



**SLOVENSKI STANDARD**  
**oSIST prEN IEC 61784-5-19:2022**  
**01-junij-2022**

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**Industrijska komunikacijska omrežja - Profili - 5-19. del: Inštalacija procesnih vodil - Inštalacijski profili za CPF 19**

Industrial communication networks - Profiles - Part 5-19: Installation of fieldbuses - Installation profiles for CPF 19

Industrielle Kommunikationsnetze - Profile - Teil 5-19: Feldbusinstallation - Installationsprofile für die Kommunikationsprofilfamilie 19

Réseaux de communication industriels - Profils - Partie 5-19: Installation des bus de terrain - Profils d'installation pour CPF 19

**Ta slovenski standard je istoveten z: prEN IEC 61784-5-19:2022**

**ICS:**

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35.100.40	Transportni sloj	Transport layer

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# 65C/1159/CDV

## COMMITTEE DRAFT FOR VOTE (CDV)

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SECRETARIAT: France	SECRETARY: Ms Valérie DEMASSIEUX
OF INTEREST TO THE FOLLOWING COMMITTEES: SC 22G, TC 57, SC 121A	PROPOSED HORIZONTAL STANDARD: <input type="checkbox"/> Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.
FUNCTIONS CONCERNED: <input type="checkbox"/> EMC <input type="checkbox"/> ENVIRONMENT <input type="checkbox"/> QUALITY ASSURANCE <input type="checkbox"/> SAFETY	
<input checked="" type="checkbox"/> SUBMITTED FOR CENELEC PARALLEL VOTING <b>Attention IEC-CENELEC parallel voting</b> The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting. The CENELEC members are invited to vote through the CENELEC online voting system.	<input type="checkbox"/> NOT SUBMITTED FOR CENELEC PARALLEL VOTING

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TITLE:

**Industrial communication networks - Profiles - Part 5-19: Installation of fieldbuses - Installation profiles for CPF 19**

PROPOSED STABILITY DATE: 2028

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## INDUSTRIAL COMMUNICATION NETWORKS – PROFILES –

## Part 5-19: Installation of fieldbuses – Installation profiles for CPF 19

## FOREWORD

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- IEC 61784-5-19 has been prepared by subcommittee 65C: Industrial networks, of IEC technical committee 65: Industrial-process measurement, control and automation. It is an International Standard.
- This document is to be used in conjunction with IEC 61918:2018 and IEC 61918:2018/AMD1:—.
- This second edition cancels and replaces the first edition published in 2013. This edition constitutes a technical revision.
- This edition includes the following significant technical changes with respect to the previous edition:
- addition of new installation profiles CP19/3 and CP19/4 in subclause 4;
  - In Annex B Table B.4 is changed and Figure B.1 and Figure B.2 are deleted;
  - Annex C is new installation profiles for CP19/3 and related references are added;

251 d) Annex D is new installation profiles for CP19/4 and related references are added.

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

Draft	Report on voting
XX/XX/FDIS	XX/XX/RVD

253 Full information on the voting for the approval of this International Standard can be found in  
254 the report on voting indicated in the above table.  
255

256 The language used for the development of this International Standard is English.

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

261 A list of all parts of IEC 61784-5 series, under the general title *Industrial communications*  
262 *networks – Profiles – Installation of fieldbuses*, can be found on the IEC website

263 The committee has decided that the contents of this document will remain unchanged until the  
264 stability date indicated on the IEC website under [webstore.iec.ch](http://webstore.iec.ch) in the data related to the  
265 specific document. At this date, the document will be

- 266 • reconfirmed,
- 267 • withdrawn,
- 268 • replaced by a revised edition, or
- 269 • amended.

270 [https://standards.iteh.ai/catalog/standards/sist/80c51bbf-](https://standards.iteh.ai/catalog/standards/sist/80c51bbf-d6da-4eec-9bb7-8afa7e734a43/osist-pr-en-iec-61784-5-19-2022)

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272 A bilingual version of this publication may be issued at a later date.

