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**User's  
Manual**

**MC300  
Pressure Controller  
Getting Started Guide**

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# User Registration

YOKOGAWA provides registered users with useful information and services. Please allow us to serve you best by completing the user registration form accessible from our website.

<https://tmi.yokogawa.com/support/>



# Contact Us

If you want to resolve a technical support issue or need to contact YOKOGAWA, please fill out the inquiry form on our website.

<https://tmi.yokogawa.com/contact/>



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Thank you for purchasing the MC300 Pressure Controller.  
This getting started guide primarily explains the handling precautions and basic operations of this instrument. To ensure correct use, please read this manual thoroughly before operation.  
After reading this manual, keep it in a safe place. The manuals for this instrument are listed on the next page. Please read all manuals.

Contact information of YOKOGAWA offices worldwide is provided on the following sheet.

Document No.	Description
PIM 113-01Z2	List of worldwide contacts

## Notes

- The contents of this manual are subject to change without prior notice as a result of improvements to the product's performance and functionality. Refer to our website to view our latest manuals.
- The figures given in this manual may differ from those that actually appear on your screen.
- Every effort has been made in the preparation of this manual to ensure the accuracy of its contents. However, should you have any questions or find any errors, please contact your nearest YOKOGAWA dealer.
- Copying or reproducing all or any part of the contents of this manual without the permission of YOKOGAWA is strictly prohibited.

## Trademarks

- Microsoft, Windows, and Windows 11 are registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Adobe and Acrobat are either registered trademarks or trademarks of Adobe Systems Incorporated.
- Other company and product names are registered trademarks or trademarks of their respective holders.
- In this manual, the ® and TM symbols do not accompany their respective registered trademark or trademark names.

## Updating the Firmware

It is recommended to update the firmware to the latest version to improve the features and usability of this instrument.

Download the latest firmware from the YOKOGAWA website, or contact your nearest YOKOGAWA dealer for details.

## Revisions

- March 2026      1st Edition

# Manuals

The following manuals, including this one, are provided as manuals for this instrument. Please read all manuals.

## Manuals included with the product

Manual title	Manual No.	Description
MC300 Pressure Controller Getting Started Guide	IM MC300-02EN	This manual. Explains the handling precautions, basic operations, and specifications of this instrument.
MC300 Pressure Controller Request to Download Manuals	IM MC300-73Z2	Describes the manuals provided on the website.
China RoHS Information	IM CROHS11-92Z1	Document for China
Safety Instruction Manual	IM 00C01C01-01Z1	Safety manual (European languages)

## Manuals provided on the website

Download the following manuals from our website.

Manual Title	Manual No.	Description
Model MC300 Pressure Controller User's Manual	IM MC300-01EN	Explains all the instrument's features and instructions on how to use them.

For details on downloading manuals, see Request to Download Manuals (IM MC300-73Z2). To view the PDF data, you need Adobe Acrobat Reader or a software application that can open PDF data.

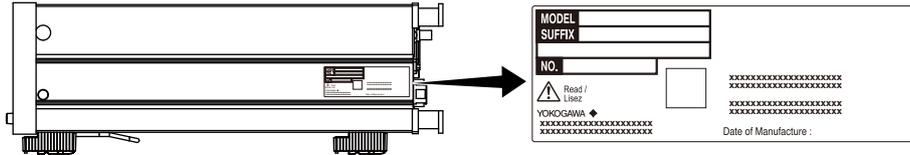
The "EN," "Z1," and "Z2" in the manual numbers are the language codes.

# Checking the Contents of the Package

Unpack the box, and check the following before operating the instrument. If the wrong items have been delivered, if items are missing, or if there is a problem with the appearance of the items, contact your nearest YOKOGAWA dealer.

## MC300

Check that the product that you received is what you ordered by referring to the model name and suffix code given on the name plate on the side panel.



MODEL	Suffix Code <sup>1</sup>	Description
MC300		Pressure controller
Pressure type and range	-G01	Gauge pressure 10 kPa
	-G03	Gauge pressure 200 kPa
Pressure unit	-U1	Pa, hPa, kPa, MPa, mbar, bar, atm
	-U2	Pa, hPa, kPa, MPa, mbar, bar, atm, mmHg, inHg, gf/cm <sup>2</sup> , kgf/cm <sup>2</sup> , Torr, psi, mmH <sub>2</sub> O (@4 °C, @20 °C), ftH <sub>2</sub> O (@4 °C, @20 °C), inH <sub>2</sub> O (@4 °C, @20 °C)
Input/output connection	-P1	Rc 1/4 female-thread
	-P2	1/4 NPT female-thread
Communication interface	-C01	GP-IB interface
	-C02	RS-232 interface
Power cord <sup>2</sup>	-D	UL/CSA standard and PSE compliant, rated voltage: 125 V
	-F	VDE/Korean standard, rated voltage: 250 V
	-Q	British standard, rated voltage: 250 V
	-R	Australian standard, rated voltage: 250 V
	-H	Chinese standard, rated voltage: 250 V
	-N	Brazilian standard, rated voltage: 250 V
	-T	Taiwanese standard, rated voltage: 125 V
	-B	Indian standard, rated voltage: 250 V
-U	IEC Plug Type B, rated voltage: 250 V	
-Y	No power cord included. <sup>3</sup>	
Option	/MD	Pressure unit for Biological Pressure Measuring Instruments /MD and -U2 cannot be installed at the same time. It is available only for -U1. The following units added to those of -U1. mmHg, cmHg, mHg, mmH <sub>2</sub> O, cmH <sub>2</sub> O, mH <sub>2</sub> O, mTorr, Torr

1 For products whose suffix code contains "Z," an exclusive manual may be included. Read it along with the standard manual.

2 Make sure that the attached power cord complies with the designated standards of the country and area that you are using it in.

3 Prepare a power cord that complies with the standard specified by the country or region that the instrument will be used in.

## No. (instrument number)

When contacting the dealer from which you purchased the instrument, please give them the instrument number.

## Checking the Contents of the Package

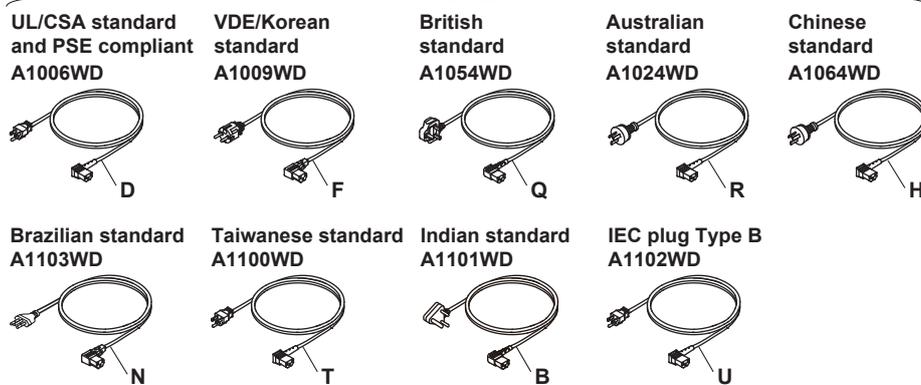
### Standard accessories

The following accessories are included. Check that all contents are present and undamaged.

Name	Model or Part No.	Quantity	Specifications and Notes
Power cord	See below	1	Included when options other than -Y is selected
Rubber stoppers	A9088ZM	1 sheet	2 pcs./sheet
Terminal plug	A2119JT	1	–
Connector assembly kit	B9984BY	2	When -P1 is selected
	B9984BW	2	When -P2 is selected
Manuals	IM MC300-02EN	1	Getting Started Guide (this guide)
	IM MC300-73Z2	1	Request to Download Manuals
	IM CROHS11-92Z1	1	Document for China
	IM 00C01C01-01Z1	1	Safety manual (European languages)
	PIM 113-01Z2	1	List of worldwide contacts

Standard accessories are not covered by warranty.

