09LMAS1 and AOUH12LMBS1

OUTDOOR UNIT
AOUH09-12LM

OUTDOOR UNIT
AOUH09-12LM



6. Capacity compensation rate for pipe length and height difference



OUTDOOR UNIT
AOUH09-12LM

OUTDOOR UNIT
AOUH09-12LM

6-1. Models: AOUH09LMAS1 and AOUH12LMBS1

NOTE: Values mentioned in the table are calculated based on the maximum capacity.

| COOLING | | Pipe length | | | | | | |
|---|--|-------------|-------|-------|-------|-------|-------|-------|
| | | m | | | | | | |
| | | | ft | 5 | 7.5 | 10 | 15 | 20 |
| Height difference H | Indoor unit is higher than outdoor unit *1 | 15 | 49 | — | — | — | 0.883 | 0.893 |
| | | 10 | 33 | — | — | 0.956 | 0.897 | 0.907 |
| | | 7.5 | 25 | — | 0.988 | 0.960 | 0.901 | 0.910 |
| | | 5 | 16 | 1.021 | 0.992 | 0.964 | 0.904 | 0.915 |
| | 0 | 0 | 1.029 | 1.000 | 0.971 | 0.913 | 0.922 | |
| Indoor unit is lower than outdoor unit *2 | -5 | -16 | 1.029 | 1.000 | 0.971 | 0.913 | 0.922 | |
| | -7.5 | -25 | — | 1.000 | 0.971 | 0.913 | 0.922 | |
| | -10 | -33 | — | — | 0.971 | 0.913 | 0.922 | |
| | -15 | -49 | — | — | — | 0.913 | 0.922 | |

| HEATING | | Pipe length | | | | | | |
|---|--|-------------|-------|-------|-------|-------|-------|-------|
| | | m | | | | | | |
| | | | ft | 5 | 7.5 | 10 | 15 | 20 |
| Height difference H | Indoor unit is higher than outdoor unit *1 | 15 | 49 | — | — | — | 0.901 | 0.884 |
| | | 10 | 33 | — | — | 0.974 | 0.901 | 0.884 |
| | | 7.5 | 25 | — | 1.000 | 0.974 | 0.901 | 0.884 |
| | | 5 | 16 | 1.006 | 1.000 | 0.974 | 0.901 | 0.884 |
| | 0 | 0 | 1.006 | 1.000 | 0.974 | 0.901 | 0.884 | |
| Indoor unit is lower than outdoor unit *2 | -5 | -16 | 1.001 | 0.995 | 0.969 | 0.896 | 0.880 | |
| | -7.5 | -25 | — | 0.993 | 0.967 | 0.894 | 0.878 | |
| | -10 | -33 | — | — | 0.965 | 0.892 | 0.876 | |
| | -15 | -49 | — | — | — | 0.883 | 0.867 | |

7. Additional charge calculation

7-1. Model: AOUH09LMAS1

| | | |
|--------------------|-------|-----------|
| Refrigerant type | | R410A |
| Refrigerant amount | lb oz | 2 lb 2 oz |
| | g | 950 |

■ Refrigerant charge

| | | | | |
|-------------------|----|------------|-----------|------------------------|
| Total pipe length | ft | 49 or less | 66 (Max.) | 0.22 oz/ft (20 g/m) |
| | m | 15 or less | 20 (Max.) | |
| Additional charge | oz | 0 | 3.5 | |
| | g | 0 | 100 | |

7-2. Model: AOUH12LMBS1

| | | |
|--------------------|-------|-----------|
| Refrigerant type | | R410A |
| Refrigerant amount | lb oz | 2 lb 3 oz |
| | g | 1,000 |

■ Refrigerant charge

| | | | | |
|-------------------|----|------------|-----------|------------------------|
| Total pipe length | ft | 49 or less | 66 (Max.) | 0.22 oz/ft (20 g/m) |
| | m | 15 or less | 20 (Max.) | |
| Additional charge | oz | 0 | 3.5 | |
| | g | 0 | 100 | |

8. Airflow

8-1. Model: AOUH09LMAS1

● Cooling

| Airflow | |
|-------------------|-------|
| m ³ /h | 1,620 |
| l/s | 425 |
| CFM | 954 |

● Heating

| Airflow | |
|-------------------|-------|
| m ³ /h | 1,620 |
| l/s | 425 |
| CFM | 954 |

8-2. Model: AOUH12LMBS1

● Cooling

| Airflow | |
|-------------------|-------|
| m ³ /h | 1,810 |
| l/s | 503 |
| CFM | 1,065 |

