

Replacement Assemblies for EDF Nuclear Power Plants

When the UK's Advanced Gas-Cooled Reactors were constructed in the 1970s and 1980s they were fitted with 400V and 110V maintenance sockets around the generating stations. After 30 to 40 years of service the original socket assemblies are coming to the end of their working lives and spare parts are no longer available. As the plants will be operating for a further 5 to 10 years, followed by a lengthy period of decommissioning, Blakley Electrics have helped to develop replacement assemblies that provide exceptionally high levels of safety for Users and Operators, meet current product standards and comply with the 18th Edition IET Wiring Regulations.

The new version of the 400V 63A welding socket is Blakley part A7292575 and it is presented in a purpose built, heavy duty enclosure providing ingress protection to IP55. The assemblies can be served from existing SWA cables, entering from above or below. The incoming cable terminates directly on to a 100A 4P switch fuse to BS EN 60947-3, which is fitted with 63A HRC fuse links to BS88. Terminations are shrouded to IP2X. The switch fuse actuator is interlocked with the compartment door, ensuring access is only possible when the switch is in the OFF position.

Earth leakage protection is provided by a Blakley ELS series, 30mA sensitivity, modular residual current device which works in conjunction with a 63A TP contactor. The combination of MRCD and contactor provides RCD protection in accordance with BSEN60947-2 Annex M.

The MRCD / contactor combination feeds a metal clad, interlocked, 400V Prinster socket to BS EN 60309-2, rated at 63A, 3P+N+E. The interlocked socket prevents insertion or withdrawal of the plug on load. In addition, the use of a contactor, as part of the RCD protection arrangement, allows the assembly to be switched ON, OFF and tested via external push switches i.e. there is no need for operators to open any doors or covers for routine operation.

The original 110V sockets were rated at 15A and were made to BS196. Matching plugs were available with pins fused at 15A, which allowed sockets to be supplied on circuits protected by fuses rated above 15A. The replacement assembly is Blakley part S120203, which incorporates a 16A metal clad socket to BS EN 60309-2. Plugs to this standard are unfused and to ensure sockets are adequately protected against overcurrent, each socket assembly incorporates a 16A DP MCB. The MCB also acts as a local isolator and can terminate two incoming cables per pole, each with a cross section of up to 10mm² (loop-in, loop-out).

For mains voltage applications, we are able to supply a socket assembly fitted with a 16A 230V socket with integral 30mA / 16A RCBO, which provides overcurrent and earth leakage protection.

GA drawings of the above assemblies are on page 2.

If you would like further details on these assemblies, please contact our Customer Services team at Crayford.



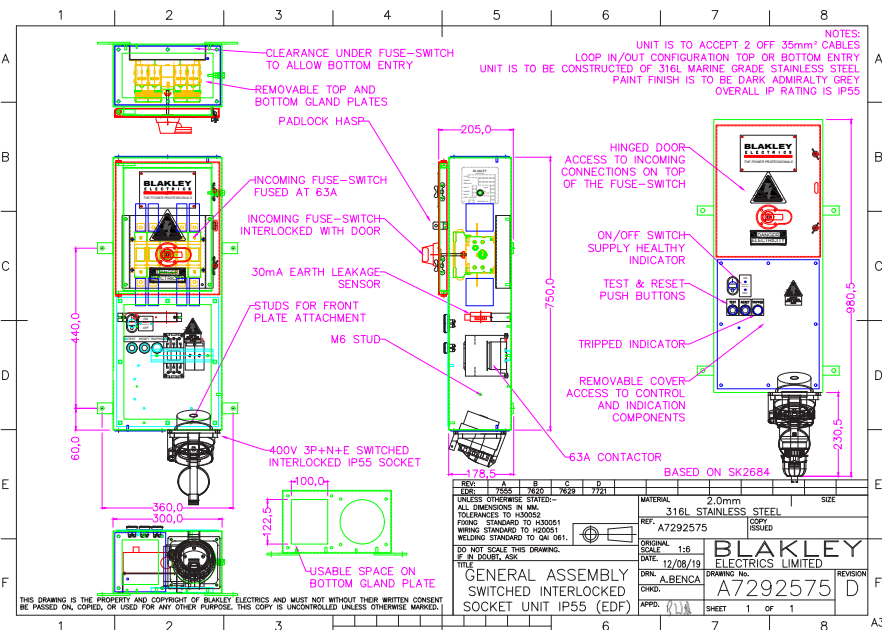
A7292575 - Maintenance Socket, 63A, 400V, with integral fuse and RCD protection with shield plate removed



