

E DIN EN 4165-001:2023-07 (E)

Erscheinungsdatum: 2023-06-02

Aerospace series - Connectors, electrical, rectangular, modular - Operating temperature 175 °C continuous - Part 001: Technical specification; English version prEN 4165-001:2023

Contents

Page

European foreword	4
1 Scope.....	5
2 Normative references.....	5
3 Terms and definitions.....	6
4 Description.....	7
4.1 General.....	7
4.1.1 Introduction.....	7
4.1.2 Centre coupling.....	7
4.1.3 Rack and panel plug.....	7
4.1.4 Push-pull latching.....	7
4.2 Housing.....	8
4.3 Receptacle.....	8
4.3.1 Centre coupling mechanism.....	8
4.3.2 Push-pull latching mechanism.....	8
4.4 Plugs	8
4.4.1 General.....	8
4.4.2 Centre coupling mechanism.....	8
4.4.3 Rack and panel.....	8
4.4.4 Push-pull latching mechanism.....	9
4.5 Rear accessories.....	9
4.6 Modules	9
4.7 Keying mechanism	9
4.7.1 Central coupling mechanism and rack and panel.....	9
4.7.2 Push-pull latching mechanism.....	10
4.8 Materials and surface treatment.....	10
4.8.1 General.....	10
4.8.2 Housings.....	10
4.8.3 Contacts	10
4.8.4 Non-metallic materials	10
5 Design.....	11
5.1 Housings.....	11
5.2 Modules	11
5.3 Connector mating sequence.....	11
5.3.1 Centre coupling mechanism.....	11
5.3.2 Push-pull latching mechanism.....	12
5.3.3 Rack and panel coupling	12
5.4 Connector mating.....	12
6 Definition drawings and masses	13
6.1 Receptacle and plug mating dimensions.....	13
6.1.1 Connector mated conditions, series 2 and 3.....	13
6.1.2 Plug and receptacle, series 2	14
6.1.3 Plug and receptacle, series 3	17
6.1.4 Plug and receptacle single module.....	20
6.2 Receptacle dimensions	24
6.2.1 2 cavities receptacle dimensions, series 2.....	24

6.2.2	4 cavities receptacle dimensions, series 2	25
6.2.3	2 cavities receptacle dimensions, series 3	26
6.2.4	4 cavities receptacle dimensions, series 3	27
6.3	Receptacle coding pin cavity dimensions, series 2 and series 3	28
6.4	Receptacle module cavities dimensions, series 2 and series 3.....	29
6.5	Receptacle single module cavities dimensions, series 2	30
6.6	2 cavities plug dimensions, series 2.....	31
6.7	4 cavities plug dimensions, series 2.....	31
6.8	2 cavities plug dimensions, series 3.....	33
6.9	4 cavities plug dimensions, series 3.....	33
6.10	Plug coding key cavity dimensions, series 2 and series 3	35
6.11	Plug module cavity dimensions, series 2 and series 3	35
6.12	Plug single module cavity dimensions, series 2	37
6.13	Receptacle and plug module cavity coding dimensions, series 2 and series 3.....	39
7	Details on contact and module interface	41
7.1	Male module and contact interfacial sealing dimensions.....	41
7.2	Female module and contact interface dimensions.....	41
7.3	Male module and contact interfacial sealing dimensions, size 23.....	42
7.4	Female module and contact interfacial sealing dimensions, size 23.....	42
8	Contact arrangements.....	43
9	Tests according to EN 2591-100.....	54
10	Tooling testing.....	69
10.1	Gauges to test the holding force of the grounding spring system of the housing.....	69
10.1.1	Gauges for 4 cavities housing series 2 and 3	69
10.1.2	Gauges for 2 cavities housing series 2 and 3	70
10.2	Gauges to test the stability of male contacts in module.....	71
10.3	Gauges to test EN 2591-419 for 23R modules	72
11	Quality assurance	73
12	Qualification	73
12.1	Sampling and definition of specimens.....	73
12.1.1	Sampling for qualification of metallic housings and modules	73
12.1.2	Sampling for qualification of composite housings and modules.....	74
12.1.3	Sampling for qualification of push-pull latching mechanism housing and modules	74
12.1.4	Sampling for qualification of a new module arrangement.....	75
12.2	Preparation of specimens.....	75
12.3	Programme of qualification tests	76
13	Maintenance of qualification.....	80
13.1	Tests	80
13.2	Sampling distribution	80
13.3	Acceptance	81
14	Quality control.....	82
15	Designation and marking	82
16	Delivery conditions.....	82
17	Packaging.....	82
18	Storage.....	82
	Bibliography	83