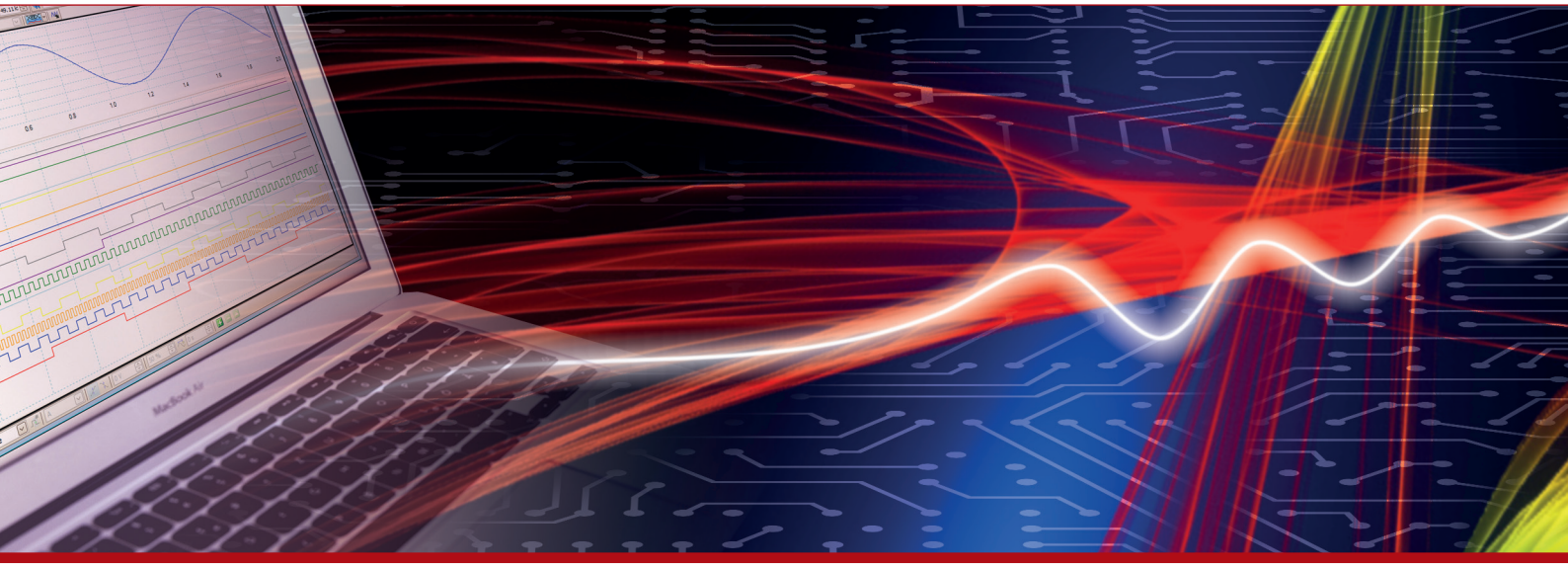
# Product Datasheet - Technical Specifications



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# Chapter6 Specification

This chapter will introduce the rated voltage, current, power and many other main parameters of IT5101 series.

