N Series mini-modular connectors employ a do-it-yourself system based on the building block principle. They offer a variety of combinations available in a single connector frame. Thus, the user is capable of selecting the connector that fulfills exact requirements with off-the-shelf components.

In this application, the low insertion and extraction forces of the Hypertac contact technology enable the user to assemble large numbers of contacts in a single connector that mates and unmates smoothly and easily.

N Series connectors can be built for the following:

- Rack and panel applications
  - – Standard
  - – With keying system
  - – With locking system
  - – With floating mounting
- Cable applications
  - – Hooded with rounded or flat cable security clamps
  - – With Jackscrews
- Programming applications

The system is composed of two basic elements: module and frames.

Modules are the connector elements of the system. Two types of contacts are available: signal and power. The contacts are housed in small plastic blocks. All contacts are removable for easy assembly and repair. The width of each module block is designated in units.

The frames hold the modules in position. They range from a basic frame consisting of two side rails and two end caps to more complex versions with Jackscrews, hoods and cable clamps. All frames are available in various lengths to conform to almost any combination of modules. Although any length is possible, Hypertronics suggests ordering one of the standard lengths for optimum delivery and price.

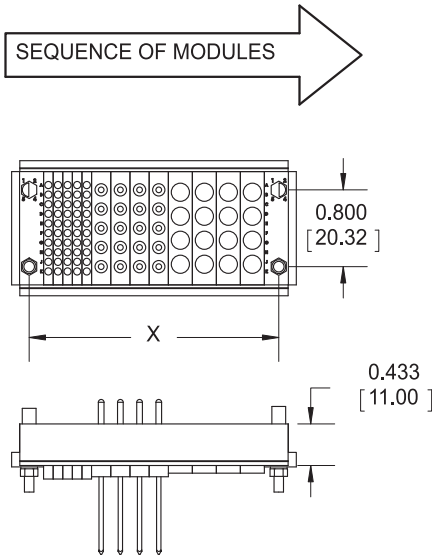
With the N Series, specially designed connectors can be purchased quickly and inexpensively, eliminating the extra cost and delay of custom tooling.

Dimensions are in inches [mm]

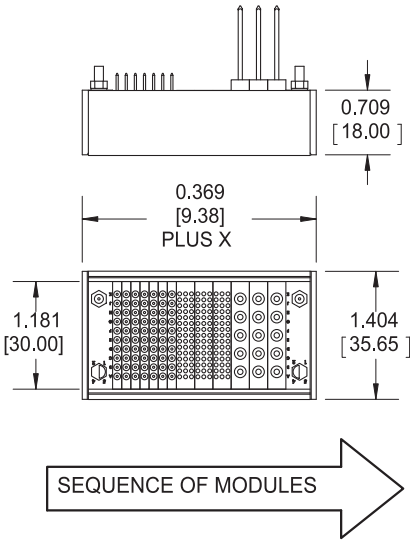
Frame B up to 775 contacts

- Single row, rack and panel with keying
- Built-in pin protection
- 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

Receptacle
NEB



Plug
NPB



Units	7	11	15	19	23	27	31	35
X	1.000 [25.40]	1.400 [35.56]	1.800 [45.72]	2.200 [55.88]	2.600 [66.04]	3.000 [76.20]	3.400 [86.36]	3.800 [96.52]

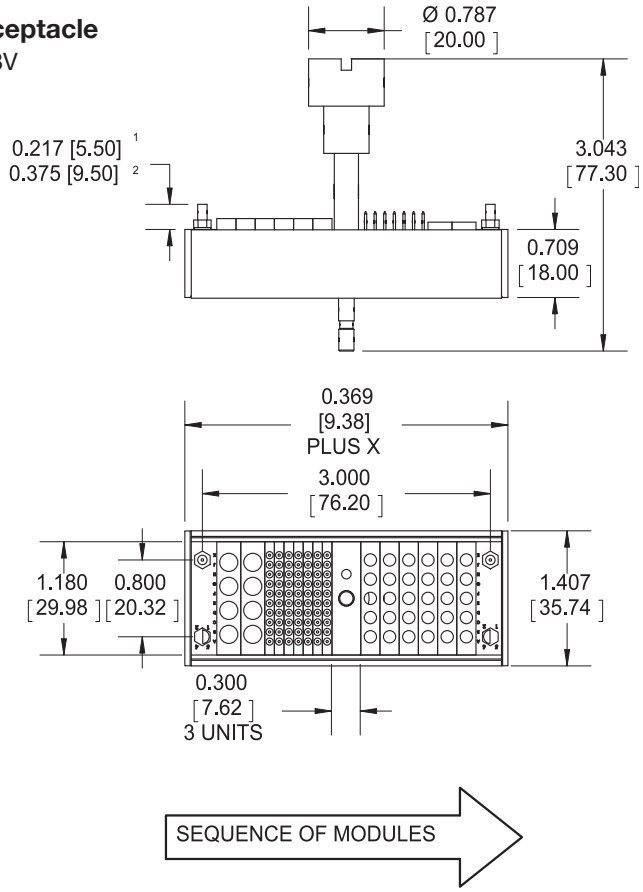
NOTE:
1) Frames shown at 50 percent scale.

Dimensions are in inches [mm]

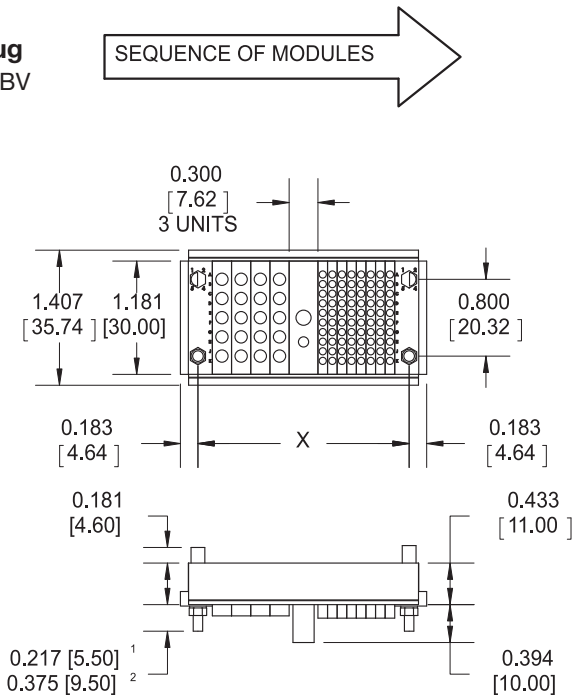
Frame BV up to 720 contacts

- Jackscrew extractor
- 36 possible keying arrangements
- Accepts 22 to 28 AWG wires
- Single row, rack and panel with keys
- Standard sizes: 7, 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
- Allow 3 units for Jackscrew

