

VRF Multi system **KXZR 3-PIPE** series

Heat recovery

ELECTRICAL CONNECTIONS

Signal line

The signal line is 5 VDC and uses 2 non-polarised conductors marked A1 and B1. AB connects the outdoor unit to the indoor unit and vice versa. For the signal line with 2 conductors, use shielded cables measuring 0.75 or 1.25 mm². Earth the shield on all the indoor

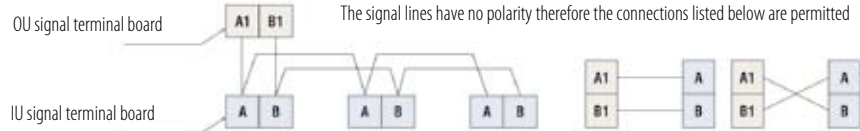
	0.75 mm ²	1.25 mm ²
~1000 mm	YES	YES
1000~1500 mm	YES	NO

and outdoor units.

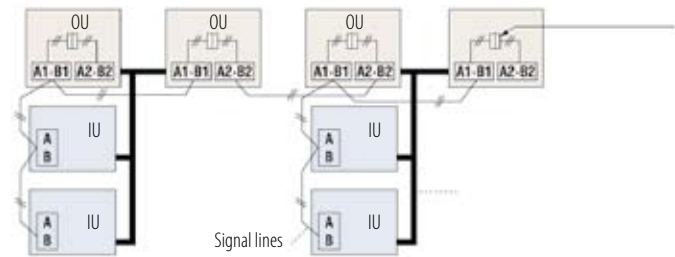
If using combined outdoor units, connect:

- The signal line between indoor and outdoor units, and the signal line between outdoor units that belong to the same refrigerant line, to A1 and B1;
- The signal line between outdoor units belonging to a different refrigerant line to A2 and B2.

Single outdoor unit



Combined outdoor units



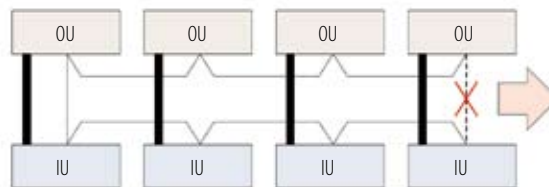
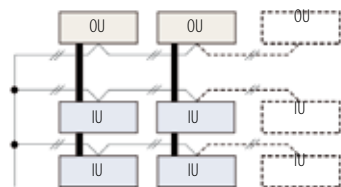
The maximum number of indoor units that can be connected to a signal line is 128, and it is possible to create groups of outdoor and/or indoor units connected to the same outdoor unit or to separate outdoor units, as long as they are connected to the same signal line. The signal line can also be connected by adopting the method described below (multiple connectors).

Wired remote control

The specifications for the connection between the wired remote control and the indoor units (XY connection) are 0.3 mm² x 2 wires. The maximum permitted length is 600 m. If the length exceeds 100 m, refer to the table.

Length (m)	Type of cables
100~200	0.5 mm ² x 2 wires
~300	0.75 mm ² x 2 wires
~400	1.25 mm ² x 2 wires
~600	2.0 mm ² x 2 wires

IMPORTANT: A loop connection of the signal lines is NOT ALLOWED



A loop cannot be formed with the signal, therefore the section of the connection indicated with is not permitted

FLOW DIVIDER

PFD 1124-E, PFD 1804-E, PFD 2804-E, PFD 1124X4-E

Designed and manufactured at Mitsubishi Heavy Industries specialist research laboratories, the PFD flow divider now enables all indoor units to be integrated into an air conditioning network, to switch from cooling mode to heating mode, or vice versa, while the whole system remains operational, thus preventing costly power on and power off cycles. In case of conversion from cooling mode to heating mode and vice versa, by simply combining the indoor unit and the PFD box, the sound level is reduced, thanks to the shutdown of the compressor which, however, does not lead to any reduction in capacity. The risk of refrigerant leaks is reduced by changing the welding method between the refrigerant piping and the PFD box.

By using the optional extension cable for the PFD box, equipped with a connector, it is possible to further separate the PFD box from the indoor unit. This enables a reduction in sound level caused by the PDF box and the flow of refrigerant.



