

ISODYNE INC.

CONNECTOR ACCESSORIES

Superior EMI/RFI Shielding Performance

No tools required

No solder sleeves

100% field repairable



Proudly made in the USA.

ISODYNE INC.

Superior EMI/RFI Shielding Performance



In May of 1995, Isodyne began doing business as a small company dedicated to superior customer service and quality. These founding principles, coupled with constant innovation, are what have led Isodyne to what it is today. We take great pride in presenting the proper solution to each of our customers and doing so in a timely manner. Today we offer custom solutions and design services along with our standard products; all while maintaining that dedication to the customer.

- Lynn Reed, President, CEO, Founding Partner

iso /ahy-soh/
- noun

1. a combining form meaning "equal"



dyne /dīn/
- noun

1. unit of force



ISODYNE INC.

Superior EMI/RFI Shielding Performance



Isodyne Backshell EMI Banding System

The patented Isodyne system is made up of an EMI backshell with a spring banding area populated with slots to allow the individual drain wires direct contact with the backshell body. The Isodyne system allows for assembly and dis-assembly of the over braid to the backshell without the need for a tool.

- NO TOOLS REQUIRED** for **ASSEMBLY** or **REMOVAL** of spring band
- Our Patented slots eliminate the need for solder sleeves
- No more calibration of crimp banding tools
- Constant force spring band increases holding force and lowers resistance under vibration, improving EMI performance
- Tensile pull strength from 100 to 300 ft/lbs.
- Reduced part count helps control FOD, lighter weight and faster assembly time
- Stainless steel spring band can be installed and removed multiple times with no degradation of holding force
- Satisfied customers include Boeing, General Dynamics, Harris, Raytheon, L-3 communications, Lockheed Martin, & many more



ISODYNE INC.

Superior EMI/RFI Shielding Performance

Isodyne at a Glance

ISOTDS Series (M32628/01)

Tri-Dent feature eases installation and identifies end of spring band. Application is for 85049/82-90 Mil standard backshells to replace 85049/128 and commercial equivalent crimp bands.



101 Series (Circular)

Light weight, Economical, Space Savings
MIL-C-26482, D38999 Series I, II, III, IV
& More



135 Series (Circular)

Mighty Mouse Backshell, Small, & light weight
Compatible with Glenair's 800, 801, 803, 804 &
805 Connectors



150 Series (Circular) & 155 Series (Circular)

Single banding (150) & Quick-Tie Strain Relief to
cables (155) MIL-C-26482, D38999 Series I, II,
III, IV & More



160 Series (Circular) & 165 Series (Circular)

Double Banding (160) Double Banding
With Quick-Tie Strain Relief (165)
MIL-C-26482, D38999 Series I, II, III, IV & More



ISODYNE INC.

Superior EMI/RFI Shielding Performance



Isodyne at a Glance

180 & 191 Series (Circular & Elliptical cable entry)

MIL-C-26482, D38999 Series I, II, III, IV & More.

Hinged/Low Profile E.W.I.S. Solutions. 180 Available in Straight, 45°, & 90°, 191 90° Only.



205 & 207 Series (D-Subminiature)

Available in Circular & Elliptical cable entry. Compliments M24308 connectors. Available in Straight, 45°, & 90°



215 Series (Micro D-Sub)

Compliments M83513 Connectors, Elliptical cable entry Available in Straight and 90°



Integrated Strain Relief Option

ISR provides a unique strain relief system that can be added to most of our circular cable entries. This simple, yet effective, approach provides exceptional strain relief, reduces FOD, and saves space.



RJ45 (8P8C)

Compliments all RJ45 (8P8C) Connections (shielded & unshielded) Can be grouped into banks supported by COTS switches etc.



ISODYNE INC.

Backshell Banding Instructions

Application

The Isodyne tool-less braid termination system is intended to terminate the individual cable shield braids and the gross over-braid to military or commercial connectors.

