



# Midea R454B MRC M152H Series Packaged Rooftop

MRC Series

Cooling capacity: 36&60 kBtu/h



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## Standard Features:

- Quiet horizontal discharge.
- Power-painted galvanized steel cabinet.
- Electric heat kit available as a field-installed option: 5/8/10/15/20kW.
- High-efficiency compressors operate smoothly, quietly, and consistently.
- Internal safeguards protect the compressor against high and low pressure, and coil temperature.
- Aluminum tube/aluminum fin coil.
- High-efficiency ECM blower motor.
- AHRI Certified and ETL listed.
- Compliant with UL-60335 certification.
- Uses more environmentally friendly R454B refrigerant.
- Full DC variable speed external motor, more efficient, smarter, and quieter.

## 1 Product lineup

Model	<b>MRC-36HWDN10-M152G</b> <b>MRC-60HWDN10-M152G</b>
Power supply	208/230V-1Ph-60Hz
Appearance	

## 2 Nomenclature

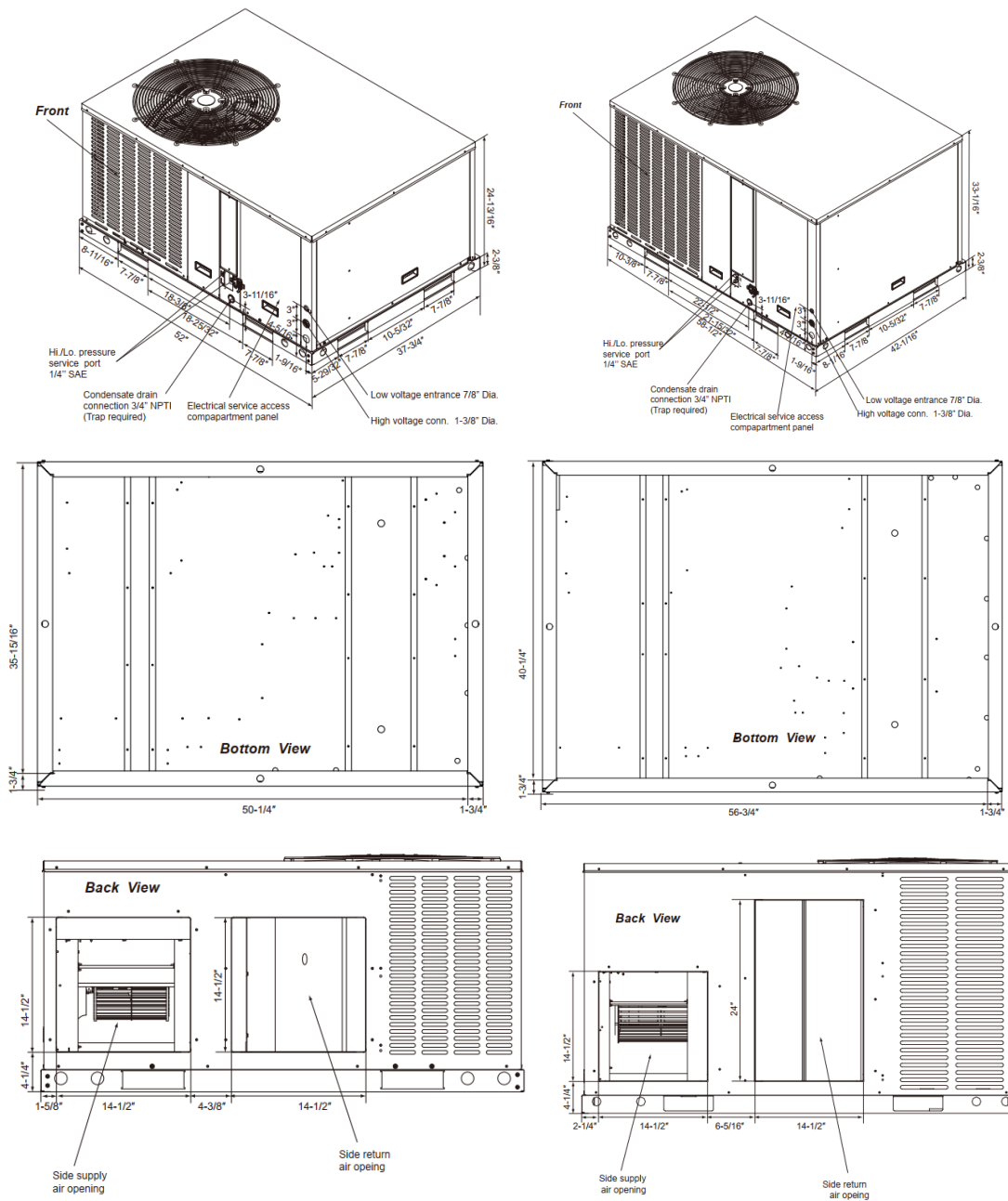
M	R	C	36	H	W	D	N10	M	152	G
1	2	3	4	5	6	7	8	9	10	11

