Amphenol SOCAPEX

EN3645

European standard fully compatible with MIL-DTL-38999 series III connectors

Certification

Amphenol Socapex is certified to deliver connectors with the EN3645 marking.

	EN3645	MIL-DTL-38999 Series III
Standard	European	American
Certification agency	ASD Cert	DLA

EN3645 Compared to MIL-DTL38999 Series III

EN3645 connectors are similar to MIL-DTL-38999 series III connectors with additional requirements, especially in terms of lightning strike performances and resistance to fluids (see below) - addendum n° V92RP0831448

Higher lightning strikes requirements

- A MIL-DTL-38999 Series III connector can handle up to 10kA
- An EN3645 connector can handle up to 15kA

Main Features

Shell Material	Plating	Class	Operating temperatures
Aluminum	Nickel	F	-65°C to +200°C
	Olive Drab Cadmium	W	-65°C to +175°C
Composite	Nickel	M	-65°C to +200°C
	Olive Drab Cadmium	J	-65°C to +175°C

Fluid table – comparison between EN3645 & MIL-DTL-38999 series III

		Fluid					EN3645				MIL-DTL-38999			
							Immersion		Stoving		Immersion		Stoving	
Category	Sub-category	EN3909 number	EIA-364-10D	Name	NATO CODE	US Standard	Duration (min)	Temp. T1 (°C)	Temp. T2 (°C)	Number of cycle	Duration (min)	Temp. T1 (°C)	Temp. T2 (°C)	Number of cycle
Fuel	-	2	B	Turbine fuels, Aviation Kerozene Type	F-44	MIL-DTL-5624	5 +2 0	25	85	1	5 +2 0	25	55	7
				Turbine fuels, Aviation Kerozene Type	F-34	MIL-DTL-83133								
		-	G	Gasoline	-	ASTM-D-4814	-	-	-	-	5 +2 0	25	25	5
			H	Gasohol	-	AA-52530	-	-	-	-	5 +2 0	25	25	5
Hydraulic fluids	Synthetic hydraulic fluid	3	-	Hydraulic Fluid, Synthetic Base	H-580	SAE AS 1241C	15 +5 0	85	100	5	-	-	-	-
	Mineral hydraulic fluid	5	A	Hydraulic Fluid, Mineral Base	H-515	MIL-PRF-5606	15 +5 0	85	100	1	5 +5 0	85	100	7
Lubricant	Mineral lubricant	7	-	Lubricating Oil, Instruments, Minerale Base	O-142	MIL-PRF-7870 C	15 +5 0	120	125	1	-	-	-	-
	Synthetic lubricant	9	C	Lubricating Oil, Aircraft Turbine Engine, Synthetic Base	O-148	MIL-PRF-7808 L gr 3	15 +5 0	150	125	5	5 +5 0	120	125	7
			D	Lubricating Oil, Aircraft Turbine Engine, Synthetic Base	O-156	MIL-PRF-23699 F					5 +5 0	120	125	7
Cleaning	-	10	-	Isopropylic Alcohol 25%	S-737	TT-I-735 gr A or B	15 +5 0	25	25	1	-	-	-	-
				+ Ethanol 75% v/v	S-738	-								
		11	I	Isopropylic Alcohol 25%	S-737	TT-I-735 gr A or B	5 +2 0	25	25	1	5 +5 0	25	24	5
				+ white spirit 75% v/v	S-752	MIL-PRF-680 C								
		-	F	Cleaning compound diluted	-	MIL-PRF-87937 type I	-	-	-	-	5 +5 0	65	100	7
		12	-	Methylethyl ketone	-	-	5 +2 0	25	25	1	-	-	-	-
Cooling	-	15	E	Aircraft de-icer	S-742	MIL-A-8243	15 +5 0	50	100	5	5 +5 0	65	100	7
	-	19	K	Coolant Dielectric fluid, synthetic silicat ester base	S-1748	MIL-DTL-87252C	15 +5 0	50	25	1	1 +5 0	25	24	1

