

# Specifications

## Voltage generation

| Range  | Source range <sup>1</sup> | Resolution | Stability (1 h) <sup>2</sup><br>±(ppm of setting + V) | Accuracy (180 days) <sup>3,4</sup><br>±(ppm of setting + V) | Accuracy (1 year) <sup>3,4</sup><br>±(ppm of setting + V) |
|--------|---------------------------|------------|---|---|---|
| 100 mV | ±122.400 mV               | 1 μV       | 20 + 3 μV   | 40+ 4 μV  | 60+ 4 μV  |
| 1 V    | ±1.22400 V                | 10 μV      | 5 + 5 μV  | 40+ 10 μV   | 55+ 15 μV   |
| 10 V   | ±12.2400 V                | 100 μV     | 5 + 50 μV   | 40+ 100 μV  | 55+ 150 μV  |
| 100 V  | ±122.400 V                | 1 mV       | 5 + 500 μV  | 40+ 1 mV  | 55+ 1.5 mV  |
| 1000 V | ±1224.00 V                | 10 mV      | 5 + 5 mV <sup>5</sup>                                 | 40+ 10 mV <sup>5</sup>                                      | 55+ 15 mV <sup>5</sup>                                    |

| Range  | Temperature coefficient<br>±(ppm of setting + V)/°C | Max. Output    | Output<br>resistance <sup>6</sup> | Output noise |                 | Max. C load |
|--------|---|----------------|-----------------------------------|--------------|-----------------|-------------|
|        |   |                |                                   | DC to 10 Hz  | 10 Hz to 10 kHz |             |
| 100 mV | 5+ 0.3 μV   | 12 mA or more  | 6 mΩ or less                      | 5 μVp-p      | 10 μVrms        | 10 μF       |
| 1 V    | 3+ 1 μV   | Approx. 120 mA | 6 mΩ or less                      | 15 μVp-p     | 20 μVrms        | 10 μF       |
| 10 V   | 3+ 10 μV  | Approx. 120 mA | 6 mΩ or less                      | 50 μVp-p     | 30 μVrms        | 10 μF       |
| 100 V  | 3+ 100 μV   | Approx. 30 mA  | 30 mΩ or less                     | 500 μVp-p    | 400 μVrms       | 1 μF        |
| 1000 V | 3+ 1 mV   | Approx. 10 mA  | 1 Ω or less                       | 1 mVp-p      | 1 mVrms         | 0.01 μF     |

## Current generation

| Range               | Source range <sup>1</sup> | Resolution | Stability (1 h) <sup>2</sup><br>±(ppm of setting + A) | Accuracy (180 days) <sup>4</sup><br>±(ppm of setting + A) | Accuracy (1 year) <sup>4</sup><br>±(ppm of setting + A) |
|---------------------|---------------------------|------------|---|---|---|
| 100 μA              | ±122.400 μA               | 1 nA       | 50 + 5 nA   | 100 + 12 nA   | 150 + 20 nA   |
| 1 mA                | ±1.22400 mA               | 10 nA      | 5 + 15 nA   | 50 + 20 nA  | 70 + 30 nA  |
| 10 mA               | ±12.2400 mA               | 100 nA     | 5 + 150 nA  | 50 + 200 nA   | 70 + 300 nA   |
| 100 mA <sup>7</sup> | ±122.400 mA               | 1 μA       | 10 + 1.5 μA   | 70 + 2 μA   | 90 + 3 μA   |
| 1 A                 | ±1.22400 A                | 10 μA      | 25 + 25 μA  | 250 + 50 μA   | 350 + 70 μA   |
| 10 A                | ±12.2400 A                | 100 μA     | 50 + 500 μA   | 350 + 1 mA  | 380 + 1.2 mA  |
| 30 A                | 0 to +36.720 A            | 1 mA       | 70 + 1.2 mA   | 450 + 1.5 mA  | 540 + 1.8 mA  |

| Range               | Temperature coefficient<br>±(ppm of setting + A)/°C | Max. Output   | Output<br>resistance | Output noise |                 | Max. L load |
|---------------------|---|---------------|----------------------|--------------|-----------------|-------------|
|                     |   |               |                      | DC to 10 Hz  | 10 Hz to 10 kHz |             |
| 100 μA              | 10 + 0.5 nA   | Approx. 30 V  | 100 MΩ or more       | 0.1 μAp-p    | 0.2 μArms       | 1 mH        |
| 1 mA                | 3 + 1.5 nA  | Approx. 30 V  | 100 MΩ or more       | 0.5 μAp-p    | 0.5 μArms       | 1 mH        |
| 10 mA               | 5 + 15 nA   | Approx. 30 V  | 100 MΩ or more       | 1 μAp-p      | 1 μArms         | 1 mH        |
| 100 mA <sup>7</sup> | 10 + 150 nA   | Approx. 30 V  | 10 MΩ or more        | 5 μAp-p      | 10 μArms        | 1 mH        |
| 1 A                 | 15 + 6 μA   | Approx. 10 V  | 1 MΩ or more         | 0.1 mAp-p    | 0.1 mArms       | 1 mH        |
| 10 A                | 30 + 60 μA  | Approx. 2 V   | 10 kΩ or more        | 1 mAp-p      | 4 mArms         | 1 mH        |
| 30 A                | 30 + 300 μA   | Approx. 1.5 V | 5 kΩ or more         | 1 mAp-p      | 4 mArms         | 1 mH        |

