Application guide

Electrophoresis power supplies

Voltage (V)	Model	Parameter range	Optimum voltage (V)	Optimum current (mA)	Maximum power (W)	Min. load resistance	Number of programs	Recommended application
6000	EV262	60...6000 V 2...150 mA 3...300 W	100...6000 V	0...150 mA	300 W	1200 Ω	9x9	DNA sequencing, Flat bed isoelectric focusing
3000	EV233	30...3000 V 3...300 mA 3...300 W	50...3000 V	0...300 mA	300 W	300 Ω	9x9	DNA sequencing, Flat bed isoelectric focusing, Horizontal gel, Vertical gel, Electro-elution
3000	EV232	30...3000 V 2...150 mA 2...150 W	50...3000 V	0...150 mA	150 W	600 Ω	9x9	DNA sequencing, Flat bed isoelectric focusing, Horizontal gel, Vertical gel, Electro-elution
1200	EV215	12...1200 V 5...500 mA 3...300 W	20...1200 V	0...500 mA	300 W	70 Ω	9x9	DNA sequencing, Flat bed isoelectric focusing, Horizontal gel, Vertical gel, Electro-elution
600	EV261	6...600 V 10...1000 mA 3...300 W	10...600 V	0...1000 mA	300 W	15 Ω	9x9	Horizontal Gel, Vertical Gel, Electro-elution, Mini semi-dry blotting
600	EV265	6...600 V 5...500 mA 2...150 W	10...600 V	0...500 mA	150 W	30 Ω	9x9	Horizontal gel, Vertical gel, Electro-elution
400	EV243	4...400 V 3...300 mA 1...50 W	10...400 V	0...300 mA	50 W	30 Ω	9x9	Horizontal gel, Vertical gel, Electro-elution
300	EV202	3...300 V 20...2000 mA 3...300 W	5...300 V	0...2000 mA	300 W	5 Ω	9x9	Western blotting, Semi-dry blotting, Horizontal gel, Vertical gel
300	EV231	3...300 V 10...1000 mA 2...150 W	5...300 V	0...1000 mA	150 W	10 Ω	9x9	Horizontal gel, Vertical gel, Electro-elution, Mini western blotting, Mini semi-dry blotting
200	EV222	2...200 V 2...200 mA 1...20 W	3...200 V	0...200 mA	20 W	15 Ω	1	Mini horizontal gel, Mini vertical gel

EV222

Electrophoresis power supply

- ***Manual programming***
  The manual mode allows to set voltage, current, power and time for a routine electrophoresis run. Parameters can be changed temporarily without interrupting the run.
- ***Timer***
  Timer operation is a useful standard feature. The microcomputer will automatically terminate the run and sound an alarm when the count down of the selected value is achieved.
- ***Automatic cross-over***
  The EV222 has constant voltage, constant current, constant power capabilities with automatic cross-over and shows which parameter is kept constant.
- ***Automatic recovery after power failure***
  After a mains power failure the instrument will automatically continue the run for the remaining time.
- ***Safety precautions***
  The user is protected from potential shock hazard since the AC line is automatically disconnected from the high voltage transformer when a ground leakage path is detected.

  The instrument is fully protected against any overload condition including accidental short circuit of the output.

  The high voltage cannot suddenly appear at the outputs. It will always increase smoothly up to one of the pre-set limits is reached.
- ***Warranty***
  Three year warranty.
- ***Comprises:*** manual and mains lead.

CODE	DESCRIPTION
EV222	Power supply, 200 V / 200 mA / 20 W
→ *Add a $-sign for 120 VAC versions, e.g.: EV222$*	
→ *Add a U-sign for UK plug versions, e.g.: EV222U*	
→ *Add a C-sign for Swiss plug versions, e.g.: EV222C*	

Specifications	EV222
VOLTAGE	0...200 V
CURRENT	0...200 mA
POWER	0...20 W
PARAMETER RANGE	1...100% of full scale
TIMER	0...99:59 h
DISPLAY	LCD, 2x16 characters
RESOLUTION	1 V, 1 mA, 1 W
PROGRAMS	1 set of parameters
OUTPUTS	3 in parallel, 4 mm sockets
MIN. LOAD RESISTANCE	15 Ω
NO LOAD DETECTION	on/off, programmable
GROUND LEAKAGE DETECTION	✓
OVERLOAD DETECTION	✓
AMBIENT TEMPERATURE	0...40°C
RELATIVE HUMIDITY	0...95%, non condensing
POWER REQUIREMENTS	210...250 VAC, 50/60 Hz, 35 W
DIMENSIONS (WxDxH)	24x20x13 cm
WEIGHT	2 kg

