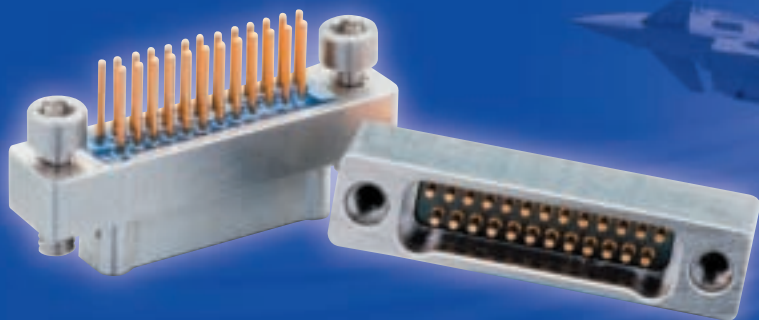


Dura-Con™ Nano

NANO CONNECTORS

NANO-MINIATURE, DUAL ROW, 180° CONNECTOR WITH POLARISED SHELL

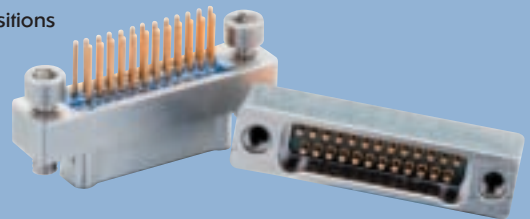


Nano Connectors

Nano-miniature, dual row, 180° connector with Polarised shell providing optimum miniaturisation.

Features

Both plug and socket available in 9, 15, 21, 25, 31, 37 and 51 positions
 Dual Row 180° Pig Tail / Solder Cup
 0.762 mm Pitch (0.030")
 Mil-DTL-83513 Rated
 Mil-DTL-32139 Style
 Jackscrews 0.80 UNF
 Low Mating Force
 Compression Mating (Patent Pending)
 Mechanical Wipe Contact Action



Materials

Insulator:	Polyetherimide (PEI)
Socket Contact:	Brass
Socket Contact Plating:	Gold plated 1.25 microns (50 microins) min
Plug Contact:	Brass, Molybdenum
Plug Contact Plating:	Gold plated 1.25 microns (50 microins) min Gold plated 0.5 microns (20 microins) min.
Shell:	303 Stainless Steel
Shell Plating:	Passivated to FED Spec QQ-P-35C type II (Def Stan 03-2 Method M)
Sealing:	High Impact Resin Compound

Environmental

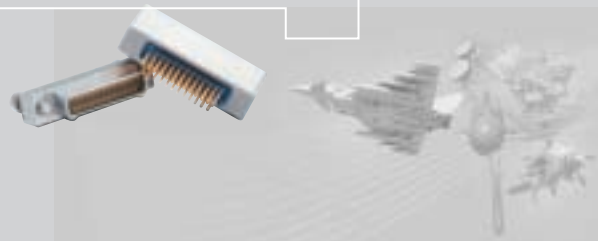
Operating Temperature:	-55°C to +125°C
Shock:	50G's in accordance with Mil-DTL-83513
Vibration:	20G's in accordance with Mil-DTL-83513 Extremely stable over time and temperature
Salt Spray:	48 hours in accordance with EIA-364-26 Condition B
Humidity:	96 hours in accordance with EIA-364-31 Condition B (except steps 7a and 7b)

Electrical

Current Rating:	3 Amps max in Isolation, 1.8 Amps fully loaded @ 30 AWG wire
Withstanding Voltage:	600VAC @ Sea level
Low Level Signal Level	
Contact Resistance:	36 milliohms typical mated pair
Insulation Resistance:	500V and 5000 Megohms (Mil-DTL-83513, EIA-364-21)
Contact Resistance:	34 Millivolt when tested with 1 Amp current, 30 AWG wire (EIA-364-27)

Mechanical

Mating Force:	Min 0.56 N per contact for connector mating force (nominal performance) Contacts are self-ejecting on withdrawal
Durability:	500 mate/unmate cycles minimum Low mass contact withstands extreme shock and vibration



