

## 800A Mains Distribution Assembly (MDA) for Tunnel Project

Blakley Electrics has a close connection with the tunnelling sector, which dates back well over 30 years. Tunnel projects utilise a lot of standard Mains Distribution Assemblies but they also have non-standard requirements and a recently produced 800A assembly was a case in point. The basic enclosure was derived from our B6 model but it needed to be painted white and **all** supply and load connections had to be plug-in. High current sockets required monitored earth protection and the facility was required to enable specialist Victor mining sockets to be retrofitted, if required in the future.

The incoming supply was connected by 2 no. 800A single-pole “drain” connectors per phase, neutral and earth. The connectors were located on the underside of the main incoming chamber. The incoming device was an 800A 4P MCCB, which can be set in a range from 320A to 800A. A set of incoming test sockets was also provided.

On the outgoing side, a 630A 4P MCCB with variable RCD was located in an end mounted enclosure, which supplied a set of 800A single-pole “source” connectors.

On the opposite end of the MDA another enclosure was incorporated, which housed 2 no. 250A TP contactors. Each contactor was fed from a 250A MCCB with variable RCD and feeds a 125A socket fitted to the underside of the enclosure (in this configuration the supply MCCBs are set at 125A). The enclosure was prepared to accept 2 no. 250A Victor mining sockets, which the customer can retrofit and feed from the contactors instead of supplying the 125A sockets. Each contactor is controlled by an Earth Continuity Monitor (ECM), which provides an electrical interlock for the 125A or 250A sockets and also monitors the impedance of the pilot-earth loop to the equipment being supplied. External controls are fitted, enabling the contactors to be open or closed without opening any covers or doors.

The MDA also incorporated a number of conventional sockets. To the front, a total of 4 no. 63A 400V switched and interlocked sockets were fitted and 2 no. 32A 400V sockets. Each socket was protected by an MCCB with variable RCD protection. To the rear a 125A socket with MCCB, variable RCD and an ECM controlled contactor was incorporated. In addition, a 100A MCCB supplied 1 no. 16A and 3 no. 32A 400V sockets each with suitable MCB / RCD protection. Test sockets were provided for all variable RCDs, to simplify periodic testing.

Developing the specification for a customised MDA of this nature requires a high level of discussion between the client and the Blakley Projects team. However, at the end of the process, the customer has an assembly that is well matched to their existing plant and there is the scope for the assembly to be adapted to meet future requirements.



A7085317 Tunnel MDA, 800A with plug-in supply and load connectivity.



Sockets variously provided with MCCB, variable RCD, fixed RCD and monitored earth protection



Option to retrofit 250A Victor mining sockets with ME protection if required on future projects.