EV2xx series

Electrophoresis power supplies

- ***Manual programming***
  The manual mode allows to set voltage, current, power and time for a routine electrophoresis run. Parameters can be changed temporarily without interrupting the run.
- ***Method programming***
  Up to 9 different programs, each with 9 steps, of frequently used parameters can be stored in the non-volatile memory for future recall. Reads voltage in 1 V steps, current in 1 mA steps and power in 1 W steps. Each step is able to recall a next one, providing a flexible multiple step function for special techniques. Parameters of the running step can be changed temporarily without interrupting the run.
- ***Voltage ramp***
  The method mode also allows to program a linear voltage gradient for any step provided the limiting current or power is not attained.
- ***Timer***
  Timer or volt-hour controlled operation is a useful standard feature on all models. The microcomputer will automatically terminate the run and sound an alarm when the count down of the selected value is achieved.
- ***Automatic cross-over***
  Each model has constant voltage, constant current, constant power capabilities with automatic cross-over and shows which parameter is kept constant.
- ***Automatic recovery after power failure***
  After a mains power failure the instrument will automatically continue the run for the remaining time.
- ***Data-logging***
  Stores up to 3600 output values (voltage, current and power, time or volthours) including program number and step.
- ***Data Transfer***
  A free data acquisition software for PC can be downloaded from our website. It allows to visualize and examine the stored run details via RS232.
- ***Remote control***
  All power supplies can be controlled by a computer using special commands.
- ***Safety precautions***
  The user is protected from potential shock hazard since the AC line is automatically disconnected from the high voltage transformer when a ground leakage path is detected.

  The instrument is fully protected against any overload condition including accidental short circuit of the output.

  The high voltage cannot suddenly appear at the outputs. It will always increase smoothly up to one of the pre-set limits is reached.

  Galvanic RS232 input/output insulation prevents ground loop interferences when connected to a computer.
- ***Warranty***
  Three year warranty.
- ***Comprises*:** manual and mains lead (EV232, EV233 and EV262: + extra 4 pairs of 2/4 mm adapters E200).

CODE	DESCRIPTION
E200	Pair of adaptors, 4 mm plug to 2 mm socket
E201	Pair of cables M/F, 4+4 mm
E203	Pair of cables M/F, 2+4 mm
E204	Pair of adaptors, 2 mm plug to 4 mm socket

CODE	DESCRIPTION
EV243	Power supply, 400 V / 300 mA / 50 W
EV231	Power supply, 300 V / 1000 mA / 150 W
EV265	Power supply, 600 V / 500 mA / 150 W
EV202	Power supply, 300 V / 2000 mA / 300 W
EV261	Power supply, 600 V / 1000 mA / 300 W
EV215	Power supply, 1200 V / 500 mA / 300 W
EV232	Power supply, 3000 V / 150 mA / 150 W
EV233	Power supply, 3000 V / 300 mA / 300 W
EV262	Power supply, 6000 V / 150 mA / 300 W
AK2315	RS232 computer cable (optional)
→ *Add a $-sign for 120 VAC versions, e.g.: EV233$*	
→ *Add a U-sign for UK plug versions, e.g.: EV233U*	
→ *Add a C-sign for Swiss plug versions, e.g.: EV233C*	

Specifications	EV243	EV231	EV265
VOLTAGE	0...400 V	0...300 V	0...600 V
CURRENT	0...300 mA	0...1000 mA	0...500 mA
POWER	0...50 W	0...150 W	0...150 W
PARAMETER RANGE	1...100% of full scale	1...100% of full scale	1...100% of full scale
TIMER	0...99:59 h	0...99:59 h	0...99:59 h
VOLT-HOURS	0...99.99 kVh	0...99.99 kVh	0...99.99 kVh
DISPLAY	LCD, 2x16 characters	LCD, 2x16 characters	LCD, 2x16 characters
RESOLUTION	1 V, 1 mA, 1 W	1 V, 1 mA, 1 W	1 V, 1 mA, 1 W
PROGRAMS	9x9 set of parameters	9x9 set of parameters	9x9 set of parameters
OUTPUTS	3 in parallel, 4 mm sockets	4 in parallel, 4 mm sockets	4 in parallel, 4 mm sockets
MINIMUM LOAD RESISTANCE	30 Ω	10 Ω	30 Ω
NO LOAD DETECTION	on/off, programmable	on/off, programmable	on/off, programmable
GROUND LEAKAGE DETECTION	✓	✓	✓
OVERLOAD DETECTION	✓	✓	✓
COMPUTER CONTROL	✓	✓	✓
DATA-LOGGING	3600 values	3600 values	3600 values
RS232 INTERFACE	9600 b/s	9600 b/s	9600 b/s
AMBIENT TEMPERATURE	0...40°C	0...40°C	0...40°C
RELATIVE HUMIDITY	0...95%, non condensing	0...95%, non condensing	0...95%, non condensing
POWER REQUIREMENTS	210...250 VAC, 50/60 Hz, 75 W	210...250 VAC, 50/60 Hz, 200 W	210...250 VAC, 50/60 Hz, 200 W
DIMENSIONS (WxDxH)	24x20x13 cm	31x26x15 cm	31x26x15 cm
WEIGHT	3 kg	6 kg	6 kg