#### Power cord (one cord that matches the suffix code is included) \*



\* Make sure that the attached power cord meets the designated standards of the country and area that you are using it in. If the suffix code is -Y, a power cord is not included.



## Optional accessories (sold separately)

The following optional accessories are available for purchase separately. For information about ordering accessories, contact your nearest YOKOGAWA dealer.

Accessories (sold separately) are not covered by warranty.

Item	Model/ part no.	Min. q'ty	General specifications	Manual no.
Connector assembly kit	B9984BY	1	For the $\phi 4 \times \phi 6$ vinyl tube (for -P1)	–
	B9984BW	1	For the $\phi 4 \times \phi 6$ vinyl tube (for -P2)	–
Conversion adapter	366921	1	BNC-to-binding post	–
Conversion connector	91080	1	R1/4 male-threaded – 1/8 NPT female-threaded (for -P1)	–
	91081	1	R1/4 male thread -1/4NPT female thread (-P1)	–
	91082	1	1/4 NPT male thread -1/8 NPT female thread (-P2 )	–
Rack mount kit	751533-E3	1 set	For EIA single mount	IM 751533-E3-11J
	751534-E3	1 set	For EIA dual mount	IM 751534-E3-11J
	751533-J3	1 set	For JIS single mount	IM 751533-J3-11J
	751534-J3	1 set	For JIS dual mount	IM 751534-J3-11J

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# Conventions Used in This Manual

## Notes

The notes and cautions in this manual are categorized using the following symbols.



*Improper handling or use can lead to injury to the user or damage to the instrument.* This symbol appears on the instrument to indicate that the user must refer to the user's manual for special instructions. The same symbol appears in the corresponding place in the user's manual to identify those instructions. In the manual, the symbol is used in conjunction with the word "WARNING" or "CAUTION."

### **WARNING**

Calls attention to actions or conditions that could cause serious or fatal injury to the user, and precautions that can be taken to prevent such occurrences.

### **CAUTION**

Calls attention to actions or conditions that could cause light injury to the user or damage to the instrument or user's data, and precautions that can be taken to prevent such occurrences.

## French

### **AVERTISSEMENT**

Attire l'attention sur des gestes ou des conditions susceptibles de provoquer des blessures graves (voire mortelles), et sur les précautions de sécurité pouvant prévenir de tels accidents.

### **ATTENTION**

Attire l'attention sur des gestes ou des conditions susceptibles de provoquer des blessures légères ou d'endommager l'instrument ou les données de l'utilisateur, et sur les précautions de sécurité susceptibles de prévenir de tels accidents.

### **Note**

Calls attention to information that is important for the proper operation of the instrument.

## Prefixes k and K

This manual distinguishes prefixes k and K used before units as follows:

k: Denotes 1000.

Example: 100 kPa (pressure value)

K: Denotes 1024.

Example: 720 KB (file size)

## Notations used in the procedural explanations

The contents of the procedural explanations are indicated using the following symbols.

### **Procedure**

Carry out the procedure according to the step numbers. All procedures are written under the assumption that you are starting operation at the beginning of the procedure, so you may not need to carry out all the steps in a procedure when you are changing the settings.

### **Explanation**

This section describes the setup items and the limitations regarding the procedures.

## Characters and terminology used in procedural explanations

### **Panel keys and soft keys**

Bold characters used in the procedural explanations indicate panel keys or soft keys (setup menus).

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# Safety Precautions

This product is designed to be used by a person with specialized knowledge.

This instrument is an IEC safety class I instrument (provided with a terminal for protective earth grounding).

The general safety precautions described herein must be observed during all phases of operation. If the instrument is used in a manner not specified in this manual, the protection provided by the instrument may be impaired. YOKOGAWA assumes no liability for the customer's failure to comply with these requirements.

This manual is part of the product and contains important information. Store this manual in a safe place close to the instrument so that you can refer to it immediately. Keep this manual until you dispose of the instrument.

## The following symbols are used on this instrument.



Handle with care. Refer to the user's manual or service manual. This symbol appears on dangerous locations on the instrument which require special instructions for proper handling or use. The same symbol appears in the corresponding place in the manual to identify those instructions.



Ground or the functional ground terminal (do not use as the protective ground terminal)



Alternating current



Direct current



On (power)



Standby



Power-on state



Power-off state

**Failure to comply with the precautions below could lead to injury or death or damage to the instrument.**

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**WARNING**

**Use the instrument only for its intended purpose**

This instrument is designed to output the pressure. Do not use it for any other purpose.

**Check the physical appearance**

Do not use the instrument if there is a problem with its physical appearance.

**Use the correct power supply**

Make sure that the power supply voltage matches the instrument's rated supply voltage and that it does not exceed the maximum voltage range of the power cord to use.

**Use the correct power cord and plug**

To prevent electric shock and fire, be sure to use the power cord for this instrument. The main power plug must be plugged into an outlet with a protective earth terminal. Further, do not use this power cord with other instruments.

**Connect the protective ground terminal**

To prevent electric shock, make sure to connect the instrument to a protective ground (earth) before turning on the power. The power cord to use is a three-prong type power cord. Connect the power cord to a properly grounded three-prong outlet. Do not invalidate the protection function by using an extension cord without protective earth grounding.

**Do not impair the protective grounding**

Never cut off the internal or external protective earth wire or disconnect the wiring of the protective ground terminal. Doing so may result in electric shock or damage to the instrument.

**Check the protection functions**

Before operating this instrument, make sure that the protective functions are not defective. If you suspect a defect, do not use the instrument.

**Do not use in an explosive atmosphere**

This instrument is not explosion-proof. Do not operate the instrument in the presence of flammable gas, explosive gas, or vapors. Doing so is extremely dangerous.

**Observe the limitations on fluids used**

Do not introduce liquids, or flammable, explosive, toxic, or corrosive gases, or high-temperature gases (50 °C or higher) into the tubes or connectors. Doing so may pose a hazard to personnel or surrounding equipment.

**Check the connections**

Take care to ensure that fluid does not leak from connections such as piping or connectors, and that the connections do not come loose. Failure to do so may pose a hazard to personnel or surrounding equipment.

**Observe the pressure limit**

Do not apply pressure exceeding the allowable input, or apply pressure abruptly. Doing so may damage this instrument or, due to an explosion or other incident, pose a hazard to personnel or surrounding equipment. Also, use tubes and connectors with sufficient strength to withstand the inlet and outlet pressures.

**Do not remove the covers or disassemble or alter the instrument**

Removing the covers or disassembling or altering the instrument is strictly prohibited. Some sections inside the instrument have high voltages that are extremely dangerous. For internal inspection and adjustment, contact your nearest YOKOGAWA dealer.

**Install or use the instrument in appropriate locations**

Install the instrument so that you can immediately remove the power cord if an abnormal or dangerous condition occurs.

**Accessories**

Use the instrument with the standard and optional accessories specified in this manual. These accessories may be used only when they are designated as accessories for our products. Do not use faulty accessories.

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**CAUTION**

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- Supply clean, dry air to this instrument. Do not use liquids, highly humid air, or air containing a large amount of oil.
- For safety and hygiene reasons, do not use this instrument to control fluids related to food products.
- Because this is a precision instrument, handle it carefully and avoid impact.
- Do not use this instrument in locations where the ambient temperature changes rapidly, or where there is wind or airflow. This may cause measurement errors.

**Operating environment limitations**

This product is classified as Class A (for use in industrial environments). Operation of this product in a residential area may cause radio interference, in which case the user will be required to correct the interference.

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French

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**AVERTISSEMENT**

**Utilisez l'instrument uniquement pour l'usage auquel il est destiné**

Cet instrument est conçu pour afficher la pression. Ne l'utilisez pas à d'autres fins.

