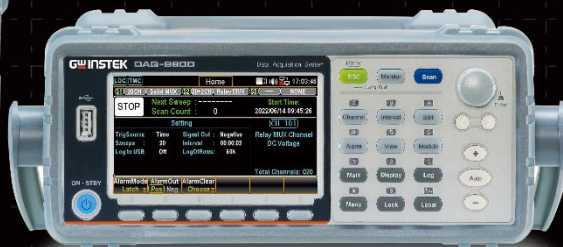


Preliminary

Data Acquisition System



DAQ-9600



Expand Your Measuring Tentacles

The DAQ-9600 data acquisition system has six high-quality modules and a built-in 6 1/2 digit multimeter to provide you with an efficient and accurate data acquisition.

The system measures and converts 14 different input signals: Temperature with thermocouples, RTDs and thermistors; DC/AC voltage; 2-wire and 4-wire resistance; frequency and period; DC/AC current and capacitance; direct strain and bridge strain.

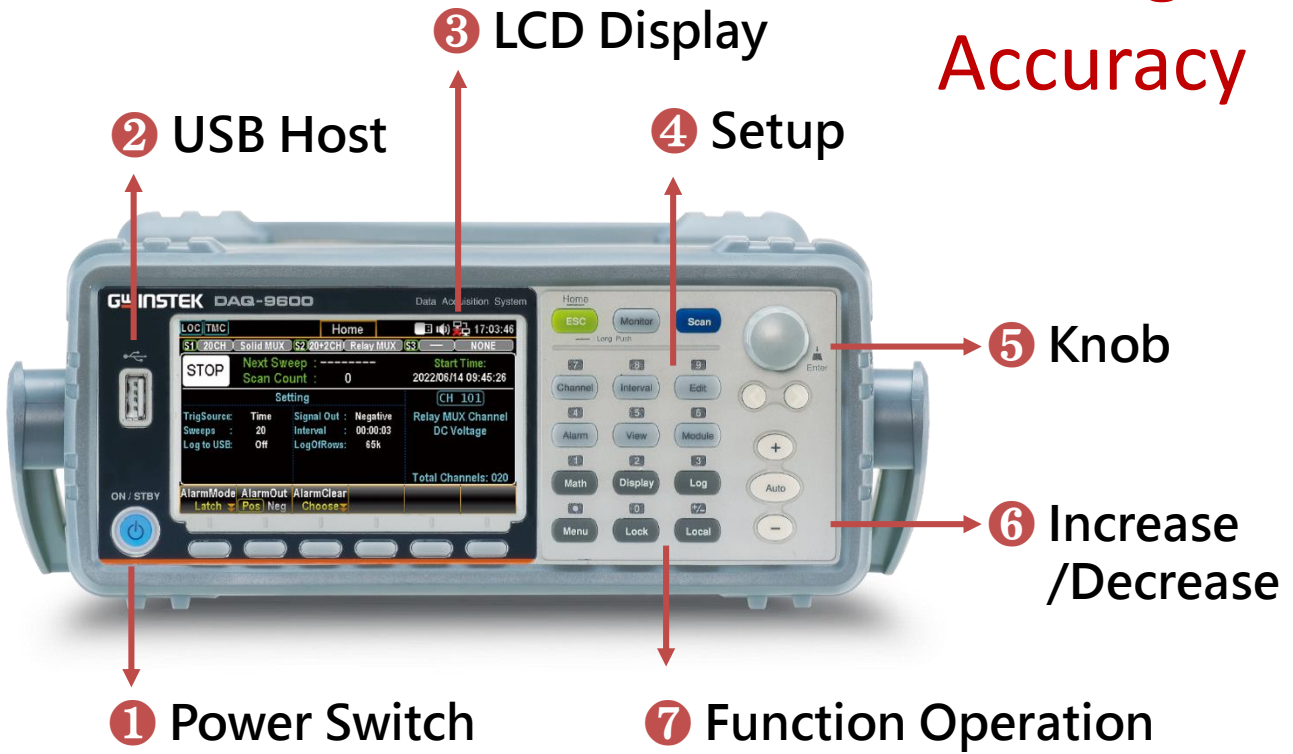
Your data acquisition is controlled by logging and observing results in a variety of display options for easier analysis. A free DAQ software assists you in controlling measurement channels for your specific test configurations from multiple data acquisition units.



