

Connectors for electronic equipment — Product requirements —

**Part 3-106: Rectangular connectors —
Detail specification for protective
 housings for use with 8-way shielded
and unshielded connectors for
industrial environments incorporating
the IEC 60603-7 series interface**

The European Standard EN 61076-3-106:2006 has the status of a British Standard

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National foreword

This British Standard was published by BSI. It is the UK implementation of EN 61076-3-106:2006. It is identical with IEC 61076-3-106:2006.

The UK participation in its preparation was entrusted to Technical Committee EPL/48, Electromechanical components and mechanical structures for electronic equipment.

A list of organizations represented on EPL/48 can be obtained on request to its secretary.

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**Connectors for electronic equipment -
Product requirements
Part 3-106: Rectangular connectors -
Detail specification for protective housings
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for industrial environments incorporating
the IEC 60603-7 series interface
(IEC 61076-3-106:2006)**

Connecteurs pour équipements
électroniques -
Exigences de produit
Partie 3-106: Connecteurs
rectangulaires -
Spécification particulière pour boîtiers de
protection utilisés avec des connecteurs
blindés et non blindés 8 voies pour des
environnements industriels incorporant
l'interface série CEI 60603-7
(CEI 61076-3-106:2006)

Steckverbinder für elektronische
Einrichtungen -
Produktanforderungen
Teil 3-106: Rechteckige Steckverbinder -
Bauartspezifikation für Schutzgehäuse
für die Anwendung mit 8-poligen
geschirmten und ungeschirmten
Steckverbindern für industrielle
Umgebungen zur Aufnahme der
Schnittstelle der Reihe IEC 60603-7
(IEC 61076-3-106:2006)

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 48B/1692A/FDIS, future edition 1 of IEC 61076-3-106, prepared by SC 48B, Connectors, of IEC TC 48, Electromechanical components and mechanical structures for electronic equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61076-3-106 on 2006-11-01.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2007-08-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2009-11-01

The International Electrotechnical Commission (IEC) and CENELEC draw attention to the fact that it is claimed that compliance with this standard may involve the use of patent(s) concerning the free connectors in 3.5, 3.6.2, 3.10.2, 3.11, 3.11.2, 3.12.2, 3.13.2 and 3.14.2.

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Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61076-3-106:2006 was approved by CENELEC as a European Standard without any modification.

CONTENTS

1	General data	7
1.1	Scope.....	7
1.2	Normative references	7
1.3	IEC type designation	9
2	Terminology	9
3	Dimensional information	10
3.1	Common features	10
3.2	General	10
3.3	Contact arrangement of all connector types.....	10
3.4	IP65 and IP67 sealing	10
3.5	Industrial IEC 60603-7 variant 01 – bayonet coupling	10
3.6	Industrial IEC 60603-7 variant 02 – snap-in coupling	13
3.7	Industrial IEC 60603-7 variant 03 – threaded coupling.....	17
3.8	Industrial IEC 60603-7 variant 04 – snap-in coupling	19
3.9	Industrial IEC 60603-7 variant 05 – locking lever coupling.....	21
3.10	Industrial IEC 60603-7 variant 06 – snap-in coupling	23
3.11	Industrial IEC 60603-7 variant 07 – locking lever coupling.....	25
3.12	Industrial IEC 60603-7 variant 08 – threaded coupling.....	27
3.13	Industrial IEC 60603-7 variant 09 – quarter turn coupling	29
3.14	Industrial IEC 60603-7, variant 10 – Pulse lock coupling	31
3.15	Termination and mounting information.....	32
3.16	Mounting information for variant 01, fixed connector.....	33
3.17	Mounting information for variant 02, fixed connector.....	34
3.18	Mounting information for variant 03, fixed connector.....	35
3.19	Mounting information for variant 04, fixed connector.....	35
3.20	Mounting information for variant 05, fixed connector.....	36
3.21	Mounting information for variant 06, fixed connector.....	37
3.22	Mounting information for variant 07, fixed connector.....	38
3.23	Mounting information for variant 08, fixed connector.....	39
3.24	Mounting information for variant 09, fixed connector.....	39
3.25	Mounting information for variant 10, fixed connector.....	40
4	Gauges – Connectors for the IEC 60603-7 interface	40
5	Characteristics	40
5.1	Climatic category.....	40
5.2	Electrical	41
5.3	Transmission characteristics	43
5.4	Mechanical	43
6	Test schedule	43
6.1	General	43
6.2	Test procedures and measuring methods	44
6.3	Preconditioning	44
6.4	Wiring and mounting of specimens	44

