



Connect and Protect

TransTechnical Solutions

Technical Data Sheet

Non-Metallic Systems

Type SFA Straight Connector Swivel Internal Female Thread

Technical Characteristics

Conforms to	BSI Kitemark KM-35161 Low voltage directive Lloyd's Register of Shipping (Type Approval) NF 16-10/12 I4, F2 CEI 11170 LR3/LR4		
Approvals and Standards	    		
Degree of mechanical protection	High Impact Resistance		
Degree of protection	IP66 - As standard IP67 - As standard IP68 - As standard (4 Bar 30 mins) IP69K - As standard		
UV protection	Very High		
Fitting Characteristics	Single piece body and integrated sealing system		
Application	Attachment to external threads and other fittings		
Normal operating temperature range	Application	Min Temp	Max Temp
	Static	- 50°C	+120°C
	Dynamic	- 45°C	+120°C
For use with - Conduit Series	Light, Standard and Heavyweight variants of type PA, PI, CP, PADL & PF		
Fire performance	Test Standard BS EN 61386-1 & 23 NFF16-101 ISO 4589-2 BS EN 60695-2-11 UL94	Performance Rating Approved I4 F2 24% 850°C V2	<i>Self Extinguishing Low smoke & Halogen Free</i>
Testing data	See page 5 & 6		
Type of material	Polyamide (Nylon) 66 Body - Nickel plated brass thread—TPE SEAL		

Image



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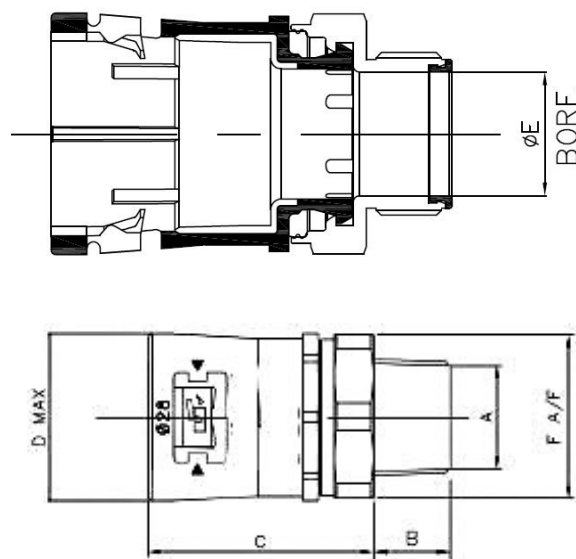
Non-Metallic Systems

Type SFA Straight Connector Swivel Internal Female Thread

Dimensional Data - M Thread

Part No Black Body Metric Threads	Thread A	Nominal Dimensions (mm)				
		B	C	D	E	F
AT13/M16/SFA/BLB	M16x1.5	12	43.5	21.2	11	24
AT16/M16/SFA/BLB	M16x1.5	12	43.5	23.2	11	24
AT16/M20/SFA/BLB	M20x1.5	12	43.5	23.2	15	27
AT21/M20/SFA/BLB	M20x1.5	12	46.8	30.2	15	27
AT21/M25/SFA/BLB	M25x1.5	12.3	46.8	30.2	19.8	34
AT28/M25/SFA/BLB	M25x1.5	12.3	48.5	37.2	19.8	34
AT28/M32/SFA/BLB	M32x1.5	17	48.5	37.2	26.5	42
AT34/M32/SFA/BLB	M32x1.5	17	49.7	44.2	26.5	42
AT34/M40/SFA/BLB	M40x1.5	17.5	49.7	44.2	33.8	52
AT42/M40/SFA/BLB	M40x1.5	17.5	60.6	54.2	33.8	52
AT42/M50/SFA/BLB	M50x1.5	16	60.6	54.2	43.8	63
AT48/M50/SFA/BLB	M50x1.5	16	64.1	65	43.8	63
AT54/M50/SFA/BLB	M50x1.5	16	67.5	66.2	43.8	70
AT54/M63/SFA/BLB	M63x1.5	16	67.5	66.2	43.8	70

