smiths connectors

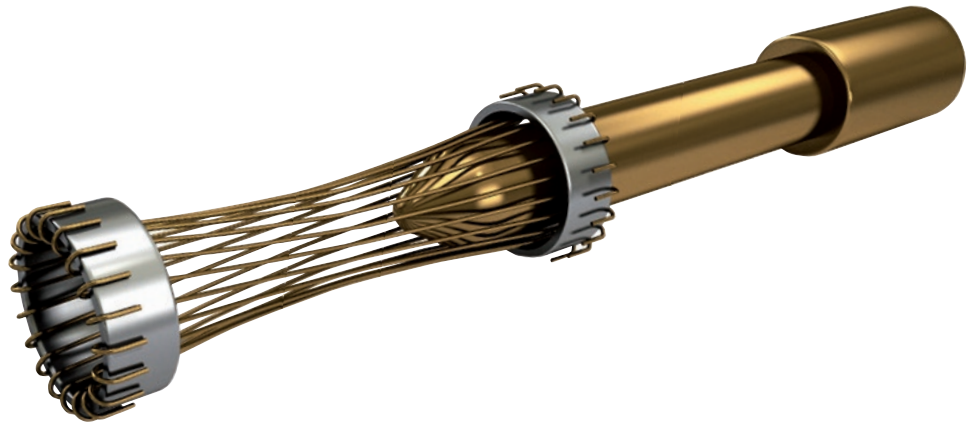
N SERIES

High Density Mini-Modular Connectors

HYPERTAC IDI INTERCONNECT DEVICES SABRITEC

HYPERBOLOID TECHNOLOGY

Smiths Connectors offers an extensive range of superior contact technologies suitable for standard and custom solutions. Hypertac® (HYPERboloid conTACT) is the original superior performing hyperboloid contact technology designed for use in all applications and in harsh and demanding environments where high reliability and safety are critical. The inherent electrical and mechanical characteristics of the Hypertac hyperboloid contact ensures unrivalled performance in terms of reliability, number of mating cycles, low contact force and minimal contact resistance. The shape of the contact sleeve is formed by hyperbolically arranged contact wires, which align themselves elastically as contact lines around the pin, providing a number of linear contact paths.



FEATURES

LOW INSERTION/EXTRACTION FORCES

The angle of the socket wires allows tight control of the pin insertion and extraction forces. The spring wires are smoothly deflected to make line contact with the pin.

LONG CONTACT LIFE

The smooth and light wiping action minimizes wear on the contact surfaces. Contacts perform up to 100,000 insertion/extraction cycles with minimal degradation in performance.

LOWER CONTACT RESISTANCE

The design provides a far greater contact area and the wiping action of the wires insures a clean and polished contact surface. Our contact technology has half the resistance of conventional contact designs.

HIGHER CURRENT RATINGS

The design parameters of the contact (e.g., the number, diameter and angle of the wires) may be modified for any requirement. The number of wires can be increased so the contact area is distributed over a larger surface. Thus, the high current carried by each wire because of its intimate line contact, can be multiplied many times.

IMMUNITY TO SHOCK & VIBRATION

The low mass and resultant low inertia of the wires enable them to follow the most abrupt or extreme excursions of the pin without loss of contact. The contact area extends 360 degrees around the pin and is uniform over its entire length.
The 3 dimensional symmetry of the Hypertac contact design guarantees electrical continuity in all circumstances.

BENEFITS

HIGH DENSITY INTERCONNECT SYSTEMS

Significant reductions in size and weight of sub-system designs. No additional hardware is required to overcome mating and un-mating forces.

LOW COST OF OWNERSHIP

The Hypertac contact technology will surpass most product requirements, thus eliminating the burden and cost of having to replace the connector or the entire subsystem.

LOW POWER CONSUMPTION

The lower contact resistance of our technology results in a lower voltage drop across the connector reducing the power consumption and heat generation within the system.

MAXIMUM CONTACT PERFORMANCE

The lower contact resistance of the Hypertac contact reduces heat build-up; therefore Hypertac contacts are able to handle far greater current in smaller contact assemblies without the detrimental effects of high temperature.

RELIABILITY UNDER HARSH ENVIRONMENTS

Harsh environmental conditions require connectors that will sustain their electrical integrity even under the most demanding conditions such as shock and vibration. The Hypertac contact provides unmatched stability in demanding environments when failure is not an option.

TABLE OF CONTENTS

FEATURES & BENEFITS

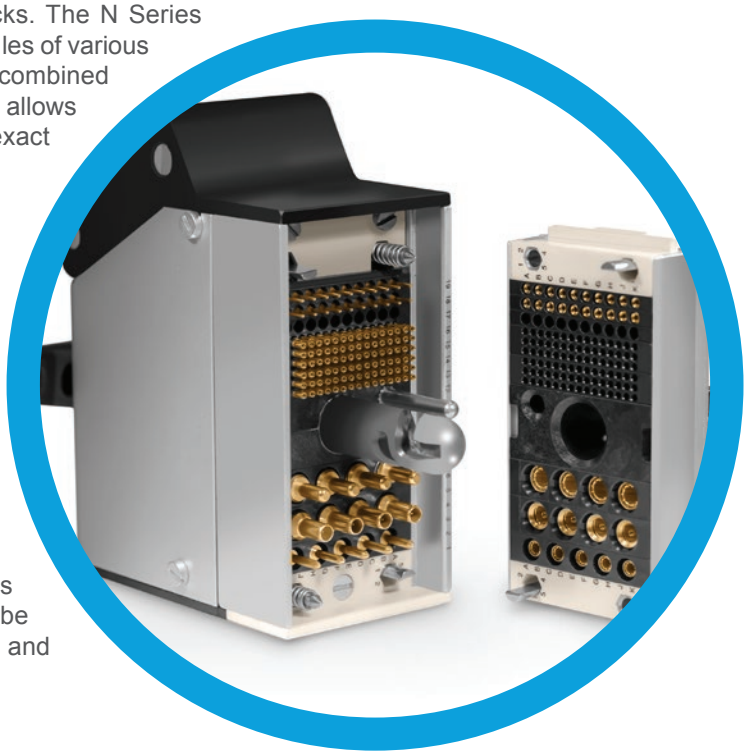
- **Low insertion / extraction forces**
- **High density interconnect systems**
- **Reliability in harsh environments**
  - Immunity to shock and vibration
  - Long contact life
  - Minimal contact resistance
  - Efficient power consumption
- **High current ratings**
- **Low cost of ownership**
- **Design flexibility**
  - Allows up to 900 contact positions
  - Building block system composed of custom module combinations within a connector frame
  - Keying system available
  - Removable signal and coax contact types available
  - Jackscrews available in half-turn quick disconnect
  - Float mountable for blind mating
- **Cable to chassis, cable to cable and rack and panel applications**

APPLICATIONS

- **Rack and panel solutions**
  - Standard N Series
  - Available keying system
  - Available locking system
  - Available float mounting
- **Cable solutions**
  - Hooded with rounded or flat cable security clamps
  - Metal backshell with adjustable cable clamp
  - Available jackscrew feature
  - Full range of accessories offered
- **Market applications**
  - Test equipment
  - Burn-in stands
  - Security systems
  - Medical equipment

N SERIES CONNECTORS

Smiths Connectors' N Series high density, modular rack and panel connectors employ a do-it-yourself system based on the principle of building blocks. The N Series system is composed of two elements: modules and frames. Modules of various styles and contact types, including signal and coaxial, can be combined into custom arrangements within a single connector frame. This allows the user to build a connector that addresses and fulfills their exact requirements with off-the-shelf components.



