Kohler PW 9000DPA

(10–250 kVA)

Parallelable up to 1.5 MVA

Technical Specification

KOHLER POWER
uninterruptible

INSTALLATION PLANNING

A certain amount of pre-planning will help provide a trouble-free installation process. You should consider the following guidelines when planning a suitable UPS location and operating environment.

Location considerations summary

- The route to the installation location must allow the equipment to be transported in an upright position.
- The floor at the proposed installation site and en-route from the off-loading point must be able to safely support the weight of the UPS and battery equipment, plus fork lift or trolley jack during transit.
- Cooling air enters the front and bottom of the UPS cabinet and is extracted by ventilation fans mounted on the cabinet rear. The UPS cabinet requires space to bottom/front, top and back to enable cooling airflow (see 'Clearances' below).
- The cabinet door must be opened by 115° in order to remove/fit the UPS modules, so the right-hand side of the cabinet cannot be positioned directly against a projecting wall
- All parts of the UPS required for maintenance, servicing and user operation are accessible from the front of the cabinet and require a minimum front clearance of 1000mm.
- Provision must be made for cabling the UPS. All cables enter through the bottom of the cabinet and connections are made from the cabinet front.

Environmental considerations summary

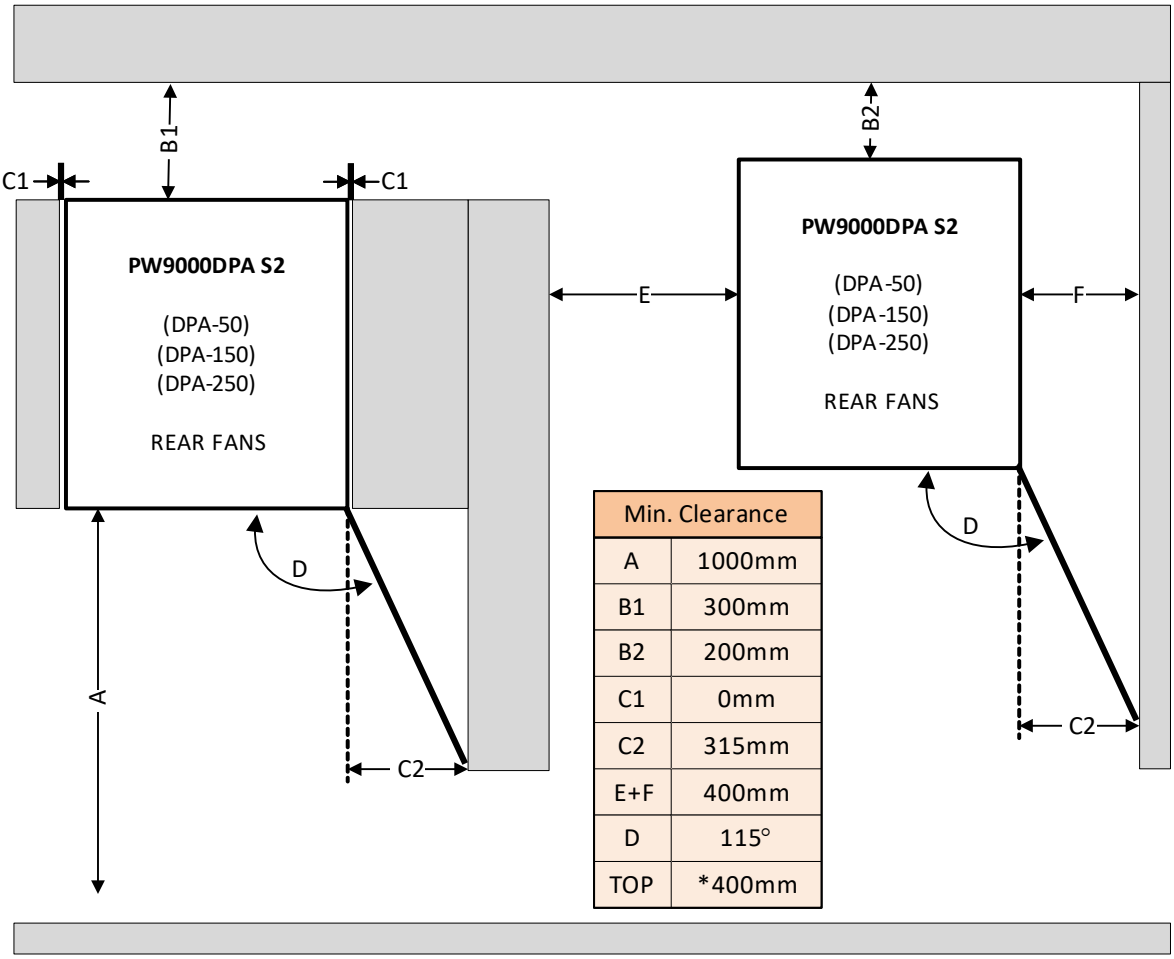
The immediate UPS environment should satisfy the following conditions:

- The UPS can operate with in a temperature range of 0-40°C
- A battery temperature of 20°C is recommended to maximise the battery life span.
- The air conditioning system must be able to provide a sufficient amount of air cooling to keep the room at, or below, the maximum desired temperature.
- Adequate cooling air flow must be available.
- Cooling air entering the UPS modules must not exceed +40°C.
- The humidity should be maintained at < 90% non-condensing.
- The floor material should be non-flammable and strong enough to support the heavy load.
- Fire protection standards must be respected.
- The location must be dust free and no corrosive/explosive gases present.
- The location is vibration free.

CLEARANCES

The diagram below illustrates the required clearances that must be provided around the UPS cabinet.

All parts of the UPS that require access for maintenance, servicing and user operation are accessible from the front of the cabinet. Ensure that all ventilation ports are kept clear



Min. Clearance	
A	1000mm
B1	300mm
B2	200mm
C1	0mm
C2	315mm
E+F	400mm
D	115°
TOP	*400mm

It is necessary to open the door fully to remove some internal assemblies during maintenance procedures. If the cabinet is placed against a wall ensure sufficient space is provided (C2).

If the cabinet is not positioned immediately adjacent to any other cabinet or battery enclosure, the clearance behind the unit can be reduced from 300mm (B1) to 200mm (B2) if the total combined side clearance (E+F) is at least 400mm.

*A TOP clearance of 400mm is only required if there is no otherroute at the rear of the UPS to dissipate the cooling air flow.

