

Nominal voltage

Voltage of cables and wires, by which the construction and the tests in respect of electrical characteristics - According to DIN VDE 0298 and IEC 183 the cables are specified U_0/U , where

U_0 = cable nominal voltage between the conductor and the metal covering or earth and
 U = cable nominal voltage between the phase conductors, for 3-phase $U = \sqrt{3} U_0$.

According to IEC regulations, the maximum permissible voltage U_m is given in brackets. The identification is: $U_0/U (U_m)$.

As the insulation of plastic insulated cables are measured with a nominal voltage $U_0/U = 0,6/1$ kV and all radial field cables for the voltage U_0 , these cables are suitable for installation:

- in single phase systems, in which the both phase conductors are insulated, with nominal voltage $U_N = 2 U_0$
- in single phase systems, in which one phase conductor is earthed, with the nominal voltage $U_N = U_0$

Operating voltage

Voltage between conductors of a power system or between a conductor and earth under specified condition in a given time during an undisturbed operation.

Coordination of cable-Nominal voltages

Nominal voltages U_0/U kV	for 3-phase system kV	for 1-phase alternating current	
		both phase conductors insulated kV	one phase conductor earthed kV
0,6/1	1	1,2	0,6
3,6/6	6	7,2	3,6
6/10	10	12	6
12/20	20	24	12
18/30	30	36	18

Coordination of maximum permissible Operating voltages

Nominal voltages U_0/U kV	maximum voltage for 3-phase system kV	maximum voltage for 1-phase alternating current	
		both phase conductors insulated kV	one phase conductor earthed kV
0,6/1	1,2	1,4	0,7
3,6/6	7,2	8,3	4,1
6/10	12	14	7
12/20	24	28	14
18/30	36	42	21

Note:

Cable with U_0/U 0,6/1 kV is allowed for **Direct Current Systems**, of those the maximum operating voltage conductor/conductor 1,8 kV or conductor/earth 0,9 kV not to be exceeded.