

CASE STUDY DATA SHEET

IP56 Outdoor Distribution Assemblies for Operation in 50°C Ambient



Part No. A7292695 incorporating a 1600A Automatic Mains Failure arrangement in the left hand compartment and distribution MCCBs with individual metering in the right hand compartment (front and rear)

The Blakley Projects team has recently been involved with an overseas project with a requirement for permanently installed outdoor distribution equipment, which will be exposed to intense, overhead solar radiation. The enclosures provide ingress protection to IP56 and switchgear, bus bars and cabling within the assemblies are all rated for an ambient temperature of 50°C. In addition, the enclosures are painted white to reflect the sunlight; sun canopies are also incorporated to protect the main enclosure bodies from the effect of direct sunlight.

The overall package comprised of a series of distribution assemblies. The primary distribution assembly is shown above and is rated at 1600A. It incorporates an incoming automatic changeover arrangement provided by 2 no. 1600A4P motor operated MCCBs with mechanical and electrical interlock (to prevent simultaneous closure), controlled by a Deep Sea 0334 controller, which also controls the stand-by generator. The two MCCBs supply a common bus bar assembly, which feeds a series of MCCBs fitted into distribution compartments located at the front and rear of the enclosure. Each outgoing circuit incorporates a multi-function meter, which includes a kWHr function.

The sub-distribution assemblies are shown on page 2. Initially, all sub-distribution assemblies are to be fed from individual generators, and a separate generator connection chamber is fitted to the rear of each enclosure. Each set of incoming generator terminals is connected to a generator incoming switch within a panel. The generator incomer is key interlocked with the panel's mains incoming isolator, which prevents the two incomers from being closed at the same time. The permanent mains supply enters the panel via a removable gland plate in the underside of the enclosure.

All of the sub-distribution assemblies have IP56 ingress protection. Some assemblies incorporate 400V socket outlets with individual MCB and RCD protection, to feed portable or plug-in equipment. Other sub-distribution assemblies incorporate Schneider Powerpact 630A MCCB pan assemblies fitted with distribution MCCBs rated up to 250A. Please see page 2 for further details.

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Main 1600A assembly with incoming auto mains failure changeover arrangement





Double-sided 1600A assembly with sun canopy

Two separate supplies feed a common set of bus bars

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Sub-Distribution Assembly with 250A incomer and protected socket outlets to supply plug-in equipment

Sub-distribution assembly with separate incoming devices for mains and generator supplies. The two incomers are key interlocked to prevent simultaneous closure. Terminals for the generator supply are located in a separate chamber to the rear of the assembly. Socket outlets are individually MCB/RCD protected.

Sub-Distribution Assembly fitted with a Schneider PowerPact MCCB pan assembly rated at 630A



Sub-distribution assembly with separate incoming devices for mains and generator supplies. The two incomers are key interlocked to prevent simultaneous closure. Terminals for the generator supply are located in a separate chamber to the rear of the assembly. All switchgear is Schneider and is mounted within the Powerpact MCCB pan assembly.

