



0500-3005

DATA SHEET D38999 SERIES III TYPE CONNECTOR WITH 4.25GBPS ELECTRO-OPTICAL AND EL OCHITO CONTACTS

REV	DESCRIPTION	DATE	APPROVED
1	Preliminary	05/14/2018	GC/CA/SZ
2	Updated part to use 050-355 shell	07/06/2018	GC
3	Add ECCN 5E991	07/09/2018	GC
4	Add Empty Cavity Options	07/17/2018	GC
5	Add environmentally seal description	07/18/2018	GC
6	Add different El Ochito Contact options on P/N	08/16/2018	GC
7	Update insert arrangement and recommended PCB layout	10/19/2018	GC
8	Clarified 4.25Gbps Optical transmitter or Receiver	11/29/2018	RAS
9	Updated the mating plug specs. Add FO Inspection & Cleaning Tools	03/11/2019	YA
10	Changed Cavity Contact Type "X" description	03/11/2019	JLL
11	Updated 2D drawing on clinch nut version/ Remove the Export Control Shield	03/21/2019	DJM/YA

BF18U2-2815

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0500-3005 DATASHEET

D38999 Series III Type Hybrid Connector

with 4.25 Gbps Electro-Optical and EI Ochito contacts



D38999 Hybrid Connector with Size 8 Opto-Electronic and EI Ochito Contacts



Glenair 0500-3005 is a D38999 Series III hybrid connector that offers customers the power to transmit electrical and fiber optic signals within a D38999 receptacle connector to support high-speed transmissions in harsh environments. The 0500-3005 incorporates Glenair's Active Size 8 contacts (050-301) and Glenair's EI Ochito contacts (858-003) in multiple configurations. The opto-electronic and electrical performance parameters of the 0500-3005 are defined by the performance of the Active Size 8 contacts and the EI Ochito contacts that are incorporated**. The connector is environmentally sealed using a potting compound that protects customer electronics if the connector is left in an unmated condition.

0500-3005's Electro-Optical contacts are compatible for data 100Mbps to 4.25 Gbps. The EI Ochito contacts can support 1000BASE-T Ethernet.

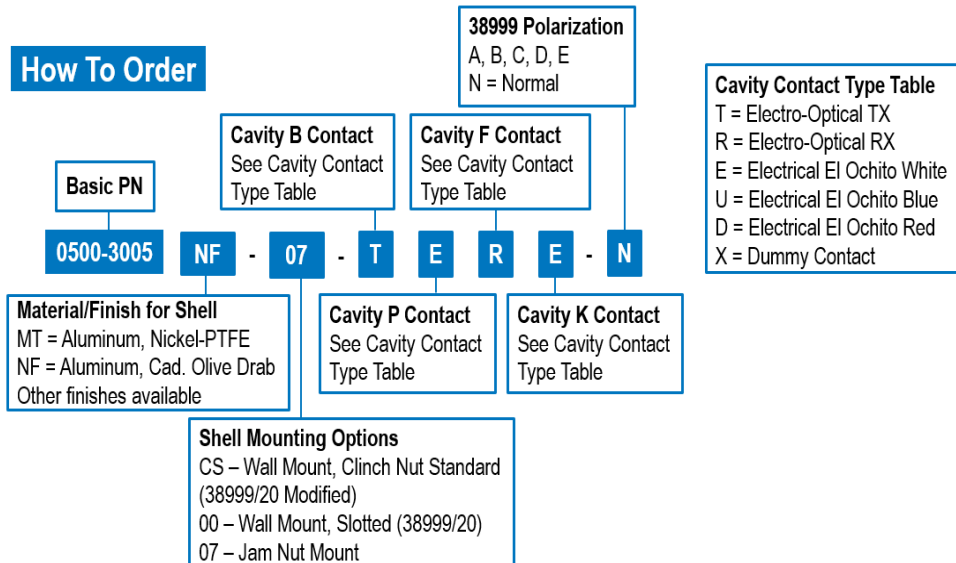
KEY FEATURES/BENEFITS

- 050-301 contacts to support ARINC 801 1.25mm fiber optic interconnect, up to 4.25Gbps per contact
- 858-003 EI Ochito contacts to support Gigabit Ethernet
- 059-0058 Adapters available to support converting PLUG D38999 Size 8 cavities into ARINC 801 fiber optic compatible connectors
- PC tail electrical interfaces or custom micro-coax or flex to PCB interfaces available

