

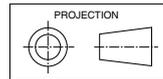
ISDL 55–110 K-D (c/w SAT-2 Controller)

Ducted Split System Indoor Units

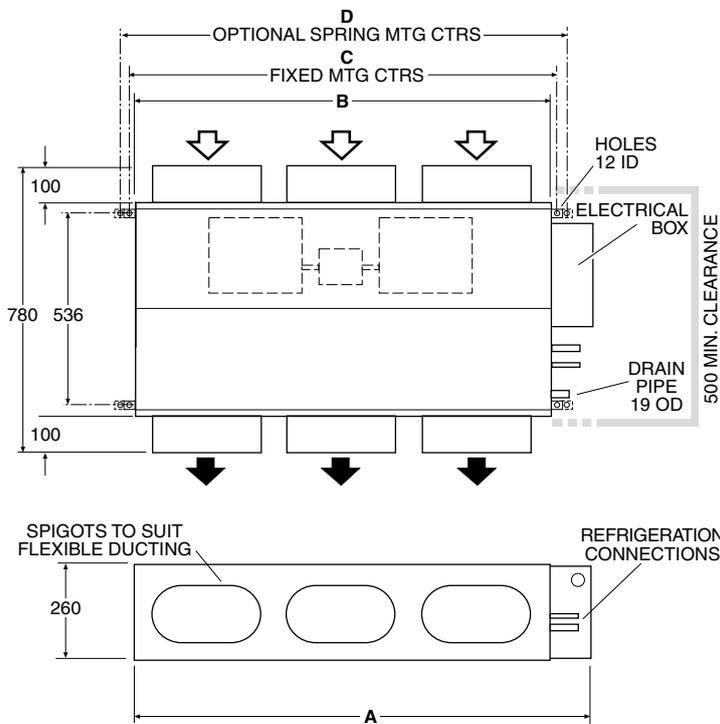
Installation & Maintenance

Fig. 1 Dimensions (mm)

MODEL	A	B	C	D	Net Weight	Spigots
ISDL 55K	950	840	872	930	28 kg	300 dia. (x4)
ISDL 56/80 K	1040	927	962	1020	30 kg	250 dia. (x6)
ISDL 83/95 K	1235	1122	1157	1215	33 kg	250 dia. (x6)
ISDL 96/110 K	1430	1317	1352	1410	42 kg	250 dia. (x8)



Not to Scale



NOTE

The manufacturer reserves the right to change specifications at any time without notice or obligation. Certified dimensions available on request.

GENERAL

These ISDL*K-D indoor units are designed to be coupled with the OSA*RK outdoor units and controlled by the SAT-2 room temperature controller. Units must be installed in accordance with all national and local safety codes.

Combinations

- One ISDL 55K-D with one OSA 55RKSH
- One ISDL 56K-D with one OSA 55RKSH
- One ISDL 80K-D with one OSA 80RKSH
- One ISDL 83K-D with one OSA 83RKSH
- One ISDL 95K-D with one OSA 95RKSH
- One ISDL 96K-D with one OSA 95RKSH
- One ISDL 110K-D with one OSA 110RKSH
- One ISDL 110K-D with one OSA 110RKTH

Options

1. Filter Box
2. Spring Mounting Kit
3. Electric Heater Box
4. SAT-2 Accessories (refer overleaf)
5. Tandem Kit.

AIR FILTRATION / FILTER BOX (Option)

As air filtration requirements vary, filters are not supplied with the unit. Filters should ideally be installed on the return air side of the unit, no closer than 500mm from the back of the unit and easily accessible for cleaning. To maximise the efficiency of air flow, the return air filter should be twice the area of the ISDL unit's return air spigot/s. If efficiency is less of a concern a Filter Box is available.

The Filter Box fits between the ISDL's return air spigot plate and the main chassis. This addition adds 95 mm to the depth of the unit. The filter may be accessed from either side of the box.

ELECTRIC HEATER BOX (Option)

The Electric Heater Box fits between the ISDL's supply air spigot plate and the main chassis. This addition adds 190 mm to the depth of the unit. A separate page of installation instructions is supplied with the kit.