**Vérifiez l'aspect visuel**

N'utilisez pas l'instrument si son aspect visuel présente un problème.

**Utilisez une alimentation électrique adaptée**

Assurez-vous que la tension d'alimentation correspond à la tension d'alimentation nominale de l'instrument et qu'elle ne dépasse pas la plage de tension maximale du cordon d'alimentation utilisé.

**Utilisez le cordon d'alimentation et la fiche adaptés**

Pour éviter tout risque d'électrocution et d'incendie, veillez à utiliser le cordon d'alimentation de cet instrument. La fiche d'alimentation principale doit être branchée dans une prise avec une borne de terre de protection. De plus, n'utilisez pas ce cordon d'alimentation avec d'autres instruments.

**Connectez la borne de terre de protection**

Pour éviter tout risque d'électrocution, assurez-vous de connecter l'instrument à une prise de terre avant de le mettre sous tension. Le cordon d'alimentation à utiliser est un cordon d'alimentation à trois broches. Connectez le cordon d'alimentation à une prise à trois broches correctement mise à la terre. N'annulez pas la fonction de protection en utilisant une rallonge sans mise à la terre de protection.

**Veillez ne pas compromettre la mise à la terre de protection**

Ne coupez jamais le fil de terre de protection interne ou externe et ne déconnectez jamais le câblage de la borne de terre de protection. Cela pourrait entraîner une électrocution ou endommager l'instrument.

**Vérifiez les fonctions de protection**

Avant d'utiliser cet instrument, assurez-vous que les fonctions de protection ne sont pas défectueuses. Si vous soupçonnez un défaut, n'utilisez pas l'instrument.

**Ne pas utiliser dans une atmosphère explosive**

Cet instrument n'est pas antidéflagrant. N'utilisez pas l'instrument en présence de gaz inflammables, de gaz explosifs ou de vapeurs. Cela est extrêmement dangereux.

**Respectez les limitations relatives aux fluides utilisés**

N'introduisez pas de liquides, de gaz inflammables, explosifs, toxiques ou corrosifs, ni de gaz à haute température (50 °C ou plus) dans les tubes ou les raccords. Cela pourrait présenter un danger pour le personnel ou les équipements environnants.

**Vérifiez les connexions**

Veillez à ce qu'aucun fluid ne fuie des raccords tels que les tuyaux ou les connecteurs, et à ce que ces raccords ne se desserrent pas. Le non-respect de cette consigne peut présenter un danger pour le personnel ou les équipements environnants.

**Respectez la limite de pression**

N'appliquez pas une pression supérieure à l'entrée admissible et n'appliquez pas de pression brusquement. Cela pourrait endommager cet instrument ou, en cas d'explosion ou d'autre incident, présenter un danger pour le personnel ou les équipements environnants. Utilisez également des tubes et des raccords suffisamment résistants pour supporter les pressions d'entrée et de sortie.

**Ne retirez pas les couvercles et ne démontez ou ne modifiez pas l'instrument**

Il est strictement interdit de retirer les couvercles, de démonter ou de modifier l'instrument. Certaines sections à l'intérieur de l'instrument présentent des tensions élevées qui sont extrêmement dangereuses. Pour l'inspection et le réglage internes, contactez votre revendeur YOKOGAWA le plus proche.

**Installez ou utilisez l'instrument dans des lieux appropriés**

Installez l'instrument de manière à pouvoir retirer immédiatement le cordon d'alimentation en cas de situation anormale ou dangereuse.

**Accessoires**

Utilisez l'instrument avec les accessoires standard et optionnels spécifiés dans ce manuel. Ces accessoires ne peuvent être utilisés que lorsqu'ils sont spécifiquement désignés comme accessoires pour nos produits. N'utilisez pas d'accessoires défectueux.

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**ATTENTION**

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- Alimentez cet instrument en air propre et sec. N'utilisez pas de liquides, d'air très humide ni d'air contenant une grande quantité d'huile.
- Pour des raisons de sécurité et d'hygiène, n'utilisez pas cet instrument pour contrôler les fluides liés aux produits alimentaires.
- S'agissant d'un instrument de précision, manipulez-le avec précaution et évitez les chocs.
- N'utilisez pas cet instrument dans des endroits où la température ambiante varie rapidement, ou en présence de vent ou de courants d'air. Cela pourrait entraîner des erreurs de mesure.

**Limitations de l'environnement d'exploitation**

Ce produit est homologué Classe A (pour une utilisation en milieu industriel). L'utilisation de ce produit dans une zone résidentielle peut provoquer des interférences radio, auquel cas l'utilisateur sera tenu de corriger les interférences.

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# Regulations and Sales in Various Countries and Regions

## Waste Electrical and Electronic Equipment (WEEE)



(EU WEEE Directive valid only in the EEA\* and UK WEEE Regulation in the UK)

This product complies with the WEEE marking requirement. This marking indicates that you must not discard this electrical/electronic product in domestic household waste. When disposing of products in the EEA or UK, contact your local YOKOGAWA office in the EEA or UK respectively.

\*EEA: European Economic Area

## Batteries and waste batteries



(EU Battery Directive/Regulation valid only in the EEA and UK Battery Regulation in the UK)

Batteries are included in this product. This marking indicates they shall be sorted out and collected as ordained in the EU battery Directive/Regulation and UK battery Regulation.

Battery type: Lithium battery

You cannot replace batteries by yourself. When you need to replace batteries, contact your local YOKOGAWA office in the EEA or UK respectively.

## Recycle mark



Li-ion

Do not dispose of with regular waste. To protect the environment, discard in accordance with your local recycling regulations.

## Pressure Equipment Directive

This instrument is a Sound Engineering Practice (SEP) product as defined in the Pressure Equipment Directive (PED).

## Authorized representative in the EEA

Yokogawa Europe B.V. is the authorized representative of Yokogawa Test & Measurement Corporation for this product in the EEA. To contact Yokogawa Europe B.V., see the separate list of worldwide contacts, PIM 113-01Z2.

## 關於在台灣銷售

This section is valid only in Taiwan.

關於在台灣所販賣的符合其相關規定的電源線 A1100WD 的限用物質含量信息，請至下麵的網址進行查詢  
<https://tmi.yokogawa.com/support/service-warranty-quality/product-compliance/>

## Compliance with the Radio Waves Act (Republic of Korea)

This product complies with the Radio Waves Act (Republic of Korea).

- 1) Trade Name: Yokogawa Test & Measurement Corporation
- 2) Model & Model Name: See the table below.
- 3) Date of Manufacture: Listed on the instrument
- 4) Manufacturer: Yokogawa Test & Measurement Corporation
- 5) Country of origin: Japan

Model	Model Name	Registration Website URL
MC300	Pressure Controller	<a href="http://www.rra.go.kr/selform/IMY-EEN545-1">http://www.rra.go.kr/selform/IMY-EEN545-1</a>

## Disposal

When disposing of YOKOGAWA products, follow the laws and ordinances of the country or region where the products will be disposed of.

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## 1.1 Overview and Main Functions

### Product overview

The MC300 Pressure Controller is an instrument that controls supplied air to the desired pressure and outputs it. It can be used for a variety of applications, including the calibration and inspection of pressure measurement devices such as pressure gauges.

Based on our proven high-precision pressure measurement technology using silicon resonant sensors, the instrument applies a needle valve-based servo valve to achieve highly accurate and stable pressure control.