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APPLICATIONS

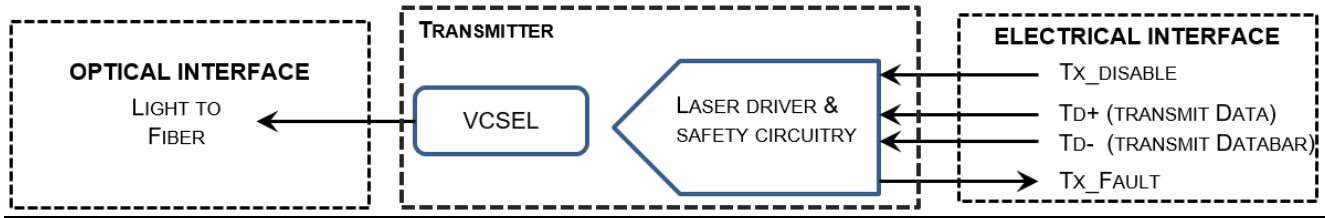
- Harsh Environment Airborne, Tactical and Shipboard applications
- Ethernet, Fast Ethernet, Gigabit Ethernet, AFDX, 1x/2x/4x Fiber Channel, DVI, HDMI, SFDP, Serial Rapid I/O (sRIO) and other high speed communication all over Multimode Fiber



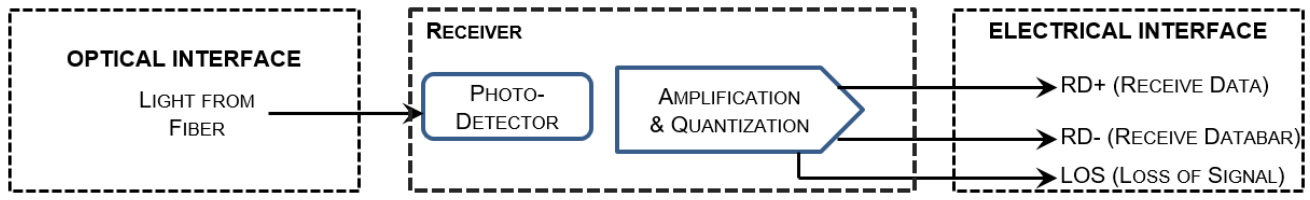
** Note: For electrical ratings and specifications, please refer to 050-301 and EI Ochito datasheets

Functional Block Diagram

Electro-Optical TX Functional Block Diagram per cavity



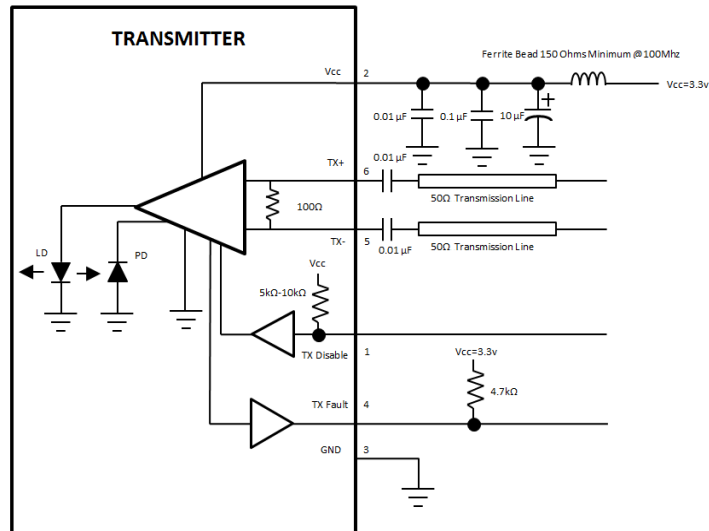
Receiver Functional Block Diagram per cavity



