

# Rebling Datasheet: 100 amp TFT-style Fixed Orientation Feed-through Terminal

Our TFT-style terminal provides 100 amp continuous current performance, can be mounted to metal or plastic panels from 0.03" to 0.16" (0.6 to 4.0 mm) thick, it exhibits the same 2,000 volt rating and water-tight properties as the other members of our feed-through terminal family. The TFT's innovative design eliminates the need for auxiliary panel-mounting hardware and accepts optional flexible cover. Equipping your smaller lithium battery modules or power conditioning modules with the TFT enables your product to fit into the tight spaces allocated by your end users.

## Electrical

**Current** each current profile causes a max 30° C temperature rise when tested per IEC 61984

Current Profile #1	Continuous Rated Current (CRC)	-----	100 amps
Current Profile #2	50% CRC for 60min + 1 sec peak + 50% CRC for 60 min		600 amps
Current Profile #3	50% CRC for 60min + 10 sec peak + 50% CRC for 60 min	-----	400 amps
Current Profile #4	50% CRC for 60min + 30 sec peak + 50% CRC for 60 min		300 amps
Current Profile #5	50% CRC for 60min + 60 sec peak + 50% CRC for 60 min	-----	200 amps

## Voltage & Resistance

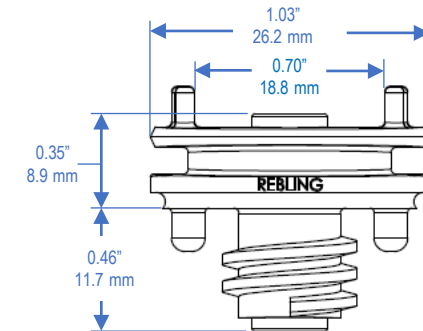
Continuous Rated Voltage	UL1977 Section 17	2,000 volts
Minimum Dielectric Withstanding Voltage	UL1977 Section 17	5,000 volts
Insulation Resistance	MIL-PRF-18148D Section 3.12.6	500 mega-ohms
Maximum Contact Resistance	MIL-STD-202H Method 307	150 micro-ohms

## Mechanical & Environmental

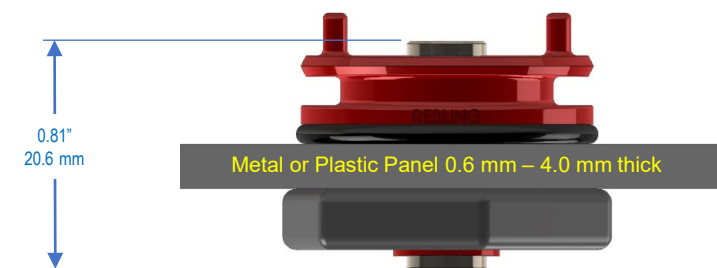
Flammability Rating:	Terminal and Covers	-----	UL 94	V-0
Environmental Sealing:	with Optional O-ring	-----	IEC 60529	IP68+ watertight
	without Optional O-ring		IEC 60529	IP65
Operating Temperature:	Terminal	-----		-40 to +125 C
	Flexible Cover			-40 to +90 C
Mechanical Shock		MIL-STD-202H Method 213 Condition A		50 Gs – 3 axes
Vibration		MIL-STD-202H Method 204 Condition A		10 Gs – 3 axes
Panel Thickness Required for Mounting –	Minimum	-----		0.025" (0.6 mm)
	Maximum			0.157" (4.0 mm)
Maximum Wire Size:	Terminal Only	-----		1 AWG (40 mm <sup>2</sup> )
	with Flexible Snap-On Cover			2 AWG (32 mm <sup>2</sup> )

## Compliance & Conformance

RoHS, REACH, CMRT/3TG	All parts listed on this datasheet are RoHS, REACH and CMRT/3TG Compliant Declarations of UL and CE Conformity can be downloaded from Rebling.com
UL and CE Conformance	



0.28" (7.1 mm) diameter nickel-plated brass conductor with two M5-0.8 tapped blind holes