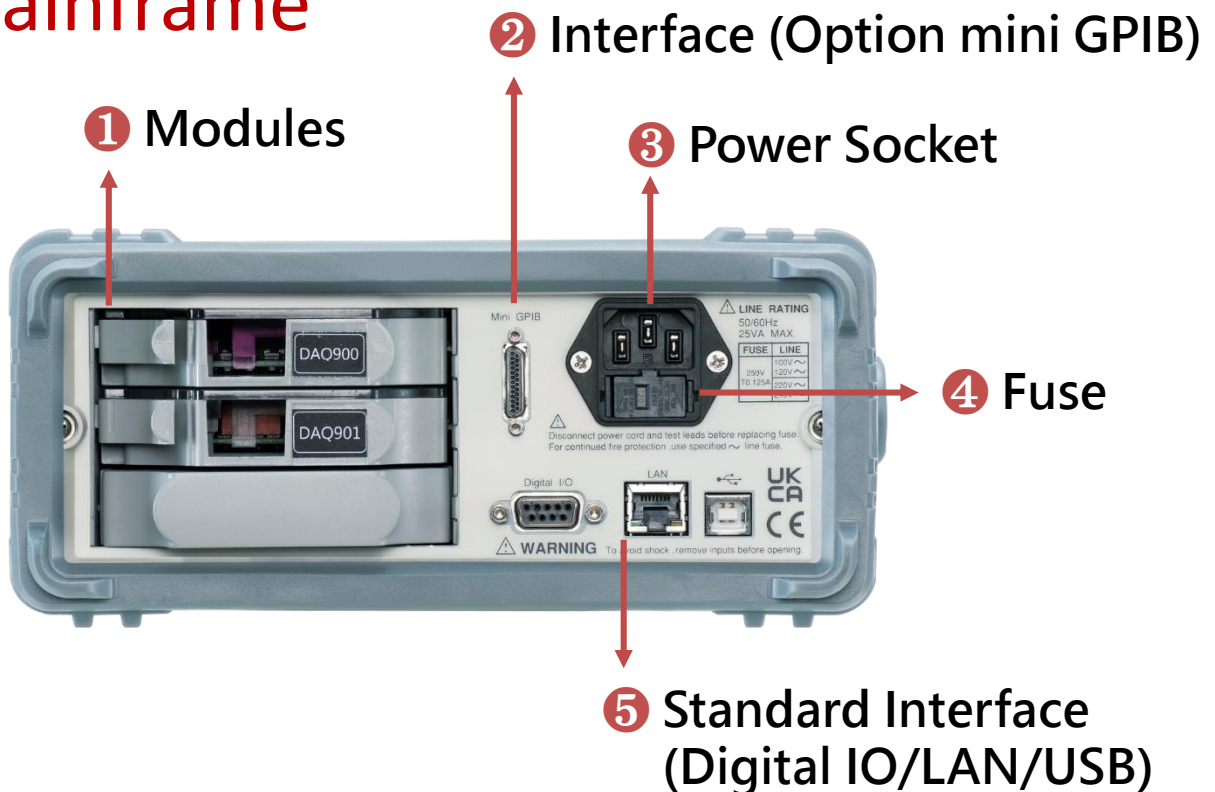
DAQ – Data Logger SOFTWARE



6 ½ digits
Accuracy



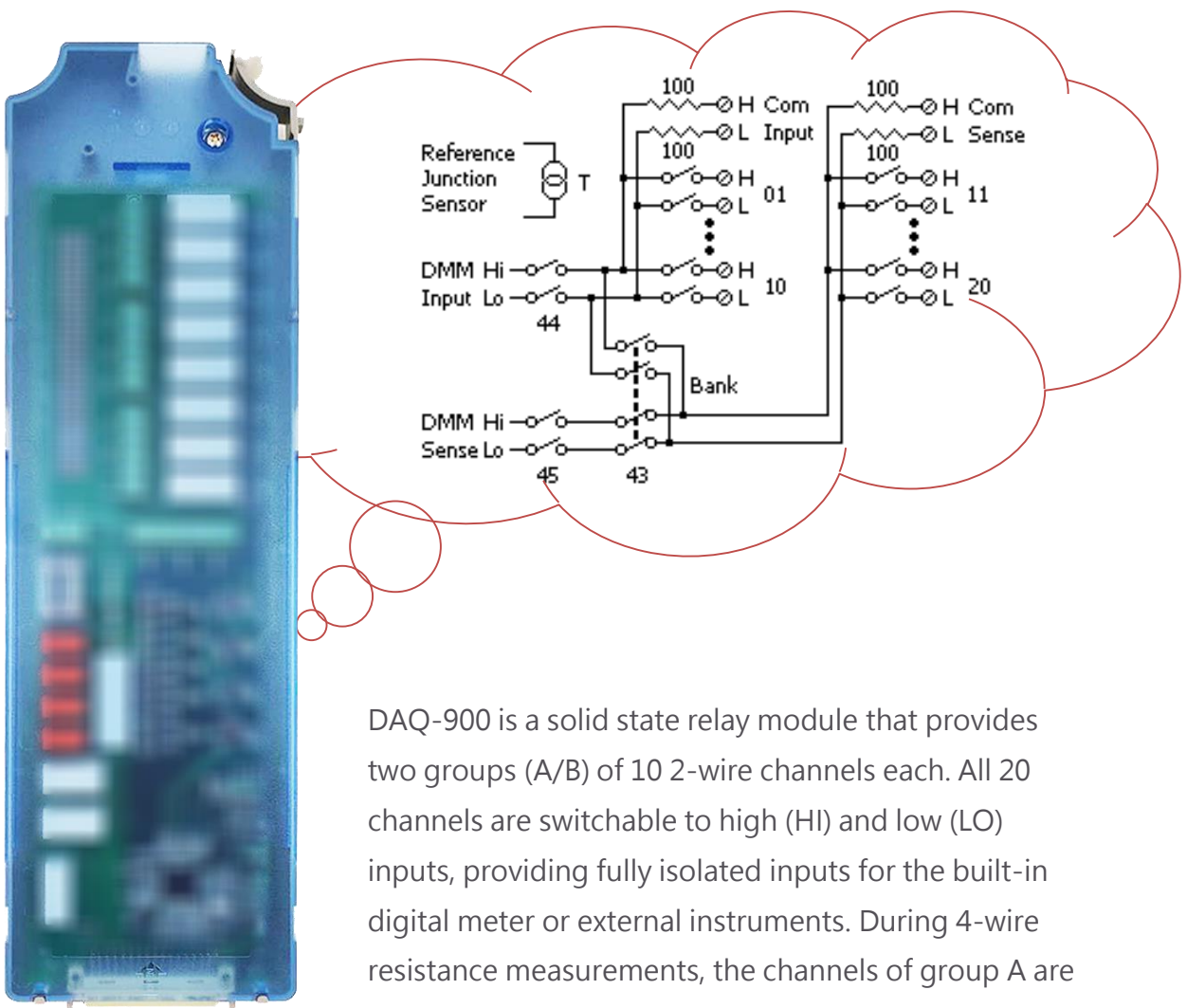
3-slot
Mainframe



DAQ-900

20-Channel Universal Multiplexer (Solid State Relay)

- ※ Scanning speed up to 450 channels per second
- ※ 2-wire and 4-wire scanning
- ※ Built-in temperature cold junction reference
- ※ 120 V switching