Ideal for rugged and rack and panel applications, the N Series connectors utilize the unparalleled performance of Hypertac® hyperboloid contact technology to provide high cycle life, low insertion/extraction forces and immunity to shock and vibration. This ensures both smooth and easy mating and maximum performance in connectors with large quantities of contacts.

The contacts are mounted in small plastic blocks and are removable for easy assembly and repair. The frames which hold the modules in position range from basic, only consisting of two side rails and end caps, to more complex, including Jackscrews, hoods and cable clamps. To conform to almost any combination of modules, all frames are available in numerous lengths. With the N Series, specially designed connectors can be purchased quickly and inexpensively, eliminating the extra cost and delay of custom tooling.

FRAMES

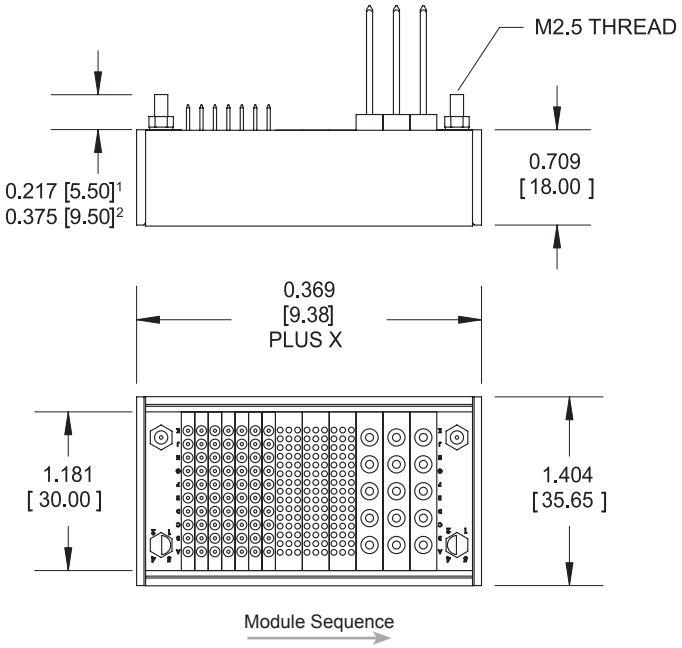
Dimensions & Specifications

FRAME B

Up to 775 Contacts

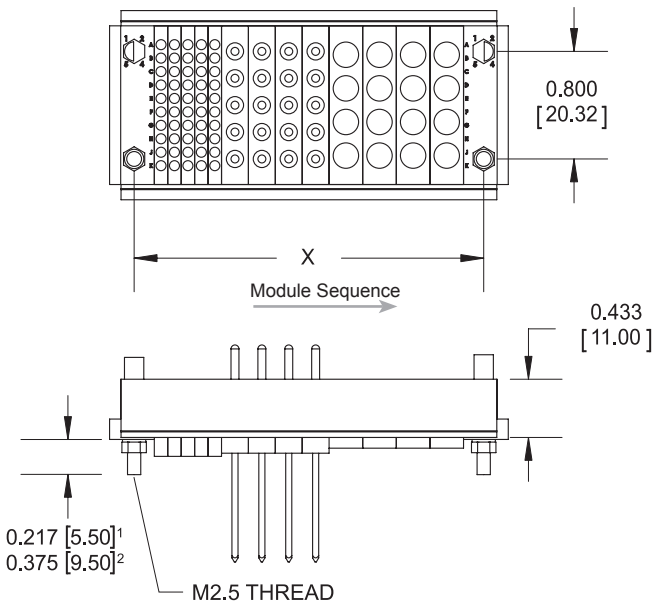
- Single row, rack and panel with keying
- Built-in pin protection on the plug frames
- 36 possible keying arrangements
- Standard sizes: 7, 11, 15, 19, 23, 27, 31 and 35 unit lengths
- Up to 35 contacts on 0.100 x 0.100 [2.54 x 2.54] centers

NPB
Plug



UNITS	X	PLUG	RECEPTACLE
7	1.000 [25.40]	NPB7	NEB7
11	1.400 [35.56]	NPB11	NEB11
15	1.800 [45.72]	NPB15	NEB15
19	2.200 [55.88]	NPB19	NEB19
23	2.600 [66.04]	NPB23	NEB23
27	3.000 [76.20]	NPB27	NEB27
31	3.400 [86.36]	NPB31	NEB31
35	3.800 [96.52]	NPB35	NEB35

NEB
Receptacle



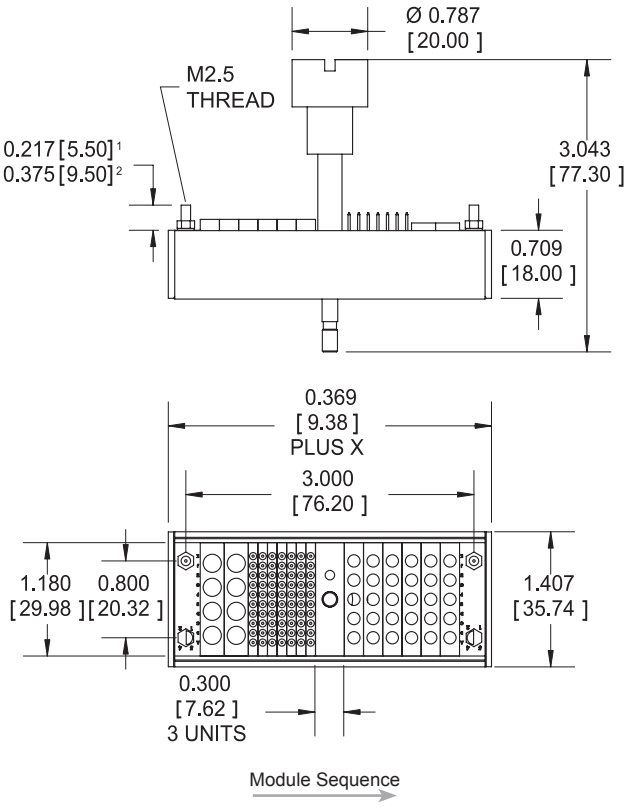
Notes:
1) Standard mounting stud length.
2) For thicker chassis, this longer mounting stud length can be selected by adding the modification code "-479" to the end of the connector part number.
Dimensions are in inches [mm].