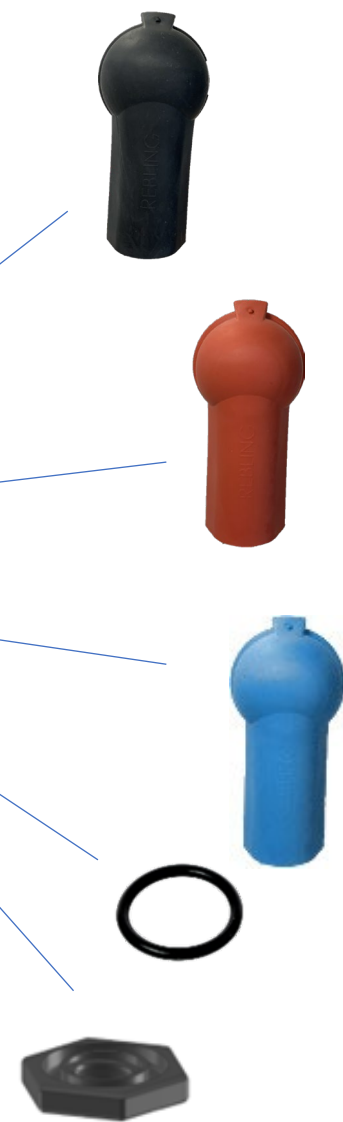


For complete dimensions, download 3D Step files of Terminal and Accessories at [Rebling.com](http://Rebling.com)

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P/N	Description	Plastic Color	Weight (Grams)	Min Thick (mm)	UL 94 Rating	UL Material Yellow Card # **
TFT-P-B-070	Terminal Kit*, Brass, Nickel plated	Black	17	1.5	V-0	E121562-220886
815A1927-B	Flexible Cover	Black	6	1.5	V-0	E121562-220886
TFT-P-R-070	Terminal Kit*, Brass, Nickel plated	Red	17	1.5	V-0	E121562-220886
815A1927-R	Flexible Cover	Red	6	1.5	V-0	E121562-220886
TFT-P-E-070	Terminal Kit*, Brass, Nickel plated	Blue	17	1.5	V-0	E121562-220886
815A1927-E	Flexible Cover	Blue	6	1.5	V-0	E121562-220886
812A1925	O-Ring for TFT Terminal	Black	0.2	1.5	V-0	Material = EPDM
813A1930	Panel Nut	Black	4	1.5	V-0	E121562-220886
*Terminal Kit = one Terminal + one Panel Nut + two Bolts + two Split Washers, all parts in a small poly bag **UL Material Yellow Cards can be downloaded from <a href="http://ULprospector.com">ULprospector.com</a>						



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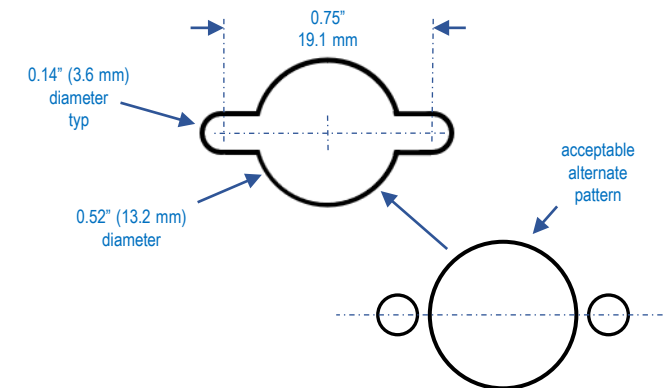
## Mounting and Assembly

Panel Thickness - Minimum	0.025" (0.6 mm)	
Maximum	0.157" (4.0 mm)	
Torque on M5 Bolts:		
Recommended	15 in-lbs (1.7 Nm)	electrical performance does not get better or worse above 15 in-lbs (1.7 Nm)
Maximum Recommended	25 in-lbs (2.8 Nm)	a Grade 4, M5 stainless bolt will snap at 50 in-lbs (5.6 Nm)
Torque on Panel Nut With or without O-Ring		
Recommended	15-20 in-lbs (1.7-2.3 Nm)	all datasheet parameters were tested at this torque level
Maximum Recommended	25 in-lbs (2.8 Nm)	the panel nut will begin to deform at 40 in-lbs (4.5 Nm)
Maximum Crimp Lug Tongue Width:		
with Flexible Cover	0.90" (23 mm)	
with Rigid Cover	0.80" (20 mm)	

