

General Specifications

CA700 Pressure calibrator PM100 External pressure sensor for CA700

GS CA700-01EN

■ General

- The CA700 is a pressure calibrator specially designed to perform on-site calibration of differential pressure transmitters, pressure transmitters and pressure switches.
- The PM100 is an external pressure sensor for CA700. It enables calibration at higher pressure.
- To make on-site calibration work as efficient as possible, the CA700 provides comprehensive features and supporting functions.
- The excellent sensing characteristics of a silicon resonant sensor make it possible to achieve a very wide range and enable one CA700 calibrator to cover various differential pressure and pressure transmitters and pressure switches.

■ Features

● High Accuracy and Long Stability

Pressure (measurement): 0.01% of reading

Current/voltage (source/measurement): 0.015% of reading

● Rangeability and High Resolution

A single CA700 can replace several competitor's equivalent models.

This contributes to the reduction of not only introduction and maintenance costs but also the number of calibrators to be carried to the fields.

0.001 kPa resolution (200 kPa range)

0.01 kPa resolution (1000 kPa range)

0.01 kPa resolution (3500 kPa range)

● User support and guidance

On-screen guidance for measuring and recording error rate and calibration data

● 24 VDC Loop Power Supply and a 250 Ω resistor for HART and BRAIN communication

● Two-wire transmitter simulation

20 mA current can be absorbed (SINK) to carry out a loop test.

● Robust design

IP54 waterproof and dustproof case.

● High pressure calibration (with the PM100)

The pressure ranges on the high side will be added and the CA700 will have total four ranges.

■ Functions

Pressure Measurement

● Gauge Pressure Measurement of gas and liquid

• CA700

-80 kPa to 200 kPa / 1000 kPa / 3500 kPa

• When the PM100 is connected with the CA700

PM100-*05 0 kPa to 7 MPa / 10 MPa / 16 MPa

PM100-*06 0 kPa to 25 MPa / 50 MPa / 70 MPa

● Leak Rate Measurement

Measures the amount of pressure change per unit time.



● Zero Calibration

Compensates for the effect of the measuring environment and the instrument's orientation. (The built-in sensor detects when the CA700 is tilted.)

● Averaging

Displays a moving average of the measured values.

● Scaling

Displays linearly scaled values in a specified unit.

● Alarm

An alarm appears when a measured value exceeds the specified range.

● Percentage and Relative Display

Displays the measured values as percentages and the difference between the measured values and the specified reference value.

● Data hold and Min/Max Display

Stops updating and holds the measured value.

Displays the minimum and maximum measured values.

● Hysteresis Warning

When the external sensor PM100 is connected and the input pressure exceeds the input limit temporarily, a warning will be displayed continuously while hysteresis effect remains.

DC Current and DC Voltage Source

● DC Current and DC Voltage Source

• DC Current 0 to 20 mA

• DC Voltage 0 to 5 V

● Sweeping

Step sweep and linear sweep within the specified range of current or voltage.

● Simulation

The CA700 can absorb a specified amount of current from a distributor or other external voltage source.

DC Current and DC Voltage Measurement

● DC Current and DC Voltage Measurement

• DC Current 20 mA / 100 mA

• DC Voltage 5 V / 50 V

• Averaging, scaling, alarm, percentage display, relative display, data hold, and Min/Max display can be used.

- **mA Loop**

Measures the loop current when a 24 VDC is applied to a transmitter.

Dedicated functions for calibration of pressure transmitters and pressure switches

- **Source and measurement**

A single CA700 can perform source and measurement required for pressure transmitter calibration. The CA700 can supply 24 VDC and monitor DCmA output. (Input pressure to the transmitter needs to be generated externally, typically by using external hand pumps)

- **Calibration procedure and calibration data saving**

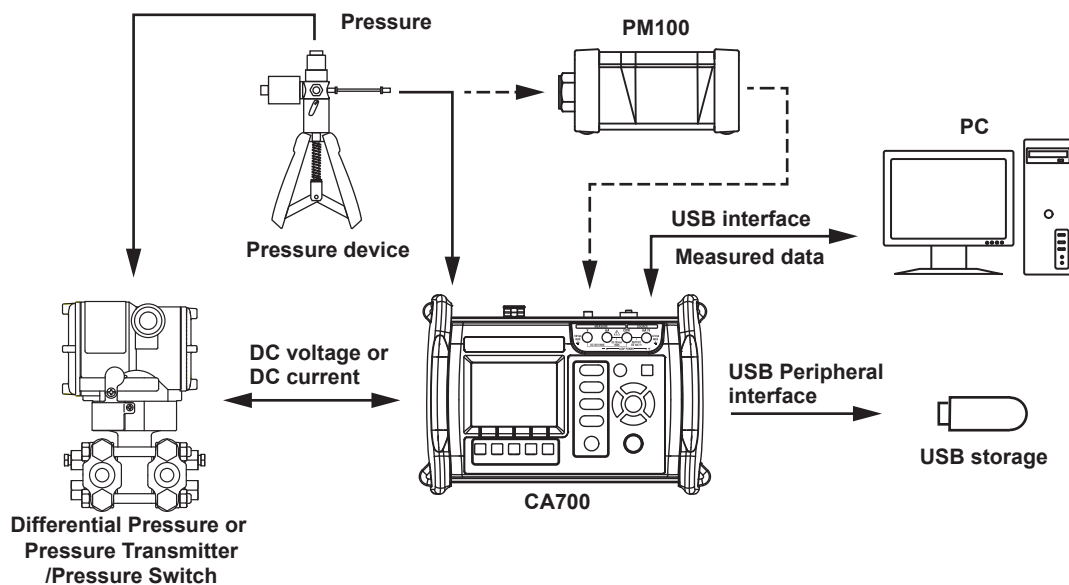
- Calibration procedure: Averaging and scaling setting, calibration range, tolerance, number of calibration points, calibration point slope
- Calibration data: Instrument information, calibration procedure information, calibration date, CA700 serial number, calibration result

