



**SUMMARY OF DIFFERENCES BETWEEN 60439-1 AND 61439 PARTS 1 & 2**

Although originally intended for switchboards and motor control centres, IEC 60439-1 has become a general purpose document for specifiers of switchgear but now lacks the depth of detail for many of the products to which it is now being applied.

Additional parts were added resulting in the following structure

| IEC 60439 Series | TITLE  | Applicable To:  |
|------------------|--|---|
|                  | Low-voltage switchgear and controlgear assemblies  |   |
| IEC 60439 Part 1 | Type-tested and partially type-tested assemblies   | Switchboards, Panel boards and Motor Control Centres, |
| IEC 60439 Part 2 | Particular requirements for busbar trunking systems (busways)  | Busbar trunking                                       |
| IEC 60439 Part 3 | Particular requirements for low-voltage switchgear and controlgear assemblies intended to be installed in places where unskilled persons have access for their use - Distribution boards | Consumer units, Distribution boards                   |
| IEC 60439 Part 4 | Particular requirements for assemblies for construction sites (ACS)  | Assemblies for temporary supplies                     |
| IEC 60439 Part 5 | Particular requirements for assemblies for power distribution in public networks   | Feeder pillars, fuse cabinets and fuse boards         |

The evolution of these standards has not kept pace with the products and their application. In 1998 IEC members recognised these short comings and accordingly made a proposal to restructure the IEC 60439 series.

**WHAT**

The worldwide IEC community recognised the merits of the proposal and set up a Project Team to develop this idea. Ultimately this resulted in a new series of IEC Standards, Parts 1 and 2 of which have now been published, other parts being under preparation.

| BS EN 61439 Series   | TITLE  | Applicable To:  |
|--|--|---|
|  | Low-voltage switchgear and controlgear assemblies    |   |
| IEC/TR 61439 part 0  | User guide*  | Users and specifiers  |
| BS EN 61439 part 1   | General rules  | Reference document for low voltage assemblies                                   |
| BS EN 61439 part 2   | Power switchgear and controlgear assemblies          | Switchboards and Motor Control Centres  |
| BS EN 61439 part 3   | Particular requirements for distribution boards.     | Consumer units, Distribution boards and Panel boards (standard catalogue items) |
| BS EN 61439 part 4   | Assemblies for construction site                     | Assemblies for temporary supplies   |
| BS EN 61439 part 5   | Assemblies for power distribution in public networks | Feeder pillars, fuse cabinets and fuse boards                                   |
| BS EN 61439 part 6   | Busbar trunking systems                              | Busbar trunking   |
| * Informative document to be developed by IEC in due course. This document will not be a standard and will be purely for guidance. |  |   |

## IEC 61439 Parts 1 & 2

These new standards include a number of significant advancements:

- With the exception of specialist applications, IEC 61439 Series of Standards encompasses all low-voltage Assemblies - no excuse for not complying.
- When adopted as European Standards the BS EN 61439 Series will be the logical route to demonstrating compliance with the Low Voltage and EMC Directives.
- The structure of this series is consistent with that of other Standards: General Rules and specific product Standards (Parts 2-6); each product Standard specifies clauses of General Rules as applicable.
- The layout of Parts 1 & 2 is more logical and consistent with IEC philosophy. This includes both a comprehensive list of performance requirements and a means of demonstrating compliance.
- Previous ambiguities have been addressed, e.g. diversity, rating of circuits and substitution of devices.
- The standard requires that the performance of every assembly is demonstrated at design and manufacturing stages by a combination of stringent and defined verification processes – proving tests, inspection, design rules and/or calculation.
- Verification in accordance with IEC 61439 demonstrates the performance and integrity of the Assembly as a whole. Tests carried out on devices to their own product standard do not need to be duplicated when installed in an assembly.
- The new standard fully recognises the use of switchboards assembled from kit systems in accordance with the original manufacturer's instructions.
- The verification process no longer recognises the classifications of TTA. and PTTA., alternative and equivalent methods to type tests are included.

The Most Significant Change:-

The method by which the performance of an assembly was measured has changed from a rigid testing regime (TTA.), which was more relevant to standardised, mass produced, products and a system (PTTA), which relied entirely on the knowledge and integrity of the manufacturer. The performance of assemblies is now determined by a “**Design Verification**” system that better reflects current market and application requirements by a controlled and consistent approach.

The new standard ensures all assemblies meet defined performance requirements. This may be achieved through a combination of: testing, calculation and interpolation. Regardless of the approach taken by the manufacturer the defined performance requirements are assured.

This new approach ensures specified performance for each and every application is achieved.

The most significant advantage:-

Specifiers and users are able to define the specific requirements pertinent to their application. The new standard features an annex to guide specifiers in identifying their precise requirements thereby enabling them to be satisfied by the manufacturer in the most economical manner.