FRAME BV

Up to 720 Contacts

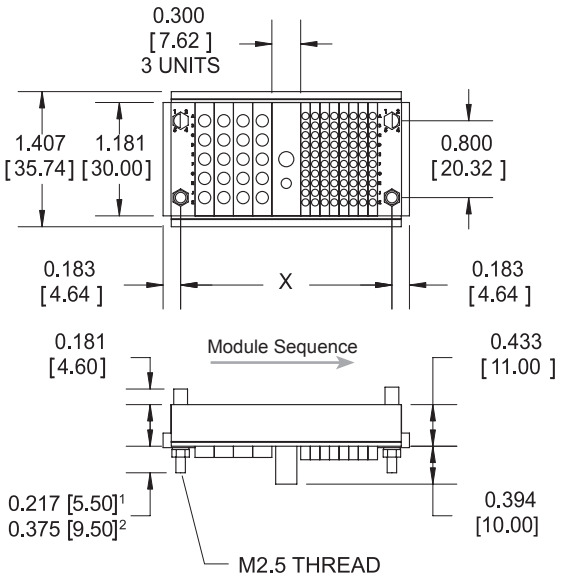
- Threaded Jackscrew extractor
- 36 possible keying arrangements
- Standard sizes: 11, 15, 19, 23, 27, 31 and 35 unit lengths
- Up to 320 contacts on 0.100 x 0.100 [2.54 x 2.54] centers
- Built-in pin protection on the plug frames
- Allow 3 units for Jackscrew

NPBV
Plug



UNITS	X	PLUG	RECEPTACLE
7	1.000 [25.40]	NPBV7	NEBV7
11	1.400 [35.56]	NPBV11	NEBV11
15	1.800 [45.72]	NPBV15	NEBV15
19	2.200 [55.88]	NPBV19	NEBV19
23	2.600 [66.04]	NPBV23	NEBV23
27	3.000 [76.20]	NPBV27	NEBV27
31	3.400 [86.36]	NPBV31	NEBV31
35	3.800 [96.52]	NPBV35	NEBV35

NEBV
Receptacle



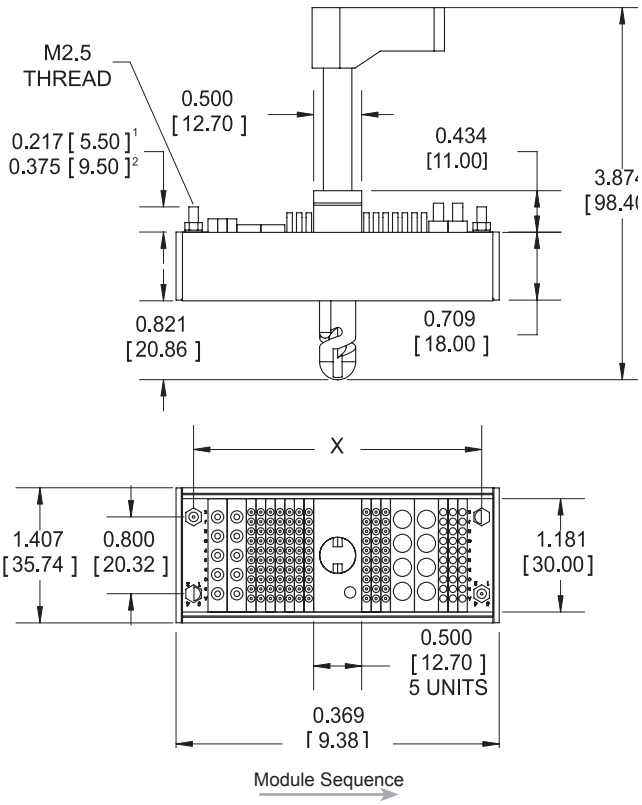
***Notes**:*
1) Standard mounting stud length.
2) For thicker chassis, this longer mounting stud length can be selected by adding the modification code "-479" to the end of the connector part number.
Dimensions are in inches [mm].

FRAME BY

Up to 900 Contacts

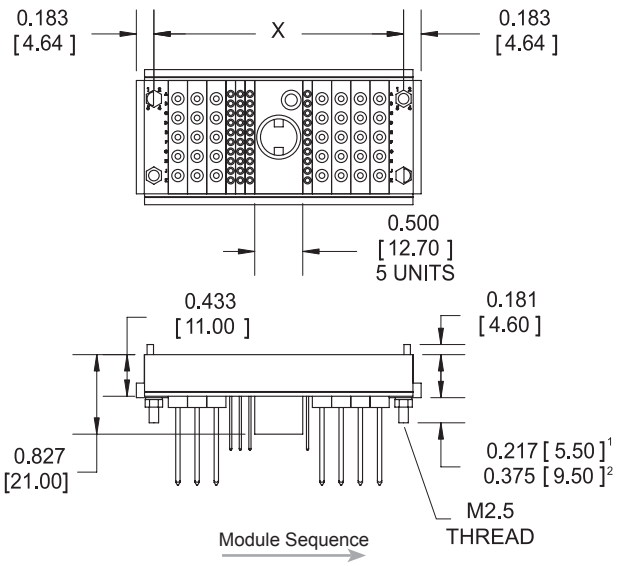
- 180˚ quick turn jack provides greater than 15,000 mating cycles
- Great for test equipment, burn-in stands, security systems, and medical equipment
- Less than 1 second mating/unmating operation
- Crimp, solder cup, dip solder, and Wire Wrap® terminations
- Wiping action pin and sockets
- Provides 20 to 400 contacts in a single mating
- 4 or 9 ampere contacts mixed to your needs
- Built-in pin protection on the plug frames
- Standard frame sizes: 11, 15, 19, 23, 27, 31, 35 and 45 unit lengths

NPBY
Plug



UNITS	X	PLUG	RECEPTACLE
11	1.400 [35.56]	NPBY11	NEBY11
15	1.800 [45.72]	NPBY15	NEBY15
19	2.200 [55.88]	NPBY19	NEBY19
23	2.600 [66.04]	NPBY23	NEBY23
27	3.000 [76.20]	NPBY27	NEBY27
31	3.400 [86.36]	NPBY31	NEBY31
35	3.800 [96.52]	NPBY35	NEBY35
45	4.800 [121.92]	NPBY45	NEBY45

NEBY
Receptacle



***Notes**:*
1) Standard mounting stud length.
2) For thicker chassis, this longer mounting stud length can be selected by adding the modification code "-479" to the end of the connector part number.
Dimensions are in inches [mm].

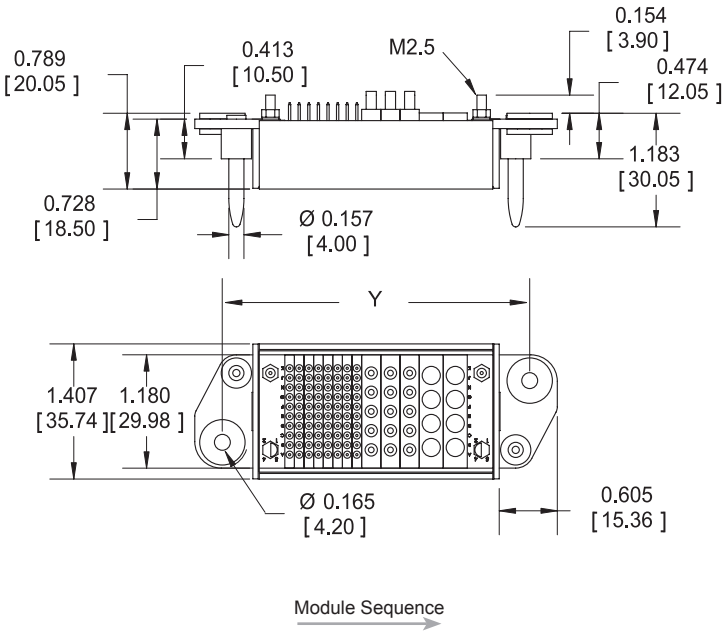
FRAME H

Up to 775 Contacts

- Float mounting with heavy duty guides
- Max. radial play 0.049 [1.254] from centers
- Single row, rack and panel with keying
- Built-in pin protection on the plug frames
- 36 possible keying combinations
- Standard sizes: 7, 11, 15, 19, 23, 27, 31 and 35 unit lengths
- Up to 350 contacts on 0.100 x 0.100 [2.54 X 2.54] centers