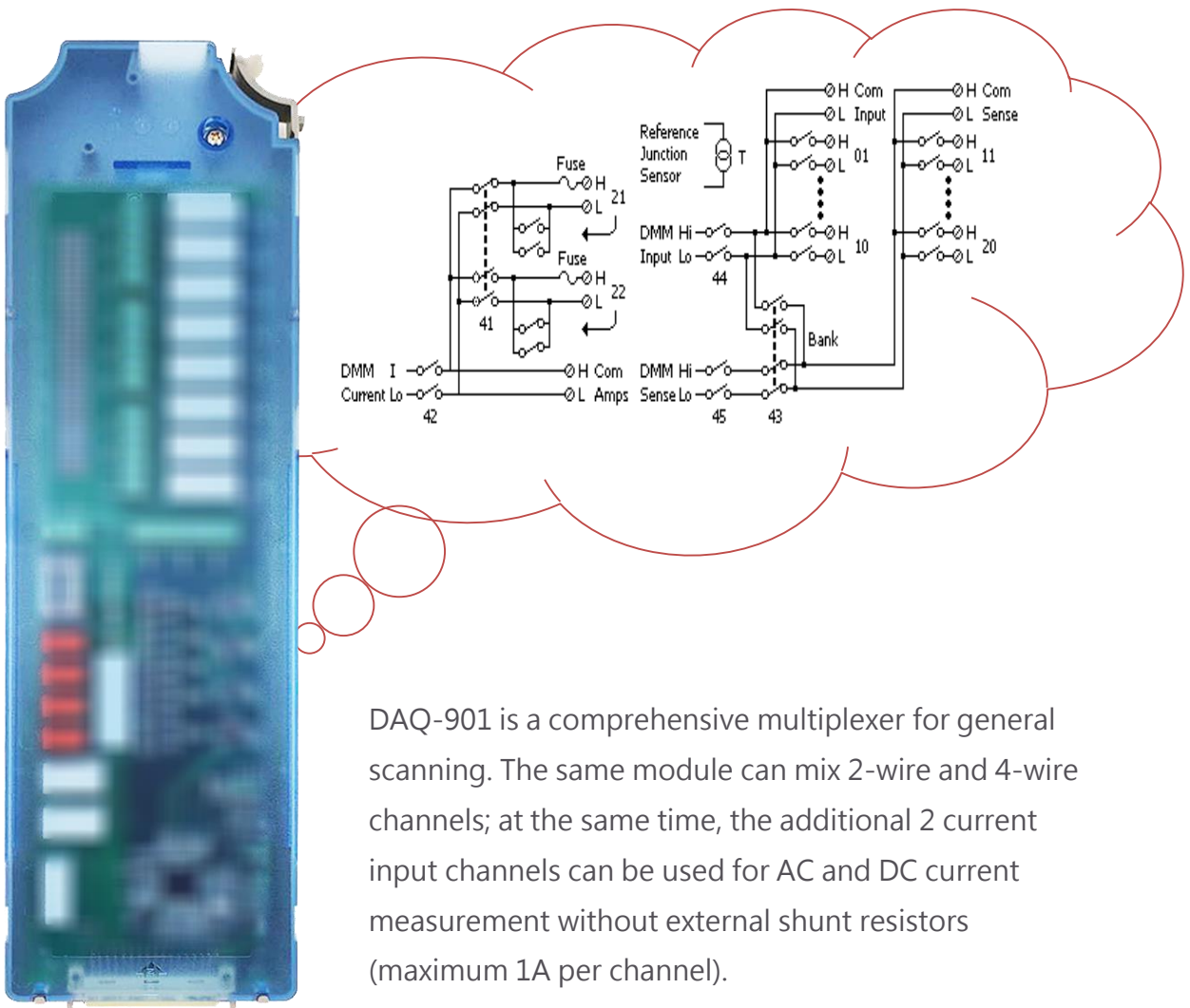


DAQ-900 is a solid state relay module that provides two groups (A/B) of 10 2-wire channels each. All 20 channels are switchable to high (HI) and low (LO) inputs, providing fully isolated inputs for the built-in digital meter or external instruments. During 4-wire resistance measurements, the channels of group A are automatically paired with the channels of group B to provide power and sense connections. The module has a built-in cold junction reference, which can greatly reduce errors caused by thermal gradients when measuring thermocouples

DAQ-901

