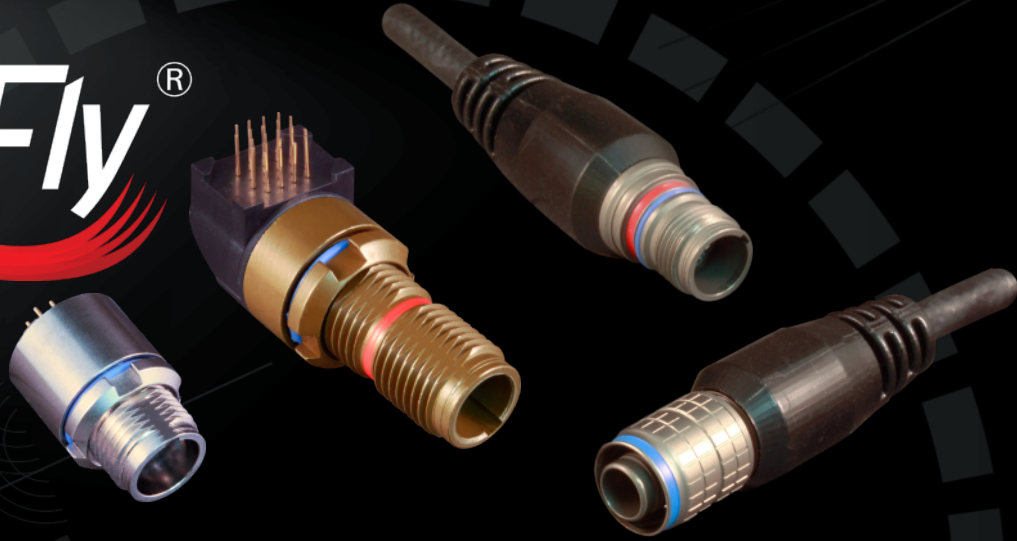


The widest range of
mission-critical interconnect
technologies in the world

SuperFly[®]



**Series 88 SuperFly
Nanominiature Tactical Connectors**

Series 88 SuperFly



Nanominiature tactical connector series with hybrid contact arrangements

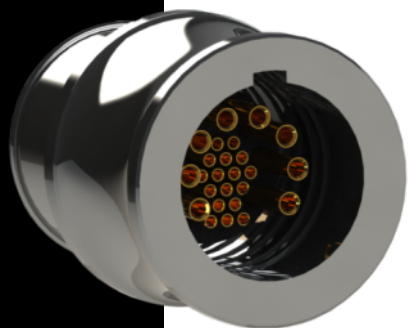
- Push-pull version with high/low force release option
- Threaded version for secure mating
- Hybrid contact system
- First mate/last break power contacts
- Layouts and contact spacing optimized for high-speed



Series 88 SuperFly Contact System



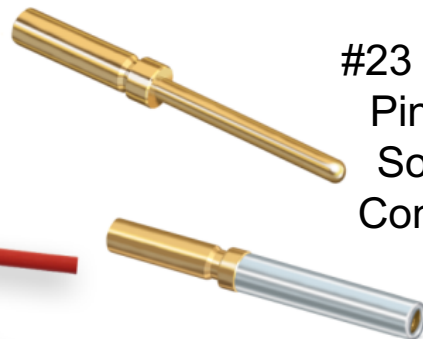
Combining the industry's smallest contact technologies



