

Product Applications

J599EN series circular fiber optic connector is a multi-core environment-resistant fiber optic connector developed on the basis of J599III series optical connector. EN4531 contact with bayonet locking structure, can be easily loaded into the connector, without any removal and unloading tools, the rear end of the contact is equipped with a seal, no need for a tail cover or sealing body, with vibration resistance, pressure resistance, rain resistance, salt spray resistance, dust resistance and other excellent performance.

The EN4531 contacts can be equipped with a 8# cavity adapter to meet the ARINC 600 series 8# contact mounting hole requirements. The products are suitable for aviation, aerospace, electronics, weapons, ships and other requirements of optical fiber communication systems.

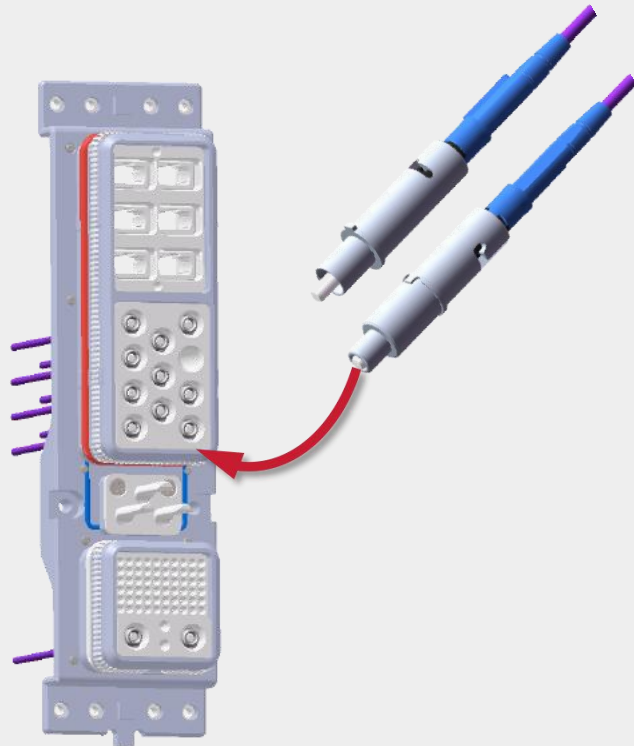
Product Features

- Meets GJB599A (MIL-DTL-38999) Series III interfaces
- The receptacle is available in square disc mounting and nut fastened
- The housing can be selected with different materials and coatings to meet different environmental requirements
- The headbase is plugged with five-key circumferential recognition and positioning, which can realize blind plugging and anti-misinsertion
- It adopts a three-head threaded quick connection and has an anti-loosening mechanism
- Standard 2.5 ceramic pins and ceramic sleeves are used to achieve precision docking of optical fibers
- The contacts have a bayonet locking mechanism and can be easily attached and removed without any tools
- Equipped with an 8-gauge cavity adapter to ensure optical performance



Main Technical Indicators

- Insertion loss:
 - Multimode $\leq 0.3\text{dB}$ (95% of the samples met) , $\leq 0.7\text{dB}$ (100% of the samples met) ;
 - Singlemode $\leq 0.5\text{dB}$ (95% of the samples met) , $\leq 0.9\text{dB}$ (100% of the samples met) ;
- Operating temperature: $-55^{\circ}\text{C} \sim +85^{\circ}\text{C}$ (Depends on the fiber optic cable used)
- Vibration: 5Hz ~ 3000Hz
- Mechanical life: 500 times
- Tensile resistance: 111N (Main cable pull)
- Salt Spray Test: 500h (K, Stainless steel passivation)
500h (W, Aluminum alloy cadmium plating)
48h (F, Aluminum alloy nickel plating)