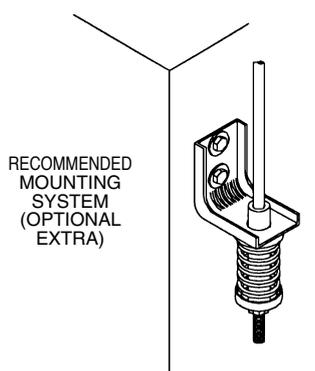
INSTALLATION

Positioning & Mounting

Provide 500 mm minimum clearance to the electrical box end of the unit. Allow adequate clearance for the filter to be withdrawn to its full length from either end of the unit. Alternatively the filter may be lifted out of its track.

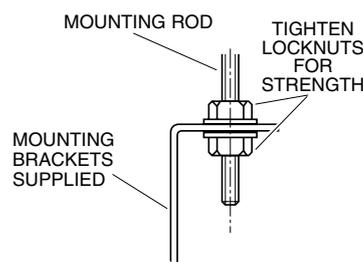
If the Electric Heater Box option is to be used, allow adequate clearance for servicing.

Fig. 2 Spring Mounting



Fits in same position as brackets supplied with unit.

Fig. 3 Solid Mounting



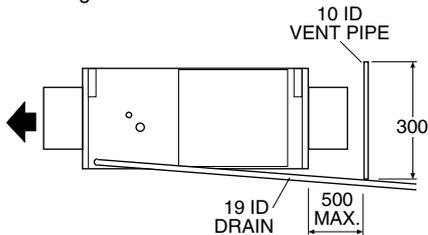
It is recommended that the unit be mounted using the spring mounting system, supplied as an optional extra (Fig.2). This system minimises transfer of vibration into the building structure.

Alternatively mount each unit on vibration isolators on a suitable platform.

The unit has a built in sloping drain tray so mount it level.

Condensate Drain

The drain should have a slope of at least 1 in 50 and must not be piped to a level above the unit drain tray. Fit a vent pipe within 500 mm of the unit. Check the drain by pouring water into the drain tray and ensuring that it clears.



INDOOR-OUTDOOR UNIT CONNECTIONS

Refer to the relevant OSA Outdoor Unit 'Installation & Maintenance' pamphlet for piping instructions.

For wiring connections, refer to the Outdoor Unit wiring diagram in conjunction with the ISDL wiring diagram in this pamphlet.

An interconnecting lead (12.5 m or 25 m, 7 core) is available as an optional extra.

REFRIGERATION PIPING

Pipe Connection Sizes (mm OD)

Model	Liquid	Suction
ISDL 55K	6 (1/4") sweat	13 (1/2") sweat
ISDL 56K	6 (1/4") sweat	13 (1/2") sweat
ISDL 80K	10 (3/8") sweat	16 (5/8") sweat
ISDL 83K	10 (3/8") sweat	16 (5/8") sweat
ISDL 95K	10 (3/8") sweat	16 (5/8") sweat
ISDL 96K	10 (3/8") sweat	16 (5/8") sweat
ISDL 110K	10 (3/8") sweat	19 (3/4") sweat

ISDL units are shipped from the factory with a pressurised holding charge of nitrogen. Immediately before removing any brazed pipe connection's seal, reduce the holding charge to atmospheric pressure.

Warning: Failure to do so may cause injury.

Refer to the Outdoor Unit 'Installation & Maintenance' pamphlet for evacuation procedure and piping requirements.

ELECTRICAL WIRING

The electrical supply required (via the Outdoor Unit) is specified on the Outdoor Unit's wiring diagram. Electrical work must be carried out by a qualified electrician in accordance with local supply authority regulations and the wiring diagram.

In a free blow or low resistance application, beware of exceeding the fan motor's full load amp limit (refer Outdoor Unit's wiring diagram).

Note: The SAT-2 Controller automatically switches the indoor fan off during de-ice, therefore no additional wiring is required to achieve this result.

SAT-2 CONTROLLER

The following components are supplied in a box taped inside one of the supply air spigots:

1. SAT-2 Wall Control plaque, including wall mounting plate.
2. 10 m interface lead (electrical box-to-plaque).
3. User's Operating Instructions booklet.
4. Lithium CR2032 battery (3V).

Optional

1. Remote return air sensor (in box).
2. Remote return air temperature sensor lead; 1.5, 6, 12 or 25 m.
3. 20 m extended interface lead (electrical box-to-plaque).
4. ISDL indoor unit-to-OSA outdoor unit interconnecting lead; 12.5 m or 25 m; 7 core.
5. SAT-2 Zone Control PCB.
6. Zone Control 24V transformer.
7. Additional SAT-2 Wall Control plaque.
8. Infra red remote control.

