

# INTERNATIONAL STANDARD



**Connectors for electrical and electronic equipment –  
Part 7: Detail specification for up to 7 ways including PE or FE (data/power) and  
shield pin, free and fixed circular connectors for balanced single-pair data  
transmission with current-carrying capacity – Mechanical mating information,  
pin assignment and additional requirements for type 7**



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INTERNATIONAL  
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## CONTENTS

FOREWORD.....	5
INTRODUCTION.....	7
1 Scope.....	8
2 Normative references .....	8
3 Terms and definitions .....	10
4 Technical information .....	10
4.1 Systems of levels – Compatibility levels, according to IEC 61076-1 .....	10
4.1.1 Performance level.....	10
4.1.2 Compatibility levels according to IEC 61076 .....	10
4.2 Classification into climatic categories.....	10
4.3 Clearance and creepage distances .....	10
4.4 Current-carrying capacity .....	11
4.5 Marking.....	11
4.6 Safety aspects .....	11
5 Dimensional information .....	11
5.1 General.....	11
5.2 Codings .....	11
5.3 Styles .....	13
5.3.1 Overview .....	13
5.3.2 Styles 6J-P12C, 6J-M12C and 6J-C12C .....	14
5.3.3 Styles 6J-P12CI, 6J-M12CI and 6J-C12CI .....	15
5.3.4 Styles 6P-P12C, 6P-M12C.....	15
5.3.5 Styles 6P-P12CI and 6P-M12CI .....	16
5.4 Interface dimensions.....	16
5.5 Gauges .....	21
6 Characteristics .....	22
6.1 General.....	22
6.2 Pin assignment .....	22
6.3 Classification into climatic category .....	23
6.4 Electrical characteristics .....	24
6.4.1 Creepage and clearance distances .....	24
6.4.2 Voltage proof.....	25
6.4.3 Voltage rating .....	25
6.4.4 Current-temperature derating.....	26
6.4.5 Current rating .....	26
6.4.6 Interface contact resistance.....	26
6.4.7 Input to output DC resistance .....	26
6.4.8 Input to output DC resistance unbalance .....	26
6.4.9 Insulation resistance.....	27
6.4.10 Impedance.....	27
6.5 Transmission performance.....	27
6.5.1 General .....	27
6.5.2 Insertion loss .....	27
6.5.3 Return loss .....	27
6.5.4 Propagation delay.....	27
6.5.5 Transverse conversion loss .....	27

6.5.6	Transverse conversion transfer loss .....	27
6.5.7	Transfer impedance .....	27
6.5.8	Coupling attenuation .....	27
6.5.9	Power sum alien (exogenous) NEXT .....	28
6.5.10	Power sum alien (exogenous) FEXT .....	28
6.6	Mechanical characteristics .....	28
6.6.1	IP degree of protection .....	28
6.6.2	Mechanical operation .....	28
6.6.3	Effectiveness of connector coupling devices .....	28
6.6.4	Insertion and withdrawal forces .....	28
6.6.5	Polarizing and keying method .....	28
6.6.6	Dynamic stress .....	28
7	Tests and test schedule .....	28
7.1	General .....	28
7.2	Mounting of specimens .....	29
7.2.1	General .....	29
7.2.2	Arrangement for contact resistance measurement .....	29
7.2.3	Arrangement for dynamic stress tests .....	30
7.2.4	Wiring of specimens .....	30
7.3	Test procedures and measuring methods .....	30
7.4	Preconditioning .....	30
7.5	Test schedules .....	30
7.6	Basic (minimum) test schedule .....	30
7.7	Full test schedule .....	30
Annex A (informative) Safety considerations for cord sets made of connectors in accordance with this document .....		32
Bibliography .....		33
Figure 1 – Type 7 connector overview .....		7
Figure 2 – Styles 6J-P12C, 6J-M12C, 6J-C12C overall dimensions .....		15
Figure 3 – Styles 6J-P12CI, 6J-M12CI and 6J-C12CI overall dimensions .....		15
Figure 4 – Styles 6P-P12C and 6P-M12C overall dimensions .....		16
Figure 5 – Styles 6P-P12CI and 6P-M12CI overall dimensions .....		16
Figure 6 – Mating dimensions for the codings Type I to V and styles with male contacts (at the example of coding Type I) .....		17
Figure 7 – Dimensions of PE pin for the codings Type I to V and styles with male contacts (at the example of coding Type IV) .....		18
Figure 8 – Mating dimensions for the codings Type VI and Type VII and styles with male contacts (at the example of coding Type VII) .....		20
Figure 9 – Mating dimensions for the styles with female contacts (at the example of codings Type I and Type IV) .....		21
Figure 10 – Gauge dimensions .....		22
Figure 11 – Pin assignments, front views, Types I and II .....		22
Figure 12 – Pin assignments, front views, M12, Types III, IV and V .....		23
Figure 13 – Pin assignments, front views, M12, Types VI and VII .....		23
Figure 14 – Contact resistance arrangement .....		29
Figure 15 – Arrangement for vibration and mechanical shock tests .....		30

