



The THDM is a MIL-PRF-28876 derived mechanical transfer (MT) rugged fiber optic connector for military and aerospace applications.

THDM is modular, allowing multiple combinations of fiber types to be used in the same connector. The THDM connectors are available in 1, 2, 4 and 8 MT configurations, which can support 12 to 192 fiber channels using industry standard MT ferrules. The connector features M28876 strain relief options.

The THDM connectors also feature a ratcheting coupling nut, as well as insert to insert bottoming to provide superior optical performance in high shock and high vibration applications. The connectors are sealed to IP68 standards to resist fluids and dust penetration. A variety of protective finishes are available to ensure durability over a wide range of environmental conditions. As with most AFSI products, they are available in stainless steel, brass or marine bronze.

Performance:

Parameter	Typical
Attenuation (Insertion Loss)	0.75dB max per connection (1.5 total), TIA/EIA-455-171
Return Loss	-65dB Max RL HD-Optyx™ APC, TIA/EIA-455-107
Mating Durability	500 Cycles, TIA/EIA-455-21
Vibration	Test Conditions II and VI, TIA/EIA-455-11
Mechanical Shock	Test Condition A, TIA/EIA-455-14
Thermal Shock	-55 C to +85 C, MIL-STD-1344A
Thermal Cycling	-40 C to 85 C, TIA/EIA-455-A
Ozone Exposure	Per MIL-STD-1344, Method 1007
Humidity	10 cycles, TIA/EIA-455-5
Fluid Immersion	TIA/EIA-455-11
Cable Retention	400 pounds, TIA/EIA-455-6
Impact	TIA/EIA-455-2
Crush Resistance	MIL-STD-1344, Method 2008.1, 7 tests @ 1250 Newton
Cable Sealing Flexing	MIL-STD-1344, Method 2017
Corrosion Resistance	500 hour TIA/EIA-455-14 (CAD)
Connector, Backshells, & Dust Cover	Aluminum alloy, cad plate, 316 stainless steel, 303 stainless steel
Cable Sealing Strain Relief	Polyolefin, self-encapsulating

Features & Benefits:

- Fluted Ratcheting coupling nut for improved grip and enhanced performance in vibration environments
- Configurations for 1, 2, 4 and 8 MT ferrules for up to 192 fiber channels
- Removable and replaceable MT ferrules
- Expanded beam capable
- Environmental
 - Operating temperature -46°C to + 71°C
 - 500 cycles mating durability
 - Vibration per MIL-STD-1344, method 200
- Available in a variety of materials and finishes
 - *Contact for more specific details*
- Performance:
 - IL: 0.75dB max per connection per TIA/EIA-455-171

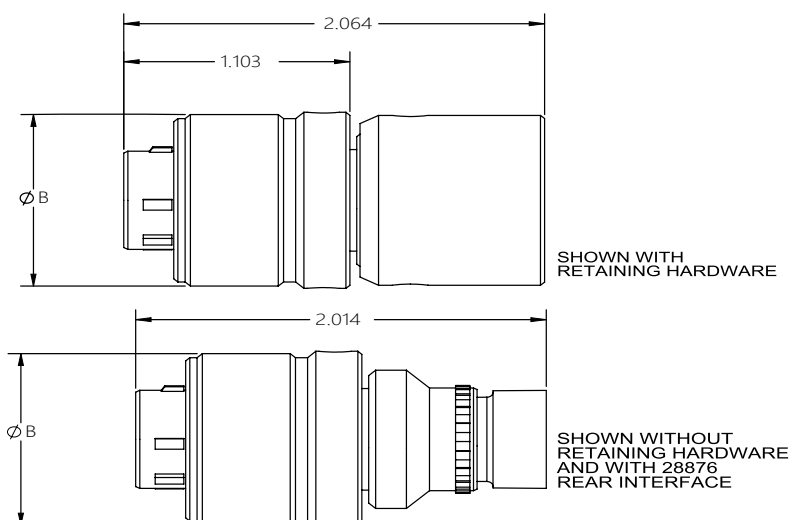
Applications:

- Military radars
- Ground vehicles
- C4ISR
- SATCOM Systems
- Industrial
- Oil & Gas