20+2 Channels Universal Multiplexer (Armature Relay)

- ※ The scanning speed can reach 80 channels per second
- ※ 2-wire and 4-wire scanning
- ※ Built-in temperature cold junction reference
- ※ 300 V switching
- ※ The extra 2 channels can directly measure the current (1A/each channel)



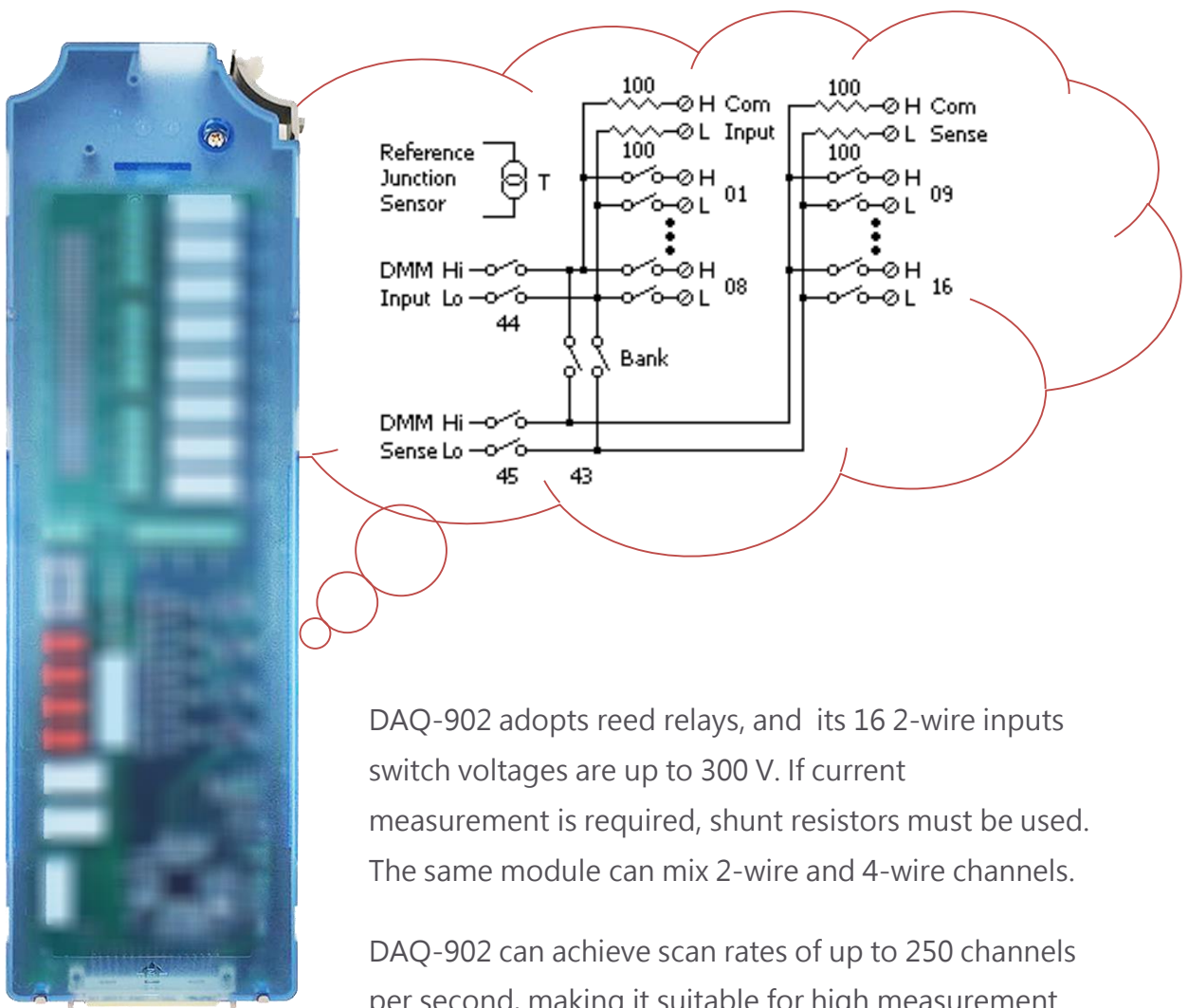
DAQ-901 is a comprehensive multiplexer for general scanning. The same module can mix 2-wire and 4-wire channels; at the same time, the additional 2 current input channels can be used for AC and DC current measurement without external shunt resistors (maximum 1A per channel).