Receptacle
NEBV



Plug
NPBV



Units	7	11	15	19	23	27	31	35
X	1.000 [25.40]	1.400 [35.56]	1.800 [45.72]	2.200 [55.88]	2.600 [66.04]	3.000 [76.20]	3.400 [86.36]	3.800 [96.52]

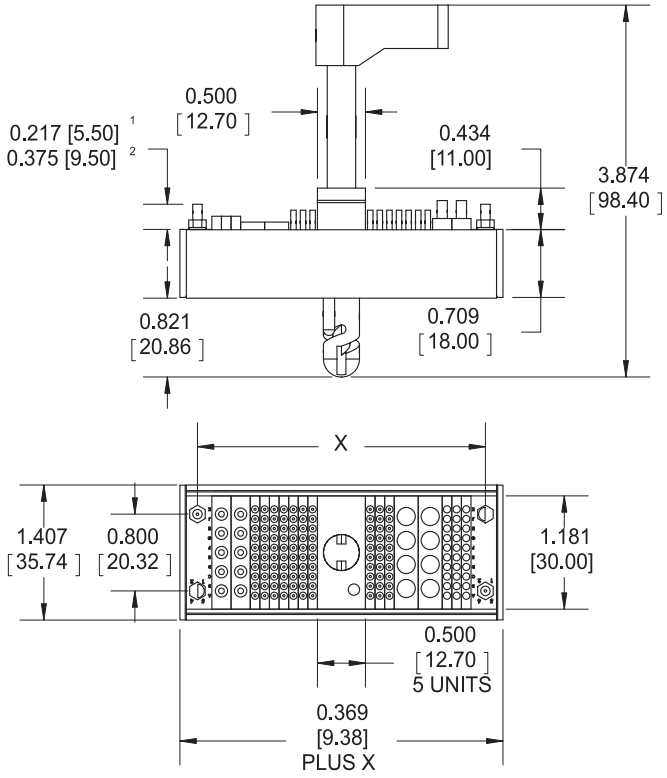
NOTES:
1) Standard length for printed circuit boards.
2) For thicker chassis specify longer studs with modification 470.
3) Frames shown at 50 percent scale.

Dimensions are in inches [mm]

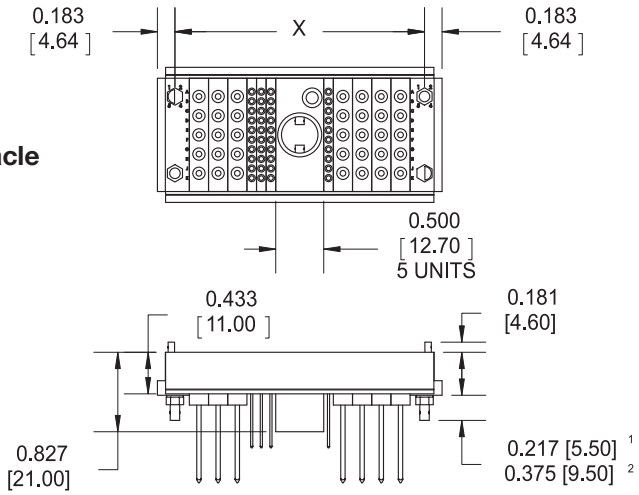
Frame BY up to 900 contacts

- 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
- Standard frame sizes: 11, 15, 19, 23, 27, 31, 35 and 45 unit lengths

Plug
NPBY



Receptacle
NEBY



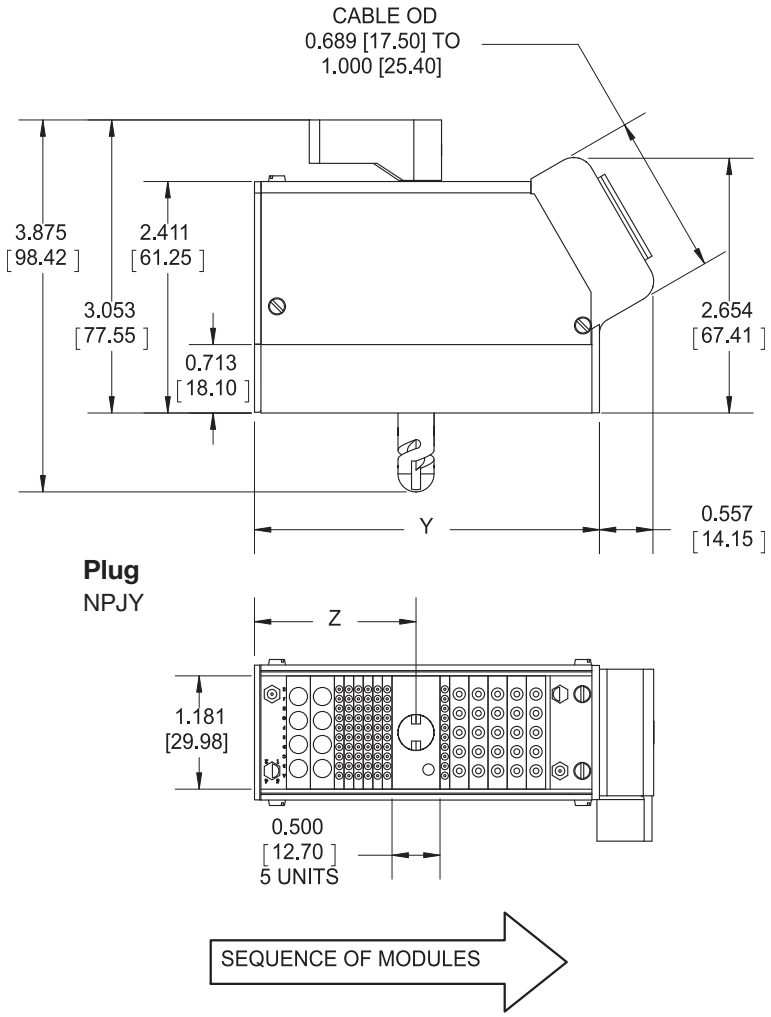
Units	11	15	19	23	27	31	35	45
X	1.400 [35.56]	1.800 [45.72]	2.200 [55.88]	2.600 [66.04]	3.000 [76.20]	3.400 [86.36]	3.800 [96.52]	4.800 [121.92]

NOTES:
1) Standard length for printed circuit boards.
2) For thicker chassis specify longer studs with modification 479.
3) Protective dust cover part number: ZMP0025-XX (XX = number of units).
4) Frames shown at 50 percent scale.