Metric	Standard thread conforming to EN60423 & BS3643		
Thread Size	Ext Thread Outside Diameter	Int Thread Inside Diameter	Pitch
M16	16.0mm	14.4mm	1.5mm
M20	20.0mm	18.4mm	1.5mm
M25	25.0mm	23.4mm	1.5mm
M32	32.0mm	30.4mm	1.5mm
M40	40.0mm	38.4mm	1.5mm
M50	50.0mm	48.4mm	1.5mm
M63	63.0mm	61.4mm	1.5mm



NOTE: Dimensions are nominal

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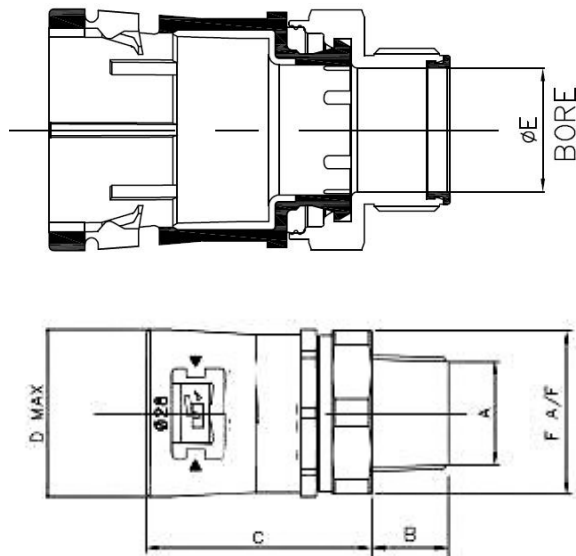
Type SFA Straight Connector Swivel Internal Female Thread

Dimensional Data - PG Thread (On Request)

Part No Black Body PG Threads	Thread A	Nominal Dimensions (mm)				
		B	C	D	E	F
AT13/PG9/SFA/BLB	PG9	12.7	43.5	21.2	11.2	20.6
AT13/PG11/SFA/BLB	PG11	12.7	43.5	21.2	12	24
AT16/PG9/SFA/BLB	PG9	12.7	43.5	23.2	11.2	24
AT16/PG11/SFA/BLB	PG11	13.5	43.5	23.2	12	24
AT16/P16/SFA/BLB	PG16	17.5	43.5	23.2	13.5	27
AT21/PG13/SFA/BLB	PG13.5	16	46.8	30.2	15.7	27
AT21/PG16/SFA/BLB	PG16	16.1	46.8	30.2	17.7	27
AT28/PG21/SFA/BLB	PG21	17	48.5	37.2	22.5	34
AT34/PG29/SFA/BLB	PG29	17.5	49.7	44.2	28.9	42
AT42/PG36/SFA/BLB	PG36	16	60.6	54.2	38	52
AT54/PG48/SFA/BLB	PG48	16	67.5	66.2	51	70

PG	German Standard Thread Conforming to DIN40430		
Thread Size	Ext Thread Outside Diameter	Int Thread Inside Diameter	Pitch
PG7	12.5mm	11.3mm	1.27mm
PG9	15.2mm	13.9mm	1.41mm
PG11	18.6mm	17.3mm	1.41mm
PG13.5	20.4mm	19.1mm	1.41mm
PG16	22.5mm	21.2mm	1.41mm
PG21	28.3mm	26.8mm	1.59mm
PG29	37mm	35.5mm	1.59mm
PG36	47mm	45.5mm	1.59mm
PG48	59.3mm	57.8mm	1.59mm

NOTE: Dimensions are nominal



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BS EN 61386 Classification

Fitting	Compression	Impact	Min temp	Max temp	Bending	Electrical	IP solids	IP water	Corrosion	Tensile	Non-flame Propagating	Suspended load
ATS	N/A	4	2	4	N/A	0	6	7	0	1	1	0