6.5	Arrangement for contact resistance test:	44
6.6	Arrangement for dynamic stress tests (test phase AP2).....	44
6.7	Basic (minimum) test schedule	44
6.8	Full test schedule	44
Figure 1	– Variant 01, fixed connector	11
Figure 2	– Variant 01, free connector	12
Figure 3	– Variant 02, fixed connector	13
Figure 4	– Variant 02, free connector	15
Figure 5	– Variant 03, fixed connector	17
Figure 6	– Variant 03, free connector	18
Figure 7	– Variant 04, fixed connector	19
Figure 8	– Variant 04, free connector	20
Figure 9	– Variant 05, fixed connector	21
Figure 10	– Variant 05, free connector	22
Figure 11	– Variant 06, fixed connector.....	23
Figure 12	– Variant 06, free connector	24
Figure 13	– Variant 07, fixed connector.....	25
Figure 14	– Variant 07, free connector	26
Figure 15	– Variant 08, fixed connector.....	27
Figure 16	– Variant 08, free connector	28
Figure 17	– Variant 09, fixed connector.....	29
Figure 18	– Variant 09, free connector	30
Figure 19	– Variant 10, fixed connector.....	31
Figure 20	– Variant 10, free connector	32
Figure 21	– Variant 01, style 1 mounting drawing.....	33
Figure 22	– Variant 01, style 2 mounting drawing.....	33
Figure 23	– Variant 02 mounting drawing	34
Figure 24	– Variant 03 mounting drawing	35
Figure 25	– Variant 04 mounting drawing	35
Figure 26	– Variant 05 mounting drawing	36
Figure 27	– Variant 06 mounting drawing	37
Figure 28	– Variant 07 mounting drawing	38
Figure 29	– Variant 08 mounting drawing	39
Figure 30	– Variant 09 mounting drawing	39
Figure 31	– Variant 10, mounting drawing	40
Figure 32	– Connector derating curve	42
Table 1	– Dimensions fixed connector variant 01	11
Table 2	– Dimensions free connector variant 01.....	12
Table 3	– Dimensions fixed connector variant 02	14
Table 4	– Dimensions free connector variant 02.....	16
Table 5	– Dimension fixed connector variant 03	17
Table 6	– Dimensions free connector variant 03.....	17

Table 7 – Dimensions fixed connector variant 04	19
Table 8 – Dimensions free connector variant 04.....	20
Table 9 – Dimensions fixed connector variant 05	21
Table 10 – Dimensions free connector variant 05.....	22
Table 11 – Dimensions fixed connector variant 06	23
Table 12 – Dimensions free connector variant 06.....	24
Table 13 – Dimensions fixed connector variant 07	25
Table 14 – Dimensions free connector variant 07.....	26
Table 15 – Dimensions fixed connector variant 08	27
Table 16 – Dimensions free connector variant 08.....	28
Table 17 – Dimensions fixed connector variant 09	29
Table 18 – Dimensions free connector variant 09.....	30
Table 19 – Dimensions fixed connector variant 10	31
Table 20 – Dimensions free connector variant 10.....	32
Table 21 – Variant 01, style 1 mounting information.....	33
Table 22 – Variant 01, style 2 mounting information.....	34
Table 23 – Variant 02 mounting information	34
Table 24 – Variant 03 mounting information	35
Table 25 – Variant 04 mounting information	35
Table 26 – Variant 05 mounting information	36
Table 27 – Variant 06 mounting information	37
Table 28 – Variant 07 mounting Information.....	38
Table 29 – Variant 08 mounting information	39
Table 30 – Variant 09 mounting information	39
Table 31 – Variant 10 mounting information	40
Table 32 – Climatic categories – selected values for environmental performance level A	40
Table 33 – Creepage and clearance	41
Table 34 – Test group P	45
Table 35 – Test group AP – Dynamic/climatic	46
Table 36 – Test Group BP – Mechanical	48
Table 37 – Test group CP – Continuity.....	49
Annex ZA (normative) Normative references to international publications with their corresponding European publications.....	50

CONNECTORS FOR ELECTRONIC EQUIPMENT – PRODUCT REQUIREMENTS –

Part 3-106: Rectangular connectors – Detail specification for protective housings for use with 8-way shielded and unshielded connectors for industrial environments incorporating the IEC 60603-7 series interface

1 General data

1.1 Scope

This part of IEC 61076 constitutes the detail specification in the IEC system for electronic components for 8-way connectors for frequencies up to 600 MHz.