Product Descriptions



Straight Backshell



45° Backshell



90° Backshell



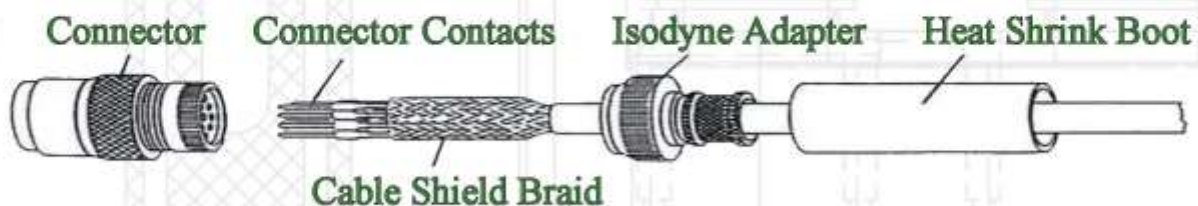
Constant Force Spring Band

Typical Spring Adapter Cable Termination



Installation Procedures

- 1) Assemble the cable making sure a minimum length of 1/2 inch of shield braid is available to go under the constant force spring band.
- 2) Before inserting connector contacts, slide the heat-shrink connector boot onto the cable followed by the Isodyne Adapter.



ISODYNE INC.

INCREMENTS

Backshell Banding Instructions



3) Position the heat-shrink boot, Isodyne Adapter & shield braid out of the way and insert the connector contacts. Depending on the shield braid size it can either be folded back onto itself or bunched up accordion style out of the way for easy access to the cable conductors.

4) Thread the Isodyne Adapter onto the connector and tighten to the torque value specified in Table 1. The adapter should be initially hand tightened to ensure proper thread and teeth alignment. Then tighten with a strap wrench and torque meter to the specified torque.

Note: See Table 1 for recommended torque values.

5) If inner conductor shields are being terminated, feed them into the adapter and out pull them through the slotted openings. Secure them backwards onto the wire bundle using approved method prior to pulling up the overall shield. Bring the gross cable shield braid up onto the adapter body and, form over the rear shoulder onto the banding area.

6) Open the constant force spring and wrap it around the cable braid that is formed over the band area of the adapter. To open the spring-band, hold the coil between the thumb and index finger, locate the end of the band, and slide it backwards with the flat of your other forefinger, until it begins to roll under itself against the rest of the coil, forming a second coil, or loop. Grab both loops from the side using the thumb and forefinger of both hands. Pull open the new smaller loop until you can place this open end onto the adapter, trapping the braid between the spring coil and the end. Secure the adapter and the end and while unrolling the larger coil, until it reached the first end. The spring will now stay in place and can be installed by simply rolling the spring coil around the braid covered adapter. See our installation video at



www.isodyneinc.com

7) If utilizing a heat shrink boot (already on the cable), move boot all the way to the front of the banding area/boot groove on Isodyne Backshell. Shrink so the lip of the boot lands in the groove area, forming a seal with the body of the adapter, and conforming to the banding surface and wire bundle or jacketed cable.





Backshell Banding Instructions

Re-entry Procedure

- 1) Lift up the edge of the constant force spring and push it around the circumference of the assembly to form a coil which then can be rolled around the assembly to remove the spring.
- 2) Carefully lift the cable braid off the adapter and push it back out of the way.
- 3) Remove the adapter and push it back out of the way to facilitate repairs at the connector or exposed conductor area.
- 4) Follow the practices detailed in these banding instructions to reinstall the Isodyne backshell.