Communication Feature

- **USB (Host / PC connection)**

- Data stored in the CA700 can be copied to a USB storage device.
- The CA700 can be connected to a PC and used as an external USB storage device.
- The CA700 can be connected to a PC and controlled remotely by using dedicated commands.

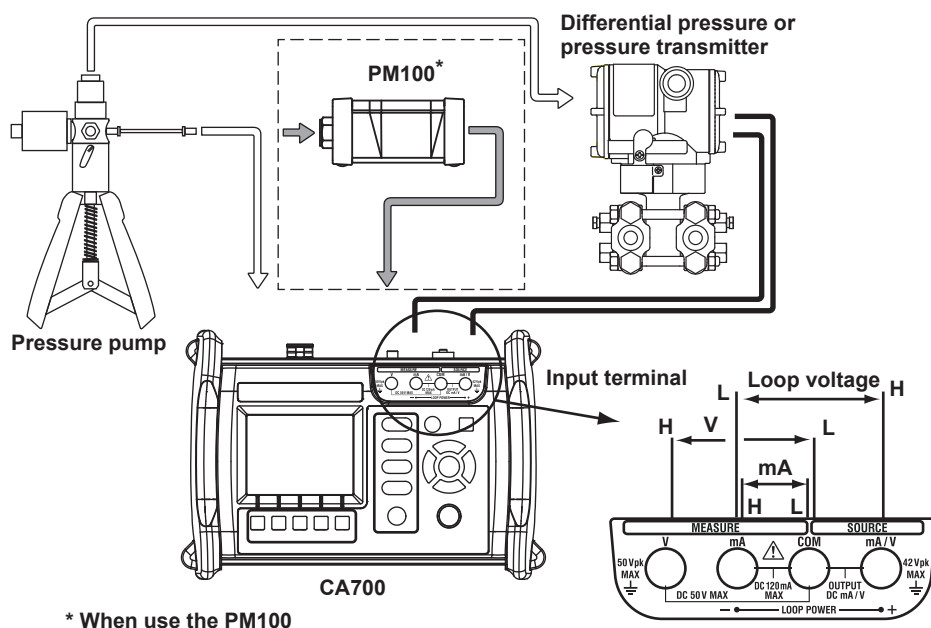
■ System Configuration



■ Application and connection example

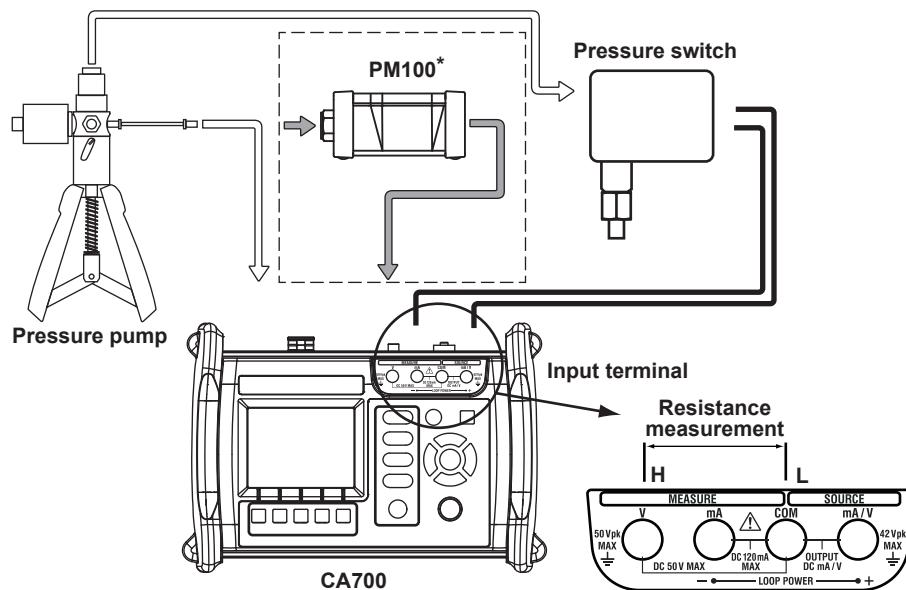
- **Differential pressure and pressure transmitter calibration**

An operation guide is displayed, supporting various measurement tasks such as error rate measurement.