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
- Standard frame sizes: 11, 15, 19, 23, 27, 31, 35 and 45 unit lengths
- Adjustable Cable Clamp: 0.452 [11.50] to 1.260 [32.00]



Plug
NPJY

Units	11	15	19	23	27	31	35	45
Y	1.993 [50.64]	2.393 [60.80]	2.794 [70.96]	3.194 [81.12]	3.594 [91.28]	4.000 [101.44]	4.393 [111.60]	5.400 [137.16]
Z	0.884 [22.47]	1.084 [27.55]	1.284 [32.63]	1.484 [37.71]	1.684 [42.79]	1.884 [47.87]	2.084 [52.95]	2.500 [63.50]

NOTES:
1) Frame JY mates with NEBY.
2) Protective dust cover part number: ZMP0025-XX (XX = number of modules).
3) Frames shown at 50 percent scale.

Dimensions are in inches [mm]

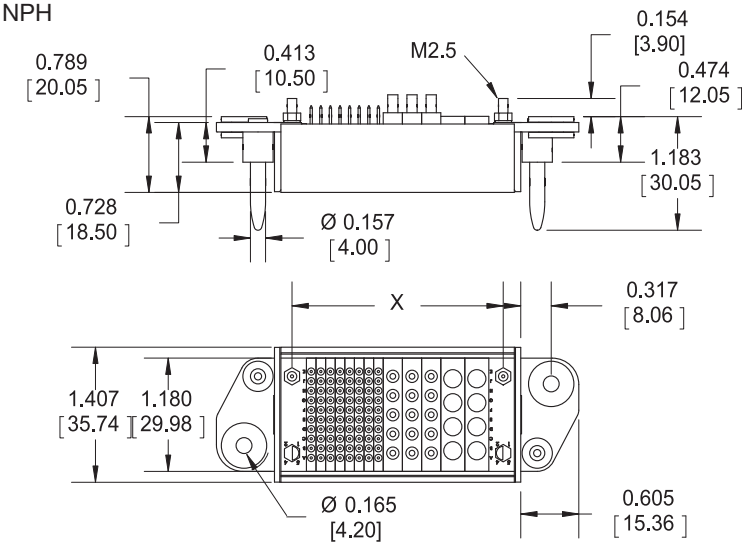
Frame H up to 775 contacts

- 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
- 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.: E102195

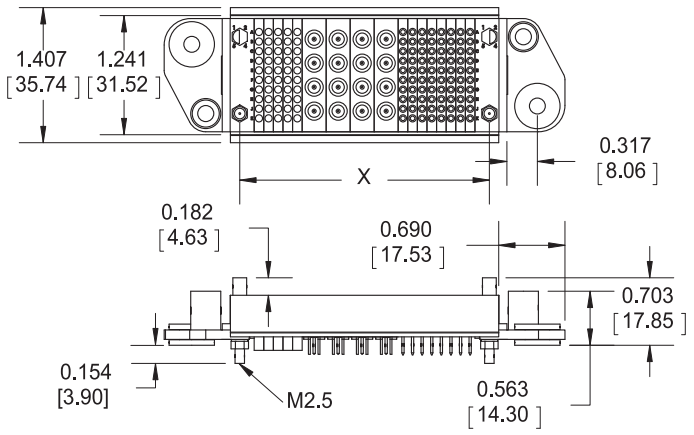
Plug

NPH



Receptacle

NEH



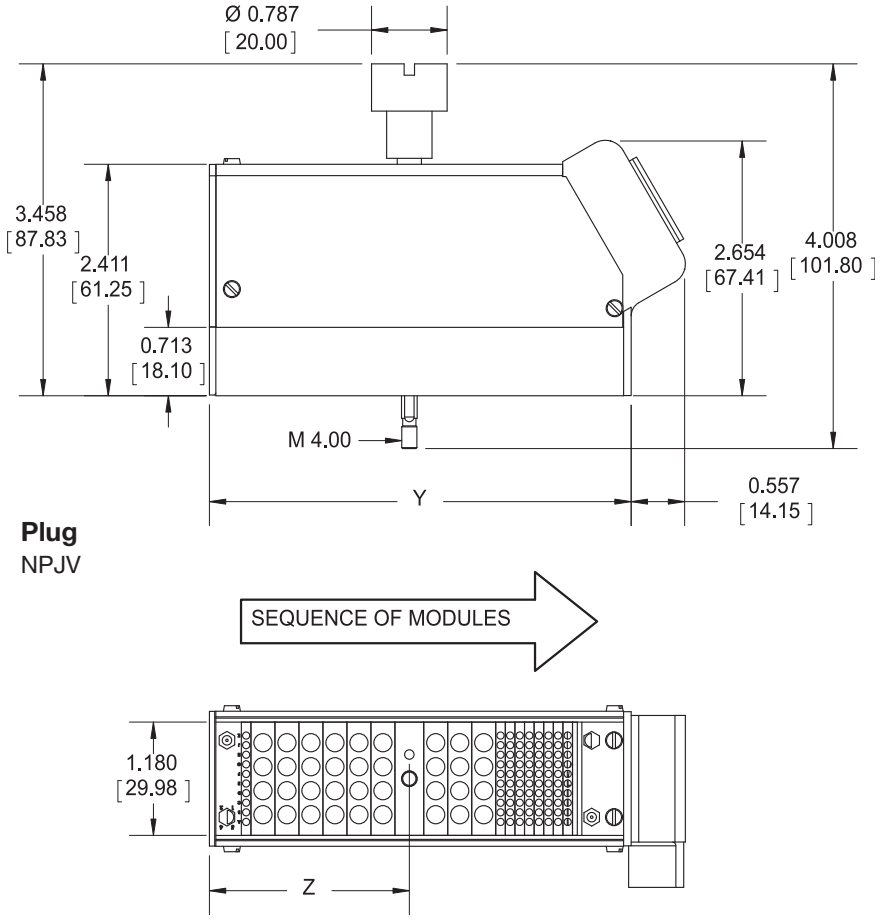
Units	11	15	19	23	27	31	35
X	1.400 [35.56]	1.800 [45.72]	2.200 [55.88]	2.600 [66.04]	3.000 [76.20]	3.400 [86.36]	3.800 [96.52]

NOTE:
Frames shown at 50 percent scale.

Dimensions are in inches [mm]

Frame JV plug up to 775 contacts

- Hooded with cable clamp
- Jackscrew extractor
- Single row, rack and panel with keying
- Built-in pin protection
- 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 0.452 to 1.260 [11.50 to 32.00] min.
- Up to 320 contacts on 0.100 x 0.100 [2.54 x 2.54] centers



Plug
NPJV

Units	11	15	19	23	27	31	35
Y	1.993 [50.64]	2.393 [60.80]	2.794 [70.96]	3.194 [81.12]	3.594 [91.28]	4.000 [101.44]	4.393 [111.60]
Z	0.884 [22.47]	1.084 [27.55]	1.284 [32.63]	1.484 [37.71]	1.684 [42.79]	1.884 [47.87]	2.084 [52.95]

NOTES:
1) Frame JV mates with NEBV or NEPJY.
2) Protective dust cover part number: YHD0369-XX (XX = number of units).
3) Frames shown at 50 percent scale.