DAQ-901, a total of 22 channels, intensive multi-function switching and a scan rate of up to 80 channels per second, is suitable for various data acquisition applications.

DAQ-902

16-Channel High-Speed Multiplexer (Reed Relay)

- ※ The scanning speed can reach 250 channels per second
- ※ 2-wire and 4-wire scanning
- ※ Built-in temperature cold junction reference



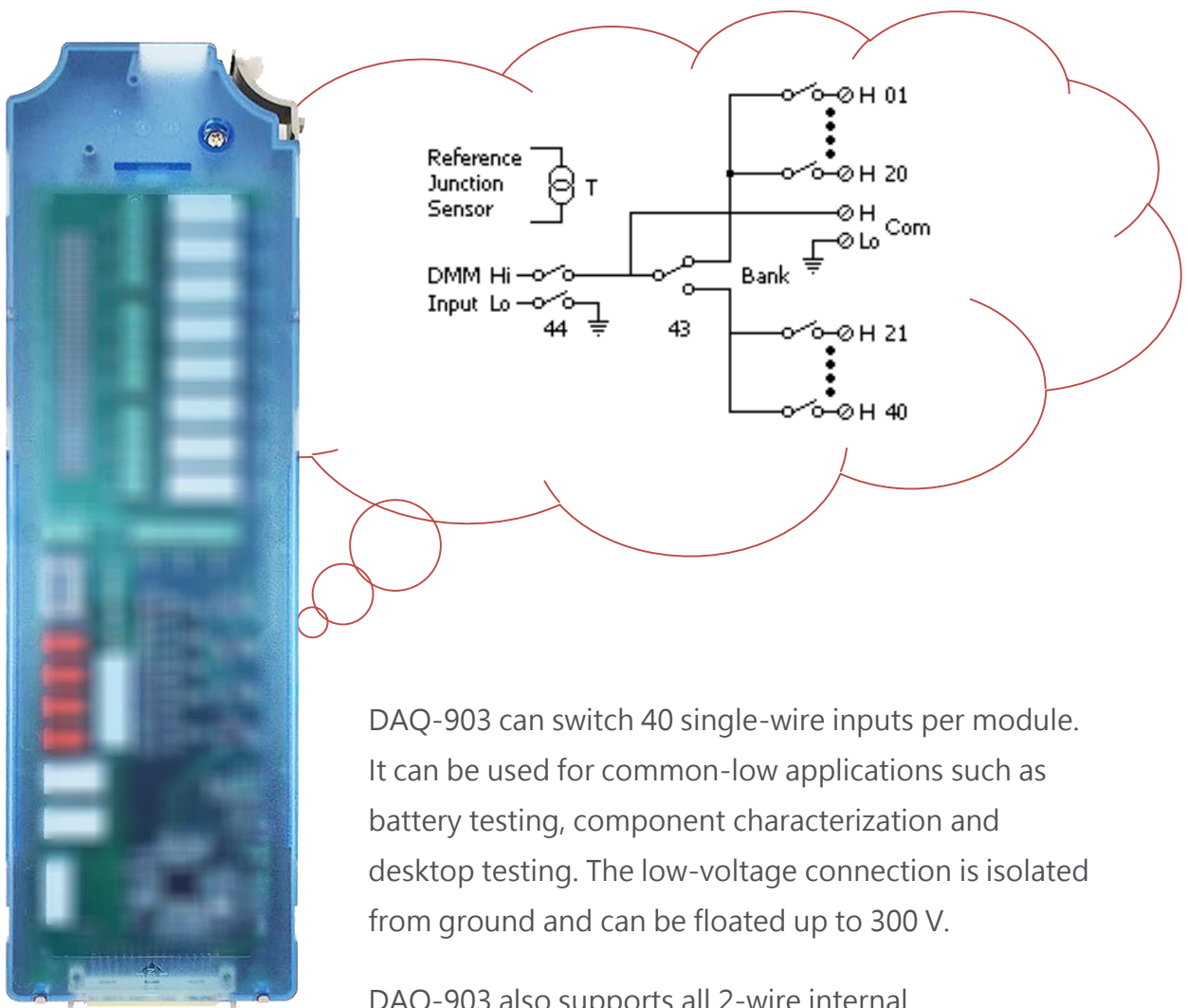
DAQ-902 adopts reed relays, and its 16 2-wire inputs switch voltages are up to 300 V. If current measurement is required, shunt resistors must be used. The same module can mix 2-wire and 4-wire channels.