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INTRODUCTION

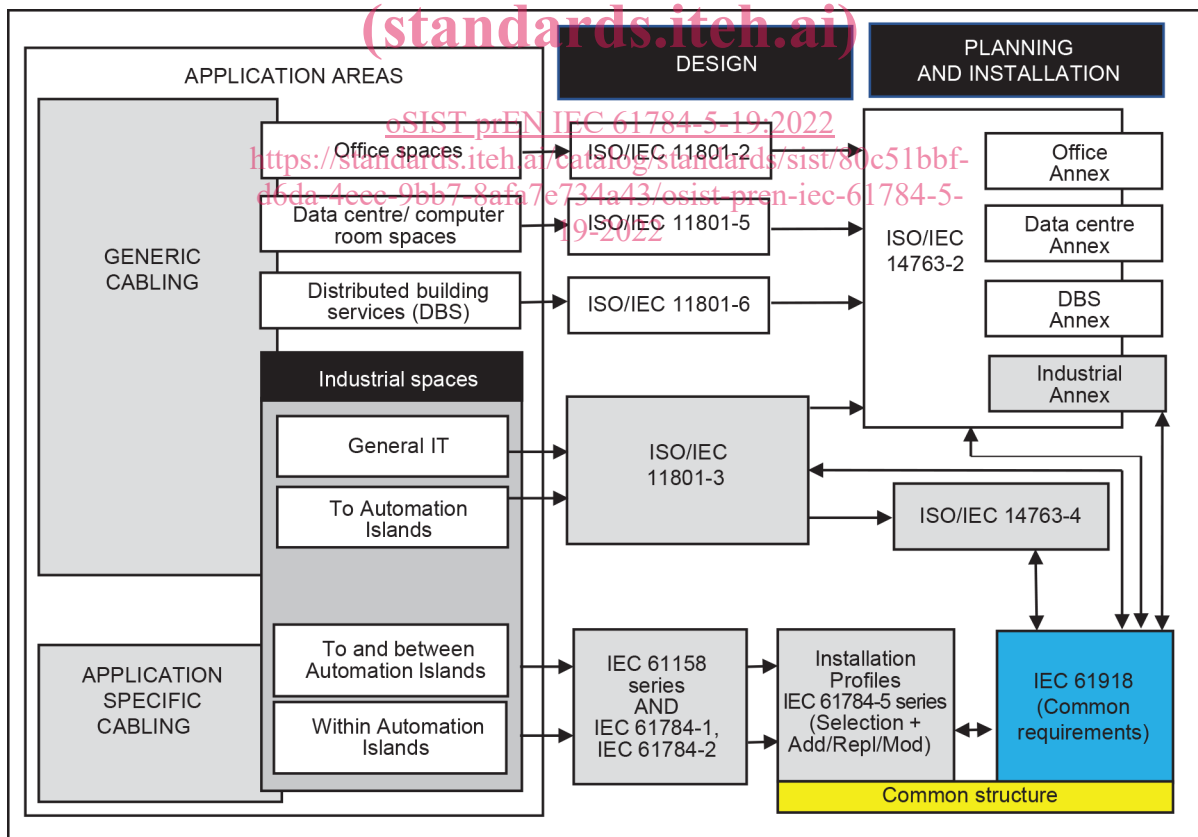
276 This International Standard is one of a series produced to facilitate the use of communication  
277 networks in industrial control systems.

278 IEC 61918:2018 and IEC 61918:2018/AMD1:— provide the common requirements for the  
279 installation of communication networks in industrial control systems. This installation profile  
280 standard provides the installation profiles of the communication profiles (CP) of a specific  
281 communication profile family (CPF) by stating which requirements of IEC 61918 fully apply  
282 and, where necessary, by supplementing, modifying, or replacing the other requirements (see  
283 Figure 1).

284 For general background on fieldbuses, their profiles, and relationship between the installation  
285 profiles specified in this standard, see IEC 61158-1.

286 Each CP installation profile is specified in a separate annex of this standard. Each annex is  
287 structured exactly as the reference standard IEC 61918 for the benefit of the persons  
288 representing the roles in the fieldbus installation process as defined in IEC 61918 (planner,  
289 installer, verification personnel, validation personnel, maintenance personnel, administration  
290 personnel). By reading the installation profile in conjunction with IEC 61918, these persons  
291 immediately know which requirements are common for the installation of all CPs and which  
292 are modified or replaced. The conventions used to draft this standard are defined in Clause 5.

