

# PRODUCT DATA

## 4-channel Microphone Power Supply Type 2829

### Features

- Four microphone inputs via LEMO sockets
- Four outputs via BNC outlets
- Polarization voltage can be 0 V or 200 V
- Supports identification of IEEE P1451.4 transducers (TEDS)
- Supports Charge Injection Calibration (CIC) tests
- Robust construction
- Stackable

### Benefits

- Measure extremely high level sounds with 50 V supply
  - Also power CCLD microphones and accelerometers with optional adaptor
  - Extremely good phase matching between channels for sound intensity measurements
  - Ideal for calibration systems
    - Ability to read/write TEDS with optional editor
    - No internal amplifiers make it simple to calibrate
  - Powers up to four microphone channels simultaneously
- Open-circuit voltage sensitivity of microphones using Insert Voltage Calibration (IVC) technique with Preamplifier Type 2673
  - Enables the functionality of the microphones and preamplifiers to be checked using CIC and TEDS



### Description

4-channel Microphone Power Supply Type 2829 is designed for acoustical systems where robustness and reliability are important. It is a simple power supply that introduces negligible noise into the measurement system. The functionality of the connected microphones and preamplifiers can be checked by the Charge Injection Calibration method. The test signal is applied to all the connected microphone and preamplifier combinations by means of the mini-jack socket on the rear panel.

Applications include the production, testing and quality control of loudspeakers and telephones. The elegant design enables several Type 2829 units to be stacked on top of one another, if necessary.

If the connected microphone/preamplifier combinations contain TEDS (Transducer Electronic Data Sheets), they can be interrogated by connecting a TEDS Editor via the four pole RJ 11 socket labelled IEEE 1451.4. Type 2829 can supply both 0 V and 200 V polarization voltage for the microphones.

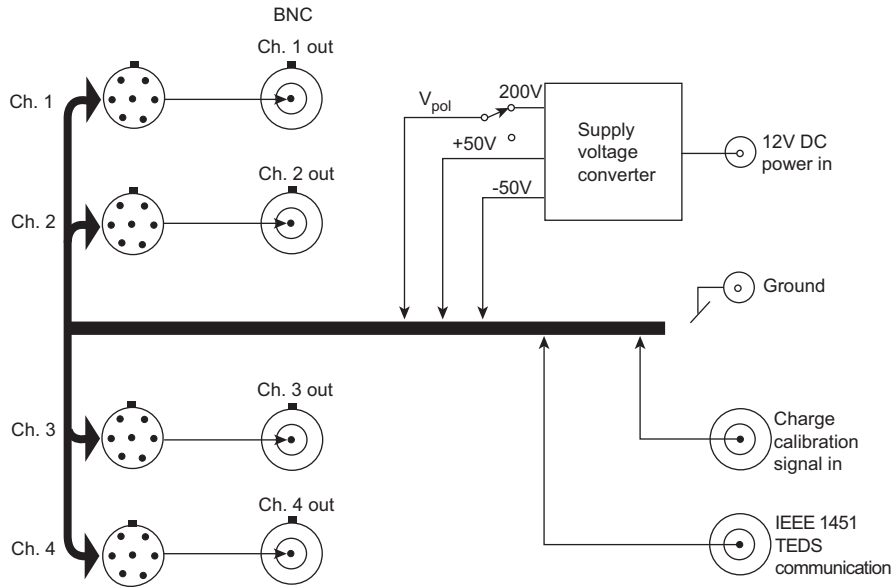
Type 2829 can also be used as part of a microphone calibration and verification system. No active amplifiers means that only the polarization voltage needs to be calibrated. When used with the microphone preamplifier Type 2673, the open-circuit voltage sensitivity of microphones can be measured using the Insert Voltage Calibration (IVC) technique. Once calibration is complete, the TEDS information can be written to the preamplifiers TEDS memory using the optional TEDS programmer.

**Fig. 1**  
Rear panel




Note that Brüel & Kjær Preamplifiers Types 2669, 2670 and 2671 are all delivered with the TEDS capability. There are over 40 microphone/preamplifier combinations available as calibrated units where the combined sensitivity is already written into TEDS.

