

# TFOCA GenX Hybrid 2 x 2 Fiber Optic / Copper Connector



The TFOCA GenX Fiber Optic / Copper connectors provides the ultimate hybrid solution where both fiber optic and copper contacts have been incorporated into one connector. Built on the standard TFOCA GenX hermaphroditic fiber optic connector, the hybrid 2 x 2 connector features 2 fiber optic termini and 2 copper 16AWG contacts for low power transmission. The design and packaging of these connectors provide a robust connectivity solution resistant to corrosion, mechanical and thermal shock environments while providing easy field maintenance. Some of the applications currently employing STRAN's TFOCA GenX Hybrid 2 x 2 include:

- Deployable military tactical systems
- Outdoor fiber optic networks
- Emergency restoration systems



GenX Hybrid Receptacle

- Mobile command and control platforms
- Tactical electro-optic sensor systems



GenX Hybrid Plug & Receptacle

Preserving its lineage of a hermaphroditic connector with internal circuit crossover, longer cable overhaul lengths can be addressed by concatenating multiple cable segments together<sup>1</sup>. Some of the key features of this connector workhorse:

- Standard 4ch hermaphroditic, or genderless, configuration
- 2 fiber optic termini and 2 copper 16AWG M39029-37 socket and -36 pin contacts
- Black hard anodize with teflon impregnation or ZnNi
- Both singlemode and multimode fiber are compatible in the same connector without part sub-component substitution
- Electrical safety features include shrouded electrical pin and nonconductive insert
- Field demountable fiber optic termini for improved maintainability and PC repolish
- Captured split alignment sleeves for enhanced Insertion Loss performance
- Jamnut mount receptacle options available

<sup>1</sup> Enduser is responsible for determining acceptable voltage drop limits on concatenated lengths

MILITARY/TACTICAL

MILITARY SHIPBOARD

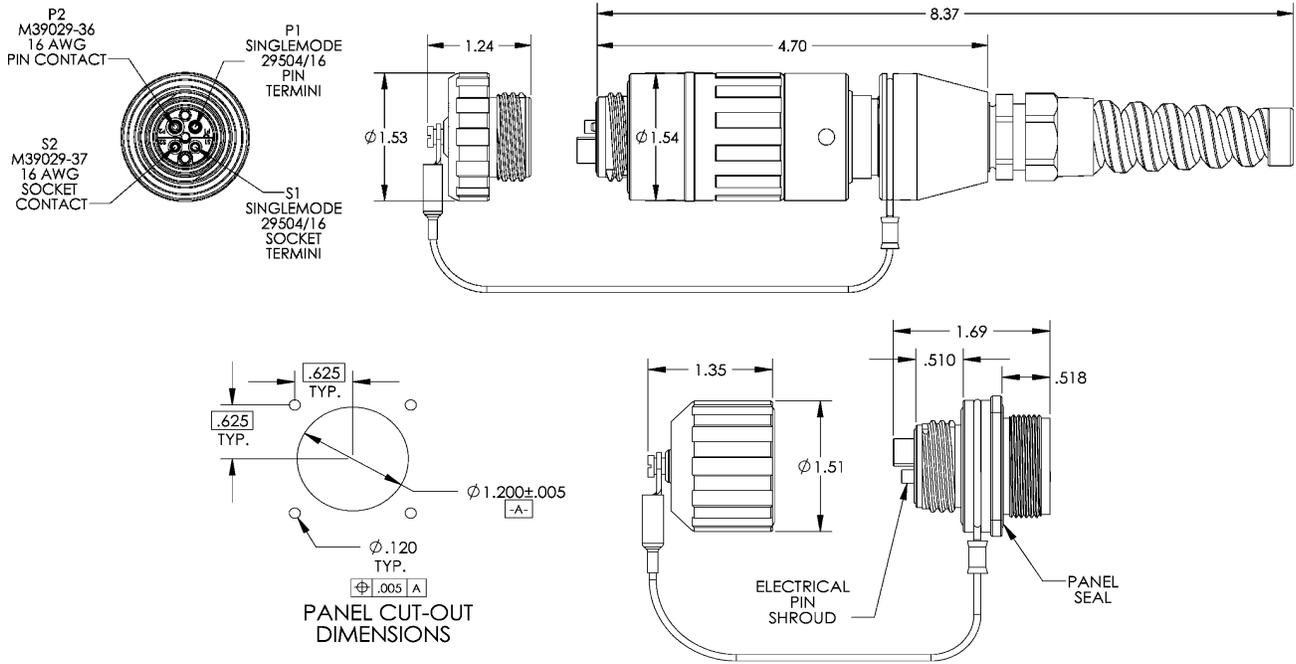
ENERGY

MINING

AEROSPACE

COMMERCIAL

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## Connector Design Criteria:

Optical Insertion Loss	9/125: 0.75 dB <sub>max</sub> , 0.35 dB <sub>typ</sub> 62.5/25: 0.75 dB <sub>max</sub> , 0.14 dB <sub>typ</sub>
Return Loss	>30 dB MMF, >40 dB SMF with PC polish
Voltage Rating	600 Volts
Contact Rating (Amps)	Compliance to MIL-STD-1560 for 16 AWG contacts
Mating Durability	2000 cycles per EIA-455-21
Vibration	10 g's per EIA-455-11
Physical Shock	per EIA-455-14, test condition A
Thermal Shock	-62°C to +85°C per EIA-455-71, cond. B
Temperature Life	250 hours at 85°C per EIA-455-4
Corrosion Resistance	EIA-455-16, test condition C
Humidity	10 cycles per EIA-455-5
Fluid Immersion	1 meter, per EIA-455-12
Crush Resistance	450 lbs, per EIA-455-26
Cable Retention	400 lbs, per EIA-455-6
Cable Seal Flexing	Per EIA-455-1
Impact	EIA-455-2