



# VAL-U-LOK CONNECTORS WITH TPA

IEC 603335-1 and UL V-0 Compliant Additional housing material option

# **Additional Housing Material Option**

# **Expanded Offering**

The VAL-U-LOK product line has been expanded with new models accommodating Terminal Position Assurance (TPA) devices to help prevent contact back-out and a new material meeting both the glow wire test and UL 94 V-0. These additions to the 4.2 mm (.165 in) centerline product family are double row devices. Rated up to 600VAC and up to 9A per line, they offer up to 24 positions as panel mount plugs, free-hanging plugs and receptacles. The new connectors with TPAs are intermatable with existing VAL-U-LOK connectors and headers, supporting wire-to-panel, wire-to-wire and wire-to-board applications.

New crimp, pin-and-socket contacts for discrete 26-18 AWG wires are designed for the new housings and work with the TPA devices. Snapping the TPA devices into place helps to assure contacts are fully seated in the housing and provides secondary protection against a contact backing out of its cavity when subjected to vibration, shock or pulling force.

# **Key Features**

- Terminal Position Assurance (TPA) devices help ensure contacts are fully seated in the housing and secondarily help secure contacts in housings, protecting against back-out
- Integral housing locking latch

#### **Applications**

- Household appliances
- Desktop computers
- Indoor/outdoor lighting
- Security systems
- Industrial controls
- HVAC control systems
- Storage and networking systems

## Mechanical

- Positions: 2 to 24 (double row)
- Wire size: 26-18 AWG discrete wire
- Centerline pitch: 4.2 mm (.165 in)
- Operating temperature: -40°C to 105°C

# Electrical

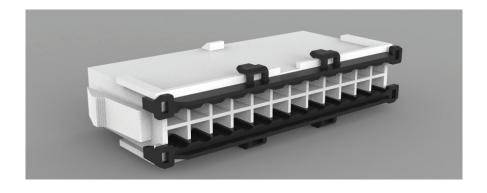
- Voltage rating: 600VAC
- Current rating: 9A

#### **Materials**

- Housings:
  - Glow wire product compliant 750°C no flame according to IEC 60335-1 5th edition and UL 94 V-0;
  - Glow wire product compliant 750°C no flame according to IEC 60335-1 5th edition and UL 94 V-2;
  - 3. UL 94 V-0 rated nylon;
  - 4. UL 94 V-2 rated nylon.
- Contacts:
  - 1. Brass, pre-tin

#### **Standards & Specifications**

- Product specification #108-2112
- Application specification #114-13172
- Instruction sheet #408-32113
- UL Recognized, File E315442



Product Image	Type/ Style	Flamma- bility	Part Number														
			Positions >	2	4	6	8	10	12	14	16	18	20	22	24		
	Receptacle	UL 94 V-2	x-1969597-y	-2	-4	-6	-8	10	12	14	16	18	20	22	24		
		UL 94 V-0	x-1969614-y	-2	-4	-6	-8	10	12	14	16	18	20	22	24		
		GWT&V-2*	x-1969603-y	-2	-4	-6	-8	10	12	14	16	18	20	22	24		
		GWT&V-0**	x-2296205-Y	-2	-4	-6	-8	10	12	14	16	18	20	22	24		
	Free Hanging Plug	UL 94 V-2	x-1969598-y	-2	-4	-6	-8	10	12	14	16	18	20	22	24		
		UL 94 V-0	x-1969612-y	-2	-4	-6	-8	10	12	14	16	18	20	22	24		
		GWT&V-2*	x-1969604-y	-2	-4	-6	-8	10	12	14	16	18	20	22	24		
		GWT&V-0**	x-2296206-Y	-2	-4	-6	-8	10	12	14	16	18	20	22	24		
	Panel Mount Plug			UL 94 V-2	x-1969599-y	-2	-4	-6	-8	10	12	14	16	18	20	22	24
		UL 94 V-0	x-1969613-y	-2	-4	-6	-8	10	12	14	16	18	20	22	24		
		GWT&V-2*	x-1969605-y	-2	-4	-6	-8	10	12	14	16	18	20	22	24		
		GWT&V-0**	x-2296207-Y	-2	-4	-6	-8	10	12	14	16	18	20	22	24		

<sup>\*</sup>Glow wire test according to EN/IEC 60335-1 and UL 94 V-2.

# Terminal Position Assurance (TPA) Devices

Product Image	Type/Style	Wire Range	Part Number												
		(AWG)	Positions >	1	2	3	4	5	6	7	8	9	10	11	12
	Locking	22-18	x-1969608-y	-1	-2	-3	-4	-5	-6	-7	-8	-9	10	11	12
	Plate	22-26	x-1969609-y	-1	-2	-3	-4	-5	-6	-7	-8	-9	10	11	12

Note: A TPA device is required for each row of terminals on a receptacle or plug housing. For example, an 18-position plug would require two 9-position TPAs.

