1582-421L Quad 1:1 Switch, DC-2.15 GHz, 2PDT, M&C Monitor and Channel Select

The 1582-421L Quad 1:1 Switch provides four 2PDT switch pairs (SWITCH 1, 2, 3, and 4). Each switch pair independently provides Auto, Manual or Remote (M&C) latched relay switching between PRIMARY and BACK-UP, DC - 2.15 GHz RF signals. The M&C provides monitoring of all parameters, Switch Reset, and Channel Selection (when in Auto mode only). Alarm conditions on PRIMARY and BACK-UP are either a contact closure to ground or an open (selectable by a rear panel DIP switch). Auto has three modes:

- **Auto - PRIMARY**: The PRIMARY preferred mode - switches from PRIMARY to BACK-UP only if PRIMARY alarms and BACK-UP is good. The unit switches back to PRIMARY when PRIMARY is no longer in alarm or both PRIMARY and BACK-UP in alarm.
- **Auto - LATBACK-UP**: Latch to BACK-UP mode - switches from PRIMARY to BACK-UP if PRIMARY alarms and BACK-UP is good and stays in BACK-UP regardless of PRIMARY or BACK-UP alarm conditions until reset to PRIMARY by the front panel Switch Reset switch or M&C command.
- **Auto - MIN SW**: Minimum Auto switching mode - switching occurs if the active channel (set by the front panel Manual Select switch or M&C command) alarms and the other channel is clear. It switches back if this channel then alarms and the other is clear.

When power is lost, the current latched state remains selected. Front panel LEDs indicate PRIMARY and BACK-UP alarms, Remote or Manual mode, and redundant power supplies on. Rear panel DIP switches set alarm polarity (NO or NC for alarm), M&C interface, and Auto modes (PRIMARY PRIME, LATBACK-UP, or MIN SW). The front panel switch selects the signal path in the Manual mode or selects Manual, and redundant power supplies on. Rear panel DIP switches set alarm polarity (NO or NC for alarm), M&C interface, and Auto modes (PRIMARY PRIME, LATBACK-UP, or MIN SW). The front panel switch selects the signal path in the Manual mode or selects

### Technical Specifications

**RF Switch Characteristics (Each Switch)**

- **Impedance / Connectors**: 75Ω / BNC
- **Return Loss**: 12 dB min, ± 14 dB typ; DC to 1.5 GHz
- **10 dB min, ± 12 dB typ; 1.5 to 2.15 GHz**
- **Frequency Response**: ≤ ± 0.5 dB, 40 MHz BW; ± ±1 dB, 1 GHz BW
- **Isolation**: 55 dB min, ± 60 dB typ; DC to 1.5 GHz
- **45 dB min, ± 50 dB typ; 1.5 to 2.15 GHz**
- **Insertion Loss**: 1.5 dB max, ± 1.0 dB typ; DC to 1.5 GHz
- **2.5 dB max, ± 2.0 dB typ; 1.5 to 2.15 GHz**
- **Switch time**: ≤ 20 milliseconds
- **DC Switching**: 30VDC, max; 0.5 Amps, max
- **Type, Configuration**: Latching Relay, 2PDT, no termination

**Alarm and Control, M&C**

- **Alarm output signal**: Form C relay: 30VDC, 0.5A max
- **M&C Interface/baud rate**: RS232C or RS422/485, selectable/9600 (Ethernet Optional)

**Controls, Indicators**

- **Primary/Auto/Backup**: Front Panel switch
- **Switch Reset**: Front Panel switch or via M&C
- **Man, Rem, Auto, Alarm, PS**: Red, Yellow, Green, Red, Green (PS1), Green (PS2) LEDs; Alarm has Form C contact closure, M&C
- **Primary, Backup**: Green (good), Red (alarm), Blue (selected) 3 color LEDs

**Connectors, Other**

- **RF Connectors**: 75Ω BNC (female)
- **Ext. Alarms In, M&C Con.**: DB9 (female)
- **Size**: 1 RU, 19 inch standard chassis 1.75” high x 12.0” deep
- **Power**: Redundant 100 - 240 ±10% VAC, 47 - 63 Hz, 20 Watts maximum power supplies

*10°C to 40°C; Specifications subject to change without notice

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