Recommended Interface Circuit for Electro-Optical Contacts

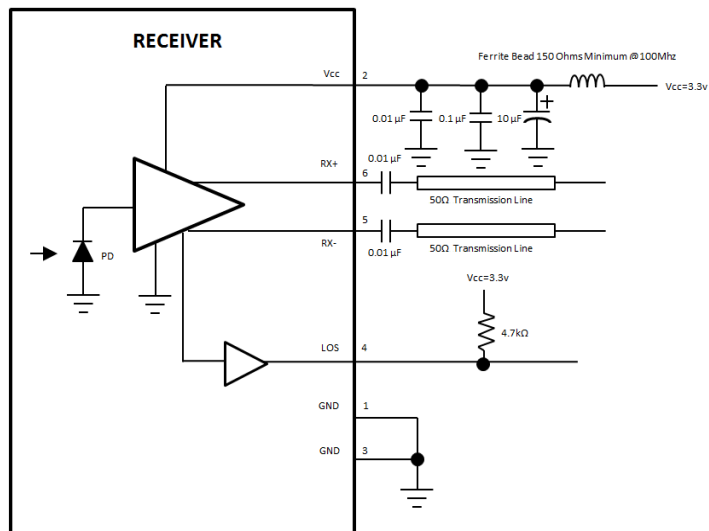
Transmitter (050-301-04T)

RECOMMENDED INTERFACE CIRCUIT



Receiver (050-301-04R)

RECOMMENDED INTERFACE CIRCUIT



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Connectors

NAME	Insert Arrangement	Function	Mating PLUG Connector
J1	<p>Receptacle Interface</p>	Electro-Optical Conversion and/or High-Speed Electrical signal transmission	Glenair PN 233-217-G6##19-18BN 181-076-P-126 126.0 micron, pull proof design, MMF, ARINC 801 style 059-0058 Size #8 cavity adapter 858-004 EI Ochito Socket

Note: # = Environmental Class (Material/Finish)

Note: For electrical ratings and specifications, please refer to 050-301 and EI Ochito datasheets.

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Ratings and Specifications

Compliance Specifications

CHARACTERISTIC	Standard	Condition	Notes
Mechanical Shock	MIL-STD-810	40g	6 ms
Mechanical Vibration	MIL-STD-810	30g rms	
ESD	MIL-STD-883	Class 1C	1000V HBM
Eye Safety	CDRH and IEC-825	Class 1 Laser Product	No safety interlocks required

