SIM970

Технические характеристики

По вопросам продаж и поддержки обращайтесь:

Алматы (7273)495-231
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93

Россия (495)268-04-70
Киргизия (996)312-96-26-47
Казахстан (7172)727-132

rsy@nt-rt.ru || https://srs.nt-rt.ru/

Small Instrumentation Modules

SIM970 — 5½-digit quad digital voltmeter

- True 5½-digit performance
- Four isolated channels
- 3 decade autoranging to ±19.9999 V
- 10 MΩ input impedance
- Trigger input for data synchronization
- Unique continuous auto-calibration
- 90 dB power line frequency rejection

SIM970 Quad Digital Voltmeter

The SIM970 Quad Digital Voltmeter is designed to make precision DC voltage measurements with excellent long-term accuracy.

For applications in which many voltages must be monitored, up to 16 DVM channels can be put into one SIM900 mainframe. Four voltage ranges from ±199.999 mV to ±19.9999 V can be autoranged or manually selected. An external trigger input allows synchronization of voltage readings on all four channels for critical applications requiring coincidental readings. A BUSY output gives a TTL (logic high) signal when readings are being taken.

Auto-calibration is performed with every reading by sequentially measuring not only the input voltage, but also the ground and the full-scale voltages against a calibrated internal reference. This auto-calibration routine virtually eliminates offsets and scale errors, and ensures smooth range-to-range transitions.

The bright front-panel LED display shows updated readings three times per second. Computer access through the SIM900 mainframe (RS-232 or GPIB) permits data logging with 24 bits of resolution. All channels are isolated from ground and each other. The SIM970 uses isolated BNC connectors for inputs so coaxial cables can be used for reduced noise pickup.

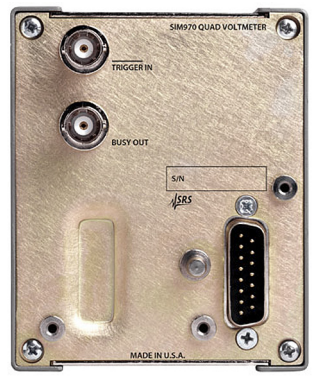
Full-scale DC voltage ranges

Range	*Voltage*	*Resolution*	*Noise, counts rms [1][2]*
1	±19.9999 V	100 µV	1.5
2	±1.99999 V	10 µV	0.8
3	±999.99 mV	10 µV	0.8
4	±199.999 mV	1 µV	1.0

Measurement accuracy, ±(% of reading + counts) [3]

Range	*24 hour, (23 ± 1) °C*	*90 day, (23 ± 5) °C (typ.)*	*1 year, (23 ± 5) °C (typ.)*
1 [4]	0.0010 + 2	0.0050 + 2	0.0080 + 2
2	0.0002 + 2	0.0050 + 2	0.0080 + 2
3	0.0002 + 2	0.0050 + 2	0.0080 + 2
4	0.0002 + 4	0.0050 + 6	0.0080 + 6

Number of channels	4
Number of digits	5½ (±199999 counts) [1]
Transfer accuracy	(24 hour counts error)/2 [3][5] (typ.)
Input resistance	10 MΩ ± 1 %, >3 GΩ selectable on ranges 2 to 4 [6]
Input terminals	BNC (Amphenol 31-10 or similar)
Input protection	±60 V center to shield ±200 V shield to earth
Triggering	Internal, external (TTL), or remote
BUSY output	TTL logic high when busy
Update rate at line freq. [7]	3.6/s (60 Hz), 3.0/s (50 Hz)
Normal mode rejection at line freq.	90 dB (59 to 61 Hz or 49 to 51 Hz)
CMRR at DC	125 dB (for 1 kΩ unbalance in the shield)
Settling time	1 s to within 3 counts of final reading on ranges 1 to 3, 8 s on range 4
Display	Red LED, 0.40", with polarity indication. Green LEDs for range and autorange indication.
Operating temp.	0 °C to 40 °C, non-condensing
Interface	Serial via SIM interface
Connectors	Isolated BNC (4 front), BNC (2 rear) DB15/F SIM interface
Power	Powered by SIM900 Mainframe, or by user-provided power supply (+5 V)
Dimensions	3.0" × 3.6" × 7.0" (WHD)
Weight	2.3 lbs.
Warranty	One year parts and labor on defects in materials and workmanship



SIM970 rear panel

NOTES

[1] One count is a unit change in the least-significant-digit. Greater resolution is available through the remote interface.
[2] Measured over 360 consecutive readings
[3] Inside SIM900 mainframe following a two hour warm-up, autozero ON
[4] Scale calibration ON
[5] Within 10 minutes and ±0.5 °C, within ±10 % of the initial value, fixed range, input between 10 % and 100 % of full scale
[6] Input bias current is <1 pA at 23 °C
[7] Internal triggering, autozero ON. Rate is double for autozero OFF.

Ordering Information

SIM970	4-channel digital voltmeter

Small Instrumentation Modules

SIM900 Series — Product overview

SIM900 Series

- SIM mainframe
- Analog PID controller
- AC Resistance bridge
- Bessel / Butterworth filters
- Preamplifiers
- Temperature monitors
- Analog signal conditioning
- Isolated voltage source
- Octal 4-wire multiplexer
- Quad digital voltmeter
- Rubidium frequency standard

SIM — Small Instrumentation Modules — is a compact test and measurement platform for a wide range of applications. Unlike other modular systems, SIM offers complete front-panel as well as remote operation, allowing you to choose between manual and computer control. Up to eight instruments share the same mainframe which provides power, clock synchronization, communications, and module status. For additional versatility, you can cascade mainframes or other RS-232 instruments, and even operate modules outside the mainframe.

With SIM, you configure precision measurement and control systems, achieving the exact functionality you need while avoiding the cost of unnecessary features.

По вопросам продаж и поддержки обращайтесь:

Алматы (7273)495-231
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93

Россия (495)268-04-70
Киргизия (996)312-96-26-47
Казахстан (7172)727-132

rsy@nt-rt.ru || https://srs.nt-rt.ru/