Installation

The SAT-2 Controller PCB is supplied pre-installed in the ISDL unit's electrical box.

1. Isolate the ISDL unit from power supply, then remove electrical box cover.
2. Remove the SAT-2 box supplied inside one of the supply air spigots.
3. Remove the Wall Control's interface lead from this box and connect the bare wired end of the interface lead to the terminal block on the SAT-2 Controller board (refer wiring diagram). Trace the remaining length of the lead to the Wall Control's intended location.
4. Remove the Wall Control's backing plate by using a small screw driver to remove the single screw at the bottom edge of the plaque.
5. Install the Lithium battery, supplied loose, positive (+) side up in the Wall Control's battery holder.
6. Check the wall where the Wall Control plaque is to be located is flat before fastening the wall mounting plate. Alternatively, the mounting plate can be screwed to a standard wall socket mounted horizontally.
Note: Use low profile (mush) headed screws to prevent contact with the PCB board. Fixing the plate to a distorted surface may damage the control.
7. Drill hole in wall to allow cable entry.
8. Connect the interface lead's lugs to the Wall Control board as per the wiring diagram overleaf.
9. Ensure the interface lead is run separately and away from main power supply wires, including the interconnecting cable. When installing cabling, trim any excess length to suit your location.
10. Fill around the interface lead with foam or cover hole with PVC tape to prevent draft from wall cavity affecting control operation. Do not use aluminium duct tape.
11. Secure the Wall Control body to the mounting plate by replacing the locking screw removed earlier.
12. Replace the ISD electrical box cover.

Remote Air Temperature Sensor/s (option)

The air temperature sensor is by default located in the Wall plaque. Optional remote air temperature sensors are available so that the measurement of the room temperature can be taken away from the wall plaque, eg. elsewhere in the room or in the return air duct.

Remote sensor's can be plugged directly into the Controller board (PCB). This board accepts up to four sensors which are designated as 'zones' one to four. The first return air sensor will automatically replace the Wall Control sensor and should be located in the same room as the Wall Control. The Controller will always use the average of the zones selected. Refer to the separate installation instructions supplied with the PCB for further details.

Ensure all remote sensor wires are run separately and away from main power supply wires, including the interconnecting cable.

ISDL/OSA SYSTEMS WITH ELECTRIC HEATER BOX

Replace the system's external fuse with the size recommended in the table on the Outdoor Unit's wiring diagram.

Note: Tandem indoor units with electric heat may require greater fuse sizes on the power supply.

DIP switch 2 on the SAT-2 Controller PCB, located in the ISDL electrical box, must be set to 'On' (refer wiring diagram).

COMMISSIONING

Indoor Unit

1. Check that the wall thermostat is correctly wired and set at the desired temperature.
2. Check that the air filter is clean.
3. Check that the fan runs freely without vibration.
4. Check condensate drain for free drainage.
5. Refer to Outdoor Unit Installation Instructions to complete the start-up and commissioning procedure for the complete air conditioning system.

This procedure will require a demonstration of the Wall Thermostat to the owner/user, after having first thoroughly familiarised yourself with the User's Operating Instructions

MAINTENANCE

Weekly For First Four Weeks

1. Check air filter; vacuum clean as necessary.
2. Check condensate drain for free drainage.

Monthly

Check air filter; vacuum clean as necessary.

Six Monthly

1. Check condensate drain for free drainage.
2. Check heat exchanger coil; vacuum or brush clean as necessary.
3. Check the tightness of the fan.
4. Check that fan motor is free running.
5. Check tightness of electrical connections.
6. Check air supply at diffuser outlets.

WARNING

This unit is designed for use ONLY with the refrigerant HFC-410A (R410A). The use of other refrigerants is NOT authorised or approved by the manufacturer and may cause operational problems such as poor performance and efficiency, loss of capacity, degradation of materials and refrigerant leaks.