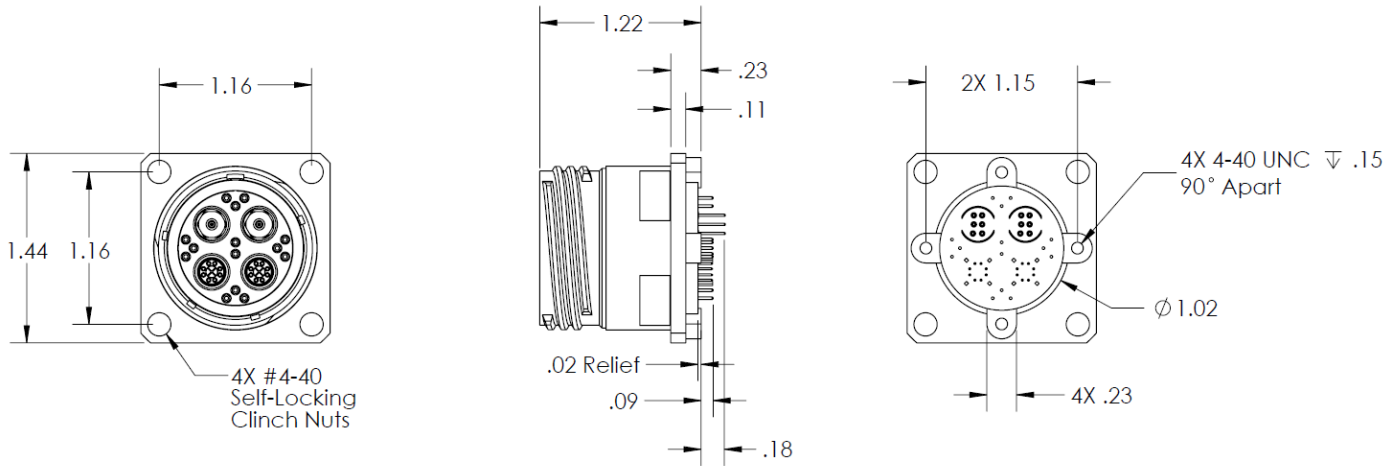
Material/Finish

Item	Material/Finish
0500-3005 Shell	Aluminum, 300 Series CRES
Contact Shell	Shell 300 Series CRES/Passivate or NM6
Seal	Silicone elastomer
Fiber Ferrule & sleeve	Zirconia ceramic
PC tail contacts	Copper alloy/gold plated
PCB flex	FR4 & Polyimide
Encapsulant	HYSOL EE4215
Solder type	RoHS compliant Sn95/Sb5 (232°C melting temp) & RoHS compliant Sn96.5/Ag3.0/Cu0.5 (217° melting)

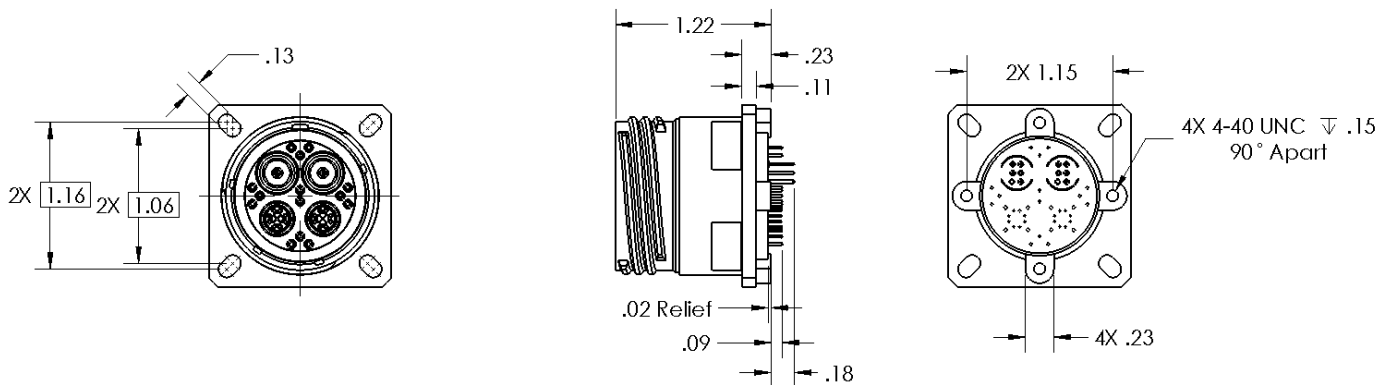
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Active MIL-DTL-38999 type Wall-Mount Clinch Nut Receptacle



Active MIL-DTL-38999 type Wall-Mount Slotted Receptacle



Label includes part number, serial number, date code, manufacturer and cage code.

Dimensions inches

$x.x \pm 0.1''$

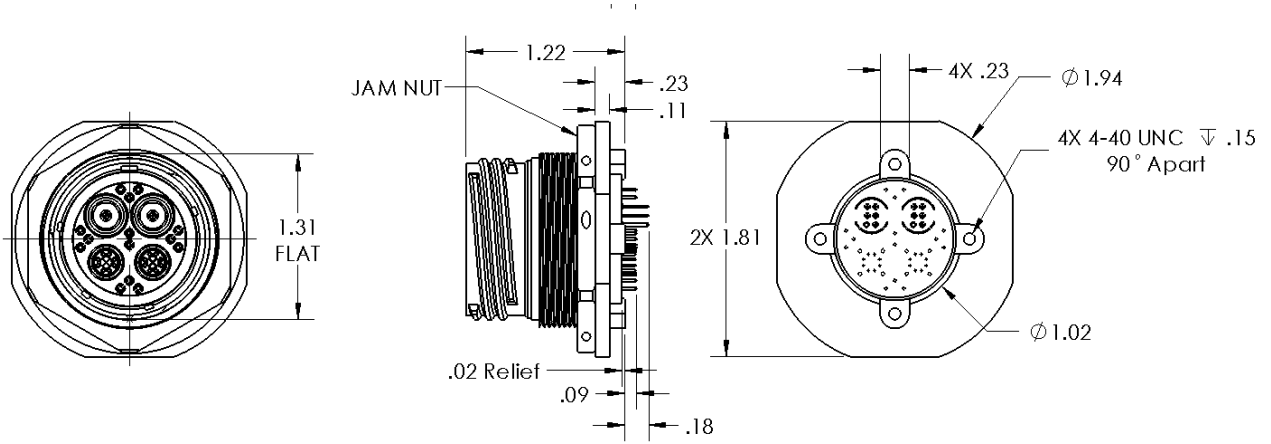
$x.xx \pm 0.03''$

$x.xxx \pm 0.005''$

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Active MIL-DTL-38999 type Jam Nut Receptacle