293 The provision of the installation profiles in one standard for each CPF (for example  
294 IEC 61784-5-19 for CPF 19), allows readers to work with standards of a convenient size.



295

296

Figure 1 – Standards relationships

297

298

## INDUSTRIAL COMMUNICATION NETWORKS – PROFILES –

### Part 5-19: Installation of fieldbuses – Installation profiles for CPF 19

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300  
301  
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#### 305 **1 Scope**

306 This part of IEC 61784-5 specifies the installation profiles for CPF 19 (MECHATROLINK™<sup>1</sup>).

307 The installation profiles are specified in the annexes. These annexes are read in conjunction  
308 with IEC 61918:2018 and IEC 61918:2018/AMD1:—.

#### 309 **2 Normative references**

310 The following documents are referred to in the text in such a way that some or all of their  
311 content constitutes requirements of this document. For dated references, only the edition  
312 cited applies. For undated references, the latest edition of the referenced document (including  
313 any amendments) applies.

314 IEC 61918:2018, *Industrial communication networks – Installation of communication networks*  
315 *in industrial premises*

316 IEC 61918:2018/AMD1:—, *Amendment 1 – Industrial communication networks – Installation of*  
317 *communication networks in industrial premises*<sup>2</sup>

318 The normative references of IEC 61918:2018, Clause 2, and IEC 61918:2018/AMD1:—,  
319 Clause 2, apply. [https://standards.iteh.ai/catalog/standards/sist/80c51bbf-](https://standards.iteh.ai/catalog/standards/sist/80c51bbf-d6da-4eec-9bb7-8afa7e734a43/osist-pren-iec-61784-5-19-2022)

320 NOTE For profile specific normative references, see Clause A.2.

#### 321 **3 Terms, definitions and abbreviated terms**

322 For the purposes of this document, the terms, definitions and abbreviated terms given in  
323 IEC 61918:2018, Clause 3, IEC 61918:2018/AMD1:—, Clause 3, and the Annexes, Clause 3,  
324 apply.

325 ISO and IEC maintain terminology databases for use in standardization at the following  
326 addresses:

- 327 • IEC Electropedia: available at <https://www.electropedia.org/>
- 328 • ISO Online browsing platform: available at <https://www.iso.org/obp>

329 NOTE For profile specific terms, definition and abbreviated terms see Clauses A.3, B.3, C.3 and D.3 respectively.

<sup>1</sup> MECHATROLINK™ and Σ-LINK™ II are trade names of YASKAWA ELECTRIC CORPORATION. This information is given for the convenience of users of this document and does not constitute an endorsement by IEC of the trade names holder or any of its products. Compliance to this profile does not require use of the trade names. Use of the trade name requires permission of the trade name holder.

<sup>2</sup> Under preparation. Stage at time of publication: IEC/FDIS 61918:2018/AMD1

#### 330 **4 CPF19: Overview of installation profiles**

331 CPF 19 consists of four Communication Profiles as specified in IEC 61784-1 and IEC 61784-2.

332 The installation requirements for CP 19/1 (MECHATROLINK™-II) are specified in Annex A.

333 The installation requirements for CP 19/2 (MECHATROLINK™-III) are specified in Annex B.

334 The installation requirements for CP 19/3 ( $\Sigma$ -LINK™ II) are specified in Annex C.

335 The installation requirements for CP 19/4 (MECHATROLINK™-4) are specified in Annex D.

#### 336 **5 Installation profile conventions**

337 The numbering of the clauses and subclauses in the annexes of this standard corresponds to  
338 the numbering of IEC 61918 main clauses and subclauses.

339 The annex clauses and subclauses of this standard supplement, modify, or replace the  
340 respective clauses and subclauses in IEC 61918.

341 Where there is no corresponding subclause of IEC 61918 in the normative annexes in this  
342 standard, the subclause of IEC 61918 applies without modification.

343 The annex heading letter represents the installation profile assigned in Clause 4. The annex  
344 heading number shall represent the corresponding numbering of IEC 61918.

345 EXAMPLE “Subclause B.4.4” in IEC 61784-5-3 means that CP 3/2 specifies the subclause 4.4 of IEC 61918.

346 All main clauses of IEC 61918 are cited and apply in full unless otherwise stated in each  
347 normative installation profile annex.