THDM Series MT Connector System

Product Drawings

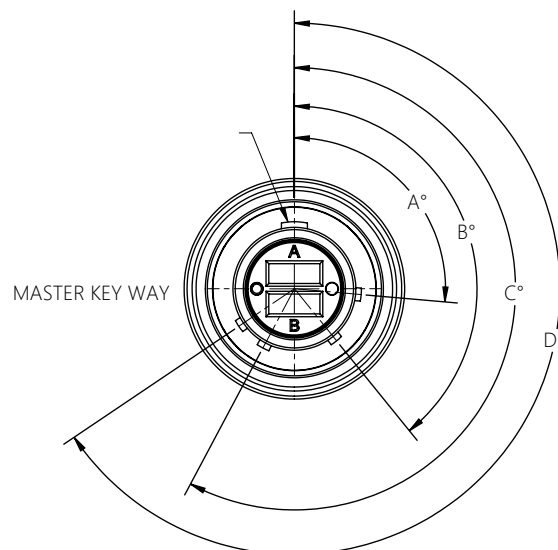
THDM Plug:



Part Number Schemes:

THDMP - Plug

PART NO.	DESCRIPTION
THDMP - #####	
↑	DASH NUMBER COLUMN 1 = SHELL SIZE
THDMP - A #####	A = SHELL SIZE 11
THDMP - B #####	B = SHELL SIZE 13
THDMP - C #####	C = SHELL SIZE 15
THDMP - F #####	F = SHELL SIZE 23
↑	DASH NUMBER COLUMN 2 = INSERT CONFIGURATION
THDMP - # 1 #####	1 = 1 BLADE (SHELL SIZE 11)
THDMP - # 2 #####	2 = 2 BLADES (SHELL SIZE 13)
THDMP - # 4 #####	4 = 4 BLADES (SHELL SIZE 15)
THDMP - # 8 #####	8 = 8 BLADES (SHELL SIZE 23)
↑	DASH NUMBER COLUMN 3 = MATERIAL / PLATING
THDMP - ## C ##	C = CAD PLATED ALUMINUM
THDMP - ## S ##	S = 303 STAINLESS STEEL, PASSIVATED
THDMP - ## N ##	N = NICKEL PLATED ALUMINUM
THDMP - ## T ##	T = 6061-T6 AL ALLY BLACK ANODIZE WITH PTFE
THDMP - ## D ##	D = PTFE NICKEL PLATED ALUMINUM
THDMP - ## E ##	E = BLACK ZINC NICKEL PLATED ALUMINUM
↑	DASH NUMBER COLUMN 4 = KEY
THDMP - ### 1 #	1 = KEY OPTION 1
THDMP - ### 2 #	1 = KEY OPTION 2
THDMP - ### 3 #	1 = KEY OPTION 3
THDMP - ### 4 #	1 = KEY OPTION 4
THDMP - ### 5 #	1 = KEY OPTION 5
THDMP - ### 6 #	1 = KEY OPTION 6
THDMP - ### U #	1 = UNIVERSAL KEY OPTION
↑	DASH NUMBER COLUMN 5 = REAR CONNECTION / HARDWARE OPTION
THDMP - ### 6	6 = 28876 HARDWARE
THDMP - ### 2	2 = 28876 WITHOUT HARDWARE



THDM Series MT Connector System

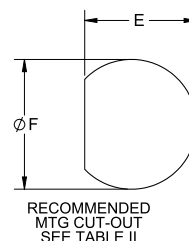
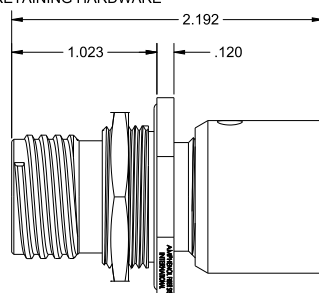
Product Drawings

THDM Jam Nut Receptacle:

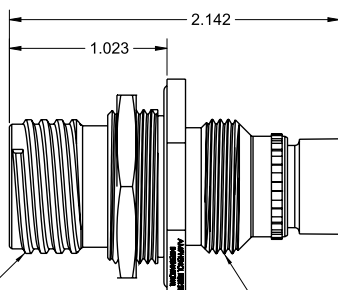
SHELL SIZE	KEYING POSITION DESIGNATOR	A°	B°	C°	D°
11 AND 13	1	95°	141°	208°	236°
	2	113°	156°	182°	292°
	3	90°	145°	195°	252°
	4	53°	156°	220°	255°
	5	119°	146°	176°	298°
	6	51°	141°	184°	242°
15 AND 23	1	80°	142°	196°	293°
	2	135°	170°	200°	310°
	3	49°	169°	200°	244°
	4	66°	140°	200°	257°
	5	62°	145°	180°	280°
	6	79°	153°	197°	272°

SHELL SIZE	SHELL SIZE DESIGNATOR	E	ØF	A THREAD 2A-1P-2L-D-S	B THREAD
11	A	.853 .843	.890 .880	0.750	.750-20UNEF
13	B	.978 .968	1.015 1.005	0.875	.875-20UNEF
15	C	1.165 1.155	1.203 1.193	1.062	1.000-20UNEF
23	F	1.598 1.588	1.635 1.625	1.500	1.4375-18UNEF

SHOWN WITH
RETAINING HARDWARE



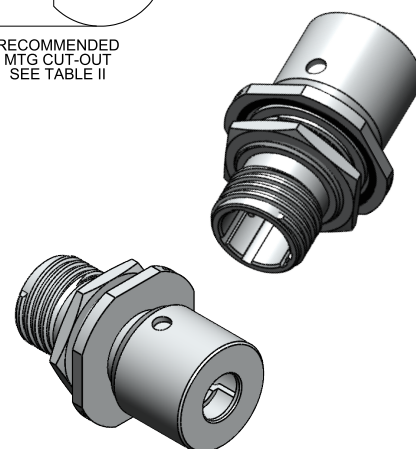
RECOMMENDED
MTG CUT-OUT
SEE TABLE II



A THREAD
(SEE TABLE II)

SHOWN WITHOUT
RETAINING HARDWARE
AND WITH 28876
REAR INTERFACE

B THREAD
(SEE TABLE II)



Part Number Schemes:

THDMJ - Jamnut Receptacle

PART NO.	DESCRIPTION
THDMJ - #####	DASH NUMBER COLUMN 1 = SHELL SIZE
THDMJ - A #####	A = SHELL SIZE 11
THDMJ - B #####	B = SHELL SIZE 13
THDMJ - C #####	C = SHELL SIZE 15
THDMJ - F #####	F = SHELL SIZE 23
THDMJ - #####	DASH NUMBER COLUMN 2 = INSERT CONFIGURATION
THDMJ - # 1 #####	1 = 1 BLADE (SHELL SIZE 11)
THDMJ - # 2 #####	2 = 2 BLADES (SHELL SIZE 13)
THDMJ - # 4 #####	4 = 4 BLADES (SHELL SIZE 15)
THDMJ - # 8 #####	8 = 8 BLADES (SHELL SIZE 23)
THDMJ - #####	DASH NUMBER COLUMN 3 = MATERIAL / PLATING
THDMJ - ## C ###	C = CAD PLATED ALUMINUM
THDMJ - ## S ###	S = 303 STAINLESS STEEL, PASSIVATED
THDMJ - ## N ###	N = NICKEL PLATED ALUMINUM
THDMJ - ## T ###	T = 6061-T6 AL ALLY BLACK ANODIZE WITH PTFE
THDMJ - ## D ###	D = PTFE NICKEL PLATED ALUMINUM
THDMJ - ## E ###	E = BLACK ZINC NICKEL PLATED ALUMINUM