S120203 - RLV Maintenance Socket, 16A, 110V, with integral 16A DP MCB, with shield plate removed

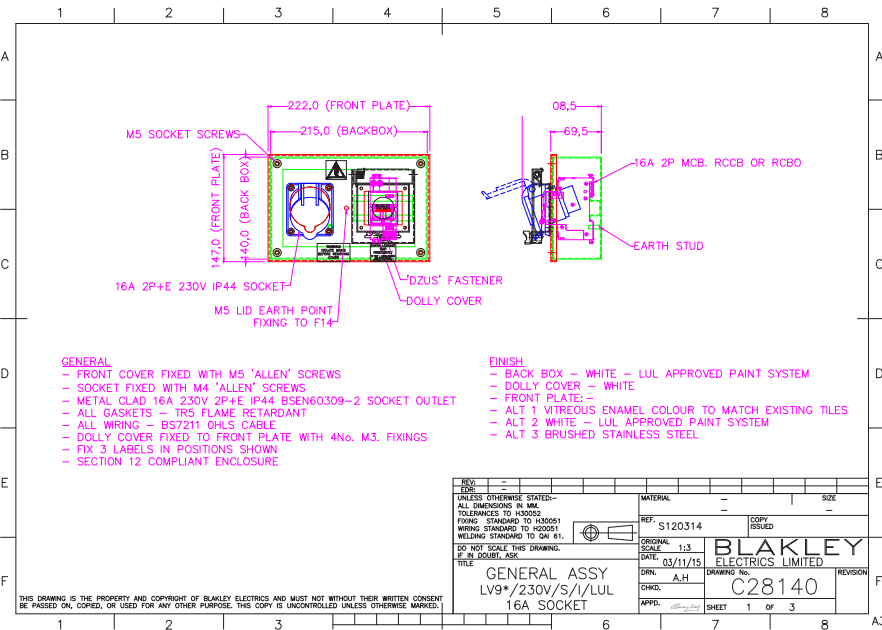
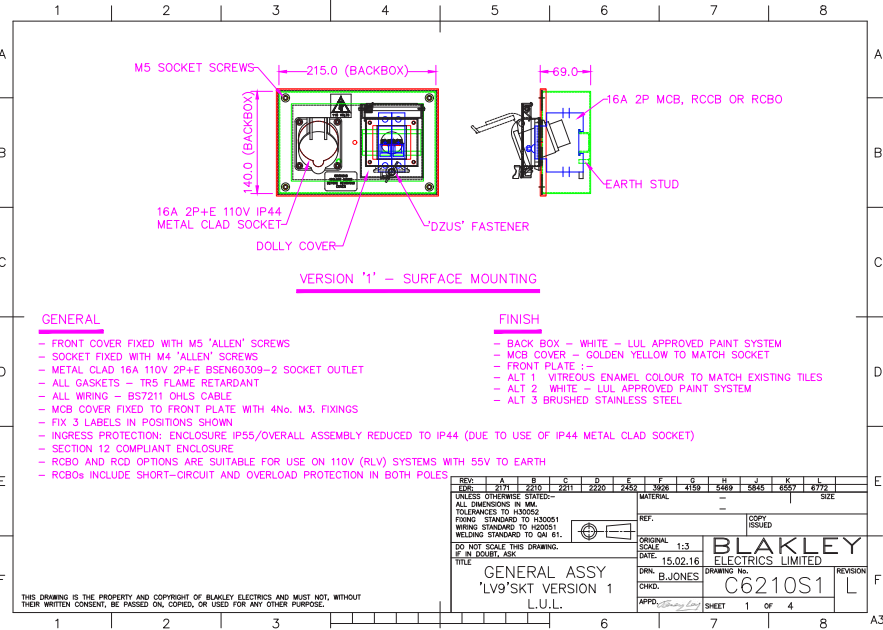


S120314 - LV Maintenance Socket, 16A, 230V, with integral 16A 30mA RCBO with shield plate removed



Welding Socket 63A, 400V, 3P+N+E

RLV Socket, 16A, 110V, 2P+E with Overcurrent Protection



LV Socket, 16A, 230V, 2P+E with RCD & Overcurrent Protection