

Special Project

Trailer Mounted 400A Distribution Assembly for Electrical Utility

When a domestic consumer or a business loses its electricity supply, whether it is due to flooding, vandalism or equipment failure, the loss of power for a prolonged period can have far reaching consequences for all concerned. As part of its emergency response contingency planning, a leading electrical utility has recently invested in trailer mounted distribution equipment to provide consumers with much needed power, quickly, safely and efficiently. This plug and play, 400A rated, trailer mounted assembly works in combination with one or more generators of up to 250 kVA rating and can provide single and three-phase power for up to 28 consumers. Furthermore, a "through" connection allows additional trailer mounted assemblies to be plugged-in, enabling power to be restored to more customers.

Electrically, the assembly incorporates parallel 400A single-pole connectors (3P+N+E), enabling it to be plugged-in to one or two generators, which can run in parallel or as duty and stand-by sets. The input connectors feed a 400A MCCB with associated ammeter, voltmeter and selector switches. The incoming MCCB supplies (i) a set of outgoing 400A single-pole connectors, enabling additional trailers to be plugged-in and (ii) socket outlets to provide temporary power for consumers. The standard array of outlets consists of 21 no. 63A, 2P+E, 230V sockets and 7 no. 63A, 3P+N+E, 400V sockets. Each socket is switched and interlocked and individually protected by an MCB and 30mA RCD. An ammeter is also provided for each circuit.

Mechanically, the assembly comprises of a purpose built, two sided, weatherproof enclosure, mounted within an outer, vandal resistant cabinet with side hinged, padlockable doors. A manually operated light is provided within each distribution section. The outer enclosure incorporates removable cable access slots beneath each door, allowing cables to exit the assembly with the doors closed. The complete assembly is mounted on to a 4 wheeled road trailer with prop stand. General arrangement drawings of the assembly are shown on page 2.

A range of extension leads were also provided, to connect the trailer to individual consumers.

If you have a requirement for trailer mounted distribution assemblies please contact the Blakley Projects Team.