● Heating

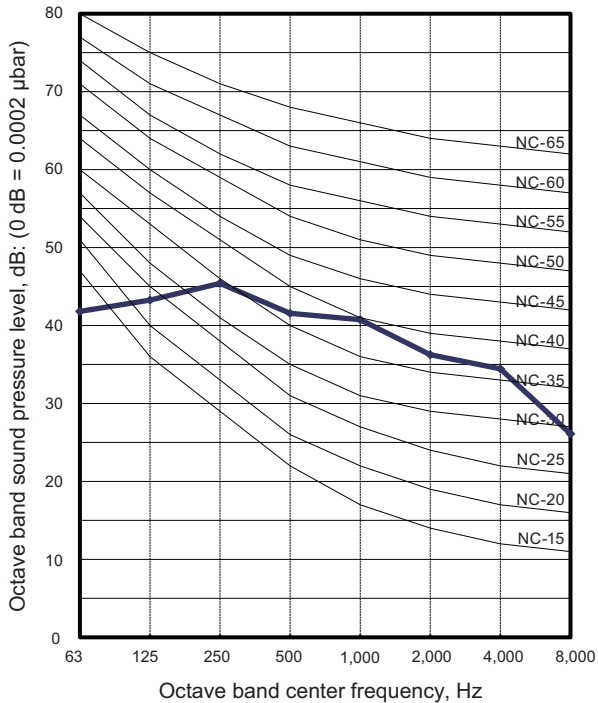
| Airflow | |
|-------------------|-------|
| m ³ /h | 1,810 |
| l/s | 503 |
| CFM | 1,065 |

