BLAKLEY ELECTRICS

CASE STUDY
DATA SHEET

800A Mains Distribution Assembly with Segregation to Form 4b Type 7

In recent years we have seen significant growth in demand for high current Mains Distribution Assemblies (MDAs) with segregated construction, which allow cables to be routinely connected and disconnected without the need to isolate the whole assembly. The segregation classification of our traditional range is Form 4a Type 3 but we are now able to offer segregation to Form 4b Type 7, where customer terminations are also segregated from functional units (MCCBs) and bus bars. All barriers are metallic and each compartment has a padlockable door, split shield plates and a dedicated gland plate. Shield plates can also be hinged, which eliminates the risk associated with removable shield plates being mislaid, leaving live parts exposed.

Part No. A7194432 - All 250A Distribution Compartment Doors Closed

We have also seen increased interest in lower current MDAs with Form 4b Type 7 segregation. The images alongside are of an 800A MDA fitted with an incoming 800A 4P MCCB and on the outgoing side a total of 9 no. 250A 4P MCCB / MRCDs and a 100A 4P CBR feeding an 8 way, TP, MCB pan assembly (there is no segregation within the MCB pan compartment, but the 4P CBR that feeds it is in a fully segregated section, allowing the pan to be fully isolated whilst its shield plate is removed).

Part No. A7194432 - All 250A Distribution Compartment Doors Open, Shield Plates Lowered

The 250A MCCBs are 4 pole Schneider CompacT MCCBs with Micrologic 2.2 trips, which can be adjusted on site from 250A to 90A. If there is a requirement for overcurrent protection at a much lower level, it is an easy job to change the 250A trips in the MCCBs, to ones rated at 100A or 40A, which can be set at less than 40A or 16A respectively. This high level of flexibility removes the need for complete MCCBs to be changed to lower rating devices, which eliminates many of the risks associated with adapting switchgear to suit site requirements as a project evolves.

Part No. A7194432 - 3 x 250A Distribution Compartment Shield Plates Raised

Each outgoing circuit is also provided with variable MRCD protection, with a sensitivity range of 100mA to 30A and a time delay range from 0 to 10 seconds. The MRCD incorporates a display which shows the standing leakage in the circuit, expressed as a percentage of the “set” sensitivity, which can help avoid nuisance tripping. Each distribution compartment also incorporates test sockets, which allows periodic testing of MRCDs to be carried out with a test instrument, without the need to remove shield plates, etc. The incoming compartment also incorporates test sockets connected to the live side of the 800A MCCB, allowing a range of tests to be carried out without the need to remove shield plates. The 800A assembly also incorporated a web enabled Smart meter, thermostatically controlled heaters and a surge protection device fed from a dedicated MCCB.

Part No. A7194432 - All 250A Distribution Compartment Shield Plates Raised

Please contact our Projects Team if you would like to discuss MDAs with Form 4 segregation.

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