Distribution compartment c/w 7 x 230V and 7 x 400V interlocked sockets



Distribution assembly mounted on road trailer



Road trailer hitched to vehicle

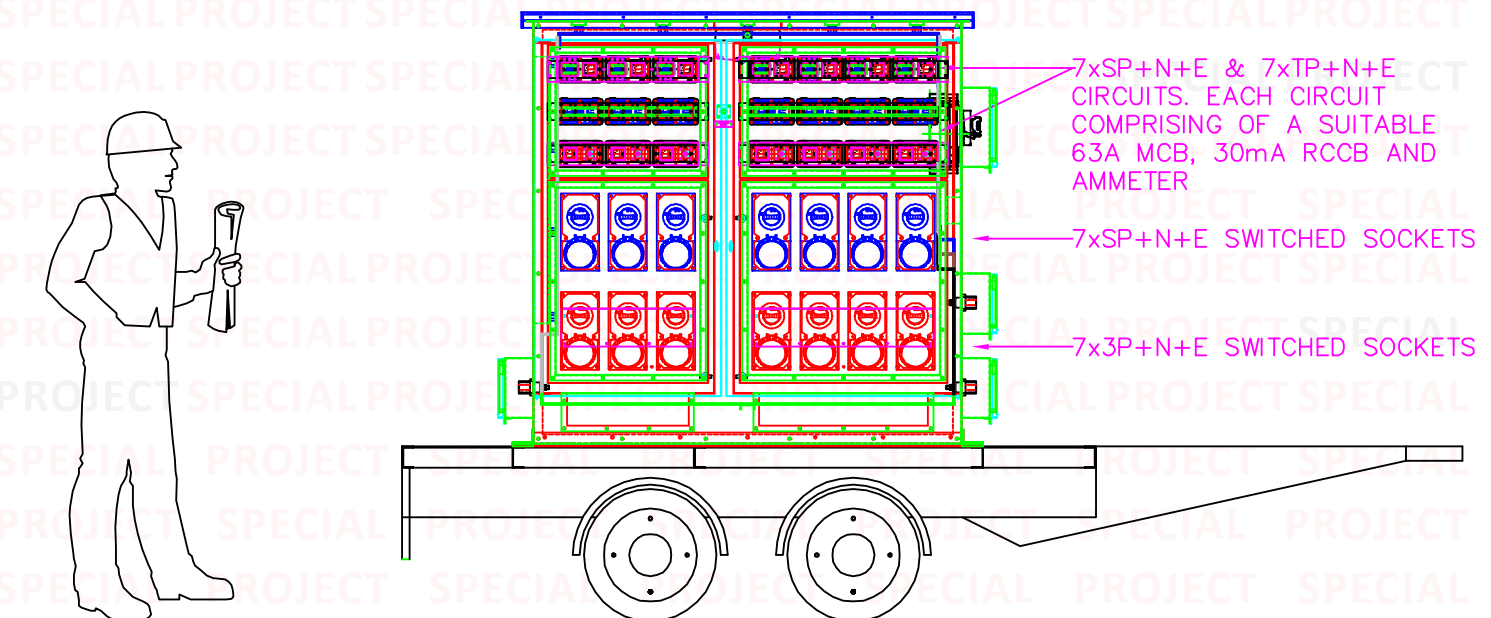
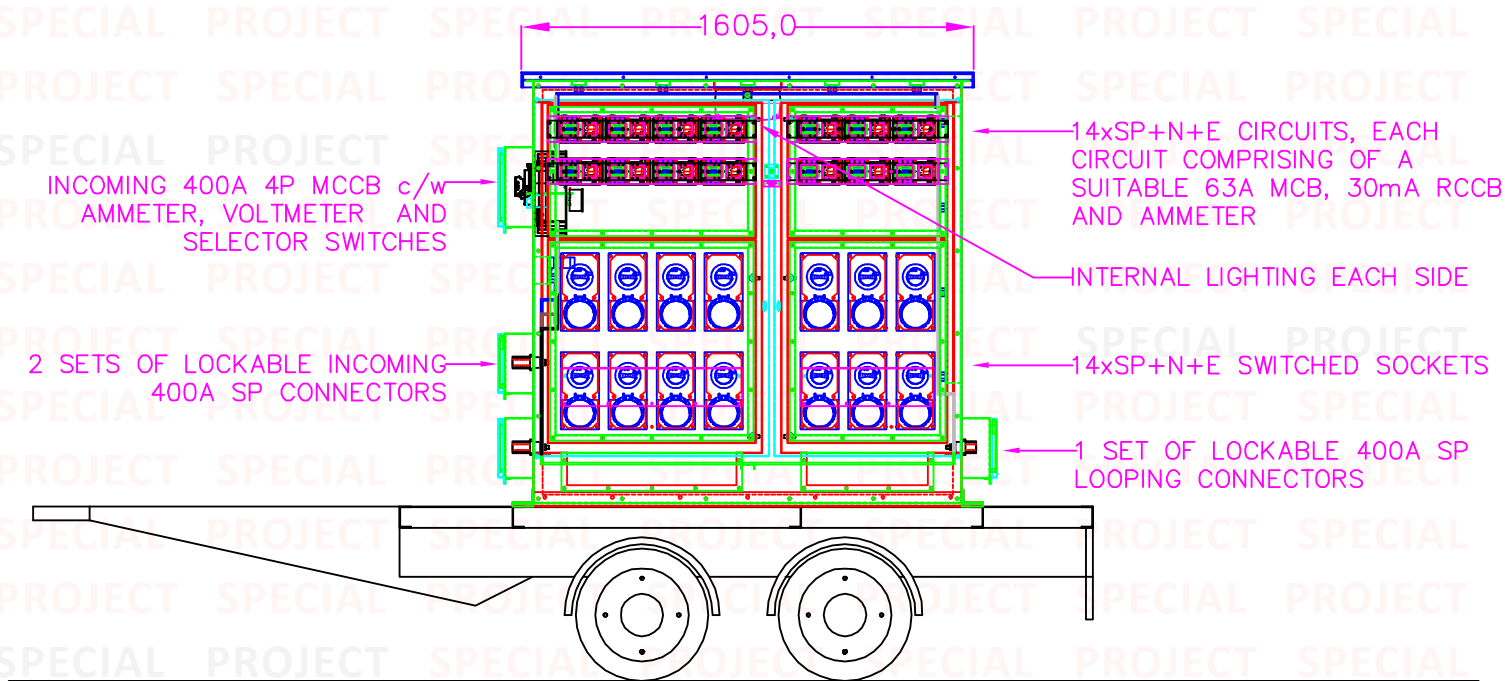
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DOUBLE AXLE, LEAF SPRING SUSPENSION, FLAT-BED, GALVANIZED TRAILER PROVIDED WITH SPARE WHEEL; PROP STAND KIT, RUNNING LIGHTS AND NUMBER PLATE CLIPS. THE TRAILER IS PROVIDED WITH INERTIA BRAKING AND BREAKAWAY CABLE.

Trailer mounted distribution assembly, outline electrical specification

10 x 400A SP connectors (2 per phase) feed a 400A 4P Main MCCB with associated ammeter and voltmeter. The MCCB feeds (i) 5 x 400A SP connectors (to supply a second trailer) and (ii) 21 x 63A 3P 230V switched and interlocked sockets and 7 x 63A 5P 400V switched and interlocked sockets. Each socket is individually protected by an MCB and 30mA RCD; one ammeter per socket is also incorporated.