### Pressure output method

This instrument supports following three pressure output methods in addition to the normal output that continuously outputs the set pressure value:

#### Divider output

- Outputs the set pressure value in n/m divisions.  
(n = 0 to m, m = 1 to 25, n/m ≤ 100 %)

#### Auto-step output

- Automatically generates divider output in steps.
- Interval time: 10 s to 600 s (resolution: 5 s)
- Repetitions: 1 or infinite (can be paused)

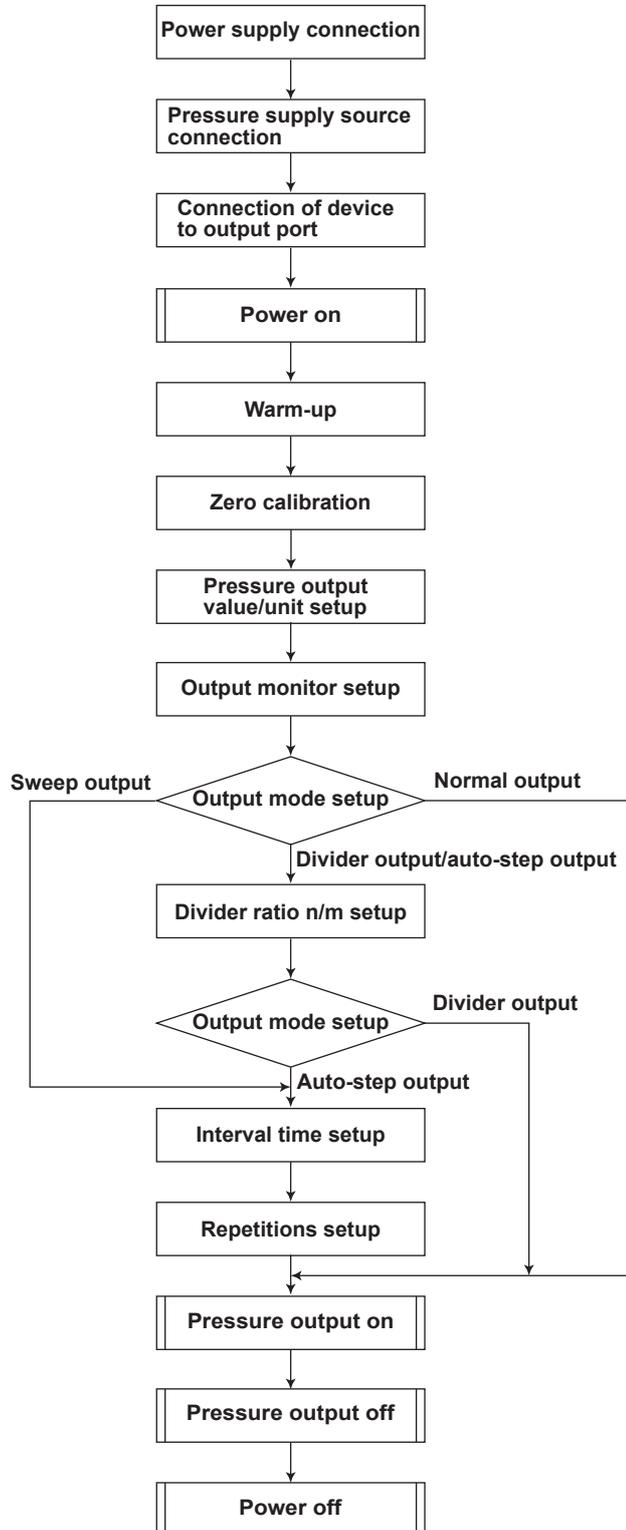
#### Sweep output

- Linearly outputs the specified lower and upper limits over an interval.
- Increase/decrease direction switchable.
- Interval time: 15 s to 600 s (resolution: 5 s)
- Repetitions: 1 or infinite (can be paused)

## 1.2 Operational Flow

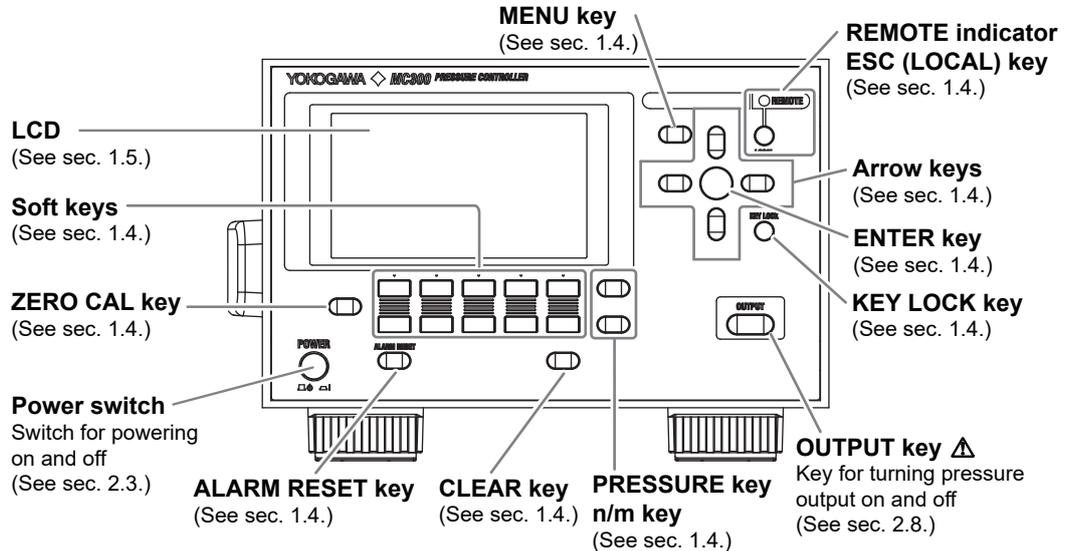
### Operational Flow

The operational flow of this instrument is as follows.

