

Reefer Gantry Supply Assembly

Reefers (refrigerated containers) are used to transport perishable goods around the world. When they are in transit by road or ship, power for the integral refrigeration unit is provided by the vehicle or vessel. However, once in port awaiting onward shipment, an external power supply has to be provided for the Reefer. A safe and efficient method of providing power for multiple Reefers is to construct purpose built Reefer Gantries, which enable containers stacked three or four high to be safely powered. Permanent power outlets are installed in the gantries, each requiring an individual supply. Reefer sockets are rated at 32A 400V 3P+E, which means the power requirement for a gantry capable of supplying 20 to 30 Reefers, is considerable.

The Blakley Projects Team has recently been involved at a major UK container port where the requirement was to upgrade supplies to existing Reefer Gantries. The gantries can feed up to 28 no. Reefers and supplies also have to be provided for access lighting, beacons and local maintenance sockets.

Enclosure

Purpose built enclosures were designed for the project, enabling the new gantry supply assemblies to be located in the available space and for the original incoming mains cables to be used. The multi-compartment, single sided enclosures provide ingress protection to IP55. They have bottom cable entry / exit and bracketry is incorporated on the rear of the enclosures to enable cable tray to be fitted by the installer. Due to the exposed location and the heavily salt laden atmosphere, the enclosures were fabricated from heavy gauge stainless steel with a conspicuous, high gloss, paint finish.

Electrical Equipment

The assemblies incorporate a 400A 4P mains isolator, which is housed in a segregated compartment. Due to the poor power factor of some refrigeration units, a four stage, fully automatic, 108 kVAr power factor arrangement is also incorporated. Space is provided for a further 108 kVAr of power factor correction to be incorporated at a later date.

On the outgoing side there are 4 no. 160A 4P MCCBs each feeding a 16 way TP&N MCB pan assembly. Fitted across the four pan assemblies are 28 no. 32A TP MCBs each with 30mA VIGI RCD protection. Also incorporated are MCBs to feed the lights and beacons on the gantry, MCB / RCDs to feed 230V and 400V sockets fitted to the assembly itself and an MCB to feed a thermostatically controlled anti-condensation heater.

In addition to manufacturing assemblies to feed remote sockets on gantries, we have also produced quayside distribution assemblies, fitted with sockets, for Reefers to plug-in directly. Please contact us for further details on the above products.



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Distribution Compartments inside