**Fig. 2**  
Block diagram of  
Type 2829



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## Compliance with Standards

	CE-mark indicates compliance with: EMC Directive and Low Voltage Directive. C-Tick mark indicates compliance with the EMC requirements of Australia and New Zealand
<b>Safety</b>	EN/IEC 61010–1: Safety requirements for electrical equipment for measurement, control and laboratory use. ANSI/UL 61010–1: Safety requirements for electrical equipment for measurement, control and laboratory use.
<b>EMC Emission</b>	EN 50081–1: Generic emission standard. Part 1: Residential, commercial and light industry. EN 50081–2: Generic emission standard. Part 2: Industrial environment. CISPR 22: Radio disturbance characteristics of information technology equipment. Class B Limits. FCC Rules, Part 15: Complies with the limits for a Class B digital device.
<b>EMC Immunity</b>	EN 50082–1: Generic immunity standard. Part 1: Residential, commercial and light industry. EN 50082–2: Generic immunity standard. Part 2: Industrial environment. <b>Note 1:</b> The above is guaranteed using accessories listed in this Product Data sheet only. <b>Note 2:</b> The above is guaranteed only when the AC output is not in use.
<b>Temperature</b>	IEC 60068–2–1 & IEC 60068–2–2: Environmental Testing. Cold and Dry Heat. Operating Temperature: –10 to +55°C (+14 to +131°F) Storage Temperature: –20 to +70°C (–13 to +158°F)
<b>Humidity</b>	IEC 60068–2–3: Damp Heat: 95% RH (non-condensing at 40°C (104°F))
<b>Mechanical</b>	Non-operating: IEC 60068–2–6: Vibration: 0.3 mm, 20 m/s <sup>2</sup> , 10–500 Hz IEC 60068–2–27: Shock: 1000 m/s <sup>2</sup> IEC 60068–2–29: Bump: 1000 bumps at 250 m/s <sup>2</sup>
<b>Enclosure</b>	IEC 60529: Protection provided by enclosures: IP 41

## Specifications – 4-channel Microphone Power Supply Type 2829

### PHYSICAL

**Dimensions (H×W×L):** 232 × 46 × 106 mm (9.13" × 1.81" × 4.17")

**Weight:** 430 gram (15.25 oz.)

**Input Socket:** 4 × LEMO 1B

**Output Plug:** 4 × BNC

### ELECTRICAL

**Amplification:** 1

**Noise Level:** Negligible

**Frequency Range:**

0.3 Hz to 200 kHz (–1 dB)

0.9 Hz to 200 kHz (–0.1 dB)

**Polarization Voltage:** 0 V or 200 V on all four channels simultaneously

**Polarization Voltage Error:** ±1.25%

**Impedance of Polarization Voltage (for local calibration using voltmeter):** 178 kΩ (±10%)

**Preamplifier Supply:** ±50 V (±3 V) (**Note:** Not compatible with Low Noise Microphone Type 4955)

**Power:** 12 V DC, regulated 0.5 A, tolerance ± 20%, max. ripple 10 mV

**CIC/IVC Socket:** Maximum input 10 V rms; Input impedance 100 kΩ, 2.5 mm mini-jack

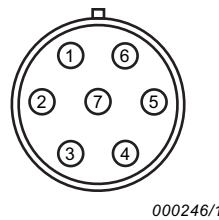
**IEEE 1451.4 Socket RJ 11:** Complies with IEEE 1451.4 TEDS

### CHANNEL TO CHANNEL PHASE-MATCH AND FREQUENCY RESPONSE

Complies with IEC 61043 standard Class 1 and ANSI S1.9.1996

Class 1, with Brüel & Kjær Sound Intensity Probes  
(Conditions: Transducer sensitivity must be equal within 0.5 dB)

### PIN CONNECTIONS



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LEMO 7-pin female

Pin 1: Calibration input

Pin 2: Signal ground

Pin 3: Polarization voltage (0 or 200 V)

Pin 4: Signal input

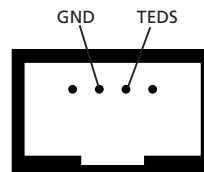
Pin 5: TEDS

Pin 6: Power supply positive (+50 V DC)

Pin 7: Power supply negative (–50 V) DC

Housing: Chassis

### IEEE 1451.4 CONNECTOR "FRONT VIEW"



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## Ordering Information

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**Type 2829** 4-channel Microphone Power Supply

includes the following accessories:

- Power Supply ZG-0432: 100 – 240 V AC, with AU, EU, GB and US adaptors

## Optional Accessories

WB-1421	Lemo to CCLD Adaptor, per channel (TEDS not supported with CCLD)
WB-1497	20 dB Attenuator, per channel
Type 2669 L	½" Microphone Preamplicifier
Type 2670	¼" Microphone Preamplicifier
Type 2673	½" Microphone Preamplicifier with insert voltage facility
AO-0481	CIC/IVC Cable, 2.5 mm mini-jack to BNC
WQ-1321	Type 2829 to TEDS Adaptor Cable 2.1 m, RJ11 modular connectors
WQ-3338	TEDS MicroLAN USB adaptor DS-9490R
BZ-5294	TEDS PC Viewer software, editor functionality with optional BZ-5294-MSx licenses, for Microsoft® Windows® XP and 7
BZ-5294-MS4	TEDS Editor Calibration License
BZ-5294-MS5	TEDS Editor Developers License

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