User's Manual

DA100
Data Acquisition Unit

Notice of Alterations

Please note the following(underlined) alterations to the IMDA100-01E.

■ Page 3 "Main Unit DA100"

Model	Suffix Code		Description
.....	.....		
Type	-1	·····	Stand-alone model
	-2	·····	Expandable model
	-B	·····	DU100-11 (Input module) and DT300-21 (Communication module) are attached
	-C	·····	DU100-21 (Input module) and DT300-21 (Communication module) are attached
	-D	·····	DU100-31 (Input module) and DT300-21 (Communication module) are attached
	-E	·····	DU100-11 (Input module) and DT300-41 (Communication module) are attached
	-F	·····	DU100-21 (Input module) and DT300-41 (Communication module) are attached
	-G	·····	DU100-31 (Input module) and DT300-41 (Communication module) are attached
	-Q	·····	DU100-11 (Input module) and DT300-31 (Communication module)* are attached
	-R	·····	DU100-21 (Input module) and DT300-31 (Communication module)* are attached
	-T	·····	DU100-31 (Input module) and DT300-31 (Communication module)* are attached
			* With Modbus communication function
.....	.....		
Power Cord		D ·····	3-pin inlet w/UL, CSA cable (Part No. A1074WD)
		F ·····	3-pin inlet w/VDE cable (Part No. A1004WD)
		R ·····	3-pin inlet w/AS cable (Part No. A1024WD)
		S ·····	3-pin inlet w/BS cable (Part No. A1023WD)
		H ·····	3-pin inlet w/GB cable (complies with the CCC)(Part No. A1064WD)
		W ·····	No power cord, Screw terminal
		Y ·····	No power cord, 2-pin round-type connector (only when power supply code is -2)

■ Page 3 "Subunit DS400/DS600"

Model	Suffix Code		Description
.....	.....		
Power Cord		D ·····	3-pin inlet w/UL, CSA cable
		F ·····	3-pin inlet w/VDE cable
		R ·····	3-pin inlet w/AS cable
		S ·····	3-pin inlet w/BS cable
		H ·····	3-pin inlet w/GB cable (complies with the CCC)
		W ·····	No power cord, Screw terminal
		Y ·····	No power cord, 2-pin round-type connector (only when power supply code is -2)

■ Page 5 "Standard Accessories"

DA100-B, -C, -D, -E, -F, -G, -Q, -R, and -T are appended to the following accessories in addition to the above-mentioned standard accessories by the customer of purchase.

Main Unit Type	Name	Model	Q'ty
DA100-B	10-channel universal input module	DU100-11	1
	RS-232-C module	DT300-21	1
	RS-232-C cable		1
DA100-C	20-channel universal input module	DU100-21	1
	RS-232-C module	DT300-21	1
	RS-232-C cable		1
DA100-D	30-channel universal input module	DU100-31	1
	RS-232-C module	DT300-21	1
	RS-232-C cable		1
DA100-E	10-channel universal input module	DU100-31	1
	Ethernet module	DT300-41	1

Main Unit Type	Name	Model	Q'ty
DA100-E	10-channel universal input module	DU100-11	1
	Ethernet module	DT300-41	1
DA100-F	20-channel universal input module	DU100-21	1
	Ethernet module	DT300-41	1
DA100-G	30-channel universal input module	DU100-31	1
	Ethernet module	DT300-41	1
DA100-Q	10-channel universal input module	DU100-11	1
	RS-422-A/RS-485 module	DT300-31	1
DA100-R	20-channel universal input module	DU100-21	1
	RS-422-A/RS-485 module	DT300-31	1
DA100-T	30-channel universal input module	DU100-31	1
	RS-422-A/RS-485 module	DT300-31	1

Note

When DA100-B, -C, -D, -E, -F, -G, -Q, -R, and -T are used while bought, the system need not be restructured. However, when the position where the module is installed is changed or another module is installed, it is necessary to restructure the system.

■ Page 6 "Optional Accessories"

Name	Model	Description
.....	.....	.....
AC adapter	DV500-001	2-pin inlet w/UL, CSA cable for DC100/DA100/DS400/DS600
	DV500-002	2-pin inlet w/VDE cable for DC100/DA100/DS400/DS600
	DV500-003	2-pin inlet w/AS cable for DC100/DA100/DS400/DS600
	DV500-004	2-pin inlet w/BS cable for DC100/DA100/DS400/DS600
	DV500-005	2-pin inlet w/GB cable (complies with the CCC) for DC100/DA100/DS400/DS600

■ Page 7 "Safety Precautions"

The following caution has been added.

CAUTION

This instrument is a Class A product. Operation of this instrument in a residential area may cause radio interference, in which case the user is required to take appropriate measures to correct the interference.

■ Page 1-11 "DAQ Software 32 (standard accessory)" and "DAQ Software 32 Plus (special order)"

The following five OS environment are supported.

- Windows 95
- Windows 98
- Windows NT 4.0
- Windows 2000
- Windows XP

■ Page 2-3 "Installation Method"

Panel installation

Attach the unit to the 2 mm-thick metal plate using the 6 screws included (length : 16 mm) according to the figure below.