- **Pressure switch testing**

An operation guide is displayed, supporting various measurement tasks such as measurement of the pressure required for the switch to open and close and the resistance when the switch is closed.

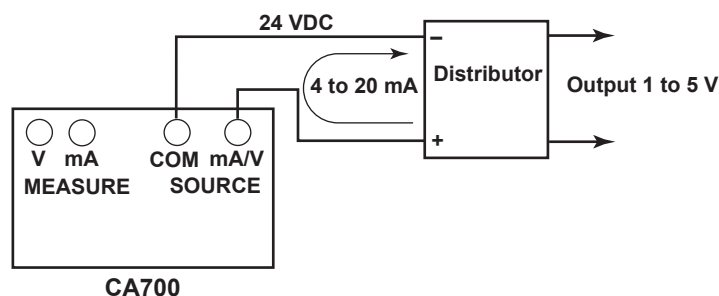


*** When use the PM100**

Note: The CA700 can calibrate mechanical pressure switches. It cannot be used to calibrate open-collector contact, voltage output, or current output pressure switches.

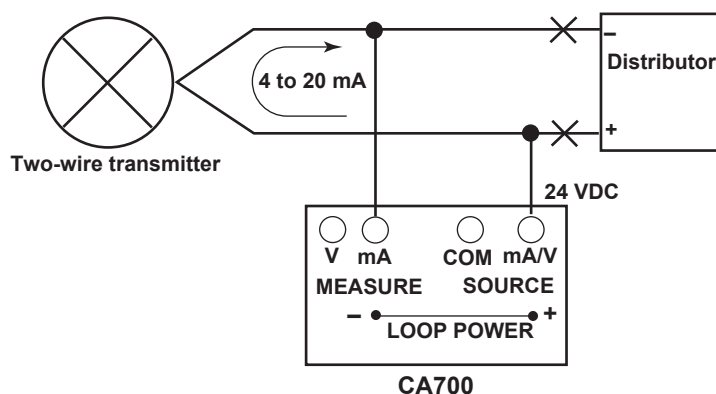
- **20 mA SIMULATE** (two-wire transmitter simulator)

Absorb a specified amount of current from a distributor (SINK)



- Two-wire transmitter loop check

Measure the current that flows when a 24 VDC voltage is applied to a transmitter.



■ Specifications

CA700

Pressure Measurement Feature

Pressure Measurement*1

Suffix Code	-01	-02	-03
Pressure type	Gauge pressure		
Measurement range	Positive pressure 0 to 200 kPa Negative pressure -80 to 0 kPa	Positive pressure 0 to 1000 kPa Negative pressure -80 to 0 kPa	Positive pressure 0 to 3500 kPa Negative pressure -80 to 0 kPa
Measurement display range	Up to 240.000 kPa	Up to 1200.00 kPa	Up to 4200.00 kPa
Measurement accuracy (6 months) after zero calibration*2, *3	Positive pressure 20 to 200 kPa: $\pm(0.01\%$ of reading + 0.003 kPa) 0 to 20 kPa: ± 0.005 kPa	Positive pressure $\pm(0.01\%$ of reading + 0.04 kPa)	Positive pressure $\pm(0.01\%$ of reading + 0.15 kPa)
	Negative pressure $\pm(0.2\%$ of reading + 0.080 kPa)	Negative pressure $\pm(0.2\%$ of reading + 0.08 kPa)	Negative pressure $\pm(0.2\%$ of reading + 0.08 kPa)
Measurement accuracy (1 year) after zero calibration*2, *3	Positive pressure 20 to 200 kPa: $\pm(0.01\%$ of reading + 0.010 kPa) 0 to 20 kPa: ± 0.012 kPa	Positive pressure $\pm(0.01\%$ of reading + 0.08 kPa)	Positive pressure $\pm(0.01\%$ of reading + 0.30 kPa)
	Negative pressure $\pm(0.2\%$ of reading + 0.090 kPa)	Negative pressure $\pm(0.2\%$ of reading + 0.09 kPa)	Negative pressure $\pm(0.2\%$ of reading + 0.09 kPa)
Resolution	0.001 kPa	0.01 kPa	0.01 kPa
Response time*4	2.5 s or less		
Allowable input	2.7 kPa abs to 500 kPa gauge	2.7 kPa abs to 3000 kPa gauge	2.7 kPa abs to 4500 kPa gauge
Internal volume	Approx. 6 cm ³		
Temperature effect*5	$\pm(0.001\%$ of reading + 0.001% of full scale)/°C or less		
Orientation effect	Zero point ± 0.3 kPa or less		
Measured fluid	Gas and liquid (nonflammable, nonexplosive, nontoxic, noncorrosive fluid) only (Measuring the pressure of Group 1 substances and mixtures (dangerous fluids) as listed in Directive 2014/68/EU Article 13 (1) a is not allowed).		
Measured fluid temperature	-10 to 50°C, but 5 to 50°C for liquid		
Pressure sensor	Silicon resonant sensor		
Pressure sensing element	Diaphragm		
Pressure unit display	kPa and other units (Pa, hPa, MPa, mbar, bar, atm, mmHg, inHg, gf/cm ² , kgf/cm ² , mmH ₂ O@4°C, mmH ₂ O@20°C, ftH ₂ O@4°C, ftH ₂ O@20°C, inH ₂ O@4°C, inH ₂ O@20°C, torr, psi)		
Input port	Rc1/4 female or 1/4NPT female thread (selectable)		
Measurement unit material	Diaphragm: Hastelloy C-276, Input port: SUS316		

*1 23°C $\pm 3^\circ\text{C}$

*2 Zero-point calibration condition: Under atmospheric pressure

*3 The error of the pressure standard is excluded.