UPS POWER CABLING

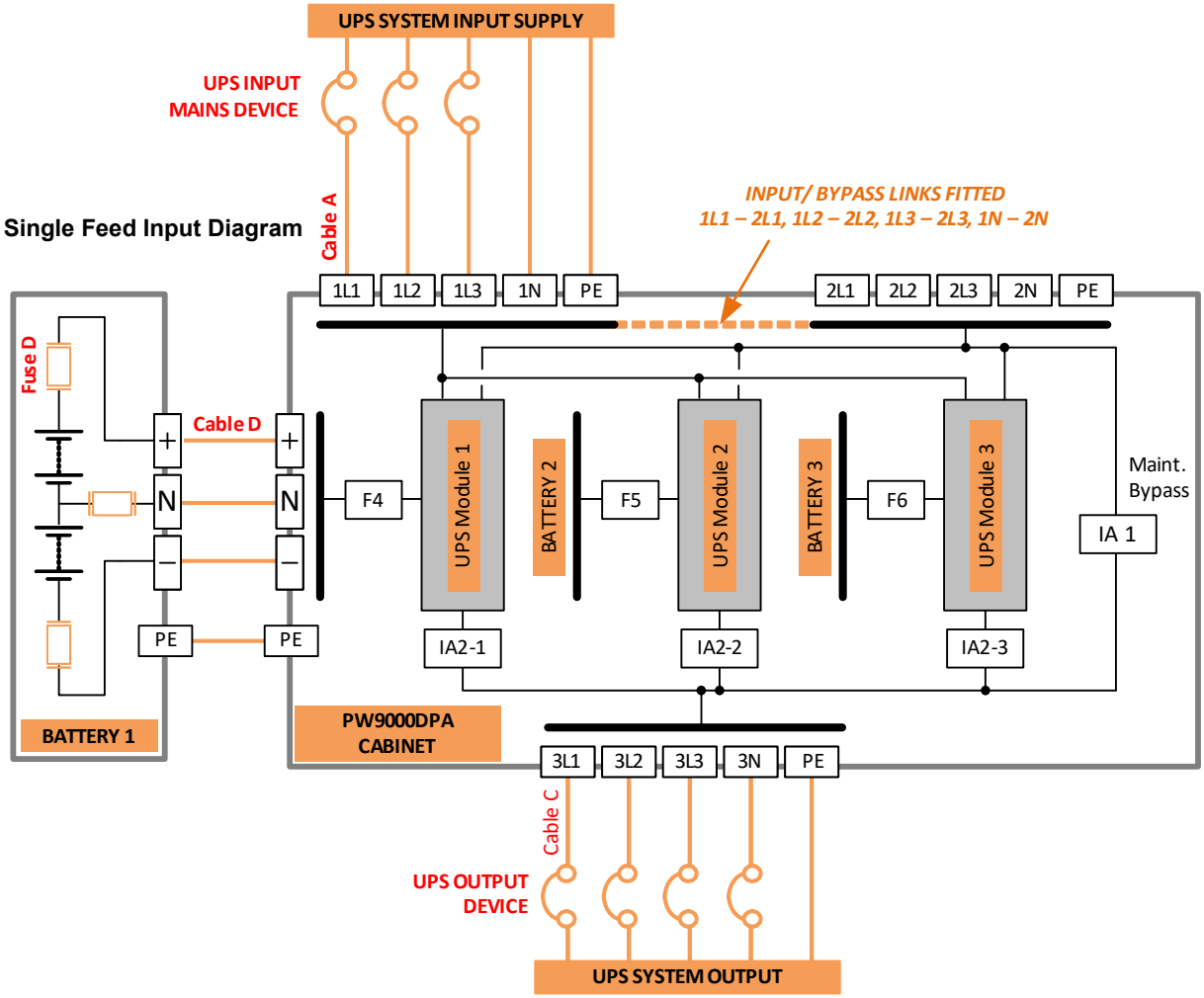
The UPS cabinet can be wired for a 'single feed' or 'dual feed' input. In a 'single feed' system (standard) the UPS input mains terminals and bypass mains terminals are internally linked together within the UPS cabinet, but in a 'dual feed' system the links are removed and the UPS bypass mains terminals are connected to a dedicated supply. The two configurations are shown in the following simplified diagrams. Note that for a dual feed system where the input mains and bypass mains are obtained from the same AC source, it is permissible to leave the 'single feed' neutral link fitted and only connect one the neutral from the input mains neutral.

All input mains and bypass mains cables should be connected through a LV switchgear panel and protected by circuit breakers or fuses to provide overload protection and a means of isolating the UPS from the mains supply when required. Similarly, the UPS output cables should be connected to the load equipment via a suitably fused output switchgear panel.

