

PSP Load Shed, External Input Staging LS1**LX (2274C)**

The following paragraphs are in reference to the various control points, connections, and description relating to this generic system main hookup drawing (LH404). This does not show the load shed contactors and line voltage wiring for the loads or sub-panels.

- A** – Automatic Transfer Switch (ATS), the ATS logic interface and ground/bonding to the GEN is not shown.
- B** – Standby generator (GEN), logic and/or connections between GEN and ATS are not shown, that information relates to the manufacturers of either or both devices.
- C** – Load shed demand staging controller (2274C) and field hookup points.
- D** – ATS internal status dry contact, closed contact when the ATS device determines the utility has returned. This UT OK contact is open with loss of utility.

The load shed controller, upper right, plug-in terminal block needs to receive the two wires from the ATS dry contact.

If the ATS status output has a logic 12VDC or 24VAC output, connect one wire to the “–” terminal.

- E** – 12VDC power source for the load shed, demand staging controller (2274C). Connection polarity must be observed and correct.

It is assumed the 12V battery has a trickle charger active during non-outage. This battery is the 10-14VAC source to the load shed, demand staging, control board at all times (see G). The standby requirement is less than 0.2 amps.

- F** – It is assumed the battery negative terminal is the same as the bonded ground connections within the system. The 12VDC “–” terminal is the common bonding point for the controller.

- H** – Status LED for the load shed, demand staging operations:

- On solid = normal non-outage, UT OK is HI, GEN PWR is LO
 - 1 blink every 2 seconds = doing delay between stage step (typically 15 sec). This has precedence over all others.
 - 2 blinks every 2 seconds = UT OK and no input
 - 3 blinks every 2 seconds = UT OK and any input stage

Drawing: **LH404** (page 3 of this manual)



PSP Products, Inc.
P.O. Box 4108
Manassas, VA 20108
800 648-6802 / Fax (703) 368-8376
Web: www.pspproducts.com

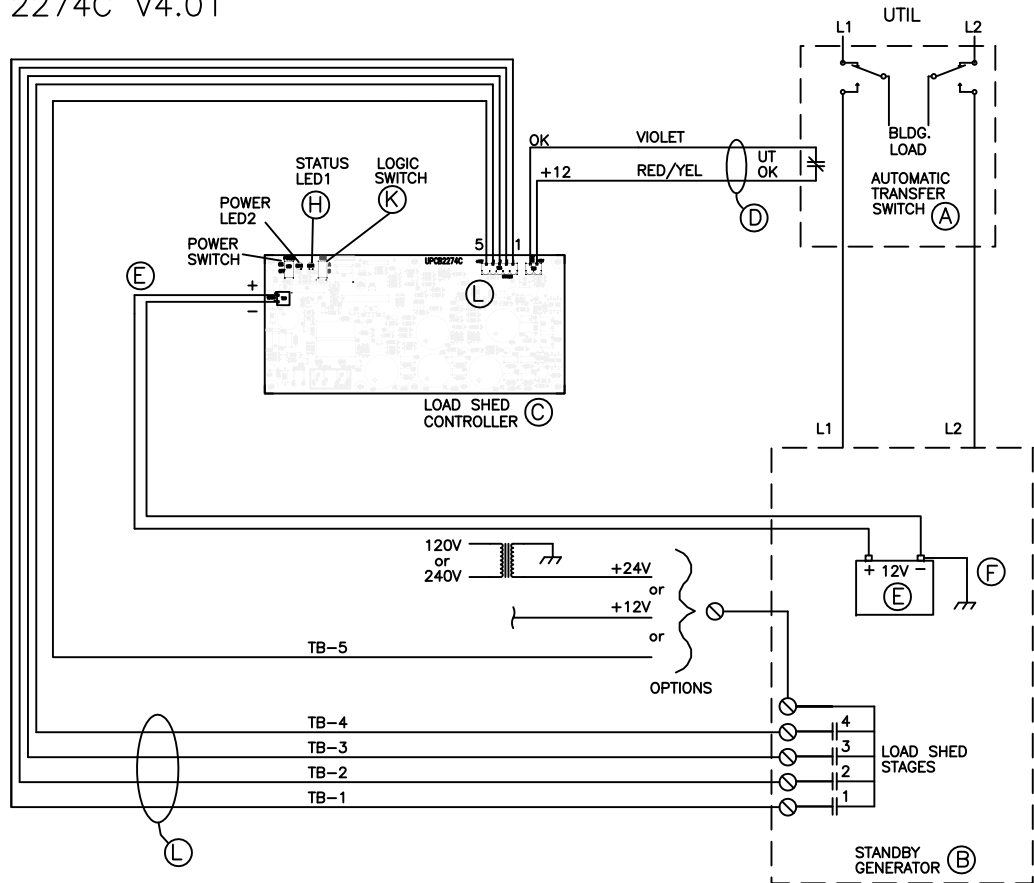
K – The A/B switch is for setting up logic between input and output contactor NO or NC. Power-down reset is required after this setup.