*4 Conditions of response time measurement:

The response time is defined as the time for the readout to settle within $\pm 1\%$ of the full scale from the time when the positive pressure is released to atmosphere when it is at its full-scale value (where the input unit is under no load).

*5 Full scale of each model

CA700-E-01: Positive pressure 200 kPa and negative pressure 80 kPa

CA700-E-02: Positive pressure 1000 kPa and negative pressure 80 kPa

CA700-E-03: Positive pressure 3500 kPa and negative pressure 80 kPa

Pressure switch test

- Holds the pressure valued at the time the port switches between open and close.
 - Measures the resistance between ports when they are closed (measurement current < 1 mA)
- Resistance measurement range 0 to 2.000 k Ω

Tilt Alarm

The zero adjustment indicator blinks when the orientation of the CA700 changes by approximately 10 degrees or more after the previous zero adjustment.

Note: If the external pressure sensor selected as a function changes in position of about 10 degrees or more after zero adjustment, the zero adjustment indication blinks.

DC Current and DC Voltage Source Features

Item		Specifications (23°C ± 3°C, one year after calibration)	Notes
Current	20 mA range SOURCE	Source range 0 to 20.000 mA	Compliance voltage 24 V (when communication resistance is OFF), 18 V (when communication resistance is ON), The maximum setting is range×1.2.
		Resolution 1 μA	
		Accuracy 0.015% of setting + 3 μA	
	20 mA range SIMULATE	Source range 0 to 20.000 mA	External power supply 5 to 28 V (when communication resistance is OFF) External power supply 12 to 28 V (when communication resistance is ON) The maximum setting is range×1.2.
		Resolution 1 μA	
		Accuracy 0.015% of setting + 3 μA	
Voltage	5 V range	Source range 0 to 5.0000 V	The maximum setting is range×1.1. Load current 1 mA max. (load resistance ≥ 5 kΩ)
		Resolution 0.1 mV	
		Accuracy 0.015% of setting + 0.5 mV	
Temperature coefficient		Add accuracy×(1/10)/°C	–10 to 20°C, 26 to 50°C

Source load condition C ≤ 0.1 µF
 L ≤ 10 mH

Source voltage to ground 42 V_{peak}

Voltage limiter approx. 36 V

Current limiter approx. 30 mA

Loop feature Step and linear

DC Current and DC Voltage Measurement Features

Item		Specifications (23°C ± 3°C, one year after calibration)	Notes
Current	20 mA range	Measurement range 0 to ±20.000 mA	The maximum display value is range×1.2. Internal impedance < 10 Ω
		Resolution 1 μA	
		Accuracy 0.015% of reading + 3 μA	
	100 mA range	Measurement range 0 to ±100.00 mA	The maximum display value is range×1.2. Internal impedance < 10 Ω
		Resolution 10 μA	
		Accuracy 0.015% of reading + 30 μA	
Voltage	5 V range	Measurement range 0 to ±5.0000 V	The maximum display value is range×1.1. Internal impedance Approx. 1MΩ
		Resolution 0.1 mV	
		Accuracy 0.015% of reading + 0.5 mV	
	50 V range	Measurement range 0 to ±50.000 V	The maximum display value is range×1.1. Internal impedance Approx. 1MΩ
		Resolution 1 mV	
		Accuracy 0.015% of reading + 5 mV	
LOOP	Supply voltage Supply current	24 V ± 1 V, 24 mA	Communication resistance OFF, short current < 35 mA
		24 V ± 6 V, 20 mA	Communication resistance ON, short current < 35 mA
	20 mA range	Measurement range 0 to 20.000 mA	The maximum display value is range×1.2.
		Resolution 1 μA	
		Accuracy 0.015% of reading + 3 μA	
Temperature coefficient		Add accuracy×(1/10)/°C	–10 to 20°C, 26 to 50°C

CMRR (Common mode rejection ratio): Approx. 120 dB (50/60 Hz)

NMRR (Normal mode rejection ratio): Approx. 60 dB (50/60 Hz)

Current terminal input protection: PTC protection

Measurement terminal maximum input: Voltage terminal 50 V DC
 Current terminal 120 mA

Measurement unit voltage to ground: 50 V_{peak}

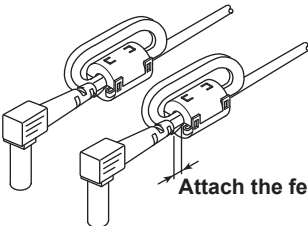
Number of Saved Data Values

Instrument Operating Condition		Number of Data Points That Can Be Saved	Number of Files That Can Be Saved*1
Current	Save	2000	45
	Logging	2000	45
Leakage test		2000	45
Transmitter calibration (Number of calibration points: 5)	As Found	9	250
	As Left	9	250
Pressure switch calibration	As Found	1	250
	As Left	1	250