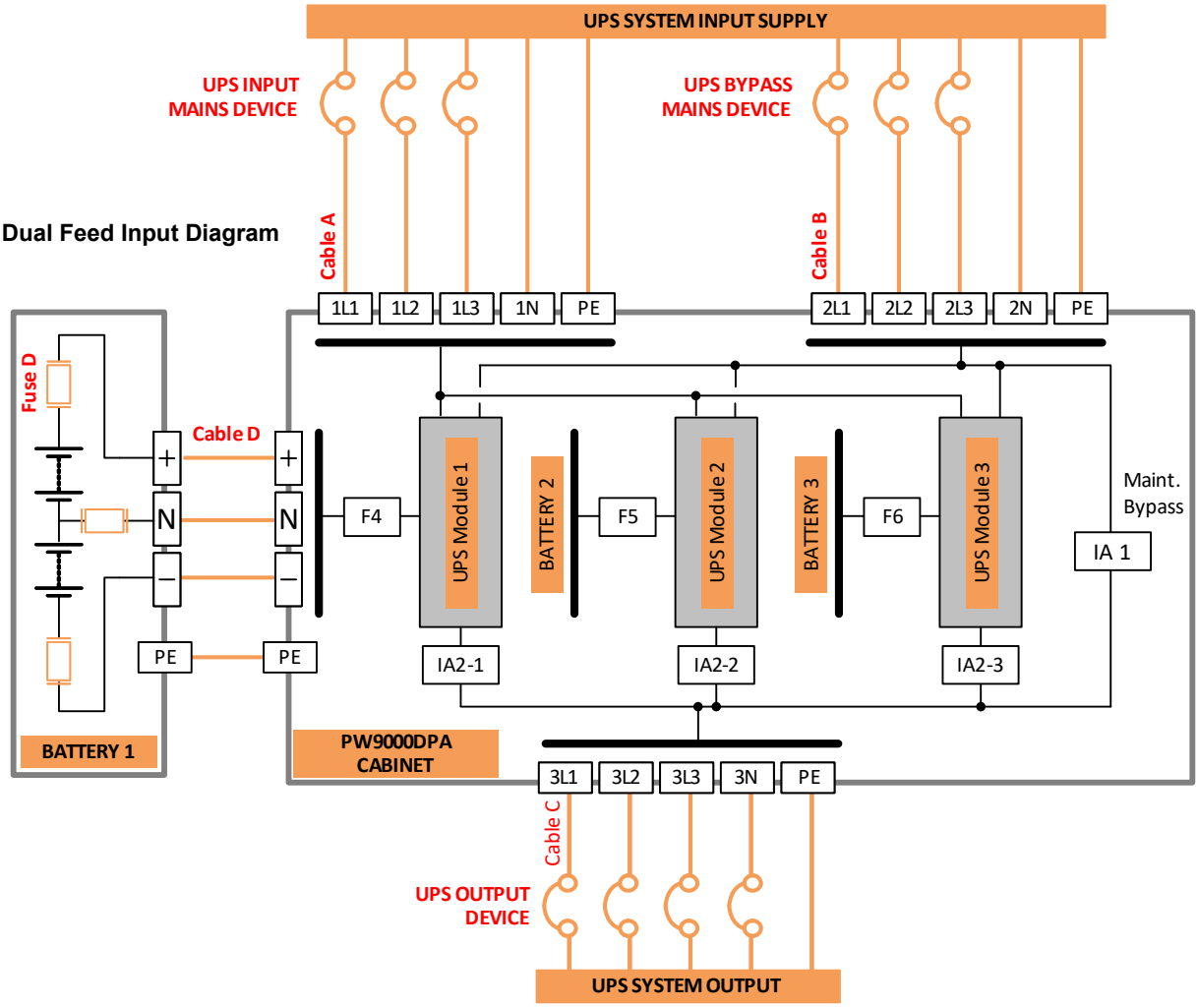
In the following diagrams all the cables and fuses identified as 'A', 'B', 'C' and 'D' are bespoke to the installation and must be provided by the customer. The required current ratings and cable termination details are shown in the ratings table on page 15. Internal battery cables are supplied with the cabinet.

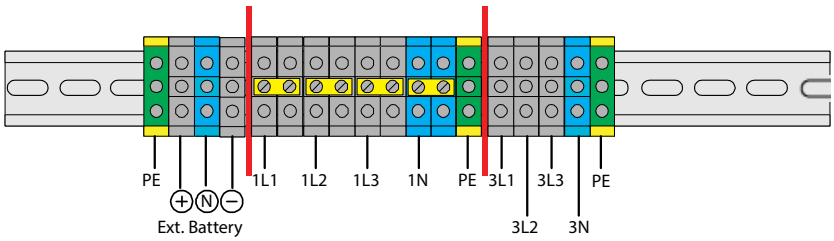
Note: The cabling diagrams show an external battery enclosure, which is standard for the DPA-250. The DPA-50 and DPA-150 models contain internal batteries complete with a fused battery isolator for each fitted power module but an external battery can also be used with these models if a long autonomy times is required.

