

Measure Everything from AC, DC and 3-Phase Power Sources to Standby Power

The optimal power meter lineup for all applications

POWER METER PW3337/PW3336



POWER METER PW3335



AC/DC POWER HITESTER 3334



POWER HITESTER 3333



Advancing the Standard for Power Measurement

The best performing instruments for power measurement on production lines, in laboratories, and in research facilities.

Hioki delivers the optimal power testing solutions based on use case conditions, practical application, and accuracy.

Three-phase Power Meter

The PW3337 and PW3336 are suitable for a wide variety of connections, such as measuring three-phase circuits and single-phase 2-wire multiple circuits.

There is little internal resistance for the current input, and large currents up to 65 A can be measured with great accuracy.



PW3337 (3ch)



PW3336 (2ch)

Single-phase Power Meter

The PW3335 provides highly accurate measurements for everything from standby power to operating power. Compliant with the IEC62301 measurement standard for standby power, it is capable of measuring current as low as 10 μ A.

Designed for power consumption testing, the 3334 and 3333 are guaranteed for accuracy for up to 3 years.



PW3335 (1ch)

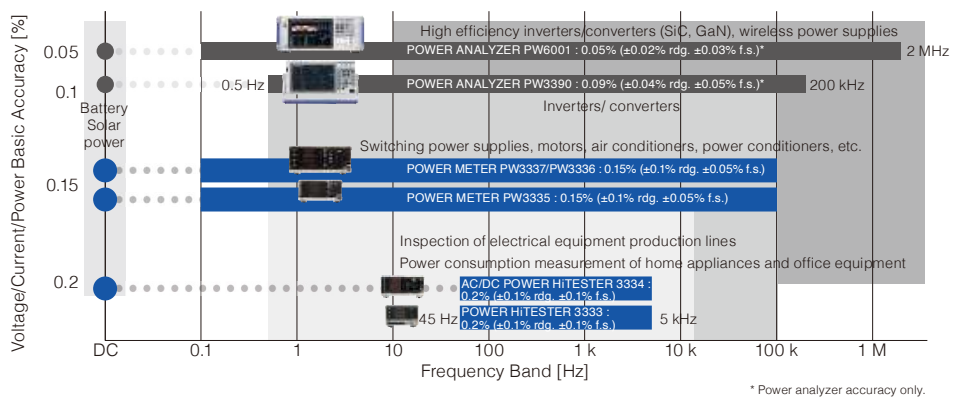


3334 (1ch)

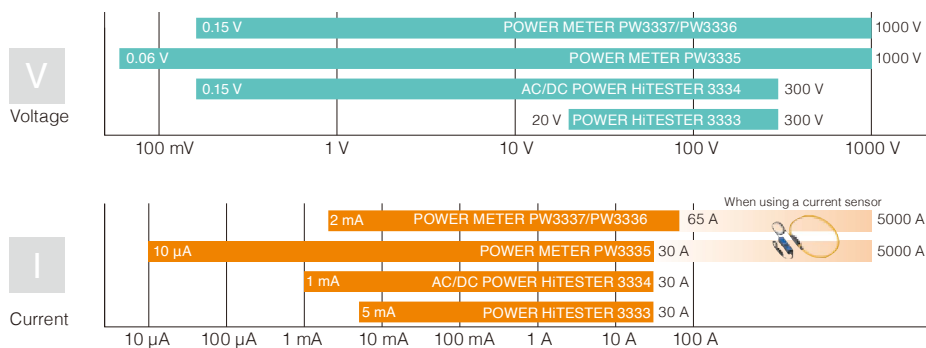


3333 (1ch)

