



Solid State Latching Relay (SSLR)

Robust FTS power termination solution designed to RCC319-19.

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Invocon's Solid State Latching Relay (SSLR) provides isolated, regulated, redundant control over an external power source and its load. The SSLR can be used as a power termination solution for Flight Termination Systems (FTS) whose mode of operation is thrust termination. The SSLR can accept two TERMINATE signals from up to two Flight Termination Receivers (FTR) in a cross-strapped configuration where either TERMINATE signal can latch off both of the internal components to cut power to the load. The SSLR was designed to the RCC 319-19 standard.

Key SSLR Features:

- Load Power
 - Input: Single 26 to 45 Vdc at up to 4.8A.
 - Output: Single fixed voltage, step down regulation of load power output customizable between 5V to 21V at up to 4.8A.
- SSLR Input Power and Latch Signals (i.e., TERMINATE) are nominal 28 Vdc
 - Internal switch is Normally Closed (provides power to load)
 - Latch Open (i.e. TERMINATE) signals each require >15.1 Vdc to change state from closed to opened.
 - Supports cross strapping latch open signals (i.e., TERMINATE) from different devices (e.g., FTRs) for further redundancy in an FTS setting.
 - Power dropout survivability in latched open state up to 50ms.
- TM Status
 - TM status output is scaled to 0-5 Vdc for monitoring power, on/off state, and control signals in telemetry.



Key Interface Specifications

[P1] SSLR Power Input	26 to 45 Vdc, 28Vdc Nominal
[P2] TERMINATE Input	15.1 to 34 Vdc, 28Vdc Nominal
[P3] Load Power Input	26 to 45 Vdc, 28Vdc Nominal
[J1] Load Power Output	20.2 Vdc in current (-301) configuration Factory selectable from 5V / to 21V
[J2] TM Status Output	0 to 5Vdc
Load Output Current	4.8A
Connectors	<ul style="list-style-type: none"> • [P1] D38999/20FC4PN latching control voltage in (SSLR's DC Power Source) • [P2] D38999/20FB4PN latch control (FTR(s) TERMINATE in) • [P3] D38999/20FB4PA load voltage in (Load DC Power Source) • [J1] D38999/20FB4SN load voltage out (Load) • [J2] D38999/20FC98SN telemetry monitors (TM Status)
Size	6.5 x 4.0 x 2.0 inches (not including connectors)
Weight	Nominal 2.6 lbs
Case Material	7075-T6 aluminum Alodine coated
Operating Temperature	<ul style="list-style-type: none"> • -24° to +61°C (Acceptance Levels) • -34° to +71°C (Qualification Levels)