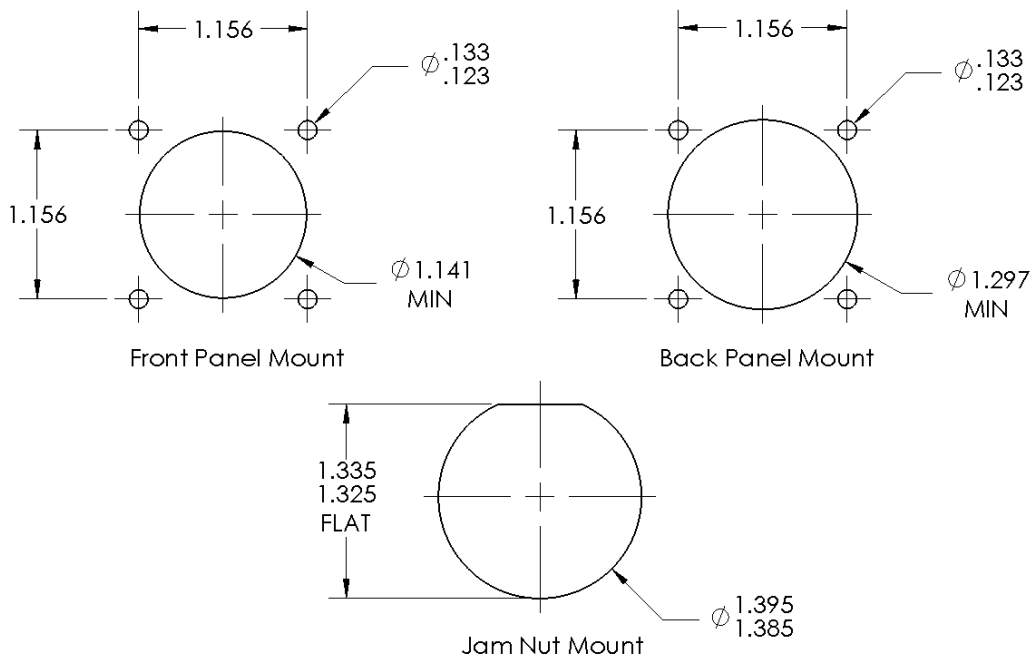


Label includes part number, serial number, date code, manufacturer and cage code.