PART NO.	DESCRIPTION
THDMJ - #####	DASH NUMBER COLUMN 4 = KEY
THDMJ - ### 1 ##	1 = KEY OPTION 1
THDMJ - ### 2 ##	2 = KEY OPTION 2
THDMJ - ### 3 ##	3 = KEY OPTION 3
THDMJ - ### 4 ##	4 = KEY OPTION 4
THDMJ - ### 5 ##	5 = KEY OPTION 5
THDMJ - ### 6 ##	6 = KEY OPTION 6
THDMJ - ### U ##	U = UNIVERSAL KEY OPTION
THDMJ - #####	DASH NUMBER COLUMN 5 = REAR CONNECTION / HARDWARE OPTION
THDMJ - #### 6 #	6 = 28876 HARDWARE
THDMJ - #### 2 #	2 = 28876 WITHOUT HARDWARE
THDMJ - #### 9 #	9 = 38876 REAR ADAPTER
THDMJ - #####	DASH NUMBER COLUMN 6 = SEAL MATERIAL (O-RING)
THDMJ - #####	BLANK = NON-CONDUCTIVE PANEL SEAL
THDMJ - ##### A	A = CONDUCTIVE PANEL SEAL

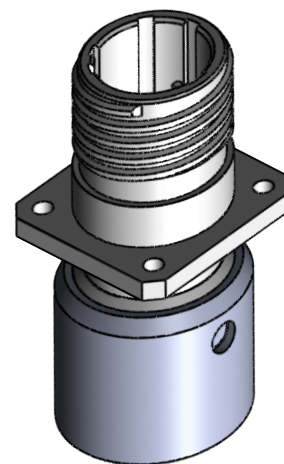
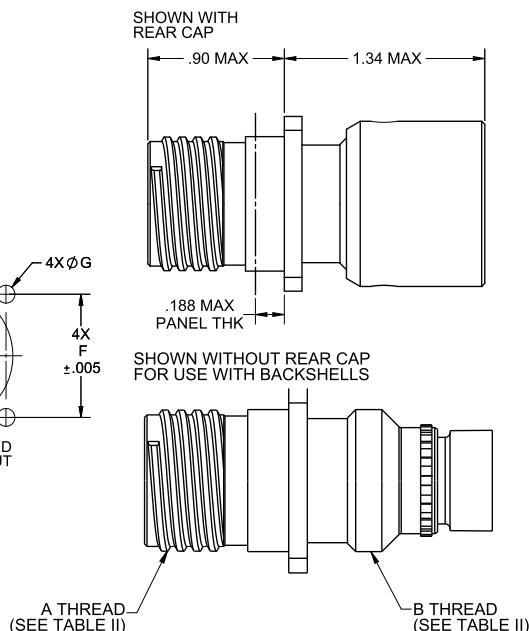
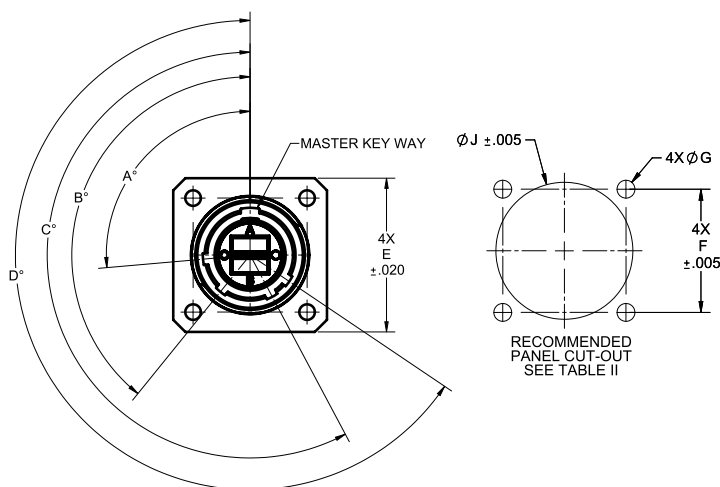
THDM Series MT Connector System

Product Drawings

THDM Flange Mount Receptacle:

SHELL SIZE	KEYING POSITION DESIGNATOR	A°	B°	C°	D°
11 AND 13	1	95°	141°	208°	236°
	2	113°	156°	182°	292°
	3	90°	145°	195°	252°
	4	53°	156°	220°	255°
	5	119°	146°	176°	298°
	6	51°	141°	184°	242°
15 AND 23	1	80°	142°	196°	293°
	2	135°	170°	200°	310°
	3	49°	169°	200°	244°
	4	66°	140°	200°	257°
	5	62°	145°	180°	280°
	6	79°	153°	197°	272°

