

DTK-KG2 INSTALL

This is a high performance device designed to provide under-voltage and over-voltage protection for sensitive electronic circuits and mechanical equipment. Maximum protection will only be achieved if the device is properly installed. Please read and follow the installation instructions carefully.

NOTICE: This device should be installed by a licensed contractor per the applicable requirements of the NEC and by using the following instructions.

APPLICATION

This device is designed to be installed in series with a 120/240VAC, 40A max split phase circuit. Intended line voltages are as follows:

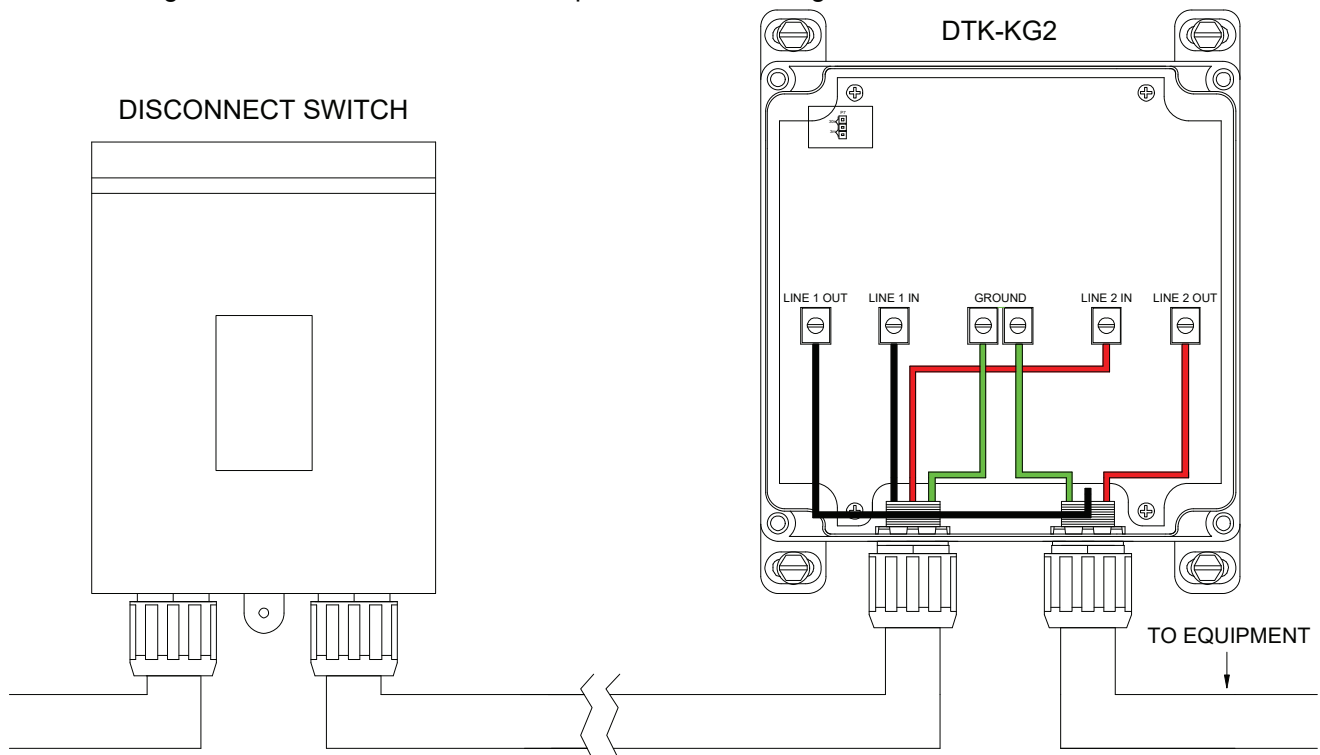
LINE 1 to LINE 2: 208-240VAC LINE 1 to GROUND: 120VAC LINE 2 to GROUND: 120VAC

The mechanical lugs are rated for a wire size range of 14 - 6 AWG Stranded Cu. Rated torque 25 IN. LBS. The enclosure carries a UL Type 4X rating and is intended to be installed either indoors or outdoors. Instructions for the use of conduit fittings - Listed (DWTT/7), Liquid tight, 1/2 or 3/4 inch non-metallic conduit fitting secured through holes of enclosure.

INSTRUCTIONS:

Caution: Measure all voltages to ensure applied voltage does not exceed the voltage rating of the unit. Improper installation voids the warranty.

