

Violux Tri-Level Lighting System Trouble Shooting Chart

N.R. 9005 and Up

Problem	Possible cause or symptom	Test Procedure	Remedy
Lighting System Does not Turn On			
Main Power Contactor does not energized	No electrical power to equipment	Check power line fuses or circuit breakers.	
	Power is present but the main power contactor will not energize	<ol style="list-style-type: none"> 1. Check for 220 VAC at terminals 19X2 & 21X2 If not present Check F1, S1 & S4 2. Depress the green power on Push button. Check for 220 VAC at the coil terminals of the main power contactor K1. IF there is no voltage present, <ol style="list-style-type: none"> a. check off Push button S 2 b. Check the off relay K9 on A5 in the RCB If there is voltage <ol style="list-style-type: none"> c. check the K1 	<ol style="list-style-type: none"> 1. F1 P/N is 63342 S1 P/N is 72206 S4 P/N is 72202 2. <ol style="list-style-type: none"> a. S2 P/N is 70943 b. A5 P/N is 56886 c. K1 P/N is 63976
	Power Contactor energized but releases when the on Push button is released	1. Check latching contacts of K1 contactor	1. K1 P/N is 63976
Main exposure lamp does not light but contactor Energizes	Exposure Lamp is too hot to restart	Allow Exposure lamp to cool down for at least five minutes before attempting to restart.	
	Exposure Lamp, E1, is defective or has reached end of operating life.	Check Exposure Lamp for glass or electrode damage.	If Exposure Lamp is defective replace with A) VT4 Multi Spec. THS 3027; Diazo THS 3020 B) VT 6 Multi Spec. THS 6027; Diazo THS 6020 C) VT 8 Multi Spec. THS 8027
	Defective starter (6KW and 8 KW only)	Check igniter , GZ 501, on starter circuit board in Lamp House for proper firing. Replace igniter if it does not glow at all or glows steadily when the lamp is not lit. If problem still exists replace Starter circuit board A4	<ol style="list-style-type: none"> 1. GZ 501 is P/N 33309 2. Starter Circuit Board A4, is P/N 56884
	Main power transformer defective	On the main transformer (T1) <ol style="list-style-type: none"> 1. Check voltage between terminals 2 & 4 for 220 VAC (+/- 10 Volts) 2. Remove the wire on terminal # 6 Check voltage between terminals 4 & 6 for 800 VAC 	If Main Transformer (T1) is defective replace with A) VT 4 T1 is P/N 44071 B) VT 6 T1 is P/N 44072 C) VT 8 T1 is P/N 44073
	Reduced Power Choke defective	Check DC resistance of Choke Coils (L1), They should be approximately 1/4 w	Choke (L1) is P/N 44596

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	Poor connection in lamp circuit	Check the following wire connections 1. K 4 Contactor 2. K 5 Contactor 3. The Lamp House connector 4. The Lamp Holder connections	
Lighting Draws very High Current	Defective lamp	Check lamp Current a) 6 & 8 KW Max current is 14.5 Amps. b) 4 KW max current is 10 Amps)	a) VT 4 Multi Spec. THS 3027; Diazo THS 3020 b) VT 6 Multi Spec. THS 6027; Diazo THS 6020 c) VT 8 Multi Spec. THS 8027
	Defective power compensation circuit	Check power compensation Capacitors C1. a) 6 & 8 KW is 18 Amps, (180mf) b) 4 KW is 12 Amps, (120 mf)	Compensation Capacitors C1, are P/N 20972 a) 6 & 8 KW Quantity 6 Each b) 4 KW Quantity 4 Each
	Tap incorrectly set	Verify tap setting	
Lamp Does Not Switch To Proper Power Level	Power level push-button incorrectly set	Check Power Level pushbutton.	
	Defective Power Level Selector Switch S7 & S8	Check that 220 VAC is present during Expo a) High Power Read 1 X2 & 2 X 1 b) Low Power Read 9X2 & 2 X 1	Power Level Selector Switch S7 & S8, is P/N 72120
	Defective Exposure control relay auxiliary timer	Check that 220 VAC is present during Exposure between 3 X2 & 2X1	Auxiliary timer on the Exposure Relay K3 P/N is 63861
	Defective High or low power contactor	Check that 220 VAC is present at the contactor coil during Exposure. a) High Power K5 b) Low Power K4	a) High Power Contactor K5; is P/N 63894 b) Low Power Contactor K4; is P/N 63859
Light Problems			
Low Light Output	Lamp is near end of operating life	Check for blackening or distortion of Exposure Lamp. Does the lamp have more than 1000 hours? Replace lamp.	a) VT 4 Multi Spec. THS 3027; Diazo THS 3020 b) VT 6 Multi Spec. THS 6027; Diazo THS 6020 c) VT 8 Multi Spec. THS 8027
	TAP improperly set	Check tap setting	
	Reflector or glass dirty.	Clean reflector and glass	Use a good Quality Graphic Arts Glass Cleaner such as Theimoclean. P/N 85164
Long Exposures do to Vacuum Frame Glass	Does your glass cleaner have a polymer wax or UV block in it?	Expose a step scale through a piece of 1/4" Plate glass on top of the Vacuum Frame Glass, Then expose the same scale through the Vacuum Frame Glass. The 2 exposures should be the same.	Clean glass with alcohol and than a Graphics Arts quality glass cleaner, such as Theimoclean. P/N 85164. If the the problem continues, replace the Vacuum Frame Glass with Select Quality 1/4" Polished Plate Glass.

