

DMMS IEC 61439-2:2020 Low-voltage switchgear and controlgear assemblies - Part 2: Power switchgear and controlgear assemblies

Scope

This part of IEC 61439 defines the specific requirements for the power switchgear and controlgear assembly (abbreviated 'PSC-assembly' throughout this document see 3.1.101) as follows:

- assemblies for which the rated voltage does not exceed 1000VAC or 1500VDC;
- assemblies designed for a nominal frequency of the incoming supply or supplies not exceeding 1000Hz;

NOTE 1

Frequencies above 1 kHz are considered as high frequencies, see also IEC 60664-1:2007, 5.3.3.2.5 to take into account additional constraints to insulation coordination.

- assemblies intended for indoor and outdoor applications;
- stationary or movable assemblies with or without enclosures;
- assemblies intended for use in connection with the generation, transmission, distribution and conversion of electrical energy, and for the control of equipment consuming electrical energy and for associated data processing;
- assemblies designed for use under special service conditions, for example in ships and in rail vehicles, provided that the other relevant specific requirements are complied with;

NOTE 2

Supplementary requirements for assemblies in ships are covered by IEC 60092-302-2. This document also applies to assemblies for use in photovoltaic installations, designated as photovoltaic assemblies (PVA). The particular characteristics, specific service conditions and the requirements for PVA's are included in Annexes DD, EE and FF. This document provides supplementary requirements for PSC-assemblies intended for use as part of the electrical equipment of machines and can be applied in addition to the requirements given in IEC 60204-1. This document applies to all assemblies whether they are designed, manufactured and verified on a one-off basis or fully standardised and manufactured in quantity. The manufacture and/or assembly can be carried out by an entity other than the original manufacturer (see 3.10.1 of IEC 61439-1:2020). This document does not apply to individual devices, for example, circuit-breakers, fuse switches and self-contained components such as, motor starters, power electronic converter systems and equipment

(PECS), switch mode power supplies (SMPS), uninterruptible power supplies (UPS), basic drive modules (BDM), complete drive modules (CDM), adjustable speed power drives systems (PDS), stand-alone energy storage systems (battery and capacitor systems), and other electronic equipment which comply with their relevant product standards. This document describes their integration into a PSC-assembly or an empty enclosure used as a part of a PSC-assembly. For some applications, such as, explosive atmospheres, functional safety, there may be a need to comply with the requirements of other standards or legislation in addition to those specified in the IEC 61439 series. This document does not apply to the specific types of assemblies covered by other parts of IEC 61439. For assemblies not covered by other parts, this part applies. Unless local legislation details additional requirements, equipment within the scope of this document, which complies with this document, is deemed to meet essential safety requirements. This includes fully verified specifier options, for example user choice of protection against accidental contact with hazardous live parts of IPXXB or IP3XD. Where special requirements are agreed between the user and manufacturer, that are not fully specified within this document, for example, (i) part of the assembly is outside the scope of this document, (ii) exceptional vibration is present at the place of installation, (iii) exceptional voltage variations occur in service, or (iv) possible adverse effects from sonic or ultrasonic sources, a risk assessment and/or additional or more severe verifications may be required to demonstrate that the essential safety requirements have been fulfilled.