Basic Accuracy and Frequency Bands



Effective Measurement Range



Comparison Chart

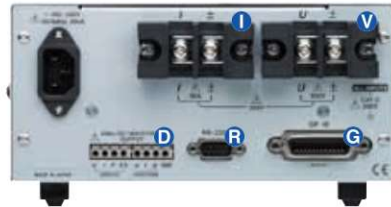
	PW3337	PW3336	PW3335	3334	3333
No. of channels	3	2	1	1	1
Supported connections	Three-phase, three-phase + single-phase, single-phase x 3, DC x 3	Three-phase, single-phase x 2, DC x 2	Single-phase, DC	Single-phase, DC	Single-phase
Effective measurement range, voltage	0.15 V to 1000 V		0.06 V to 1000 V	0.15 V to 300 V	20 V to 300 V
Effective measurement range, current	2 mA to 65 A		10 µA to 30 A	1 mA to 30 A	5 mA to 30 A
Frequency band	DC, 0.1 Hz to 100 kHz			DC, 45 Hz to 5 kHz	45 Hz to 5 kHz
Basic accuracy, AC (Voltage, current, power)	±0.1% rdg. ±0.05% f.s.			±0.1% rdg. ±0.1% f.s.	±0.1% rdg. ±0.2% f.s.
Basic accuracy, DC (Voltage, current, power)	±0.1% rdg. ±0.1% f.s.			±0.1% rdg. ±0.2% f.s.	-
Integrated power measurement	Yes			Yes	-
Harmonic measurement	IEC61000-4-7 compliant			-	
Current sensor input	Yes		PW3335-03, -04	-	
Interface	LAN	Yes			-
	RS-232C	Yes		PW3335, -02, -03, -04	Yes
	GP-IB	PW3337-01, -03	PW3336-01, -03	PW3335-01, -04	3334-01 3333-01
	D/A output	PW3337-02, -03	PW3336-02, -03	PW3335-02, -04	Yes

AC/DC POWER HiTESTER 3334

Measurement of power consumption and integrated power for battery-operated equipment, home appliances, and office equipment



3334-01 Front Panel



3334-01 Rear Panel

- Accuracy guaranteed up to 3 years
- Compliant with the SPECpower® server power evaluation test

POWER HiTESTER 3333

Low-price model for measurement of power consumption on production/inspection lines



3333-01 Front Panel



3333-01 Rear Panel

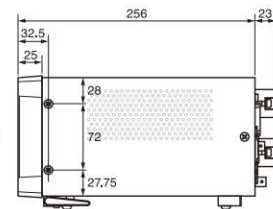
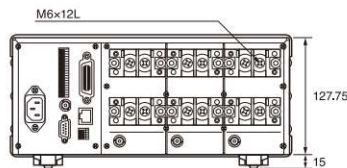
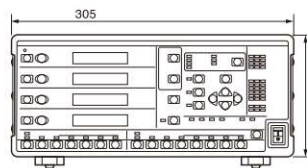
- Compact model for saving space, even when added to a system
- Accuracy guaranteed up to 3 years

Dimensional Drawings

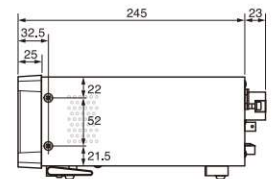
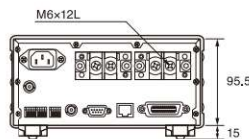
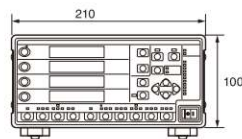
Units: mm

PW3337

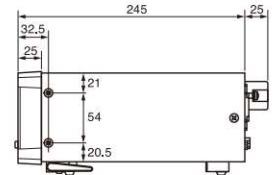
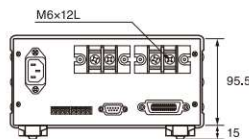
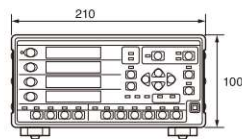
PW3336



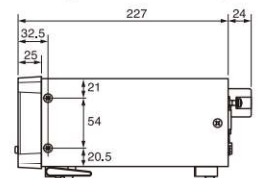
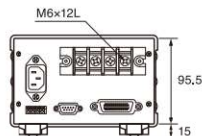
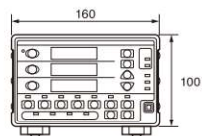
PW3335



3334



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Applications

Inspection of Electrical Equipment Production Lines



Best-in-class Accuracy $\pm 0.1\%$ * PW333 7 PW333 6 PW333 5

Our lineup provides reliable accuracy for a variety of measurement scenarios. Accurately measure the power consumption of a variety of household appliances, such as liquid crystal displays, refrigerators, and air conditioners.



Basic accuracy, AC

$\pm 0.1\%$ *

* For complete details, please refer to the specifications

Accuracy Guaranteed Up to 3 Years (Longest in the Industry) 333 4 333 3

The 3333 and 3334 are guaranteed for accuracy for 3 years. Even after 3 years, they maintain an accuracy of $\pm 0.5\%$ rdg. as required for measurements. This 3-year accuracy guarantee, the longest in the industry, helps to save on calibration expenses.



