

Rebling Datasheet: 100 amp TFT-style 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 rigid and flexible covers. 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

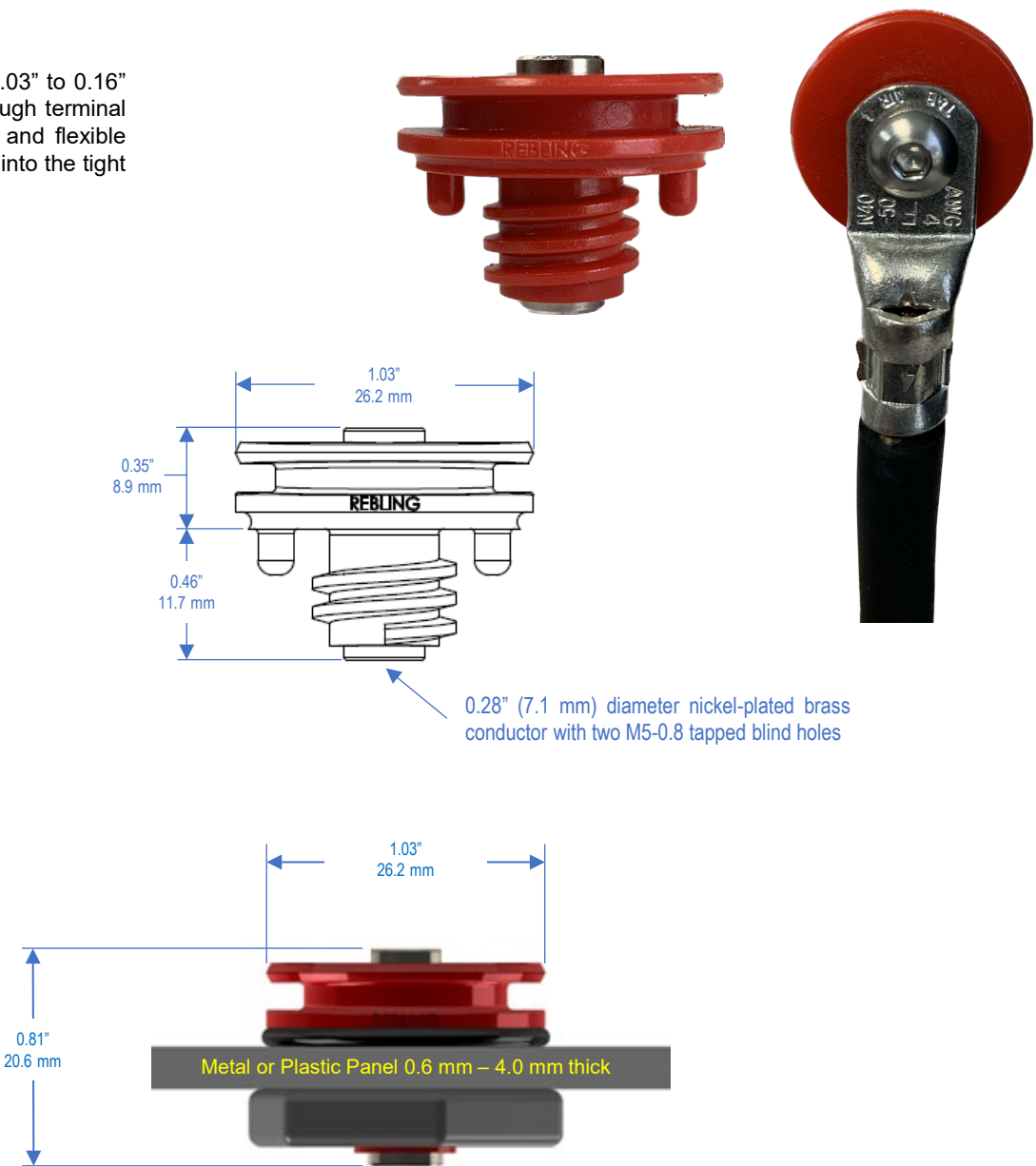
Continuous Rated Voltage	UL1977 Section 17	2,000 volts
Minimum Dielectric Withstanding Voltage	UL1977 Section 17	5,000 volts
Insulation Resistance	MIL-PRF-18148D Section 3.12.6	500 mega-ohms
Maximum Contact Resistance	MIL-STD-202H Method 307	150 micro-ohms

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 and Rigid Cover	-----		-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 mm²)
	with Rigid or Flexible Snap-On Cover			2 AWG (32 mm²)