*1 Total number of files: Up to 250
Total data size: Up to approx. 3.5 MB

General and Common Specifications

Item		Specifications
Function	Common	HOLD, Min/Max, RELATIVE, %span, scaling, alarm
	Pressure	Zero calibration, unit change, pressure switch test, leak test (period: 00:00:01 to 24:00:00)
	Source	Linear sweep and step sweep (15, 30, 45, 60 s intervals) Internal communication resistance (250 Ω) ON/OFF
	Memory	Manual memory (date/time, display 1, display 2)
		Logging (2000 data points max. at 1, 2, 5, 10, 30, 60 s intervals) Device information, date/time, display 1 value, display 2 value
		Transmitter calibration data (As Found, As Left) Device information, calibration procedure, date/time, source value, measured value, error, and pass/fail
		Pressure switch test (As Found, As Left) Device information, date/time, open value, close value, deadband, resistance
		Leakage test Device information, start date/time and data, end date/time and data, deviation, leak rate
	Display update rate	Approx. 300 ms (3 times per second)
Interface	Select and switch between USB A mass storage device, USB mini B Communication Device Class, and Mass Storage Class	
External sensor	Dedicated external sensor can be connected to the connector.	
Display	Dot matrix LCD (320×240 dots)	
Backlight	LED	
Warm-up time	Approx. 5 minutes	
Power supply	Six AA alkaline dry cells	
Battery life	Alkaline batteries 24 V loop power supply off during current measurement approx. 28 h (communication resistance on) 24 V loop power supply on during current measurement approx. 10 h (communication resistance on, supplying 10 mA loop current)	
Auto power-off feature	Approx. 60 minutes; can be disabled	
Insulation resistance	Between input terminal and case, between input port and case: 100 MΩ or more (500 VDC)	
Withstand voltage	Between input terminal and case, between input port and case: 500 VAC for 1 minute	
Protection level	IP54	
Recommended calibration period	1 year	
External dimensions	Approx. 264 mm (W) × 188 mm (H) × 96 mm (D) (excluding protrusions)	
Weight	Approx. 2 kg	
Operating temperature and humidity	-10 to 50°C, 20 to 80%RH (no condensation)	
Storage temperature and humidity	-20 to 60°C, 20 to 80%RH (no condensation)	
Safety standards	Compliant standards EN 61010-1 Indoor use Altitude 2000 m or less Overvoltage Category I*1 Pollution degree 2*2 EN IEC 61010-2-030 Measurement category; O (Other)*3	

Item	Specifications
Emissions	Compliant standards EN 61326-1 Class A EN 55011 Class A Group 1*4 EMC standards of Australia and New Zealand EN 55011 Class A, Group 1*4 Korea Electromagnetic Conformity Standard (한국 전자파적합성기준) This product is a Class A (for industrial environment) product. Operation of this product in a residential area may cause radio interference in which case the user will be required to correct the interference.
	Cable conditions USB port (Function) Use a shielded USB cable (3 m in length or less). Measurement lead Pass each measurement lead (L4059PR) three times through the supplied ferrite core to attach it (see the figure below).  Attach the ferrite core as close as possible.
Immunity	Compliant standards EN 61326-1 Table 2 (for industrial environments) However, the measured values may receive noise effects.
	Cable conditions Same as the emission cable conditions.
Environmental standards*5	EU RoHS Directive compliant

*1 The overvoltage category is a value used to define the transient overvoltage condition and includes the rated impulse withstand voltage. Overvoltage Category I applies to equipment that is connected to a circuit that has been designed to suppress overvoltage caused by transient phenomena to an adequately low level.

*2 Pollution Degree applies to the degree of adhesion of a solid, liquid, or gas that deteriorates withstand voltage or surface resistivity. Pollution degree 2 applies to normal indoor atmospheres (with only non-conductive pollution).

*3 The measurement category of the CA700 signal terminals is Other (O). Do not use it to measure the main power supply or for Measurement Categories II, III, and IV.

Measurement category O (Other) applies to measurement of circuits that are not directly connected to a main power source. This category applies to measurement of secondary electric circuits in equipment across a transformer. The estimated transient overvoltage that may appear at the CA700 signal input is 350 V.

Measurement category II applies to measurement of circuits, such as household electric appliances and portable electric tools, that are connected to low-voltage installations.

Measurement category III applies to measurement of facility circuits, such as distribution boards and circuit breakers.

Measurement category IV applies to measurement of power source circuits, such as entrance cables to buildings and cable systems, for low-voltage installations.

*4 Group 1: Equipment that does not intentionally generate or use radio-frequency (RF) energy

*5 For conformity to environmental regulations and/or standards other than EU, contact your nearest YOKOGAWA office.