Ps: Support Customize

Model nomenclature

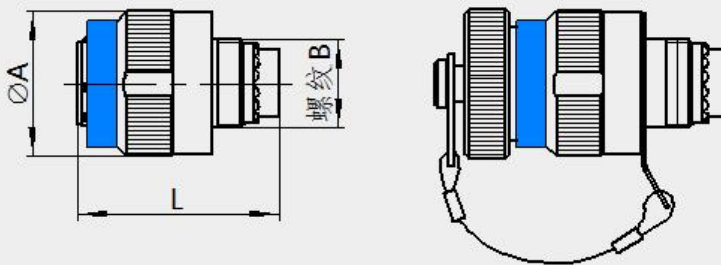
【Plug and socket model name】

The main name of the series:	J599EN series circular fiber optic connectors	J599EN	/	26	K	A	01	B	N
Shell category:	20—Square disc socket 24—Nut fastened socket 26—plug								
Shell material and coating:	W—Aluminum alloy cadmium plated military green F—Electroless nickel plating of aluminum alloys K—Stainless steel surface passivation								
Shell number:	09 11 13 15 19 21 25 A B C D F G J								
Contact arrangement:	See "Contact Codes" for details.								
Contact category:	A—Optical contact pins, PC grinding B—Optical contact jack, PC grinding								
Keys:	N—Normal keying (recommended)							A、B、C、D、E—Variable keybits	

Note: ① The above table is only for the selection of J599EN series optical fiber connector plugs and sockets, with metal dust cover by default, without contacts, and the contacts are ordered separately;

Dimensions

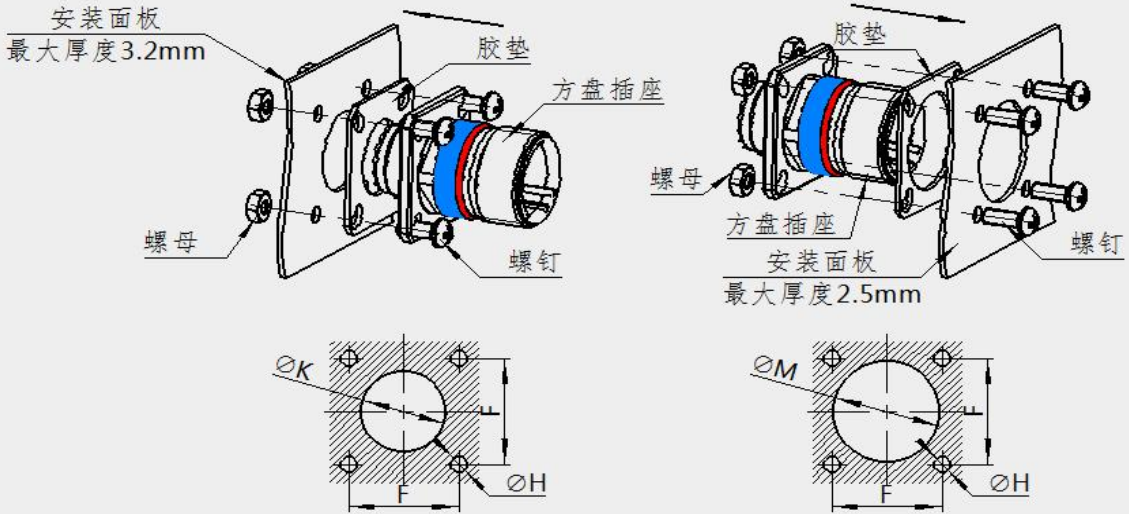
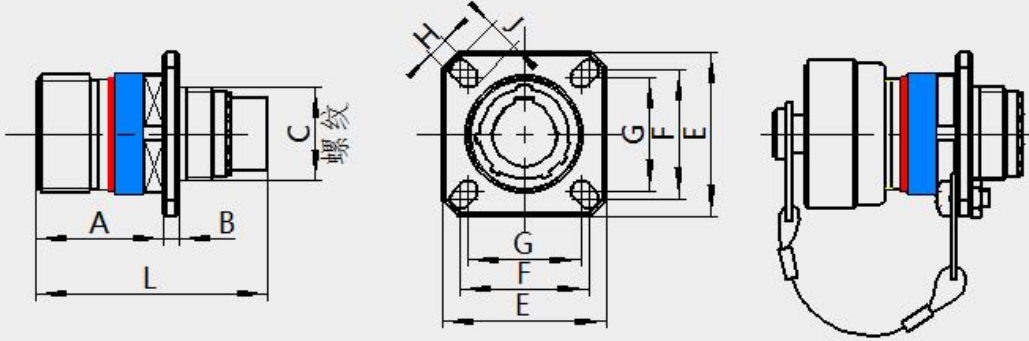
● Plug