Legend		
No.	Code	Remarks
1	M	Brand: Midea
2	R	Rooftop/Package Unit
3	C	C-Side air supply
4	36	Capacity: 36: 36kBtu/h; 60: 60kBtu/h;
5	H	H-Heat Pump
6	W	W-Wired Controller
7	D	D-DC Inverter
8	N10	Refrigerant type: N10: R454B Design series number
9	M	208/230V~60Hz
10	152	SEER2: 15.2
11	G	G-GMCC Compressor

## 3 Specifications

	MRC-36HWDN10-M152G	MRC-60HWDN10-M152G
<b>NOMINAL CAPACITY</b>		
Cooling (BTU/h)	34,200	57,000
Heating (BTU/h)	34,600	57,000
<b>ELECTRICAL DATA</b>		
Voltage / Phase (60 Hz)	208/230V-1Ph	208/230V-1Ph
Min. / Max. Voltage (V)	187/253	187/253
Min. Circuit Amps (MCA) (A)	27.7	42.5
Max. Overcurrent Protection (MOP) (A)	40	40
<b>COMPRESSOR</b>		
Type	Rotary	Rotary
Stage	Single	Single
Rated Load Amps (RLA) (A)	17.0	27.5
Locked Rotor Amps (LRA) (A)	52	61
<b>OUTDOOR COIL</b>		
Type	Tube & Fin	Tube & Fin
Tube outside dia. (mm)	7	7
<b>OUTDOOR FAN MOTOR</b>		
Motor Type	BLDC	BLDC
Capacitor (uF)	/	/
Horsepower (HP)	1/3	1/3
Full Load Amps (FLA) (A)	2.1	2.1
Rated Airflow (CFM)	2,850	3,630
<b>INDOOR COIL</b>		
Type	Tube & Fin	Tube & Fin
Tube outside dia. (mm)	7	7
<b>INDOOR BLOWER MOTOR</b>		
Motor Type	ECM	ECM
Capacitor (uF)	/	/
Horsepower (HP)	1/2	3/4
Full Load Amps (FLA) (A)	4.3	6.0
Rated Airflow (CFM at 0.58 in H <sub>2</sub> O)	1200	1720
<b>REFRIGERATION SYSTEM</b>		
Refrigerant Control	EEV	EEV
Refrigerant Charge (lbs. - oz.)	3 lbs. 14 OZ.	6 lbs. 6 OZ.
<b>SOUND POWER (dB(A))</b>	81	81
<b>OPERATION RANGE</b>		
Cooling (°C)	-5~48.9	-5~48.9
Cooling (°F)	23~120	23~120
Heating (°C)	-17.8~30	-17.8~30
Heating (°F)	0~86	0~86
<b>Dimension &amp; Weight</b>		
Unpacking (W*H*D)	mm 958 x 630 x 1321	1068 x 840 x 1486
	inch 37-23/32 x 24-13/16 x 52	42-1/32 x 33-1/16 x 58-1/2
Packing (W*H*D)	mm 965 x 655 x 1340	1073 x 865 x 1505
	inch 38 x 25-13/16 x 52-3/4	42-1/4 x 34-1/16 x 59-1/4
Net/Gross weight	kg 143/146	190/194
	lb 316/322	419/428
Shipping per STD 40HQ	82	45

