

Guidance in Specifying ProPower and TemPower Distribution Products

The more information that we are provided with about your installation and the product that you require, the greater the likelihood that we will supply you with exactly what you need. Therefore, when we are quoting for special assemblies, in addition to the main switchgear or controlgear to be incorporated, guidance on the points listed below is of great assistance. However, in the absence of detailed information or specific requirements, we assume the equipment is for use in the UK and we endeavour to make quotations as clear as possible about the specification of the product that is being offered.

Installation Characteristics

- What is the Prospective Short Circuit rating at the point of installation? (See Overcurrent section below.)
- Is the average ambient temperature above 30°C or the humidity above 90°?
- Are thermostatically controlled anti-condensation heaters required?
- Is the altitude above 2000M?
- Is the atmosphere polluted?

Enclosures

- Is the enclosure to be free-standing or wall mounting?
- If free-standing, is it to be bolted down and will there be access to all four sides?
- Where are the cable entry and exit points to be positioned? (Top, bottom, sides.)
- What IP rating is required? (See separate Tech Data Sheet on IP ratings and also refer below ##.)
- If access doors are fitted, are they to be fastenable or lockable? If lockable - by key or padlock? (See below about emergency isolation).
- Is the enclosure to be made from steel or is it to be all-insulated?
 - If the enclosure is made from steel: (i) is it to be made from mild steel or stainless steel (please specify the grade of stainless); (ii) is a specific gauge (thickness) of metal required; (iii) is there a specific type of finish required (see separate Tech Data sheet on Finishing); (iv) if a painted finish, is a specific shade required for the top coat?
 - If the enclosure is to be all-insulated, is it to be made from a specific material i.e. polycarbonate, GRP, Rubber, etc?

IP Ratings.

We can make steel enclosures with IP ratings of up to IP66. However, it is important to bear in mind that very high IP ratings are only maintained in the long term if doors are properly closed and fastened and regular maintenance work is carried out, such as the replacement of damaged gaskets. It is also worth bearing in mind that IP66 permits no ingress of dust at all. If there is a genuine requirement for IP65 or IP66 enclosures, then the use of switchgear that does not require doors or covers to be opened for routine operation should be considered. If limited dust ingress is acceptable, then lower IP ratings, such as IP54, IP55 or IP56 should be considered, housing conventionally operated switchgear.

Cabling

- What are the sizes and types of the incoming and outgoing cables? (Termination room is generally in accordance with BS5372)
- For bottom entry, what distance is required from the ground to the underside of the gland plates?
- Is special cable to be incorporated within the assembly i.e. LSF/LSOH?

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Isolation

Does the assembly require a Main Isolator?

Is it to be lockable in the OFF position? (Usually padlockable).

Is it to be accessible at all times for emergency isolation or can it be located behind a lockable door or cover? (BS EN 60439/4 - Assemblies for Construction Sites - states that all switchgear must be accessible at all times.

This has not traditionally been the practice in the UK, where only access to the Main Isolator has been required at all times, for emergency isolation. The Distribution Switchgear compartments of Blakley Mains Distribution Assemblies are pre-drilled for a padlock hasp; a padlock, hasp and fixings are provided for the customer to fit if required).

Overcurrent and Short Circuit Protection

If a main Incoming MCB or MCCB is required, can this also perform the function of the Main Isolator?

Can cascading be employed to optimise the cost and size of equipment on installations with a high PSC?

Is short circuit protection discrimination required between different levels of distribution in a scheme?

As standard we incorporate Merlin Gerin switchgear. Other makes can sometimes be accommodated although there is often an impact on cost and delivery. Refer to our separate Tech Data sheet on Merlin Gerin MCCBs and MCBs for further information on Cascading, Distribution and MCCB Adjustability ranges.

Don't forget!

- If an MCB Pan Assembly (an MCB Board Interior) is to be incorporated within a switchboard that has a main protective device rated higher than 225A, then the MCB pan assembly must be protected by an MCCB rated at up to 225A, located within the same board.
- MCCBs and MCBs that feed inductive loads (transformers, motors, etc.) need to have a suitable instantaneous trip characteristic (MCBs to be Type "D"; MCCBs to have an instantaneous trip setting of at least 10 times In).
- On circuits fed from the secondary of small power transformers, overcurrent protection for distribution circuits should be incorporated on the secondary side of the transformer and not on the primary.
- The overcurrent protection provided for Single-phase Centre Tapped to Earth and Earth Free circuits should be Double-pole and not Single-pole, as there are two live lines and not a line and neutral.

RCD Protection

Is RCD protection required on incoming and outgoing switchgear? (In most cases, we would strongly recommend the deployment of High Sensitivity RCDs on individual outgoing circuits rather than protecting incomers of such assemblies).

What sensitivity RCD protection is required.? (Where supplementary direct contact protection is required the sensitivity must be 30 mA or more sensitive with undelayed response).

Is the RCD protection to incorporate Time Delay? (Time delay is essential to achieve discrimination between different layers of RCD - but must not be incorporated where supplementary direct contact protection is required i.e. where 30 mA RCDs are provided).

If MCCBs are to incorporate RCD protection are the MCCBs to be TP with a solid neutral or 4 pole with a switched neutral? (Switched neutrals are recommended when feeding domestic type loads, in order to isolate neutral-earth faults).

Socket Outlets to BS EN 60309-2

What current rating sockets are to be fitted? (They are available at 16A, 32A, 63A and 125A.)

What pin configurations are to be fitted? (They are available in 2P, 2P+E, 3P+E and 3P+N+E.)

What voltages are required? (They are available in 24V, 42V, 110V, 240V, 415V, 500V and 750V.)

Are the sockets to be switched and interlocked? (On construction sites, all sockets rated above 32A should be interlocked so that the plug cannot be withdrawn on-load or inserted on to a fault - BS7375 refers).

Are IPX4 or IPX7 sockets required? (This will often govern, or be governed by, the IP rating of the overall assembly).

Transformers

Specify the rating and voltage of transformers to feed sockets mounted to our assembly or fed from it, as well as the associated circuit protection.

Miscellaneous

At time of inquiry please specify all Test, Inspection and Certification requirements. In addition, information about off-loading facilities on site will enable us to make suitable allowances for transportation.

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