Shell number	Shell code	A Max	B screw thread	L Max
09	A	21.80	M12×1-6g	35.0
11	B	25.00	M15×1-6g	35.0
13	C	29.40	M18×1-6g	35.0
15	D	32.40	M22×1-6g	35.0
19	F	38.50	M28×1-6g	35.0
21	G	41.70	M31×1-6g	35.0
25	J	48.00	M37×1-6g	35.0

Dimensions

- Square disc socket

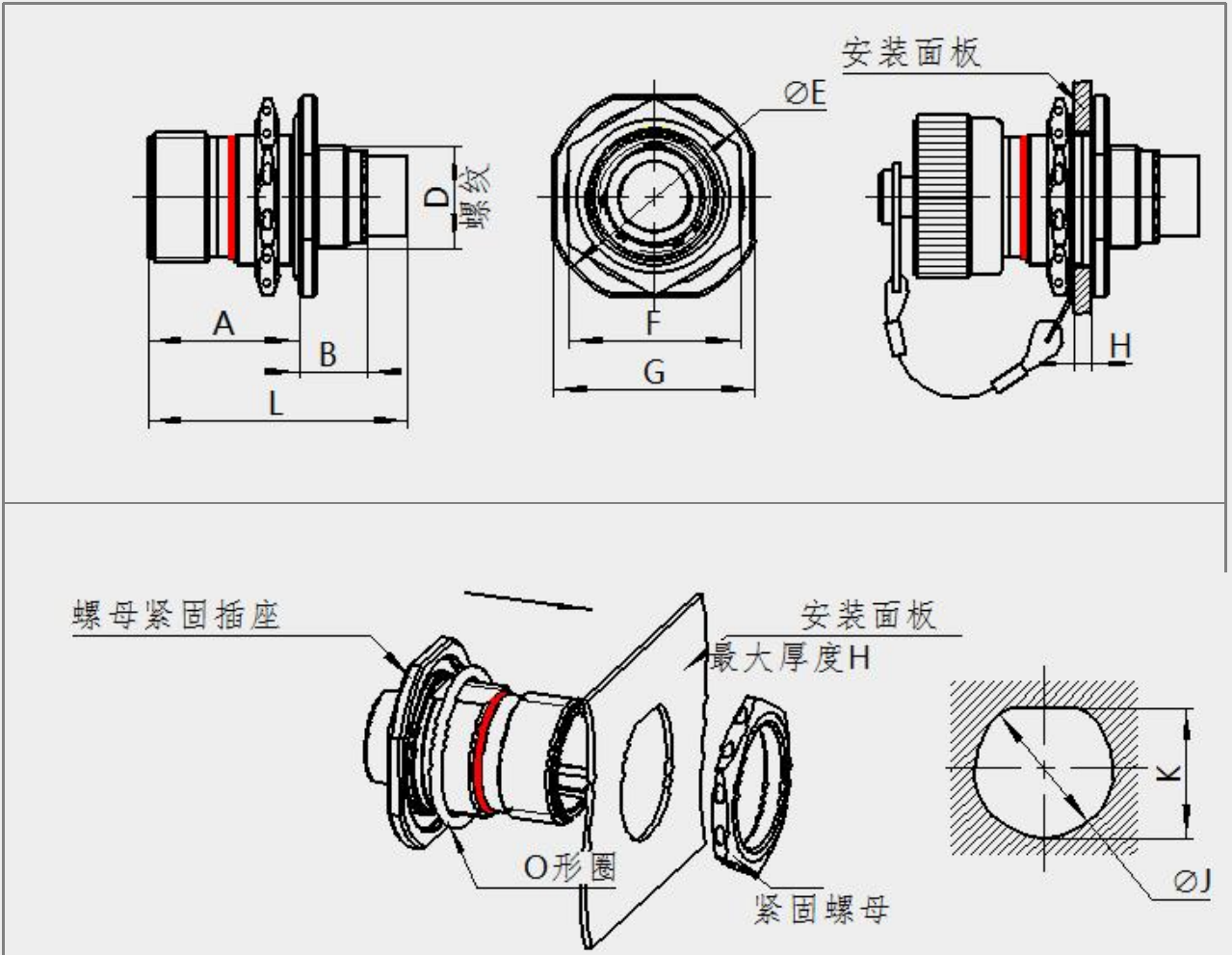


Square plate socket front installation and panel opening size ;
Square disc socket rear installation and panel opening size

Shell number	Shell code	A Max	B Max	L Max	C screw thread	E	F	G	H	J	K Minimum	M Minimum
09	A	20.90	2.50	40.0	M12×1-6g	23.80	18.26	15.09	3.25	5.49	13.11	16.66
11	B	20.90	2.50	40.0	M15×1-6g	26.20	20.62	18.26	3.25	4.93	15.88	20.22
13	C	20.90	2.50	40.0	M18×1-6g	28.60	23.01	20.62	3.25	4.93	19.05	23.42
15	D	20.90	2.50	40.0	M22×1-6g	31.00	24.61	23.01	3.25	4.93	23.01	26.59
19	F	20.90	2.50	40.0	M28×1-6g	36.50	29.36	26.97	3.25	4.93	28.98	32.94
21	G	20.10	3.20	40.0	M31×1-6g	39.70	31.75	29.36	3.25	4.93	32.16	36.12
25	J	20.10	3.20	40.0	M37×1-6g	46.00	38.10	34.93	3.91	6.15	37.69	42.47

Dimensions

- Nut fastened socket



Schematic diagram of nut fastening socket installation and panel opening size

Shell number	A Max	B Max	L Max	D Thread	E Max	F Max	G Max	J	K
09	22.60	9.9	39.1	M12×1-6g	30.50	24.00	27.00	17.70	16.99
11	22.60	9.9	39.1	M15×1-6g	35.20	27.00	31.80	20.88	19.53
