

972-102 Crimp-contact wall-mount receptacle with banding platform and compression grommet for TurboFlex or tape-wrapped wire

POWERLOAD CONNECTORS - CRIMP CONTACTS



972-102 Receptacle

CONNECTOR FEATURES

- Socket towers for improved creep path performance
- Single-piece insulator eliminates bond lines that can lead to electrical failure
- High-temperature Crown Ring contact technology
- Patented wire sealing grommet
- Heavy-duty accessory interface

POWER SPECIFICATIONS

- For applications up to 2000 VAC/ 1500 Hz, and from 150 – 800 Amps.
- 230°C maximum operating temperature (stainless steel bodies and shells)
- 100% DWV tested at 5,000 VAC (all arrangements)
- Up to 60% lower contact resistance than equivalent AS39029 contacts (normalized, less wire)

MATERIAL SPECIFICATIONS

Insulators - PEEK thermoplastic, glass reinforced
 Seals - high-temperature silicone
 Contact body - high-conductivity copper alloy, gold plated
 Socket contact hood, crown ring - stainless steel, passivated

| HOW TO ORDER | |
|---|---|
| Sample Part Number | 972-102 NF 32-3 P 1 A -LB |
| Basic Part Number | PowerLoad™ Wall-mount receptacle with Banding Platform, Compression Grommet for TurboFlex or Tape-Wrapped wire |
| Material/Finish | ME, MT, NF, ZR, Z1, ZL (See Table) |
| Shell Size / Contact Arrangement | See PowerLoad contact arrangements table |
| Contact Gender | P = Pin S = Socket (supplied with contacts) A = Pin, less contacts B = Socket, less contacts (see table if ordering contacts separately) |
| Polarization | 1, 2, 3, 4, 5, or 6 (see Keyway Positions table) |
| Wire Diameter | See Wire Diameter table |
| Backshell | -LB = Less Backshell Omit to include (if ordering -LB less backshell, a separate backshell must be used) |

| SHELL SIZE / CONTACT ARRANGEMENTS (FACE OF PIN INSERT) | | | | | |
|--|-------------------------|-------------------------|--|-------------------------|----------------------|
| | | | | | |
| 16-A1 1X #8 | 16-1 1X #4 | 20-A1 1X #2 | 20-1 1X #1/0 | 22-1* 1X #2/0 | 22-2 2X #8 |
| | | | | | |
| 22-3 3X #8 | 24-1* 1X #4/0 | 24-2 2X #4 | 24-4 4X #8 | 28-2 2X #2 | 28-3 3X #2 |
| | | | | | |
| 28-4 4X #4 | 28-6 6X #8 | 32-2 2X #1/0 | 32-3 3X #1/0 | 32-4 4X #2 | |
| | | | <p>8 4 2 #8 #4 #2 #1/0 #2/0 #4/0</p> <p>Contact Size Key * Consult Factory</p> | | |
| 36-2* 2X #2/0 | 36-4 4X #1/0 | 40-3* 3X #2/0 | | | |

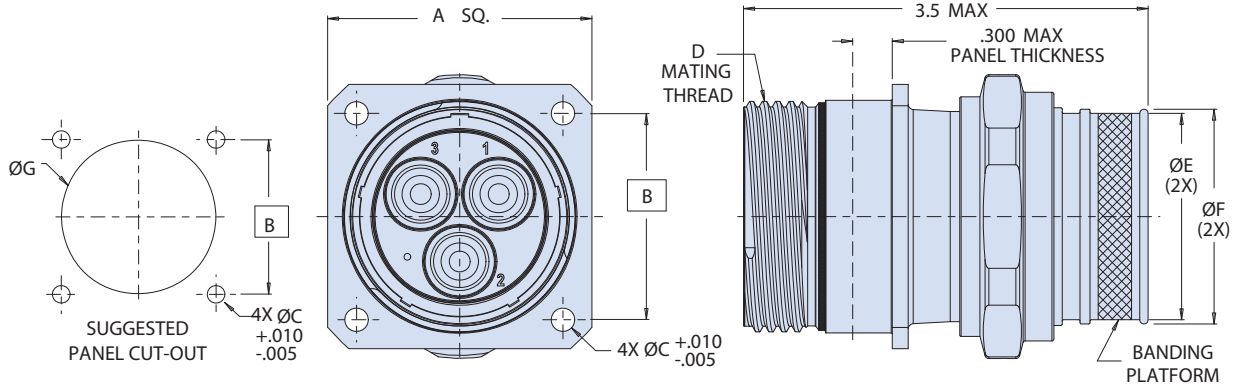
| Wire Gauge (AWG) | TURBOFLEX WIRE DIAMETER CODE AND WIRE PART NUMBER (COMPRESSION GROMMET) | | | | | | | | | | |
|------------------|---|--------------|--------------|--------------|--------------|------------------------------|--------------|--------------|--------------|--------------|--------------|
| | Single-Wall Hookup Wire | | | | | Dual-Wall Interconnect Cable | | | | | |
| | 961-102-2000 | 961-106-1500 | 961-106-2000 | 961-108-1500 | 961-108-2000 | 961-103-2000 | 961-104-2000 | 961-107-1500 | 961-107-2000 | 961-109-1500 | 961-109-2000 |
| 8 | A | B | A | B | A | + | + | A | + | A | + |
| 4 | B | B | A | C | B | + | + | A | + | A | + |
| 2 | B | B | A | C | B | A | A | A | + | A | A |
| 0 | B | B | A | B | B | A | A | A | + | A | A |
| 00 | C | ∅ | B | ∅ | B | B | B | B | A | B | A |
| 0000 | C | ∅ | A | ∅ | B | B | A | A | + | A | + |