#24
Micro
TwistPin



#30
Nano
TwistPin



#23 39029
Pin and
Socket
Contacts

Series 88 SuperFly Contacts



Basic electrical specifications

Nano Twistpin

M32139

1AMP

28-32AWG



Micro Twistpin

M83513

3AMP

24-30AWG

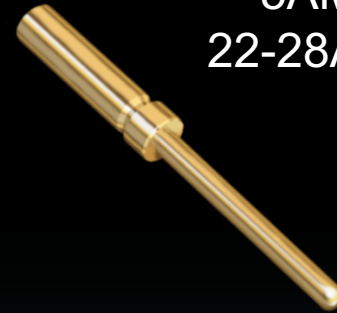


Size 23 Pin

M39029

5AMP

22-28AWG



Series 88 SuperFly Insert Configurations



ABOUT SHROUDED AND UNSHROUDED SUPERFLY® CONFIGURATIONS

Shrouded contacts are recessed within the insulator. Unshrouded contacts extend from the insert face. Figure 1 shows a shrouded insert, and figure 2 illustrates an unshrouded insert. Shrouded inserts contain 1 amp and 3 amp pin contacts along with 5 amp socket contact. Unshrouded inserts contain 1 amp and 3 amp sockets and 5 amp twistpins.

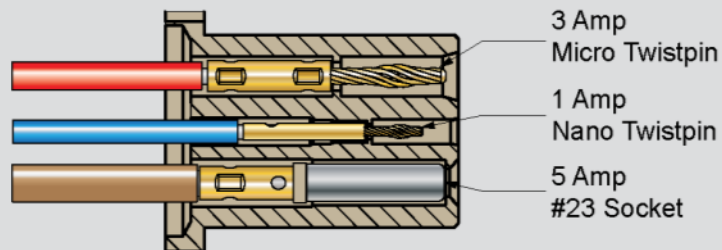


Figure 1
Shrouded Type B Insert

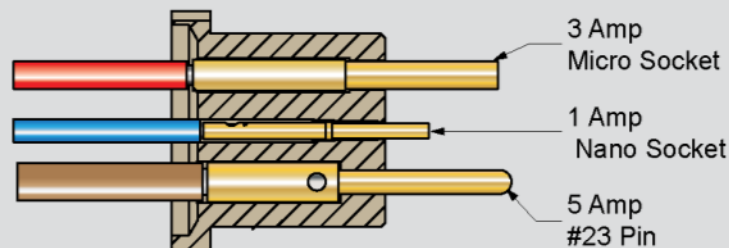


Figure 2
Unshrouded Type A Insert



Connectors are reverse-genderable;
A or B inserts can be on either plug or receptacle

Series 88 SuperFly Diversity of Layouts



- 27 Layouts utilizing 1A, 3A and 5A contacts
- Maximum design flexibility
- 22-32 AWG wire
- Optimized contact spacing for high speed applications
- All layouts fully tooled

SERIES 88 SuperFly Connectors Insert Arrangements

Layouts viewed from mating face of standard (Type B) insert. Use mirror image for unstandard (Type A) insert.

Arrangements with 3 Amp (102-28 AWG) Contacts

Contact Size	15A	18A	20A	25A
Contact Arrangement	15A	18A	20A	25A
No. of Contacts	3	4	5	6
Contact Spacing	3A	3A	3A	3A
Contact Size	102-28	102-28	102-28	102-28
Wire Size (AWG)	22-32	22-32	22-32	22-32
EMV Voltage (VDC, See Level)	500	500	500	500

Arrangements with 3 Amp (22-32 AWG) and 1 Amp (195-12 AWG) Contacts

Contact Size	15A	18A	20A	25A	30A	35A	40A
Contact Arrangement	15A	18A	20A	25A	30A	35A	40A
No. of Contacts	3	4	5	6	7	8	9
Contact Spacing	3A	3A	3A	3A	3A	3A	3A
Contact Size	102-28	102-28	102-28	102-28	102-28	102-28	102-28
Wire Size (AWG)	22-32	22-32	22-32	22-32	22-32	22-32	22-32
EMV Voltage (VDC, See Level)	500	500	500	500	500	500	500

Arrangements with 3 Amp (102-28 AWG) Contacts

Contact Size	15A	18A	20A	25A	30A	35A	40A
Contact Arrangement	15A	18A	20A	25A	30A	35A	40A
No. of Contacts	3	4	5	6	7	8	9
Contact Spacing	3A	3A	3A	3A	3A	3A	3A
Contact Size	102-28	102-28	102-28	102-28	102-28	102-28	102-28
Wire Size (AWG)	22-32	22-32	22-32	22-32	22-32	22-32	22-32
EMV Voltage (VDC, See Level)	500	500	500	500	500	500	500

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Drawings are for reference only. Specifications are subject to change without notice.