13	22.60	9.9	39.1	M18×1-6g	38.40	32.00	34.90	25.58	24.26
15	22.60	9.9	39.1	M22×1-6g	41.60	36.00	38.10	28.80	27.53
19	22.60	9.9	39.1	M28×1-6g	49.30	41.00	46.00	35.15	33.86
21	22.60	9.9	39.1	M31×1-6g	52.70	46.00	49.20	38.28	37.06
25	22.60	9.9	39.1	M37×1-6g	59.00	51.23	55.60	44.68	43.41

Contact arrangement (optical pin end view)

Contact arrangement and shell code					
Shell number	09	Shell number	11	Shell number	13
Shell code	A	Shell code	B	Shell code	C
Quantity	1	Quantity	2	Quantity	4
Shell number	15	Shell number	19	Shell number	21
Shell code	D	Shell code	F	Shell code	G
Quantity	6	Quantity	8	Quantity	12
<p>Note: Restricted use, not yet developed</p>					
		Shell number	25	/	/
Shell code	J	/	/	/	/
Quantity	24	/	/	/	/

○ Represents the guide pin hole location; ● Represents the contact position;

● J599EN back accessory

【Model nomenclature is attached】

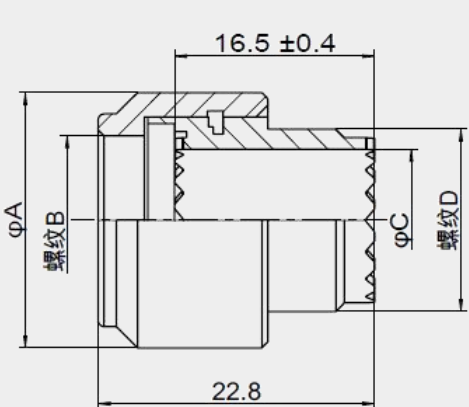
	J599EN	/	A	-	09	W
The main name of the series						
Type						
A — Straight tail attachment (no clamping cable attachment)						
B — Straight Extension Tail Attachment (Clamping Cable Attachment)						
Accessory shell number						
09、11、13、15、19、21、25						
Shell plating						
W — Aluminum alloy plating military green						
F — Electroless nickel plating of aluminum alloys						
K — Stainless steel surface passivation						