SHELL SIZE	SHELL SIZE DESIGNATOR	E	F	(ØG)	(ØJ)	A THREAD	B THREAD
11	A	1.023	.750	0.125	.812	.750-1P-2L-DS-2A	.750-20UNEF-2A
13	B	1.138	.843		.937	.875-1P-2L-DS-2A	.875-20UNEF-2A
15	C	1.258	.968		1.124	1.062-1P-2L-DS-2A	1.000-20UNEF-2A
23	F	1.718	1.281		1.562	1.500-1P-2L-DS-2A	1.4375-18UNEF-2A



Part Number Schemes:

THDMC - Flange Mount Receptacle

PART NO.	DESCRIPTION
THDMC - #####	DASH NUMBER COLUMN 1 = SHELL SIZE
THDMC - A #####	A = SHELL SIZE 11
THDMC - B #####	B = SHELL SIZE 13
THDMC - C #####	C = SHELL SIZE 15
THDMC - F #####	F = SHELL SIZE 23
THDMC - #####	DASH NUMBER COLUMN 2 = INSERT CONFIGURATION
THDMC - # 1 ###	1 = 1 BLADE (SHELL SIZE 11)
THDMC - # 2 ###	2 = 2 BLADES (SHELL SIZE 13)
THDMC - # 4 ###	4 = 4 BLADES (SHELL SIZE 15)
THDMC - # 8 ###	8 = 8 BLADES (SHELL SIZE 23)
THDMC - #####	DASH NUMBER COLUMN 3 = MATERIAL / PLATING
THDMC - ## C ##	C = CAD PLATED ALUMINUM
THDMC - ## S ##	S = 303 STAINLESS STEEL, PASSIVATED
THDMC - ## N ##	N = NICKEL PLATED ALUMINUM
THDMC - ## T ##	T = 6061-T6 AL ALLOY BLACK ANODIZE WITH PTFE
THDMC - ## D ##	D = PTFE NICKEL PLATED ALUMINUM
THDMC - ## E ##	E = BLACK ZINC NICKEL PLATED ALUMINUM

PART NO.	DESCRIPTION
THDMC - #####	DASH NUMBER COLUMN 4 = KEY
THDMC - ### 1 #	1 = KEY OPTION 1
THDMC - ### 2 #	1 = KEY OPTION 2
THDMC - ### 3 #	1 = KEY OPTION 3
THDMC - ### 4 #	1 = KEY OPTION 4
THDMC - ### 5 #	1 = KEY OPTION 5
THDMC - ### 6 #	1 = KEY OPTION 6
THDMC - ### U #	1 = UNIVERSAL KEY OPTION
THDMC - #####	DASH NUMBER COLUMN 5 = REAR CONNECTION / HARDWARE OPTION
THDMC - ### 6	6 = 28876 HARDWARE
THDMC - ### 2	2 = 28876 WITHOUT HARDWARE

THDM Series MT Connector System

Product Drawings: Backshells Straight Backshell Options:

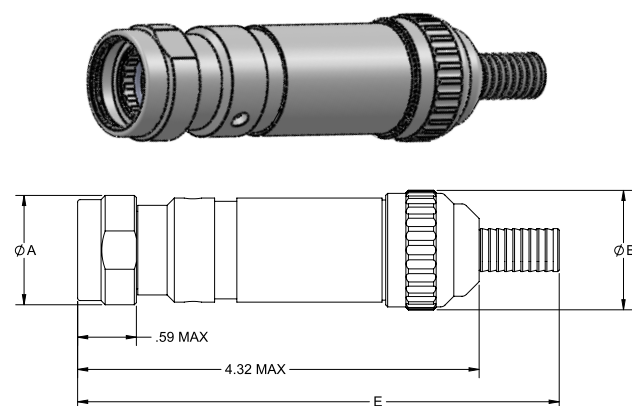
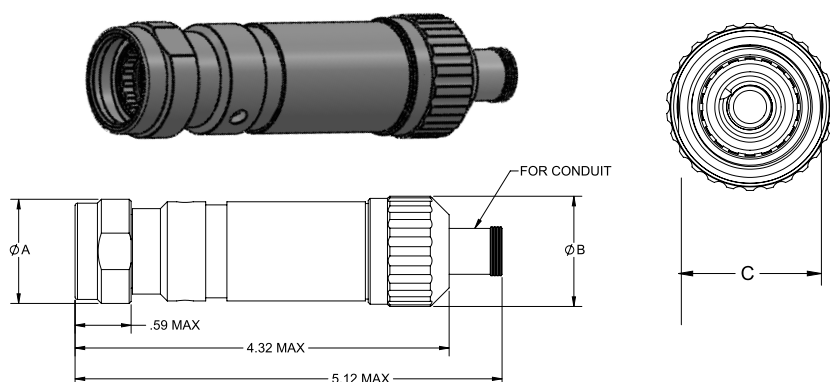