Specifications	EV202	EV261	EV215
VOLTAGE	0...300 V	0...600 V	0...1200 V
CURRENT	0...2000 mA	0...1000 mA	0...500 mA
POWER	0...300 W	0...300 W	0...300 W
PARAMETER RANGE	1...100% of full scale	1...100% of full scale	1...100% of full scale
TIMER	0...99:59 h	0...99:59 h	0...99:59 h
VOLT-HOURS	0...99.99 kVh	0...99.99 kVh	0...99.99 kVh
DISPLAY	LCD, 2x16 characters	LCD, 2x16 characters	LCD, 2x16 characters
RESOLUTION	1 V, 1 mA, 1 W	1 V, 1 mA, 1 W	1 V, 1 mA, 1 W
PROGRAMS	9x9 set of parameters	9x9 set of parameters	9x9 set of parameters
OUTPUTS	4 in parallel, 4 mm sockets	4 in parallel, 4 mm sockets	4 in parallel, 4 mm sockets
MINIMUM LOAD RESISTANCE	5 Ω	15 Ω	70 Ω
NO LOAD DETECTION	on/off, programmable	on/off, programmable	on/off, programmable
GROUND LEAKAGE DETECTION	✓	✓	✓
OVERLOAD DETECTION	✓	✓	✓
COMPUTER CONTROL	✓	✓	✓
DATA-LOGGING	3600 values	3600 values	3600 values
RS232 INTERFACE	9600 b/s	9600 b/s	9600 b/s
AMBIENT TEMPERATURE	0...40°C	0...40°C	0...40°C
RELATIVE HUMIDITY	0...95%, non condensing	0...95%, non condensing	0...95%, non condensing
POWER REQUIREMENTS	210...250 VAC, 50/60 Hz, 360 W	210...250 VAC, 50/60 Hz, 360 W	210...250 VAC, 50/60 Hz, 360 W
DIMENSIONS (WxDxH)	31x26x15 cm	31x26x15 cm	31x26x15 cm
WEIGHT	10 kg	10 kg	10 kg

Specifications	EV232	EV233	EV262
VOLTAGE	0...3000 V	0...3000 V	0...6000 V
CURRENT	0...150 mA	0...300 mA	0...150 mA
POWER	0...150 W	0...300 W	0...300 W
PARAMETER RANGE	1...100% of full scale	1...100% of full scale	1...100% of full scale
TIMER	0...99:59 h	0...99:59 h	0...99:59 h
VOLT-HOURS	0...99.99 kVh	0...99.99 kVh	0...99.99 kVh
DISPLAY	LCD, 2x16 characters	LCD, 2x16 characters	LCD, 2x16 characters
RESOLUTION	1 V, 1 mA, 1 W	1 V, 1 mA, 1 W	1 V, 1 mA, 1 W
PROGRAMS	9x9 set of parameters	9x9 set of parameters	9x9 set of parameters
OUTPUTS	4 in parallel, 2 mm sockets	4 in parallel, 2 mm sockets	4 in parallel, 2 mm sockets
MINIMUM LOAD RESISTANCE	600 Ω	300 Ω	1200 Ω
NO LOAD DETECTION	on/off, programmable	on/off, programmable	on/off, programmable
GROUND LEAKAGE DETECTION	✓	✓	✓
OVERLOAD DETECTION	✓	✓	✓
COMPUTER CONTROL	✓	✓	✓
DATA-LOGGING	3600 values	3600 values	3600 values
RS232 INTERFACE	9600 b/s	9600 b/s	9600 b/s
AMBIENT TEMPERATURE	0...40°C	0...40°C	0...40°C
RELATIVE HUMIDITY	0...95%, non condensing	0...95%, non condensing	0...95%, non condensing
POWER REQUIREMENTS	210...250 VAC, 50/60 Hz, 200 W	210...250 VAC, 50/60 Hz, 360 W	210...250 VAC, 50/60 Hz, 360 W
DIMENSIONS (WxDxH)	31x26x15 cm	31x26x15 cm	31x26x15 cm
WEIGHT	6 kg	10 kg	10 kg