Mechanical Properties

Test Type	Methods / Standards	Requirements	Value
Tensile Strength	IEC61386-1	2 mins at Specified Value (TPAFS21 Conduit)	Class 1
Tensile Strength		Ultimate Pullout (TPAFS21 Conduit)	240N
Impact Strength @ -45°C	IEC61386-1	No visible damage	Class 1
Impact Strength @ -5°C	IEC61386-1	No visible damage	Class 3
Impact Strength @ 23°C	IEC61386-1	No visible damage	Class 5

Tensile Tests to IEC 61386 gives the minimum classification value only. Actual values will depend on the type and size of the fittings used and will always be greater than the minimum – Impact strength is the minimum classification value at the minimum temperature – actual values will depend on size and temperature. Specific values available on request.

Thermal Properties

Test Type	Methods / Standards	Requirements	Value
Dynamic Applications		5000 Operations at MBR 2hrs	-45°C to +120°C
Static Short Term Temp	IEC 61386-23	Temporary Use (3000hrs)	-50°C to +120°C
Static Long Term Temp		Permanent Use (30,000) Hours	-40°C to +105°C

Flammability

Test Type	Method / Standard	Requirement	Result	Unit
Glow Wire	BS EN 60695-2-11	Extinguish within 30s	850°C	°C
Flammability	IEC 61386-1-12	1Kw Burner Flame to Self Extinguish	Pass	Pass/Fail
Oxygen Index - Nylon Body	ISO 4589-2		24.1	%
Ignition Rating - Nylon Body	NF F16-101	I Rating	I4	-
Oxygen Index - Elastomer Seal	ISO 4589-2		20.2	%
Ignition Rating - Elastomer Seal	ISO 4589-2	I Rating	I4	-

Smoke

Test Type	Method / Standard	Requirement	Result	Unit
Fume Rating - Nylon Body	NF F16-101	F Rating	F2	-
Fume Rating - Elastomer Seal	NF F16-101	F Rating	F2	-

Toxicity

Test Type	Method / Standard	Requirement	Result	Unit
Halogen Free	NFX 70-100	< 0.5%	Pass	Pass/Fail

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Pre Test Conditions

Duration	Standard	Temperature	Relative Humidity
168 (Hours)	IEC61386	23 (°C)	50 (%)

Chemical Resistance Chart

Key:		Astm No.1		Diesel oil		Methyl Bromide		Sulphur Dioxide (Gas)
		Astm No.2		Diethylamine		MEK		Sulphuric Acid (10%)
Suitable :		Astm No.3		Ethanol		Nitric Acid (10%)		Sulphuric Acid (70%)
		Acetic Acid (10%)		Ether		Nitric Acid (70%)		Toluene
Limited Suitability :		Acetone		Ethylamine		Oxalic Acid		Transformer Oil
		Aluminium Chloride		Ethylene Glycol		Ozone (Gas)		1,1,1-Trichloroethane
Unsuitable :		Aniline		Ethyl Ethanoate		Paraffin oil		Trichloroethylene
		Benzaldehyde		Freon 32		Petrol		Turpentine
Not Tested :		Benzene		Hydrochloric Acid (10%)		Phenol		Vegetable Oil
		Carbon tetrachloride		Hydrochloric Acid (36%)		Sea Water		Vinyl Acetate
		Chlorine water		Hydrogen Peroxide (35%)		Silver Nitrate		Water
		Chloroform		Hydrogen Peroxide (87%)		Skydrol		White Spirit
		Citric Acid		Lactic Acid		Sodium Chloride		Zinc Chloride
		Copper Sulphate		Lubricating oil		Sodium Hydroxide (10%)		
		Cresol		Methanol		Sodium Hydroxide (60%)		

ADHERENCE TO THE CURRENT WIRING REGULATIONS BS7671 OR NEC WIRING REGULATIONS (FOR USA) IS STRONGLY ADVISED.

MINIMUM BEND RADIUS FOR FLEXING IS DEPENDANT UPON MINIMUM TEMPERATURE, BENDING FREQUENCY AND CHEMICAL ENVIRONMENT.

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