## Application Notes

- Watertight is superior to IP68:** Rebling terminals are completely watertight to a depth of 20 meters which is superior to any IP Rating. The definitions of IP67, IP68 and IP69k per IEC 60529 state that "water may penetrate the seal but shall do no harm", a condition that is unacceptable to lithium battery designers.
- Panel Nut Wrench:** the hexagonal panel nut can be tightened using either a 27mm or 1 1/16" socket wrench.
- Minimum Separation between Adjacent Terminals:** the minimum centerline to centerline distance between the mounting holes of adjacent TFT terminals is 1.36" (34.6mm). This is based upon the maximum outside dimension of the panel nut or flexible cover (1.22"), the outside diameter of a 27mm socket (1.42") and a reasonable clearance margin (0.040"). This separation distance is based upon the TFT's geometry and is not a requirement for any performance parameter.
- Recommended crimp lug P/Ns:**

Mfg	2 AWG (32 mm <sup>2</sup> )	4 AWG (19 mm <sup>2</sup> )	6 AWG (13 mm <sup>2</sup> )	8 AWG (8 mm <sup>2</sup> )	10 AWG (5 mm <sup>2</sup> )	12 AWG (3 mm <sup>2</sup> )	14 AWG (2 mm <sup>2</sup> )
TE	330301	33114	52197	31807	130191	130191	130106
T&B	G926	F10261	E10261	D10361	K10-10R		K14-10R
Panduit	P2-10R	P4-10R	P6-10R	P8-10R	P10-10R	P14-10R	
Burndy	----	YAD4CM5E10	YAD6CM5E10	YAD8CM5E10	YAV10H	YAV14H	



Mounting Hole Pattern

## O-Ring Application Tool

To apply an O-Ring to the ultra-compact TFT Terminal:

1. Download the application tool's step file from our website then print the tool on a 3D printer
2. Place the tool onto the pins of the TFT terminal
3. Roll the O-Ring down the tool and into the O-Ring groove



**REBLING** About Us Electrical Connectors Custom Molding Molded Std Parts Admin

**Lithium Battery Terminals**

Wherever you find a battery module larger than a loaf of bread, you will find Rebling's terminals. Equipping your design with these watertight, single-pole, wrench disconnect battery terminals will enable system integrators to easily incorporate your power modules into the MicroGrid, Reserve Power, Vehicle Electrification or APU systems the end-user requires, regardless of battery chemistry. Whether you are coupling battery modules in series for a stationary power application, a liquid-cooled motive power system, a single SLI module, a telecom or data center reserve power system or simply bringing DC power from the inside to the outside of a panel, our terminals, covers and accessories are designed with your application in mind. Rebling Feed-throughs are the lowest cost terminals for 100 Ah to 10 kWh lithium batteries.

**100 amp TFT-style Lithium Battery Terminal**

Our TFT terminal (without mounting ears) which will be available in Red, Black, and Blue in Q4 2022. This 100 amp terminal will be available with or without Fixed-Orientation Ridges, can accommodate 8 AWG to 2 AWG (6 mm<sup>2</sup> to 34 mm<sup>2</sup>) cables, and will have snap-on flexible and rigid covers. Unlike our SFT style Terminal, the TFT-style Terminal does not require panel mounting screws, because it has molded-in

**Resources**

- Overview PDF of all Terminals
- Cable & Terminal Design Guide
- Terminal Selection Guide
- UL Approval Procedure
- CE Approval Procedure

**Lithium Battery Terminals Video**

**Download 3D Step Files**

Ask a technical question

Brainstorm with an engineer who's designed these terminals into 200 lithium battery applications

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### STP File Download

Terminal Covers, O-Rings, Tools, & Gaskets:

- TFT  MFT
- LFT  BFT
- SFT  XFT

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