This part of IEC 61076 covers protective housings for upgrading existing 8-way shielded and unshielded connectors utilizing the interface described in the IEC 60603-7 series to IP65 and IP67 ratings according to IEC 60529, for use in industrial environments.

The housings cover a variety of different locking mechanisms according to this part of IEC 61076 and a variety of different mounting configurations and termination types which are detailed in the IEC 60603-7 series.

Common mating configuration for all variants are defined in IEC 60603-7. The mating dimensions for the housings under Clause 3 allow the mating conditions under IEC 60603-7 to be fulfilled.

The fully assembled variants (connectors) described in this part of IEC 61076 incorporate fully compliant IEC 60603-7 series fixed and free connectors.

1.2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050(581):1978, *International Electrotechnical Vocabulary (IEV) – Chapter 581: Electro-mechanical components for electronic equipment*

IEC 60068-1, *Environmental testing – Part 1: General and guidance*

IEC 60068-2-14, *Environmental testing – Part 2: Tests. Test N: Change of temperature*

IEC 60068-2-30, *Environmental testing – Part 2-30: Tests – Test Db: Damp heat, cyclic (12 h + 12 h cycle)*

IEC 60512 (all parts), *Connectors for electronic equipment – Tests and measurements*

IEC 60512-1-100, *Connectors for electronic equipment – Tests and measurements – Part 1-100: General – Applicable publications*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 60603-7 (all parts), *Connectors for electronic equipment*

IEC 60664-1, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC 61076-1, *Connectors for electronic equipment – Product requirements – Part 1: Generic specification*

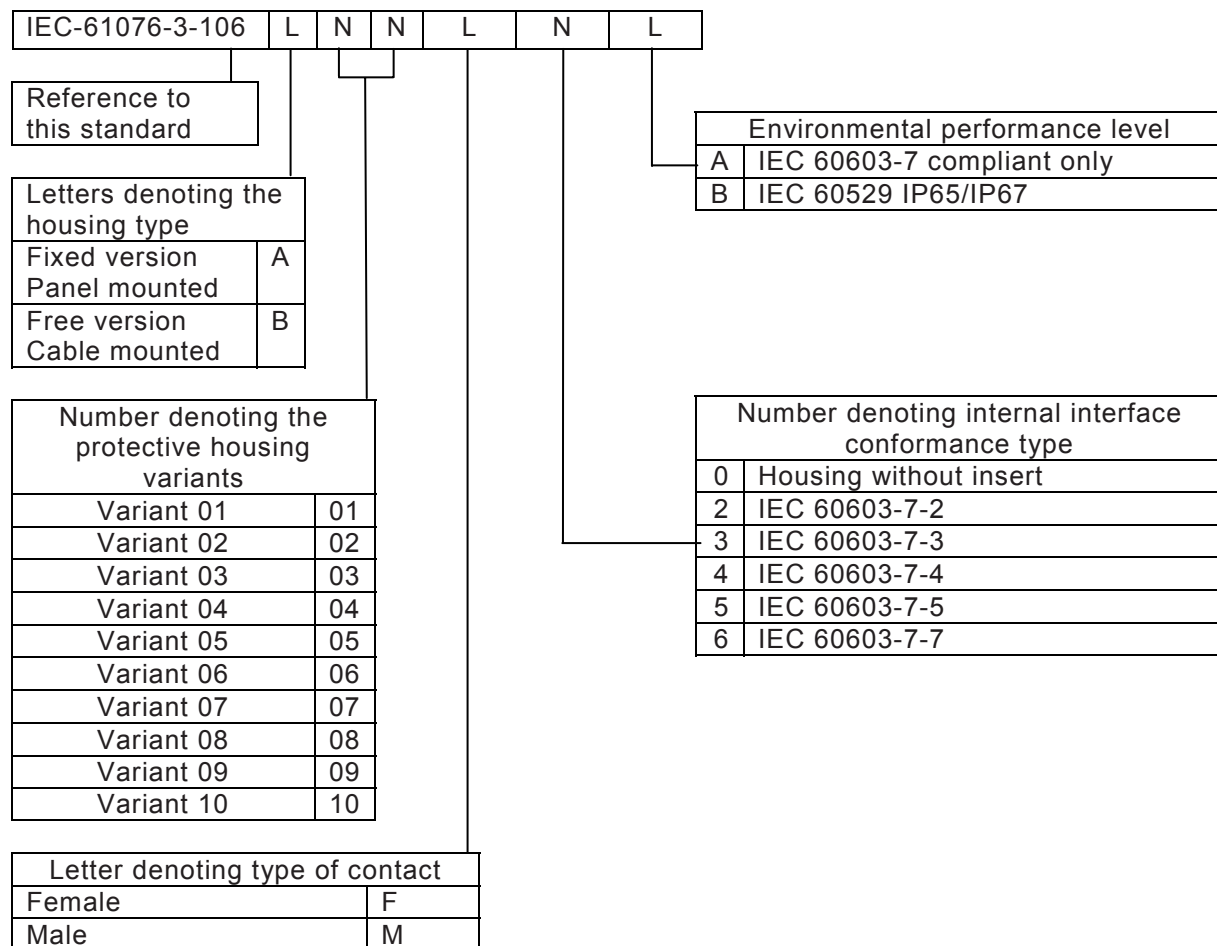
IEC 61156-2, *Multicore and symmetrical pair/quad cables for digital communications – Part 2: Horizontal floor wiring – Sectional specification*

