

## 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
- Power CCLD microphones and accelerometers with optional adaptor
- Extremely good phase-match 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



000242/1

### Description

4-channel Microphone Power Supply Type 2829 is designed for acoustical systems where robustness and reliability are important. The simple power supply introduces negligible noise into the measurement system. The functionality of the connected microphones and preamplifiers can be checked by the charge injection calibration (CIC) method. For information on the CIC method, go to [bksv.com](http://bksv.com).

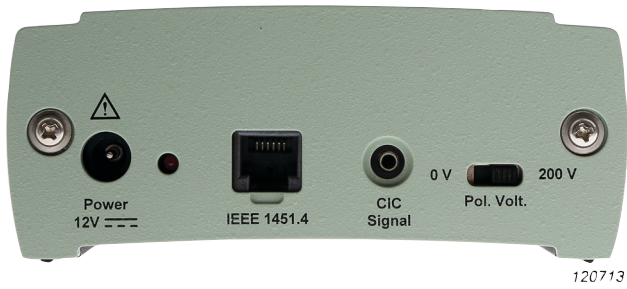
Applications include the production, testing and quality control of loudspeakers and telephones. The elegant design enables several Type 2829 units to be stacked on top of one another, if necessary.

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 Microphone Preamplifier Type 2673, the open-circuit voltage sensitivity of the microphone can be measured using the insert voltage calibration (IVC) technique. Once calibration is complete, the TEDS information can be written to the preamplifier's transducer electronic data sheets (TEDS) memory using the optional TEDS Editor, BZ-5294, and an adaptor.

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

## Connecting to the power supply

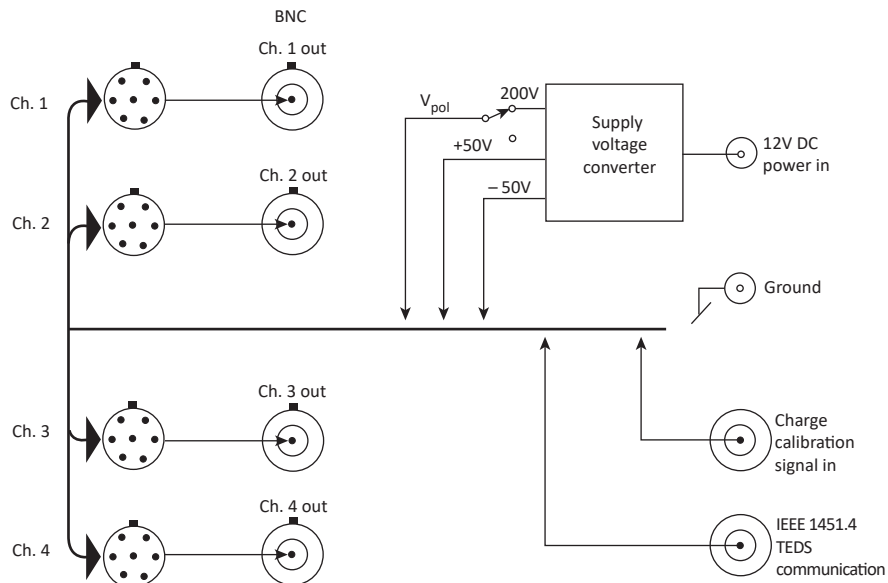
Fig. 1 Rear panel




The test signal is applied to all connected microphone and preamplifier combinations by means of the mini-jack socket on the rear panel.

If the connected microphone and preamplifier combinations contain TEDS, their information can be transmitted by connecting the 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.

