S181 Series Solid State Microwave Power Amplifiers
0.8 – 18.0 GHz • 5 Watts to 50 Watts

Instruments for Industry, S181 Series Solid State amplifiers are state-of-the-art amplifiers and provide outstanding RF performance. The S181 Series amplifiers operate over the frequency range from 8.0-18.0 GHz in various bands and can be supplied at power levels from 5 watts to 50 watts offering all the control and communication features needed for today’s automated test systems. From the ground up, the S181 Series amplifiers are built to withstand rugged handling, whether it’s being shipped to you or hauled around from site to site. They feature heavy-duty aluminum chassis construction with a modular approach for easy access and service.

Operation safety and ease of use are paramount in IFI product designs. The IFI S181 Series include a full complement of RF and hardware protection circuits including high VSWR, over-current, voltage protection, redundant thermal and airflow sensors for the module and the system level. In addition, the S181 series includes a state-of-the-art interface that is sophisticated, comprehensive, and yet simple to use.

The backlit LCD screen shows forward/reverse power indication, system status and self-diagnostic information. All the amplifiers operating parameters are simultaneously available in the amplifier front panel display as well as over the remote bus. Selection switches allow you to switch the amplifier to the desired mode of operation for local control if the unit is not being operated remotely.

For computer automation both an RS-232 and IEEE interface are provided as standard. To meet individual application needs, the S181 Series amplifiers can be easily customized with other options. With this capability and its reliable elegant design, the S181 series amplifiers are the perfect system for your applications.

### Features
- Solid State Design
- Rugged Construction & High Reliability
- Instantaneous Broadband Frequency range
- Backlit screen
- Modular Design Construction
- Integrated Force Air Cooling
- Self-diagnostic circuitry
- IEEE-488 interface & RS232 Remote

### Models & General Specifications:

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Frequency Range (GHz)</th>
<th>Rated Power (watts minimum)</th>
<th>P1dB Power (watts minimum)</th>
<th>Gain (dB min)</th>
<th>Mains (kVA)</th>
<th>Weight (Pounds)</th>
<th>Size (Inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S181-5</td>
<td>0.8-18.0</td>
<td>5</td>
<td>5</td>
<td>40</td>
<td>.10</td>
<td>40</td>
<td>5.25&quot; H x 19&quot; W x 24&quot; D</td>
</tr>
<tr>
<td>S181-10</td>
<td>0.8-18.0</td>
<td>10</td>
<td>8</td>
<td>40</td>
<td>.10</td>
<td>45</td>
<td>7.00&quot; H x 19&quot; W x 24&quot; D</td>
</tr>
<tr>
<td>S181-20</td>
<td>0.8-18.0</td>
<td>20</td>
<td>12</td>
<td>44</td>
<td>.20</td>
<td>50</td>
<td>8.75&quot; H x 19&quot; W x 24&quot; D</td>
</tr>
<tr>
<td>S181-25</td>
<td>0.8-18.0</td>
<td>25</td>
<td>15</td>
<td>44</td>
<td>.25</td>
<td>75</td>
<td>10.5&quot; H x 19&quot; W x 25&quot; D</td>
</tr>
<tr>
<td>S181-30</td>
<td>0.8-18.0</td>
<td>30</td>
<td>20</td>
<td>45</td>
<td>.30</td>
<td>80</td>
<td>10.5&quot; H x 19&quot; W x 25&quot; D</td>
</tr>
</tbody>
</table>

Instruments For Industry
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<table>
<thead>
<tr>
<th>Model</th>
<th>Frequency Range</th>
<th>Weight</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>S181-40</td>
<td>0.8-18.0</td>
<td>40 Lbs</td>
<td>2x 10.5” H x 19” W x 25” D</td>
</tr>
<tr>
<td>S181-50</td>
<td>0.8-18.0</td>
<td>50 Lbs</td>
<td>2x 10.5” H x 19” W x 25” D</td>
</tr>
</tbody>
</table>

Standard Features for IFI S181 Series Solid State Amplifiers

VSWR Reflected Power Protection, the unit operates without damage or oscillation into any magnitude of phase or load impedance, Open & Short Circuit Protection.

* Alternate Prime Power (specify at time of order)

GPIB IEEE 488 & RS232 Remote Control

RF Sample Port on the Front Panel, 112R for rear panel

Internal Pre-amplification to obtain rated output power with an input level of 0 dBm or less.

Gain Control Local & Remote, 30dB range

RF Input/Output Connectors on the Front Panel, 118R for rear panel

Internal Systems Diagnostics & Status Indicators

Total/Operate Elapsed Time Metering in hours

RF Safety Interlock

Forward/Reflected Power Indication simultaneously on Front Panel display

IFI S181 Series Solid State Amplifier Specifications

Frequency Range: As Specified in Model Table

Rated Output Power: As Specified in Model Table

Gain @ Rated Power: As Specified in Model Table

Prime Power: As Required (Some are listed below)

Input/output Impedance: 50 ohms

RF Input/ Sample Connectors: Type N Female, unless specified otherwise

RF Output Connector: Type N Female

Input VSWR: 2.0:1

Output VSWR: 2.5:1

Operating Temp: 0º to 50º C

Non-operating Temp: -40º to 70º C (50,000 feet max)

Humidity: 95% without condensation

Altitude: 10,000 feet

Cooling System: Air cooled, self contained

Modulation: AM, FM, Pulse

Configuration: Rack Mount as specified in Model Table, or Rack/Cabinet Integrated

Spurious Outputs: <-60 dBc nominal

Harmonics: -20dBc minimum @ Linear Power

Standard Prime Powers:

100, 115, 120 VAC ±10% 50/60 Hz, single phase

220, 230, 240VAC ±10% 50/60 Hz, single phase

120/208 or 200/220/230/240VAC ±10% 50/60 Hz, three phase Wye or Delta power is available

200/220/230/240VAC ±10% 50/60 Hz, three phase Wye or Delta power is available

Special Prime Powers other then listed are subject to availability

Some Available Options for IFI S181 Series Solid State Amplifiers
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Option 110-1E: GPIB IEEE-488 RS232 and Ethernet Remote Control
Option 110-2: GPIB IEEE-488 and RS 422 Remote Control
Option 110-3: GPIB IEEE-488 and RS 485 Remote Control
Option 113: Chassis slides for a 19” rack mounting
Option 118A: RF Input On Front Output On Rear
Option 118B: RF Input On Rear Output On Front

Outline Configurations:

5.25” High Chassis

7.0” High Chassis

8.75” High Chassis

10.5” High Chassis

2 Drawer Chassis
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