

EN/IEC 61439

Low-voltage switchgear and controlgear assemblies:
Safety for designers, contractors and operators

- Quality according to ISO certification
- Proven safety
- Design verification with documentation



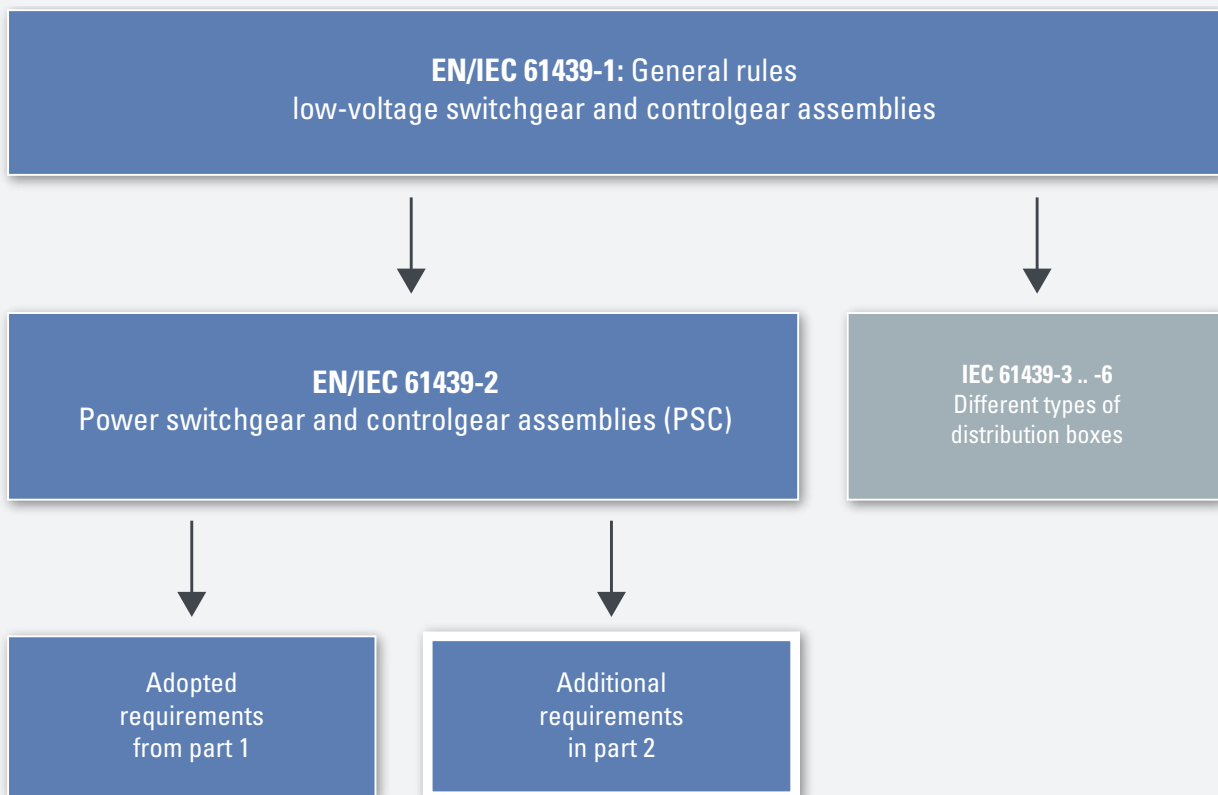
THE NEW STANDARD - for compliance with protection goals for personnel and plant protection

EN /  61439

Content of standard EN/IEC 61439

- Division into a general part and corresponding parts of the product (similar to standard IEC 60947)
- Classification of product parts, thus a clear assignment to the application is possible
- The design verification replaces TTA * and PTTA *
- The interfaces of the switchgear assembly shall be designed as a „BLACK BOX“
- The rated values have to be verified in relation to the application area of the switchgear and controlgear assembly and in regard to the protection goals that have to be observed
- Differentiation in original manufacturer and manufacturer