Dimensions inches

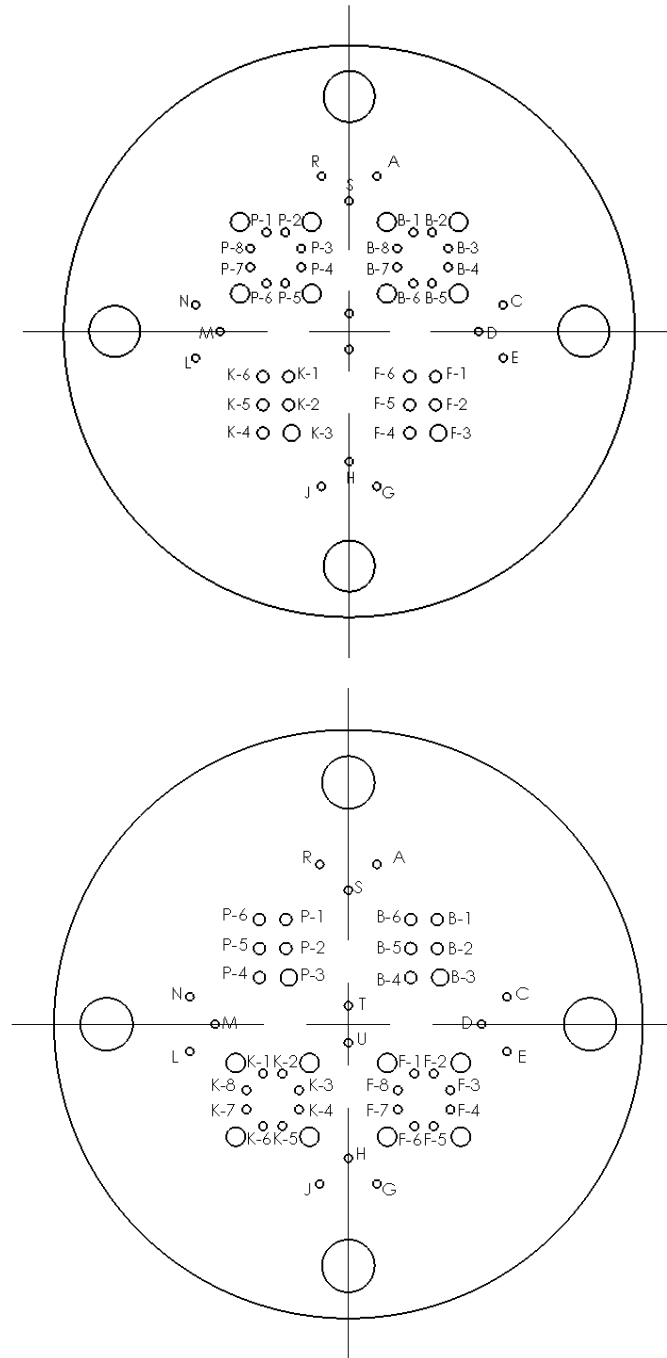
- $x.x \pm 0.1''$
- $x.xx \pm 0.03''$
- $x.xxx \pm 0.005''$

Recommended Panel Cut Out





Recommended PCB Layout



Note: For pinout definition, please refer to 050-301, and EI Ochito datasheets.

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Recommended Inspection & Cleaning Tools/Kits

The following recommendations are suggested for this product:

- GBS-1001 Inspection Kit which includes GIT-003 tip for ARINC 801 fiber contacts.
- GCLT-H200 or GCLT-HA125 cleaning tool for ARINC 801 system.

GBS1001 Inspection Probe with USB Adapter and Fiber Chek 2 Software



How To Order

GBS1001

Basic Part Number Includes:

- *Inspection probe with USB adapter*
- *Fiber Chek 2 Software*

Comes with

(installed on the probe):

GIT-003 Universal 1.25mm patch cord

The GBS1001 is the only inspection probe today with a high resolution, all digital sensor and USB2 video stream which delivers high-resolution uncompressed images directly to your personal computer.

GBS1001 Specifications

Weight	.11 Kg / .25 lb
Resolution	Better than 1.5 Microns
Cable	Integrated USB 2.0 coil cable 2.5' relaxed, 10.5' fully extended
Certification	CE
Warranty	1 year

Fiber Chek Software

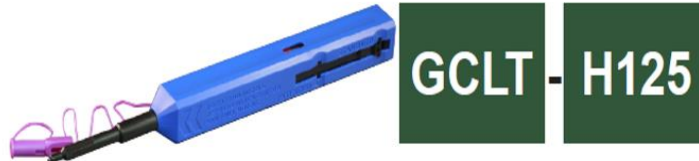
Fiber Optic Analysis Program

Fiber Chek is an integrated hardware/software package engineered with the single purpose of critically and consistently grading fiber end-faces. Works hand in hand with the Quick Capture Analog Probe for visual inspection, taking pictures and testing fibers.

- Automatic debris and defect detection, including fine scratches
- Measures epoxy ring for out-of-tolerance conditions
- Inspection results, including image data, can be printed or archived
- Utilizes industry standards or user defined threshold settings

Recommended Inspection & Cleaning Tools/Kits – (Continued)

Dry action cleaning tool for ARINC 801 systems



Dry action cleaning tool for ARINC 801 test adapters



- A simple push motion engages tool
- Audible click when tool is fully engaged
- Durable — over 525 engagements per tool
- Crush resistant to over 250N
- Impact resistant to survive drops over 1.5M