4-outlet PFD



Relay kit



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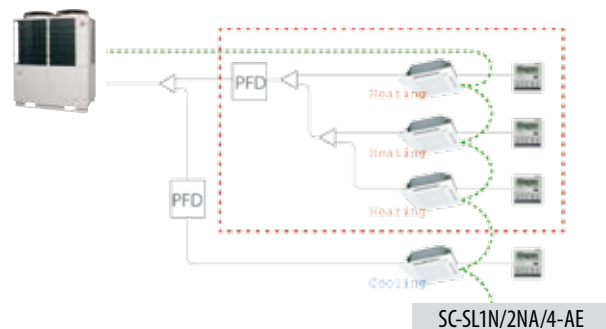
FLOW DIVIDER

PFD 1124-E, PFD 1804-E, PFD 2804-E, PFD 1124X4-E

Selection and control from centralised panel

The remote control settings (such as power on/off of single indoor units, temperature setting, as well as controlling the heating/cooling procedures) are possible via a remote control connected to each indoor unit. At the same time, together with the individual remote control, the SC-SL1N/2NA/4-AE centralised control panels can also be used.

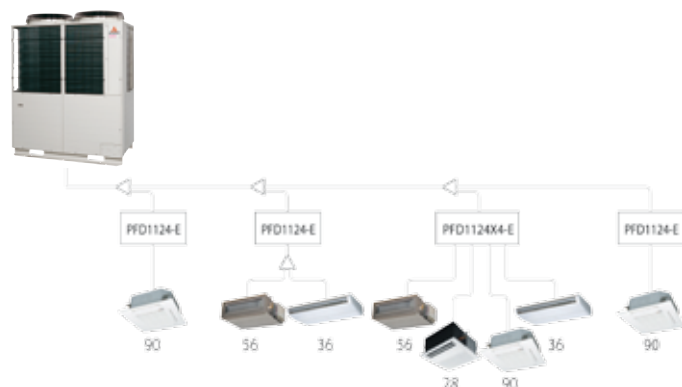
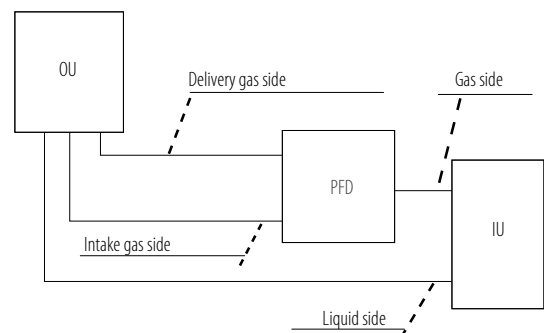
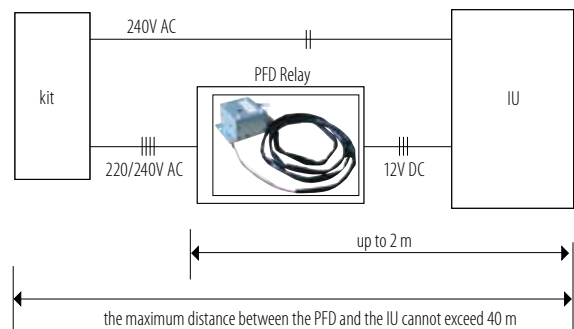
For more details, refer to the Installation Manual.



Ease of installation

The design PFD flow divider makes it possible to connect the liquid line of the indoor unit directly from the liquid piping coming from the outdoor unit, therefore bypassing the PFD. This reduces the number of connections per indoor unit and, consequently, installation times and costs. Groups of indoor units up to a total capacity of 44.8 kW (11.2 kW x 4) can be connected to a single PFD by means of branch pipes, therefore the units in this group will all operate in the same mode, cooling or heating. The PFD1124X4-E 4-pipe control device, able to connect up to 4 indoor units with individual operation - simultaneous cooling or heating - is also available.

The PFD flow divider is connected to the indoor unit with a 3-wire signal cable via a relay kit (supplied) to be installed within a maximum distance of 2 metres. The indoor unit, on the other hand, can be installed up to a distance of 40 m. The PFD electric power supply may derive directly from the indoor unit or from other sources.



Flow divider	Total IU power downstream	Indoor units that can be connected*
PFD1124-E	less than 11.2 kW	1-5
PFD1804-E	less than 18.0 kW	1-8
PFD2804-E	less than 28.0 kW	1-10
PFD1124X4-E	less than 44.8 kW (11.2 kW x 4)	up to 20

* Refer to the technical manuals for specifications.