【Model examples】

eg.1: J599EN/A-09W

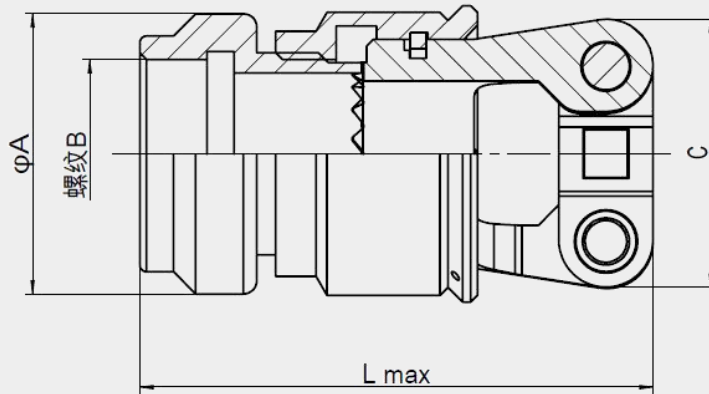
Refers to: The main name of the tail attachment series is J599EN, A-type straight tail attachment (not clamping cable attachment), the attachment shell number is tail 09, and the shell material is aluminum alloy plating.

【A-type straight backshell with dimensions】



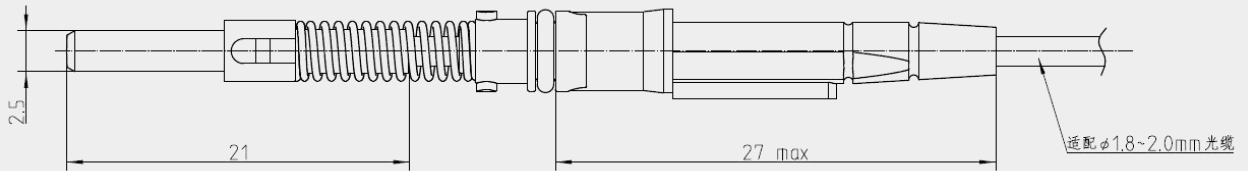
Shell number	Shell code	φA Max	Thread B	φC ±0.25	Thread D
09	A	16.8	M12×1-6g	8.7	M12×1-6g
11	B	20.8	M15×1-6g	11.7	M15×1-6g
13	C	23.9	M18×1-6g	14.7	M18×1-6g
19	F	34.5	M28×1-6g	22.3	M28×1-6g
25	J	43.2	M37×1-6g	32.6	M37×1-6g

【B-type straight backshell attaching dimensions】



Shell number	Shell code	ΦA Max	Thread B	C Max	L Max
09	A	16.8	M12×1-6g	20.0	37.5
11	B	20.8	M15×1-6g	21.0	39.0
13	C	23.9	M18×1-6g	23.4	40.5
19	F	34.5	M28×1-6g	34.0	47.1
25	J	43.2	M37×1-6g	40.6	55.5

● EN4531 Fiber Optic Contact Dimensions



【EN4531 Bulk Order Model】

		E4T/ML	-	S	1.8
Contact specifications:	E4T—EN4531 Terminal M — Tail shank material (M: Metal, P: Plastic) L — Tail sleeve length (L: Long, S: Short, N: No Tail sleeve)				
Transmission mode:	S — Singlemode(9/125) M — Multimode(62.5/125、50/125)				
Fiber optic cable diameter:	1.8 — ϕ 1.8mm Single-core optical cable				

【Example of an ordered model】

eg.1: E4T/ML-S1.8

Refers to: EN4531 optical fiber contacts, the tail handle of the loose parts is made of metal, with a long tail sleeve, suitable for single-mode single-core optical cable, optical cable diameter 1.8mm.

eg.2: E4T/PS-M1.8

Refers to: EN4531 optical fiber contacts, the material of the tail handle of the parts is plastic, with a short tail sleeve, and the parts are suitable for multi-mode single-core optical cables, with a diameter of 1.8mm.

eg.3: E4T/PN-M1.8

Refers to: EN4531 optical fiber contacts, the tail handle of the parts is made of plastic, without tail sleeve, and the parts are suitable for multi-mode single-core optical cables, with a diameter of 1.8mm.