Dimensions are in inches [mm]

Module H

Width: 2 Units • Contacts: 45 Crimp Contacts • Ø 0.016 [0.40] Contact

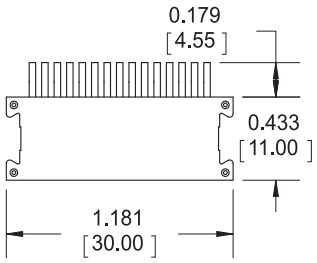
Replacement Contacts:

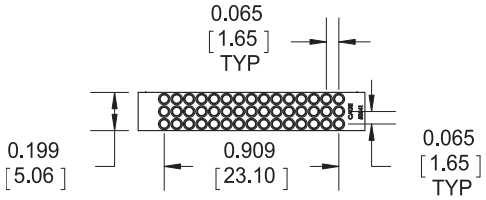
- Crimp 26-28 AWG
- Wire strip length: 0.122 [3.10]
- Male pin: YPN004-010H
- Female socket: YSK004-020AH

Accessories

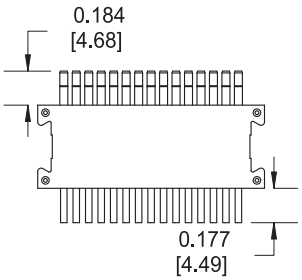
- Crimp tool: AFM8 or M22520/2-01
- Crimp positioner: Socket = T1974
  Pin: = T1973
- Insertion tool: T1970

Male

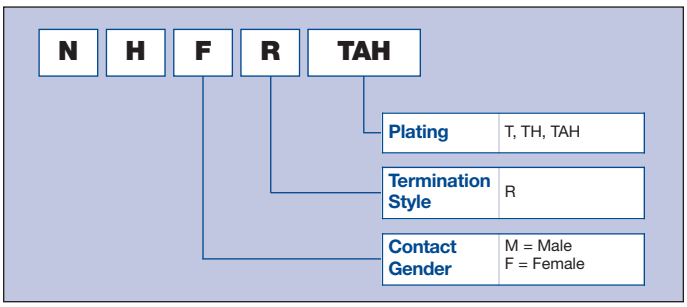




Female



Ordering Information



General Specifications	
Current Rating	1 Amp
Contact Resistance	< 8 milliohms
Extraction Force (Per Contact)	0.3 – 1.6 oz.
Contact Life Cycles	100,000
Breakdown Voltage	> 750V RMS
Dielectric Withstanding Voltage	> 500V RMS
Insulation Resistance	> 10^3 megohms at 500 VDC
Temperature Rating	-55˚ C to 125 ˚C
Insulator	Nylon, 25% glass
Contact Material: (Pin) (Socket)	 Phosphor bronze Beryllium copper wires and brass body
Plating Reference	T = 10µin gold (min) over nickel TH = 50µin gold (min) over nickel TAH = 50µin gold (min) over nickel on mating surface, gold flash over nickel on termination

NOTES:

1) For empty block, order ZNH045-001.
2) Male contacts are shrouded in the insulator, female mounts in the plug frame are suggested.
3) Crimp contacts will be shipped unassembled.

Dimensions are in inches [mm]

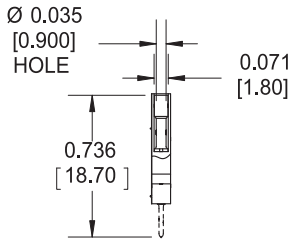
Module K

Width: 1 Unit • Contacts: 10 Hypertac® Removable Signal Contacts • Ø 0.024 [0.60] Contact

Termination Style

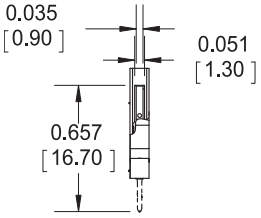
Ref. H2

- Double crimp 22 AWG wire
- Stripped back 0.146 [3.70]
- Male pin: YPN006-019
- Female socket: YSK006-009



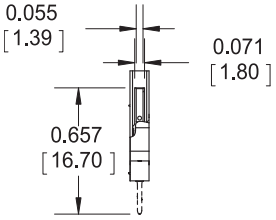
Ref. R

- Crimp 22 AWG wire
- Stripped back 0.173 [4.40]
- Male pin: YPN006-021
- Female socket: YSK006-011ANH
- Dimension A: Ø 0.035 [0.90]
- Dimension B: Ø 0.051 [1.30]



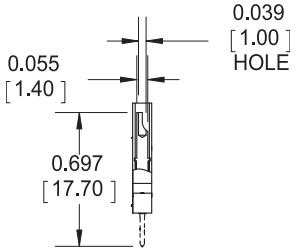
Ref. RR

- Crimp 18-20AWG wire
- Stripped back 0.173 [4.40]
- Male pin: YPN006-158
- Female socket: YSK006-089
- Dimension A: Ø 0.055 [1.39]
- Dimension B: Ø 0.71 [1.80]



Ref. S

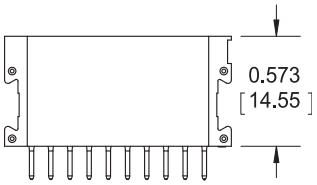
- Solder cup 22 AWG
- Male pin: YPN006-020
- Female socket: YSK006-010

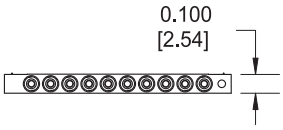


Accessories

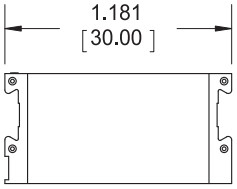
- Crimp tool: AFM8
- Crimp positioner: K547
- Extraction tool: S/DEM1.0060

Male

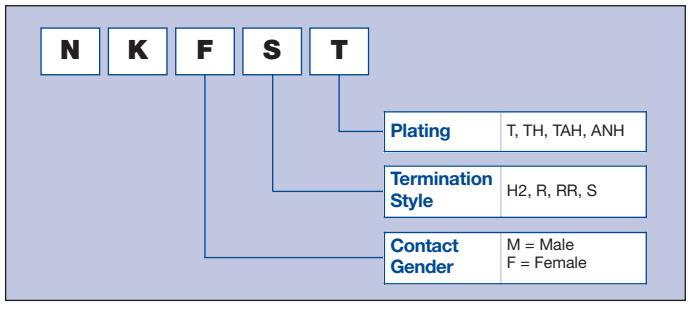




Female



Ordering Information



NOTES:
1) For empty block, order ZNK010-001.
2) Contacts will be shipped unassembled.
3) Crimping instructions: Doc. number 550063.