Single Feed Input Diagram



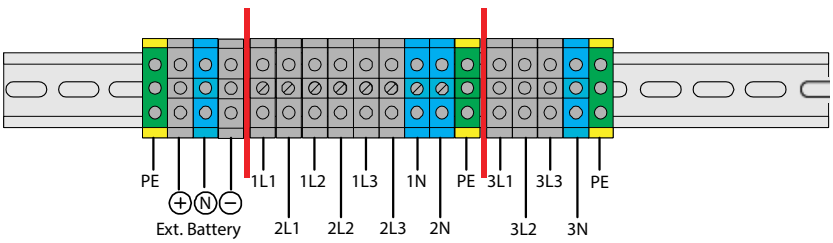
Dual Feed Input Diagram





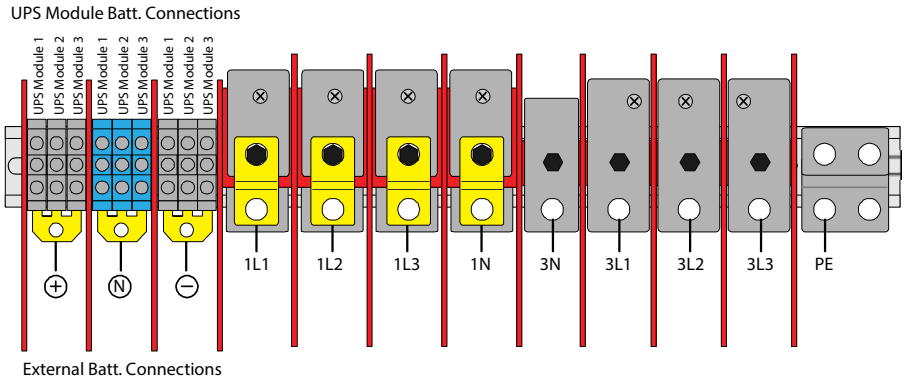
DPA-50 Single Feed Power Connections

Links shown in yellow across top of input mains terminal blocks.



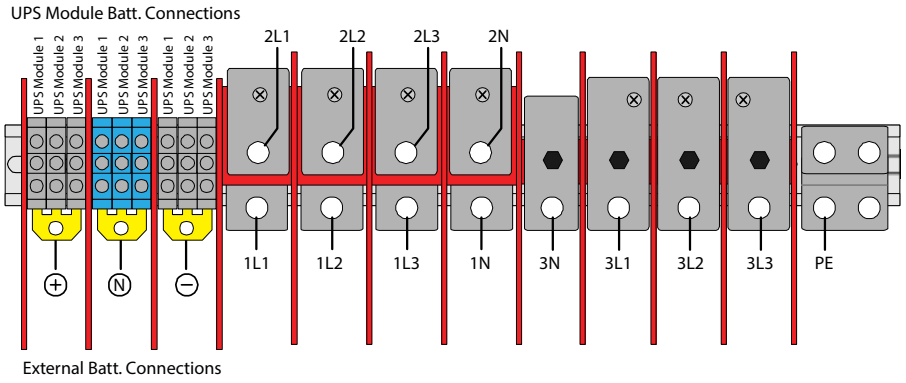
DPA-50 Dual Feed Power Connections

Links removed from top of mains input terminal blocks and dedicated bypass mains supply is connected.



