The T1000HR and R1000HR 1+1 redundancy switch units are designed to take advantage of the 1+1 redundancy control interface which is built in as a standard feature of the PBU(B)/PBD(B)/PBU(Ka)/PBD(Ka) series of remote mounted block frequency converters & the PBU(A)/PBD(A) series when fitted with remote control options.

The system is designed to provide redundancy for a single-feed system, maintaining maximum availability whilst allowing routine maintenance and repair work to be carried out on the standby converter, without the normal associated down-time.

The system maintains one converter on-line whilst the other is held in hot standby, allowing the user to select and monitor the on-line converter, or the automatic mode chosen where the system monitors the converter alarm status and if a fault condition develops within the on-line converter, automatically switches traffic to the standby unit.

The redundancy unit can be controlled via the PBU or PBD which in turn is controlled by the user from either a PC based M&C system (RS232/485/Ethernet) or a rack mounted control panel (FPC100).

The T1000HR redundancy interface unit has connections for the PBU block up converter (transmit chain) and the R1000HR for the PBD block down converter (receive chain).

The unit is housed in a rugged weatherproof chassis, suitable for either internal or external/remote locations.

**Peak Features**

- High quality, matched L-Band, SHF & control cable set for interfacing to the PBU/ PBD included as standard
- Configuration options for separate high/ low-Band switching and SHF combining
- Rugged weatherproof housing
T1000HR & R1000HR – Typical Specification

L-Band & RF Interfaces

<table>
<thead>
<tr>
<th>Frequency</th>
<th>L-Band</th>
<th>SHF</th>
<th>SHF (Ka)</th>
<th>Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>DC to 2GHz</td>
<td>to 18.4GHz</td>
<td>to 31GHz</td>
<td>50Ω, N-type (f)</td>
</tr>
</tbody>
</table>

Switch Element Parameters

<table>
<thead>
<tr>
<th>Type</th>
<th>Co-axial, latching</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main path</td>
<td>2 off</td>
</tr>
<tr>
<td>Standby path</td>
<td>2 off</td>
</tr>
<tr>
<td>Switching speed</td>
<td>&lt;15ms</td>
</tr>
</tbody>
</table>

Frequency Dependent Parameters

<table>
<thead>
<tr>
<th>Frequency Dependent Parameters</th>
<th>L-band</th>
<th>S-band</th>
<th>C-band</th>
<th>X-band</th>
<th>Ku-band</th>
<th>DBS-band</th>
<th>Ka-Band</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switch Insertion Loss (max)</td>
<td>0.15dB</td>
<td>0.15dB</td>
<td>0.2dB</td>
<td>0.3dB</td>
<td>0.35dB</td>
<td>0.4dB</td>
<td>N/A</td>
</tr>
<tr>
<td>Switch Return Loss (typical)</td>
<td>23dB</td>
<td>23dB</td>
<td>21dB</td>
<td>18dB</td>
<td>16dB</td>
<td>15dB</td>
<td>N/A</td>
</tr>
<tr>
<td>Switch Isolation (typical)</td>
<td>80dB</td>
<td>80dB</td>
<td>70dB</td>
<td>65dB</td>
<td>60dB</td>
<td>60dB</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Typical System RF Performance

The following gives the typical performance that can be expected from a system comprising Peak single range converters & using the high quality matched L-Band & RF cable set;

- Gain flatness: ±1dB full band
- Insertion loss: 3dB (not including converter gain)
- Option 11c: Increases loss by 3dB nom
- Switching speed: <800ms (from fault to switch completion)

General Performance

**Mechanical**

- Width: 172mm (6.8"), plus connections & mounting flanges
- Height: 123mm (4.85"), plus connections
- Depth: 48mm (1.89"

**Option 11: 290 x230 x95mm (11.4 x9.1 x3.7inch)**

**Construction:** Die-cast Aluminium, IP66 rated

**Weight:**

- Option 1: 1.4kgs (3lbs) nom
- Option 11: 3kg (6.5lbs) nom

**Control System**

- Converter interface: multi-pin circular, weatherproof (mating part supplied)

**Environmental**

- Operating temp: -25°C to +55°C (less solar gain)
- Humidity: 0-100% condensing
- EMC: EN 55022, part B & EN 50082-1
- Safety: EN 60950

**Options**

1. Additional switching for PBU(B)/ PBD(B)series fitted with separate high/ low band option for simultaneous range/ band operation.

2. T1000HR combined high/ low band SHF output interface for PBU(B)series fitted with separate high/low band option for simultaneous range/ band operation.

**Associated Products:**

- FPC100 rack mounted control panel (1RU)