TABLE II - STRAIGHT BODY STYLE				
SHELL SIZE	$\varnothing A$ MAX	$\varnothing B$ MAX	C MAX	E MAX
13	1.71	1.17	1.02	4.82
15	1.71	1.50	1.18	5.12
23	1.71	1.75	1.61	6.07

90° Backshell Options:

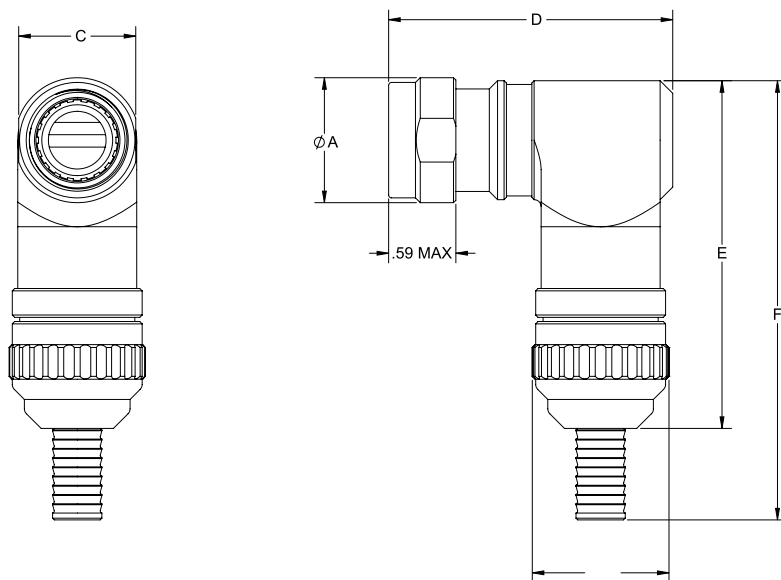


TABLE III- 90° BODY STYLE						
SHELL SIZE	$\varnothing A$ MAX	$\varnothing B$ MAX	C MAX	D MAX	E MAX	F MAX
13	1.09	1.17	1.02	2.50	3.02	3.82
15	1.25	1.50	1.18	3.25	3.55	4.35
23	1.71	2.07	1.61	3.45	4.15	5.44

90° BACKSHELL

THDM Series MT Connector System

Product Drawings: Backshells

45° Backshell Options:

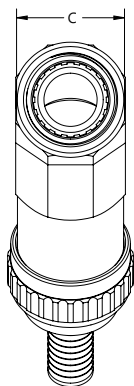
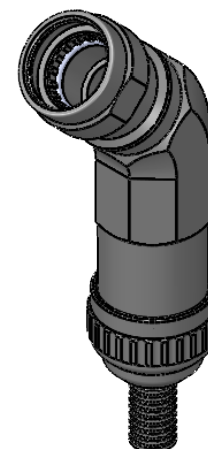
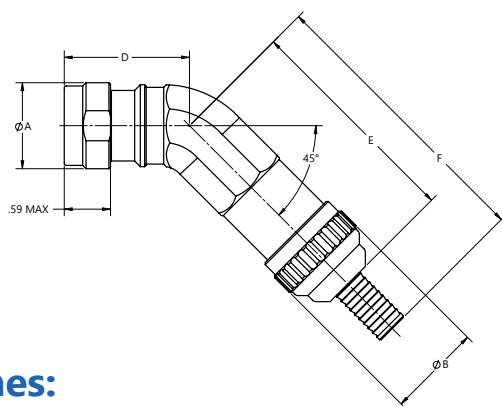