DAQ-902 can achieve scan rates of up to 250 channels per second, making it suitable for high measurement rate automated test applications as well as high speed data logging and monitoring tasks.

DAQ-903

40-Channel Single-Ended Multiplexer

- ※ The scanning speed can reach 100 channels per second
- ※ Single-wire switching is suitable for common-low applications
- ※ 2-wire scanning (except current)



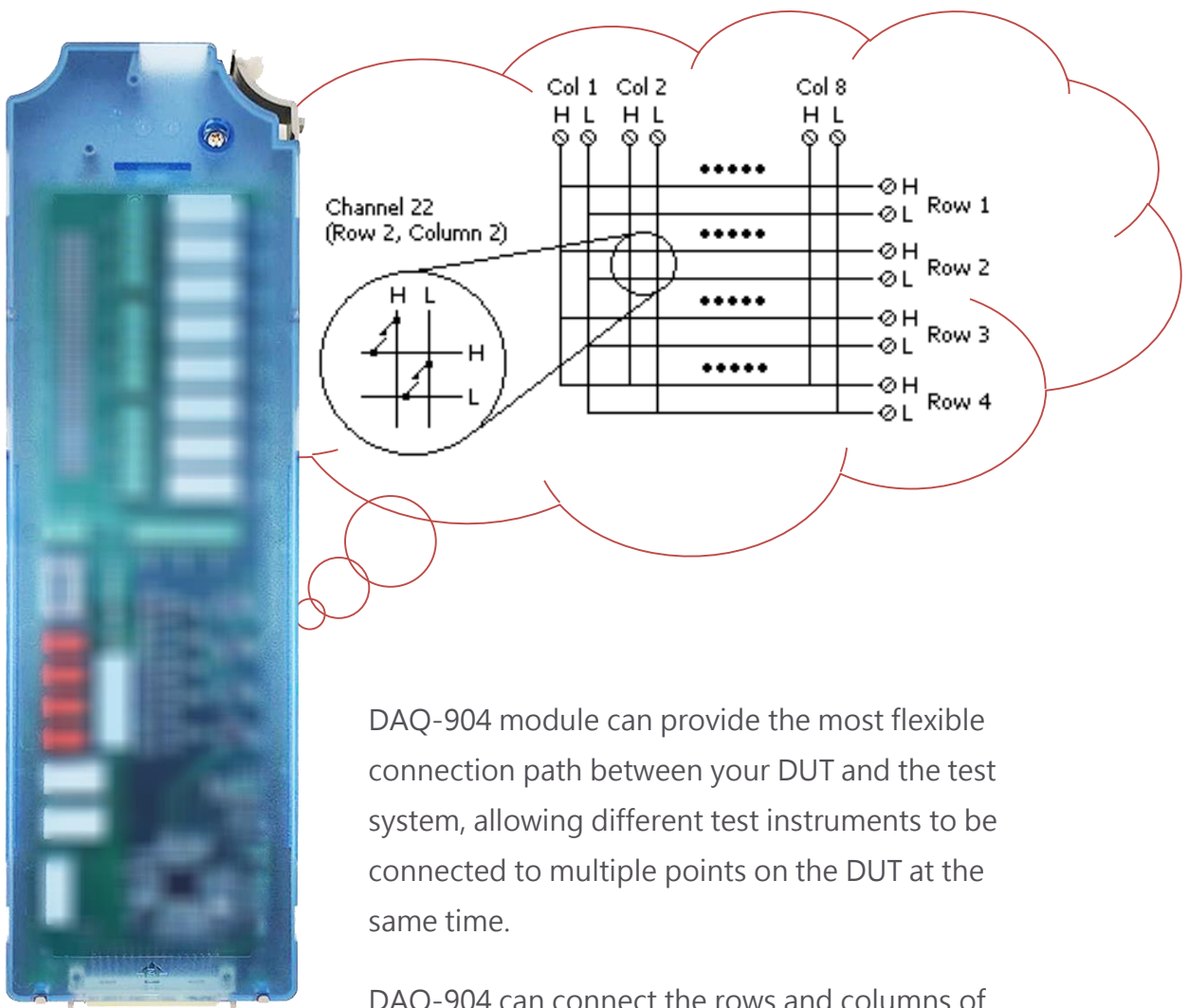
DAQ-903 can switch 40 single-wire inputs per module. It can be used for common-low applications such as battery testing, component characterization and desktop testing. The low-voltage connection is isolated from ground and can be floated up to 300 V.