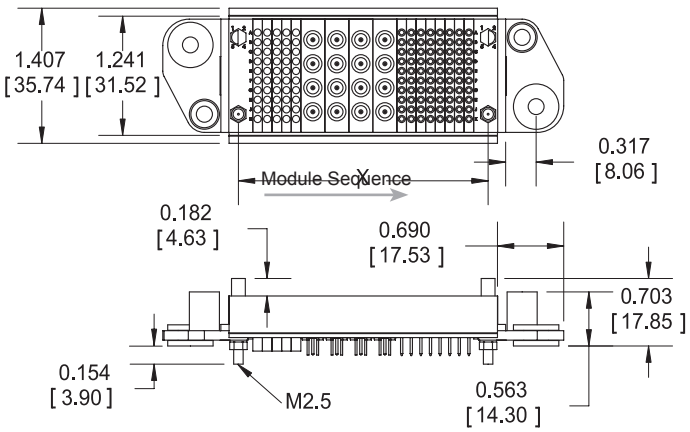
File No.: UL E102195

NPH
Plug



UNITS	Y	PLUG	RECEPTACLE
7	2.000 [50.80]	NPH7	NEBV7
11	2.400 [60.96]	NPH11	NEH11
15	2.800 [71.12]	NPH15	NEH15
19	3.200 [81.28]	NPH19	NEH19
23	3.600 [91.44]	NPH23	NEH23
27	4.000 [101.60]	NPH27	NEH27
31	4.400 [111.76]	NPH31	NEH31
35	4.800 [121.92]	NPH35	NEH35

NEH
Receptacle



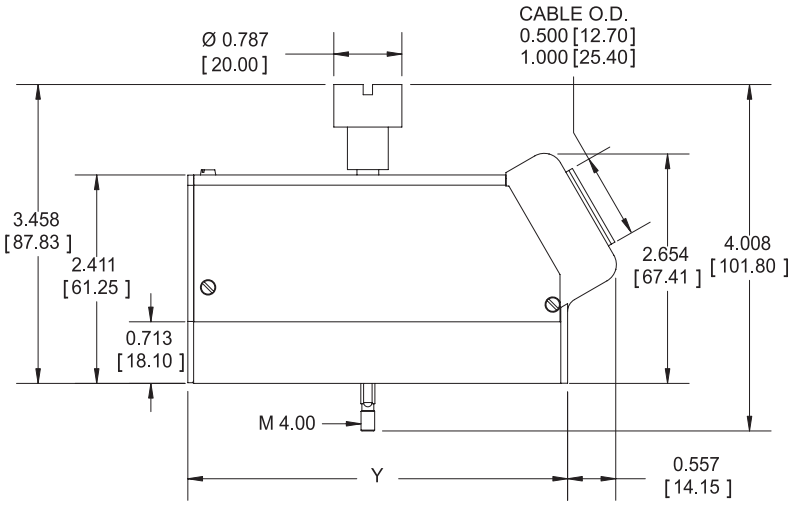
Dimensions are in inches [mm].

FRAME JV PLUG

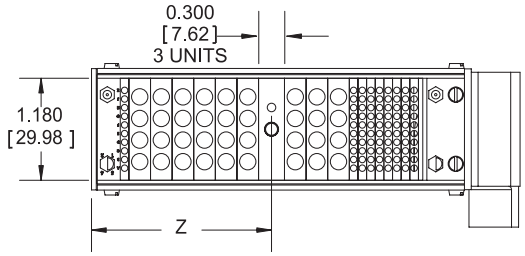
Up to 775 Contacts

- Hooded with cable clamp
- Threaded Jackscrew extractor
- Single row, rack and panel with keying
- Built-in pin protection on the plug frames
- 36 possible keying combinations
- Standard sizes: 11, 15, 19, 23, 27, 31 and 35 unit lengths
- Up to 350 contacts on 2.54 x 2.54 centers
- Jackscrew uses 3 units
- Adjustable cable clamp will hold 80 to 320 conductors of 22 to 28 AWG; adjusts 0.500 [12.70] to 1.00 [25.40] min.
- Refer to NEBV or NEPJV frame for mating receptacle
- Up to 320 contacts on 0.100 x 0.100 [2.54 x 2.54] centers

NPJV
Plug



Module Sequence



UNITS	Y	Z	PLUG	RECEPTACLE
11	1.993 [50.64]	0.884 [22.47]	NPJV11	NEJV11
15	2.393 [60.80]	1.084 [27.55]	NPJV15	NEJV15
19	2.794 [70.96]	1.284 [32.63]	NPJV19	NEJV19
23	3.194 [81.12]	1.484 [37.71]	NPJV23	NEJV23
27	3.594 [91.28]	1.684 [42.79]	NPJV27	NEJV27
31	4.000 [101.44]	1.884 [47.87]	NPJV31	NEJV31
35	4.393 [111.60]	2.084 [52.95]	NPJV35	NEJV35

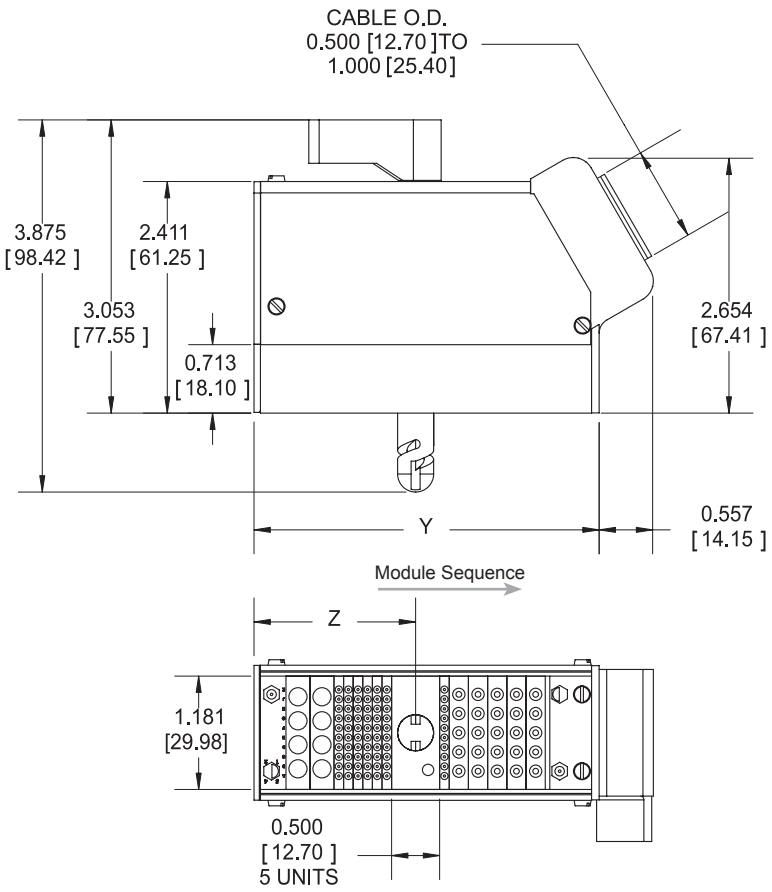
***Notes**:*
1) Frame JV mates with NEBV or NEPJV.
2) Protective dust cover part number: YHD0369-XX (XX = number of units).
Dimensions are in inches [mm].