**MIL-DTL-38999 tests include an air drying phase before stoving that is not in the table above.*

Markets

Military Aerospace

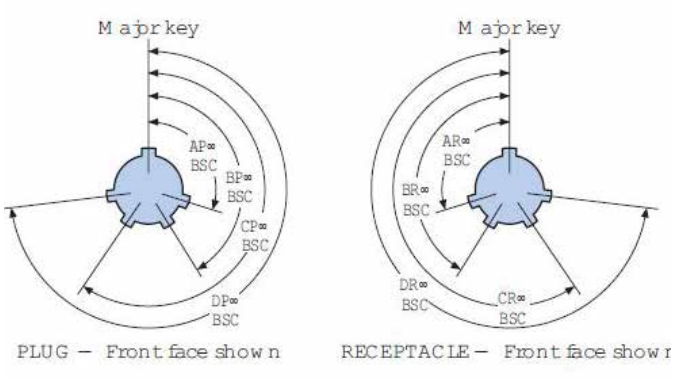
Commercial Aerospace

Coding - Polarization

Description

To avoid cross-plugging problems in applications requiring the use of more than one MIL-DTL-38999 III connector of the same size, alternate key-rotations are available as indicated in the accompanying chart. As shown in the diagram below, the secondary keys rotate clockwise from the major one.

In the reference system, the polarizationis shown by the letters N, A, B, C, D or E.



Shell size	Coding identification letter	AR° or AP° BSC	BR° or BP° BSC	CR° or CP° BSC	DR° or DP° BSC
9	N	105	140	215	265
	A	102	132	248	320
	B	80	118	230	312
	C	35	140	205	275
	D	64	155	234	304
	E	91	131	197	240
11, 13 and 15	N	95	141	208	236
	A	113	156	182	292
	B	90	145	195	252
	C	53	156	220	255
	D	119	146	176	298
	E	51	141	184	242
17 and 19	N	80	142	196	293
	A	135	170	200	310
	B	49	169	200	244
	C	66	140	200	257
	D	62	145	180	280
	E	79	153	197	272
21, 23 and 25	N	80	142	196	293
	A	135	170	200	310
	B	49	169	200	244
	C	66	140	200	257
	D	62	145	180	280
	E	79	153	197	272

Arrangements

Contact Size	22D	20	16	12	8
Caption	◐	⊖	⊕	◒	◉
Available:					
Quadrax	-	-	-	-	✓

Front face of male insert. (Only the major keyway is illustrated)

1	EN3645 insert arrangement reference
2	TV-CTV insert arrangement
3	Service class
4	Number of contacts
5	Contact sizes

09

1	AG01*	AN35	AN98
2	09-05	09-35	09-98
3	N/A	M	I
4	1	6	3
5	8	22D	20

11

1	BN01	BN04	BN05	BN35	BN98	BN99
2	11-01	11-04	11-05	11-35	11-98	11-99
3		I	I	M	I	I
4	1	4	5	13	6	7
5	8	20	20	22D	20	20

*Sold under our proprietary designation in accordance with the EN3645 specifications

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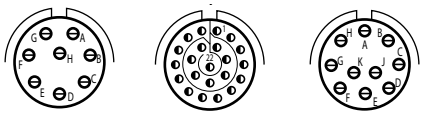
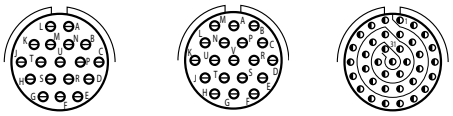


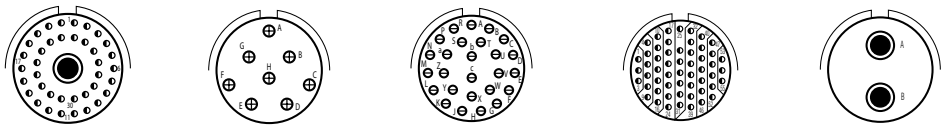
1	CN08	CN35	CN98
2	13-08	13-35	13-98
3	I	M	I
4	8	22	10
5	20	22D	20

15



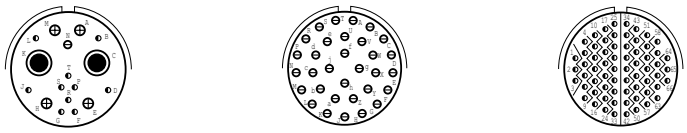
1	DN18	DN19	DN35
2	15-18	15-19	15-35
3	I	I	M
4	18	19	37
5	20	20	22D