## 6.1 Main technical parameters

| Model | | IT5101 | | |
|---|---|---|---|---|
| **Measurement Range** | | | | |
| **Voltage** | Range | -6V~+6V | -60V~+60V | -300~+300V |
| | Resolution | 10uV | 0.1mV | 1mV |
| | Accuracy | ±(0.01%+0.01%FS) | | |
| | Temperature Coefficient | ±(0.001%+0.001%FS)/℃ | | |
| **Resistance** | Range | 3mΩ | Resolution | 0.1 uΩ |
| | Range | 30mΩ | Resolution | 1 uΩ |
| | Range | 300mΩ | Resolution | 10uΩ |
| | Range | 3Ω | Resolution | 0.1 mΩ |
| | Range | 30Ω | Resolution | 1 mΩ |
| | Range | 300Ω | Resolution | 10 mΩ |
| | Range | 3000Ω | Resolution | 0.1Ω |
| | Accuracy | ±(0.4%+0.05%FS)<br>±(0.4%+0.1%FS) (3mΩ range) | | |
| | Temperature Coefficient | ±(0.04%+0.005%FS)/℃<br>±(0.04%+0.01%FS)/℃ (3mΩ range) | | |
| **Specifications** | | | | |
| **Sample Time** | **sample** | **R&V (ms)** | **R/V (ms)** | |
| | EX.FAST(50Hz) | 8 | 4 | |
| | FAST(60Hz) | 24 | 12 | |
| | MEDIUM(50Hz) | 80 | 40 | |
| | MEDIUM(60Hz) | 68 | 34 | |
| | SLOW(50Hz) | 200 | 100 | |
| | SLOW(60Hz) | 200 | 100 | |
| | *** Allowable error is ±10 ms in "SLOW" status and ±2 ms in other modes.** | | | |
| **Response Time** | 10ms<br>(Response time is the value obtained when pure resistance is measured, and is only for reference. It may be undulation due to different DUTs) | | | |
| **Input Resistance** | >=1MΩ | | | |
| **Input Rating** | DC±300V | | | |
| **Channel** | 1ch | | | |
| **Interface** | GPIB,USB,LAN | | | |
| **Open circuit voltage** | 0.003Ω/0.03Ω/0.3Ω/3Ω/30Ω about 15V peak<br>300Ω/3000Ω about 4V peak | | | |
| **Fuse specification** | AC100V~ AC120V:1.6AT<br>AC220V~ AC240V:1.25AT | | | |
| **Working temperature** | 0℃~40℃ Under 80%RH (non-condensation) | | | |
| **Storage temperature** | -10℃~50℃ Under 80%RH (non-condensation) | | | |
| **Dimension** | 384*230*105 (mm) | | | |

| | |
|---|---|
| **( mm)** | |
| **Weight( net)** | 2.4KG |

| **Model** | | **IT5101E** | | |
|---|---|---|---|---|
| **Measurement Range** | | | | |
| **Voltage** | Range | -6V~+6V | -60V~+60V | -300~+300V |
| | Resolution | 10uV | 0.1mV | 1mV |
| | Accuracy | ±(0.01%+0.01%FS) | | |
| | Temperature Coefficient | ±(0.001%+0.001%FS)/℃ | | |
| **Resistance** | Range | 300mΩ | Resolution | 10uΩ |
| | Range | 3Ω | Resolution | 0.1 mΩ |
| | Accuracy | ±(0.4%+0.05%FS)<br>±(0.4%+0.1%FS) (3mΩ) | | |
| | Temperature Coefficient | ±(0.04%+0.005%FS)/℃<br>±(0.04%+0.01%FS)/℃ (3mΩ) | | |
| **Specifications** | | | | |
| **Sample Time** | **sample** | **R&V (ms)** | **R/V (ms)** | |
| | EX.FAST(50Hz) | 8 | 4 | |
| | FAST(60Hz) | 24 | 12 | |
| | MEDIUM(50Hz) | 80 | 40 | |
| | MEDIUM(60Hz) | 68 | 34 | |
| | SLOW(50Hz) | 200 | 100 | |
| | SLOW(60Hz) | 200 | 100 | |
| | *** Allowable error is ±10 ms in "SLOW" status and ±2 ms in other modes.** | | | |
| **Response Time** | 10ms<br>(Response time is the value obtained when pure resistance is measured, and is only for reference. It may be undulation due to different DUTs) | | | |
| **Input Resistance** | >=1MΩ | | | |
| **Input Rating** | DC±300V | | | |
| **Channel** | 1ch | | | |
| **Interface** | GPIB,USB,LAN | | | |
| **Open circuit voltage** | 0.003Ω/0.03Ω/0.3Ω/3Ω/30Ω about 15V peak<br>300Ω/3000Ω about 4V peak | | | |
| **Fuse specification** | AC100V~ AC120V:1.6AT<br>AC220V~ AC240V:1.25AT | | | |
| **Working temperature** | 0℃~40℃ Under 80%RH (non-condensation) | | | |
| **Storage temperature** | -10℃~50℃ Under 80%RH (non-condensation) | | | |
| **Dimension ( mm)** | 384*230*105 (mm) | | | |
| **Weight( net)** | 2.4KG | | | |