\*1 To generate 122.4% of range, set main value to 120% of range and set deviation to 2%

\*2 1-hour stability values apply at 23°C±1°C. 1-hour starts from 1 hour after turning output on

\*3 Excluding the voltage drop by the output resistance

\*4 Accuracy values apply at 23±3°C, 20% to 80%RH. Add temperature coefficient at 5°C to 20°C and 26°C to 40°C. Add 500 ppm of range when the output value is 120% of range or greater.

\*5 Add {12 ppm × (output value/1000)<sup>2</sup>} of range when the output value is 100 V or greater

\*6 When B8506ZK, 758933, or 758917 is in use; excluding aging and the effects of measurement leads

\*7 Accuracy is specified when sinking the current up to 30 mA

## Temperature generation for RTD

| Type  | Source Range      | Resolution | Accuracy (180 days) <sup>8</sup> | Accuracy (1 year) <sup>8</sup> | Temperature Coefficient | Nominal Current |
|-------|-------------------|------------|----------------------------------|--------------------------------|-------------------------|-----------------|
| Pt100 | -200.0 to 850.0°C | 0.1°C      | ±0.1°C                           | ±0.12°C                        | ±0.006°C/°C             | 0.1 to 2 mA     |

## Resistance generation

| Range | Source Range     | Resolution | Accuracy (180 days) <sup>8,9</sup><br>±(ppm of setting + Ω) | Accuracy (1 year) <sup>8,9</sup><br>±(ppm of setting + Ω) | Temperature Coefficient | Nominal Current |
|-------|------------------|------------|---|---|-------------------------|-----------------|
| 400 Ω | 1.00 to 400.00 Ω | 0.01 Ω     | 55 + 0.005  | 75 + 0.015  | ±0.002 Ω/°C             | 0.1 to 2 mA     |

\*8 Accuracy values apply at 23±3°C, 20% to 80% RH. \*9 Nominal current Is: In case of 0.1 mA to 1 mA, add{(0.0025/Is(mA))Ω}

### Temperature generation for Thermocouple

|                   | R            | S            | B            | J            | T            |
|-------------------|--------------|--------------|--------------|--------------|--------------|
| Source Range [°C] | -50 to 1768  | -50 to 1768  | 0 to 1820    | -210 to 1200 | -270 to 400  |
|                   | -50°C: 1.10  | -50°C: 1.03  | 400°C: 1.00  | -210°C: 0.25 | -250°C: 0.72 |
| Setting           | 0°C: 0.80    | 0°C: 0.75    | 600°C: 0.70  | -100°C: 0.11 | -200°C: 0.29 |
| temperature:      | 100°C: 0.55  | 100°C: 0.56  | 1000°C: 0.50 | 0°C: 0.08    | -100°C: 0.16 |
| Accuracy for      | 600°C: 0.40  | 400°C: 0.47  | 1200°C: 0.44 | 1200°C: 0.15 | 100°C: 0.10  |
| 1 year (±°C)      | 1600°C: 0.40 | 1600°C: 0.44 | 1820°C: 0.44 |              | 400°C: 0.09  |
|                   | 1768°C: 0.45 | 1768°C: 0.51 |              |              |              |

|                   | E            | K            | N            | C            | A            |
|-------------------|--------------|--------------|--------------|--------------|--------------|
| Source Range [°C] | -270 to 1000 | -270 to 1300 | -270 to 1300 | 0 to 2315    | 0 to 2500    |
|                   | -250°C: 0.50 | -250°C: 0.94 | -240°C: 1.00 | 0°C: 0.30    | 0°C: 0.34    |
| Setting           | -200°C: 0.20 | -200°C: 0.30 | -200°C: 0.44 | 200°C: 0.26  | 100°C: 0.29  |
| temperature:      | -100°C: 0.10 | -100°C: 0.15 | -100°C: 0.21 | 600°C: 0.25  | 600°C: 0.28  |
| Accuracy for      | 0°C: 0.07    | 0°C: 0.11    | 0°C: 0.16    | 1000°C: 0.30 | 1600°C: 0.47 |
| 1 year (±°C)      | 1000°C: 0.12 | 800°C: 0.15  | 800°C: 0.15  | 2000°C: 0.51 | 2500°C: 0.79 |
|                   |              | 1300°C: 0.21 | 1300°C: 0.20 | 2315°C: 0.70 |              |