General Specifications	
Current Rating	4 Amps
Contact Resistance	< 5 milliohms
Extraction Force (Per Contact)	0.5 – 2.0 oz.
Contact Life Cycles	100,000
Breakdown Voltage	> 1400V RMS
Dielectric Withstanding Voltage	> 1050V RMS
Insulation Resistance	> 10^5 megohms at 500 VDC
Temperature Rating	-55˚ C to 105˚ C
Insulator	Glass filled nylon
Contact Material: (Pin) (Socket)	Phosphor bronze Beryllium copper wires and brass body
Plating Reference	Male Pins: T = 10µin gold over nickel TH = 50µin gold over nickel Female Sockets: TAH = 50µin gold over nickel on mating surface, gold flash over nickel on termination ANH = 50µin gold over nickel on mating surface, nickel over copper flash on socket body components, gold flash over nickel on termination

Dimensions are in inches [mm]

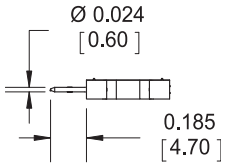
Module P

Width: 1 Unit • Contacts: 10 Hypertac® Removable Signal Contacts • Ø 0.024 [0.60] Contact

Termination Style

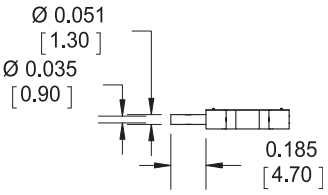
Ref. D

- Straight solder dip
- Male pin: YPN006-047H
- Female socket: YSK006-032ANH



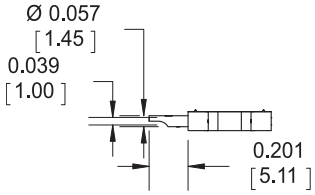
Ref. R

- Crimp 22 to 26 AWG
- Stripped back 0.173 [4.40]
- Male pin: YPN006-025H
- Female socket: YSK006-015ANH



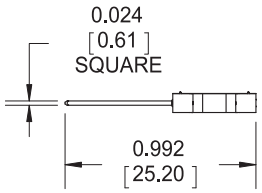
Ref. S

- Solder cup up to 22 AWG
- Stripped back 0.118 [3.00]
- Male pin: YPN006-026H
- Female socket: YSK006-016ANH

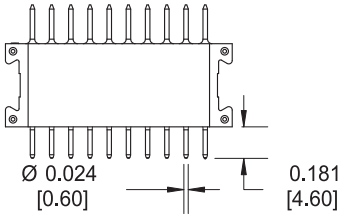


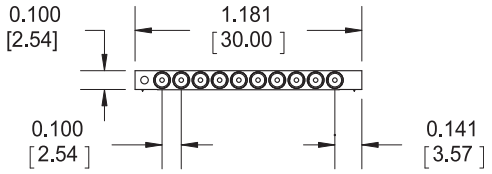
Ref. Y

- Wire Wrap®
- Male pin: YPN006-046H
- Female socket: YSK006-031AH

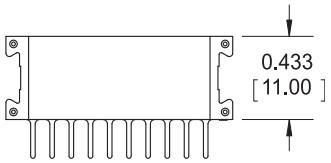


Male





Female

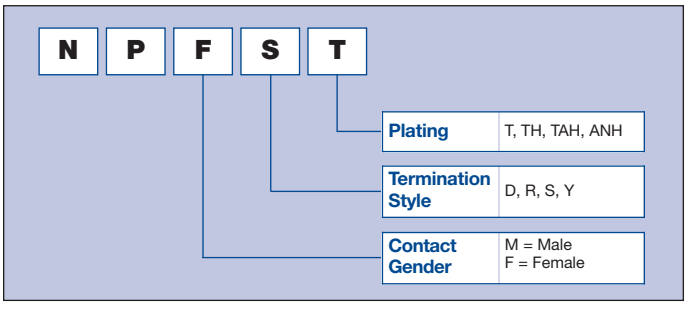


Accessories

- Crimp tool: AFM8
- Crimp positioner: K623
- Extraction tool: S/DEM1.0060

File No.: UL E102195

Ordering Information



NOTES:
1) For empty block, order ZNP010-001.
2) Contacts will be shipped unassembled.
3) Crimping instructions: Doc. number 550063.

Dimensions are in inches [mm]

General Specifications

Current Rating	4 Amps
Contact Resistance	< 5 milliohms
Extraction Force (Per Contact)	0.5 – 2.0 oz.
Contact Life Cycles	100,000
Breakdown Voltage	> 1400V RMS
Dielectric Withstanding Voltage	> 1050V RMS
Insulation Resistance	> 10^3 megohms at 500 VDC
Temperature Rating	-55˚ C to 105˚ C
Insulator	Glass filled nylon
Contact Material: (Pin) (Socket)	Brass Beryllium copper wires and brass body
Plating Reference	Male Pins: T = 10µin gold over nickel TH = 50µin gold over nickel Female Sockets: TAH = 50µin gold over nickel on mating surface, gold flash over nickel on termination ANH = 50µin gold over nickel on mating surface, nickel over copper flash on socket body components, gold flash over nickel on termination

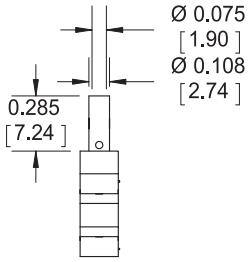
Module T

Width: 2 Units • Contacts: 5 Hypertac® Removable Signal Contacts • Ø 0.059 [1.50] Contact

Termination Style

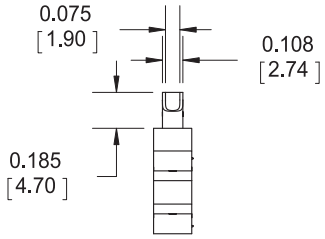
Ref. R

- Crimp 14, 16, 18 and 20 AWG
- Wire stripped back 0.285 [7.20]
- Male pin: YPN015-016H
- Female socket: YSK015-025AH