PM100**16 MPa Model**

Item	Specifications		
Pressure type	Shield gauge pressure		
Measurement range	0 to 7 MPa sg	0 to 10 MPa sg	0 to 16 MPa sg
Measurement display range	to 8.4000 MPa	to 12.0000 MPa	to 19.2000 MPa
Accuracy (6 months after calibration)*1 (after zero calibration*2)	Positive pressure $\pm(0.01\%$ of reading + 2 kPa)	Positive pressure $\pm(0.01\%$ of reading +3 kPa)	Positive pressure $\pm(0.01\%$ of reading +5 kPa)
Accuracy (1 year after calibration)*1 (after zero calibration*2)	Positive pressure $\pm(0.01\%$ of reading +2.8 kPa)	Positive pressure $\pm(0.01\%$ of reading +3.8 kPa)	Positive pressure $\pm(0.01\%$ of reading +5.8 kPa)
Display resolution	0.0001 MPa(0.1 kPa)		
Allowable input	2.7 kPa abs to 23 MPa sg		
Temperature effect	$\pm(0.001\%$ of reading + 0.16 kPa)/°C or less		
Orientation effect	Zero point ± 1 kPa or less		
Response time*3	2.5 s or less		

70 MPa Model

Item	Specifications		
Pressure type	Shield gauge pressure		
Measurement range	0 to 25 MPa sg	0 to 50 MPa sg	0 to 70 MPa sg
Measurement display range	to 30.0000 MPa	to 60.0000 MPa	to 77.0000 MPa
Accuracy (6 months after calibration)*1 (after zero calibration*2)	Positive pressure $\pm(0.01\%$ of reading + 6 kPa)	Positive pressure $\pm(0.01\%$ of reading +10 kPa)	Positive pressure $\pm(0.01\%$ of reading +16 kPa)
Accuracy (1 year after calibration)*1 (after zero calibration*2)	Positive pressure $\pm(0.01\%$ of reading +9.5 kPa)	Positive pressure $\pm(0.01\%$ of reading +13.5 kPa)	Positive pressure $\pm(0.01\%$ of reading +19.5 kPa)
Display resolution	0.0001 MPa(0.1 kPa)		
Allowable input	2.7 kPa abs to 98 MPa sg		
Temperature effect	$\pm(0.001\%$ of reading + 0.7 kPa)/°C or less		
Orientation effect	Zero point ± 1 kPa or less		
Response time*3	2.5 s or less		

Common Specifications

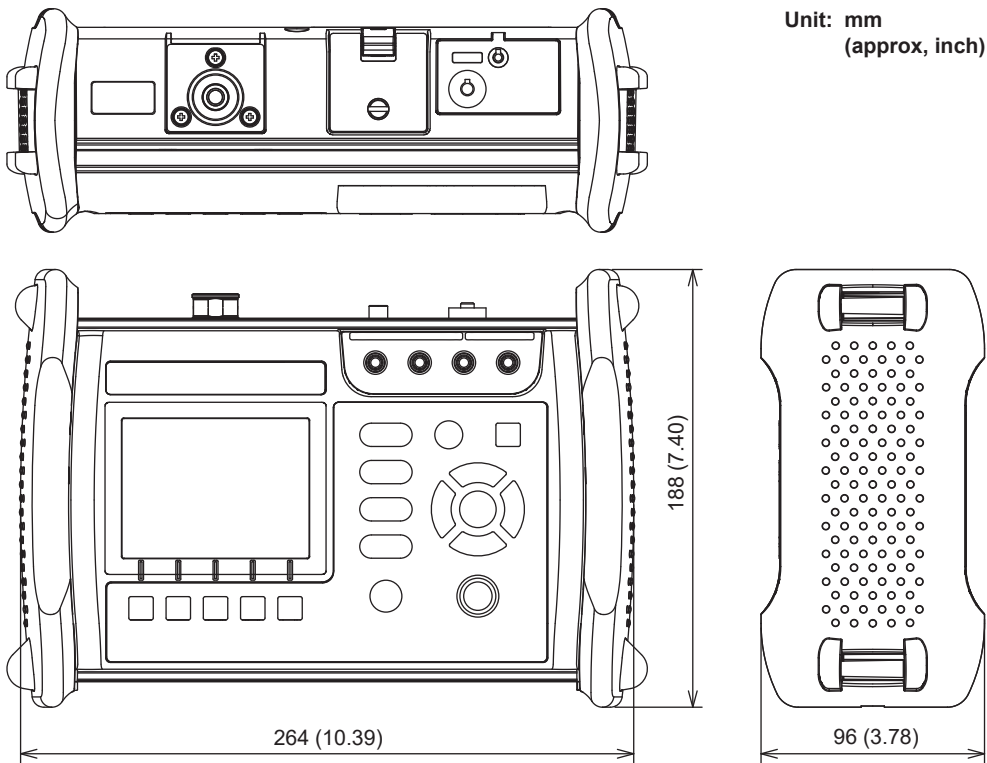
Item	Specifications
Volume	Approx. 6 cm ³
Input connection	1/2NPT female thread
Warm-up time	Approx. 5 minutes
Measured fluid	Gas and liquid (nonflammable, nonexplosive, nontoxic, noncorrosive fluid) only (Measuring the pressure of Group 1 substances and mixtures (dangerous fluids) as listed in Directive 2014/68/EU Article 13 (1) a is not allowed).
Measured fluid temperature	-10 to 50°C, but 5 to 50°C for liquid
Pressure sensor	Silicon resonant sensor
Measurement unit material	Diaphragm: Hastelloy C-276 or ASTM N10276 Input port: SUS316L or ASTM grade 316L
Protection level	IP54
Recommended calibration period	1 year
Connection connector	Waterproof connector
Cable length	1 m
External dimensions	112 mm (W) × 75 mm (H) × 148 mm (D) Excluding the input port and protrusions
Weight	Approx. 1.2 kg
Operating environment conditions	Temperature: -10 to 50°C Humidity: 20 to 80% RH (no condensation) Altitude: Up to 2000 m
Storage environment conditions	Temperature: -20 to 60°C Humidity: 20 to 80% RH (no condensation)
Safety standards	Compliant standards EN 61010-1 Indoor use Pollution degree 2*4