1. Turn off the power to the equipment at the circuit breaker and the disconnect switch before beginning installation.
2. Position the DTK-KG2 between the load side of the circuit breaker or disconnect switch and the equipment.
3. The unit is shipped from the factory with (2) pre-drilled 1/2" NPT holes that will accept non-metallic flexible conduit male fittings. If using 3/4" NPT conduit fittings, see fitting preparation instructions on last page.
4. Important Note: The conduit holes should always be oriented facing down.
5. Securely mount the unit using all (4) mounting tabs and the appropriate fasteners compatible with the surface type. Example: Masonry fasteners, concrete anchors or wood screws.
6. Remove the unit cover by loosening the (4) screws located in the corners.
7. Route the conduit from the disconnect switch into one of the pre-drilled holes on the device enclosure.
8. Terminate the (2) phase wires to "LINE 1 IN" and "LINE 2 IN". Terminate the ground conductor to "GROUND".
9. Route the conduit from the equipment into the unused pre-drilled hole on the device enclosure.
10. Terminate the (2) phase wires to "LINE 1 OUT" and "LINE 2 OUT". Terminate the ground conductor to "GROUND".
11. Replace the lid and securely fasten the (4) screws in each corner.
12. Restore power by turning on the disconnect switch or circuit breaker feeding the equipment. The DTK-KG2 will enter a startup sequence and will not allow power through to the equipment for approximately 3 minutes.
13. The DTK-KG2 is designed with (2) sets of GREEN and RED LED indicators. The LEDs will blink in various combinations depending on the condition that the device has detected. The LED color chart referenced on page 3 is intended to serve as a guide for determining the LED combination that corresponds to each voltage condition.



DTK-KG2 LED INDICATOR GUIDE

Normal Voltage Operating Range: 104VAC to 130VAC L1 to Ground and L2 to Ground

Under-voltage Condition: Less than 104VAC L1 to Ground or L2 to Ground

Over-voltage Condition: Greater than 130VAC L1 to Ground or L2 to Ground

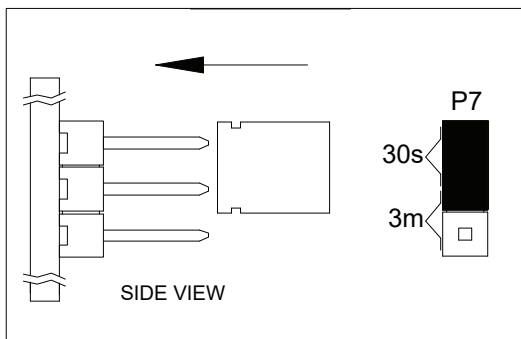
LINE 1			LINE 2			Condition	Switched
						Normal	On
		S				L1 Under	Off
		F				L1 Over	Off
			S			L2 Under	Off
			F			L2 Over	Off
		S	S			L1 Under / L2 Under	Off
		F	F			L1 Over / L2 Over	Off
		S	F			L1 Under / L2 Over	Off
		F	S			L1 Over / L2 Under	Off
S		S				Recovering from L1 Under	Delayed
S		F				Recovering from L1 Over	Delayed
S						Recovering from L2 Under	Delayed
S						Recovering from L2 Over	Delayed
		A	A			Service Required	On
A		A	A			Generator Mode	On

S = Slow Blink F = Fast Blink A = Alternating Blink

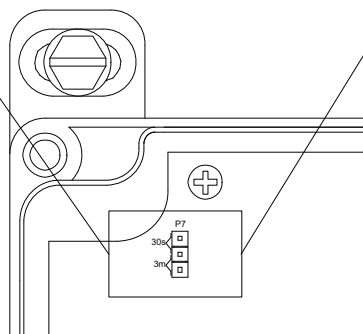
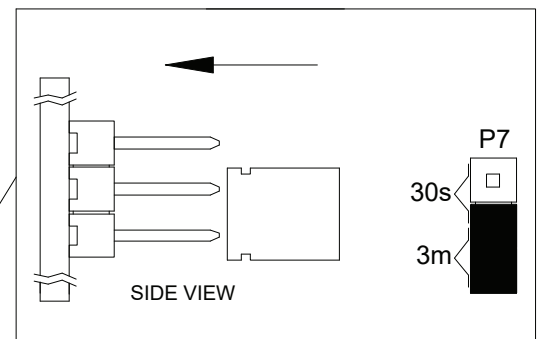
“Service Required” indicates the surge protection components have expired and the unit should be replaced.

Short cycle delay duration is 3 minutes (default) when an under-voltage or over-voltage condition is detected. This delay setting can be changed to 30 seconds via jumper “P7” at the top left of the circuit board. This jumper position can only be changed when the unit is safely de-energized. If the voltage has not returned to normal range, or the condition reoccurs within the delay window, the timer will re-engage for an additional 3 minutes or 30 seconds depending on the selected setting. If the scenario repeatedly occurs, it is recommended to contact an electrician or the local electric company.

30 SECONDS



3 MINUTES



DTK-KG2 GENERATOR MODE FEATURE

If running on standby or backup generator power, the KG2 must be placed into Generator Mode to ensure power to the HVAC system is not interrupted.