Resolution: 0.1°C  
 Output Resistance: Approx. 1 Ω  
 Temperature scale is ITS-90.  
 Accuracy apply at 23±3°C and without reference junction compensation.  
 Accuracy doesn't include the thermocouple's error.  
 Accuracy for temperature between setting temperature is calculated by linear interpolation.  
 Accuracy not shown in left table is ±(60 ppm + 4 μV) for generated voltage.

3 RJC modes  
 INT\*: Detect temperature of output terminal as compensation value. Temperature measurement accuracy is ±0.3°C.  
 EXT\*: Detect compensation value by sensor connected to RJC terminal  
 MAN: Input compensation value

\*When using RJC, add the reference junction compensation error in "2560A Temperature generation for Thermocouple (Detail)" on our web site.

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### Other generation specification

|                         |   |  |  |
|-------------------------|---|--|--|
| Sweep                   | Target  | Voltage/Current/Temperature/Resistance   |  |
|                         | Speed   | Approx. 8/16/32/64 sec. selectable during 0 to 100%, 100 to 0% of setting                                      |  |
| Output divider          | Target  | Voltage/Current/Temperature/Resistance   |  |
|                         | Denominator   | m 4 to 15  |  |
|                         | Numerator   | n 0 to 15 (n ≤ m)  |  |
| Scale function          | A function to set the maximum value (MAX) and minimum value (MIN) of sweep and divider range.   |  |  |
| Deviation               | Target  | Voltage/Current/Temperature/Resistance   |  |
|                         | Variable range  | ±20.00%  |  |
|                         | Operation   | Two dials  |  |
|                         |   | Resolution of the first dial:<br>0.2% of (MAX – MIN)<br>Resolution of the second dial:<br>0.01% of (MAX – MIN) |  |
| Deviation preset        | OFF/0/2%/5%   |  |  |
| Transient response time | Voltage/Current generation:<br>Approx. 500 ms (except for 1000 V range), approx. 3 s (1000 V range) (No load, Time to reach 0.02% of final value) |  |  |
|                         | RTD/Resistance generation:<br>Within 0.1 ms (Time constant at changing current)   |  |  |
| CMRR                    | Voltage   | 120 dB or greater (except for 1000 V range), 100 dB or greater (1000 V range) (DC, 50/60 Hz)                   |  |
|                         | Current   | 0.1 μA/V or less (1 A range or less), 10 μA/V or less (10 A range or more) (DC, 50/60 Hz)                      |  |

### General specification

|                       |   |
|-----------------------|---|
| Warm-up time          | Approx. 30 minutes  |
| Operating environment | Temperature: 5 to 40°C                                    |
|                       | Humidity: 20 to 80% RH*<br>*20 to 70%RH for 30°C and over |

|  |  |
|--|--|
| Storage environment                                | Temperature: -15 to 60°C<br>Humidity: 20 to 80% RH |
| Operating Height                                   | 2000 m or less                                     |
| Operating Attitude                                 | Horizon  |
| Rated power supply voltage                         | 100 to 120 VAC/200 to 240 VAC                      |
| Allowable power supply voltage fluctuation range   | 90 to 132 VAC/180 to 264 VAC                       |
| Rated power supply frequency                       | 50/60 Hz   |
| Allowable power supply frequency fluctuation range | 48 to 63 Hz  |
| Max. power consumption                             | 200 VA   |
| Withstand voltage                                  | Between power and case:<br>1500 VAC 1 min.         |
| Dimensions   | 426 (W) × 177 (H) × 400 (D) mm                     |
| Weight   | Approx. 13 kg                                      |

### Communication Interface

|  |   |
|--|---|
| USB interface (PC connection)          |   |
| Connector                              | Type B connector (receptacle)                 |
| Electric and mechanical specifications | Complies with USB Rev. 2.0                    |
| supported transfer modes               | High Speed, Full Speed                        |
| Ethernet interface                     |   |
| Connector                              | RJ-45 connector                               |
| Electric and mechanical specifications | Confirms to the IEEE 802.3                    |
| Transfer methods                       | 100 BASE-TX/10 BASE-T                         |
| Transfer speed                         | Max. 100 Mbps                                 |
| GP-IB interface                        |   |
| Electric and mechanical specifications | Complies with IEEE St'd 488-1978              |
| Functional specifications              | SH1, AH1, T6, L4, SR1, RL1, PP0, DC1, DT1, C0 |
| Address                                | 0 to 30                                       |