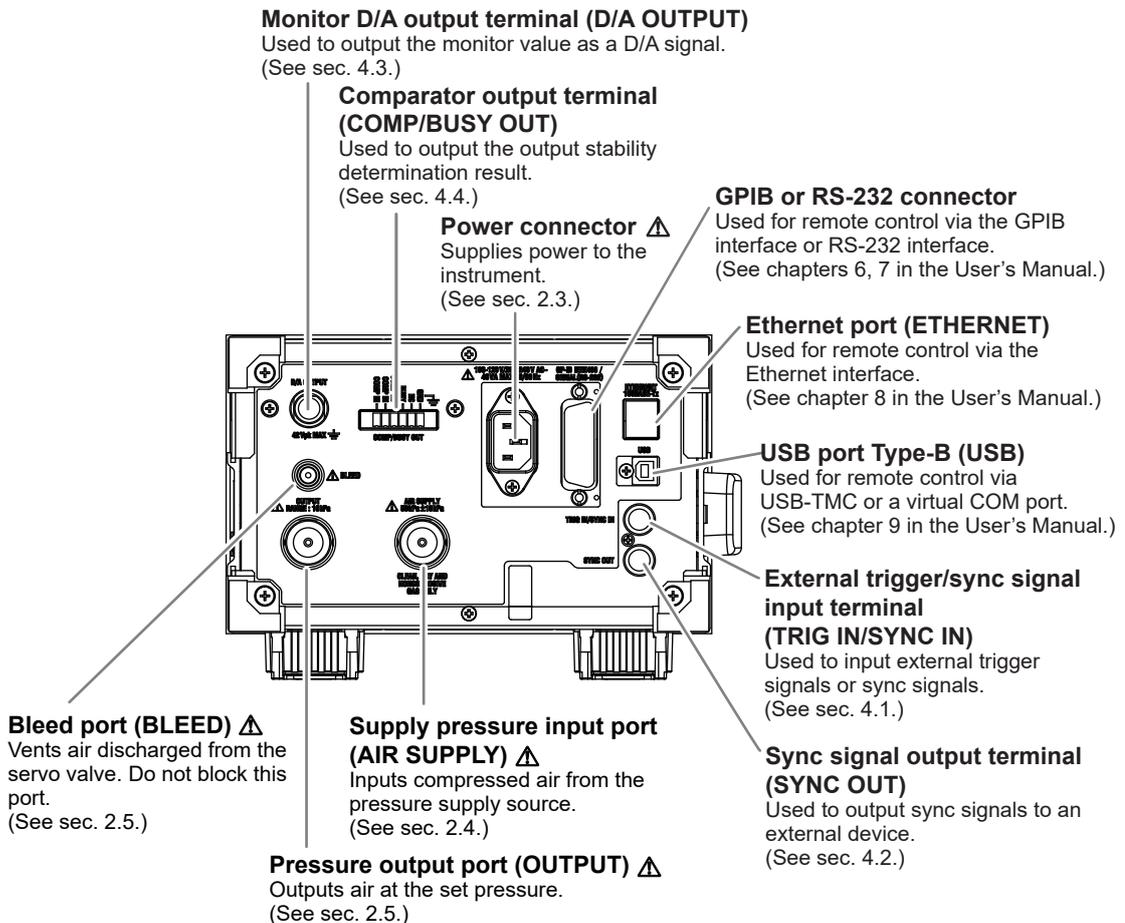


## 1.3 Instrument Panels

### Front panel



### Rear panel



## 1.4 Control Keys

### MENU key (with LED)

Used to display the menu screen. The LED is lit when this key is selected.

### Arrow keys

Press the arrow (▲, ▼, ◀, ▶) keys to change values, move between digits, and move the cursor.

### ENTER key

Used to confirm procedures and settings.

### ESC (LOCAL) key

Press this key to cancel settings, close setup menus and dialog boxes or return one level up in the menu hierarchy. Use this key also to switch from remote connection to local connection.

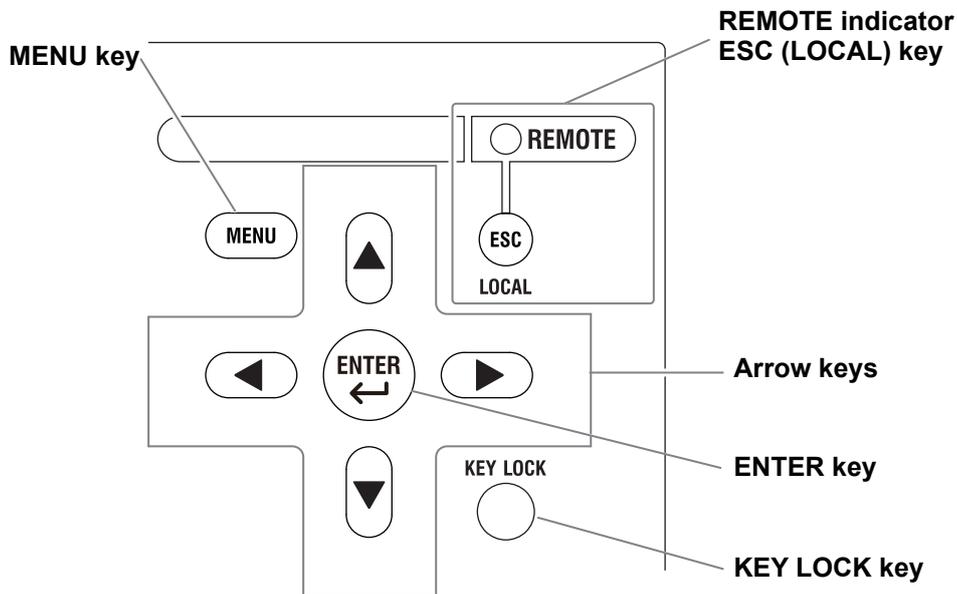
### REMOTE indicator

This indicator lights when the instrument is connected remotely.

### KEY LOCK key

Used to set the key lock function. It can be used to lock only the ZERO CAL key (Z.Lock), all keys except the KEY LOCK key and OUTPUT key (K.Lock), or all keys except the KEY LOCK key (A.Lock). When the keys are locked, the lock status is displayed on the screen.

For setting the key lock, see section 5.1 in the User's Manual.



### PRESSURE key (pressure selection key) (with LED)

Used to set the output pressure value. When this key is selected, its LED lights green, and you can set the value for each display digit using soft keys (pressure setting keys).

### n/m key (divider ratio selection key) (with LED)

Used to set the divider ratio  $n/m$  for divided output or auto-step output. When this key is selected, its LED lights green, and you can set the  $n$  (left) and  $m$  (right) values using soft keys (divider ratio setting keys).

### Soft keys (pressure/divider setting keys)

Used to set the output pressure value and divider ratio (pressure/divider setting keys). Top row keys are used to select a setting.

### CLEAR key

Sets the pressure setting to zero.

### ALARM RESET key (with LED)

Used to reset the alarm when an alarm occurs. When an alarm occurs, the LED lights red, and an error dialog is displayed on the screen. When the alarm is reset, the LED turns off.

### ZERO CAL key

Executes zero calibration of pressure. Execution is not possible when the output is turned on. For zero calibration procedures, see section 2.6.

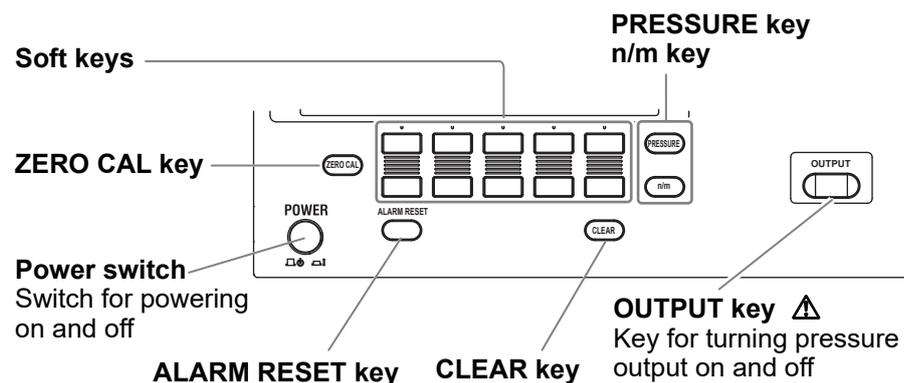
### Power switch

Used to turn the power on and off. Always turn off the power before making any connections. For details on power connection and the power switch, see section 2.3.