The user would need to order two TPA devices for each housing ordered.

# Terminals and Application Tooling

Product Image	Terminal	Wire	Insulation	Material	Terminal Pa	art Numbers	Application Tooling		
	Type	Range (AWG)	Range	& Finish	Strip form	Loose Piece	Applicator	Hand Tool	
1	Pin	26-22	.047069 [1.2 - 1.75]	Brass, Pre-Tin	2238018-1	2238022-1	2266139-x	91387-1	
		22-18	.060122 [1.50 - 3.1]	Brass, Pre-Tin	2238016-1	2238020-1	2151096-x	91388-1	
1	Cackat	Cocket	26-22	.047069 [1.2 - 1.75]	Brass, Pre-Tin	2238019-1	2238023-1	2266139-x	91387-1
	Socket	22-18	.060122 [1.50 - 3.1]	Brass, Pre-Tin	2238017-1	2238021-1	2151096-x	91388-1	

# Part Number Ordering - Example for x-1969597-y Housing

-2 through -9

Substitute dash number listed for "y." For example, a -2 signifies PN 1969597-2.

1- -0 through 2- -4

Substitute first number listed for "x" and second number listed for "y." For example, a 2- -4 signifies PN 2-1969597-4.

Follow this same numbering scheme for receptacle housings, free hanging plug housings, panel mount plug housings and TPA devices listed on this page.

<sup>\*\*</sup>Glow wire test according to EN/IEC 60335-1 and UL 94 V-0.

# Frequently Asked Questions

#### Do you need confirmation that the contacts are seated? Is contact back-out a concern?

New models in the VAL-U-LOK connector system accept optional TPA devices. These devices help assure the contacts are fully seated in the housing and they help protect against potential disengagement when the wires are exposed to external pressure.

#### What is the physical configuration of the interconnection?

VAL-U-LOK connector system offers wire-to-wire, wire-to-board, and wire-to-panel configurations.

#### What are the current and voltage requirements for your application?

VAL-U-LOK connectors have a maximum current rating of 9 Amps in 2 position application, and they are rated 600 Volts AC/DC.

#### What are the flammability requirements for your application?

VAL-U-LOK connectors are offered with various housings rated UL 94 V-0, UL 94 V-2 and Glow Wire Test material according to IEC 60335-1.

# What are the number of positions for the TPA version?

The housings of the VAL-U-LOK connector system designed for use with the optional TPA device are available in 2-24 position, dual row configurations.

#### What are the operating temperature requirements?

The VAL-U-LOK connector system has a maximum operating temperature of 105°C. For more information regarding operating temperatures refer to Product Specification 108-2112.

#### What is the benefit of choosing glow wire housings?

The VAL-U-LOK connector system offers glow wire rated housings that allow manufacturers of home appliances sold into the European market to comply with the IEC/EN 60335-1 5th edition standard and the possibility to use the TPAs (sold as optional) as error proofing devices.

# TE Connectivity Technical Support Center

USA: +1 (800) 522-6752 Canada: +1 (905) 475-6222 Mexico: +52 (0) 55-1106-0800 Latin/S. America +54 (0) 11-4733-2200 Gemany: +49 (0) 6251-133-1999 UK: +44 (0) 800-267666 France: +33 (0) 1-3420-8686 Netherlands: +31 (0) 73-6246-999 China: +86 (0) 400-820-6015

#### te.com

© 2016 TE Connectivity Ltd. family of companies. All Rights Reserved

1-1773730-3 APP PDF 5/2016

VAL-U-LOK, TE Connectivity and the TE Connectivity (logo) are trademarks of the TE Connectivity Ltd. family of companies..

While TE has made every reasonable effort to ensure the accuracy of the information in this document, TE does not guarantee that it is error-free, nor does TE make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. TE reserves the right to make any adjustments to the information contained herein at any time without notice. TE EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES REGARDING THE INFORMATION CONTAINED HEREIN, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. In no event will TE be liable for any direct, incidental, special or consequential damages arising from or related to recipient's use of the information. It is the sole responsibility of the recipient of this information to verify the results of this information using their engineering and product environment, Recipient assumes and and all risks associated with the use of the information. The dimensions in this document are for reference purposes only and are subject to change without notice. All specifications are subject to change without notice. Consult TE for the latest dimensions and design specifications.



# **ПОСТАВКА** ЭЛЕКТРОННЫХ КОМПОНЕНТОВ

многоканальный

Общество с ограниченной ответственностью «МосЧип» ИНН 7719860671 / КПП 771901001 Адрес: 105318, г.Москва, ул.Щербаковская д.3, офис 1107

# Данный компонент на территории Российской Федерации Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

# http://moschip.ru/get-element

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

# Офис по работе с юридическими лицами:

105318, г. Москва, ул. Щербаковская д. 3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru moschip.ru\_6 moschip.ru 4 moschip.ru 9