IEC 61156-3, *Multicore and symmetrical pair/quad cables for digital communications – Part 3: Work area wiring – Sectional specification*

IEC 61156-4, *Multicore and symmetrical pair/quad cables for digital communications – Part 4: Riser cables – Sectional specification*

1.3 IEC type designation

Protective housings and connectors in protective housings according to this part of IEC 61076 shall be designated by the following system:



“L” stands for letter

“N” stands for number

Example:

IEC 61076-3-106 A01F5B: Fixed protective housing panel mounted, housing variant 01, female version, insert according to IEC 60603-7-5 (250 MHz – shielded), with IP65/IP67 rating.

2 Terminology

For definitions of terms used, refer to IEC 60050(581).

3 Dimensional information

3.1 Common features

The industrial connectors referenced in this part of IEC 61076 are composed of IEC 60603-7 style fixed and free connectors housed in unique, industrial rated interfaces. The mating information and contact requirements of the IEC 60603-7 interface portion of these industrial connectors shall be compliant with the appropriate IEC 60603-7 series.

The following requirements apply to the complete connector comprised of both the free and fixed connectors in one of the described variant shells/outer housing.

3.2 General

Dimensions are given in millimetres, drawings are shown in first/third angle projection. The shape of connectors may deviate from those shapes given in the following figures as long as the specified dimensions are not influenced.

3.3 Contact arrangement of all connector types

Contact arrangements shall be in accordance with the relevant parts of IEC 60603-7.