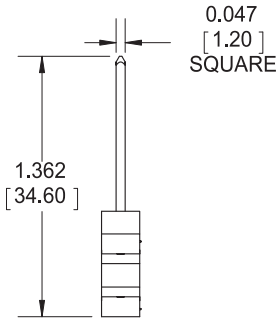
Ref. S

- Solder cup up to 13 AWG
- Male pin: YPN015-017H
- Female socket: YSK015-026AH



Ref. V

- Wire Wrap®
- Male pin: YPN015-018H
- Female socket: YSK015-027AH

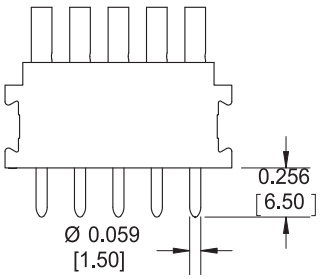


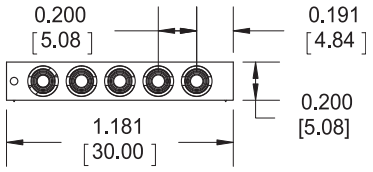
Accessories

- Crimp tool: AFM8
- Crimp positioner: TP687
- Extraction tool: S/DEM5.0150

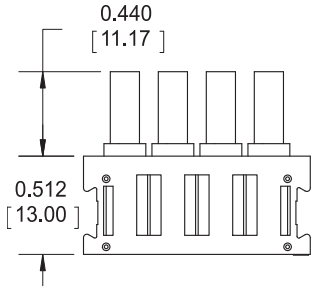
File No.: UL E102195

Male

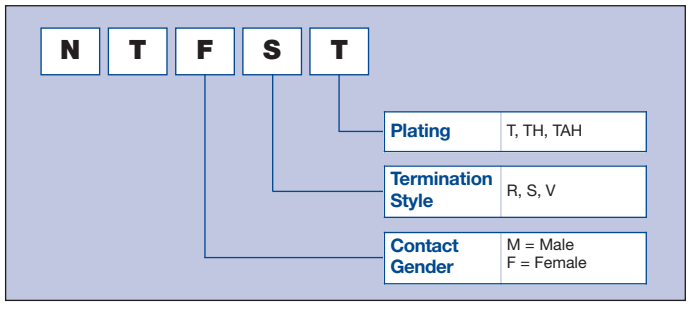




Female



Ordering Information

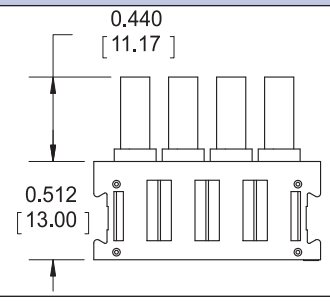
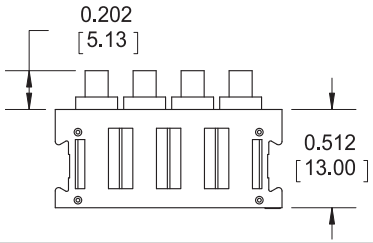
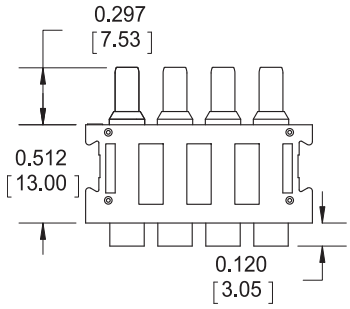
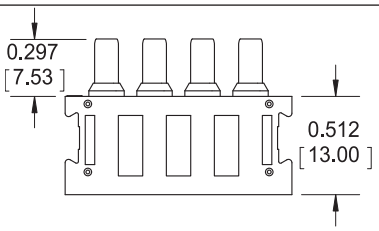
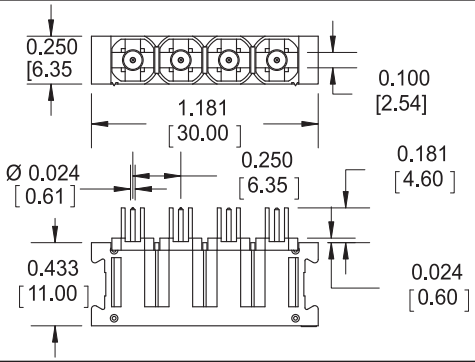


NOTES:
1) For empty block, order ZNT005-001.
2) Crimp contacts will be shipped unassembled.
3) Wire Wrap is a trademark of Gardner Denver.

General Specifications	
Current Rating	9 Amps
Contact Resistance	< 2.5 milliohms
Extraction Force (Per Contact)	0.7 – 5.0 oz.
Contact Life Cycles	100,000
Breakdown Voltage	> 2000V RMS
Dielectric Withstanding Voltage	> 1500V RMS
Insulation Resistance	> 10^5 megohms at 500 VDC
Temperature Rating	-55˚ C to 105˚ C
Insulator	Glass filled nylon
Contact Material: (Pin) (Socket)	Brass Beryllium copper wires and brass body
Plating Reference	T = 10µin gold (min) over nickel TH = 50µin gold (min) over nickel TAH = 50µin gold (min) over nickel on mating surface, gold flash over nickel on termination

Dimensions are in inches [mm]

Ordering Information

Module V Coax	Width: 2.5 Units • Contacts: 4 Hypertac® Contacts (on both signal and ground)			
	Gender	Termination	Part Number	Replacement Contacts
	Female	Crimp Coaxial for RG316	NVFRTAH	YCX0315-002AH
		Crimp Coaxial for RG316DB	NVFR1TAH	YCX0315-019AH
	Female	Solder Coaxial for RG405 or T-Flex 405	NVFSTAH	YCX0315-001AH
	Male	Crimp Coaxial for RG316	NVMRTH	YCX0315-004H
		Crimp Coaxial for RG316DB	NVMR1TH	YCX0315-018H
	Male	Solder Coaxial for RG405 or T-Flex 405	NVMSTH	YCX0315-003H
	Female	Straight Dip Coax	NVFDTAH	Fixed Contacts cannot be removed

File No.: E102195

Plating Reference	
Male Pins:	H = 50µin gold (min) over nickel
Female Sockets:	AH = 50µin gold (min) over nickel on mating surface, gold flash over nickel on termination

Dimensions are in inches [mm]

Accessories

For Inner Conduction Crimping
Crimp Tool:. AFM8
Crimp Positioner:. T1957
For Outer Conduction Crimping
Crimp Tool: HX3
Die Set:. . . . . T1958 for RG316 or T2019 for RG316DB
Contact Removal Tool: T1982

Cabling Instructions

Crimp (R) and (R1)		Solder (S)	
Cable	RG316 and RG316DB	RG405	T-Flex 405
Socket	S50302	S50301	S50307
Pin	S50304	S50303	S50308

Please request specs from our customer service department.

