

Comprehensive Information on Connectors

■ Special user information

The respective requirements of machinery specifications are binding for the user with connector applications. All ESCHA-connectors are designed and made according to DIN VDE 0627 (new EN 61984). The relevant standards and specifications according to which our products are made and tested are explained in the following.

■ DIN VDE 0627; June 1986, Connectors and Connecting Devices

This standard has been under revision for a long time and will soon be internationally valid. The standard is valid for connectors and connecting devices with rated voltages up to 1000V ~ or 1500V – and rated currents up to 125A per contact intended for connecting assemblies or components in or on machinery or measuring-, instrumentation- or control circuits considering safety aspects. It is also valid for connectors and connecting devices on household appliances as well as information-processing units.

■ IEC 60664-1; November 1992, Coordination of Isolation

This international standard, which complies with the German standard DIN VDE 0110 -1, April 97 edition, is a basic safety standard for achieving the coordination of isolation. It contains the required data to determine air distances, creep distances and solid insulations for electrical devices (e.g. connectors). This is realised considering the micro-ambient conditions and other loads they are exposed to in the course of the expected service life. Processes for the voltage test related to the coordination of isolation are included.

■ IEC 60512; May 1994, Measuring- and Testing-Process

This international standard corresponds to the European standard DIN EN 60512 and has replaced the previous German standard DIN 41640. It determines the measuring- and testing-processes for electromechanical components (e.g. connectors). The standard is very comprehensive and consists of 9 sections in total in which all electrical, mechanical and climatic tests are described. In addition, the standard contains tests on soldering ability, density, shielding and cable pull-out support.

■ IEC 60529; November 1992, Degrees of Protection by Housing (IP-Code)

This international standard corresponds to the European standard DIN EN 60529 and complies with the German standard DIN VDE 0470 -1, November 92 edition. It determines the designation, requirements and tests for the classification of protection degrees by housings for electrical devices (e.g. connectors). Thereby, protection against access to dangerous parts, protection against solid foreign bodies and protection against water are evaluated. The degree of protection is designated by an IP-code.

■ IEC 60068-1; March 1995, Environmental Tests

This international standard which complies with the European standard DIN EN 60068 -1, contains basic determinations on environmental tests and degree of test-precision. This testing process serves to trace the resistivity of components to expected environmental influences under operating conditions. Typical tests are: coldness, dry and humid heat, shock, vibration, temperature fluctuation and others.

Changes in design are subject to further notice for reasons of quality improvements, refinement or production optimisation.

The technical data stated in the catalogue refer to connectors, i.e. components which must not be plugged or unplugged under voltage.

ESCHA-connectors are electronic components and are not subject to CE-designation. This is confirmed by the European commission directives for low-voltage- and EMC-guide lines.

In order to secure the correct use of the products, the technical data are listed. It is possible to select the right products using these data. The products are described as well, however the properties are not assured.

All ESCHA-connectors have been developed and designed for applications in plant-, control and electric device construction. It is up to the user to verify the possibility of using the connectors in other application areas as well.

All data concerning the IP-degrees of protection are only guaranteed for the connections of ESCHA-components.

■ Supplementary information to the technical data stated in the catalogue

Characteristic	Standard ¹⁾	Note
Protection degree housing	IEC 60529	Data in plugged condition. For more information on IP-degrees of protection page 1.8 – 1.9
Mechanical service life	IEC 60512-5/9a	Test is done without electrical load
Rated voltage	IEC 60664-1	The stated value is defined in connection with degree of pollution and overvoltage category
Degree of pollution	IEC 60664-1	
Current load	IEC 60512-3/5b	
Contact resistance	IEC 60512-2/2a	Contact resistance contact-pin/contact-bush in plugged condition throughout a defined range
Insulation resistance	IEC 60512-2/3a	Insulation between two conducting parts (dependent on material)

¹⁾ The technical data represent initial values which can change depending on load.

The housings have to be included in the device protective-measures when mounting electrically conductive flange housings.

The cables to be connected should be insulated in such a way that the distances to electrically conductive parts are not reduced. When soldering the cables, care must be taken that none of the single wires is projecting which can cause short circuits.