## 4 Dimensional Drawing



Model	Unit Width "W" in. [mm]	Unit Height "H" in. [mm]	Unit Length "D" in. [mm]	Net Weight kg [lb]	Gross Weight kg [lb]
36	37-23/32 [958]	24-13/16 [630]	52 [1321]	143 [316]	146 [322]
60	42-1/32 [1068]	33-1/16 [840]	58-1/2 [1486]	190 [419]	194 [428]

## 5 Electrical Heater Kit (Optional)

### Electric Heater Kit Electrical Data (only Electric Heat)

Model Number	Volt	Heater Circuit (without units)					
		Model	kW	Stages	Amps	MCA (Amps)	Max Fuse Breaker Size (Amps)
36	208/230-1-60	None	-	-	None	27.7	35
		EHK-05J	3.8/5	1	18.1/20.8	23/26	25/30
		EHK-08J	5.6/7.5	1	27.1/31.3	34/40	35/40
		EHK-10J	7.5/10	1	36.1/41.7	46/53	50/60
		EHK-15J	11.3/15	2	54.2/62.5	68/79	70/80
60	208/230-1-60	None	-	-	None	42.5	50
		EHK-05J	3.8/5	1	18.1/20.8	23/26	25/30
		EHK-08J	5.6/7.5	1	27.1/31.3	34/40	35/40
		EHK-10J	7.5/10	1	36.1/41.7	46/53	50/60
		EHK-15J	11.3/15	2	54.2/62.5	68/79	70/80
		EHK-20J	15/20	2	72.2/83.3	91/105	100/110

1. Minimum Circuit Ampacity.
2. Maximum Over Current Protection per Standard UL 60335.
3. Fuse or HACR circuit breaker size installed at factory or field installed.

## 6 Airflow Data

Model Number	Motor Speed		SCFM								
			External Static Pressure in H <sub>2</sub> O[kPa]								
			0[0]	0.1[.02]	0.2[.05]	0.3[.07]	0.4[.10]	0.5[.12]	0.6[.15]	0.7[.17]	0.8[.20]
36	1	SCFM	986	941	891	844	800	747.2	689	/	/
		Watts	108	118	128	139	149	159	169	/	/
		Amps	1.2	1.26	1.32	1.39	1.45	1.52	1.58	/	/
	2	SCFM	1098.7	1047.6	1003.4	965.8	931.2	897.1	864.1	814.9	745.3
		Watts	151	165	177	188	199	208	217	228	236
		Amps	1.47	1.56	1.65	1.72	1.8	1.86	1.92	2	2.07
	3	SCFM	1239.6	1194	1150.8	1114.9	1080.9	1048.5	1016.1	996.3	959.4
		Watts	204	220	234	248	259	270	281	288	299
		Amps	1.83	1.94	2.04	2.13	2.21	2.29	2.37	2.41	2.49
	4	SCFM	1378.8	1335.2	1292.9	1256.6	1223.9	1193.7	1164.7	1134.7	1104.2
		Amps	273	289	305	319	333	345	357	369	379
		Watts	2.31	2.43	2.53	2.64	2.74	2.82	2.9	2.99	3.06
	5	SCFM	1539.3	1501.9	1459.8	1424.4	1393.5	1363.8	1326.8	1278.9	1231
		Amps	370	389	407	425	441	457	463	461	459
		Watts	2.99	3.12	3.25	3.37	3.49	3.6	3.64	3.63	3.61
60	1	SCFM	1442.8	1375.6	1307.9	1245.6	1184.3	1114.8	1044	/	/
		Watts	159	169	179	189	199	210	221	/	/
		Amps	1.35	1.43	1.5	1.58	1.65	1.74	1.82	/	/
	2	SCFM	1518.7	1450.1	1384.3	1328.4	1271.3	1216.9	1160.7	/	/
		Watts	185	198	211	223	234	244	255	/	/
		Amps	1.65	1.74	1.84	1.92	2	2.07	2.14	/	/
	3	SCFM	1849	1781.7	1721.9	1664	1615	1560	1513	1463	1410
		Watts	311	325	340	356	370	382	394	406	418
		Amps	2.56	2.66	2.76	2.87	2.97	3.06	3.15	3.23	3.32
	4	SCFM	2037	1980	1925	1874	1829	1786	1733	1685	1642
		Amps	407	425	443	460	477	493	508	523	536
		Watts	3.25	3.37	3.5	3.62	3.74	3.85	3.95	4.05	4.14
	5	SCFM	2272	2220	2166	2123	2071	2020	1977	1942	1881
		Watts	564	581	599	617	636	654	671	687	694
		Amps	4.34	4.46	4.58	4.7	4.83	4.96	5.08	5.18	5.23