3 years

1-year guarantee
of accuracy
 $\pm 0.2\%$ rdg.

3-year guarantee
of accuracy
 $\pm 0.3\%$ rdg.

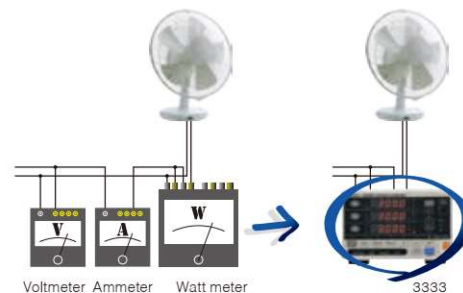
Extensive Interfaces PW333 7 PW333 6 PW333 5

The built-in interfaces are convenient for transferring data to a PC and equipping the unit on automated machines. PC communication software can be downloaded free of charge from the HIOKI website. For details about the built-in interfaces, refer to the specifications for each model.



Replacement for Analog Meters PW333 7 PW333 6 PW333 5

These models can be used as replacements for analog voltmeters, ammeters, and watt meters. Up to 4 parameters such as voltage, current, and power can be displayed at the same time, allowing 3 measuring devices to be covered with a single unit. The digital display avoids issues such as parallax due to viewing angle and zero shift of the indicator.



3334 Specifications

Basic Specifications

Measurable lines	Single-phase, 2-wire (AC/DC)																																								
Measurement parameters	Voltage, current, active power, apparent power, power factor, frequency, integrated current and active power, waveform peak (voltage and current)																																								
Measurement method	Simultaneous digital sampling of voltage and current, True RMS																																								
Sampling Frequency	Approx. 74.4kHz																																								
Measurement Ranges	<table border="1"> <tr> <th>Current Voltage</th><th>100.00 mA</th><th>300.0 mA</th><th>1.0000 A</th><th>3.000 A</th><th>10.000 A</th><th>30.00 A</th></tr> <tr> <td>15.000 V</td><td>15.000 W</td><td>4.500 W</td><td>15.000 W</td><td>45.00 W</td><td>150.00 W</td><td>450.0 W</td></tr> <tr> <td>30.00 V</td><td>3.000 W</td><td>9.000 W</td><td>30.00 W</td><td>90.00 W</td><td>300.0 W</td><td>900.0 W</td></tr> <tr> <td>150.00 V</td><td>15.000 W</td><td>45.00 W</td><td>150.00 W</td><td>450.0 W</td><td>1,5000 kW</td><td>4,500 kW</td></tr> <tr> <td>300.0 V</td><td>30.00 W</td><td>90.00 W</td><td>300.0 W</td><td>900.0 W</td><td>3.000 kW</td><td>9.000 kW</td></tr> </table>						Current Voltage	100.00 mA	300.0 mA	1.0000 A	3.000 A	10.000 A	30.00 A	15.000 V	15.000 W	4.500 W	15.000 W	45.00 W	150.00 W	450.0 W	30.00 V	3.000 W	9.000 W	30.00 W	90.00 W	300.0 W	900.0 W	150.00 V	15.000 W	45.00 W	150.00 W	450.0 W	1,5000 kW	4,500 kW	300.0 V	30.00 W	90.00 W	300.0 W	900.0 W	3.000 kW	9.000 kW
Current Voltage	100.00 mA	300.0 mA	1.0000 A	3.000 A	10.000 A	30.00 A																																			
15.000 V	15.000 W	4.500 W	15.000 W	45.00 W	150.00 W	450.0 W																																			
30.00 V	3.000 W	9.000 W	30.00 W	90.00 W	300.0 W	900.0 W																																			
150.00 V	15.000 W	45.00 W	150.00 W	450.0 W	1,5000 kW	4,500 kW																																			
300.0 V	30.00 W	90.00 W	300.0 W	900.0 W	3.000 kW	9.000 kW																																			

Frequency bandwidth DC, 45Hz to 5kHz

Measurement accuracy

(Guaranteed at 23°C±5, max. 80%rh, sine wave input, power factor=1, n-phase voltage =0V, accuracy specifications differ depending on usage period of 1 or 3 years)