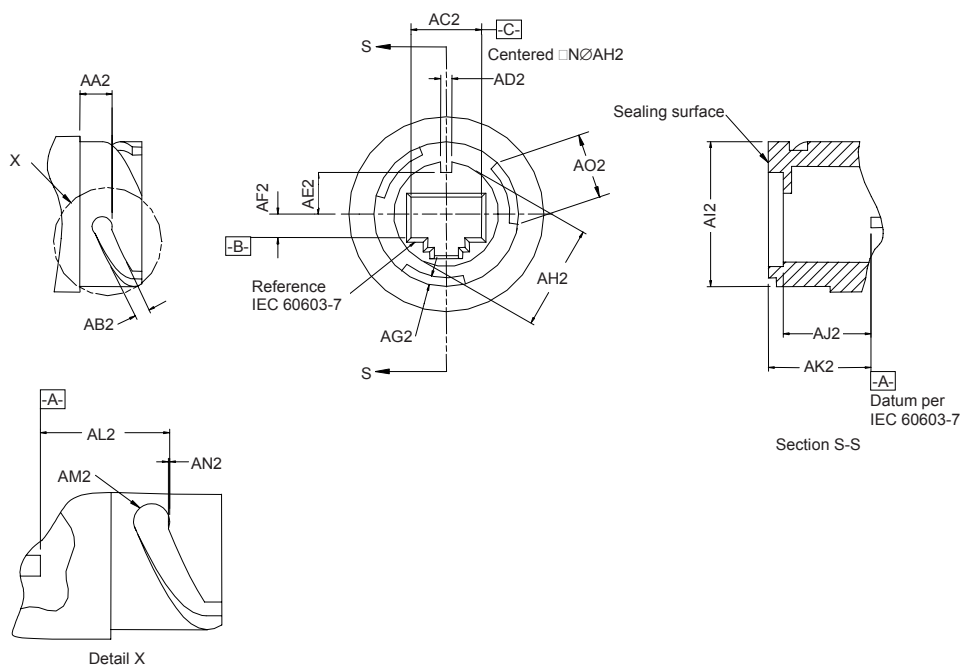
3.4 IP65 and IP67 sealing

Connectors meant to comply with IP ratings per IEC 60529 require sealing of the components in order to meet the requirements detailed in the test schedules in 6.8.1 through 6.8.7.

3.5 Industrial IEC 60603-7 variant 01 – bayonet coupling

3.5.1 Industrial IEC 60603-7 variant 01, fixed connector

Third angle projection



IEC 1628/06

Figure 1 – Variant 01, fixed connector

Table 1 – Dimensions fixed connector variant 01

Dimensions in millimetres

Letter	Maximum	Minimum	Nominal
AA2	-	5,46	-
AB2	3,56	2,74	3,15
AC2	12,03	11,78	11,91
AD2	1,65	1,40	1,52
AE2	7,11	6,68	6,90
AF2	4,14	3,88	4,01
AG2	1,57	1,35	1,47
AH2	17,6	17,3	17,45
AI2	24,64	24,46	24,55
AJ2	10,69	-	-
AK2	13,58	13,33	13,46
AL2	8,50	8,25	8,38
AM2	3,15	2,75	2,95
AN2	0,304	0,152	0,229
AO2		7,62	

