



MODEL PRM2105

OUTDOOR PREAMPLIFIER

- Built-in heater prevents condensation without the use of desiccants
- Run remote calibration checks simultaneously at five different frequencies
- Drive long cable runs up to 100 meters
- Compatible with standard EXCxxx cables
- Rugged stainless-steel construction
- Wide operating temperature range (-40 °F to 158 °F, -40 to 70 °C)
- Supported by SoundExpert™ Model 821 Sound Level Meters

TYPICAL APPLICATIONS

- Unattended Outdoor Installations
- Environmental Noise Studies
- Urban and City Noise Monitoring
- Industrial Noise Monitoring
- Airport and Traffic Noise Monitoring
- IEC 61672 Class 1 Compliant Measurements

COMMUNITY, TRAFFIC, AIRCRAFT OR ANY LONG TERM NOISE MONITORING

Achieve reliable, low maintenance, long term outdoor noise monitoring in all types of weather using the Larson Davis PRM2105 outdoor preamplifier. An integrated heater prevents condensation inside the microphone capsule, eliminating measurement errors and removing the need for desiccants that require regular replacement. When paired with the EPS2116 outdoor microphone protection system, the PRM2105 delivers consistent, high-quality measurements in even the harshest environments.

Used in combination with the SoundExpert™ Model 821 Sound Level Meter, the system enables automatic daily calibration checks to verify proper operation. These checks help identify potential issues early, reducing the risk of data loss. A documented history of successful calibration checks also provides valuable evidence of measurement accuracy when data validity must be demonstrated.

The PRM2105 and SoundExpert Model 821 also provide exceptional flexibility, helping maximize the value of your instrumentation investment for both unattended outdoor monitoring and handheld sound measurements. For portable use, the PRM2105 connects directly to the top of the SoundExpert 821, creating a full-featured, user-friendly Sound Level Meter. For outdoor applications where the microphone and preamplifier need to be mounted remotely from the meter, simply add an EXC extension cable to support flexible system placement without compromising performance.

ELECTRICAL SPECIFICATIONS

Microphone Bias	0 V
Input Impedance	10 GΩ // 0.1 pF typical
Max Input Level	± 18 V peak
Max Output Level (typical)	± 14 V peak (143 dB peak using 50 mV/Pa mic)
Output Impedance	50 Ω
Total Harmonic Distortion +n	< -60 dBc at 8 V RMS and 1kHz
Dynamic Range (typical)	124 dB
Analog Power Supply	34 VDC to 38 VDC (36 VDC nominal)
Heater Power Supply	5 VDC
Power Requirements	Heater off: 140 mW Heater on: 440 mW
Calibration Check Level	92 dB ±2 dB (each tone with 12 pF)
Calibration Frequencies	31.25, 250, 1000, 4000, 8000 Hz
Calibration Check Sensitivity	± 0.005 dB/°C typical
Max Cable Length (EXC)	300 ft (100 m)

Phase Linearity

10 Hz to 32 Hz	- 3° to 10°
32 Hz to 100 kHz	< ± 3°
Phase Inversion	Output in phase with input

Frequency Response

10 Hz to 20 kHz	± 0.3 dB
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Self Generated Noise (Typical)	EXC Cable Length	A dBμV	C dBμV	Z dBμV
Electrical (Heater Off)	6 ft (2 m)	12	15	24
	20 ft (6 m)	12	15	25
	100 ft (30 m)	13	16	25
	330 ft (100 m)	16	20	28
Electrical (Heater On)	6ft (2 m)	16	17	27
	20 ft (6 m)	20	20	27
	100 ft (30 m)	26	26	31
	330 ft (100 m)	28	28	32
With 377B02 Microphone	6 ft (2 m)	—	16 dB	—

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40 °F to 158 °F (-40 °C to 70 °C)
Operating Humidity	0 to 100% RH
Temperature Sensitivity	± 0.005 dB/°C
Humidity Sensitivity	< ± 0.2 dB

MECHANICAL

Length	4.5 in (114.3 mm)
Diameter	0.5 in (12.7 mm)
Weight	1/8 oz (57 gm)
Connector	5-pin Switchcraft

COMPLIANCE

IEC 61672-1 (2013) Class 1 and ANSI S1.4 with Model 821ENV
IEC 61326-1 (2005) EMC requirements for measurement equipment
IEC 61010-1 (2010) Safety requirements for electrical equipment for measurement CE, RoHS and WEEE

ORDERING INFORMATION

PRM2105	Preamplifier for 721ENV and 821ENV with calibration check and heater
PRM2105-FF	Preamplifier for 721ENV and 821ENV with 377B02 microphone, calibration check and heater
CER-PRM2105	Factory calibration of PRM2105

OPTIONAL ACCESSORIES

377B02	1/2" free-field, prepolarized condenser microphone, typical sensitivity= 50 mV/Pa (±1.5 dB)
CAL1200	Class 1 acoustic calibrator with 94 or 114 dB @ 1 kHz
EPS2116	Environmental protection for PRM2105 with windscreen, desiccant & bird spike. Mounting options for 1/4-20 thread (TRP001), 1.5 in. pipe (TRP003) and 3/4 in. NPT pipe included
EXC cables	Extension cable between preamplifier and meter. Standard lengths 6, 10, 20, 35, 50, 66, 100 and 200 ft.



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