- Switch in A position
 - Hi input, output is NC
 - Lo input, output is NO
- Switch in B position
 - Hi input, output is NO
 - Lo input, output is NC

L – Connection point for staging, load shed, inputs. Plug-in TB provided, field cable required.

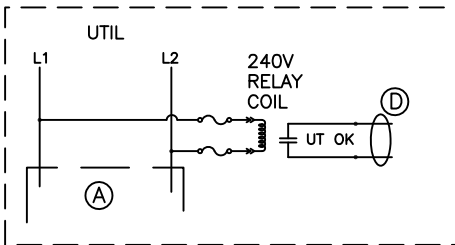
- **Warning** – do not connect any voltage or signal to the PSP, load shed, staging controller greater than 24VAC (Class 2 wiring).
- **Comment** – The ATS status (D) still applies.

PSP LOAD SHED, 4 IN /4 OUT 2274C V4.01



- A AUTOMATIC TRANSFER SWITCH (ATS)
- B STANDBY GENERATOR (GEN)
- C LOAD SHED CONTROLLER
- D UT OK STATUS
- CONNECT DRY CONTACT ONLY
- E 12VDC BATTERY
- F BAT. NEG. GROUND
- H STATUS LED - see note
- K IN TO OUT LOGIC - see note
- L CONNECTORS FOR INPUT
- DD 'LIVE' UTIL SERVICE RELAY

OPTION (DD) LH405: LS-RLY-KIT



(H) Yellow Status LED 1:

On solid	Normal non-outage, UT OK is HI, GEN PWR is LO
1 blink every 2 seconds	Performing delay between stage step (typically 15 sec) This has precedence over all others.
2 blinks every 2 seconds	UT OK and All 4 inputs are not active
3 blinks every 2 seconds	UT OK and At least 1 input is active

(K) SW2 - LOGIC SWITCH

- A = Output NOT Inverted
- B = Output IS Inverted

DECAL: UAW005
Rev A

PROPRIETARY AND CONFIDENTIAL
NOTE: THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ELECTRO INDUSTRIES INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ELECTRO INDUSTRIES INC. IS PROHIBITED.

NAME	DATE
DRAWN CRN	2/5/15
CHECKED	
APPROVED	

PSP PRODUCTS, INC. Manassas, VA 20108
800 648-6802

SCALE	STATUS	REV
NTS	Production	A

NUMBER	LH404	1 OF 1
DESCRIPTION	TC-LS**1**LX WIRING DIAG. & DECAL VERSION 'C' CONTROL	

PSP Load Shed, CT Demand – Definitions (2274C)

UT OK – high input (or contact closed) and assumes utility has returned and solid. Low input is outage.

Outage, UT OK goes low – 5-second debounce seems long enough. All stages go to off at the end of 5 sec. It is assumed GEN PWR will not go high in the 5 seconds. Anytime the UT OK returns to high, start the Outage Transfer Delay sequence.

Outage Transfer Delay – PC setup, 1-45 minutes. This starts when UT OK goes high. All stage contactors are opened. At delay end stage step in begins.

UT OK is priority – at the end of Outage Transfer Delay, all outputs will step in, CT current is no longer monitored.

- Thus this product is **not** for manual transfer applications.

Non-manual transfer switch application – standby generator or its breaker must be off before the Outage Transfer Delay is run out.

Standby generator test – no Hot test allowed (ATS must stay in UT → LOAD position).

Target = kW (PC entry) x 1000/240

Shed, step down stages – CT current level, 2-second over target decision, highest stage. Next CT current decision (2 seconds) – if 20% over target also drop the next highest stage.

AC/HP low voltage shed – one function or relay tied directly to shed stage 1, the second function or relay tied directly to shed stage 2. Also see PC Setup.

Detecting generator connection/power – with this REV C and V6.0*, the CT is used to detect generator function, power available. This is a direct sequence function when the UT OK contact opens. After the UT OK opens (+5 seconds) if the CT does not detect generator power greater than 5 amps, all shed stage contactors remain open. When the UT OK dry contact is closed, the generator CT is ignored, all shed contacts are opened, and the Outage Transfer Delay is started. At the end of this PC setup time, the logic must assume utility is solid and the ATS has removed the generator from the load. Thus the load shed contactors step in and will be closed as long as UT OK dry contact is closed.

Hardware/software logic – each unique product model number (type and sizing) must relate to specific chip code and board hardware arrangement.

Logic transitions – except for real time generator current (CT amps) going up and down, where possible do not cause a function change when the status LED is doing a 1 count or blink.