Table 1

Installation Torque Values For Circular Electrical Connector Accessories Accessory Thread Torque ± 5 Inch Pounds			
Shell Sizes	Group 1 Light and Medium Duty MIL-C-5015 (MS3100 Series) MIL-C-26482 Series I MIL-C-26500 MIL-C-27599 MIL-C-38999 Series I & II MIL-C-81511 Series i, II, III, IV MIL-C-81703 Series I	Group 2 Heavy Duty MIL-C-5015 (MS3400 Series) MIL-C-22992 MIL-C-26482 Series II MIL-C-28840 MIL-C-38999 Series III, IV MIL-C-81703 Series III MIL-C-83723 Series I, II, III	Group 2 Values For Hand Held Tool Applications Field Repair Torque
8, 9, A	35	56	40-50
3, 10, 10SL, 11, B	35	76	40-50
7, 12, 12S, 13, C	40	108	40-50
14, 14S, 15, D	40	116	50-60
16, 16S, 17, E	40	116	50-60
18, 19, 27, F	40	116	50-60
20, 21, 37, G	80	136	80-90
22, 23, H	80	136	80-90
24, 25, 61, J	80	136	80-90
28, 29	120	148	120-130
32, 33	120	148	120-130
36	120	148	120-130
40	160	164	150-170
44	160	164	150-170
48	160	164	150-170

ISODYNE INC.

Superior EMI/RFI Shielding Performance



The Next Generation Spring Band is Here.
Introducing the **ISOTDS Series (M32628/01)**.



ISOTDSX Spring to AS85049/82 to /90 Backshell Compatibility.

Spring Part Number	85049 Accessory and Cable Entry Size								
	/82	/83	/84	/85	/86	/87	/88	/89	/90
	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N
ISOTDS1	08W03	08W03	08W03	08W03	08W03	08W03	09W03	09W03	09W03
ISOTDS1	10W03	10W03	10W03	10W03	10W03	10W03	11W03	11W03	11W03
ISOTDS1	12W02	12W02	12W02	12W02	12W02	12W02	13W02	13W02	13W02
ISOTDS1	12W03	12W03	12W03	12W03	12W03	12W03	13W03	13W03	13W03
ISOTDS1	14W02	14W02	14W02	14W02	14W02	14W02	15W02	15W02	15W02
ISOTDS2	14W03	14W03	14W03	14W03	14W03	14W03	15W03	15W03	15W03
ISOTDS2	16W02	16W02	16W02	16W02	16W02	16W02	17W02	17W02	17W02
ISOTDS2	16W03	16W03	16W03	16W03	16W03	16W03	17W03	17W03	17W03
ISOTDS2	18W02	18W02	18W02	18W02	18W02	18W02	19W02	19W02	19W02
ISOTDS3	18W03	18W03	18W03	18W03	18W03	18W03	19W03	19W03	19W03
ISOTDS2	20W02	20W02	20W02	20W02	20W02	20W02	21W02	21W02	21W02
ISOTDS3	20W03	20W03	20W03	20W03	20W03	20W03	21W03	21W03	21W03
ISOTDS3	22W02	22W02	22W02	22W02	22W02	22W02	23W02	23W02	23W02
ISOTDS4	22W03	22W03	22W03	22W03	22W03	22W03	23W03	23W03	23W03
ISOTDS3	24W02	24W02	24W02	24W02	24W02	24W02	25W02	25W02	25W02
ISOTDS4	24W03	24W03	24W03	24W03	24W03	24W03	25W03	25W03	25W03
ISOTDS4	28W02	28W02	28W02	--	--	--	--	--	--
ISOTDS4	28W03	28W03	28W03	--	--	--	--	--	--
ISOTDS3	61W02	--	--	--	--	--	--	--	--
ISOTDS4	61W03	--	--	--	--	--	--	--	--

US Patent # 10,224,668

No calibrated tools ✓

Cost reduction ✓

Reusable ✓

Benefits of Tri-Dent feature

- To ease installation
- Easily identify end of spring band
- For installation instructions visit

www.isodyneinc.com/tri-dent-spring/

Current termination steel bands (M85049/128-X) are cumbersome, take too much time, and require multiple specialized tools to install. Tri-Dent installation is tool-less.

Application is for 85049/82-90 Mil standard backshells to replace 85049/128 and commercial equivalent crimp bands.

ISODYNE INC.

ISOTDS Series (M32628/01)

Assembly Instructions



1. Locate the end of the spring wrap indicated by the three distinct “Tri-Dent” protrusions. These “Tri-Dent” protrusions are to ease in opening the spring in preparation for installation.