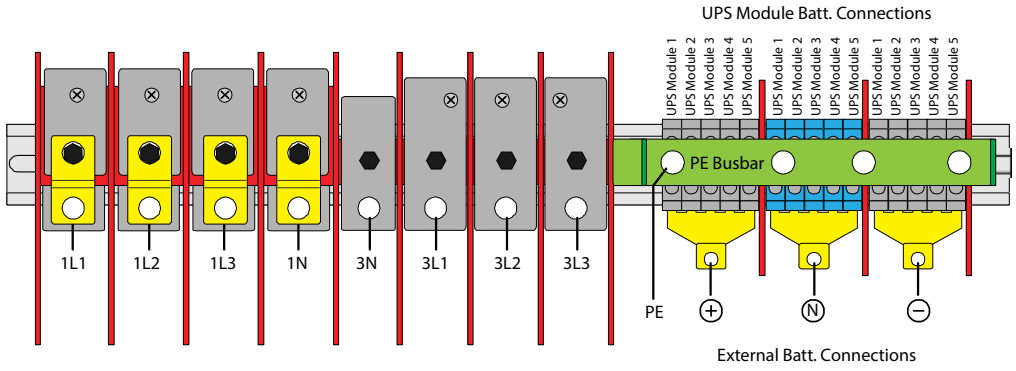
DPA-150 Single Feed Power Connections

Links shown in yellow linking the mains input terminals to the bypass input terminals. Common battery links shown in yellow can be removed for a separate battery installation.



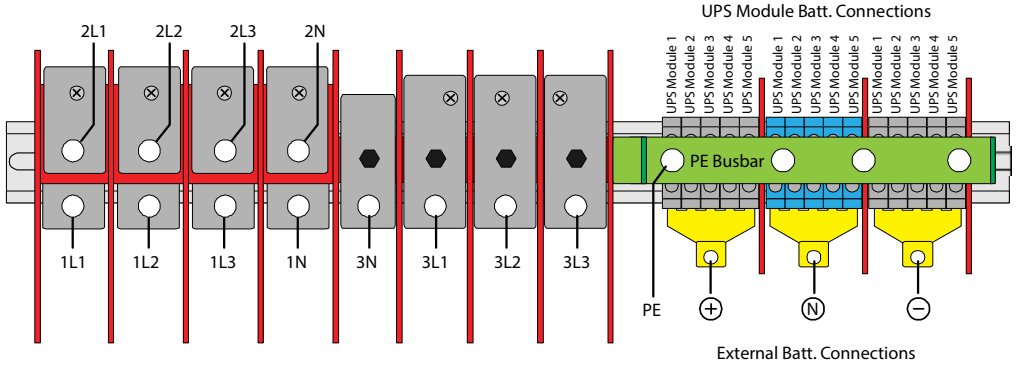
DPA-150 Dual Feed Power Connections

Links between the mains input and the bypass input terminals are removed and dedicated bypass mains supply is connected.



DPA-250 Single Feed Power Connections

Links shown in yellow linking the mains input terminals to the bypass input terminals. Common battery links shown in yellow can be removed for a separate battery installation.



DPA-250 Dual Feed Power Connections

Links between the mains input and the bypass input terminals are removed and dedicated bypass mains supply is connected.

Cable sizing

The table below shows the maximum UPS input and output current carried by each set of power cables, together with cable termination details. This is provided to assist the customer to select appropriately rated power cables and external switchgear.

Key Point: This information is given for guidance only. All fuses, isolators and power cables must be rated and installed in accordance with the prescribed IEC standards or local regulations – e.g. BS7671.

	INPUT MAINS (A)		BYPASS MAINS (B)		UPS OUTPUT (C)		BATTERY CONNECTIONS
	Max. Amps	Terminal	Max. Amps	Terminal	Max. Amps	Terminal	
DPA-50	67A	5x 16/25mm^2(T)	67A	4x 16/25mm^2(T)	72A	5x 6/25mm^2(T)	4x 16/25mm^2(T)
DPA-150	202A	4x M10 (B) +PE 1xM10 (B)	202A	3x M10(B) +PE 1xM10 (B)	218A	4x M10 (B) +PE 1xM10 (B)	10x 16/25mm^2(T) + 1xM10(B) S. Batts 4 x M10 (B) C. Batts
DPA-250	337A	4x M12 (B) +PE 1xM12 (B)	337A	3x M12 (B) +PE 1xM12 (B)	362A	4x M12 (B) +PE 1xM12 (B)	15x 16/25mm^2(T) +1x M12 (B) S. Batts 4 x M12 (B) C. Batts

(PE) = Protective Earth
(S.Batts) = Separate batteries – (C. Batts) = Common Batteries
(B) = Busbar connections with indicated bolt size. Cable must be terminated with a suitable lug.
(T) = Screwed terminal block with indicated maximum cable c.s.a. Cable ends must be suitably prepared.