Fig. 2 Block diagram of Type 2829



000270/2

	<p>The CE marking is the manufacturer's declaration that the product meets the requirements of the applicable EU directives.</p> <p>RCM mark indicates compliance with applicable ACMA technical standards – that is, for telecommunications, radio communications, EMC and EME.</p> <p>China RoHS mark indicates compliance with administrative measures on the control of pollution caused by electronic information products according to the Ministry of Information Industries of the People's Republic of China.</p> <p>WEEE mark indicates compliance with the EU WEEE Directive.</p> <p>FCC mark indicates compliance with 47 CFR FCC rules and regulations Part 15 subpart B, Class A Digital Device.</p>
<b>Safety</b>	<p>EN/IEC 61010-1: Safety requirements for electrical equipment for measurement, control and laboratory use.</p> <p>ANSI/UL 61010-1: Safety requirements for electrical equipment for measurement, control and laboratory use.</p>
<b>EMC Emission</b>	<p>EN 61326-1: Electrical equipment for measurement, control and laboratory use – EMC requirements - Part 1: General requirement.</p> <p>CISPR 32: Radio disturbance characteristics of information technology equipment. Class B Limits.</p> <p>FCC Rules, Part 15: Complies with the limits for a Class B digital device.</p>
<b>EMC Immunity</b>	<p>EN 61326-1: Electrical equipment for measurement, control and laboratory use – EMC requirements - Part 1: General requirement. Industrial environments.</p> <p><b>Note 1:</b> The above is guaranteed using accessories listed in this document only.</p>
<b>Temperature</b>	<p>IEC 60068-2-1 &amp; IEC 60068-2-2: Environmental Testing. Cold and Dry Heat.</p> <p>Operating Temperature: -10 to +55°C (+14 to +131°F)</p> <p>Storage Temperature: -25 to +70°C (-13 to +158°F)</p>
<b>Humidity</b>	<p>IEC 60068-2-3: Damp Heat: 95% RH (non-condensing at 40°C (104°F))</p>
<b>Mechanical</b>	<p>Non-operating:</p> <p>IEC 60068-2-6: Vibration: 0.3 mm, 20 m/s<sup>2</sup>, 10 – 500 Hz</p> <p>IEC 60068-2-27: Shock: 1000 m/s<sup>2</sup></p> <p>IEC 60068-2-29: Bump: 3000 bumps at 400 m/s<sup>2</sup></p>
<b>Enclosure</b>	<p>IEC 60529: Protection provided by enclosures: IP 41</p>

Specifications – 4-channel Microphone Power Supply Type 2829

**Physical**

**Dimensions (L × W × H):** 232 × 106 × 46 mm (9.13 × 4.17 × 1.81 in)  
**Weight:** 430 g (15.25 oz)  
**Input Socket:** 4 × LEMO 1B  
**Output Plug:** 4 × BNC

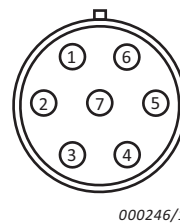
**Electrical**

**Amplification:** 1  
**Noise Level:** Internal noise linear 2–200 kHz: <10 μV  
**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:** ±52 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**

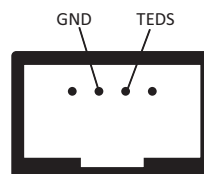
Complies with IEC 61043 standard Class 1 and ANSI S1.9.1996 Class 1, with Brüel & Kjær sound intensity probes  
**Conditions:** Transducer sensitivity must be equal within 0.5 dB

**Pin Connections**



LEMO 7-pin 1B  
 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"**



000338/1

## Ordering Information

**Type 2829** 4-channel Microphone Power Supply  
includes the following accessories:

- Power Supply ZG-0864: 90 – 264 V AC to 1 V DC, 15 W DC-plug (F)  
Ø2.1 mm, 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 Preamplifier
Type 2670	¼" Microphone Preamplifier
Type 2673	½" Microphone Preamplifier 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 Viewer software, for Microsoft® Windows® 10/11 (free download available on <a href="https://bksv.com/downloads">bksv.com/downloads</a> )
BZ-5294-MS4	TEDS Editor Calibration License
BZ-5294-MS5	TEDS Editor Developers License

hbkworld.com · info@hbkworld.com  
Local representatives and service organizations worldwide

Although reasonable care has been taken to ensure the information in this document is accurate, nothing herein can be construed to imply representation or warranty as to its accuracy, currency or completeness, nor is it intended to form the basis of any contract. Content is subject to change without notice – contact HBK for the latest version of this document.

Brüel & Kjær and all other trademarks, service marks, trade names, logos and product names are the property of Hottinger Brüel & Kjær A/S or a third-party company.