### OUTPUT key (with LED)

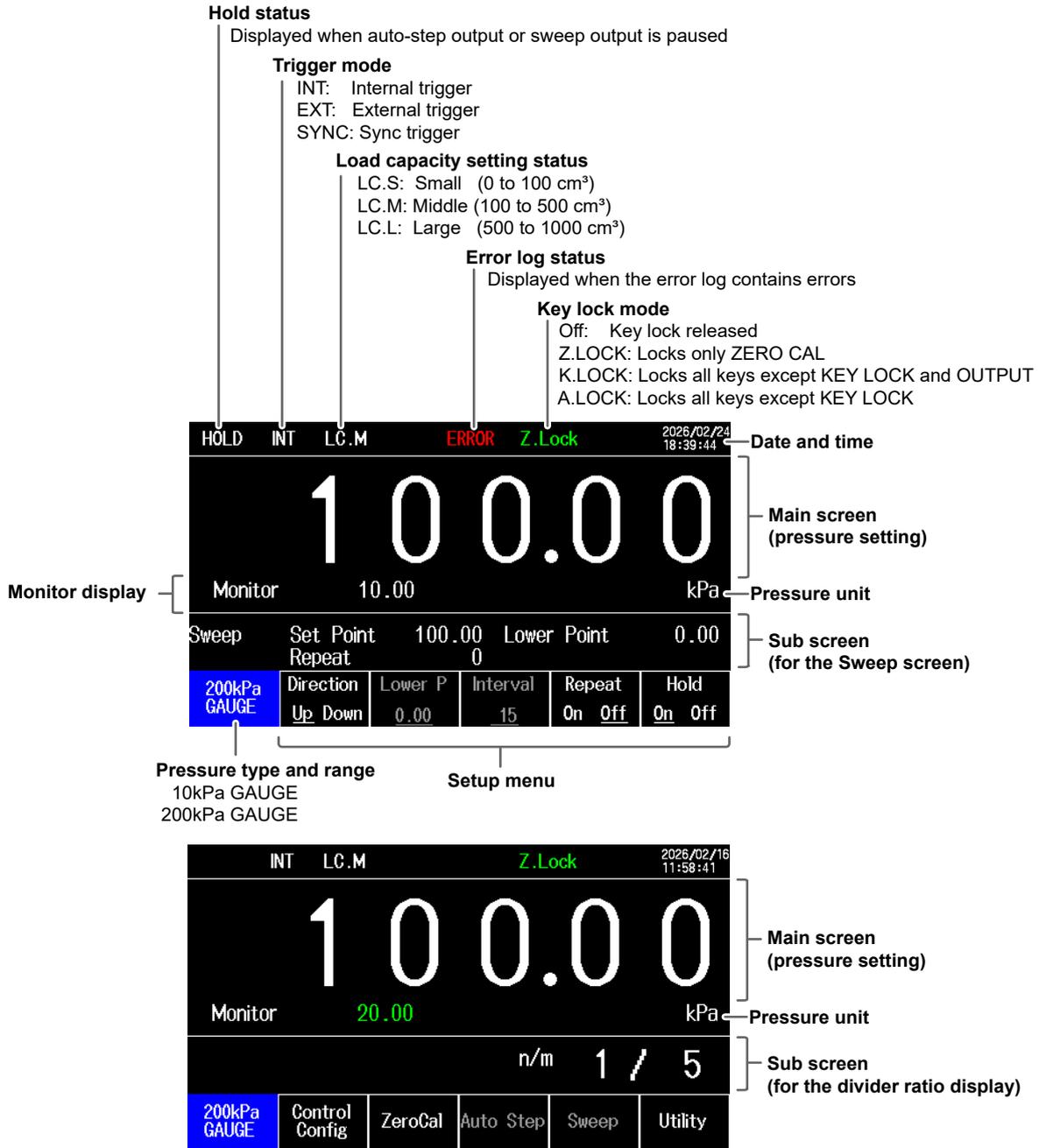
Used to turn the pressure output on and off. When the output is turned on, the LED lights and the set pressure is output from the pressure output port. When the output is turned off, the LED goes out, and output stops. When setting items, keep the output turned off.

For details on how to turn the pressure output on and off, see section 2.8.



# 1.5 Display

## Display example



## 2.1 Handling Precautions

### Safety precautions

If you are using this instrument for the first time, make sure to thoroughly read the safety precautions given on pages vii to xi.

#### Do not remove the case

Do not remove the case from the instrument. Some parts of the instrument use high voltages and are extremely dangerous. For internal inspection and adjustment, contact your nearest YOKOGAWA dealer.

#### Unplug if abnormal behavior occurs

If you notice smoke or unusual odors coming from the instrument, immediately turn off the power and unplug the power cord. Then, contact your nearest YOKOGAWA dealer.

#### Do not damage the power cord

Nothing should be placed on top of the power cord. The power cord should also be kept away from any heat sources. When removing the plug from the power outlet, do not pull on the cord. Pull from the plug. If the power cord is damaged or if you are using the instrument in a location where the power supply specifications are different, purchase a power cord that matches the specifications of the region that the instrument will be used in.

#### Operating environment and conditions

This instrument complies with the EMC standard under specific operating environment and operating conditions. If the installation, wiring, and so on are not appropriate, the compliance conditions of the EMC standard may not be met. In such cases, the user will be required to take appropriate measures.

### General handling precautions

#### Do not place objects on top of the instrument

Never place objects such as other instruments or objects that contain water on top of the instrument. Doing so may damage the instrument.

#### Do not subject the connectors to impact

Applying shock to the I/O connectors and the like, can cause electrical noise to enter the instrument through the signal lines.

#### Do not damage the LCD

Because the LCD is very vulnerable and can be easily scratched, do not allow any sharp objects near it. Also, it should not be exposed to vibrations and shocks.

#### Unplug during extended non-use

Unplug the power cord from the outlet.

#### Connecting a PC to the instrument

Before connecting a PC to the USB port, ground the PC to the same electrical potential as the instrument.

## 2.1 Handling Precautions

---

### When carrying the instrument

Turn off the instrument. Then, disconnect the cables, tubes, and power cord. When carrying, hold with both hands or hold the handle on the left side.

---

#### WARNING

- When holding or storing the handle, be careful not to get your hands caught between the handle and the case.
- When carrying the instrument, be careful not to get your hands caught between the instrument and a wall or installation surface.

---

#### French

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#### AVERTISSEMENT

- Lorsque vous tenez ou rangez la poignée, veuillez faire attention à ne pas coincer vos mains entre la poignée et le boîtier.
  - Lorsque vous transportez l'instrument, veillez à ne pas vous coincer les mains entre l'instrument et un mur ou une surface d'installation.
- 

### When cleaning the instrument

When cleaning the case or the operation panel, first remove the power cord from the outlet, and then wipe with a dry, soft, clean cloth. Do not use chemicals such as benzene or thinner. They can cause discoloring and deformation.

### Other precautions

- Keep electrically charged objects away from the input/output terminals. They may damage the internal circuitry.
- Do not cover the case or operation panel with a volatile material or leave rubber or vinyl products in contact with the case or operation panel for a long time. Doing so may cause discoloration.

## Storage precautions

### Storage location

Avoid the following kinds of places for storing the instrument:

- Where the temperature falls outside the storage temperature and humidity ranges
- In direct sunlight or near heat sources
- Where an excessive amount of soot, steam, dust, or corrosive gas is present
- Where the level of mechanical vibration is high
- On an unstable surface
- Where an excessive amount of soot, dust, salt, or iron is present

## 2.2 Appropriate Locations for Using the Instrument

### WARNING

Install the instrument so that you can immediately remove the power cord if an abnormal or dangerous condition occurs.

### French

### AVERTISSEMENT

Installez l'instrument de manière à pouvoir retirer immédiatement le cordon d'alimentation en cas de situation anormale ou dangereuse.

## Installation conditions

Install the instrument in a place that meets the following conditions.

### Flat, even surface

Install the instrument on a stable surface that is level in all directions. Pressure may not be measured correctly when the instrument is placed in an unstable or inclined place.

### Ambient temperature, ambient humidity, and altitude at the location of use

Use the instrument in the following environment.

Ambient temperature	5 °C to 40 °C
Ambient humidity	20 % RH to 80 % RH, no condensation
Operating altitude	2000 m or less

### Note

- To ensure accurate pressure output, operate the instrument within 23 °C ± 3 °C.
- When using the instrument in a place where the ambient humidity is 30 % or less, take measures to prevent static electricity such as using an anti-static mat.
- Condensation may occur if the instrument is moved to another place where the ambient temperature or humidity is higher, or if the temperature changes rapidly. In such cases, allow the instrument to adjust to the new environment for at least an hour before using the instrument.

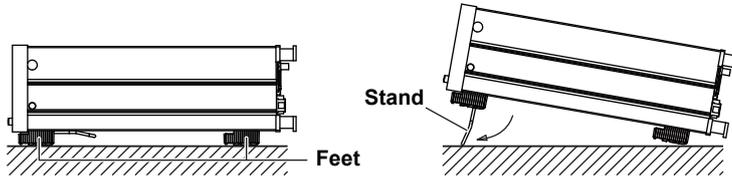
## Do not install the instrument in the following places:

- Outdoors
- In direct sunlight or near heat sources
- Where the instrument is exposed to water or other liquids
- Where an excessive amount of soot, steam, dust, or corrosive gas is present
- Near strong electromagnetic field sources
- Near noise sources, such as high-voltage equipment or power lines
- Where the level of mechanical vibration is high
- On an unstable surface
- In an environment where ignition or explosion may occur, such as in explosive gas

### Installation orientation

#### Desktop

Install the instrument horizontally or using a stand. After installation, be sure to perform a zero calibration according to section 2.6.