Contact Arrangements

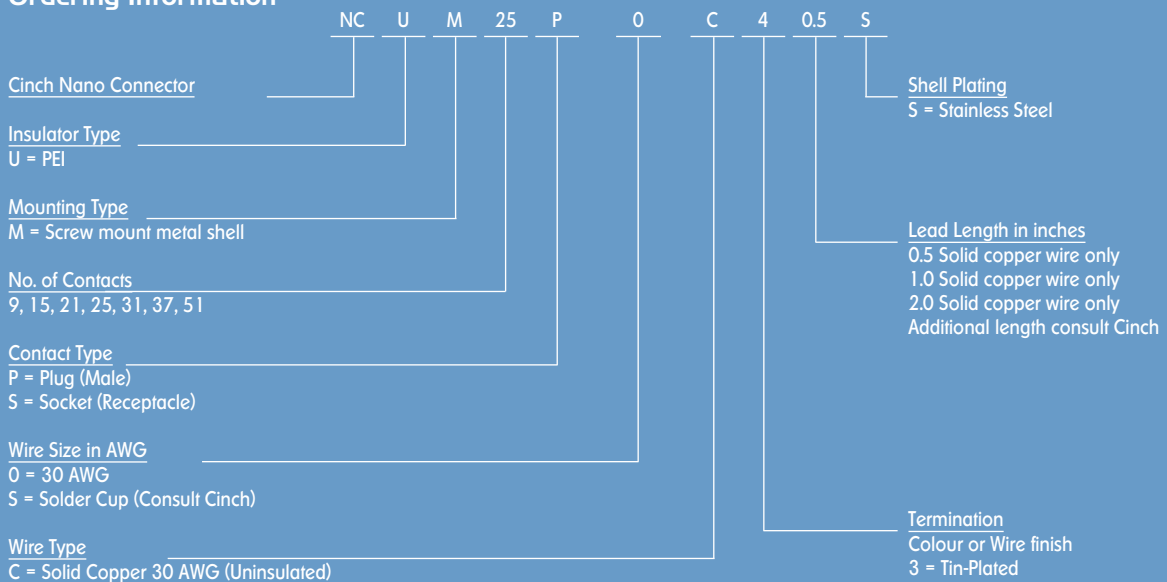
Mating view of pin insert.



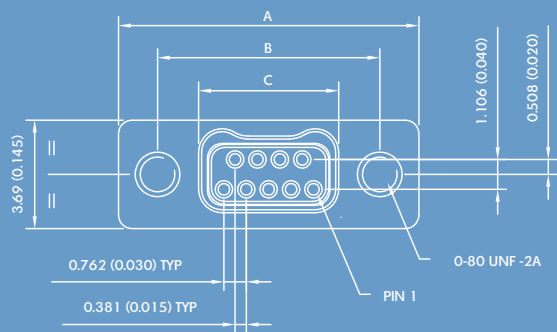
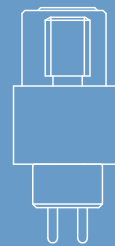
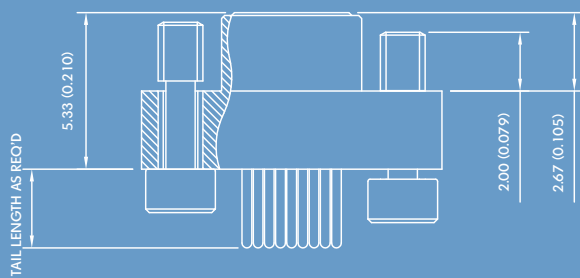
Notes:
Engaging face of insert shown.
Cavity identification numbers are for reference only and do not appear on the part.



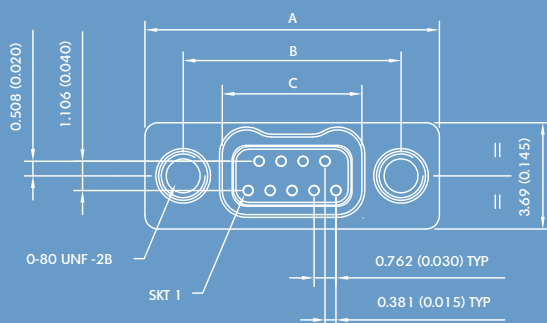
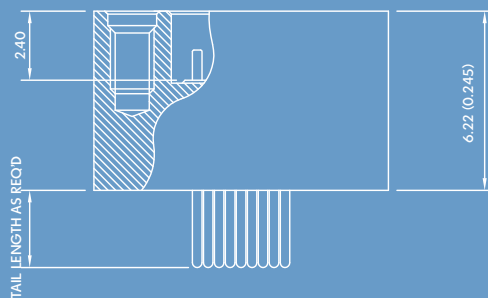
Ordering Information



