

INTERNATIONAL STANDARD

AMENDMENT 2

**Information technology – Telecommunications cabling requirements for remote
powering of terminal equipment**

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 35.200

ISBN 978-2-8322-9893-0

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**INFORMATION TECHNOLOGY –
TELECOMMUNICATIONS CABLING REQUIREMENTS
FOR REMOTE POWERING OF TERMINAL EQUIPMENT**

AMENDMENT 2

FOREWORD

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Amendment 2 to IEC ISO/IEC TS 29125:2017 has been prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

The text of this Amendment is based on the following documents:

Draft	Report on voting
JTC1-SC25/3272/DTS	JTC1-SC25/3289/RVDTS

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this Amendment is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1, and the ISO/IEC Directives, JTC 1 Supplement available at www.iec.ch/members_experts/refdocs and www.iso.org/directives.

INTRODUCTION to the amendment

This amendment incorporates changes necessary to extend the current for remote powering using single pair cabling up to 2 000 mA.

Introduction

Insert the following after the first bullet of the fourth paragraph:

- guidance on wire diameter and bundling on heating;

1 Scope

Replace the second bullet of list item a), added by Amendment 1, with:

- 1-pair balanced cabling using currents per conductor of up to 2 000 mA;

In the NOTE, delete "4-pair".

6.3 Temperature rise and current capacity

Replace the last sentence of the first paragraph with the following sentence:

The standards in the ISO/IEC¹¹⁸⁰¹ series specify this temperature up to 60 °C in MICE C₁ environments and 70 °C in MICE C₂ and C₃ environments.

Replace the existing Table 5, added by Amendment 1, with the following new Table 5:

Table 5 – Maximum current per conductor versus temperature rise in a 37 1-pair cable bundle in air and conduit

Temperature rise K	Current per conductor					
	0,57 mm wire diameter		0,40 mm stranded wire diameter (cords)		1,02 mm stranded wire diameter (cords)	
	mA		mA		mA	
	air	conduit	air	conduit	air	conduit
5	866	738	608	518	1 550	1 320
7,5	1 061	904	744	634	1 900	1 620
10	1 225	1 044	860	732	2 190	1 870
12,5	1 370	1 167	961	819	-	2 090
15	1 501	1 278	1 053	897	-	-
17,5	1 621	1 381	1 137	969	-	-
20	1 733	1 476	1 216	1 036	-	-

Temperature rise above 10 K shown in grey background is not recommended for cables installed in an environment that can reach 50 °C.

NOTE 1 These values are based on conductor temperature measurement of typical cables and cords.

NOTE 2 Currents above 2 000 mA are for information only.

In Table 6, added by Amendment 1, delete column "0,32 mm diameter", as follows:

Table 6 – Calculated worst case current per conductor versus temperature rise in a bundle of 37 1-pair cables of different conductor diameters in air and conduit

ΔT °C	0,40 mm diameter		0,51 mm diameter		0,57 mm diameter		0,65 mm diameter		0,81 mm diameter		1,02 mm diameter	
	air	conduit	air	conduit	air	conduit	air	conduit	air	conduit	air	conduit
2	384	327	490	417	548	466	624	532	779	663	981	835
4	543	463	693	590	775	660	883	753	1 101	938	1 387	1 181
6	666	567	849	723	949	808	1 082	922	1 349	1 149	1 699	1 446
8	769	655	981	835	1 096	933	1 249	1 065	1 558	1 327	1 962	1 670
10	860	732	1 096	934	1 225	1 044	1 397	1 190	1 742	1 484	2 194	1 867
12	942	802	1 201	1 023	1 342	1 143	1 530	1 304	1 908	1 625	2 403	2 046
14	1 017	867	1 297	1 105	1 450	1 235	1 653	1 409	2 061	1 755	2 596	2 210
16	1 087	926	1 387	1 181	1 550	1 320	1 767	1 506	2 203	1 877	2 775	2 362
18	1 153	983	1 471	1 253	1 644	1 400	1 874	1 597	2 337	1 991	2 943	2 506
20	1 216	1 036	1 551	1 321	1 733	1 476	1 976	1 684	2 463	2 098	3 102	2 641

Temperature rise above 10 °C shown in grey background is not recommended.

The values in this table are based on the implicit DC resistance derived from the insertion loss of the various conductor diameters of cable. Manufacturers' and/or suppliers' specifications give information relating to a specific cable.

NOTE 1 The current per conductor for each 1-pair cable is also dependent on the cable construction.

NOTE 2 Currents above 2 000 mA are for information only.