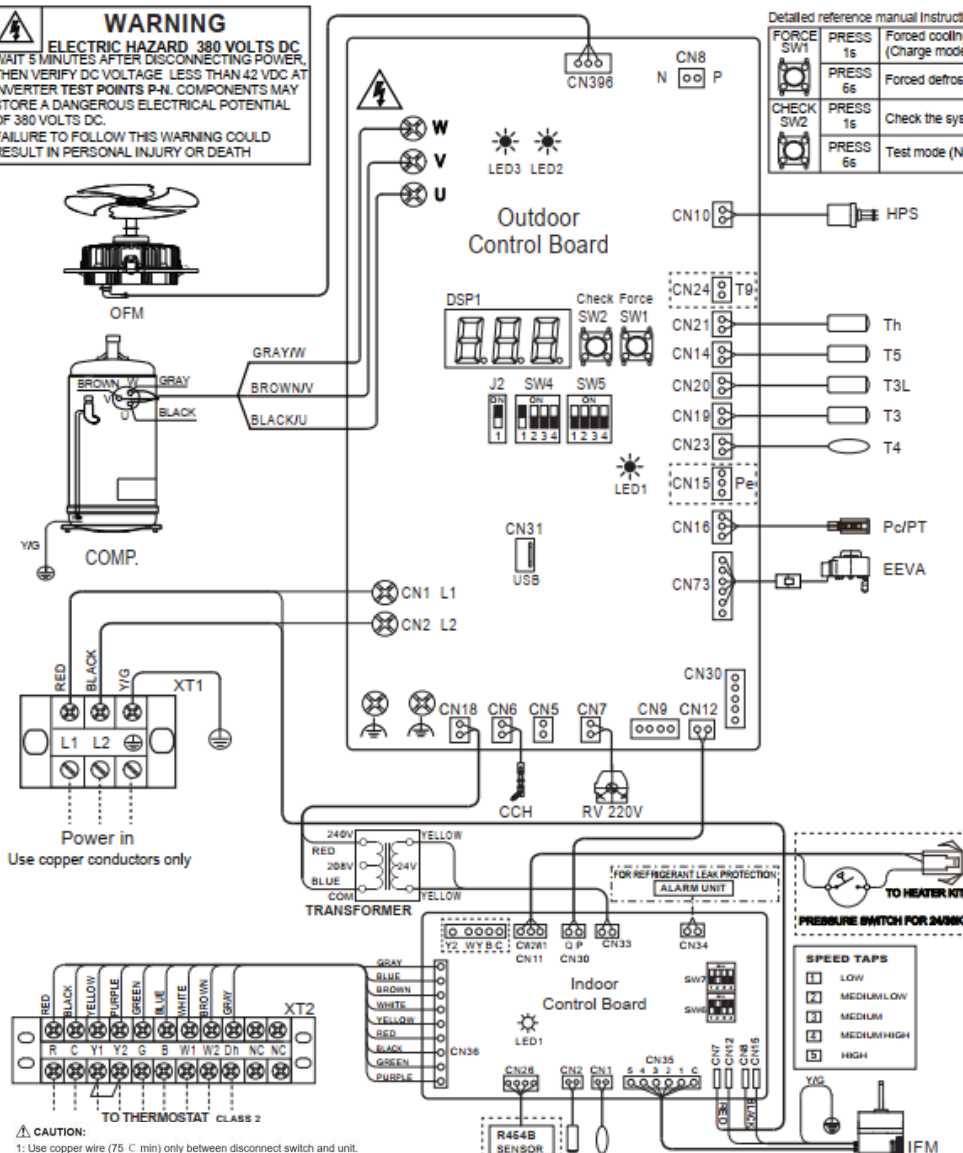
1. Silence---shipped low stage speed.
2. Factory---shipped low stage speed.
3. Silence mode---shipped high stage speed. Or High static pressure mode---shipped low stage speed.
4. Factory---shipped high stage speed.
5. High static pressure mode---shipped high stage speed.