Warm-up time	3 minutes
Period of guaranteed accuracy	3 years (better accuracy specifications available for 1-year period)
Post-adjustment accuracy guarantee	1 year (accuracy specifications available for 1-year period)
Effective measurement range	Voltage, current: 1% to 100% (Power: 0% to 100%) Measurements below 0.5% of the voltage or current range will be zero suppressed.
Effect of power factor (at pf=0.5)	Maximum ±0.4%±rdg. (45 to 66Hz)
Temperature Coefficient	Maximum ±0.03%f.s./°C

Frequency	Guaranteed Period	Voltage, current and active power (at less than 50% of input range)	Current and active power (at 50% to 100% of input range)
DC *	1 year	±0.1 %rdg. ±0.2 %f.s.	
	3 years	±0.1 %rdg. ±0.35 %f.s.	
45 Hz ≤ f ≤ 66 Hz	1 year	±0.1 %rdg. ±0.1 %f.s.	±0.2 %rdg.
	3 years	±0.1 %rdg. ±0.2 %f.s.	±0.3 %rdg.
66 Hz < f ≤ 1 kHz **	1 year	±0.1 %rdg. ±0.2 %f.s.	±0.3 %rdg.
	3 years	±0.1 %rdg. ±0.35 %f.s.	±0.45 %rdg.
1 kHz < f ≤ 5 kHz **	1 year	±3.0 %f.s.	±3.0 %rdg.
	3 years	±4.5 %f.s.	±4.5 %rdg.

*Add ±50µA to the accuracy when measuring DC current

Add (±50µA x voltage value) to the accuracy when measuring DC active power

** Accuracy not defined for current input exceeding 20A

Input Specifications

Input impedance	2.4 MΩ for voltage, 10 mΩ or better (50/ 60 Hz) for current
Maximum input voltage	300 V, ±425 Vpeak
Maximum input current	30 A, ±54.0 Apeak
Maximum effective peak voltage	±300% of each voltage range, Within ±425 Vpeak
Maximum effective peak current	±300% of each current range, Within ±54.0 Apeak *1
Max. rated voltage to earth	300 V (DC, 50/ 60 Hz)

Display Specifications

Display indication range	Voltage and current: 0.5% to 105% of range Active power: 0% to 110.25% of range
Displacement power factor	0.000 to 1.000 (no polarity display)
Display refresh rate	approx. 5 times per second
Response time	within 0.5 s (Time to rated accuracy after abrupt change in input (0 to 90% or 100 to 10% of range))

Functional Specifications

Integration measurement	No. of displayed digits: Six digits Current Integration: From 0.00000mAh, Polarity-independent integration and Sum value Active power Integration: From 0.00000mWh, Polarity-independent integration and Sum value Integration time: 1 min to 10000 h Measurement accuracy: Measurement accuracy of active power ±1dgt.
Wave peak measurement	Maximum value of positive and negative waveform of voltage/ current (up to 300% of full scale range) Measurement accuracy: ±1.2%f.s. ("f.s." is 300% of each range)
Rectification method	Switchable between AC+DC(True RMS), DC(simple average display) and AC(True RMS)
Analog output (D/A output)	Parameter output representation: Voltage, Current and Active power (3 simultaneous channels) D/A select an item from Current integration, Active power integration, Apparent power, power factor Voltage output: ±2 VDC f.s. for each range Output accuracy: ±0.5% f.s. + individual measurement accuracy
Waveform output	Parameter output representation: Voltage, Current and Active power (3 simultaneous channels) Voltage output: 1 VDC f.s. for each range Output accuracy: ±1.0% f.s. + individual measurement accuracy
Average function	Simple averaging of specified number of samples: 1, 2, 5, 10, 25, 50 or 100
VT or CT ratio	VT ratios: 1, 2, 4, 10, 20, 30, 60, 100 CT ratios: 1, 2, 3, 4, 5, 6, 8, 10, 12, 15, 16, 20, 24, 25, 30, 40, 50, 60, 75, 80, 100, 200, 300, 500, 1000, 2000, 3000, 5000, 10000
External Interfaces	RS-232C interface: Included as standard Asynchronous communication method: full-duplex; Baud rate: 9600 bps (fixed) GP-IB interface (Model 3334-01 only) IEEE-488.1 1987 compliant, IEEE-488.2 1987 reference
Miscellaneous	Display hold, Maximum value hold, Peak value hold, Key lock, Backup function (preserves settings, integration data)