| **Model** | | **IT5101H** | | |
|---|---|---|---|---|
| **Measurement Range** | | | | |
| **Voltage** | Range | -10V~+10V | -100V~+100V | -1000~+1000V |
| | Resolution | 10uV | 0.1mV | 1mV |
| | Accuracy | ±(0.01%+0.01%FS) | | |

| | | | | |
|---|---|---|---|---|
| | Temperature Coefficient | ±(0.001%+0.001%FS)/℃ | | |
| **Resistance** | Range | 3mΩ | Resolution | 0.1 uΩ |
| | Range | 30mΩ | Resolution | 1 uΩ |
| | Range | 300mΩ | Resolution | 10uΩ |
| | Range | 3Ω | Resolution | 0.1 mΩ |
| | Range | 30Ω | Resolution | 1 mΩ |
| | Range | 300Ω | Resolution | 10 mΩ |
| | Range | 3000Ω | Resolution | 0.1Ω |
| | Accuracy | ±(0.4%+0.05%FS)<br>±(0.4%+0.1%FS) (3mΩ) | | |
| | Temperature Coefficient | ±(0.04%+0.005%FS)/℃<br>±(0.04%+0.01%FS)/℃ (3mΩ) | | |

| **Specifications** | | | |
|---|---|---|---|
| **Sample Time** | **sample** | **R&V (ms)** | **R/V (ms)** |
| | EX.FAST(50Hz) | 8 | 4 |
| | FAST(60Hz) | 24 | 12 |
| | MEDIUM(50Hz) | 80 | 40 |
| | MEDIUM(60Hz) | 68 | 34 |
| | SLOW(50Hz) | 200 | 100 |
| | SLOW(60Hz) | 200 | 100 |
| | *** Allowable error is ±10 ms in "SLOW" status and ±2 ms in other modes.** | | |
| **Response Time** | 10ms<br>(Response time is the value obtained when pure resistance is measured, and is only for reference. It may be undulation due to different DUTs) | | |
| **Input Resistance** | >=1MΩ | | |
| **Input Rating** | DC±1000V | | |
| **Channel** | 1ch | | |
| **Interface** | GPIB,USB,LAN | | |
| **Open circuit voltage** | 0.003Ω/0.03Ω/0.3Ω/3Ω/30Ω about 15V peak<br>300Ω/3000Ω about 4V peak | | |
| **Fuse specification** | AC100V~ AC120V:1.6AT<br>AC220V~ AC240V:1.25AT | | |
| **Working temperature** | 0℃~40℃ Under 80%RH (non-condensation) | | |
| **Storage temperature** | -10℃~50℃ Under 80%RH (non-condensation) | | |
| **Dimension ( mm)** | 384*230*105 (mm) | | |
| **Weight( net)** | 2.4KG | | |

The above specifications may be subject to change without prior notice.

**When the current in the working cicuit which is connected to the battery changes quickly may affact the measurement acscuarcy!**

**1. In Med, add ±0.01%FS; in Fast, add ±0.02%FS; in Ex_fast, add ±0.03%FS.**
**2. In Med, add ±0.1%FS; in Fast, add ±0.2%FS; in Ex_fast, add ±0.5%FS (3mΩ range).**
**3. The above data are applicable for >5%FS working conditions.**

# 6.2 Supplemental characteristics

Recommended calibration frequency:

once a year