

INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 1
AMENDEMENT 1

Industrial communication networks – Profiles –
Part 5-15: Installation of fieldbuses – Installation profiles for CPF 15
(standards.iteh.ai)

Réseaux de communication industriels – Profils –
Partie 5-15: Installation de bus de terrain – Profils d'installation pour CPF 15

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FOREWORD

This amendment has been prepared by subcommittee 65C: Industrial networks, of IEC technical committee 65: Industrial-process measurement, control and automation.

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

CDV	Report on voting
65C/768/CDV	65C/800/RVC

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

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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- replaced by a revised edition, or
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INTRODUCTION

Attention is drawn to the fact that the document IEC 61918 specifies all the installation requirements that apply to large part of the industrial communication networks and that these requirements automatically apply to each single network with the exception of those requirements that in the relevant document of the IEC 61784-5 series are explicitly defined as modified or replaced.

All the additions to the latest edition of the IEC 61918 apply to the networks of CPF 15. Nevertheless, the fact that a few tables of IEC 61918 have been restructured to better define the technical content requires that the document IEC 61784-5-15 Ed.1 be amended to fully match the IEC 61918 revised structure.

GENERAL REPLACEMENT

In all occurrences of “IEC 61918:2010” replace it with “IEC 61918:2013”.

OTHER REPLACEMENTS

2 Normative references

Add the following references to the existing list:

IEC 60603-7-3, *Connectors for electronic equipment – Part 7-3: Detail specification for 8-way, shielded, free and fixed connectors, for data transmission with frequencies up to 100 MHz*

IEC 60793-2 (all subparts), *Optical fibres – Part 2: Product specifications*

6 Conformance to installation profiles

Replace the following existing text:

Compliance to IEC 61784-5-15:2010¹ for CP 15/ <name> or

Compliance to IEC 61784-5-15 (Ed.2.0) for CP 15/m<name>

with the following new text:

Compliance to IEC 61784-5-15:2010¹ and Am.1 for CP 15/m <name> or

Compliance to IEC 61784-5-15 (Ed.1.0 and Am.1) for CP 15/m <name>

Annex A – CP 15/1 (MODBUS™-TCP) and CP 15/2 (RTPS) specific installation profile

A.4.3.2.3 Network characteristics for balanced cabling based on Ethernet

Replace footnote a of Table A.1 with the following:

- a See A.4.4.3.2.

A.4.3.2.4 Network characteristics for optical fibre cabling

Replace the existing Table A.2 with the following Table A.2:

¹ The date should not be used when the edition number is used.

Table A.2 – Network characteristics for optical fibre cabling

CP 15/1 and CP 15/2		
Optical fibre type	Description	
Single mode silica	Bandwidth (MHz) or equivalent at λ (nm)	500 at 1 310
	Minimum length (m)	0
	Maximum length ^a (m)	14 000
	Maximum channel insertion loss/optical power budget (dB)	8,5
	Connecting hardware	See A.4.4.2.5
Multimode silica	Modal bandwidth (MHz × km) at λ (nm)	600 at 1 310
	Minimum length (m)	0
	Maximum length ^a (m)	2 000
	Maximum channel insertion loss/optical power budget (dB)	4,5
	Connecting hardware	See A.4.4.2.5
POF	Modal bandwidth (MHz × 100 m) at λ (nm)	35 at 650
	Minimum length (m)	0
	Maximum length ^a (m)	50
	Maximum channel insertion loss/optical power budget (dB)	14,0
	Connecting hardware	See A.4.4.2.5
Hard clad silica	Modal bandwidth (MHz × km) at λ (nm)	70 at 650
	Minimum length (m)	0
	Maximum length ^a (m)	100
	Maximum channel insertion loss/optical power budget (dB)	3,0
	Connecting hardware	See A.4.4.2.5
^a This value is reduced by connections, splices and bends in accordance with formula (1) in 4.4.3.4.1 of IEC 61918:2013.		

A.4.4.1.4 Optical fibre cables

Replace the existing Table A.7 with the following Table A.7:

Table A.7 – Information relevant to optical fibre cables

Characteristics	9..10/125 µm single mode silica	50/125 µm multimode silica	62,5/125 µm multimode silica	980/1 000 µm step index POF	200/230 µm step index hard clad silica
Standard	IEC 60793-2	IEC 60793-2	IEC 60793-2	IEC 60793-2	IEC 60793-2
Attenuation per km (650 nm)	–	–	–	≤ 160 dB	≤ 10 dB
Attenuation per km (820 nm)	–	–	–	–	–
Attenuation per km (1 310 nm)	≤ 0,4 dB	≤ 1,5 dB	≤ 1,5 dB	–	–
Number of optical fibres	2	2	2	2	2
Jacket colour requirements	Application dependent				
Jacket material	Application dependent				
Resistance to harsh environment (e.g. UV, oil resist, LS0H)	Application dependent				

A.4.4.2.2 Connecting hardware for balanced cabling CPs based on Ethernet

Replace the existing Table A.8 with the following Table A.8:

Table A.8 – Connectors for balanced cabling CPs based on Ethernet

	IEC 60603-7 series ^a		IEC 61076-3-106 ^b	IEC 61076-3-117 ^b	IEC 61076-2-101	IEC 61076-2-109	
	shielded	unshielded	Var. 1	Var. 6	M12-4 with D-coding	M12-8 with X-coding	
CP 15/1 CP 15/2	IEC 60603-7-3	No	No	No	No	Yes	Yes

^a For IEC 60603-7 series, the connector selection is based on the desired channel performance.

^b Housings to protect connectors.

A.4.4.2.5 Connecting hardware for optical fibre cabling

Add the following text and Table A.14:

Addition:

Table A.14 provides values based on the template given in IEC 61918:2013, Table 10.

Table A.14 – Relationship between FOC and fibre types (CP 15/1, CP15/2)

FOC	Fibre type					
	9..10/125 µm single mode silica	50/125 µm multimode silica	62,5/125 µm multimode silica	980/1 000 µm step index POF	200/230 µm step index hard clad silica	Others
BFOC/2,5	No	No	No	No	No	No
SC	Yes	Yes	Yes	Yes	Yes	No
SC-RJ	Yes	Yes	Yes	Yes	Yes	No
LC	Yes	Yes	Yes	Yes	Yes	No
F-SMA	No	No	No	No	No	No

A.4.4.9.5 Cable routing outside buildings

Replace the existing title of A.4.4.9.5 with the following title:

Cable routing outside and between buildings

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