FRAME JY

Up to 900 Contacts

- 180˚ quick turn jack provides greater than 15,000 mating cycles
- Great for test equipment, burn-in stands, security systems, and medical equipment
- Less than 1 second mating/unmating operation
- Crimp, solder cup, dip solder, and Wire Wrap® terminations
- Wiping action pin and sockets
- Provides 20 to 400 contacts in a single mating
- 4 or 9 ampere contacts mixed to your needs
- Built-in pin protection on the plug frames
- Standard frame sizes: 11, 15, 19, 23, 27, 31, 35 and 45 unit lengths
- Refer to NEBY or NEPJY frame for mating receptacle
- Adjustable Cable Clamp: 0.500 [12.70] to 1.00 [25.40]

NPJY
Plug



UNITS	Y	Z	PLUG	RECEPTACLE
11	1.993 [50.64]	0.884 [22.47]	NPJY11	NEJY11
15	2.393 [60.80]	1.084 [27.55]	NPJY15	NEJY15
19	2.794 [70.96]	1.284 [32.63]	NPJY19	NEJY19
23	3.194 [81.12]	1.484 [37.71]	NPJY23	NEJY23
27	3.594 [91.28]	1.684 [42.79]	NPJY27	NEJY27
31	4.000 [101.44]	1.884 [47.87]	NPJY31	NEJY31
35	4.393 [111.60]	2.084 [52.95]	NPJY35	NEJY35
45	5.400 [137.16]	2.500 [63.50]	NPJY45	NEJY45

Notes:
1) Frame JY mates with NEBY or NEPJY.
2) Protective dust cover for plug only part number: ZMP0025-XX (XX = number of modules).
Dimensions are in inches [mm].

MODULES

Specifications & Ordering Information

TECHNICAL CHARACTERISTICS

	H	K	P	T	V	V COAX
Current Rating	1 A	4 A	4 A	9 A	25 A[1]	—
Contact Resistance *(mΩ)*	< 8.0	< 5.0	< 5.0	< 2.5	< 1.5	< 8.0 / < 2.0[2]
Nominal Impedance	—					50 Ω
Frequency Range	—					DC 3 GHz to DC 18 GHz[3]
Extraction Force *(oz.) (per contact)*	0.3 to 1.6*	0.5 to 2.0	0.5 to 2.0	0.7 to 5.0	3.0 to 17.0	1.5 to 6.0 *(3.0 average)*
Life Cycle	> 100,000 *(contact)*					> 25,000 *(connector)*
Breakdown Voltage *(V RMS)*	> 750	> 1,400	> 1,400	> 2,000	> 1,600	—
DWV *(V RMS)*	> 500	> 1,050	> 1,050	> 1,500	1,200	500
VSWR	—					< 1:20:1 *(DC to 3 GHz)* < 1:50:1 *(3 to 18 GHz)*
RF Transmission Loss	—					0.50 dB at 18 GHz
Insulation Resistance *(MΩ at 500 VDC)*	10^3	10^5	10^3	10^5	10^4	> 5,000
Temperature Rating *(°C)*	-55 to 125	-55 to 105	-55 to 105	-55 to 105	-55 to 105	-55 to 125

MATERIALS

Pin	Phosphor bronze		Brass			
Socket	Beryllium copper wires and brass body					
Insulator	Nylon, 25% glass	Glass filled nylon	Glass filled nylon	Glass filled nylon	Nylon	PTFE flourocarbon

CONTACT PLATING

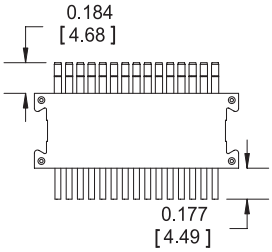
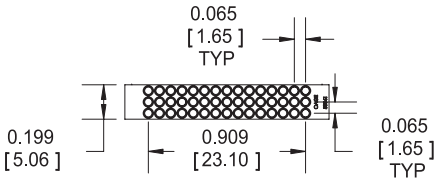
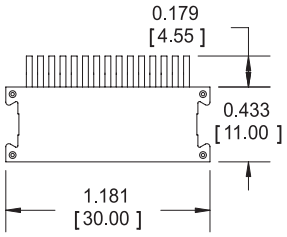
Pin	10/50 µin gold over nickel				50 µin gold over nickel	
Socket Mating Surface	50 µin gold over nickel					
Socket Termination	Gold flash over nickel					
Socket Body *(optional)*	—	Nickel over copper flash		—	—	—

Notes:
1) 25 A (free air), 17 A (bundled)
2) Inner contact: < 8 mΩ; outer contact: < 2 mΩ
3) DC 3 GHz: RH316; DC 18 GHz: GH405
Dimensions are in inches [mm].

MODULE H

1 A Contact Rating

2 units, 45 Hypertac® hyperboloid crimp contacts, Ø 0.016 [0.40]

MODULE	GENDER	TERMINATION	PLATING	PART NUMBER	REPLACEMENT CONTACTS
 **NHF**	Female	Crimp 26-28 AWG	50 µin gold	**NHFRTAH**	YSK004-020AH
 **NHT**	Empty Block	—	—	**NHH (ZNH045-001)**	ZNH045-001
 **NHM**	Male	Crimp 26-28 AWG	50 µin gold	**NHMRT**	YPN004-010H
			10 µin gold	**NHMRTH**	

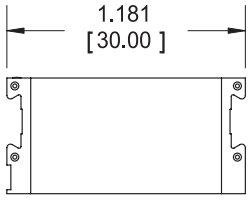
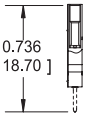
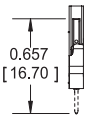
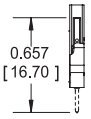
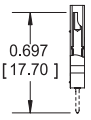
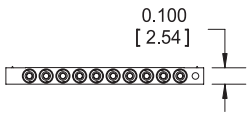
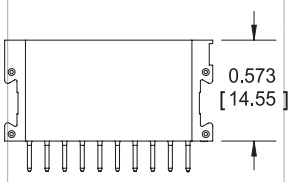
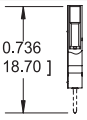
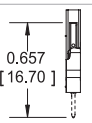
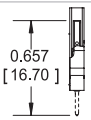
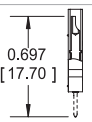
Notes:
1) Male contacts are shrouded in the insulator, female mounts in the plug frame are suggested.
2) Crimp contacts will be shipped unassembled.
Dimensions are in inches [mm].

MODULE K

4 A Contact Rating

1 unit, 10 Hypertac® hyperboloid removable signal contacts, Ø 0.024 [0.60]

File No.: UL E102195

MODULE	GENDER	TERMINATION	PLATING	PART NUMBER	REPLACEMENT CONTACTS	HOLE	I.D.
 NKF	Female	Double Crimp 22-24 AWG	50 µin gold	NKFH2TAH	 YSK006-009AH	0.035 [0.90]	0.071 [1.80]
			50 µin gold, nickel over copper flash on socket body	NKFH2ANH			
		Crimp 22-26 AWG	50 µin gold	NKFRTAH	 YSK006-011ANH	0.035 [0.90]	0.051 [1.30]
			50 µin gold, nickel over copper flash on socket body	NKFRANH			
		Crimp 18-20 AWG	50 µin gold	NKFRRTAH	 YSK006-089AH	0.055 [1.39]	0.071 [1.80]
			50 µin gold, nickel over copper flash on socket body	NKFRRANH			
		Solder Cup 22 AWG	50 µin gold	NKFSTAH	 YSK006-010ANH	0.039 [1.00]	0.055 [1.40]
			50 µin gold, nickel over copper flash on socket body	NKFSANH			
 NKHT	Empty Block	—	—	NKHT (ZNK010-001)	—	—	—
 NKM	Male	Double Crimp 22-24 AWG	10 µin gold	NKMH2T	 YPN006-019G or H	0.035 [0.90]	0.071 [1.80]
			50 µin gold	NKMH2TH			
		Crimp 22-26 AWG	10 µin gold	NKMRT	 YPN006-021G or H	0.035 [0.90]	0.051 [1.30]
			50 µin gold	NKMRTH			
		Crimp 18-20 AWG	10 µin gold	NKMRRT	 YPN006-158G or H	0.055 [1.39]	0.071 [1.80]
			50 µin gold	NKMRRTH			
		Solder Cup 22 AWG	10 µin gold	NKMST	 YPN006-020G or H	0.039 [1.00]	0.055 [1.40]
			50 µin gold	NKMSTH			