Table 1 – Codings.....	12
Table 2 – Styles.....	14
Table 3 – Dimensions for Figure 6 and Figure 7.....	18
Table 4 – Dimensions for Figure 8 .....	20
Table 5 – Dimensions for Figure 9 .....	21
Table 6 – Gauges .....	22
Table 7 – Pin assignments.....	23
Table 8 – Climatic category.....	24
Table 9 – Creepage and clearance distances.....	24
Table 10 – Voltage proof.....	25
Table 11 – Voltage ratings .....	25
Table 12 – Current ratings of connectors .....	26
Table 13 – Interface contact resistance.....	26
Table 14 – Insulation resistance .....	27
Table 15 – Insertion and withdrawal forces .....	28
Table 16 – Replacement for AP8 in test group AP of IEC 63171 .....	31
Table 17 – Additional tests in test group AP of IEC 63171 .....	31

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT –**

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balanced single-pair data transmission with current-carrying capacity –  
Mechanical mating information, pin assignment and additional  
requirements for type 7**

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IEC 63171-7 has been prepared by subcommittee 48B: Electrical connectors, of IEC technical committee 48: Electrical connectors and mechanical structures for electrical and electronic equipment. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
48B/3033/FDIS	48B/3044/RVD

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 International Standard is English.

A list of all parts in the IEC 63171 series, published under the general title *Connectors for electrical and electronic equipment*, can be found on the IEC website.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications](http://www.iec.ch/publications).

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INTRODUCTION

IEC 63171 is the base specification of the whole series. Subsequent specifications do not duplicate information given in the base document, but list only additional requirements. For the complete specification regarding connectors described in this Part of the IEC 63171 series, read this document in conjunction with IEC 63171.

A general overview about the connectors in this document is shown in Figure 1.

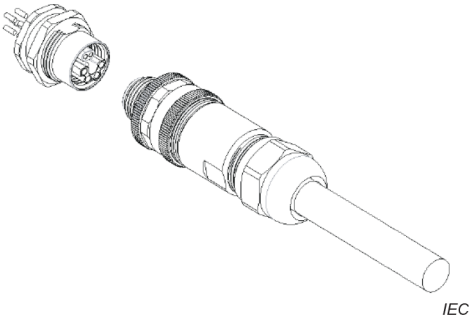

<b>IEC SC 48B – Electrical connectors</b> <b>Specification available from:</b> <b>IEC General secretariat or from the addresses shown on the inside cover.</b>	<b>IEC 63171-7 Ed. 1</b>
DETAIL SPECIFICATION in accordance with IEC 61076-1	M12 screw locking or push-pull locking (or both)
	<p>Circular connectors, size 12, with 4 up to 7 ways including PE or FE (according to coding) for power and data transmission, either</p> <ul style="list-style-type: none"><li>– with M12 screw-locking mechanism (styles with M12 in the name), or</li><li>– with a quick-locking push-pull mechanism with a size derived from that (styles with P12 in the name), or</li><li>– with both mechanisms combined (styles with C12 in the name).</li></ul> <p>Multiple mating interfaces, each associated with a coding referred to as "type I" through "type VII", differing by power transmission capabilities and intents.</p> <p>2 ways + additional shield pin (to be connected to the cable sheath) support balanced differential data transmission with frequencies up to 600 MHz, Category B as per IEC 63171.</p> <p>Free cable connectors:</p> <ul style="list-style-type: none"><li>– male or female,</li><li>– straight connectors,</li><li>– rewirable or non-rewirable.</li></ul>
	<p>Fixed connectors:</p> <ul style="list-style-type: none"><li>– male or female,</li><li>– single-hole mounting.</li></ul> <p>With circular mounting orientation</p>

Figure 1 – Type 7 connector overview