UR Family

Redesigned UR-TL Low-Voltage Power Supply Module

Product Notification

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Publication reference: GET20115

Date of Release

10 Oct 2024, 01 Nov 2024 for production

Summary

UR devices support power supply modules for a low voltage range (LI) and a low voltage range (LO). The low voltage range module has been redesigned to address global component shortage issues, enable dual sourcing of critical component, and to optimize the design.

The power supply modules were last redesigned in 2014. Modules SH and SL were equivalent to RH and RL respectively. When purchasing a UR device with a redundant power supply, the order code remained as RH or RL, so that customers could continue to use the same order codes when buying complete relays. The order code of the redundant power supply module can be RH or RL, while the module inside the unit is SH or SL.

The same philosophy is used for the new high voltage power supply module TL. The order code of a complete relay will not change. Thus, the order code or the redundant power supply module can be RL, while the module inside the unit is TL.

The latest design of the Power Supply includes:

- **New:** Super capacitor replacing a battery, reducing maintenance
- **New:** Conformally coated printed circuit board to allow use in harsh environments
- **New:** Improved design with 40% fewer components than previous SL model
- 200ms ride-through capability
- Dedicated electrolytic capacitors for ride-through capability, therefore relay nominal power is independent of electrolytic capacitors.
- **Backwards compatible:** Direct replacement of some previous and existing power supply modules (UR-RL and existing UR-SL) *(see Notes 1 and 2)
- **Voltage rail monitoring:** All rails

Note 1: The 48V control output is removed from the new TL power supply module. This voltage output was used to wet contact inputs where DC voltage was unavailable. A new MOD (MOD031) has been created for customers that need the 48V DC control output. UR-TL will not work with UR products with firmware versions 1.00 to 3.50.

Note 2: For UR relays with firmware v3.50 and below, the TL power supply module does not have 8Vdc rail that is required to bias DSPs such as 8A and 8C which are used by these versions. Hence SL power supply module must be used in UR relays with firmware v3.50 and below.

The order code for the new low voltage power supply module is “TL” which will replace the existing “SL” order code. The details of order code are specified in the order code section.

We have updated the UR documentation and ordering tools to add the new revision of the high voltage power supply module.

Background

UR Power supply modules (LI voltage range):

- 2nd generation UR-RL
- 3rd generation UR-SL (June 2014). This redesigned version of the power supply module was a direct replacement of previous modules.
- **New** UR-TL (October 2024). This redesigned version of the power supply module is a direct replacement of previous modules.

Units Affected

All UR devices, UR replacement kits and individual power supply modules.

The SL power supply module will remain available: when ordering modules, use UR-SL* order code or use MOD031 when ordering UR relays or UR replacement kits.

UR devices and replacement kits shipped since November 1st 2024 will be equipped with the new TL power supply module or the existing SL module. If existing SL module with a capability of auxiliary output voltage is required, then MOD031 option must be ordered.

Recommendation

The redesigned UR-TL power supply module is compatible with existing and previous UR hardware. Other than the features described, functionality of UR devices is not affected by the TL power supply module. The TL power supply module can be ordered as a direct replacement of some previous power supply module.

For UR devices with a redundant power supply configuration, ensure that both power supply modules match the module type, for example TL and TL, SH and SH, RH and RH. Mixing the TL power supply

module with a previous version (RL or SL) in a redundant configuration can lead to undetermined hardware and system behaviors and is not recommended.

UR Power Supply Module Order Code

The order code of a UR device and UR replacement kits are not affected by the TL power supply module; the TL order code applies to replacement modules.

	UR	-	**	*	Description	Notes
Type of Voltage Range			|	|		
			SH	|	125 / 250 V AC/DC with Auxiliary Voltage Output	Since 2014
			TH	|	125 / 250 V AC/DC with NO Auxiliary Voltage Output	Since November 2023
			SL	|	24 - 48 V (DC only) with Auxiliary Voltage Output	Since 2014
			TL	|	24 - 48 V (DC only) with NO Auxiliary Voltage Output	Since October 2024
Mounting				A	Horizontal Mounting - Harsh Environment Coating	
				B	Vertical Mounting - Harsh Environment Coating	

All TL/TH power supply modules are conformally coated.

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