Overview EN/IEC 61439 parts



*TTA – type-tested switchgear assembly

*PTTA – partially type-tested switchgear assembly

*PSC – power switchgear and controlgear assemblies

The „BLACK BOX“ model of the switchgear assembly and the key interfaces

Duties and responsibilities have been redefined

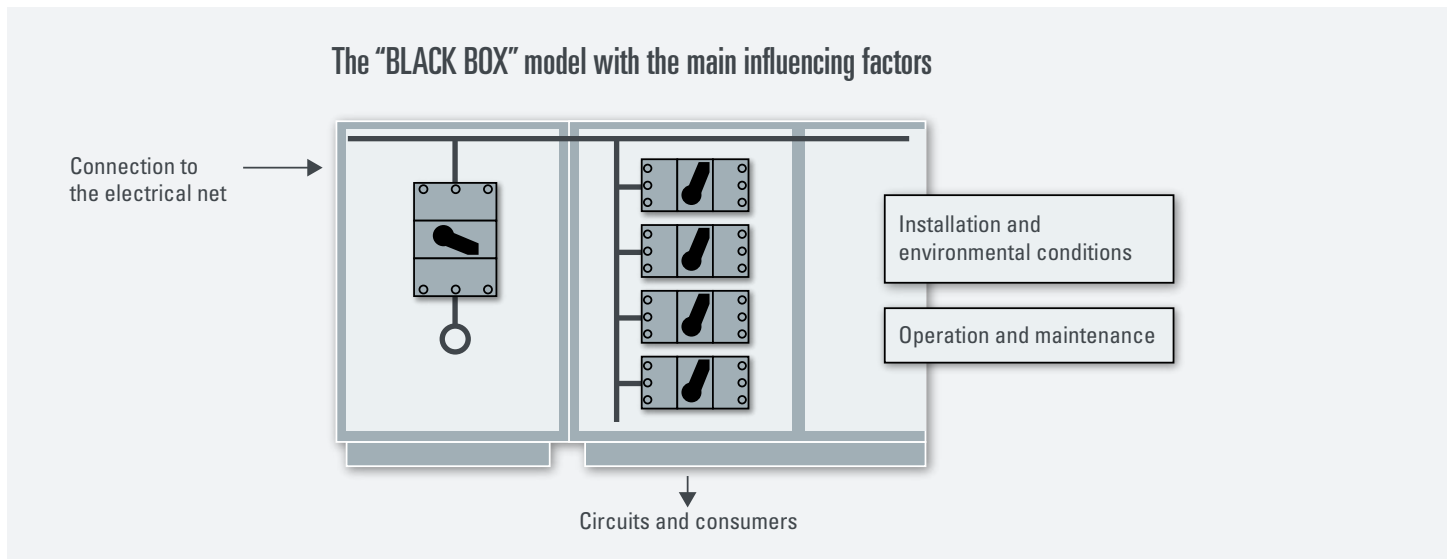
Planning and production

Based on the new standard, there are additional tasks and responsibilities for the manufacturer of a switchgear assembly. The standard contains additional requirements in regard to minimum values. However, deviating values may be agreed upon between the user and the manufacturer of the switchgear assembly on site. There are no definitions or rated values given in the standard.

Requirements on a switchgear assembly

R. STAHL as original manufacturer and manufacturer according to the standard is responsible for the construction, for the respective verification of the switchgear system, as well as for the completed assembly. The requirements and criteria given in the new standard EN / IEC 61439-1, -2, ensured by a design verification procedure, are:

- Strength of materials
- Clearance and creepage distances
- Installation of equipment
- Limit values for heating
- Degree of protection
- Protection against electric shock
- Insulation properties
- Circuits and electrical connections within the switchgear assembly
- Heat dissipation
- Connections for external conductors
- Short-circuit protection and short-circuit strength
- Electromagnetic compatibility



Designer, contractor and operator - where am I concerned by EN/IEC 61439 ?

The designer, contractor or operator is responsible for:

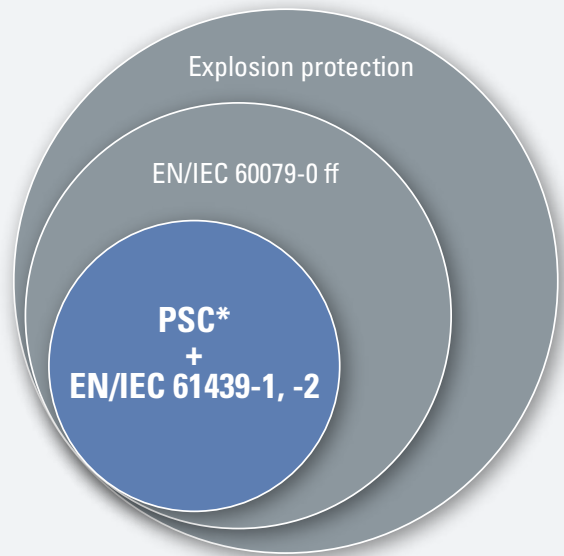
- Stating the new standard in the tender documents:
 - Power switchgear and controlgear assembly acc. to EN/IEC 61439-1,-2
- Stating of interface data based on the „BLACK BOX“ model, e.g.:
 - Connection to the electrical net, e.g. prospective short-circuit current I_{cp}
 - Circuits and consumers, e.g. list of consumers
 - Installation and environmental conditions, e.g. ambient temperature
 - Operation and maintenance, e.g. qualification of operating personnel

For recording of the interface data of the switchgear assembly, R. STAHL prepared a questionnaire which has been supplemented by the issues that concern explosion protection. Our experts will gladly advise you on this topic.

Your benefit with R. STAHL switchgear and controlgear assemblies

- Compliance with the standards is ensured by the routine verification
- Routine verification is ensured by:
 - Testing
 - Calculation
 - Compliance with construction rules

EN/IEC 60079 = Standards concerning explosion protection
EN/IEC 61439 = Standards concerning low-voltage switchgear and controlgear assemblies
PSC = Power switchgear and controlgear assemblies



Original manufacturer and manufacturer – where does their responsibility end?

R. STAHL as original manufacturer of the switchgear and controlgear assembly is responsible for:

- design verification based on testing, calculation or construction rules according to EN/IEC 61439
- routine verification and its documentation
- dimensioning of the PSCs according to the defined ratings
- compliance with the standards
- marking and documentation of the delivered switchgear assembly

R. STAHL ensures compliance with the standards by application of the most modern testing equipment, which is operated by trained staff. The R. STAHL production facilities all over the world are certified according to ISO 9001:2008 and EN/IEC 80079-34. Trust in our proven quality. Our experts will gladly support you.

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