---

#### WARNING

- Do not place the instrument in any position other than those shown in the above figures.
- Place the instrument on a stable surface before operating the stand. Do not operate the stand while the instrument is tilted. Operating the stand while the instrument is unstable may be dangerous.
- When storing the stand, be careful not to get your hands caught.

---

#### CAUTION

Do not apply excessive force or impact to the stand. Doing so may damage the stand support.

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#### French

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#### AVERTISSEMENT

- Ne placez pas l'instrument dans une position autre que celles indiquées dans les figures ci-dessus.
- Placez l'instrument sur une surface stable avant d'utiliser le support. N'utilisez pas le support lorsque l'instrument est incliné. L'utilisation du support lorsque l'instrument est instable peut être dangereuse.
- Lors du rangement du support, veillez à ne pas vous coincer les mains.

---

#### ATTENTION

N'appliquez pas de force excessive ou d'impact sur le support. Cela pourrait endommager le support.

#### Rubber stoppers

The supplied rubber stoppers can be attached to the rear feet at the bottom of the instrument to prevent the instrument from sliding. One set of rubber stoppers (two stoppers) are included in the package.

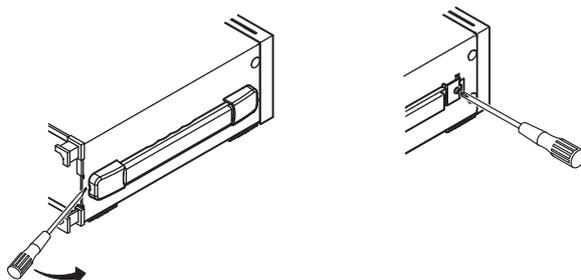
## Rack mounting

To mount the instrument on a rack, use a rack mount kit (sold separately).

Item	Models	Notes
Rack mount kit	751533-E3	For EIA single mount
	751534-E3	For EIA dual mount
	751533-J3	For JIS single mount
	751534-J3	For JIS dual mount

An outline of the mounting procedure is given below. For detailed instructions, see the manual that is included with the rack mount kit.

1. Remove the handles from the left side of the instrument.



2. Remove the four feet from the bottom of the instrument.
3. Remove the two plastic rivets and the two seals covering the rack mount attachment holes on each side of the instrument near the front.
4. Place seals over the feet and handle attachment holes.
5. Attach the rack mount kit to the instrument.
6. Mount the instrument on a rack.

### Note

- Make sure to provide adequate support from the bottom.
- Store the removed parts in a safe place.
- When rack-mounting the instrument, remove the feet from the rear of the instrument if they are coming into contact with the rack and are thus preventing you from rack-mounting the instrument. After you have rack-mounted the instrument, re-attach the feet to the rear of the instrument.
- The pressure port and the like protrude from the rear panel. Make sure you do not hit it against the rack when mounting the instrument.

---

## 2.3 Connecting the Power Supply and Turning the Power Switch On and Off

### Before connecting the power supply

Make sure to follow the warnings below when connecting the power supply. Failure to do so may cause electric shock or damage to the instrument.



---

#### WARNING

- After confirming that the supply voltage for this instrument matches the instrument's rated power supply voltage and does not exceed the maximum rated voltage of the power cord to be used, connect the power cord.
- Connect the power cord after checking that the power switch of the instrument is turned OFF.
- To prevent electric shock and fire, use the power cord for this instrument.
- To prevent electric shock, make sure to connect the instrument to a protective ground (earth). Connect the instrument's power cord to a properly grounded three-prong outlet.
- Do not use an ungrounded extension cord. Doing so may disable the protection function of the instrument.
- If there is no AC outlet that is compatible with the power cord that you will be using and you cannot ground the instrument, do not use the instrument.

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#### French



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#### AVERTISSEMENT

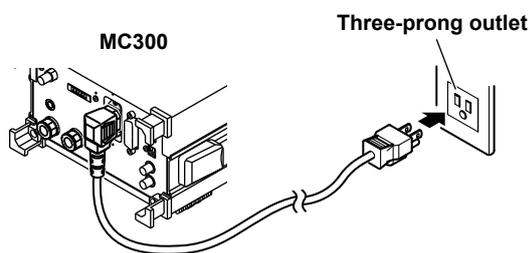
- Après avoir vérifié que la tension d'alimentation de cet instrument correspond à la tension d'alimentation nominale de l'instrument et ne dépasse pas la tension nominale maximale du cordon d'alimentation utilisé, branchez le cordon d'alimentation.
  - Connectez le cordon d'alimentation après avoir vérifié que l'interrupteur d'alimentation de l'instrument est éteint.
  - Pour éviter tout risque d'électrocution et d'incendie, utilisez le cordon d'alimentation de cet instrument.
  - Pour éviter tout risque d'électrocution, assurez-vous de connecter l'instrument à une prise de terre. Branchez le cordon d'alimentation de l'instrument à une prise de courant triphasée correctement mise à la terre.
  - N'utilisez pas de rallonge non mise à la terre. Cela pourrait désactiver la fonction de protection de l'instrument.
  - Si aucune prise secteur n'est compatible avec le cordon d'alimentation que vous comptez utiliser et que vous ne pouvez pas mettre l'instrument à la terre, veuillez ne pas l'utiliser.
-

## Connecting the Power Cord

1. Check that the power is turned off and that cables are not connected.
2. Connect the power cord plug to the power inlet on the rear panel.
3. Connect the other end of the cord to an outlet that meets the following conditions. Connect the power plug to a properly grounded three-prong outlet.

Item	
Rated supply voltage*	100 VAC to 120 VAC, 200 VAC to 240 VAC
Permitted supply voltage range	90 VAC to 132 VAC, 180 VAC to 264 VAC
Rated power frequency	50 Hz/60 Hz
Permitted supply frequency range	47 Hz to 63 Hz
Power consumption	30 VA MAX (100 V AC system), 40 VA MAX(200 V AC system)

\* This instrument can use a 100 V or a 200 V power supply. The maximum voltage rating differs according to the type of power cord.



## Before turning the power switch on

Before turning the power switch on, check that:

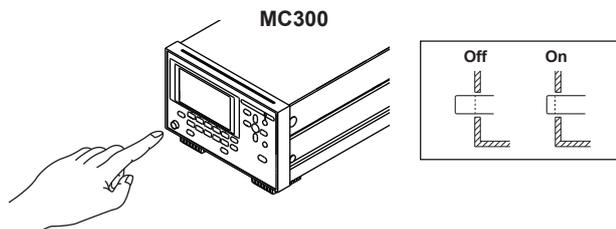
- The instrument is installed properly (see section 2.2).
- The power cord is connected properly.

## Power switch location

The POWER switch is located in the lower left of the front panel.

## Turning the power switch on and off

The power switch is a push button. Press the button once to turn the instrument on and press it again to turn the instrument off.



### Operations performed when the power is turned on

When the power switch is turned on, a self-test starts automatically. Before using the instrument, make sure that the self-test has completed successfully.

If an error message appears after you turn the power switch on, see section 5.2.

#### **Note**

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- It may take a few seconds for the startup screen to appear.
  - After turning the power off, wait at least 10 seconds before you turn it on again.
- 

### When the power-on operation does not start normally

Turn off the power switch, and check the following items.

- Check that the power cord is securely connected.
- Check that the correct supply voltage is provided at the power outlet.

If the situation does not change even after checking these items, contact your nearest YOKOGAWA.