17



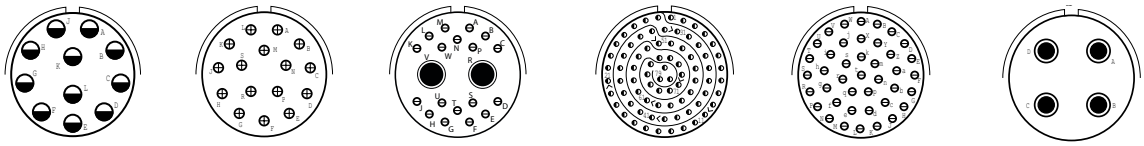
1	EN02		EN08	EN26	EN35	EN75
2	17-02		17-08	17-26	17-35	17-75
3	M		II	I	M	M
4	38	1	8	26	55	2
5	22D	8	16	20	22D	8

19



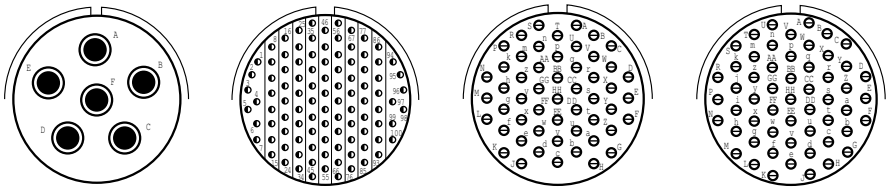
1	FN17				FN32	FN35
2	19-17 *(alu and composite only)*				19-32	19-35
3	M				I	M
4	10	1	4	2	32	66
5	22D	20	16	8	20	22D

21



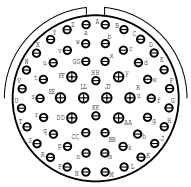
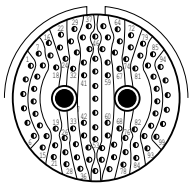
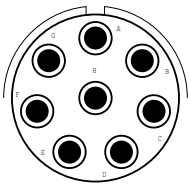
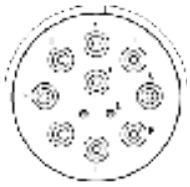
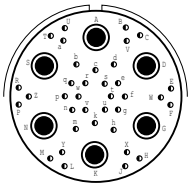
1	GN11	GN16	GN20		GN35	GN41	GN75
2	21-11	21-16	21-20		21-35	21-41	21-75
3	I	II	M		M	I	M
4	11	16	18	2	79	41	4
5	12	16	20	8	22D	20	8

23



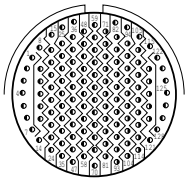
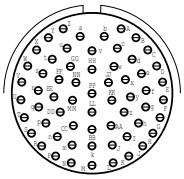
1	HN06	HN35	HN53	HN55
2	23-06 *(alu and composite only)*	23-35	23-53	23-55
3	M	M	I	I
4	6	100	53	55
5	8	22D	20	20

25

	JN04		JN07		JN08	JN11		JN17	
2	25-04		25-07		25-08	25-11		25-17	
3	I		M		M	N		M	
4	48	8	97	2	8	2	9	36	6
5	20	16	22D	8	8	20	10 power	22D	8

25

	JN35	JN61
2	25-35	25-61
3	M	I
4	128	61
5	22D	20

How To Order

Standard number	EN3645	F	0	G	N	16	A	N

Class:
W: Crimp version, Aluminum Olive drab cadmium plated, 175°C
F: Crimp version, Aluminum Nickel plated, 200°C ✓
J: Crimp version, Composite material Olive Drab cadmium plated, 175°C
M: Crimp version, Composite material Nickel plated, 200°C ✓

Shell style:
0: Square flange receptacle
7: Jam Nut Receptacle
6: Plug

Shell size code:
A for 09, B for 11, C for 13, D for 15, E for 17, F for 19, G for 21, H for 23, J for 25

Insert type:
N: Standard
G: Grounded cavities
Q: Quadrax insert, grounded
09-05 arrangement only, please consult us (proprietary designation)
L: Quadrax insert, non grounded
Please consult us (proprietary designation)

Contact arrangement according to EN3645-002:
see p2 to p4

Contact code:

M: with Pin contacts
A: without Pin contacts
F: with Socket contacts
B: without Socket contacts
(Size 8 contacts are not supplied with the connector)

Polarization (Key Ways rotation):
N, A, B, C, D, E. see *p2*

✓: RoHS compliant

Amphenol Socapex
948, promenade de l'Arve BP29
74311 Thyez Cedex - France
Phone: +33 (0)4 50 89 28 00
contact@amphenol-socapex.fr