



1 PPS to 100 MHz

The PD-15RMe is a TTL **Pulse Distribution Amplifier** that provides distribution for one pulse per second (PPS) signals. The pulse distribution amplifier may also be used to distribute pulses with a repetition rate up to 100 MHz.

The instrument distributes the user provided input signal to fifteen buffered isolated outputs. The outputs are designed to drive low impedance loads and long 50 or 75 ohm cables, providing a 2.6 volt peak-to-peak signal into a 50 ohm load. The channel-to-channel delay differences are typically less than 50 ps. The instrument outputs have about 3 ps/K temperature coefficient of propagation delay. The small propagation delay characteristics and low temperature coefficient of delay are essential for the distribution of high-quality timing signals.

The PD-15RMe features network capabilities that enable remote monitoring of the instrument through the Ethernet, in addition to visual monitoring via the front panel. The power levels of input and output signals are continuously monitored. In the event of a loss of input or output signals, a fault condition is reported via the Ethernet interface with the generation of an alarm signal, and via the front panel by turning off the monitor LED for the missing signal.

The PD-15RMe is housed in a 1U, 19-inch rackmount enclosure and features dual power operation capabilities. It can be powered by one 100 to 240 VAC mains source and a +12 to +36 VDC source. In the event that one of the two power sources fails, the instrument will continue to operate with the available power source, and will immediately activate an alarm signal through the Ethernet interface to indicate the power source failure. Additionally the monitor LED of the non-functional power source will turn off to indicate the fault condition.

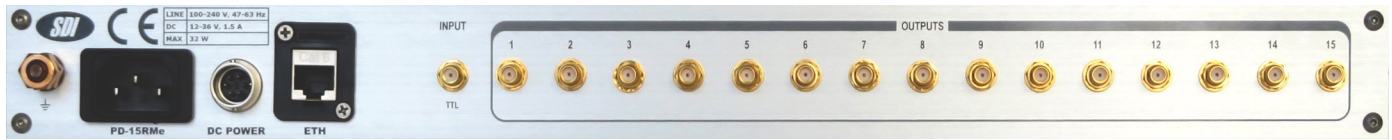
FEATURES

- 1PPS - 100 MHz
- 50 ohm output: 2.6 Vpp
- Low temperature coefficient:
3 ps/°C
- Matched channel delays:
<50 ps typical
- Signal Monitor LEDs
- Ethernet connectivity

APPLICATIONS

- 1 PPS distribution
- Atomic time scales
- Reference clock distribution
- Time synchronization

PD-15RMe



SPECIFICATIONS

PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Rise time	10 – 90%	-	600	700	ps
Fall time		-	800	900	ps
Propagation delay	50 Ω load	-	9	10	ns
Differential delay	CH to CH	-	50	100	ps
Input high level	Input signal into 50 Ω load	+2	-	+5	V
Input low level		-0.7	-	+0.8	
Frequency range	50% duty cycle	0	100	105	MHz
Temp-delay coefficient	0 – 50 °C	-	3	5	ps/K
Impedance	Input	-	50	-	Ω
	Output	-	50	-	
Output high level	50 Ω load, 50 Ω output impedance	+2.4	+2.6	+2.8	V
Output low level		-	+0.1	+0.2	