■ Page 2-14 "WARNING"

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- When 30 VAC or 60 VDC and more is applied to the output terminal of the alarm output module or the output terminal of the DI/DO module, use double-insulated wires (withstand voltage performance: more than 2300 VAC) for those wires which apply 30 VAC or 60 VDC and more. All other wires can be basic-insulated (withstand voltage performance: more than 1390 VAC). .....
- To prevent fire, use signal wires having a temperature rating of 75°C or more.

■ Page 2-14 “CAUTION”

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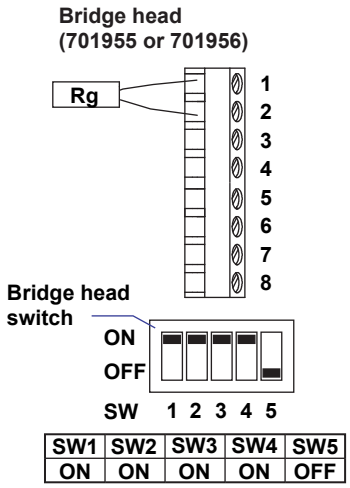
- The overvoltage category of each input module is CAT II (IEC61010-1, CSA22.2 No.61010-1).
- The measurement category of each input module is CAT II (IEC61010-1, CSA22.2 No.61010-1).

■ Page 2-17, 2-18, 2-19 “Wiring Strain Input Signal Lines (to Strain Input Module)”

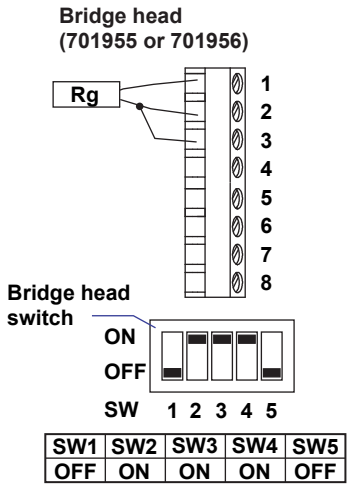
In the wiring diagrams of each gauge method, the wiring diagram for the bridge box used for the DU500-14 has been changed to the following:

• Single-gauge method



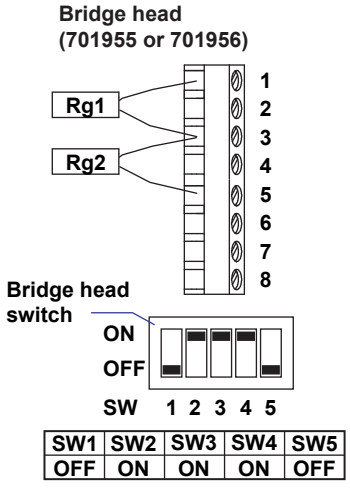
SW1	SW2	SW3	SW4	SW5
ON	ON	ON	ON	OFF

• Single-gauge three-wire method



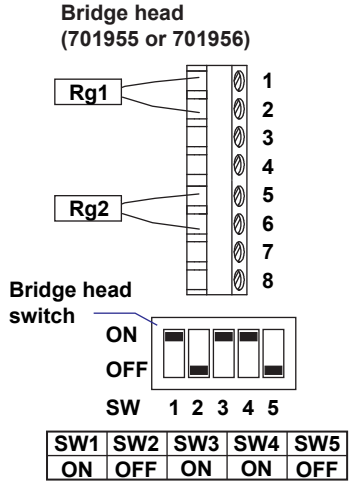
SW1	SW2	SW3	SW4	SW5
OFF	ON	ON	ON	OFF

• Adjacent-side two-gauge method



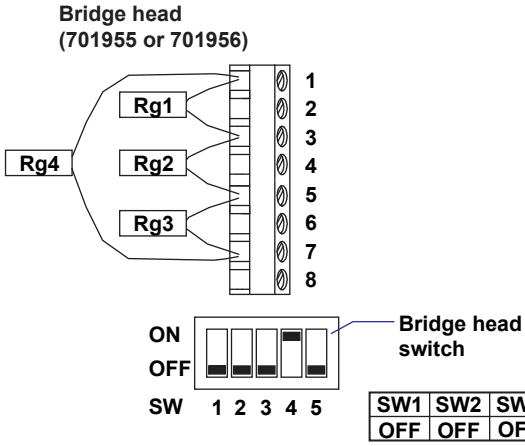
SW1	SW2	SW3	SW4	SW5
OFF	ON	ON	ON	OFF

• Opposed-side two-gauge method



SW1	SW2	SW3	SW4	SW5
ON	OFF	ON	ON	OFF

• Four-gauge method



SW1	SW2	SW3	SW4	SW5
OFF	OFF	OFF	ON	OFF

■ Page 2-21 “CAUTION”

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- The power monitor module is a product belonging to Installation (Over-voltage) Category CAT II (IEC61010-1, CSA22.2 No.61010-1).
- The power monitor module is a product belonging to Measurement Category CAT II (IEC61010-1, CSA22.2 No.61010-1).