2. Holding the spring band securely, use your fingertip to begin unrolling the spring so that the “Tri-Dent” protrusions are coiled to the interior of the spring. Stop recoiling when the spring is nearly to the end as pictured below. Spring is now ready for installation.



Spring Un-Coil and Re-Coil Illustration



3. Pull braid over the banding surface of the connector accessory ensuring the braid overlaps the banding surface sufficiently and that there are no significant “windows” in the braid.

ISODYNE INC.

ISOTDS Series (M32628/01)

Assembly Instructions



4. Using tooling similar to these below, compress the braid so that it conforms tightly to the profile of the banding platform. Moving radially, ensure that every portion of the banding surface has been formed uniformly.



5. Take the spring opened in previous steps, holding the smaller of the two sections of spring in one hand and the larger section in the other hand, gently pull the spring sections apart to create an opening through which you can place the banding surface.



6. Begin to coil the spring band around the banding surface until the spring is completely coiled around the connector accessory and braid.

ISODYNE INC.

ISOTDS Series (M32628/01)

Assembly Instructions



7. The “Tri-Dent” protrusions will now return to the exterior of the spring band. Future re-work can be performed by unrolling the spring from the cable assembly using steps mentioned in the spring preparation section of this method.



8. With the installation secured with the spring band and “Tri-Dent” protrusions located on the exterior of the spring band wrap, trim the excess braid.



PART NUMBER BREAKDOWN EXAMPLE: ISOHS150NF1504-5S	
ISO	Isodyne
H	Connector designator. See table 1 for connector options.
S	Angular Type: S – Straight, H - 45°, J - 90°
150	Standard 150 series: Single Banding
NF	Finish: See Table 2 for available finishes. Call for additional plating options.
15	Connector shell size. See Table 1 for connector shell sizes.
04-	Cable entry designator. See table 3 for Cable entry sizes
5	LENGTH DOES NOT APPLY TO 45° & 90° BACKSHELLS, STRAIGHTS ONLY. Length in 1/8 inch Increments. Minimum Length is 1.25 inches (5) for style 1. When maximum cable entry is exceeded style 2 will be supplied. Minimum length for style 2 is 1.50 inches (6). Please review table 4 for maximum cable entries for each connector shell size. Style 2 does not affect 45° & 90° part number makeup.
S	Slots

Table 2 FINISHES	
B	CADMIUM / OLIVE DRAB
J	GOLD IRIDITE OVER CADMIUM PLATE OVER NICKEL
LF	CADMIUM PLATE / BRIGHT OVER ELECTROLESS NICKEL
M	ELECTROLESS NICKEL
N	CADMIUM PLATE / OLIVE DRAB OVER NICKEL
ZNU	ALUMINUM/ZINC-NICKEL WITH BLACK CHROMATE PER ASTM B841-99, TYPE D
NF	CAD / OD OVER ELECTROLESS NICKEL (500 HR. SALT SPRAY)
NT	NICKEL/TEFLON - CONSULT FACTORY FOR DETAILS
T	CADMIUM PLATE / BRIGHT DMP OVER NICKEL
U	CADMIUM PLATE / BLACK
Z1	PASSIVATE SS
ZN	ZINC NICKEL / OD OVER ELECTROLESS NICKEL

Table 3	
Cable Entry Designator	Cable entry size in Inches
01	.125
31	.188
02	.250
32	.312
03	.375
33	.438
04	.500
34	.562
05	.625
35	.688
06	.750
36	.812
07	.875
37	.938
08	1.000
38	1.062
09	1.125
10	1.250
11	1.375
12	1.500
13	1.625
14	1.750
15	1.875
16	2.000