3.5.2 Industrial IEC 60603-7 variant 01, free connector

Third angle projection

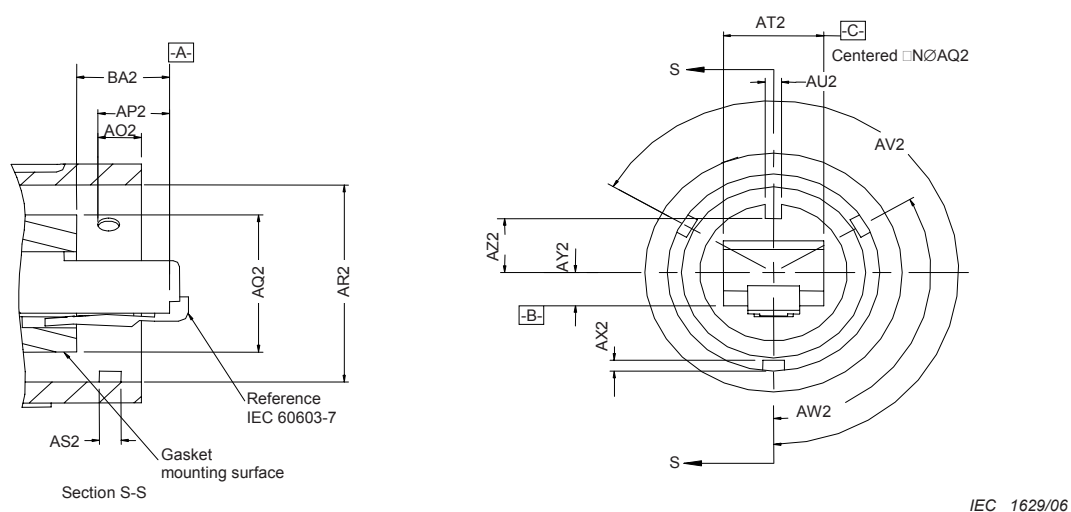


Figure 2 – Variant 01, free connector

Table 2 – Dimensions free connector variant 01

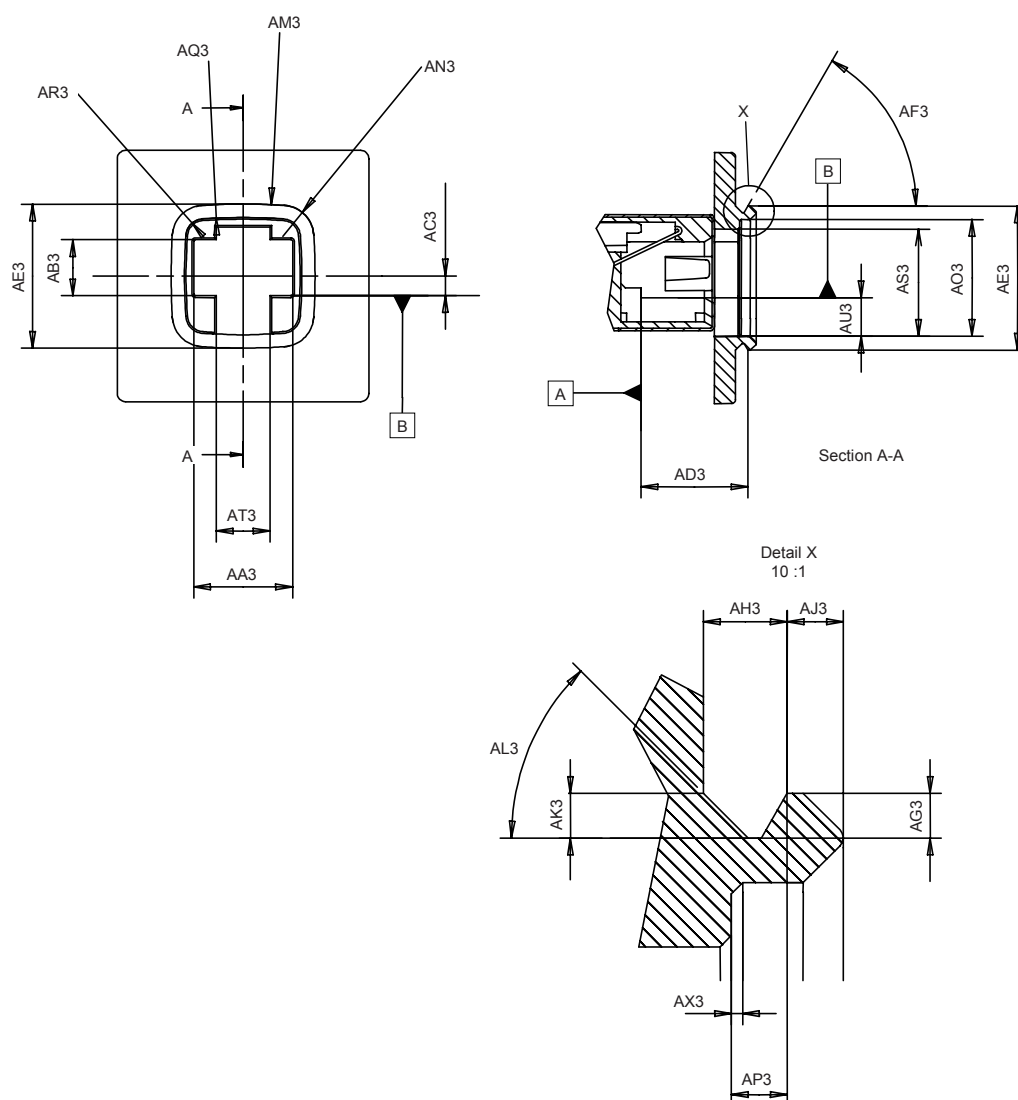
Dimensions in millimetres

Letter	Maximum	Minimum	Nominal
AO2	5,08	-	-
AP2	8,1	7,85	7,98
AQ2	17,1	16,8	16,94
AR2	25,0	24,74	24,87
AS2	2,59	2,49	2,54
AT2	11,78	11,58	11,68
AU2	2,25	1,75	2,01
AX2	1,30	1,04	1,17
AY2	4,14	3,89	4,01
AZ2	6,60	6,35	6,48
BA2	-	10,19	-

Letter	Maximum	Minimum	Nominal
AV2	241°	239°	-
AW2	121°	119°	-
NOTE AT2 centered on AQ2			