Factory windshield maximum static pressure 0.6inches if static pressure exceeds 0.6 please dial code to Tap(5)

Shaded area mean do not allow the high stage speed

## 7 Wiring Diagram

**WARNING**  
**ELECTRIC HAZARD 380 VOLTS DC**  
 WAIT 5 MINUTES AFTER DISCONNECTING POWER, THEN VERIFY DC VOLTAGE LESS THAN 42 VDC AT INVERTER TEST POINTS P-N. COMPONENTS MAY STORE A DANGEROUS ELECTRICAL POTENTIAL OF 380 VOLTS DC. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN PERSONAL INJURY OR DEATH



Detailed reference manual instructions

FORCE SW1	PRESS 1s	Forced cooling/heating (Charge mode)
CHECK SW2	PRESS 6s	Forced defrosting
	PRESS 1s	Check the system parameters
	PRESS 6s	Test mode (Not used)

\* The factory default

J2	ON	OFF	ON	OFF	ON	OFF
Set capacity	ON	OFF	ON	OFF	ON	OFF
	For 36/60K model *					
	For 24/48K model					

SW4-1	ON	Must be set at ON position *
	OFF	Unused
SW4-2	ON	Decelerate cooling/heating
	OFF	Normal *
SW4-3	ON	Unused
	OFF	Normal *
SW4-4	ON	Accelerated cooling/heating
	OFF	Normal *
SW5-1	ON	Heating time reduced 10%
	OFF	Normal *
SW5-2	ON	Defrosting extended for 120 seconds
	OFF	Normal *
SW5-3	ON	Unused
	OFF	Normal *
SW5-4	ON	Unused
	OFF	Unused *

LED1 GREEN	Solid ON	Main board powered on
	OFF	Power off
LED2 RED	Solid ON	Compressor running
	2s ON / 2s OFF	Standby
	0.2s ON / 0.2s OFF	Communication fault with main control chip
	Blink	Driver fault
LED3 RED	Solid ON	Fan running
	2s ON / 2s OFF	Standby
	0.2s ON / 0.2s OFF	Communication fault with main control chip
	Blink	Driver fault
	OFF	Power off

CODE	Fault description
A1	Ambient Temperature Limited(T4)
b1	Temperature sensor fault in indoor unit (T1)
b2	Temperature sensor fault in indoor unit (T2)
b3	R454B refrigerant sensor fault in indoor unit
b4	R454B refrigerant sensor communication fault in indoor unit
b5	Communication fault between indoor unit and outdoor unit
b7	R454B refrigerant leakage protection in indoor unit
b8	R454B refrigerant sensor over service life in indoor unit
b9	(SW7-2) does not match R454B refrigerant sensor
C3	The coil sensor is sealed fault in cooling (T3)
E41	Temperature sensor fault (T3)
E42	Temperature sensor fault (T3L)
E43	Temperature sensor fault (T4)
E44	Temperature sensor fault (T5)
E45	Temperature sensor fault (Th)
E51	Outdoor unit high/low input voltage protection
E52	Outdoor unit high/low DC bus voltage protection
E7	Compressor discharge sensor is sealed fault (T5)
E81	EEVA coil fault
EA	Control program does not match drive program in outdoor unit
Eb	Outdoor unit (SW4-1) does not match indoor unit
F1	High pressure switch protection (HPS)
F2	5 times (P21/037) protection in 100 minutes, system lockout
F4	Pressure sensor fault
H01	Drive chip Communication fault in outdoor unit
J00-JCF	Compressor drive fault
n00-nCF	Fan drive fault
o37	Lack of refrigerant
P0	Compressor IPM temperature protection(TF)
P1	High pressure switch protection (HPS)
P11	High pressure protection in heating (PT)
P21	Low pressure protection in cooling (PT)
P31	Outdoor unit input over current protection
P32	Compressor over current protection
P4	High compressor discharge temperature protection (T5)
P5	Condenser coil temperature protection in cooling (T3)
PF	Evaporator freezing protection
PH	Low discharge superheat protection