+: requires special termination, consult factory for how to order and terminate

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CONNECTOR DIMENSIONS



| Shell Size | A ±.031 | B Bsc | ØC Typ | D Mating Thread | ØE ±.015 | ØF ±.015 | ØG ±.010 |
|------------|---------------|---------------|-------------|-----------------------|---------------|---------------|---------------|
| 16 | 1.281 (32.54) | .969 (24.61) | .150 (3.81) | 1.000-0.1P-0.3L-TS-2A | .812 (20.62) | .875 (22.23) | 1.062 (26.97) |
| 20 | 1.500 (38.10) | 1.156 (29.36) | .177 (4.5) | 1.250-0.1P-0.3L-TS-2A | 1.062 (26.97) | 1.125 (28.58) | 1.312 (33.32) |
| 22 | 1.625 (41.28) | 1.250 (31.75) | .177 (4.5) | 1.375-0.1P-0.3L-TS-2A | 1.187 (30.15) | 1.250 (31.75) | 1.437 (36.50) |
| 24 | 1.750 (44.45) | 1.375 (34.92) | .177 (4.5) | 1.500-0.1P-0.3L-TS-2A | 1.312 (33.32) | 1.375 (34.92) | 1.562 (39.67) |
| 28 | 2.000 (50.80) | 1.562 (39.67) | .177 (4.5) | 1.750-0.1P-0.3L-TS-2A | 1.562 (39.67) | 1.625 (41.28) | 1.812 (46.02) |
| 32 | 2.250 (57.15) | 1.750 (44.45) | .209 (5.3) | 2.000-0.1P-0.3L-TS-2A | 1.812 (46.02) | 1.875 (47.63) | 2.062 (52.37) |
| 36 | 2.500 (63.50) | 1.938 (49.23) | .209 (5.3) | 2.250-0.1P-0.3L-TS-2A | 2.062 (52.37) | 2.125 (53.97) | 2.312 (58.72) |
| 40 | 2.750 (69.85) | 2.188 (55.58) | .209 (5.3) | 2.500-0.1P-0.3L-TS-2A | 2.187 (55.55) | 2.250 (57.15) | 2.562 (65.07) |

MATERIAL / FINISH

| Code | Material | Finish | Temp. Rating |
|------|-----------|--------------------------------|--------------|
| ME | Aluminum | Electroless Nickel | -54°-+200°C |
| MT | | Nickel-PTFE | -54°-+200°C |
| NF | | Cadmium, OD | -54°-+175°C |
| ZR | | Zinc-Ni, Black (Tri-Valent CR) | -54°-+175°C |
| Z1 | Stainless | Passivate | -54°-+230°C |
| ZL | Steel | Electrodeposited Nickel | -54°-+230°C |

HOW TO ORDER CONTACTS AND CONTACT TOOLING (SOLD SEPARATELY)

| Contact Size | Contact P/N | | Extraction Tool | | Crimp Tool | Die Set | Locator |
|--------------|-------------|------------|-----------------|---------|------------|---------|---------|
| | Pin | Socket | Plastic | Metal | | | |
| 8 | 850-150-08 | 850-151-08 | 859-136-08 | 859-139 | 859-025 | 859-026 | 859-029 |
| 4 | 850-150-04 | 850-151-04 | 859-136-04 | 859-138 | | 859-027 | 859-030 |
| 2 | 850-150-02 | 850-151-02 | N/A | 859-171 | | 859-169 | 859-170 |
| 1/0 | 850-150-0 | 850-151-0 | N/A | 859-137 | | 859-028 | 859-031 |
| 2/0 | 850-150-00 | 850-151-00 | N/A | 859-225 | | 859-230 | 859-231 |

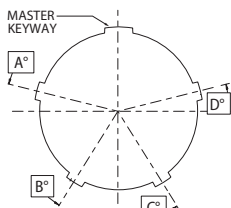
EXAMPLE CONTACT ARRANGEMENT CURRENT RATINGS

| Ins. Arr. | #8AWG 145 A ¹ | #4 AWG 270 A ¹ | #2 AWG 360 A ¹ | 1/0 490 A ¹ |
|-----------|-----------------------------|------------------------------|------------------------------|---------------------------|
| 28-3 | | | 3X (156 A ²) | |
| 28-4 | | 4X (104 A ²) | | |
| 28-6 | 6X (49 A ²) | | | |
| 32-3 | | | | 3X (210 A ²) |

¹ Absolute maximum current rating per SAE AS50881: single conductor, sea level, 205° temp rise (25° ambient to 230° C max for "Z1" connectors)

² Derated current for typical applications per SAE AS50881: multiple conductors, 50,000 ft. altitude, 100°C temp rise

RECEPTACLE KEYWAY POSITIONS



| Position | A° | B° | C° | D° |
|----------|-----|-----|-----|-----|
| 1 | 76 | 148 | 212 | 284 |
| 2 | 135 | 170 | 200 | 310 |
| 3 | 49 | 169 | 200 | 244 |
| 4 | 66 | 140 | 200 | 257 |
| 5 | 62 | 145 | 180 | 280 |
| 6 | 79 | 153 | 197 | 272 |