Table 1 Connector Options Call (316) 682-5634 or visit our website for complete connector options			
CONNECTOR DESIGNATOR	CONNECTOR SPECIFICATION	SERIES	CONNECTORS SHELL SIZES (dependent on connector part number)
A	MIL-C-5015	MS3400 II	08,10,12,14,18,20,22,24
	MIL-C-26482		
	MIL-C-81703	III	
	MIL-C-83723	I & III	
	DEF 5926-3	I	
	LN 29504		
	NFC 93422		
PAN 6432-1			
PAN 6432-2			
PATT 602			
D	MIL-C-26482	I	08,10,12,14,16,18,20
F	MIL-C-38999	I & II	08,10,12,14,16,18,20,22,24
	4CM38277		
	NFC 93422		
G	MIL-C-28840		11,13,15,17,19,23
H	MIL-C-38999	III & IV	09,11,13,15,17,19,21,23,25

TABLE 4: MAX CABLE ENTRY PER CONNECTOR SHELL SIZE			
SHELL SIZES		MAX ENTRY DESIGNATOR	MAX ENTRY DESIGNATOR
		A	F,H,L
08	09	02	02
10	11	03	03
12	13	04	04
14	15	34	05
16	17	35	06
18	19	06	07
20	21	07	08
22	23	08	09
24	25	09	10
28		11	N/A

WHEN MAXIMUM CABLE ENTRY IS EXCEEDED STYLE 2 WILL BE SUPPLIED. MINIMUM LENGTH MUST BE 1.50 INCHES (STRAIGHTS ONLY).
EXAMPLE: ISOHS150NF0903-6S - STRAIGHT
EXAMPLE: ISOHJ150NF0903-S - 90°

YOUR PART NUMBER → **ISO** **150** **S**

EXAMPLE PART NUMBER → **ISO** **H** **S** **150** **NF** **15** **04-** **5** **S**

ISODYNE
CONNECTOR DESIGNATOR
ANGULAR TYPE
SERIES DESIGNATOR
FINISH
CONNECTOR SHELL SIZE
CABLE ENTRY SIZE
LENGTH (STRAIGHTS ONLY)
SLOTS



ISODYNE INC.

Superior EMI/RFI Shielding Performance



Integrated Strain Relief

Isodyne's new Integrated Strain Relief (ISR) system for EMI backshells is the next generation for cable harness design and assembly. Utilizing Isodyne's tool-less braid termination system, the new ISR improvement reduces the number of components required from six pieces to three, reducing potential FOD, weight and assembly time. Here are additional advantages and benefits.

That was then...



This is now...



- Strain relief directly on cable bundle
- Strain relief inside overbraid/heat shrink
- No protruding hardware
- Adaptable to most standard circular cable entries
- Environmentally sealed strain relief, when coupled with conventional heat shrink products
- Only a simple modification code is needed to add to existing part numbers



ISODYNE INC.

Superior EMI/RFI Shielding Performance



Proven Quality and Performance

Our backshells are compatible with a wide range of Mil-Spec and commercial connectors for uncompromised EMI/RFI protection. This design has been in use since 1990, and is used on land-based systems such as the M1/A2 and MRAP tank. In addition we are on the UH-60, AH-60 and CH-47 helicopters, KC-135 tanker and many airborne missile systems. These are just a few of the programs Isodyne has had the privilege to accommodate and sustain throughout the years. Our Tool-less Braid Termination System also excels in the Communications fields. With applications in everything from radios to land based SATCOM systems and theater awareness systems, our Tool-less Braid Termination System is recognized for its high quality and superior performance.

Complimented Connectors

Call or visit our website for complete connector options.

CONNECTOR DESIGNATOR	CONNECTOR SPECIFICATION	SERIES
A	<i>MIL -C-26482</i>	II
	MIL-C-5015	MS3400
	MIL-C-81703	III
	MIL-C-83723	I & III
D	<i>MIL-C-26482</i>	I
F	<i>MIL-C-38999</i>	I & II
	4CM38277 NFC 93422	HE 308, 309
G	<i>MIL-C-28840</i>	
H	<i>MIL-C-38999</i>	III & IV

Compatible with M24308, M83513, ARINC, and Mighty Mouse connectors.