Compliance & Conformance

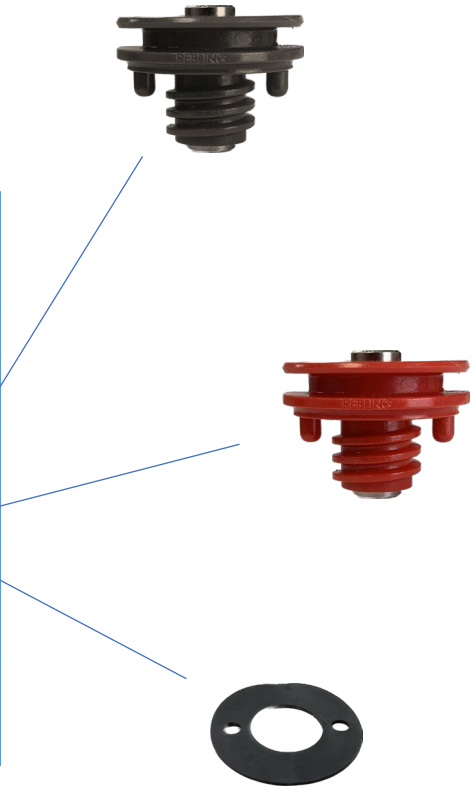
RoHS, REACH, CMRT/3TG	All parts listed on this datasheet are RoHS, REACH and CMRT/3TG Compliant
UL and CE Conformance	Declarations of UL and CE Conformity can be downloaded from Rebling.com



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



P/N	Description	Plastic Color	Weight (Grams)	Min Thick (mm)	UL 94 Rating	UL Material Yellow Card # **
TFT-P-B	Terminal Kit*, Brass, Nickel plated	Black	14	1.5	V-0	E121562-220886
812A1939-P-B	Terminal Only Brass, Nickel plated	Black	9	1.5	V-0	E121562-220886
TFT-P-R	Terminal Kit*, Brass, Nickel plated	Red	14	1.5	V-0	E121562-220886
812A1939-P-R	Terminal Only, Brass, Nickel plated	Red	9	1.5	V-0	E121562-220886
825A1959	Gasket for TFT Terminal	Black	0.3	1.5	V-0	E80017-250533
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 ULprospector.com						



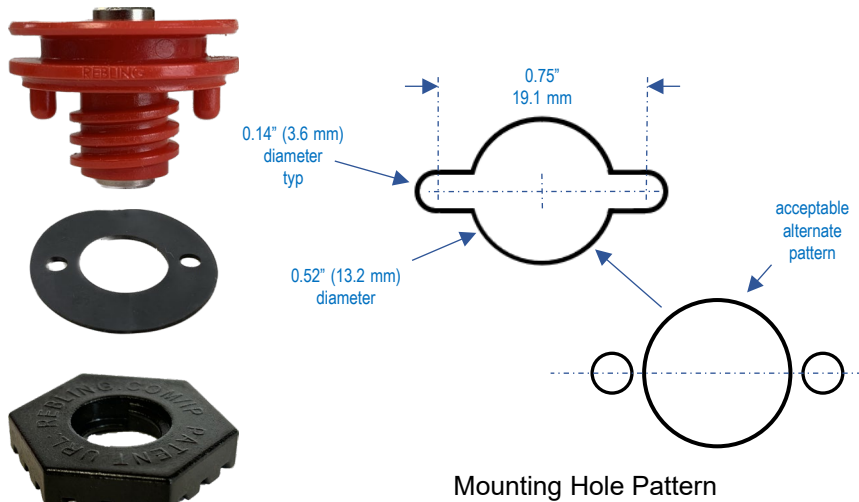


P/N	Description	Plastic Color	Weight (Grams)	Min Thick (mm)	UL 94 Rating	UL Material Yellow Card # **
815A1927-B	Flexible Cover	Black	6	1.5	V-0	E80017-250533
814A1926-B	Rigid Cover	Black	7	1.5	V-0	E121562-101513781
815A1927-R	Flexible Cover	Red	6	1.5	V-0	E80017-250533
814A1926-R	Rigid Cover	Red	7	1.5	V-0	E121562-101513781
**UL Material Yellow Cards can be downloaded from ULprospector.com						



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 in-lbs (1.7 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

- 1. 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.
- 2. Panel Nut Wrench: the hexagonal panel nut can be tightened using either a 27mm or 1 1/16" socket wrench.
- 3. 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.
- 4. **Loctite (Thread Locking Fluid) Warning: some thread-locking fluids can cause a terminal's plastic body to crack.** Loctite's datasheets warn that its products should not be used near any thermoplastic because their fluid (or its vapor) can change the chemical structure of thermoplastic, causing stress cracks to appear weeks or months after the fluid was applied to metal bolts on or near a terminal.
- 5. Recommended crimp lug P/Ns: see table on right

Mfg	2 AWG (32 mm²)	4 AWG (19 mm²)	6 AWG (13 mm²)	8 AWG (8 mm²)	10 AWG (5 mm²)	12 AWG (3 mm²)	14 AWG (2 mm²)
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