348 If all subclauses of a (sub)clause are omitted, then the corresponding IEC 61918 (sub)clause  
349 applies.

350 If in a (sub)clause it is written “Not applicable.”, then the corresponding  
351 IEC 61918 (sub)clause does not apply.

352 If in a (sub)clause it is written “*Addition:*”, then the corresponding IEC 61918 (sub)clause  
353 applies with the additions written in the profile.

354 If in a (sub)clause it is written “*Replacement:*”, then the text provided in the profile replaces  
355 the text of the corresponding IEC 61918 (sub)clause.

356 NOTE A replacement can also comprise additions.

357 If in a (sub)clause it is written “*Modification:*”, then the corresponding IEC 61918 (sub)clause  
358 applies with the modifications written in the profile.

359 If all (sub)clauses of a (sub)clause are omitted but in this (sub)clause it is written  
360 “(Sub)clause x has *addition:*” (or “*replacement:*”) or “(Sub)clause x is not applicable.”, then  
361 (sub)clause x becomes valid as declared and all the other corresponding  
362 IEC 61918 (sub)clauses apply.

## 363 6 Conformance to installation profiles

364 Each installation profile within this standard includes part of IEC 61918:2018 and IEC  
365 61918:2018/AMD1:—. It may also include defined additional specifications.

366 A statement of compliance with an installation profile of this standard shall be stated<sup>3</sup> as  
367 either

368 Compliance with IEC 61784-5-19: —<sup>4</sup> for CP 19/m <name> or

369 Compliance with IEC 61784-5-19 (Ed.2.0) for CP 19/m<name>

370 where the name within the angle brackets < > is optional and the angle brackets are not to be  
371 included. The m within CP 19/m shall be replaced by the profile number 1 to 4.

372 NOTE The name may be the name of the profile, for example MECHATROLINK-II, MECHATROLINK-III, Σ-LINK II  
373 or MECHATROLINK-4.

374 If the name is a trade name then the permission of the trade name holder shall be required.

375 Product standards shall not include any conformity assessment aspects (including quality  
376 management provisions), neither normative nor informative, other than provisions for product  
377 testing (evaluation and examination).

378

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[https://standards.iteh.ai/catalog/standards/sist/80c51bbf-  
d6da-4eec-9bb7-8afa7e734a43/osist-pren-iec-61784-5-  
19-2022](https://standards.iteh.ai/catalog/standards/sist/80c51bbf-d6da-4eec-9bb7-8afa7e734a43/osist-pren-iec-61784-5-19-2022)

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<sup>3</sup> In accordance with ISO/IEC Directives.

<sup>4</sup> The date should not be used when the edition number is used.

379  
380  
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383

## Annex A (normative)

### CP 19/1 (MECHATROLINK-II) specific installation profile

#### 384 **A.1 Installation profile scope**

385 *Addition:*

386 This standard specifies the installation profile for Communication Profile CP 19/1  
387 (MECHATROLINK-II). The CP 19/1 is specified in IEC 61784-1.

#### 388 **A.2 Normative references**

389 *Addition:*

390 TIA-485-A, *Electrical Characteristics of Generators and Receivers for Use in Balanced Digital*  
391 *Multipoint Systems*

#### 392 **A.3 Installation profile terms, definitions, and abbreviated terms**

##### 393 **A.3.1 Terms and definitions**

394 *Addition:*

##### 395 **A.3.1.1**

##### 396 **C1 master**

397 master device which initiates cyclic data transfer with slave devices

##### 398 **A.3.1.2**

##### 399 **C2 master**

400 master device which initiates message data exchange with other devices

##### 401 **A.3.1.3**

##### 402 **master**

403 device that controls the data transfer on the CP 19/1 network and initiates the media access  
404 of the slaves by sending messages and that constitutes the interface to the control system

##### 405 **A.3.1.4**

##### 406 **slave**

407 device that accesses the medium only after it has been initiated by the preceding master

##### 408 **A.3.2 Abbreviated terms**

409 *Addition:*

M-II	MECHATROLINK-II
USB	Universal Serial Bus

410