

THDM Series MT Connector System



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 2, 4 and 8- MT configurations, which can support 24 to 192 fiber channels using industry standard MT ferrules. The connector features M28876 or M38999 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.

Features & Benefits :

- 3 configurations: 2, 4 and 8 MT ferrules for up to 192 fiber channels
- Ratcheting coupling nut for high vibration environments (derived from M28876)
- 9.8 meters*
- Removable and replaceable MT ferrules
- Expanded beam capable
- Environmental :
 - Operating temperature -54C to + 85C
 - 500 cycles mating durability
 - Vibration per MIL-STD-1344, method 2005
- Available in a variety of materials and finishes (*contact for more specific details)
- Performance :
 - IL: 0.5dB nominal MM
 - IL: 0.65dB nominal SM

Applications :

- Military and Aerospace
- Shipboard
- Oil & Gas

Asterisks provided to note that specs can change under AFSI discretion at any time. Please contact a specialist to confirm specifications for your application.

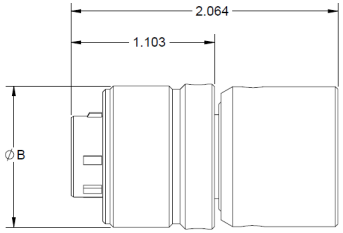
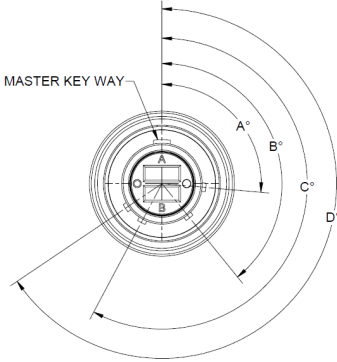
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Amphenol Fiber Systems International (AFSI), a division of Amphenol Military & Aerospace Operations (AMAO), is the largest manufacturer of harsh environment fiber optic cable assemblies & connectors in the world. Visit AMAO at amphenolmao.com.

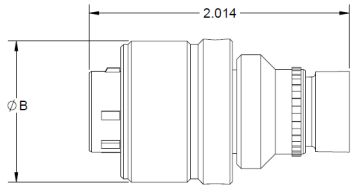
THDM Series MT Connector System

Product Drawings :

THDM Plug:



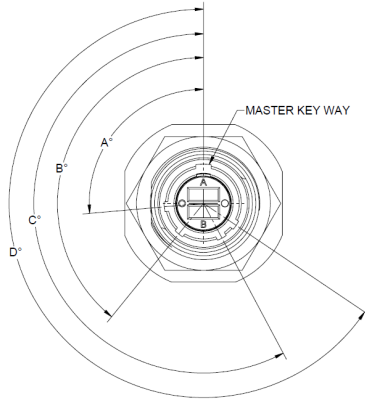
SHOWN WITH
RETAINING HARDWARE



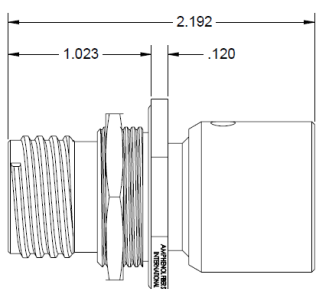
SHOWN WITHOUT
RETAINING HARDWARE
AND WITH 28878
REAR INTERFACE

THDM Jam Nut Receptacle:

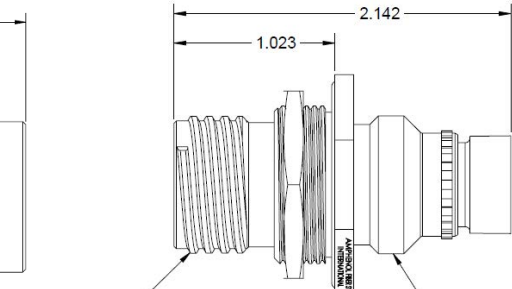
SHELL SIZE	KEYING POSITION DESIGNATOR	A°	B°	C°	D°
13	1	95°	141°	208°	236°
	2	113°	156°	182°	292°
	3	90°	145°	195°	252°
	4	53°	156°	220°	255°
	5	119°	146°	176°	298°
	6	51°	141°	184°	242°
15 AND 23	1	80°	142°	196°	293°
	2	135°	170°	200°	310°
	3	49°	169°	200°	244°
	4	66°	140°	200°	257°
	5	62°	145°	180°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