General Specifications

Safety	EN61010 Pollution Factor 2, Measurement Category III (4000 V anticipated overvoltage)
EMC	EN61326, EN61000-3-2, EN61000-3-3
Operating environment	0 to 40 °C, 80% RH or less, non-condensating
Storage environment	-10 to 50 °C, 80% RH or less, non-condensating
Rated supply voltage	100 to 240 VAC, 50/60 Hz
Maximum rated power	20 VA
Dimensions and mass	210 mm (8.27 in)W × 100 mm (3.94 in)H × 245 mm (9.65 in)D (excluding feet and projections), 2.5 kg (88.2 oz)

3333 Specifications

Basic specifications

Measurable lines	Single-phase, 2-wire (AC)																			
Measurement parameters	Voltage, Current, Active power, Apparent power, Power factor																			
Measurement method	Simultaneous digital sampling of voltage and current, True RMS																			
Sampling frequency	Approx. 48kHz																			
Measurement ranges	<table border="1"> <tr> <th>Current Voltage</th><th>50.00 mA</th><th>200.0 mA</th><th>500.0 mA</th><th>2.000 A</th><th>5.000 A</th><th>20.00 A</th></tr> <tr> <td>200.0 V</td><td>10.000 W</td><td>40.00 W</td><td>100.00 W</td><td>400.0 W</td><td>1.0000 kW</td><td>4.000 kW</td></tr> </table>						Current Voltage	50.00 mA	200.0 mA	500.0 mA	2.000 A	5.000 A	20.00 A	200.0 V	10.000 W	40.00 W	100.00 W	400.0 W	1.0000 kW	4.000 kW
Current Voltage	50.00 mA	200.0 mA	500.0 mA	2.000 A	5.000 A	20.00 A														
200.0 V	10.000 W	40.00 W	100.00 W	400.0 W	1.0000 kW	4.000 kW														
Frequency bandwidth	45Hz to 5kHz																			

Measurement accuracy

(Guaranteed at 23°C±5, max. 80%rh, sine wave input, power factor=1, n-phase voltage =0V, accuracy specifications differ depending on usage period of 1 or 3 years)

Warm-up time	10 minutes
Period of guaranteed accuracy	3 years (better accuracy specifications available for 1-year period)
Post-adjustment accuracy guarantee	1 year (accuracy specifications available for 1-year period)
Effective measurement range	Voltage, current, power: 10% to 150% Measurements below 1% of the voltage or current range will be zero suppressed.
Effect of power factor (at pf=0.5)	Maximum ±0.4%±rdg. (45 to 66Hz)
Temperature Coefficient	Maximum ±0.03%f.s./°C

Frequency	Guaranteed Period	Voltage, current and active power
45 Hz ≤ f ≤ 66 Hz	1 year	±0.1 %rdg. ±0.1 %f.s.
	3 years	±0.1 %rdg. ±0.2 %f.s.
66 Hz < f ≤ 1 kHz *	1 year	±0.1 %rdg. ±0.2 %f.s.
	3 years	±0.1 %rdg. ±0.35 %f.s.
1 kHz < f ≤ 5 kHz *	1 year	±3.0 %f.s.
	3 years	±4.5 %f.s.

* Accuracy not defined for current input exceeding 20A

Input specifications

Input impedance	2.4 MΩ for voltage, 7 mΩ or better (50/60 Hz) for current
Maximum input voltage	300 Vrms, 425 Vpeak
Maximum input current	30 Arms, 42.5 Apeak
Maximum effective peak voltage	Within 425Vpeak
Maximum effective peak current	±300% of each current range, Within ±42.5Apeak
Max. rated voltage to earth	300V (50/60Hz)

Display specifications

Display indication range	voltage and current: 1% to 152% of range active power: 0% to 231.04% of range
Displacement power factor	0.000 to 1.000 (no polarity display)
Display refresh rate	approx. 5 times per second
Response time	within 0.5 s (Time to rated accuracy after abrupt change in input (0 to 90% or 100 to 10% of range))