Item	Specifications
Emissions	Compliant standards EN 61326-1 Class A, EN55011 Class A, Group 1 EMC standards of Australia and New Zealand EN55011 Class A, Group 1 Korea Electromagnetic Conformity Standard (한국 전자파적합성기준) This product is a Class A (for industrial environments) product. Operation of this product in a residential area may cause radio interference in which case the user will be required to correct the interference.
Immunity	Compliant standards EN61326-1 Class A Table 2 (for industrial environments) Influence in the immunity testing environment (criteria A) Measurement input: Within $\pm 20\%$ of range
Environmental standards*5	EU RoHS Directive compliant

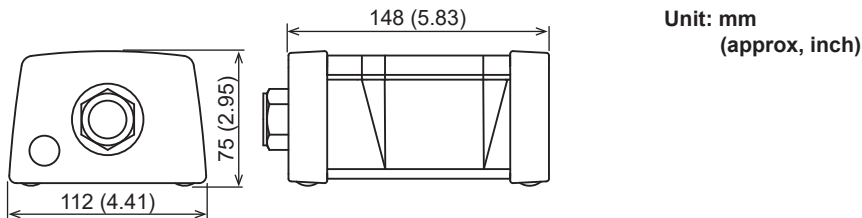
- *1 The error of the pressure standard is excluded.
- *2 Zero calibration condition: Under atmospheric pressure
- *3 Response time measurement conditions: Time for the readout to settle within 0 MPa $\pm$ 3.5 kPa after releasing 3.5 MPa pressure to the atmosphere (where the input unit is under no load)
- *4 The pollution degree refers to the degree of adhesion of a solid, liquid, or gas which deteriorates withstand voltage or surface resistivity. Pollution degree 2 applies to normal indoor atmospheres (with only non-conductive pollution).
- *5 For conformity to environmental regulations and/or standards other than EU, contact your nearest YOKOGAWA office.

■ External Dimensions

CA700



PM100



■ Model and Suffix code

CA700

MODEL	Suffix Code	Specifications
CA700		Pressure calibrator
End User Country	-E	For countries other than Japan
Type of Range	-01 -02 -03	200 kPa gauge model 1000 kPa gauge model 3500 kPa gauge model
Pressure Unit	-U2	SI units and non-SI units
Pressure Port Type	-P2	1/4NPT female-threaded

Standard Accessories (Included with the CA700)

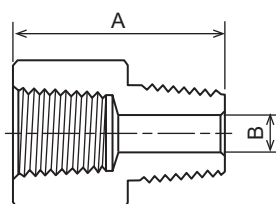
Item	Model/Part No.	Quantity	Specifications and Notes
Signal cable	98064	1	Red/Black pair
Shoulder strap	B8070CY	1	—
Connector	91082	1	1/4NPT male to 1/8NPT female
Dry cells	A1070EB	6	Alkaline "AA" (LR6) 1.5 V
Accessory case	B9108XA	1	—
Ferrite core	A1193MN	2	For signal cable
Cap	L4060CL	1	For the pressure input port (comes attached to the CA700)
User's manual	IM CA700-02EN	1	Start Guide
	IM CA700-73Z2	1	Request to download manuals
	IM CA700-92Z1	1	Document for China
	IM 00C01C01-01Z1	1	Safety manual (European languages)
	PIM 113-01Z2	1	Inquiries

Note: Standard accessories are not covered by warranty of this instrument.

Optional Accessories (Sold separately)

Item	Model/Part No.	Min. Q'ty	Specifications
Carrying case	93050	1	CA700, accessory case
Grabber clip	98026	1	Red/Black pair, separate type (2.0 m)
Cleaning unit	91041	1	Pressure input port 1/8NPT female thread

External Dimensions of Conversion Connectors



Connector	A(mm)	B(mm)
91082	26.9	7.1

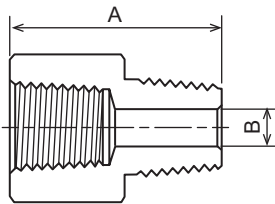
PM100

MODEL	Suffix Code	Specifications
PM100		External Pressure Sensor
End User Country	-E	For countries other than Japan
Type of Range	-05 -06	Shield gauge pressure: 16 MPa (7/10/16 MPa range) Shield gauge pressure: 70 MPa (25/50/70 MPa range)
Pressure Port Type	-P3	1/2NPT female-threaded