■ Page 2-26 “WARNING”

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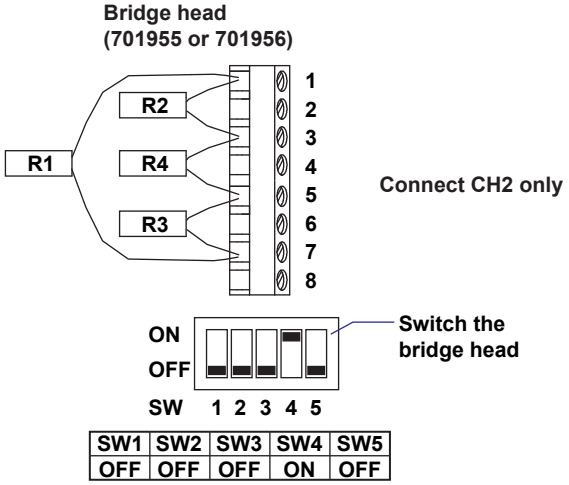
- To prevent electric shock, do not touch the terminals after wiring.
- Furnish a switch (double-pole type) to separate the instrument from the main power supply in the power supply line. In addition, make sure to indicate that the switch is a power control for the instrument on the switch and the ON/OFF positions of the switch.
  Switch Specifications
  Steady-state current rating: 3 A or more, inrush current rating: 90 A or more
  Use a switch complied with IEC60947-1, -3.
- Do not add a switch or fuse to the ground line.

■ Page 3-8 “Trouble Shooting”

Description	Cause	Action	Reference Page
The status indicator is flashing in an interval other than 1-second.	An internal error occurred.	Cut the power, wait for the instrument to cool, then, turn the power back ON again.	2-25

■ Page 3-10 “About Calibration”

For “Strain measurement” under “Connection,” the wiring diagram for the bridge box used for the DU500-14 has been changed to the following:



SW1	SW2	SW3	SW4	SW5
OFF	OFF	OFF	ON	OFF

■ Page 4-3 Standard Computation Functions

Measurement accuracy for scaling : Measurement accuracy for scaling (digits) = Measurement accuracy (digits) x Scaling span (digits) / Measurement span (digits) + 2 digits (numbers below the decimal point are rounded up).

■ Page 4-5 Changes to the contents of “Information on and Process in Case of Power Failure”

The DA makes a report immediately after it recovers from the power failure and then stops reporting.

Computing results: The DA computes data measured up to the point immediately before the power failure.

Reporting time: The time when the power failure occurred.

■ Page 4-7 “Normal Operation Conditions”

Installation category based on IEC61010-1, CSA22.2 No.61010-1

II*1

Pollution degree based on IEC61010-1, CSA22.2 No.61010-1

2*2

Warm-up time

At least 30 minutes after power switch-on.

*1 Describes a number which defines a transient overvoltage condition. It implies the regulation for impulse withstand voltage. “II” applies to electrical equipment which is supplied from fixed installations like distribution boards.

*2 Describes the degree to which a solid, liquid, or gas which deteriorates dielectric strength or surface resistivity is adhering. “2” applies to normal indoor atmosphere. Normally, only non-conductive pollution occurs.

■ Page 4-8 “EMC Conformity Standards”

Please refer to these specifications instead of the one printed in the user's manual.

Safety and EMC Standards

CSA	CSA22.2 No.61010-1, installation category II, pollution degree 2
UL	UL61010-1 (CSA NRTL/C)
C-Tick	EN55011 compliance, Class A, Group 1
KC marking	Electromagnetic wave interference prevention standard, electromagnetic wave protection standard compliance

■ Page 4-13, 4-17, 4-19, 4-21, 4-22, 4-29 “Specifications of Module”

Installation Category (Overvoltage Category)

CAT II (IEC61010-1, CSA22.2 No.61010-1)

Measurement Category

CAT II (IEC61010-1, CSA22.2 No.61010-1)

■ Page 14-18 “Specifications of Strain Input Module”

Gauge Method	Measurement Range Type	Rated Measurement Range	Accuracy	Resolution
Single-gauge	2000με	-2000 to 2000με	0.5% of Range	0.1με
	20000με	-20000 to 20000με	0.3% of Range	1με
	200000με	-200000 to 200000με	0.3% of Range	10με
Two-gauge	1000με	-1000 to 1000με	0.5% of Range	0.1με
	10000με	-10000 to 10000με	0.3% of Range	1με
	100000με	-100000 to 100000με	0.3% of Range	10με
Four-gauge	500με	-500 to 500με	0.5% of Range	0.1με
	5000με	-5000 to 5000με	0.3% of Range	1με
	50000με	-50000 to 50000με	0.3% of Range	10με

■ Page 4-19 “Specifications of Strain Input Module”

Accessory

Bridge head: 701955, 701956

■ Page 4-29 “Retransmission Module”

Load capacitance

0.22 µF or less

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Highest resolution

DT500-11: 12 bit (approx. 1.43 mV) DT500-21: 12 bit (approx. 5.86 µA)