DAQ-903 also supports all 2-wire internal measurements except current.

DAQ-904

4 x 8 2-Wire Matrix

- ※ The switching speed reaches 120 channels per second
- ※ 32 2-wire intersections
- ※ 300 V, 1A switching
- ※ Up to 96 crosspoints (3 slots)



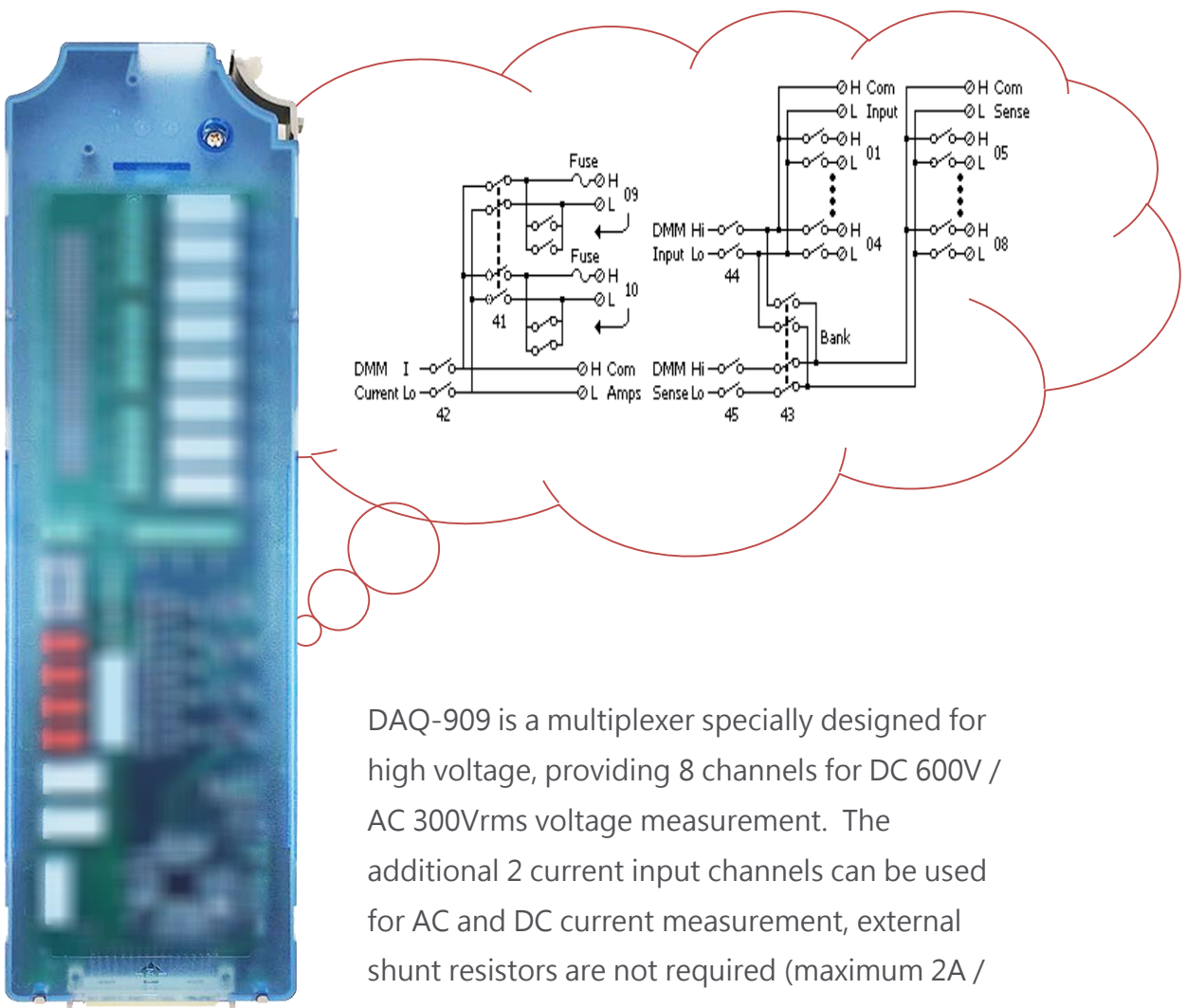
DAQ-904 module can provide the most flexible connection path between your DUT and the test system, allowing different test instruments to be connected to multiple points on the DUT at the same time.

DAQ-904 can connect the rows and columns of multiple modules to build larger matrices, such as 8 x 8, 4 x 16...etc. Up to 96 crosspoints can be built in a single instrument.

DAQ-909

8+2 Channels High Voltage High Current Multiplexer

- ※ The scanning speed reaches 80 channels per second
- ※ DC voltage 600V, current 2A
- ※ 2-wire and 4-wire scanning
- ※ Additional 2 channels can directly measure current (2A/each channel)



DAQ-909 is a multiplexer specially designed for high voltage, providing 8 channels for DC 600V / AC 300Vrms voltage measurement. The additional 2 current input channels can be used for AC and DC current measurement, external shunt resistors are not required (maximum 2A / per channel).