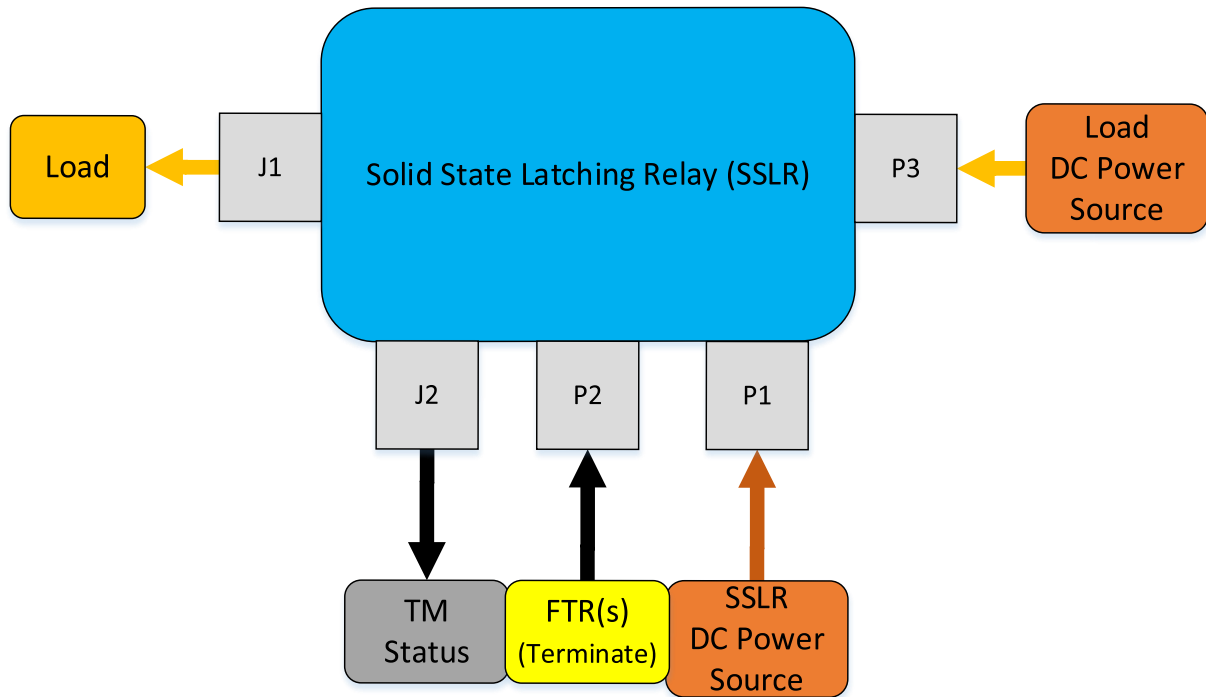
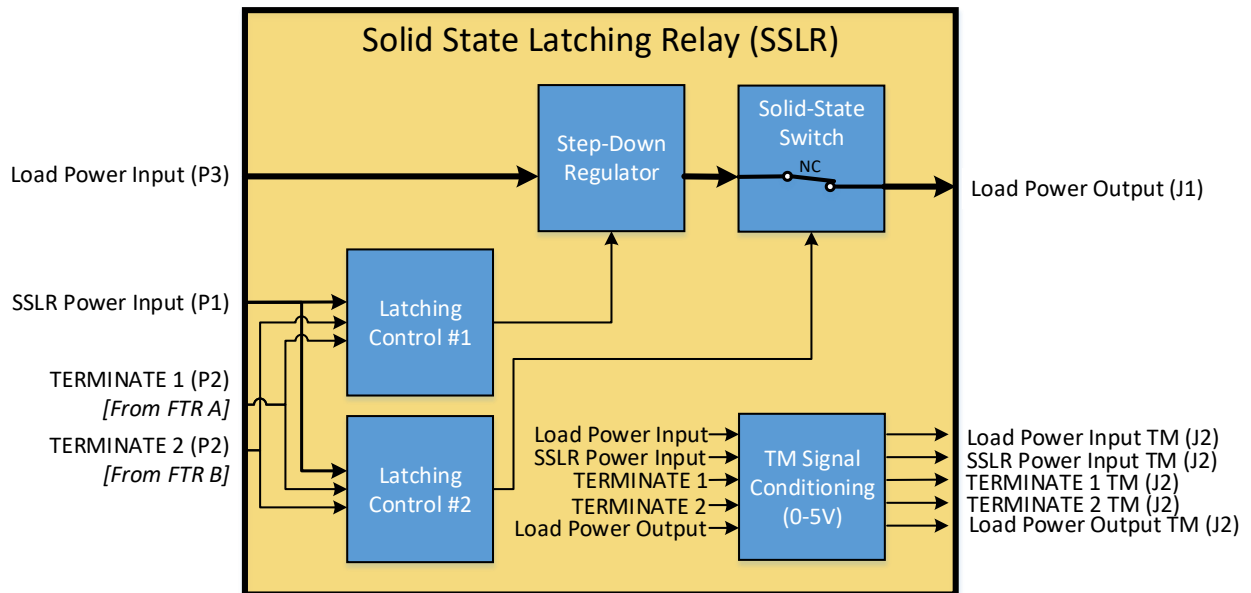


Figure 1: SSLR Connection Block Diagram



Note: High Current lines represented by thicker lines.

Figure 2: SSLR Functional Block Diagram