- CAUTION:**
- Use copper wire (75 °C min) only between disconnected switch and unit.
  - To be wired in accordance with NEC and local codes.
  - If any of the original wires, as supplied, must be replaced. Use the same or equivalent type wires.
  - If the input voltage is 208 V, please change the transformer tap by taking the red wire to 208V terminal.
  - When using two-stage thermostat, remove the wire between Y1 and Y2.
  - The rated operating condition of ALARM is 24 VAC/1A or 30 VDC/1A or 250 VAC/1A. Please refer to the manual for wiring methods.

DIP SWITCH	Y1 OR G (MIN)	Y1+Y2 OR W1 (MAX)
SW6-1,2 FAN SPEED TAPS	COOL	1   2
	HEAT	1   3
	COOL	1   3
	HEAT	2   4
	COOL	2   4
	HEAT	3   5
SW6-3	ANTI-COOL AIR	*
	NON-ANTI-COOL AIR	
SW6-4	AUTO FAN CONTROL	*
	TWO STAGE FAN CONTROL	
SW7-1	UNUSED	
	UNUSED	*
SW7-2	R454B REFRIGERANT SENSOR	
	NON-R454B REFRIGERANT SENSOR	*
SW7-3	UNUSED	
	UNUSED	*

INDOOR CONTROL BOARD LED1	CONTENT
STEADY ON	NORMAL OPERATION
OFF	POWER SUPPLY FAILURE
KEEP FLASHING	REFRIGERANT LEAK PROTECTION
1 FLASH/CYCLE	TEMPERATURE SENSOR FAULT (T1)
2 FLASH/CYCLE	TEMPERATURE SENSOR FAULT (T2)
3 FLASH/CYCLE	R454B REFRIGERANT SENSOR FAULT
4 FLASH/CYCLE	R454B REFRIGERANT SENSOR COMMUNICATION FAULT BETWEEN IDU AND ODU
5 FLASH/CYCLE	R454B REFRIGERANT SENSOR OVER SERVICE LIFE
6 FLASH/CYCLE	R454B REFRIGERANT SENSOR (SW7-2) DOES NOT MATCH R454B REFRIGERANT SENSOR

Number	Point check content
0	Outdoor unit capacity: RH5-Heat pump 5 ton
1	Outdoor unit mode: 0-standby 2-cooling 3-heating
2	Outdoor unit set compressor speed
3	System last fault code
4	T3: outdoor coil temp.(°F)
5	T3L: outdoor coil outlet temp.(°F)
6	T4: outdoor ambient temp.(°F)
7	T5: compressor discharge temp. (°F)
8	Th: compressor suction temp.(°F)
9	TF: compressor IPM temp.(°F)
10	Pe: evaporating pressure(psig)
12	Te: target evaporating temp.(°F) (only for cooling mode)
13	Tc: evaporating temp. (°F)
14	Tc: target condensing temp.(°F) (only for heating mode)
15	Tc: condensing temp.(°F)
16	Target value of the compressor discharge superheat(°F) (only for heating mode)
17	Compressor discharge superheat(°F)
18	Compressor suction superheat(°F)
19	Openings of EEVA(P)
20	Fan speed stage
21	Outdoor unit fan current(A)
22	Compressor current(A)
23	Outdoor unit input current(A)
24	Outdoor unit input voltage(V)
25	Outdoor unit DC bus voltage(V)
26	Outdoor unit power(0.1kW)
27	Continuous running time of the compressor(min)
28	Outdoor unit main control software version
29	Indoor unit Heat Kit Stage
30	T1: inlet airflow temp.(°F)
31	T2: indoor unit coil temp.(°F)
32	Indoor unit software version
33	Reserved
34	Reserved
35	Remark "--"

# M152H Series Rooftop Package



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## Midea Building Technologies Division Midea Group

**Add.:** Midea Headquarters Building, 6 Midea Avenue, Shunde, Foshan, Guangdong, China

**Postal code:** 528311

mbt.midea.com/global    [www.midea-group.com](http://www.midea-group.com)    ics.midea.com

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