3.6 Industrial IEC 60603-7 variant 02 – snap-in coupling

3.6.1 Industrial IEC 60603-7 variant 02, fixed connector



IEC 1630/06

Figure 3 – Variant 02, fixed connector

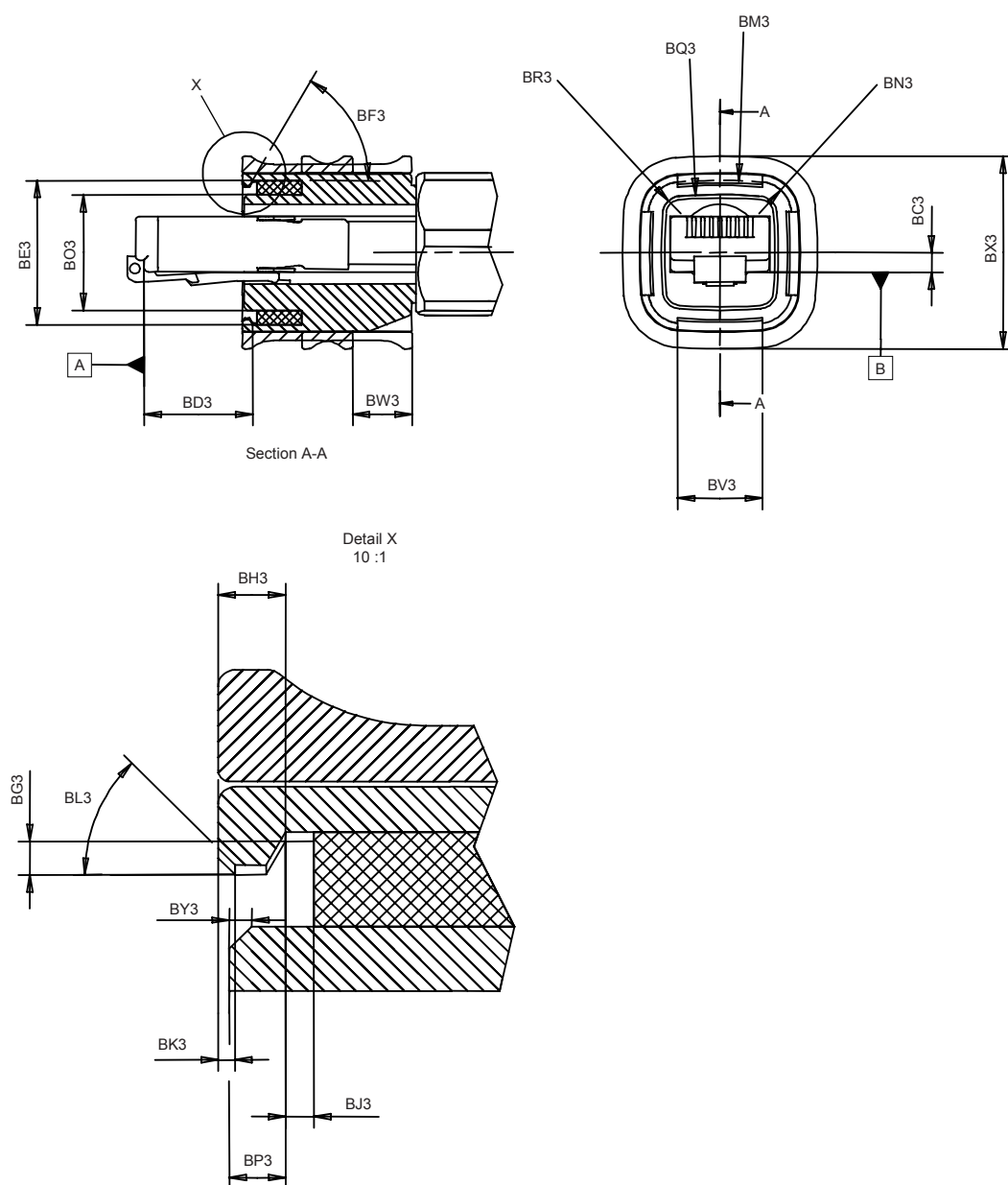
Table 3 – Dimensions fixed connector variant 02

Dimensions in millimetres

Letter	Maximum	Minimum	Nominal
AA3	11,85	11,79	11,82
AB3	6,77	6,71	6,74
AC3	2,4	2,3	2,35
AD3	13,2	12,8	13
AE3	17,2	17,1	17,15
AG3	0,85	0,75	0,8
AH3	1,55	1,45	1,5
AJ3	1,1	0,9	1
AK3	0,8	0,6	0,7
AM3			R 68,8
AN3			R 3,8
AO3	14,05	13,95	14
AP3	1,05	0,95	1
AQ3			R 67,2
AR3			R 2,2
AS3	13,05	12,65	12,85
AT3	6,5	6,3	6,4
AU3	4,65	4,55	4,6

Letter	Maximum	Minimum	Nominal
AF3			60°
AL3			45°

3.6.2 Industrial variant 02, free connector



IEC 1631/06

Figure 4 – Variant 02, free connector