【EN4531 Fiber Optic Patch Cord Order Model】

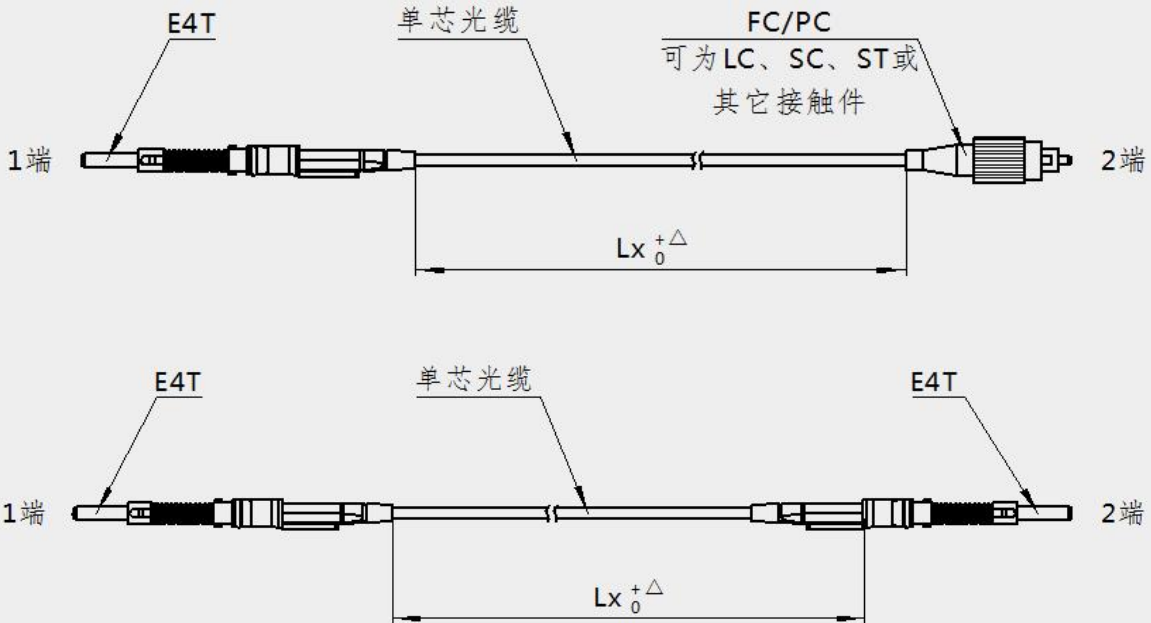
		E4T/ML	-	FC	-	F	1.8	-	S0.5
E4T —EN4531 Terminal									
1-terminal M — Tail shank material (M: Metal, P: Plastic)									
model: L — Tail sleeve length (L: Long, S: Short, N: No Tail sleeve)									
FC — FC/PC		AFC — FC/APC (Single-mode only)							
2-terminal SC — SC/PC		ASC — SC/APC (Single-mode only)							
model: LC — LC/PC		ALC — LC/APC (Single-mode only)							
ST — ST/PC									
Fiber optic cable type:		Fiber optic cable material:							
		F—ETFE(polytetrafluoroethylene)							
		P—PU(Polyurethane rubber)							
Fiber optic cable characteristics:		1.8 — Φ1.8mmSingle-core optical cable							
Transmission mode:		S—SinglemodeG.657A2							
Fiber length, mode:		M—Multimode62.5/125							
		MI—Multimode50/125							
		MIV—Multimode50/125 (OM3High speed)							
Jumper length:		The length is 0.5 meters							