TABLE III- 45° BODY STYLE						
SHELL SIZE	ØA MAX	ØB MAX	C MAX	D MAX	E MAX	F MAX
13	1.09	1.17	1.02	1.61	2.83	3.65
15	1.25	1.50	1.18	2.06	2.70	3.50
23	1.71	2.07	1.61	2.41	3.16	4.50



45° BACKSHELL

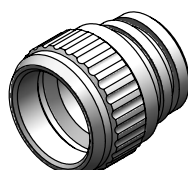
Part Number Schemes:

THDMBS - Backshell

PART NO.	DESCRIPTION
THDMBS - #####	DASH NUMBER COLUMN 1 = SHELL SIZE
THDMBS - A #####	A = SHELL SIZE 11
THDMBS - B #####	B = SHELL SIZE 13
THDMBS - C #####	C = SHELL SIZE 15
THDMBS - F #####	F = SHELL SIZE 23
THDMBS - #####	DASH NUMBER COLUMN 2 = MATERIAL / PLATING
THDMBS - # C ###	C = CAD PLATED ALUMINUM
THDMBS - # S ###	S = 303 STAINLESS STEEL, PASSIVATED
THDMBS - # N ###	N = NICKEL PLATED ALUMINUM
THDMBS - # T ###	T = 6061-T6 AL ALLY BLACK ANODIZE WITH PTFE
THDMBS - # D ###	D = PTFE NICKEL PLATED ALUMINUM
THDMBS - # E ###	E = BLACK ZINC NICKEL PLATED ALUMINUM
THDMBS - #####	DASH NUMBER COLUMN 3 = BACKSHELL TYPE
THDMBS - # S #	S = STRAIGHT BACKSHELL
THDMBS - # N #	N = 90° BACKSHELL
THDMBS - # F #	F = 45° BACKSHELL
THDMBS - # H #	H = HEAT SHRINK BACKSHELL
THDMBS - # K #	K = STRIAIGHT BACKSHELL FOR CONDUIT

PART NO.	DESCRIPTION
THDMBS - #####	DASH NUMBER COLUMN 4 = CABLE SIZE OPTION
THDMBS - ### H1	H1 = HEAT SHRINK
THDMBS - ### G1	G1 = CABLE SIZE .460 GLAND SPECIAL FOR CABLE LWSE-144-9-C-144-1-00N1D
THDMBS - ### B1	B1 = CABLE SIZE .280/ .315 (SHELL 13 ONLY)
THDMBS - ### B2	B2 = CABLE SIZE .305/ .346 (SHELL 13 ONLY)
THDMBS - ### B3	B3 = CABLE SIZE .385/ .402 CRIMP (SHELL 13 ONLY FOR CONDUIT)
THDMBS - ### B4	B4 = CABLE SIZE .351 SPECIAL (SHELL 13 ONLY FOR CONDUIT LLPA-10A.50)
THDMBS - ### B5	B5 = CABLE SIZE .3125 (SHELL 13 ONLY FOR CONDUIT)
THDMBS - ### B6	B6 = CABLE SIZE .439/ .456 (SHELL 13 ONLY)
THDMBS - ### B7	B7 = CABLE SIZE .481/ .501 (SHELL 13 ONLY)
THDMBS - ### C1	C1 = CABLE SIZE .250/ .304 (SHELL 15 ONLY)
THDMBS - ### C1	C2 = CABLE SIZE .305/ .346 (SHELL 15 ONLY)
THDMBS - ### C3	C3 = CABLE SIZE .347/ .304 (SHELL 15 ONLY)
THDMBS - ### C4	C4 = CABLE SIZE .380/ .423 (SHELL 15 ONLY)
THDMBS - ### C5	C5 = CABLE SIZE .424/ .465 (SHELL 15 ONLY)
THDMBS - ### C6	C6 = CABLE SIZE .466/ .515 (SHELL 15 ONLY)
THDMBS - ### C7	C7 = CABLE SIZE .450 SPECIAL (SHELL 15 ONLY)
THDMBS - ### C8	C8 = CABLE SIZE .500 CRIMP SPECIAL (SHELL 15 ONLY)
THDMBS - ### F1	F1 = CABLE SIZE .347/ .379 (SHELL 23 ONLY)
THDMBS - ### F2	F2 = CABLE SIZE .540/ .600 (SHELL 23 ONLY)
THDMBS - ### F3	F3 = CABLE SIZE .550/ .660 (SHELL 23 ONLY)
THDMBS - ### F4	F4 = CABLE SIZE .660/ .768 (SHELL 23 ONLY)
THDMBS - ### F5	F5 = CABLE SIZE .768/ .866 (SHELL 23 ONLY)
THDMBS - ### F6	F6 = CABLE SIZE .900/ 1.000 (SHELL 23 ONLY)