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



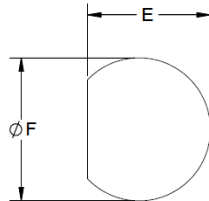
SHOWN WITH
RETAINING HARDWARE



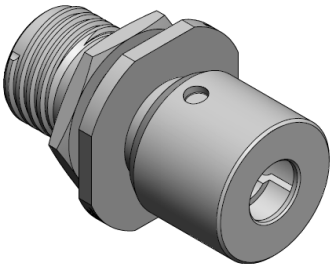
A THREAD
(SEE TABLE II)

SHOWN WITHOUT
RETAINING HARDWARE
AND WITH 28878
REAR INTERFACE

B THREAD
(SEE TABLE II)



RECOMMENDED
MTG CUT-OUT
SEE TABLE II



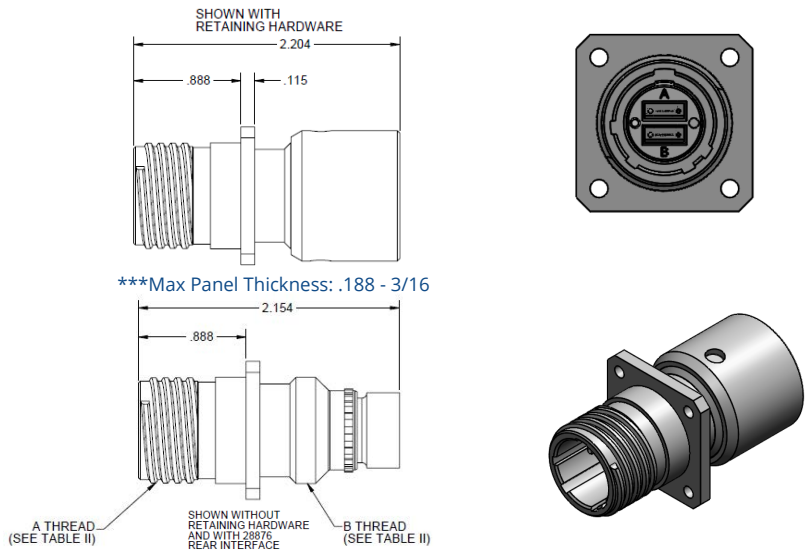
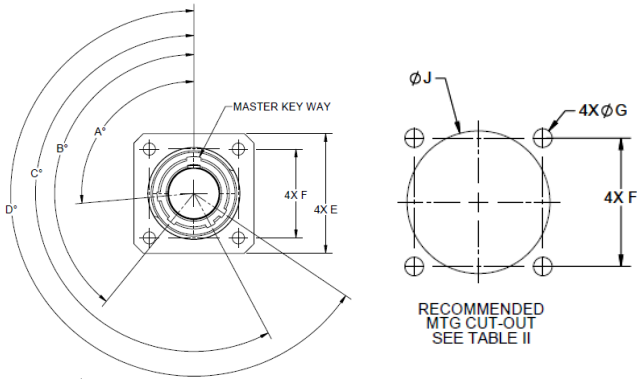
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THDM Flange Mount Receptacle:

SHELL SIZE	KEYING POSITION DESIGNATOR	A°	B°	C°	D°
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°

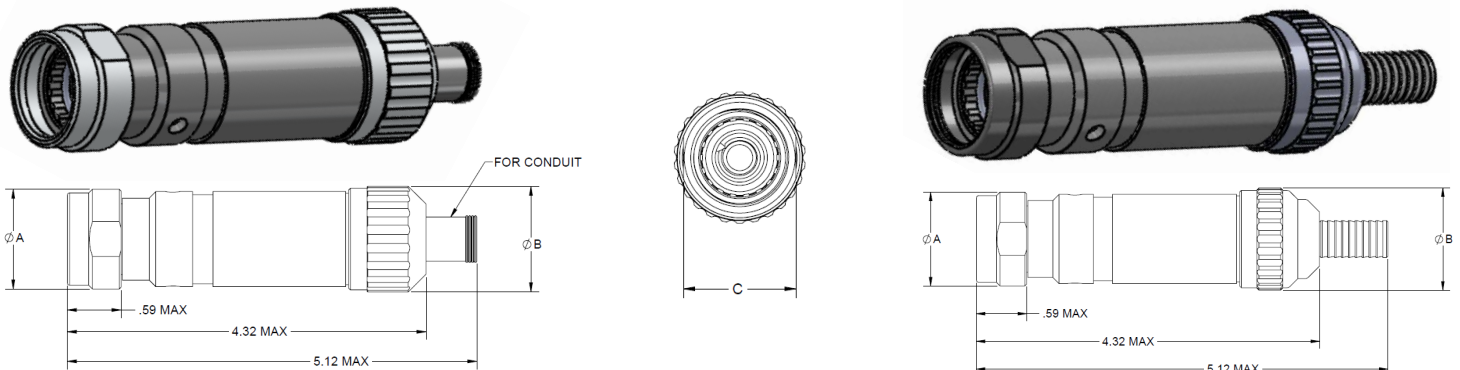
Optional mounting hardware available

SHELL SIZE	SHELL SIZE DESIGNATOR	E	F	(ØG)	(ØJ)	A THREAD 2A-.1P-.2L-D.S	B THREAD
13	B	1.158 1.118	.843		.937	.875	.875-20UNEF
15	C	1.279 1.238	.968		1.124	1.062	1.000-20UNEF
23	F	1.738 1.698	1.281		1.562	1.500	1.4375-18UNEF



Backshell Options:

Straight Backshell Options:

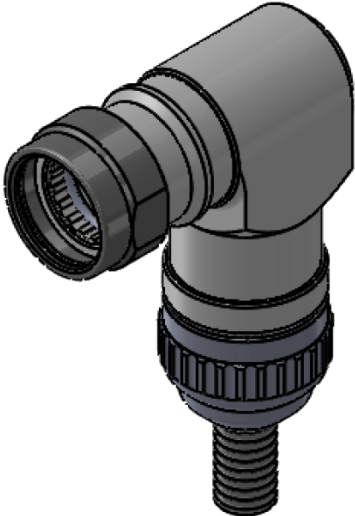
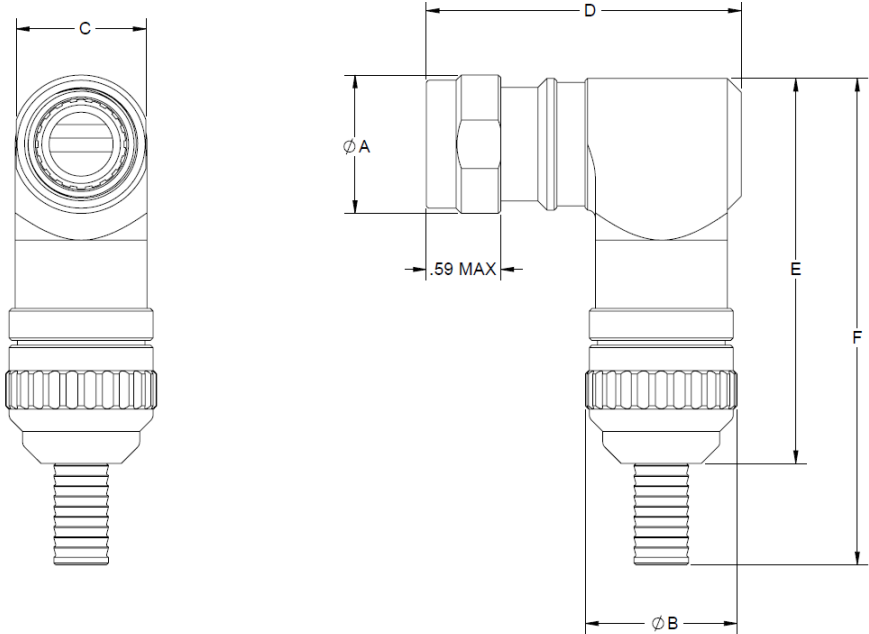


SHELL SIZE	ØA MAX	ØB MAX	C MAX
13	1.09	1.17	1.02
15	1.25	1.50	1.18
23	1.71	1.75	1.61

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Backshell Options:

90° Backshell Option:



90° BACKSHELL

TABLE 3 - 90° BODY STYLE						
SHELL SIZE	ØA MAX	ØB 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

Heat Shrink Backshell Option:

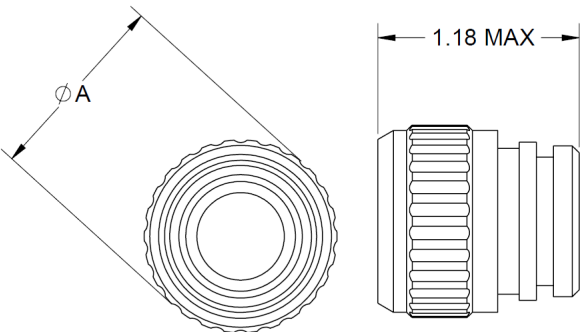


TABLE 5 - HEAT SHRINK BODY STYLE	
SHELL SIZE	ØA MAX
13	1.17
15	1.50
23	2.07



HEAT SHRINK BACKSHELL

THDM Series MT Connector System

Backshell Options:

45° Backshell Option:

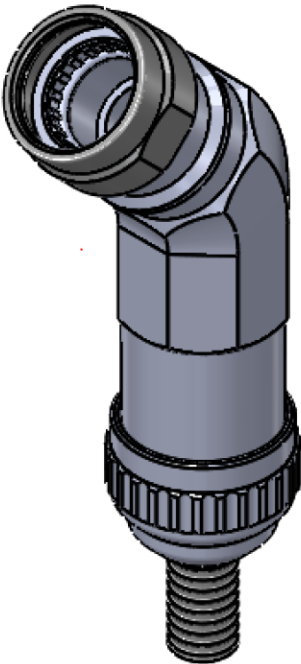
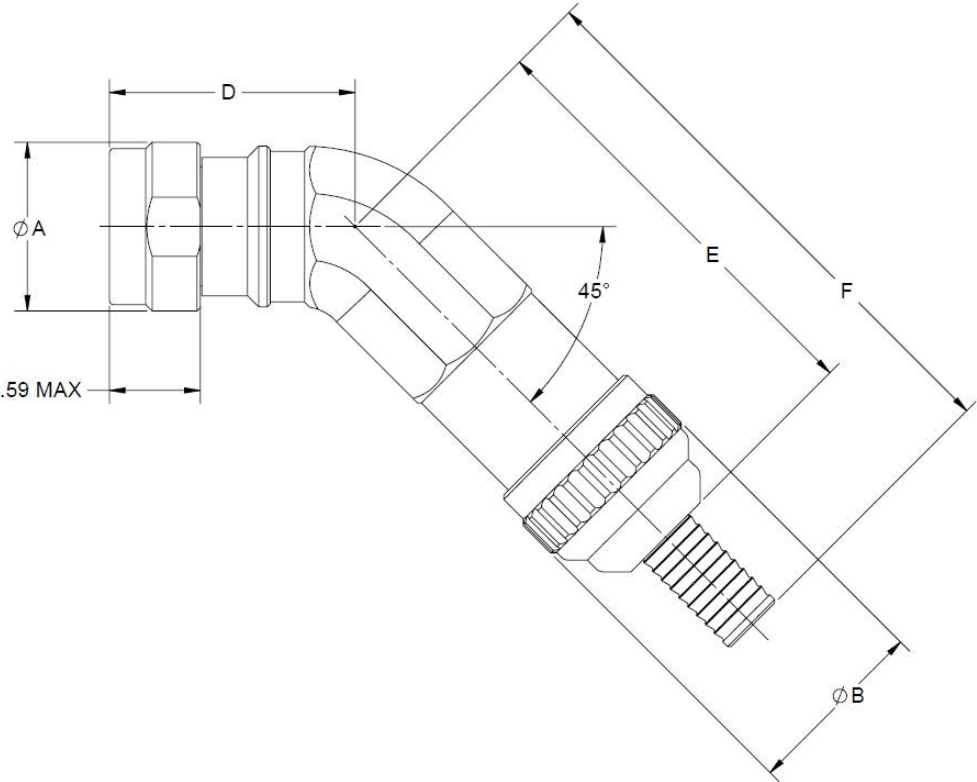
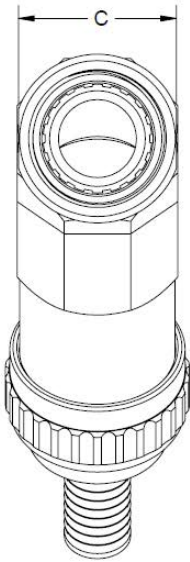


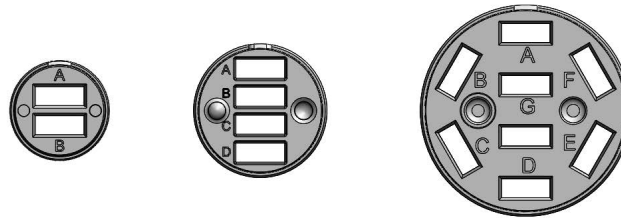
TABLE 4 - 45° BODY STYLE

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

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MT Position Layout Options:



THDM Part Number Schemes:

THDMP - Plug

PART NO.	DESCRIPTION
THDMP-#####	
↑	DASH NUMBER COLUMN 1 = SHELL SIZE
THDMP-B####	B = SHELL SIZE 13
THDMP-C####	C = SHELL SIZE 15
THDMP-F####	F = SHELL SIZE 23
THDMP-#####	
↑	DASH NUMBER COLUMN 2 = INSERT CONFIGURATION
THDMP-#2###	2 = 2 BLADES (SHELL SIZE 13)
THDMP-#4###	4 = 4 BLADES (SHELL SIZE 15)
THDMP-#8###	8 = 8 BLADES (SHELL SIZE 23)
THDMP-#####	
↑	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-#####	
↑	DASH NUMBER COLUMN 4 = KEY
THDMP-###1#	1 = KEY OPTION 1
THDMP-###2#	2 = KEY OPTION 2
THDMP-###3#	3 = KEY OPTION 3
THDMP-###4#	4 = KEY OPTION 4
THDMP-###5#	5 = KEY OPTION 5
THDMP-###6#	6 = KEY OPTION 6
THDMP-###U#	U = UNIVERSAL KEY OPTION
THDMP-#####	
↑	DASH NUMBER COLUMN 5 = REAR CONNECTION/ HARDWARE OPTION
THDMP-####6	6 = 28876 WITH HARDWARE
THDMP-####2	2 = 28876 WITHOUT HARDWARE

THDMC - Flange Mount Receptacle

PART NO.	DESCRIPTION
THDMC-#####	
↑	DASH NUMBER COLUMN 1 = SHELL SIZE
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-#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 ALLY BLACK ANODIZE WITH PTFE
THDMC-##D##	D = PTFE NICKEL PLATED ALUMINUM
THDMC-#####	
↑	DASH NUMBER COLUMN 4 = KEY
THDMC-###1#	1 = KEY OPTION 1
THDMC-###2#	2 = KEY OPTION 2
THDMC-###3#	3 = KEY OPTION 3
THDMC-###4#	4 = KEY OPTION 4
THDMC-###5#	5 = KEY OPTION 5
THDMC-###6#	6 = KEY OPTION 6
THDMC-###U#	U = UNIVERSAL KEY OPTION
THDMC-#####	
↑	DASH NUMBER COLUMN 5 = REAR CAP OPTION
THDMC-####6	6 = WITH REAR CAP
THDMC-####2	2 = WITHOUT REAR CAP (FOR USE WITH BACKSHELLS)

THDMJ - Jamnut Receptacle

PART NO.	DESCRIPTION
THDMJ-#####	
↑	DASH NUMBER COLUMN 1 = SHELL SIZE
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-#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-#####	
↑	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 WITH HARDWARE
THDMJ-####2	2 = 28876 WITHOUT HARDWARE
THDMJ-####9	9 = 38999 REAR ADAPTER

THDM Series MT Connector System

Blade Technology :

The heart of the THDM connectors are AFSI's MT carrier blades. 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).

Performance :

Parameter	Typical
Attenuation (Insertion Loss)	0.75dB max per connection (1.5 total), T IA/EIA-455-171
Return Loss	-65dB Max RL HD-Optyx™ APC, TIA/EIA-455-107
Mating Durability	500 Cycles, TIA/EIA-455-21
Vibration	TIA/EIA-455-11, Test Conditions II and VI
Mechanical Shock	TIA/EIA-455-14, Test Condition A
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	TIA/EIA-455-5, 10 cycles
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 Felxing	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

Amphenol Fiber Systems International (AFSI) :



Amphenol Fiber Systems International (AFSI) designs, manufactures, markets and supports reliable and innovative fiber optic interconnect solutions that withstand the harsh environments of military, oil & gas, mining and broadcast applications. After more than two decades in business, AFSI continues to uphold its position as a global leader in fiber optic interconnect components and systems such as termini, M28876, MIL-ST, TFOCA and the TFOCA-II® connector, which AFSI developed and patented.

AFSI has delivered millions of fiber optic connectors in more than 34 countries. Whenever there is a need for superior, cost-effective fiber optic systems and products that will stand up to demanding operating environments, you can rely on AFSI for engineering know-how, top-quality products and expert technical support.

Visit www.fibersystems.com for more information.

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.