Note: ① E4T terminal 8# adapter to be ordered separately (see page 11 for the order number)

【Description of the selection of optical cable type】

Application scenarios	Operating temperature °C	Storage temperature °C	Recommended cable sheath material	etc
Field	-40~+70	-55~+85	TPU	
Ground universal	-40~+75	-40~+75	TPU	
Shipborne	-30~+65	-40~+70	TPU	
Airborne	-45~+125	-55~+125	ETFE	
Space	-60~+85	-60~+85	ETFE	

【EN4531 Fiber Optic Patch Cord Order Form Schematic Diagram】



【Example of an ordered model】

eg.1: E4T/ML-FC-T1.8-S0.5

Refers to: The first end is an EN4531 optical fiber contact, and the tail handle of the loose part is made of metal with a long tail sleeve. The 2nd end is FC/PC plug, the material of the optical cable is TPU ordinary optical cable, the diameter of the optical cable is $\Phi 1.8\text{mm}$, the optical fiber transmission mode is single-mode G.657A2, and the jumper length is 0.5 meters.

eg.2: E4T/PS-FC-E1.8-M5

Refers to: The first end is an EN4531 optical fiber contact, and the tail handle of the loose part is made of plastic, with a short tail sleeve. The 2nd end is FC/PC plug, the optical cable material is ETFE aviation optical cable, the diameter of the optical cable is $\Phi 1.8\text{mm}$, the optical fiber transmission mode is multi-mode 62.5/125, and the jumper length is 5 meters.

eg.3: E4T/PN-FC-E1.8-M5

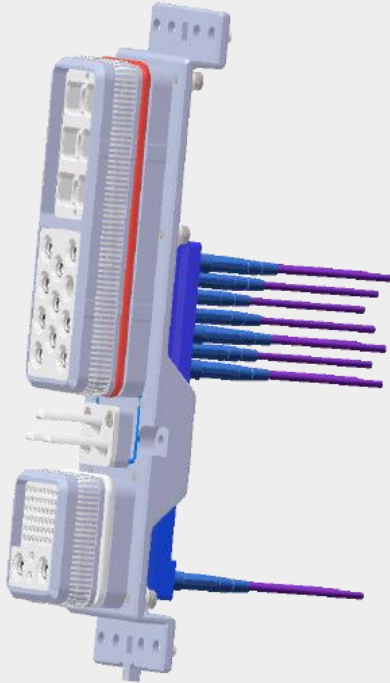
Refers to: The first end is an EN4531 optical fiber contact, and the tail handle of the loose part is made of plastic, without a tail sleeve. The 2nd end is FC/PC plug, the optical cable material is ETFE aviation optical cable, the diameter of the optical cable is $\Phi 1.8\text{mm}$, the optical fiber transmission mode is multi-mode 62.5/125, and the jumper length is 5 meters.

eg.4: E4T/ML-E4T/ML-T1.8-MIV10

Refers to: The two ends are EN4531 optical fiber contacts, and the tail handle of the loose parts is made of metal with a long tail sleeve. The optical cable is made of TPU ordinary optical cable, the diameter of the optical cable is $\Phi 1.8\text{mm}$, the optical fiber transmission mode is multi-mode OM3 50/125 optical fiber, and the jumper length is 10 meters.

EN4531+8# cavity adapter

- ARINC 600 series applications



- Meets ARINC 600 Series 8# contact mounting dimensions
- The 8# cavity adapter and EN4531 optical fiber contact are assembled with bayonet quick locking, which is resistant to vibration and impact, firm and reliable
- The 8# cavity adapter is divided into two types of optical pins and optical jacks to meet the installation needs of ARINC 600 plug and socket



- 8# adapter order model

Application area	8# Adapter type	Order model	Adapter form factor	etc
Suitable for foreign S600	Optical pins	E4AQ600PE		
	Optical jack	E4AQ600SE		
Suitable for domestic S600	Optical pins	E4AQ600PC		
	Optical jack	E4AQ600SC		