Heat Shrink Backshell Options:



HEAT SHRINK BACKSHELL

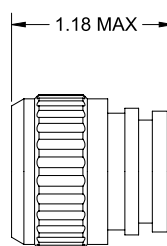
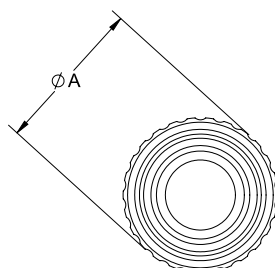


TABLE 5 - HEAT SHRINK BODY STYLE	
SHELL SIZE	ØA MAX
11	1.03
13	1.17
15	1.50
23	2.07

THDM Series MT Connector System

AmphenolFSI

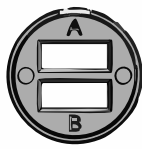
MT Blade Assembly Technology:

At the heart of the THDM connectors are AFSI's MT carrier blades. The THDM blade design allows for direct termination of aramid to support both round or flat ribbons without the need for an additional backshell. The blades make each MT ferrule easily removable from the connector, as with traditional fiber optic termini. This allows for re-pinning, thorough cleaning, and light re-polishing when necessary. Each blade carries an MT ferrule compliant with IEC Standard 61754-5 (fiber pitch 0.25mm) providing low optical insertion loss (typically 0.5dB) and excellent return loss when angle polished (typically >65dB).

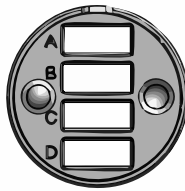
MT Position Layout Options



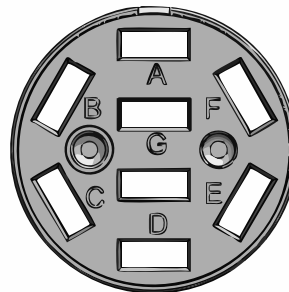
Shell 11



Shell 13



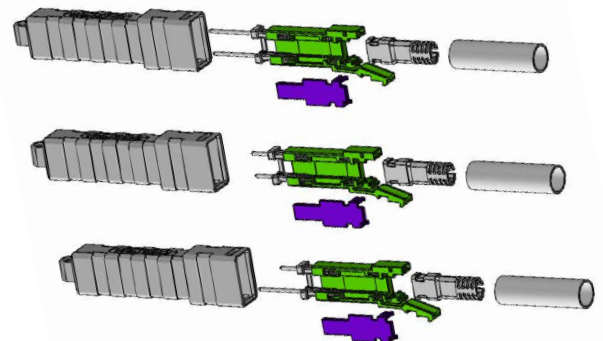
Shell 15



Shell 23

MTXB -

- CHICKLET
 - N = NONE
 - C = YES - 12/24 FIBER
- CARRIER COLOR
 - BL = BLUE
 - OR = ORANGE
 - GR = GREEN
 - BR = BROWN
 - SL = SLATE
 - WH = WHITE
 - RD = RED
 - YL = YELLOW
 - VI = VIOLET
 - RO = ROSE
 - AQ = AQUA
- DUST COVER
 - 0 = NONE
 - 1 = YES
- LOCK
 - N = NONE
- GENDER
 - M = MALE
 - F = FEMALE
 - H = HERMAPHRODITIC
- PIN TOLERANCE
 - 1 = MM
 - 2 = MM ELITE / SM
 - 3 = MM ELITE



How to Order:

For more information on how to order or to obtain a price quote on our THDM products, call toll free (U.S. only) at 800.472.4225 International calls please use 1.214.547.2400 or e-mail info@fibersystems.com.

Amphenol Fiber Systems International, Inc.

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