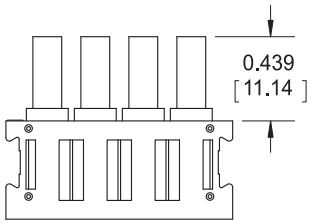
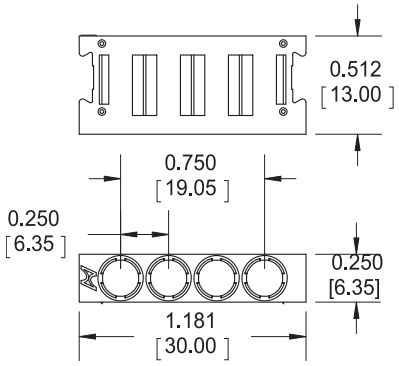
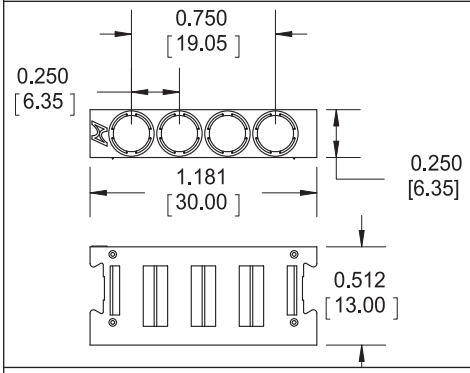
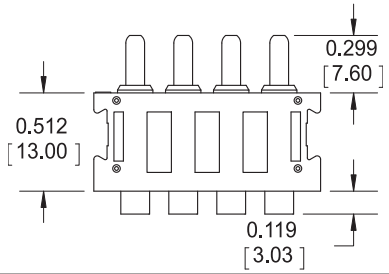
File No.: E102195

General Specifications - COAXTAC™

Nominal Impedance	50 ohms
Frequency Range	DC 3 GHz with RG316 DC 18 GHz with RG405
Temperature Rating	-55° C to 125° C
Materials	Brass, beryllium copper PTFE Fluorocarbon
Finishes	
Center Contacts and Housings	Gold over nickel over copper
Wire	Gold over nickel
Electrical (based on RG405 Semi Rigid Cable)	
Voltage Standing Wave Ratio	(DC to 3GHz) 1.20:1 max. (3GHz to 18GHz) 1.50:1 max.
RF Transmission Loss	0.50 dB at 18 GHz
Insulation Resistance	5,000 megohms min.
Dielectric Withstanding Voltage	500V RMS
Contact Resistance	
Inner Contact	8 milliohms max.
Outer Contact	2 milliohms max.
Mechanical	
Extraction Force (Per Contact)	1.5 – 6.0 oz. max., 3.0 oz. average
Connector Durability	> 25,000 cycles

Dimensions are in inches [mm]

Ordering Information

Module V 25 Amp Power	Width: 2.5 Units • Contacts: 4 Hypertac® Contacts • Can be mounted by itself or in a frame.			
	Gender	Termination	Part Number	Replacement Contacts
	Female	Crimp 25 Amps (Free Air) 17 Amps (Bundled) 12-14 AWG	NVFP1TAH*	YSK025-031AH
	Female Empty Block	—	NVFH	—
	Male Empty Block	—	NVMH	—
	Male	Crimp 25 Amps (Free Air) 17 Amps (Bundled) 12-14 AWG	NVMP1TH*	YPN025-024H

File No.: E102195

* Plating Reference	
Male Pins:	H = 50µin gold (min) over nickel
Female Sockets:	AH = 50µin gold (min) over nickel on mating surface, gold flash over nickel on termination

Accessories	
Crimp Tool	M309
Crimp Positioner	T1981
Extraction Tool	T1982

NOTE:
Contacts shipped unassembled.

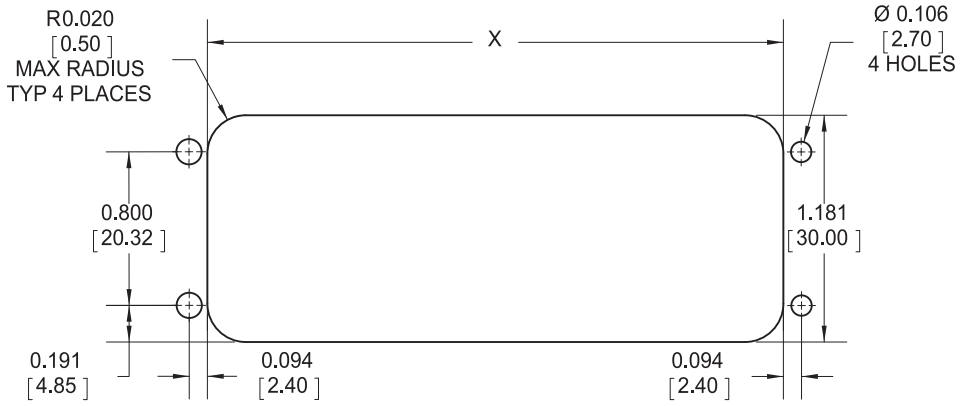
Dimensions are in inches [mm]

General Specifications	
Current Rating (Bundled)	25 Amps (Free Air) 17 Amps (Bundled)
Contact Resistance (milliohms)	< 1.5 milliohms
Extraction Force	3.0 – 17.0 oz.
Contact Life Cycles	100,000
Breakdown Voltage	> 1600V RMS
Dielectric Withstanding Voltage	1200V RMS
Insulation Resistance	> 10^4 megohms at 500 VDC
Temperature Rating	-55° C to 105° C
Insulator Material	Nylon
Contact Material	Beryllium copper wires and brass
Approximate Weight	M: 0.32 oz., F: 0.34 oz.

Mounting Dimensions

For Single Row Frame

Frames: B, BV, BY, JV and JY

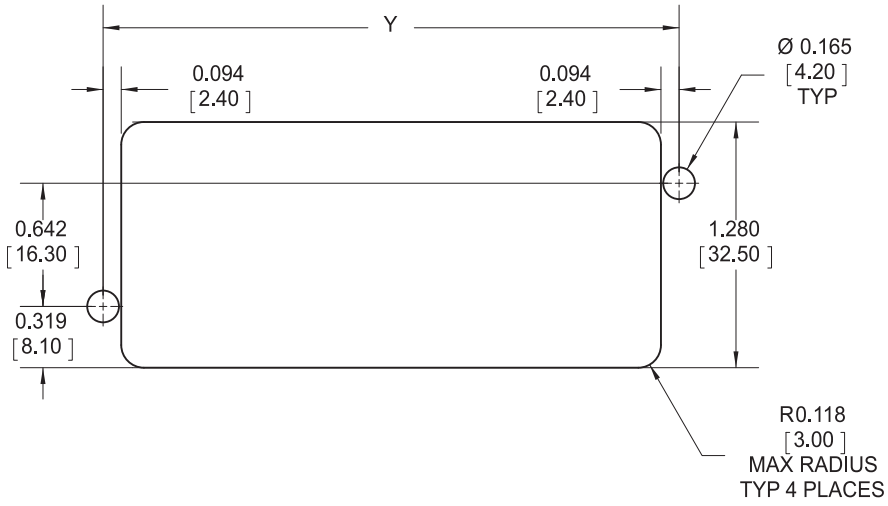


Mounting Dimensions		
Frame Units	X	Y
9	1.000 [25.40]	5.800 [147.32]
11	1.400 [35.65]	5.800 [147.32]
15	1.800 [45.72]	5.800 [147.32]
19	2.200 [55.88]	5.800 [147.32]
23	2.600 [66.04]	5.800 [147.32]
27	3.000 [76.20]	5.800 [147.32]
31	3.400 [86.36]	5.800 [147.32]
35	3.800 [96.52]	5.800 [147.32]
45	4.800 [121.92]	5.800 [147.32]