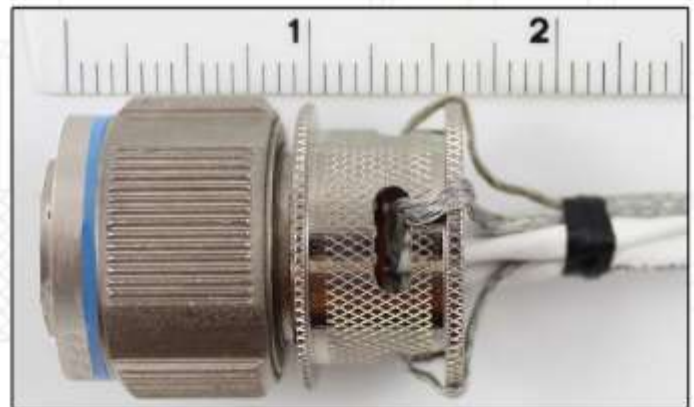
ISODYNE INC.

Superior EMI/RFI Shielding Performance



Super Short Series

Isodynes Short Series Adapter is one of the smallest EMI accessories available. Direct coupling to the connector reduces stack up allowing for smaller, lighter over molds. A lower cost back shell option with excellent reliability and EMI performance. Available in all plating options.



Advantages

- Short termination distance from accessory interface
- Smallest overall EMI accessory packaging
- Great for molded applications
- Shorter lead time than integrated banding circular connectors
- Same EMI performance as the standard Isodyne System
- Low cost effective EMI solution

Backshell Length from Connector
Interface to End of Backshell
Lengths Apply to MIL-C-38999 III & IV
Shell Size 13

Backshell Series	Length in Inches
Super Short Series	.315"
Short Adapter Series	.737"
Standard 150 Series	1.25"

ISODYNE INC.

Superior EMI/RFI Shielding Performance



101 Series

We now offer our most sleek, light weight and economical backshell yet. The 101 series, although simple meets all the essential requirements of a high performance Isodyne backshell.



- Smaller package to save space
- Less material to save weight
- Optional slot and boot groove to accommodate terminations without individual shields and/or environmental requirements
- Lower cost but with the same Isodyne electrical performance
- Great option for over molding
- Compatible with any circular Mil-Spec and commercial connectors
- The spring band may be removed and reused hundreds of times, thus allowing a high degree of repairability.
- No tools required for assembly or removal of spring band.
- Superior EMI Protection
- Boot groove & termination slot available in part number configuration
- Small, simple design allows for faster lead times

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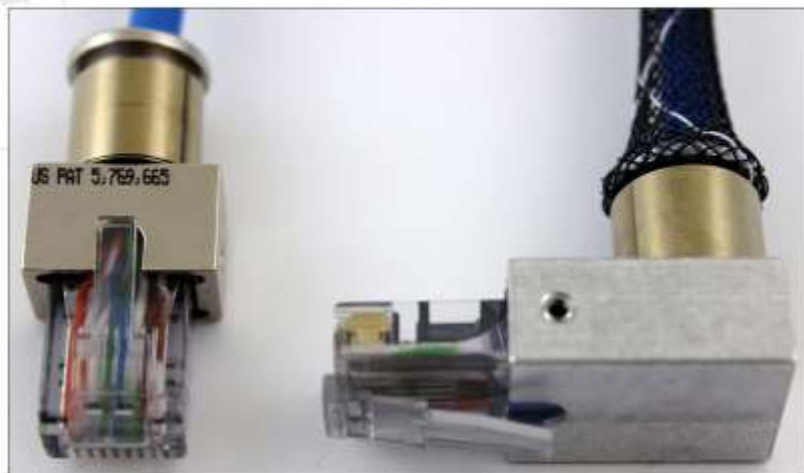
Superior EMI/RFI Shielding Performance



RJ45 Backshell for EMI Integrity and Mechanical Protection

Isodyne's RJ45 backshell provides EMI shielding and protection for COTS RJ45 connectors both shielded and non-shielded. Set screws on each side of the backshell are used to hold the connector in place and provides a grounding path to the connector shield.