Entering Generator Mode

KG2 is in normal mode and has been powered on for at least 5 seconds.

1. Turn power off to the KG2 via the circuit breaker or disconnect switch.
2. Turn power back on.
3. Within 5 seconds, turn power off and immediately on again.
4. Within 5 seconds, turn power off and immediately on again. (3 total off/on cycles)

LED indicators will alternate between red and green, left to right to confirm the KG2 is in Generator Mode and no longer monitoring voltage. Surge protection components are still active.

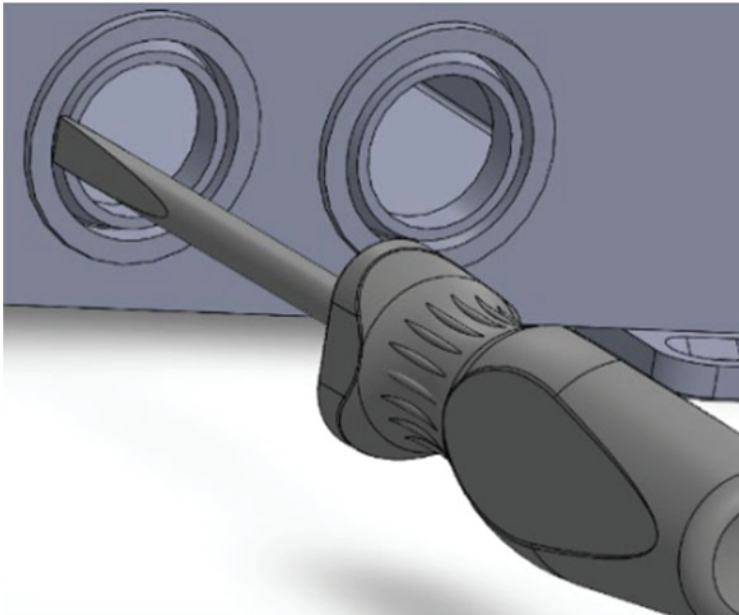
Returning to Normal Mode

KG2 is in Generator Mode and has been powered on for at least 5 seconds.

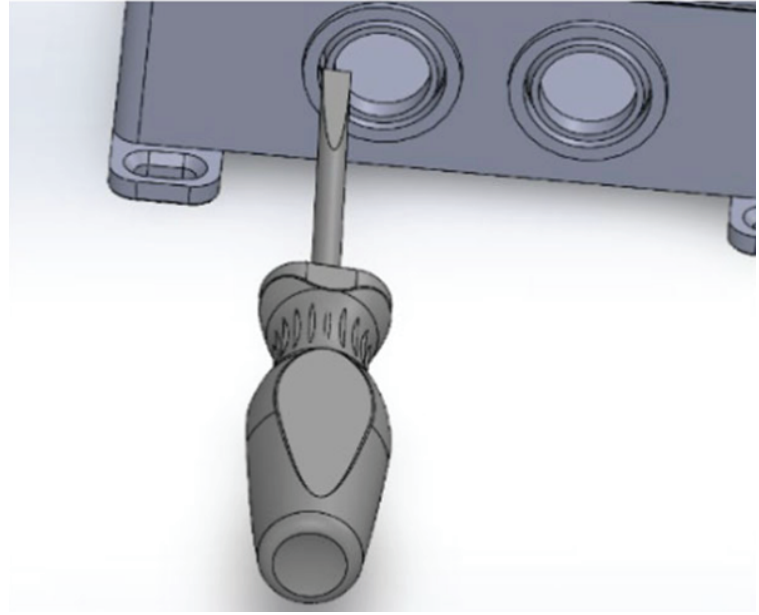
1. Turn power off to the KG2 via the circuit breaker or disconnect switch.
2. Turn power back on.
3. Within 5 seconds, turn power off and immediately on again.
4. Within 5 seconds, turn power off and immediately on again. (3 total off/on cycles)

Only the green LED indicators will flash to confirm the KG2 is in normal mode and the delay timer is counting down to resume normal operation.

DTK-KG2 3/4" FITTING PREPARATION



1. Using a 1/4" flat blade screwdriver, insert the tip in the groove between the inner and outer rings. Using a hammer, strike the screwdriver firmly to pierce the enclosure wall.



2. Remove the screwdriver from the enclosure wall, exposing the newly created hole. Carefully turn the screwdriver blade sideways, placing the tip across the inner ring adjacent to the damaged area. Using a hammer, strike the screwdriver firmly to knock out the inner ring, during this step, do not allow the screwdriver tip to make contact with the outer ring, as this may damage the sealing surface.



191645 INT-100202-001 Rev 9

DITEK CORPORATION

One DITEK Center 1720 Starkey Road Largo, FL 33771
1-800-753-2345 www.diteksurgeprotection.com