## Model and Suffix code

| Model | Suffix code | Description                    |
|-------|-------------|--------------------------------|
| 2560A |             | Precision DC Calibrator        |
|       | -VA         | Version A                      |
|       | -UC         | Deg C                          |
|       | -UF         | Deg C and F                    |
|       | -D          | UL/CSA standard, PSE compliant |
|       | -F          | VDE standard                   |
|       | -R          | AS standard                    |
|       | -Q          | BS standard                    |
|       | -H          | GB standard                    |
|       | -N          | NBR standard                   |

Standard accessories :

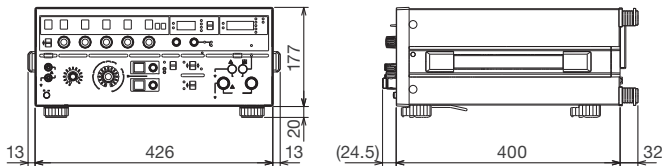
Power cord (1), B8506ZK, B8506WA (each 1), B8506ZL Alligator clip adapter set (1), 758921 Fork terminal adapter (1), Rubber feet (2 sets (4)), Terminal plug (1), User's manual (1)

## Rack Mounting Kits

| Model     | Product           | Description                 |
|-----------|-------------------|-----------------------------|
| 751535-E4 | Rack mounting kit | EIA standalone installation |
| 751535-J4 | Rack mounting kit | JIS standalone installation |

## External dimensions

Unit: mm



## Related product

### 2553A Small and light Precision DC Calibrator

|                   |   |
|-------------------|---|
| <b>Accuracy</b>   | Voltage: $\pm 0.0075\%$ , Current: $\pm 0.0120\%$               |
| <b>Stability</b>  | $\pm 15$ ppm/h  |
| <b>Noise</b>      | $2 \mu\text{Vrms}$  |
| <b>Resolution</b> | 5.5 digits, $\pm 120000$ count display                          |
| <b>Range</b>      | Voltage: $\pm 32$ V, Current: $\pm 120$ mA<br>Thermocouple, RTD |



### 2558A AC Voltage Current Standard

|                        |   |
|------------------------|---|
| <b>Accuracy</b>        | Voltage: $\pm 0.04\%$<br>Current: $\pm 0.05\%$              |
| <b>Stability</b>       | $\pm 50$ ppm/h  |
| <b>Frequency range</b> | 40 to 1000 Hz   |
| <b>Range</b>           | Voltage: 1.00 mV to 1200.0 V<br>Current: 1.00 mA to 60.00 A |



## Accessories

| Model   | Name                      | Description  |  |
|---------|---------------------------|--|--|
| 257875  | RJ sensor                 | For reference junction compensation sensor. Pt100, 1.95 m                |  |
| B8506ZK | Measurement lead set      | 2 voltage output cables (red and black). 1 m. Rating 1500 V              |  |
| B8506WA | Measurement lead set      | 2 current output cables. 1.5 m. Rating 80 A                              |  |
| 758933  | Measurement lead set      | 2 safety terminal cables (red and black). 1 m. Rating 1000 V             |  |
| 758917  | Measurement lead set      | 2 safety terminal cables (red and black). 0.75 m. Rating 1000 V          |  |
| B8506ZL | Alligator clipadapter set | 2 safety terminal—alligator clip adapters (red and black). Rating 1500 V |  |
| 758929  | Alligator clipadapter set | 2 safety terminal—alligator clip adapters (red and black). Rating 1000 V |  |
| 758922  | Alligator clipadapter set | 2 safety terminal—alligator clip adapters (red and black). Rating 300 V  |  |
| 758921  | Fork terminal adapter     | 2 safety terminal—fork terminal adapters (red and black).                |  |

Due to the nature of this product, it is possible to touch its metal parts. Therefore, there is a risk of electric shock, so the product must be used with caution.

### NOTICE

- Before operating the product, read the user's manual thoroughly for proper and safe operation.

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### Yokogawa's Approach to Preserving the Global Environment

- Yokogawa's electrical products are developed and produced in facilities that have received ISO14001 approval.
- In order to protect the global environment, Yokogawa's electrical products are designed in accordance with Yokogawa's Environmentally Friendly Product Design Guidelines and Product Design Assessment Criteria.

This is a Class A instrument based on Emission standards EN61326-1 and EN55011, and is designed for an industrial environment. Operation of this equipment in a residential area may cause radio interference, in which case users will be responsible for any interference which they cause.

# YOKOGAWA

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