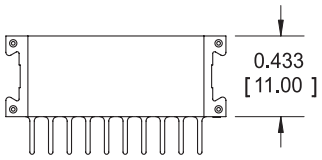
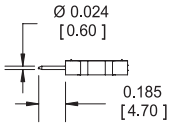
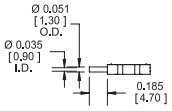
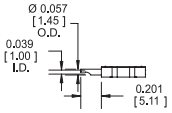
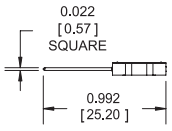
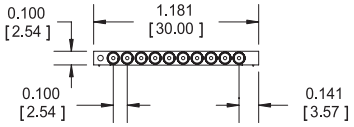
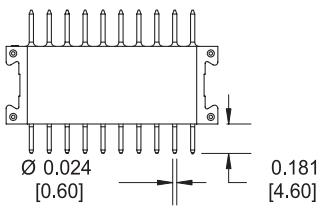
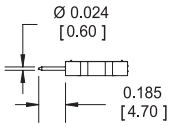
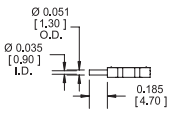
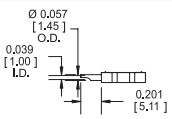
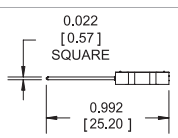
Notes:
1) Contacts will be shipped unassembled.
Dimensions are in inches [mm].

MODULE P

4 A Contact Rating

1 unit, 10 Hypertac® hyperboloid removable signal contacts, Ø 0.024 [0.60]

File No.: UL E102195

MODULE	GENDER	TERMINATION	STRIPPED BACK	PLATING	PART NUMBER	REPLACEMENT CONTACTS
 NPF	Female	Straight Solder Dip	—	50 µin gold	NPFDANH	 YSK006-032ANH
				50 µin gold, nickel over copper flash on socket body	NPFDTAH	
		Crimp 22-24 AWG	0.173 [4.40]	50 µin gold	NPFRTAH	 YSK006-015ANH
				50 µin gold, nickel over copper flash on socket body	NPFRANH	
		Solder Cup 22 AWG	0.118 [3.30]	50 µin gold	NPFSTAH	 YSK006-016ANH
				50 µin gold, nickel over copper flash on socket body	NPFSANH	
		—	—	50 µin gold	NPFYTAH	 YSK006-031ANH
				50 µin gold, nickel over copper flash on socket body	NPFYANH	
 NPHT	Empty Block	—	—	—	NPHT (ZNP010-001)	—
 NPM	Male	Straight Solder Dip	—	10 µin gold	NPMDT	 YPN006-047G or H
				50 µin gold	NPMDTH	
		Crimp 22-24 AWG	0.173 [4.40]	10 µin gold	NPMRT	 YPN006-025G or H
				50 µin gold	NPMRTH	
		Solder Cup 22 AWG	0.118 [3.30]	10 µin gold	NPMST	 YPN006-026G or H
				50 µin gold	NPMSTH	
		—	—	10 µin gold	NPMYT	 YPN006-046G or H
				50 µin gold	NPMYTH	

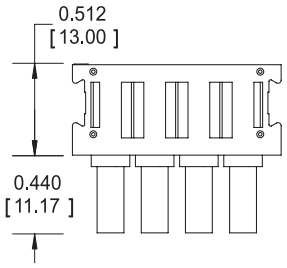
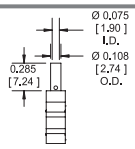
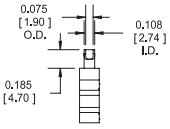
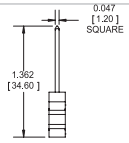
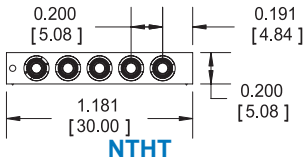
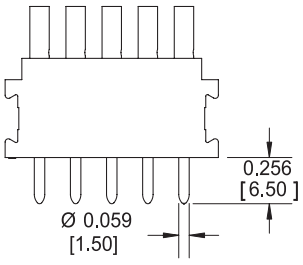
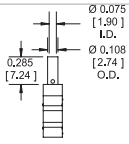
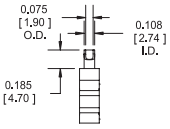
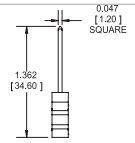
***Notes**:*
1) Contacts will be shipped unassembled.
2) Crimping instructions: Doc. number 550063.
Dimensions are in inches [mm].

MODULE T

9 A Contact Rating

2 units, 5 Hypertac® hyperboloid removable signal contacts, Ø 0.059 [1.50]

File No.: UL E102195

MODULE	GENDER	TERMINATION	STRIPPED BACK	PLATING	PART NUMBER	REPLACEMENT CONTACTS
 NTF	Female	Crimp 14, 16, 10 & 20 AWG	0.285 [7.20]	50 µin gold	NTFRTAH	 YSK015-025AH
		Solder Cup Up to 13 AWG	—	50 µin gold	NTFSTAH	 YSK015-026AH
		—	—	50 µin gold	NTFVTAH	 YSK015-027AH
 NTHT	Empty Block	—	—	—	NTHT (ZNT005-001)	—
 NTM	Male	Crimp 14, 16, 10 & 20 AWG	0.285 [7.20]	10 µin gold	NTMRT	 YPN015-016G or H
				50 µin gold	NTMRTH	
		Solder Cup Up to 13 AWG	—	10 µin gold	NTMST	 YPN015-017G or H
				50 µin gold	NTMSTH	
		—	—	10 µin gold	NTMVT	 YPN015-018G or H
				50 µin gold	NTMVTH	

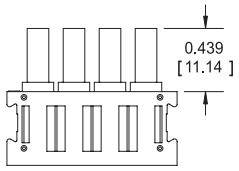
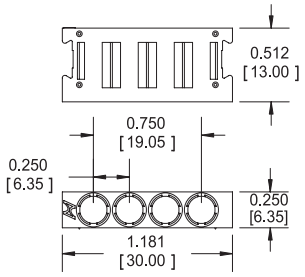
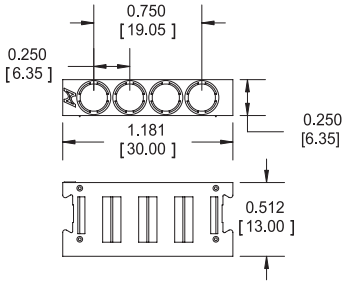
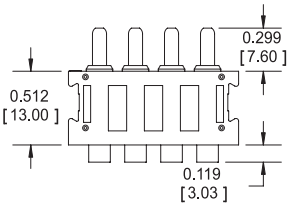
Notes:
1) Crimp contacts will be shipped unassembled.
2) Wire Wrap is a trademark of Gardner Denver.
Dimensions are in inches [mm].