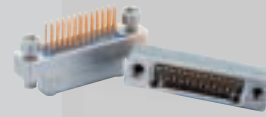
Connector Dimensions



Cinch Nano - Miniature
MIL-DTL-32139 Style
0.030 Pitch CRS
180 degree pigtail
'plug' connector shown

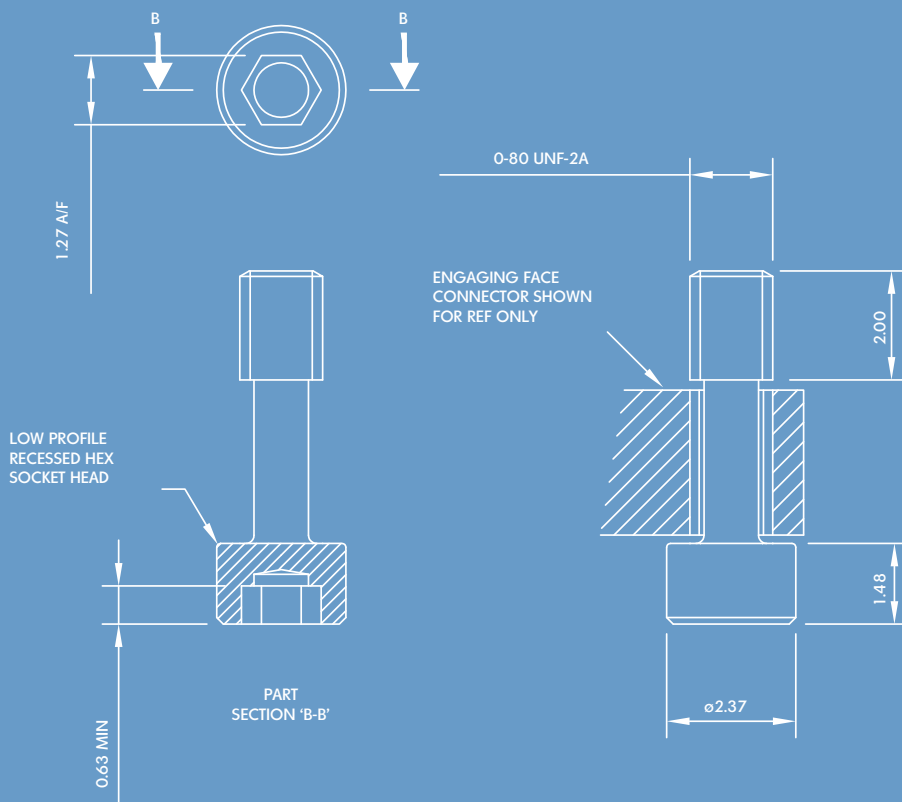


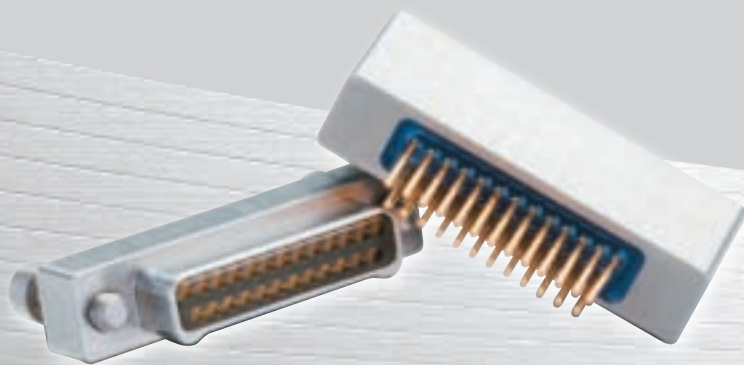
Cinch Nano - Miniature
MIL-DTL-32139 Style
0.030 Pitch CRS
180 degree pigtail
'socket' connector shown



Layout	A basic		B centres		C basic	
	mm	inches	mm	inches	mm	inches
9 Plug	10.23	0.403	7.56	0.298	4.76	0.188
9 Socket	10.23	0.403	7.56	0.298	4.84	0.191
15 Plug	12.51	0.493	9.85	0.388	7.05	0.278
15 Socket	12.51	0.493	9.85	0.388	7.13	0.281
21 Plug	14.80	0.583	12.14	0.478	9.34	0.368
21 Socket	14.80	0.583	12.14	0.478	9.42	0.371
25 Plug	16.32	0.643	13.66	0.538	10.86	0.428
25 Socket	16.32	0.643	13.66	0.538	10.94	0.431
31 Plug	18.61	0.733	15.95	0.628	13.15	0.518
31 Socket	18.61	0.733	15.95	0.628	13.23	0.521
37 Plug	20.89	0.823	18.23	0.718	15.43	0.608
37 Socket	20.89	0.823	18.23	0.718	15.51	0.611
51 Plug	26.23	1.033	23.57	0.928	20.77	0.818
51 Socket	26.23	1.033	23.57	0.928	20.85	0.821