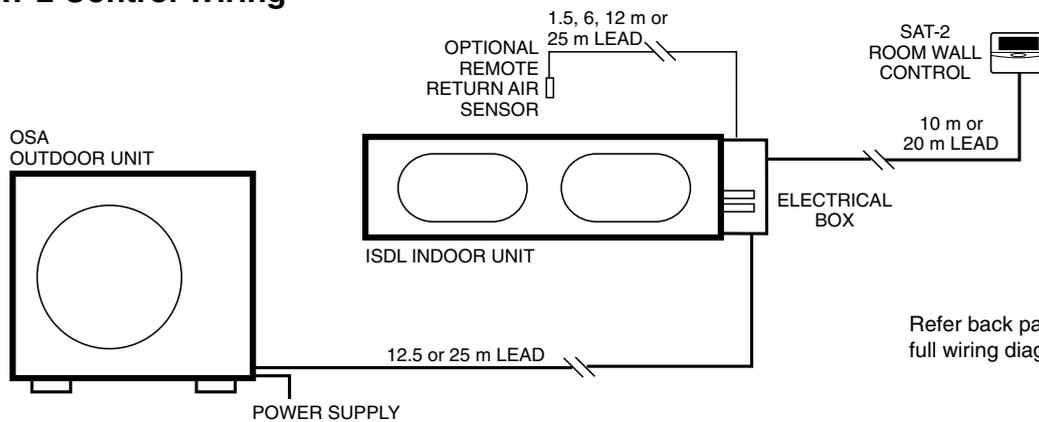
The use of flammable or explosive materials as a refrigerant creates the additional risks of fire and explosion which may result in property damage, personal injury or death.

NOTE

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This pamphlet replaces the previous issue no. 3299 dated 01/10.
ISDL 83K added; wiring rev. I.

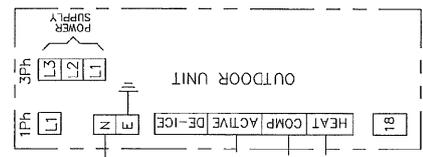
Fig. 4 SAT-2 Control Wiring



Refer back page for full wiring diagram.



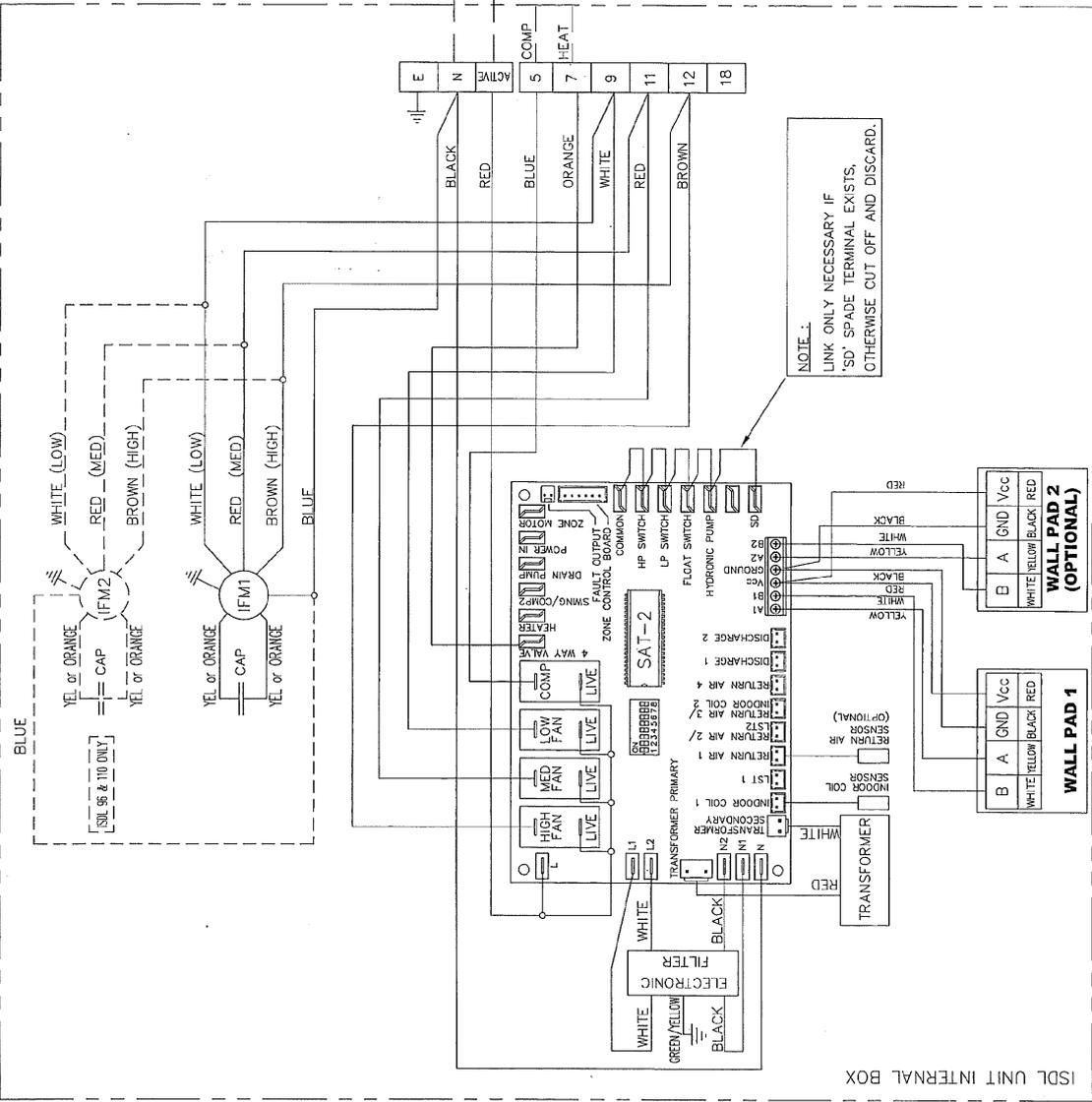
MODEL	ISDL 55	ISDL 56	ISDL 80	ISDL 83 & 95	ISDL 96 & 110
INDOOR FAN MOTOR	HIGH	0.87	0.94	1.03	1.3
	MED	0.6	0.7	0.75	1.0
	LOW	0.51	0.58	0.65	0.88
CAPACITOR	5.0 MFD	5.0 MFD	5.0 MFD	5.0 MFD	3.5 MFD (75W MOTOR) 5.0 MFD (150W MOTOR)