MODULE V

25 A Power

2.5 units, 4 Hypertac® hyperboloid contacts
Can be mounted by itself or in a frame

File No.: UL E102195

MODULE	GENDER	TERMINATION	PART NUMBER	REPLACEMENT CONTACTS
 **NVF**	Female	Crimp 25 Amps (Free Air) 17 Amps (Bundled) 12-18 AWG	**NVFP1TAH***	YSK025-031AH
 **NVF**	Female Empty Block	—	**NVFH**	—
 **NVM**	Male Empty Block	—	**NVMH**	—
 **NVM**	Male	Crimp 25 Amps (Free Air) 17 Amps (Bundled) 12-18 AWG	**NVMP1TH***	YPN025-024H

***Notes**:*
Contacts shipped unassembled.
Dimensions are in inches [mm].

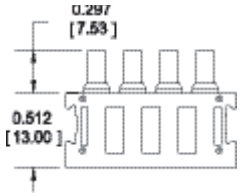
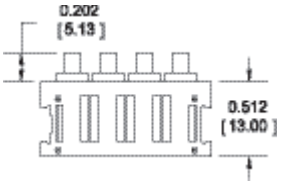
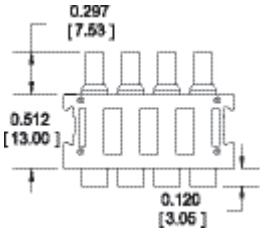
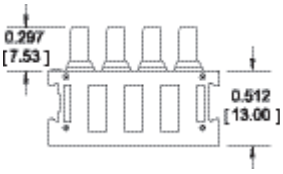
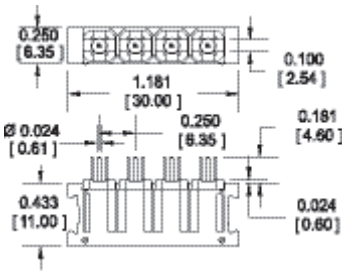
MODULE V

Coax

2.5 units, 4 Hypertac® hyperboloid contacts (on both signal and ground)

File No.: UL E102195

CABLING	CRIMP *(R) and (R1)*	SOLDER *(S)*
Cable	RG316 & RG316DB	RG405 & T-Flex 405
Socket	1.6 oz. at 4 units 2.5 oz. at 20 units	S50301 & S50307
Pin	S50304	S50303 & S50308

MODULE	GENDER	TERMINATION	PART NUMBER	REPLACEMENT CONTACTS
 **NVF**	Female	Crimp Coaxial for RG316	**NVFRTAH**	YCX0315-002AH
		Crimp Coaxial for RG316DB	**NVFR1TAH**	YCX0315-019AH
 **NVF**	Female	Solder Coaxial for RG405 or T-Flex 405	**NVFSTAH**	YCX0315-001AH
 **NVM**	Male	Crimp Coaxial for RG316	**NVMRTH**	YCX0315-004H
		Crimp Coaxial for RG316DB	**NVMR1TH**	YCX0315-018H
 **NVM**	Male	Solder Coaxial for RG405 or T-Flex 405	**NVMSTH**	YCX0315-003H
 **NVF**	Female	Straight Dip Coax	**NVFDTAH**	Fixed Contacts cannot be removed

Notes:

1) Please request specs from our customer service department.

Dimensions are in inches [mm].

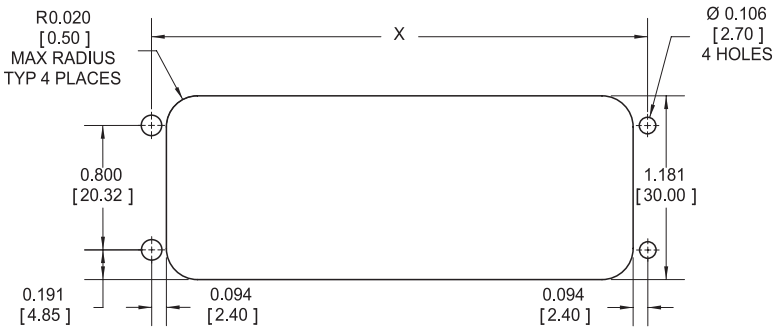
MODULE ACCESSORIES

MODULE H	Crimp Tool	Crimp Die Set	Crimp Positioner	Insertion Tool	Extraction Tool
Female **Male**	AFM8 or M22520/2-01	—	T1974 T1973	T1970	—
MODULE K					
Style R **Style RR** **Jacket of H2**	AFM8	—	K547 K547-2 K640	—	S/DEM1.0060
MODULE P					
All Styles	AFM8	—	K623-1	—	S/DEM1.0060
MODULE T					
All Styles	AF8	—	TP687	—	S/DEM5.0150
MODULE V					
All Styles	M309	—	T1981	—	T1982
MODULE V COAX					
Center Conductor **Outer Conductor**	AFM8 HX3	— T1958 for RG316 or T2019 for RG316DB	T1957 —	—	T1982

MOUNTING DIMENSIONS

SINGLE ROW FRAME MOUNTING

For Frame Type B, BV, BY, JV & JY

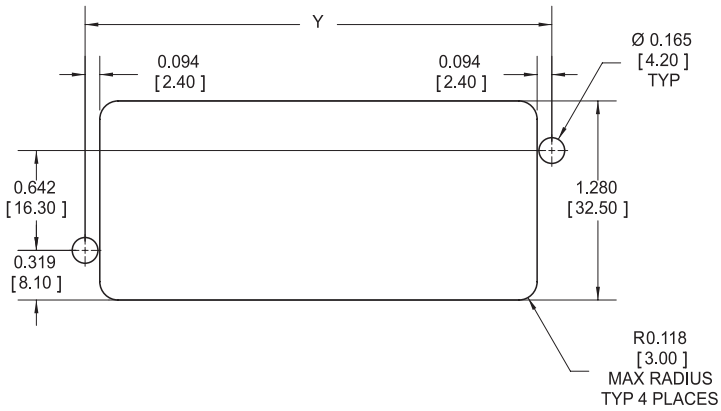


UNITS	X
7	1.000 [25.40]
11	1.400 [35.65]
15	1.800 [45.72]
19	2.200 [55.88]
23	2.600 [66.04]
27	3.000 [76.20]
31	3.400 [86.36]
35	3.800 [96.52]
45	4.800 [121.90]