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	<p>Warning UV HAZARD When trouble shooting the shutter system or the cooling system the Exposure Lamp Should be disabled by removing the wire on terminal # 6 of the Main Transformer (T1)</p>		
Shutter System			
Shutter does not open or close	Problem with DC supply	<ol style="list-style-type: none"> 1. Check fuses F3 & F4 2. Check AC input to Bridge Rectifier (22 VAC) 3. Check DC output of Bridge Rectifier, A1 Should be (+) 16 VDC & (-)16 VDC in reference to terminal 9 on T1 	<ol style="list-style-type: none"> 1. F4 or F 5 is P/N 63336 2. Bridge Rectifier, A1 , is P/N 31313
Shutter Does Not Open	Expose relay K3 not actuating or providing a output to open shutter	<ol style="list-style-type: none"> 1. Check RCB output, 220 VAC during exposure on terminals 17X2 & 2X1. 2. Check operation of K3 relay <ol style="list-style-type: none"> a. (+16) VDC at out put of K3 at 8X1 & 9X1 	<ol style="list-style-type: none"> 1. RCB P/N 95645 <ol style="list-style-type: none"> a. S9 Switch P/N 71384 b. A5 Relay board P/N 56886 c. RCB Cabling and connector 2. Exposure Relay , P/N is 63798
	Limit switch defective or Limit switch sticking	Check operation of "open" sensing limit switch LS2.	Limit switch, LS2, is P/N 72104
	Shutter motor defective	Check for 12 VDC at Shutter Motor, M3	Shutter Motor, M3, is P/N 43367
	Shutter or Shutter motor Gears worn	Visual examination of Gears	A) Shutter Motor Gear is P/N 160432 B) Shutter Assembly P/N 161729 (Shutter gears are available separately, but require a pinning operation to attach them to the shutters. Shutter Gear P/N 68714)
Shutter Does Not Close	Expose relay K3 not deactivating or providing a output to close shutter	<ol style="list-style-type: none"> 1. Check that manual open shutter switch on RCB is in the closed position. 2. Check operation of K3 relay <ol style="list-style-type: none"> a. (-) 16 DC at output of K3 at 7X1 & 9X1. 	<ol style="list-style-type: none"> 2. Exposure Relay , P/N is 63798
	Limit switch defective or Limit switch sticking	Check operation of "close" sensing limit switch LS1.	If Limit switch, LS1 is defective, replace with P/N 72104
Shutter Opens Or Closes Noisily	Limit switches out of adjustment		Adjust limit switches
	Braking diodes defective	Check braking diodes. Located under heat shrink at terminal # 8 in Lamp House.	Braking diodes are P/N 95516
Lamp House Cooling System			

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Lamp swells	Lamp not cooled properly	<ol style="list-style-type: none"> 1. Check for obstruction at blower air intake. Remove obstruction, dust, dirt, paper ect. 2. Is air intake over 95 deg F at blower 3. Blower circuit defective 	<ol style="list-style-type: none"> 1. Remove Blower from Lamp House and clean thoroughly 2. Ventilate room properly
Exposure Lamp Blower not functioning	Defective blower control Board, A2	<ol style="list-style-type: none"> 1. Check lamp voltage at Blower Board, A2 Terminals #2 & 4. If there is over 180 Volts the blower circuit should turn on. If the voltage is low check the Exposure Lamp for proper operation 2. Bypass blower control card by removing the wire from terminal #1 of the Blower control board and attaching it to terminal #2. If blower work normally, the A2 board is bad. 	<ol style="list-style-type: none"> 1. If the lamp voltage is low, check lamp circuit for proper operation and than replace the lamp. (See lamp section for Info) 2. The Blower Control board is P/N 56528
	Defective Low and Medium speed capacitors	Bypass the Blower Control Board, A5. Check the Blower Voltage at Terminals 5X1 & 6X1 <ol style="list-style-type: none"> 1) High Power Exposure 211 To 230 VAC 2) Medium Power Exposure 110 to 150 VAC 3) Low Power Exposure 50 to 90 VAC 	If the voltages are wrong check the following <ol style="list-style-type: none"> 1) Voltage high or low on High Power Exposure Verify that the Tap is set Correctly, and Verify that the control circuit (F2) is on the 220 VAC terminal of the T1 Transformer. 2) Voltage high or low on Medium Power Exposure. Medium speed Cap. is defective. Check Cap. and replace if defective, with <ol style="list-style-type: none"> a. VT 4 P/N 23740 b. VT 6 P/N 23738 c. VT 8 P/N 23756
			<ol style="list-style-type: none"> 3) Voltage high or low on Low Power Exposure. Low speed Cap. is defective. Check Cap. and replace if defective, with <ol style="list-style-type: none"> a. VT 4 P/N 23737 b. VT 6 P/N 23756 c. VT 8 P/N 23756 & P/N 23739
	Defective Blower	With the Lamp disabled, the Blower Control card by passed, and the Montakop on High Power Exposure, check for 220 Volts at the Blower Motor. If present and blower does not run, the blower motor and or the starting cap are defective.	<ol style="list-style-type: none"> 1. Exposure Lamp Blower Motor & Capacitor <ol style="list-style-type: none"> a. VT 4 Motor P/N 43455, Cap. P/N 23736 b. VT 6 Motor P/N 43401, Cap. P/N 23737 c. VT 8 Motor P/N 43423, Cap. P/N 23756
Lighting System turns off and power indicator Extinguishes.	<ol style="list-style-type: none"> 1. Lamp house safety is sensing over temperature situation. 2. Transformer safety is sensing over temperature 	<ol style="list-style-type: none"> 1. Check for over heating of Lamp House 2. Check for cooling problem in power supply and check lamp for high current draw. 	<ol style="list-style-type: none"> 1. Correct Cooling system problem and replace lamp house safety thermostat, P/N 72202. 2. Correct Cooling system problem and or lamp problem and replace transformer safety thermostat, P/N 72206.