DIPSWITCH SETTINGS

STANDARD SETTING	OFF	ON
1	COOL ONLY	HEAT PUMP
2	NO ELECTRIC HEATERS	ELECTRIC HEATERS FITTED
3	1.5°C DIFFERENTIAL CONTROL	1.0°C DIFFERENTIAL CONTROL
4	FAN ON IN COOL CYCLE DEAD BAND (RECOMMENDED FOR IN-DUCT SENSORS)	FAN OFF IN COOL CYCLE DEAD BAND
5	AIR COOLED	HYDRONIC
6	TWO STAGE	SINGLE STAGE
7	ALARM RELAY TURNS ON UPON COMPLETE LOCKOUT OF SYSTEM FAULT	ALARM RELAY TURNS ON WHENEVER THERE IS SYSTEM FAULT
8	FAN ON IN HEAT CYCLE DEAD BAND (RECOMMENDED FOR IN-DUCT SENSORS)	FAN OFF IN HEAT CYCLE DEAD BAND

NOTE: PLEASE SELECT CORRECT POSITION WITH OR WITHOUT HEATERS ON ASSY



NOTE: LINK ONLY NECESSARY IF 'SD' SPADE TERMINAL EXISTS, OTHERWISE CUT OFF AND DISCARD.

Title ISDL 55K-D TO 110K-D
C/W SAT-2 T'STAT WIRING SCHEMATIC



Drawn B.P	Date 17.03.07	Drawing No.	Revision
Scale	1:1	525-104-002	1

PLOTTED 21-12-09
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NOTE: CHECK WIRING BEFORE SWITCHING ON, INCORRECT CONNECTION WILL DAMAGE MOTORS.
CLIENT WIRING Interconnections between units by client. Double insulated multi-core cable.

ISSUE	MODIFICATION	ECN	DATE	APRVD
I	ISDL 83 ADDED TO TABLE		12-09	D.A.B
H	ISDL 96 ADDED TO TABLE & NOTE		11-09	D.A.B
G	ISDL 56 ADDED TO TABLE		05-09	D.A.B
F	T'STAT WAS SAT-1, NOW SAT-2. NOTE ADDED FOR TERM. 'SD'		26.05.08	B.P
E	REMOVE LOOP TO TERM.13 ON SAT-1		16-11-07	ROD