SuperFly Connectors Arrangements and Organized by Protocol

Use mirror image for unstandard (Type A) insert.

1 Amp and 1 Amp (195-12 AWG) Contacts

Wire	15A	18A	20A	25A	30A	35A	40A
15A	15A	18A	20A	25A	30A	35A	40A
18A	15A	18A	20A	25A	30A	35A	40A
20A	15A	18A	20A	25A	30A	35A	40A
25A	15A	18A	20A	25A	30A	35A	40A
30A	15A	18A	20A	25A	30A	35A	40A
35A	15A	18A	20A	25A	30A	35A	40A
40A	15A	18A	20A	25A	30A	35A	40A

with (102-28 AWG)

Wire	15A	18A	20A	25A	30A	35A	40A
15A	15A	18A	20A	25A	30A	35A	40A
18A	15A	18A	20A	25A	30A	35A	40A
20A	15A	18A	20A	25A	30A	35A	40A
25A	15A	18A	20A	25A	30A	35A	40A
30A	15A	18A	20A	25A	30A	35A	40A
35A	15A	18A	20A	25A	30A	35A	40A
40A	15A	18A	20A	25A	30A	35A	40A

need to offer the best possible differential for high speed applications. The following table of applications. The suggested layouts contain the contact the Glenair factory for more information.

Signal Pair	15A	18A	20A	25A	30A	35A	40A
Signal Pair	15A	18A	20A	25A	30A	35A	40A
Contact Size	102-28	102-28	102-28	102-28	102-28	102-28	102-28
Wire Size (AWG)	22-32	22-32	22-32	22-32	22-32	22-32	22-32
EMV Voltage (VDC)	500	500	500	500	500	500	500

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Series 88 SuperFly Performance Specs



Mechanical and Environmental Specifications		
Description	Requirement	Standard
Water Immersion, mated	1 meter, 1 hour	MIL-STD-810F Method 512.4
Ingress Protection, mated	IP67 rating	IEC-60529
Vibration, Sine	30 g's	EIA-364-28
Vibration, Random	37.8 g's	EIA-364-28 Test Condition V IEC-60512-6-4
Gunfire Vibration	No discontinuity	MIL-STD-810 Method 519
Mechanical Shock	300g's	EIA-364-27 Condition D IEC-60512-6-3
Corrosion (Salt Mist)	Nickel-plated aluminum: 48 hours Other finishes: 500 hours	EIA-364-26 IEC 60512-11-6
Fluid Immersion	No damage from immersion in various fuels and oils.	EIA-364-10
Magnetic Permeability	2 μ maximum.	EIA-364-54
Durability (mating cycles)	2000	EIA-364-09

Series 88 SuperFly for High-Speed Applications



Parameter	Results
Insertion Loss – Nano Contacts	-3dB @ 3.9 GHz
Electrical Bandwidth*	8Gbps
Insertion Loss –Micro Contacts	-3dB @ 2.9 GHz
Electrical Bandwidth*	6Gbps
Insertion Loss – Size 23 Contacts	-3dB @ 2.1GHz
Electrical Bandwidth*	5Gbps