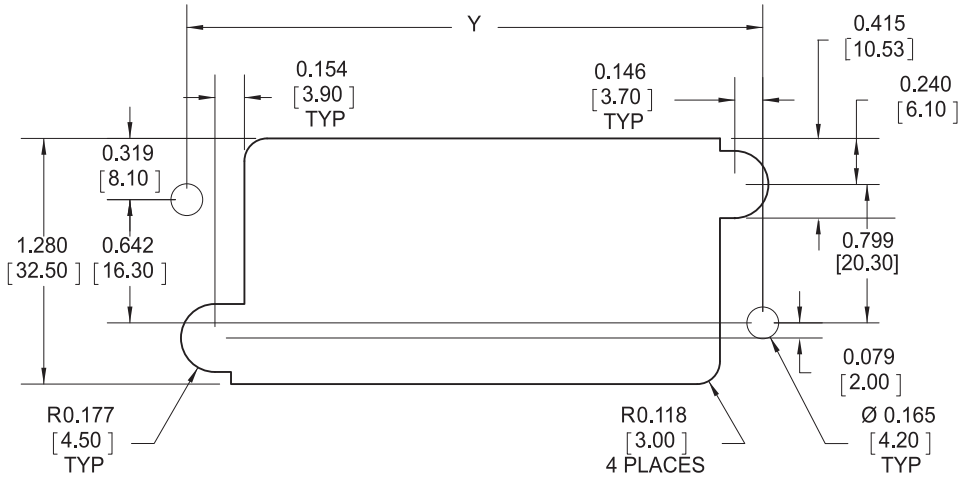
Frame H

Float Mounting

Plug



Receptacle



NOTES:

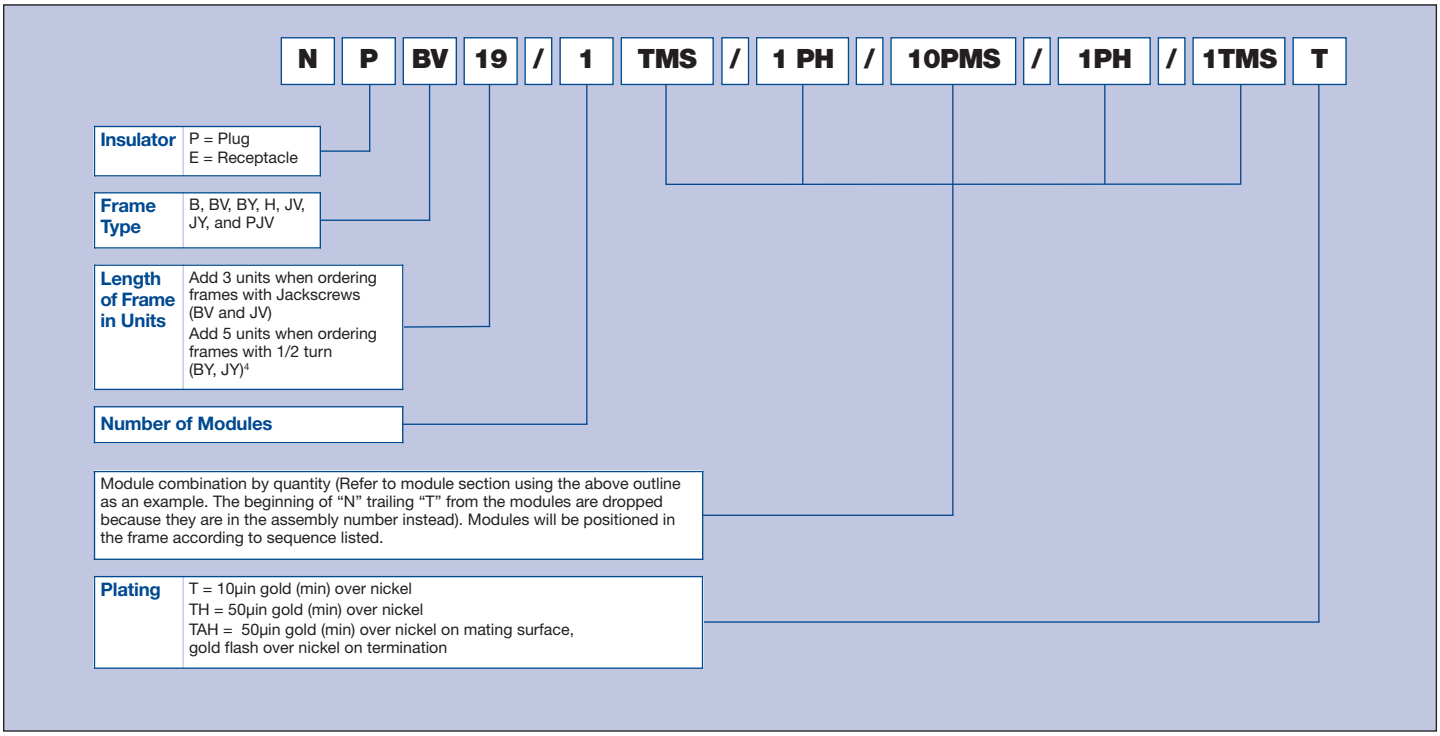
1) 59.0 oz. in. torque for mounting.
2) Refer to individual frame type for standard length.

Dimensions are in inches [mm]

N Series connectors are engineered for quick and easy use. Standard housings will be shipped completely assembled with the modules you select mounted.

Ordering Information

The length of the frame is computed by multiplying the number of module units by the module quantity and totaling the results. If a half spacer is required, LFH1 can be used. Assign “FH1” in part number scheme below.



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) See receptacle for sequence of modules.
4) Consult factory when ordering straight dip solder tails with jacking version. Special cut out and modification - 872 is required.

Dimensions are in inches [mm]