Modules Characteristics

A single mainframe can insert up to three modules (in any combinations).

The built-in digital multimeters of DAQ-9600, except DAQ-904, can be connected and used via DAQ-900, DAQ-901, DAQ-902, DAQ-903 and DAQ-909 multiplexers.

	Multiplexer	Multiplexer	Multiplexer	Multiplexer	Matrix	Multiplexer
	DAQ-900	DAQ-901	DAQ-902	DAQ-903	DAQ-904	DAQ-909
CH No.	20	20+2	16	40	4 x 8	8+2
Speed (Scan)	450 CH/s	80 CH/s	250 CH/s	100 CH/s		80 CH/s
Speed (O/C)		120 CH/s	120 CH/s	70 CH/s	120 CH/s	70 CH/s

Internal DMM measurement functions supported

AC/DC Volt.	√ ^{2,3}	√	√	√		√
AC/DC Curr.		√				√
Freq./Period	√	√	√	√		√
2Wire Resis.	√ ¹	√	√ ⁴	√		√
4Wire Resis.	√ ¹	√	√ ⁴			√
Thermocouple	√	√	√			√
2Wire RTD		√	√	√		√
4Wire RTD		√	√			√
Transistor		√	√	√		√
Capacitance		√	√	√		√

Characteristics – typical: Input (DC · AC rms)

Volt. (V)	120	300	300	300	300	600
Curr. (A)	0.02	1	0.05	0.05	1	2

Characteristics – typical: Others

T/C CRJ Accuracy	0.8°C	0.8°C	0.8°C			
Lifetime (No Load)	see ⁵	100M	100M	100M	100M	100M
Lifetime (Rated Load)	see ⁵	100k	100k	100k	100k	100k

1. For the measurement of 100 Ω and 1 kΩ resistance ranges, it is recommended to use 4-wire resistance. The maximum resistance range of DAQ-900 is 1 MΩ.

2. When measuring AC voltage, the input impedance will decrease with frequency. A source impedance of 5 Ω or less will maintain specification over frequency. A source impedance of 50 Ω or less will maintain specification in the 5 kHz range.

3. For DC voltage measurement, if the integration time is short and the source impedance is high, more stabilization time may be required.

4. Resistance range ≥ 1 MΩ is typical.

5. The module has an armature backplane and 2-wire/4-wire relays with a life of 100 M cycles (unlimited life cycle within FET Bank)

Model Name	Model description	Type	Speed (ch/sec)	Max volts	Max amps	Comments
DAQ-900	20 ch Multiplexer	2-wire solid state (4-wire selectable)	450	120V	20mA	Built-in cold junction reference
DAQ-901	20 ch Multiplexer + 2 current channels	2-wire armature (4-wire selectable)	80	300V	1A	Built-in cold junction reference 2 additional current channels (22 total)
DAQ-902	16 ch Multiplexer	2-wire reed (4-wire selectable)	250	300V	50mA	Built-in cold junction reference
DAQ-903	40 ch Single-Ended Mux	1-wire armature (common low)	100	300V	50mA	No four-wire measurements
DAQ-904	4 x 8 Matrix	2-wire armature	120	300V	1A	
DAQ-909	8 ch Multiplexer + 2 current channels	2-wire armature (4-wire selectable)	80	600V	2A	DC high voltage / current channels

SPECIFICATIONS

DISPLAY	4.3" Color TFT LCD		
SLOT	3		
Sample Rate	10k SPS (max.)		
Internal memory	100k_Sample (nonvolatile)		
Measurement Characteristics			
	Range	Resolution	Accuracy (*)
DC Voltage	100mV to 600V	0.1μV to 1mV	0.0035%
AC Voltage	100mV to 300V	0.1μV to 1mV	0.05%
Resistance	100 Ω to 1000 MΩ	0.1 mΩ to 1000 Ω	0.01%
Frequency	3Hz to 300kHz		0.01%
DC Current	1μA to 2A	1pA to 1μA	0.05%
AC Current	100μA to 2A	100pA to 1μA	0.10%
Capacitance	1nF to 100μF	0.0001nF to 0.01μF	2%
Temperature (TC)	-200 °C to 1820 °C	0.002 °C to 0.01 °C	0.2 °C
Temperature (TM)	-80 °C to 150 °C	0.01 °C	0.01 °C
Temperature (RTD)	-200 °C to 600 °C	0.002 °C	0.06 °C
General Information			
USB storage	Available		
Interface	Digital I/O, LAN and USB host/device		
Optional Interface	mini GPIB		
Power Source	AC 100V/120V/220V/240V±10%		
Dimensions & Weight	267(W) x 107(H) x 380 (D) mm; Approx. 4.5kg		

*: The accuracy is based on the value measured with DAQ-901.

Specifications subject to change without notice.

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