

# Special Report

Switched Interlocked sockets

# LOCK OUT

**Guy Birchall, UK Marketing Manager at Lewden Palazzoli, describes why switched interlocked sockets are proving an attractive option for many industrial and outdoor applications.**

**O**n-site electrical equipment is exposed to all sorts of harsh conditions, whether from extreme climate, challenging working environments or misuse by hard pressed site personnel. For those responsible for the specification, installation and operation of the industrial plugs, sockets and connectors that provide the means to power this equipment, the correct products must be used to ensure safety of all personnel.

The application of these products, whether in an industrial building, outdoors at an event or outdoor leisure location, or a construction site, must be predicated not only on a clear recognition of fitness for purpose, but on the assumption that the people who may ultimately come into contact with equipment could well be members of the public.

The likely risks to a user when he or she is connecting or disconnecting a plug, or, more seriously, if the appliance that requires the supply current, is faulty, are many, and varied. Consider the possibility of exposure to direct or indirect accidental contact with live parts, giving rise to a shock risk, or the generation of an unintended arc, which, combined with an accumulation of dust over time, might be explosive.

## Switched interlocks

These unwelcome risks are avoidable using relatively simple and proven technology that separates and isolates the supply from the plug

and connector. In short, by specifying and using a switched interlock socket instead of the conventional industrial plug and connector. Although this is the norm on the continent it is by no means common practice here.

Circuit protection devices minimise the absolute risk, but only the separation of the electrical supply through an isolation mechanism can ensure the user is fully protected during connection and disconnection.

The engaging and disengaging of a plug into a socket assuring the complete absence of power can only be achieved by using a switched interlock socket. The separate supply isolator is mechanically linked or 'interlocked' within a single unit to the socket, so that a plug can only be inserted or removed once the supply is safely shut off.

Care, however, should be taken with respect to the specification of the isolator itself, which should ideally be rated at AC23/AC3, allowing the switching of inductive loads at full rated current (EN 60947-3).

## Active protection

Lewden Palazzoli offers a complete range of switched interlock sockets (16-32-63-125A) in thermoplastic, GRP and aluminium alloys. The company's approach has been to far exceed the minimum legislative requirements, having regards to the critical



importance or such product solutions. Its term for this approach is, 'Active Protection' which embraces direct and indirect risk contact, fire hazard, environment (IP & IK ratings), as well as easy installation, cable access and maintenance.

The rotary isolator switch has a short-circuit current of 10KA and can guarantee the proper safety distance in the OFF position. The Switch category is AC-23A (according to EN 60947-3) tested for 10,000 operations; in respect to operations with electrical motors or high inductive loads its AC-3 rated (according to EN 60947-3) able to switch ON and OFF while a motor is running. The switch handle can be locked in 0 or 1, and it's provided with a high visibility background allowing users to easily understand the switch position from far.

**All interlocks, and individual parts, should be made in compliance with international standards:**

<b>EN 60309-1</b>	<b>Industrial plug and sockets Part 1: general specifications</b>
<b>EN 60309-2</b>	<b>Industrial plug and sockets Part 2: mechanical dimensions</b>
<b>EN 60309-4</b>	<b>Industrial plug and sockets Part 4: switched sockets, with and without interlock</b>
<b>EN 60947-3</b>	<b>Low voltage appliances Part 3: Switches, isolator switches, and fused units</b>
<b>EN 60529</b>	<b>Enclosures protection rates (IP)</b>

## READERLINK

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