



## S21 Series (Pulsed)



### MAIN FEATURES

- Intuitive user interface
- Rugged Modular Design Construction
- USB, Ethernet, GPIB and RS232 interface
- 3 year warranty

Instruments for Industry, S21 Solid State Pulse amplifiers series provide outstanding RF performance. Operating over the frequency range from 1.0 GHz to 2.0 GHz and can be supplied at power levels up to 4000 KW pulsed offering all the control and communication features needed for today's automated test systems. From the ground up, the S21 Pulse Series amplifiers are built to withstand rugged handling, whether it's being shipped to you or hauled around from site to site.

Operation safety and ease of use are paramount in IFI product designs. The IFI S21 Pulse 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 system level. In addition, the S21 Pulse Series includes an intuitive interface that is sophisticated, comprehensive, and yet simple to use. The color interface displays forward/reverse power indication, system status and self-diagnostic information. All amplifiers operating parameters are simultaneously available via the interface as well as over the remote bus. Selection via the interface allow you to switch the amplifier to the desired mode of operation for local control if the unit is not being operated remotely.

For remote control operation USB, Ethernet, GPIB and RS232 interface are provided as standard. To meet individual application needs, the S21 Pulse Series amplifiers can be easily customized with other options. With this capability and its reliable design, the S21 Pulse Series amplifiers are the perfect system for your applications.

### Models & General Specifications

| Model Number | Frequency Range | Rated Power | Gain  | Mains Power | Weight | Size                                |
|--------------|-----------------|-------------|-------|-------------|--------|-------------------------------------|
| S21-1KWP     | 1 GHz -         | 1 kW        | 60 dB | 1 kVA       | 55 kg  | 19 inch, 6U Rack Case, 680 mm Deep  |
| S21-2KWP     | 2 GHz           | 2 kW        | 63 dB | 1.5 kVA     | 121 kg | 19 inch, 10U Rack Case, 680 mm Deep |
| S21-4KWP     |                 | 4 kW        | 66 dB | 3.6 kVA     | 121 kg |                                     |



## RF Specifications

|                                 |  |
|---------------------------------|--|
| Gain Variation (max) $\pm$      | +/- 3.0 dB   |
| Harmonics @ P1dB                | -20 dBc  |
| Pulse Width Range               | 100 nsec to 100 usec   |
| PRF Range                       | Up to 100 KHz  |
| Duty Cycle                      | 10% Standard   |
| Pulse Rise & Fall Time          | 25 nsec nominal 45 nsec maximum                                |
| Pulse to Pulse Jitter           | <0.1 dB  |
| Pulse Width Jitter (Distortion) | +/-5 nsec maximum  |
| Pulse Delay                     | 500 nsec maximum / 300 nsec typical                            |
| Pulse Droop                     | 0.5 dB/100 usec, 0.25/10 usec                                  |
| Pulse On / Off Ratio            | 80 dB  |
| Modulation Formats              | AM, FM Pulse   |
| Output VSWR Tolerance           | Infinite any phase (< 4:1 no foldback, > 4:1 gradual foldback) |
| Stability                       | Unconditional  |
| Output Impedance                | 50 Ohm   |
| Input VSWR                      | 2.0:1  |
| Output VSWR                     | 2.5:1  |
| Spurious                        | 50 dBc   |
| Pulse Input                     | Front Panel BNC Female, (TTL into 50 ohms as Standard)         |
| Maximum Input Power (no damage) | 10 dBm   |

## General Specifications

|                     |   |
|---------------------|---|
| Safety Interlock    | Via rear panel mounted BNC-female   |
| Supply Voltage      | < 3KVA Single Phase 90 to 264 VAC<br>> 3KVA Three Phase, 5 Wire STAR, 380 to 415 VAC / 4 Wire Delta, 208 to 240 VAC |
| Supply Frequency    | 47 to 63 Hz   |
| RF Input Connector  | Type N female   |
| RF Output Connector | 7/16 female   |
| Com. Interface      | GPIO, RS232, Ethernet & USB   |
| Cooling System      | Air Cooled, Self-contained  |

## Available Products

| Product  | Description  |
|----------|--|
| S21-1KWP | 1.0 GHz to 1.0 GHz 1KW Pulse Solid State Amplifier |
| S21-2KWP | 1.0 GHz to 1.0 GHz 2KW Pulse Solid State Amplifier |
| S21-4KWP | 1.0 GHz to 1.0 GHz 4KW Pulse Solid State Amplifier |