Functional Specifications

Rectification method	AC(True RMS)
Analog output (D/A output)	Parameter output representation: voltage, current and active power (3 simultaneous channels) Voltage output: +2 VDC f.s. for each range Output accuracy: ±0.5% f.s. + individual measurement accuracy
Average function	Simple averaging of specified number of samples: 1, 2, 5, 10, 25, 50 or 100
VT or CT ratio	VT ratios: 1, 2, 4, 10, 20, 30, 60, 100 CT ratios: 1, 2, 3, 4, 5, 6, 8, 10, 12, 15, 16, 20, 24, 25, 30, 40, 50, 60, 75, 80, 100
External Interfaces	RS-232C interface: Included as standard Asynchronous communication method: full-duplex; Baud rate: 9600 bps (fixed) GP-IB interface (Model 3333-01 only) IEEE-488.1 1987 compliant, IEEE-488.2 1987 reference
Miscellaneous	Display hold, Key lock, Settings backup (preserves settings)

General Specifications



Safety	EN61010 Pollution Factor 2, Measurement Category III (4000 V anticipated overvoltage)
EMC	EN61326, EN61000-3-2, EN61000-3-3
Operating environment	0 to 40 °C, 80% RH or less, non-condensating
Storage environment	-10 to 50 °C, 80% RH or less, non-condensating
Rated supply voltage	100 to 240 VAC, 50/60 Hz
Maximum rated power	20 VA
Dimensions and mass	160 mm (6.30 in)W × 100 mm (3.94 in)H × 227 mm (8.94 in)D (excluding feet and projections), 1.9 kg (67.0 oz)

Calculation formulas (3333 & 3334)

Measurement Parameters	Formula
Apparent Power (S)	$S = U \times I$
Power Factor (λ)	$\lambda = I / P / S I$
Integrated Current*	(Sum of I from start of integration)/ (Number of 1 hour data)
Integrated Active Power *	(Sum of P from start of integration)/ (Number of 1 hour data)

* Current and active power integration available only on Model 3334.

3-phase Power Meter

Model & Appearance	Model No. (Order Code)	Number of Channels	AC/ DC	Harmonic Measurement	LAN	RS-232C	GP-IB	D/A output	Current Sensor Input	Synchronized Control
	PW3337	3	AC/ DC	✓	✓	✓	×	×	✓	✓
	PW3337-01	3	AC/ DC	✓	✓	✓	✓	×	✓	✓
	PW3337-02	3	AC/ DC	✓	✓	✓	×	✓	✓	✓
	PW3337-03	3	AC/ DC	✓	✓	✓	✓	✓	✓	✓
	PW3336	2	AC/ DC	✓	✓	✓	×	×	✓	✓
	PW3336-01	2	AC/ DC	✓	✓	✓	✓	×	✓	✓
	PW3336-02	2	AC/ DC	✓	✓	✓	×	✓	✓	✓
	PW3336-03	2	AC/ DC	✓	✓	✓	✓	✓	✓	✓

Accessories: Instruction manual x1, Measurement guide x1, Power cord x1

Single-phase Power Meter

Model & Appearance	Model No. (Order Code)	Number of Channels	AC/ DC	Harmonic Measurement	LAN	RS-232C	GP-IB	D/A output	Current Sensor Input	Synchronized Control
	PW3335	1	AC/ DC	✓	✓	✓	×	×	×	✓
	PW3335-01	1	AC/ DC	✓	✓	×	✓	×	×	✓
	PW3335-02	1	AC/ DC	✓	✓	✓	×	✓	×	✓
	PW3335-03	1	AC/ DC	✓	✓	✓	×	×	✓	✓
	PW3335-04	1	AC/ DC	✓	✓	✓	✓	✓	✓	✓
	3334	1	AC/ DC	×	×	✓	×	✓	×	×
	3334-01	1	AC/ DC	×	×	✓	✓	✓	×	×
	3333	1	AC	×	×	✓	×	✓	×	×
	3333-01	1	AC	×	×	✓	✓	✓	×	×

Accessories : Instruction manual x1, Power cord x1

Communications and control options



RS-232C CABLE
9637
Cable length: 1.8 m (5.91 ft)
9pin to 9pin



GP-IB CONNECTOR
CABLE 9151-02
Cable length: 2 m (6.56 ft)



LAN CABLE
9642
Cable length: 5 m (16.41 ft)
supplied with straight to
cross conversion cable



CONNECTION CORD
9165
For synchronized control
Cable length: 1.5 m (4.92 ft),
metal BNC to metal BNC

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