FLOAT MOUNTING

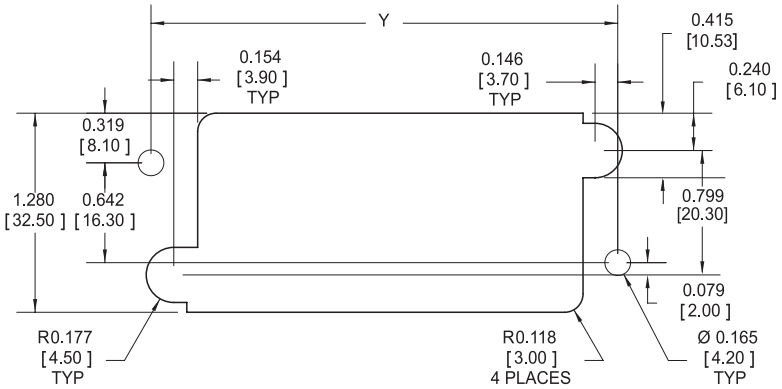
For Frame Type H

PLUG



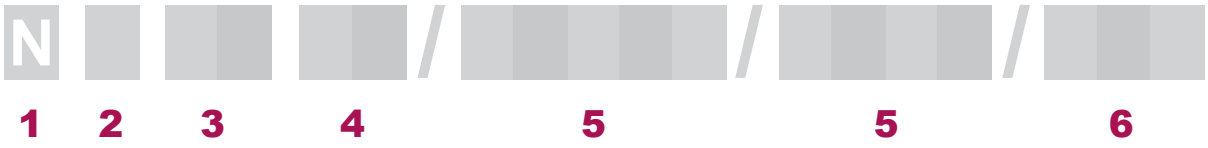
UNITS	Y
7	2.000 [50.80]
11	2.400 [60.96]
15	2.800 [71.12]
19	3.200 [81.28]
23	3.600 [91.44]
27	4.000 [101.60]
31	4.400 [111.76]
35	4.800 [121.92]
45	5.800 (147.32)

RECEPTACLE



Notes:
1) 59.0 oz. in. torque for mounting.
2) Refer to individual frame type for standard length.
Dimensions are in inches [mm].

HOW TO ORDER



1 N SERIES *[Fixed]*

2 INSULATOR

P PLUG E RECEPTACLE

3 FRAME TYPE

B FRAME B BV FRAME BV BY FRAME BY

H FRAME H JV FRAME JV JY FRAME JY

4 FRAME LENGTH

4 TO 20 UNITS(2)

Frame length is computed by multiplying the module units by module quantity and totaling the results.
Apply 2 additional units for frames with Jackscrews.

5 MODULE QUANTITY + PART NUMBER

4 + AMST / 2 + CHT /

Amount of same modules together within frame. (Drop "N" from beginning of module part number, see pg. 12 for all module part numbers). Example: 4AMST = 4 of the (L)AMST style modules.
Separate each series of modules by "/". Modules will be positioned in frame according to sequence listed.

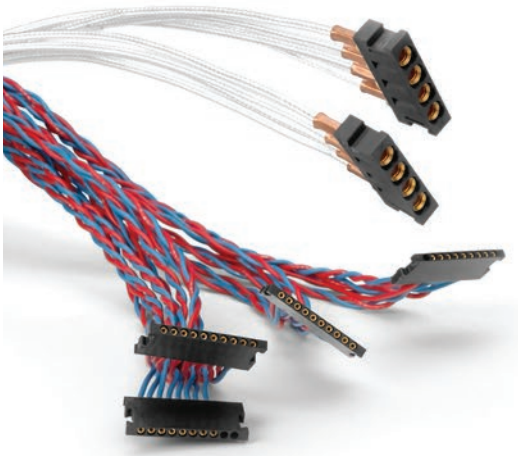
6 PLATING

T 10 µin GOLD OVER NICKEL TH 50 µin GOLD OVER NICKEL

TAH 50 µin GOLD OVER NICKEL

***Notes**:*
1) When part number exceeds 24 characters, please consult factory for special (abbreviated) part number.
2) The plug frame has a built in pin shroud (sockets may be used in plug frames, but not recommended).
3) Consult factory when ordering straight dip solder tails with center jacking version. Special cut out and modification - 872 is required.
Dimensions are in inches [mm].

MARKETS & APPLICATIONS



Industrial

- Heavy equipment/machinery
- Servo drivers and encoders
- Robotics
- Factory automation
- Power supplies

Rail

- High spped trains
- Main lines
- Inter-cities/metros
- Signaling equipment
- Infrastructures

Oil & Gas

- Well-head logging recorders
- Smart PIGs
- Down hole monitoring systems
- Offshore exploration
- Seismic instrumentation

Alternative Energy

- Wind turbines
- Solar panels
- Power systems
- Energy storage systems

Medical

- MRI and CT scanning equipment
- Patient monitors
- Portable applications
- Catheters
- Therapeutic devices

Hybrid / Electric Vehicle

- Electric motors
- Inverters
- Batteries
- Generators
- Power storage

Disclaimer 2016

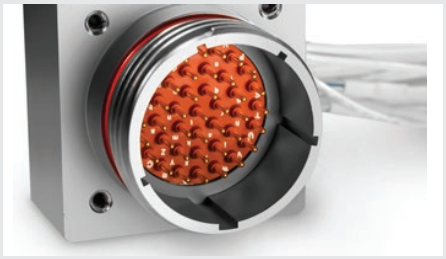
All of the information included in this catalog is believed to be accurate at the time of printing. It is recommended, however, that users should independently evaluate the suitability of each product for their intended application and be sure that each product is properly installed, used and maintained to achieve desired results.
Smiths Connectors makes no warranties as to the accuracy or completeness of the information, and disclaims any liability regarding its use.
Smiths Connectors reserves the right to modify design and specifications, in order to improve quality, keep pace with technological development or meet specific production requirements.

SMITHS CONNECTORS
PRODUCT LINES

Circular

- Metal and plastic
- Industrial M12, M23, M40, M58
- Crimp and solder terminations
- Push/pull latch mechanism
- Colour coding

EMI / EMP Filter

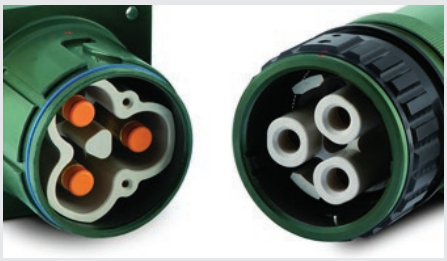


- EMI/RFI filtering and transient protection
- RoHS compliant solderless filter connectors available
- Filtered adapter for “bolt on” EMI/EMP solutions
- Filter hybrid capability
- Circular, ARINC, D-Subminiature, Micro-D

Heavy Duty

- Modular solution: signal, power, data contacts and fibre optics
- EMC shielding
- High pressure up to 35K PSI, 250°C
- High temperature up to 440°C

High Power



- Single and multi-way
- Circular and configurable rectangular
- Power contact up to 1,200 Amps
- Excellent performance in harsh environments

High Speed Copper / Fibre

- Quadrax and Twinax connectors
- Fibre Optic Butt Joint, Expanded Beam and Floating Fibre Termini available
- ARINC and MIL-STD contacts

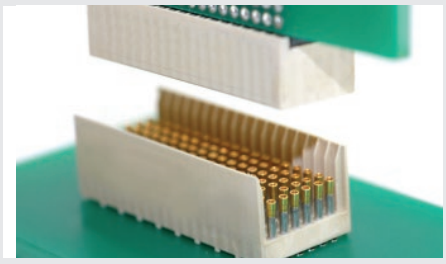
Mil / Aero Standards

- Standard military interface
- ARINC 801
- ARINC interface
- Custom inserts

Modular / Rectangular

- Configurable modules for signal, power, coax, fibre optic and/or pneumatics
- Guided hardware for blind mating
- Easy configuration in a single frame
- For rack & panel and cable applications

PCB



- Low, medium and high density board-to-board, cable to board and stacking
- Signal, power, coax and high speed configurations
- Numerous termination styles

Spring Probe

- Z-axis compliant
- Blind mate engagement
- High density
- Extreme miniaturization
- High reliability, multi-cycle performance

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