- Compliments all RJ45 (8P8C) Connections (shielded & unshielded)
- Smaller footprint than traditional D38999 RJ45 connector
- Top, Side & End cable entries available
- Back Shell protects release tab from accidental breakage
- Spring can be removed and replaced hundreds of times with no degradation of holding forces
- No tools required to attach over braid to the backshell



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Superior EMI/RFI Shielding Performance



NTK 1K Gray Plating



Isodyne has released NTK 1K Gray (Nickel Teflon 1000 hour) gray plating for their entire line of EMI backshells. NTK 1K Gray meets MIL- DTL -38999 Rev L for 1000 hour salt fog, 336+ hours Sulfur Dioxide resistance and is ROHs compliant.

Excellent new plating option that provides corrosion resistance on ground vehicles, all types of aircraft and ocean going vessels.



The information in this announcement is deemed proprietary. For more information please contact our office or visit our website www.isodyneinc.com

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Superior EMI/RFI Shielding Performance



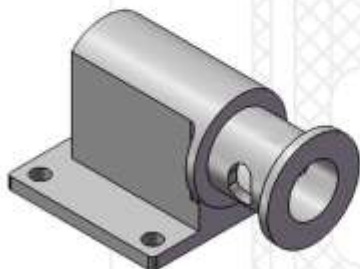
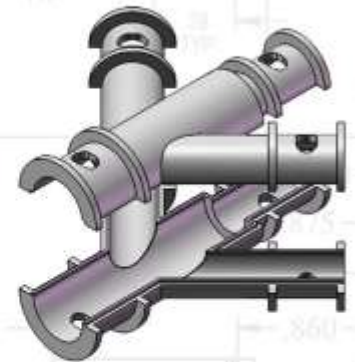
Leading the field in custom solutions

Not all solutions can be found in a Catalog. Isodyne understands that the solution best suited to your application may not be found in print. We have built a rich pedigree by meeting and exceeding our customer expectations. Isodyne leads the industry by working collaboratively with our customers to create efficient and effective custom solutions. From early design and defining the performance requirements, to prototype, to finished product, Isodyne is there. Land, Sea, Air, or Space; No build is too large or too small. Please contact the factory with any requests.



ARINC custom solution. User defined cable entries and Strain Relief. Hinged access to connector inserts.

Custom Splice Kit. User defined angles, cable entries, and diameters.



Custom Bulkhead Feed through. User defined profile and dimensions.

ISODYNE INC.

Superior EMI/RFI Shielding Performance



In House Rapid Prototyping

Isodyne now has the in house capability to supply Rapid Prototype EMI backshells that provide form, fit and feel early in your product development. STP files allow you to model the back shell in your application, a plastic prototype easily confirms the data.



Benefits of Rapid Prototyping

- Faster development of your products
- Prototype produced in days instead of weeks
- Dimensionally accurate and durable samples
- Provide Form, Fit and Feel
- Typically no cost to customer



ISODYNE INC.

Superior EMI/RFI Shielding Performance



ZNU Black Zinc-Nickel Finish

If your application has RoHS requirements we encourage you to consider our ZNU finish. The Restriction of Hazardous Substances Directive was adopted in February 2003 in efforts to move to cleaner processes and reduced use of hazardous materials in the manufacturing and disposal of material. This has led to increased communication across the supply chain, tighter process control and provides a cleaner and safer environment for employees and customers.



- Plating specification: **PER ASTM B841-99, TYPE D**
- **RoHS & REACH Compliant**
- Preferred alternative to Cadmium options
- Corrosion resistance is comparable to cadmium
- Non-reflective finish
- Meets MIL-DTL-38999 & AS85049 requirements
- Rugged and durable finish
- Can be ordered with any Isodyne part numbers



ISODYNE INC.

Superior EMI/RFI Shielding Performance



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www.isodyneinc.com



Proudly made in the USA.