

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

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



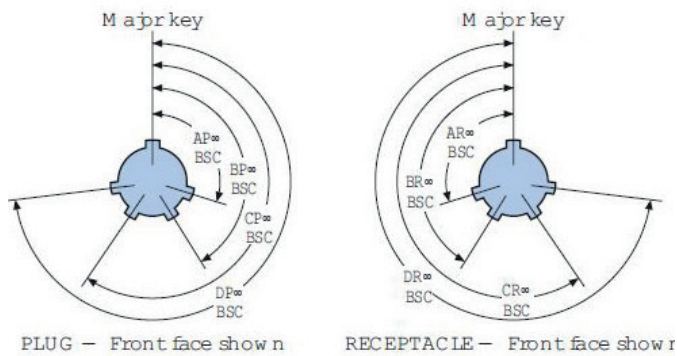
Commercial Aerospace

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 polarization is 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
11, 13 and 15	E	91	131	197	240
	N	95	141	208	236
	A	113	156	182	292
	B	90	145	195	252
	C	53	156	220	255
17 and 19	D	119	146	176	298
	E	51	141	184	242
	N	80	142	196	293
	A	135	170	200	310
	B	49	169	200	244
21, 23 and 25	C	66	140	200	257
	D	62	145	180	280
	E	79	153	197	272
	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					
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

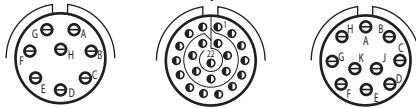
1	AG01*	AN35	AN98
2	09-05	09-35	09-98
3	N/A	M	I
4	1	6	3
5	8	22D	20

11

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

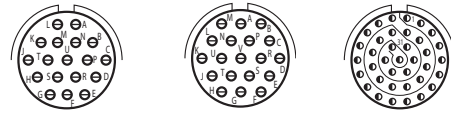
*Sold under our proprietary designation in accordance with the EN3645 specifications

13



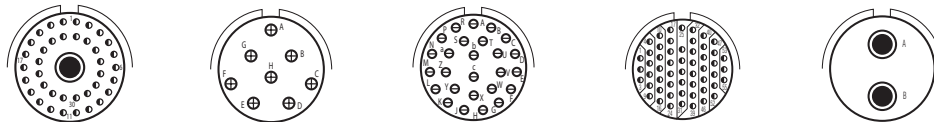
1	CN08	CN35	CN98
2	13-08	13-35	13-98
3	I	M	I
4	8	22	10
5	20	22D	20

15



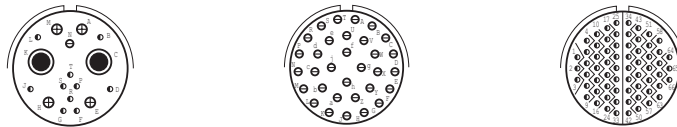
1	DN18	DN19	DN35
2	15-18	15-19	15-35
3	I	I	M
4	18	19	37
5	20	20	22D

17



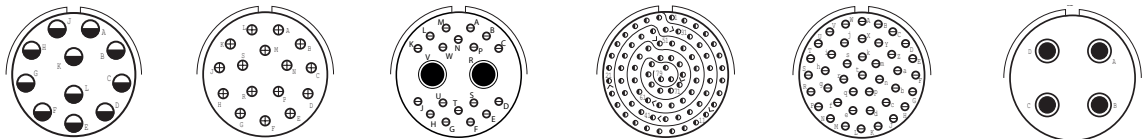
1	EN02		EN08		EN26		EN35		EN75	
2	17-02		17-08		17-26		17-35		17-75	
3	M		II		I		M		M	
4	38	1	8	8	26	26	55	55	2	2
5	22D	8	16	16	20	20	22D	22D	8	8

19



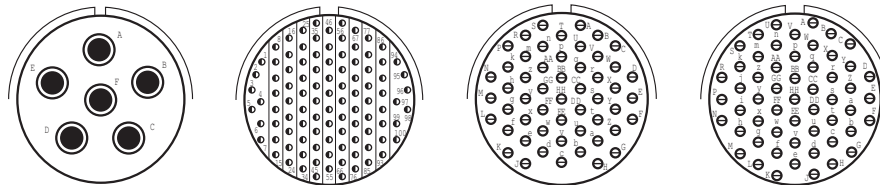
1	FN17				FN32				FN35			
2	19-17 (alu and composite only)				19-32				19-35			
3	M				I				M			
4	10	1	4	2	32	32	32	66	66	66	66	
5	22D	20	16	8	20	20	20	22D	22D	22D	22D	

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	11	16	16	18	2	79	79	41	41	4	4
5	12	12	16	16	20	8	22D	22D	20	20	8	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	6	100	100	53	53	55	55
5	8	8	22D	22D	20	20	20	20

25

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

25

JN35	JN61
25-35	25-61
M	I
128	61
22D	20

How To Order

Standard number	EN3645	F	0	G	N	16	A	N
Class:	<p>W: Crimp version, Aluminum Olive drab cadmium plated, 175°C</p> <p>F: Crimp version, Aluminum Nickel plated, 200°C ✓</p> <p>J: Crimp version, Composite material Olive Drab cadmium plated, 175°C</p> <p>M: Crimp version, Composite material Nickel plated, 200°C ✓</p>							
Shell style:	<p>0: Square flange receptacle</p> <p>7: Jam Nut Receptacle</p> <p>6: Plug</p>							
Shell size code:	<p>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</p>							
Insert type:	<p>N: Standard</p> <p>G: Grounded cavities</p> <p>Q: Quadrax insert, grounded</p> <p>L: Quadrax insert, non grounded</p>							
Contact arrangement according to EN3645-002:	<p>see p2 to p4</p>							
Contact code:	<p>M: with Pin contacts F: with Socket contacts (Size 8 contacts are not supplied with the connector)</p> <p>A: without Pin contacts B: without Socket contacts</p>							
Polarization (Key Ways rotation):	<p>N, A, B, C, D, E. see p2</p>							

✓: RoHS compliant