9. Operation noise (sound pressure)

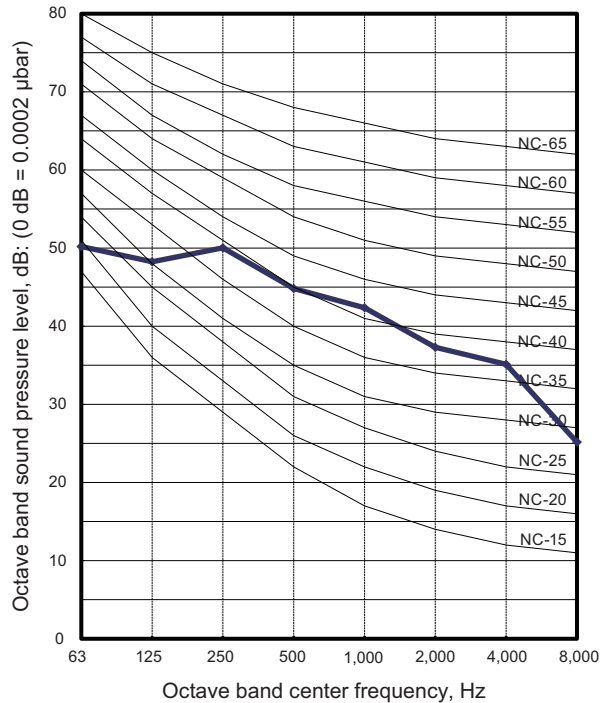
9-1. Noise level curve

Model: AOUH09LMAS1

Cooling

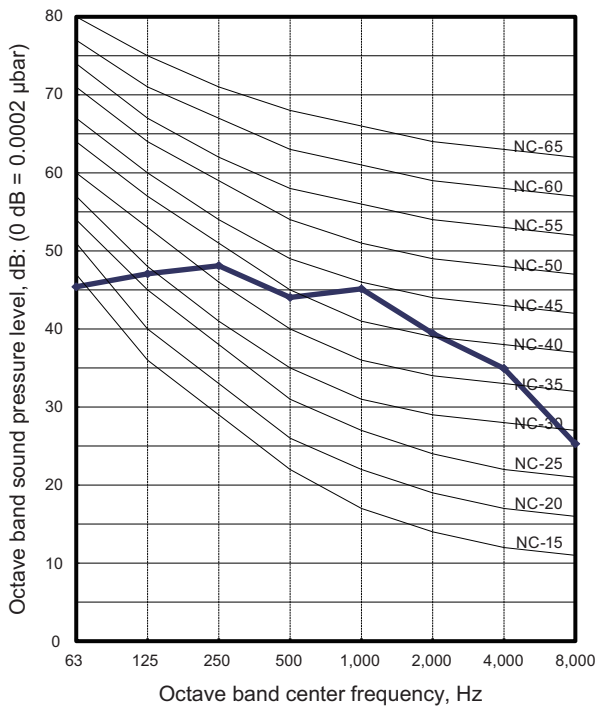


Heating

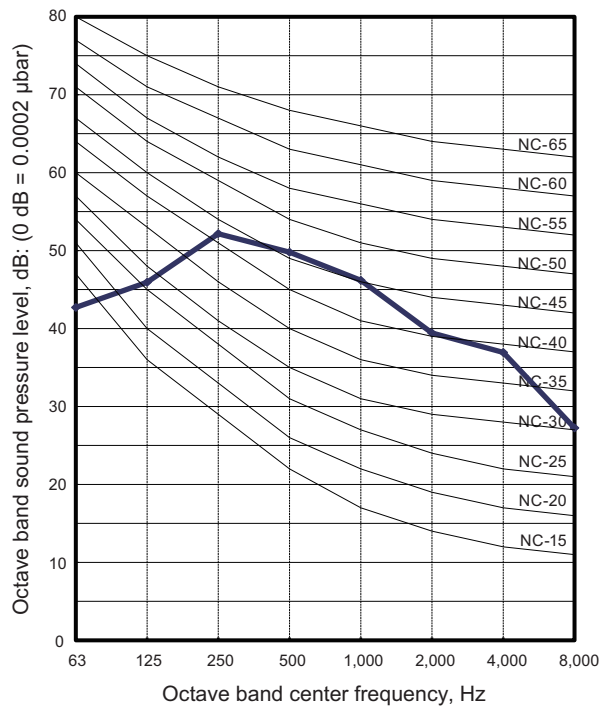


Model: AOUH12LMBS1

Cooling



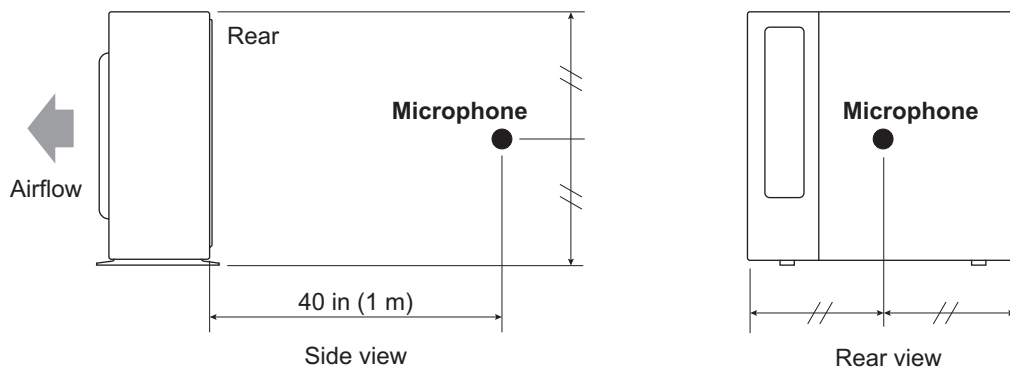
Heating



OUTDOOR UNIT
AOUH09-12LM

OUTDOOR UNIT
AOUH09-12LM

9-2. Sound level check point



NOTE: Detailed shape of the actual outdoor unit might be slightly different from the one illustrated above.

10. Electrical characteristics

| Model name | | | AOUH09LMAS1 | AOUH12LMBS1 |
|--------------------|---------------------|-----------------------|-------------|-------------|
| Power supply | Voltage | | V | |
| | Frequency | | Hz | |
| | | | 208/230~ | 60 |
| MCA *1 | | | A | 9.7 |
| Starting current | | | A | 4.0 |
| Wiring spec. *2 | MAX. CKT. BKR *3 | | A | 15 |
| | Power cable | | AWG | 14 |
| | Connection cable *4 | Size | AWG | 14 |
| | | Limited wiring length | ft (m) | 69 (21) |

*1: Minimum Circuit Ampacity (Calculation based on UL60335-2-40)

*2: Selected sample based on Japan Electrotechnical Standards and Codes Committee E0005. As the regulations of wire size and circuit breaker differ in each country or region, select appropriate devices complied to the regional standard.

*3: Maximum Circuit Breaker




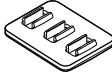
*4: Limit voltage drop to less than 2%. If voltage drop is 2% or more, increase cable conductor size.

11. Safety devices

| Type of protection | Protection form | | Model | |
|-----------------------|--|----------|---|-------------|
| | | | AOUH09LMAS1 | AOUH12LMBS1 |
| Circuit protection | Current fuse (Main PCB) | | 250 V, 15 A | |
| | Current fuse (Out of PCB) | | 250 V, 5 A | |
| Fan motor protection | Thermal protection program | Activate | 217.4±32.4 °F (103±18°C) Fan motor stop | |
| | | Reset | 203±32.4 °F (95±18 °C) Fan motor restart | |
| Compressor protection | Thermal protection program (Discharge temp.) | Activate | 230 °F (110 °C) Compressor stop | |
| | | Reset | After 7 minutes Compressor restart | |
| | Thermal protection program (Outdoor temp.) (Only in COOL or DRY mode) | Activate | 5 °F (-15°C) Compressor stop | |
| | | Reset | 14 °F (-10°C) Compressor restart | |

12. Accessories

12-1. Models: AOUH09LMAS1 and AOUH12LMBS1

| Part name | Exterior | Qty | Part name | Exterior | Qty |
|---------------------|---|-----|-----------|---|-----|
| Installation manual |  | 1 | Cable tie |  | 2 |
| Drain pipe |  | 1 | Drain cap |  | 5 |