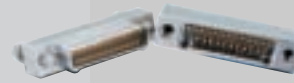
Hardware Detail





Connector Performance Specifications

Property	Requirement	Test Method
Current Rating	1.8 amp (fully loaded) 3 amp (contact pairs in isolation)	
Dielectric Withstanding Voltage	600VAC @ Sea level	Mil-STD-1344, Method 3001
Contact Resistance	Typically 34 Millivolts @ 1 Amp	EIA-364-06
Low Level Contact Resistance	Typically <36 Milliohms	EIA- 364-23
Insulation Resistance	5000 megohms	Mil-DTL-835 13, EIA-364-21
Magnetic Permeability		Consult Cinch
Mating Force	Typically 0.5 Newtons per contact	
Contact Retention	Consult Cinch	
Operating Temperature	-55°C to +125°C	Mil-DTL-835 13, Mil-DTL-32 139
Durability	>200 mated connector cycles	EIA-364-06
Salt spray (Corrosion)	48 Hours	EIA-364-26 Condition B
Shock	50 G's	Mil-DTL-835 13, Mil-STD-1344A Method 2004.1 Condition E (EIA-364-26 Condition B)
Vibration	20 G's	Mil-DTL-835 13, Mil-STD-202G Method 204 Condition D (EIA-364-28)



Engineer's Check List

SECTOR

- Sea
- Aerospace
- Sub-Terrain
- Ground Support
- Armoured Vehicle
- Rail
- Space
- Radar
- Avionics
- Munitions / Missile

CONNECTOR STYLE

- Rectangular
- Circular
- Z Axis Compression
- Power & Signal
- Hermetic
- IPC Rated
- Filtered
- Edge Connector
- Multipole
- High Speed
- Rugged Enclosure

WIRE TYPE

- Stranded
- Solid
- Twisted pairs
- Co-Axial
- Colour Code Single / Multi
- Multi Core
- Shielded
- Wire AWG
- Custom Cable

ENVIRONMENT

- Dust
- Moisture Resistant
- Full Water Immersion
- Chemical Compatibility
- RoHS
- Low Smoke / Zero Halogen
- Extreme Temperature Tolerance
- Flame Retardant

MARKET SEGMENT

- Oil Petroleum Gas (OPG).
- Renewable Energy
- Military & Defence
- Commercial
- Computer
- Industrial
- Telecommunications
- Medical

CONSTRUCTION

- Male Female
- Crimp
- Solder
- PC Tail 90° 180°
- RF Signals
- Number Contact Points
- Contact Pitch
- Housing Material
- Plastic Metal

CUSTOM INTERCONNECT

- Single Ended
- Double Ended
- Multi Limb Cable Assembly
- Strain Relief Backshell
- Environmental Backshell / Boot
- 3600 Screened Backshell
- Moulded Strain Relief
- Woven
- Flexible Circuit

SPECIFICATION

- Operating Temperature Range
- Mating Cycles
- Electrical
- Voltage Rating
- Current Rating
- Filtration Rating
- Materials / Finish
- Contact Plating
- Housing Plating

At Cinch our philosophy is that anything is possible.

With over 70 years' experience as a global supplier we offer simple, effective solutions to our customers' interconnect and integration needs. From basic interconnect to complex integration requiring bespoke design, we focus primarily on quality, ingenuity and reliability, meeting the high performance demands of industries such as Defence, Aerospace, Space, Telecom, High Speed Data Servers and Industrial Transportation.

**TOGETHER
WE STIMULATE,
WE INNOVATE,
WE CREATE.**



CINCH CONNECTORS
1700 Finlay Road
Lombard
IL 60148 USA

Tel: 1.630.705.6000
1.800.323.9612
Fax: 1.630.705.6060
Email: info@cinch.com

CINCH CONNECTORS LTD.
Shireoaks Road
Worksop
Nottinghamshire
S80 3HA

Tel: +44 (0) 1909 474131
Fax: +44 (0) 1909 478321
Email: info@cinch.com

www.cinch.com

Cinch has manufacturing and sales sites located globally approved to AS9100.