Series 88 SuperFly Layouts for High-Speed Applications



LAYOUTS ORGANIZED BY PROTOCOL

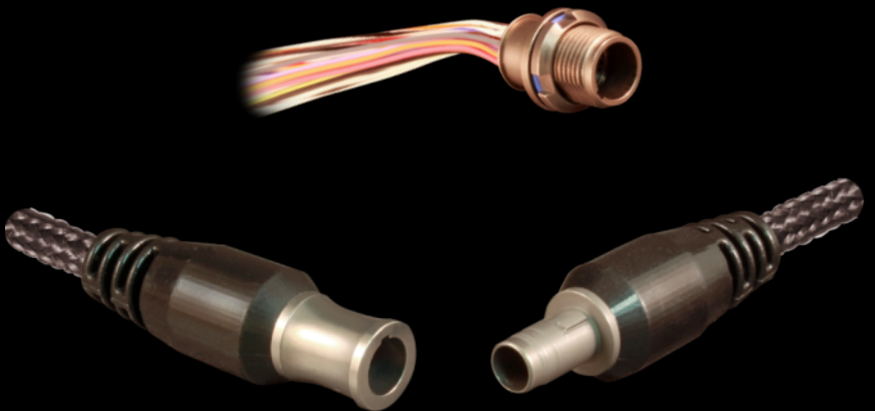
The geometries of SuperFly® nano and micro contact cavities were designed to offer the best possible differential impedance match for a contact pair. This makes SuperFly® a great choice for high speed applications. The following table is provided as a starting-point when selecting a layout for your high speed application. The suggested layouts contain the minimum number of contacts required for the specified protocol. Please contact the Glenair factory for more information including other supported protocols and high speed test data.

High Speed Applications							
Frequency							
Protocol	10/100 Ethernet	Gigabit Ethernet	USB 2.0	HDMI/DVI	Display Port	USB 3.0	eSATA/SATA
Data Pair Contact Size	Nano Micro Size 23	Nano Micro Size 23	Nano Micro	Nano Micro	Nano Micro	Nano Micro	Nano Micro
Suggested Layouts	B7N G10M G7W	C10N G10M H10W	C2M2N D2W2N	E19N K19M	F22N L22M	C10N G10M	C10N G10M

Series 88 SuperFly Mating Styles



Quick-Disconnect



Threaded



Series 88 SuperFly Shell Configurations

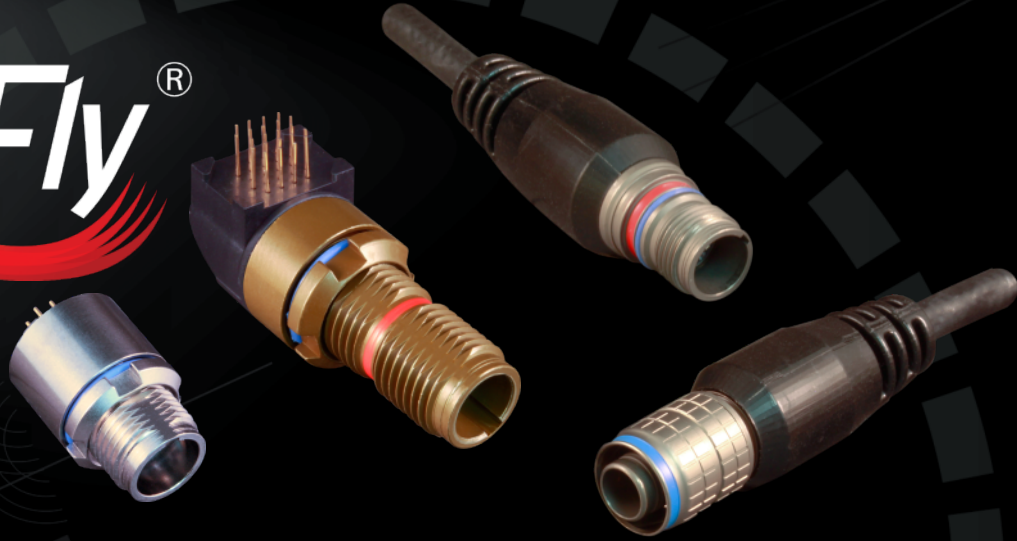


- Multiple connector configurations
 - Flying leads
 - Front and rear panel mount, inline
- PC tails (straight and right angle)
- Solder cups
- Fully jacketed cordsets



The widest range of
mission-critical interconnect
technologies in the world

SuperFly[®]



**Series 88 SuperFly
Nanominiature Tactical Connectors**