Standard Accessories (Included with the PM100)

Item	Model/Part No.	Quantity	Notes
Connection cable	95020	1	PM100 connection cable
Conversion connector	91083	1	Converts to 1/8NPT female thread, Maximum usable pressure is 84 MPa.
	91084	1	Converts to 1/4NPT female thread (only for 16 MPa model), Maximum usable pressure is 57.1 MPa.
	91086	1	Converts to 1/4NPT female thread (only for 70 MPa model), Maximum usable pressure is 98 MPa.
Cap for the pressure input port	G9330DB	1	Comes attached to the PM100
Manuals	IM PM100-01EN	1	User's Manual
	IM PM100-92Z1	1	Document for China
	IM 00C01C01-01Z1	1	Safety manual (European languages)
	PIM 113-01Z2	1	Inquiries

External Dimensions of Conversion Connectors



Conversion Connector	A(mm)	B(mm)
91083	27.4	8.6
91084	27.4	11.4
91086	46.0	6.4

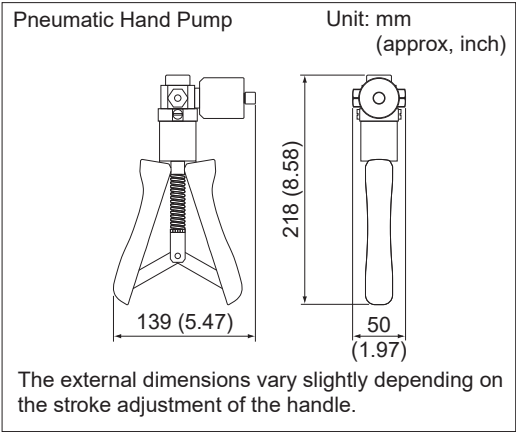
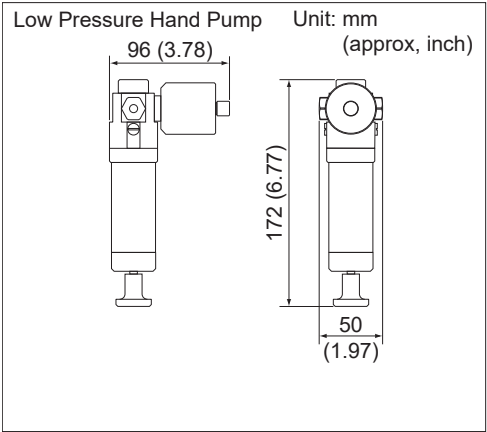
■ Related Products

Low Pressure Hand Pump Kit 91070, Pneumatic Hand Pump Kit 91074

● Appearance



● External Dimensions



● Features

- The two models, low pressure and pneumatic, cover a wide range of pressure generation.
- Easy fine-tuning provided by a vernier adjustment knob with a division scale.
- Improved maintainability with the replacement valve set 91045 (separately sold accessory)
- Smooth pressurization with less internal leakage

Hand pump type	Pressure generation range	Maximum working pressure	Connection port	Pressurized media
Low Pressure Hand Pump	-83 to 700 kPa	1000 kPa	Rc1/8 female thread, Rc1/4 female thread	Air
Pneumatic Hand Pump	-83 to 4000 kPa	5100 kPa	Rc1/8 female thread, Rc1/4 female thread	Air

● Product name, Model, and Specifications**Hand Pump Kits (A set of a hand pump and accessories)**

Product name	Model	Contents
Low Pressure Hand Pump Kit	91070	Low Pressure Hand Pump*1, Connector set (91053), Hand pump case (93054)
Pneumatic Hand Pump Kit	91074	Pneumatic Hand Pump*1, Connector set (91053), Hand pump case (93054)

*1: Operating temperature range: 0 to 50°C

Hand Pump Kit Accessories*1

Product name	Model	Contents
Connector set*2	91053	Connector set for the Low Pressure Hand Pump, Pneumatic Hand Pump (seal tape, flexible hose, quick adapter, Rc1/8 sealing cap, hexagonal wrench, NPT adapter [R1/8 male thread-1/8NPT female thread], NPT adapter [R1/4 male thread-1/4NPT female thread])
Hand pump case	93054	Case for storing Low Pressure Hand Pump or Pneumatic Hand Pump and Connector set (91053)

*1: These accessories are included in the hand pump kit (91070, 91074) at the time of purchase. They can also be purchased separately.

*2: The maximum working pressure of the quick adapter is 1.0 MPa, and the maximum working pressure of the flexible hose is 2.0 MPa. If high airtightness and pressure resistance are required, use a connector with a ferrule or sleeve. Also, use a hose that is strong enough to withstand the pressure generated.

Spare parts

Product name	Model	Contents
Replacement Valve Set*3	91045	Valve set (Valve, O-ring, spring, cap each 2 pcs)

*3: Valves are already mounted on the low-pressure and pneumatic hand pump product body. 91045 is a replacement part.

<Reference>

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