

INTERNATIONAL STANDARD

6 Performance of balanced cabling

6.1 General

The channel, permanent link and CP link performance specification of the relevant class shall be met for all temperatures at which the cabling is intended to operate.

6.4.7 Direct current (d.c.) loop resistance

The d.c. loop resistance of each pair of a channel shall meet the requirements in Table 16.

When required, the d.c. loop resistance shall be measured according to IEC 61935-1.

Table 16 – Direct current (d.c.) loop resistance for channel

Maximum d.c. loop resistance Ω			
Class A	Class B	Class C	Class D, E, E _A , F, F _A
560	170	40	25

6.4.8 Direct current (d.c.) resistance unbalance

For all cabling classes, the d.c. resistance unbalance between the two conductors within each pair of a channel shall not exceed 3 % or 0,200 Ω , whichever is greater. This requirement shall be achieved by design. The maximum d.c. resistance unbalance between pairs within a channel is f.f.s.

6.4.9 Current carrying capacity

The minimum current carrying capacity for channels of Classes D, E and F shall be 0,175 A d.c. per conductor for all temperatures at which the cabling will be used. This shall be achieved by an appropriate design.

9.2.3 Additional performance requirements for flexible cables

This clause covers additional requirements for cables used for patch cords, for work area and for equipment cords for use with balanced cabling. The electrical performance of these cables shall meet the general requirements for balanced cables as specified in 9.2.2 for the respective category with exception of attenuation, d.c. loop resistance and return loss (*RL*), which are specified in this subclause.

The attenuation in dB/100 m and d.c. loop resistance shall not be more than 50 % higher than specified in 9.2.2. Consider 7.2 for additional length restrictions.

10 Connecting hardware requirements

Table 47 – Input to output resistance

Electrical characteristics	Frequency	Requirement			Test standard
		Connector category			
		5	6	7	
Maximum input to output resistance ^a mΩ	d.c.	200	200	200	IEC 60512-2 Test 2a
^a Input to output resistance is a separate measurement from the contact resistance measurements required in series IEC 60603-7. Input to output resistance is measured from cable termination to cable termination to determine the connector's ability to transmit direct current and low frequency signals. Contact resistance measurements are used to determine mechanical and environmental performance of individual electrical connections. These requirements are applicable to each conductor and to the screen, when present.					

Table 48 – Input to output resistance unbalance

Electrical characteristics	Frequency	Requirement			Test standard
		Connector category			
		5	6	7	
Maximum input to output ^a resistance unbalance mΩ	d.c.	50	50	50	IEC 60512-2 Test 2a
^a Input to output resistance measurements are made from cable termination to cable termination.					