### To ensure accurate pressure output

Warm up the instrument for at least 5 minutes after turning the power on.

## 2.4 Connecting the Pressure Supply Source



### WARNING

- Do not use pressure supply sources that contain liquid, or flammable, explosive, toxic, or corrosive gases, or gases at high temperatures (50 °C or higher). Doing so may pose a hazard to personnel or surrounding equipment.
- Before supplying pressure to the instrument, ensure that the tubing is properly installed. If the tubing is not properly installed, air leakage may cause injury or damage to the instrument.
- When removing the tubing, fully release the pressure to prevent the discharge of compressed air.



### CAUTION

- Supply clean, dry air to this instrument. Do not use liquids, highly humid air, or air containing a large amount of oil.
- Use a pressure supply source that has minimal pressure fluctuations and is sufficiently stable.
- Use a pressure regulator with a filter or a pressure regulator and filter combination.
- Do not apply pressure exceeding the allowable limit to the supply pressure input port. Also, do not connect the supply pressure to the pressure output port. Either may damage the instrument. The allowable supply pressure is as follows:
  - G01 (10 kPa range): 100 kPa gauge
  - G03 (200 kPa range): 500 kPa gauge
- When connecting the connector, tightening it by applying a wrench only to the connector side may damage the internal components of the instrument. Be sure to apply a wrench to the wrench flats on the input/output port as well, and tighten using two wrenches.

### French



#### **AVERTISSEMENT**

- N'utilisez pas de sources d'alimentation sous pression contenant des liquides, des gaz inflammables, explosifs, toxiques ou corrosifs, ou des gaz à haute température (50 °C ou plus). Cela pourrait présenter un danger pour le personnel ou les équipements environnants.
- Avant de fournir de la pression à l'instrument, assurez-vous que la tubulure est correctement installée. Si la tubulure n'est pas correctement installée, une fuite d'air peut causer des blessures ou endommager l'instrument.
- Lors du démontage de la tubulure, relâchez complètement la pression pour éviter le rejet d'air comprimé.

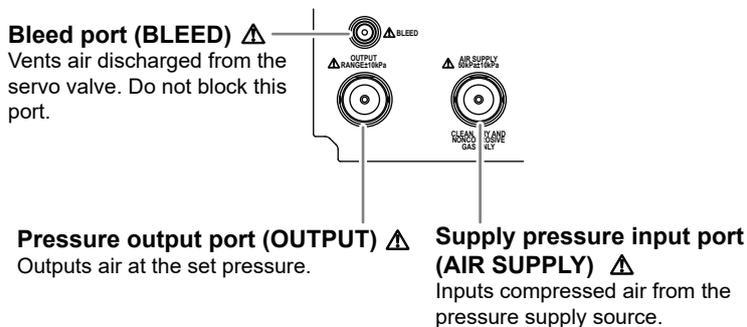


#### **ATTENTION**

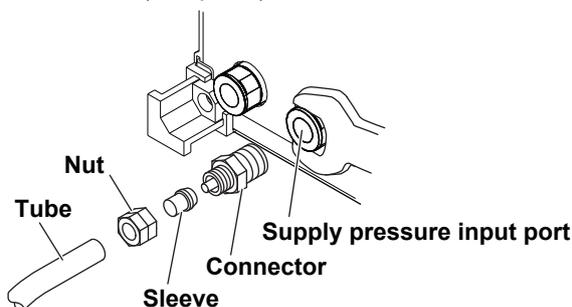
- Alimentez cet instrument en air propre et sec. N'utilisez pas de liquides, d'air très humide ni d'air contenant une grande quantité d'huile.
- Utilisez une source d'alimentation en pression présentant des fluctuations minimales et suffisamment stable.
- Utilisez un régulateur de pression avec filtre ou une combinaison régulateur de pression et filtre.
- N'appliquez pas de pression supérieure à la limite autorisée sur le port d'entrée de pression d'alimentation. Veuillez également éviter de raccorder l'alimentation en pression au port de sortie de pression. L'un ou l'autre pourrait endommager l'instrument. La pression d'alimentation admissible est la suivante :
  - G01 (plage de 10 kPa): manomètre 100 kPa
  - G03 (plage de 200 kPa): manomètre 500 kPa
- Lors du raccordement du connecteur, le serrage à l'aide d'une clé uniquement sur le côté du connecteur peut endommager les composants internes de l'instrument. Veuillez également à appliquer une clé sur les méplats du port d'entrée/sortie et à serrer à l'aide de deux clés.

## Procedure

Connect the air supply source that provides pressure to the instrument. The connector on the instrument's supply pressure input port is an Rc 1/4 female thread (connection option -P1) or a 1/4 NPT female thread (connection option -P2).



1. Confirm that the power is off.
2. Confirm that the pressure output port is open.
3. Wrap the supplied connector with sealing tape.
4. Using two wrenches, attach the connector to the supply pressure input port on the rear of the instrument (rear panel).



5. Through a pressure regulator with a filter, securely connect the pressure supply source to the connector attached in step 4 using tubing.
6. Gradually open the pressure regulator, and set the supply air pressure to the following value.
  - G01 (10 kPa range): 50 kPa  $\pm$  10 kPa gauge
  - G03 (200 kPa range): 280 kPa  $\pm$  20 kPa gauge

## Explanation

### Supply pressure input port (AIR SUPPLY)

	Connection type -P1	Connection type -P2
Supply pressure input port/ supplied connector (tube side)	Rc 1/4 female-thread	1/4 NPT female-thread

The specifications of the supply pressure input port are the same as those of the pressure output port.

### Supply pressure range and allowable supply pressure

	-G01 model (10 kPa range)	-G03 model (200 kPa range)
Supply pressure range	50 kPa $\pm$ 10 kPa gauge	280 kPa $\pm$ 20 kPa gauge
Allowable supply pressure	100 kPa gauge	500 kPa gauge

---

## 2.5 Connecting the Device to the Output Port

---



### WARNING

- Before outputting pressure from the instrument, ensure that the tubing is properly installed. If the tubing is not properly installed, air leakage may cause injury or damage to the instrument.
  - After use, fully release the pressure before disconnecting the tubing to prevent compressed air from being discharged.
- 



### CAUTION

- When connecting the connector, tightening it by applying a wrench only to the connector side may damage the internal components of the instrument. Be sure to apply a wrench to the wrench flats on the input/output port as well, and tighten using two wrenches.
  - Securely connect the tubing to prevent air leakage.
  - Air discharged from the servo valve is released through the bleed port (BLEED) on the rear panel of the instrument. Do not block this port.
- 

#### French



### AVERTISSEMENT

- Avant de générer de la pression à partir de l'instrument, assurez-vous que la tubulure est correctement installée. Si la tubulure n'est pas correctement installée, une fuite d'air peut causer des blessures ou endommager l'instrument.
  - Après utilisation, relâchez complètement la pression avant de débrancher la tubulure pour éviter le rejet d'air comprimé.
- 

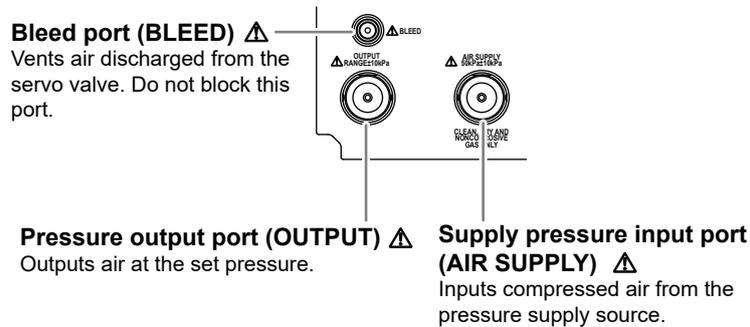


### ATTENTION

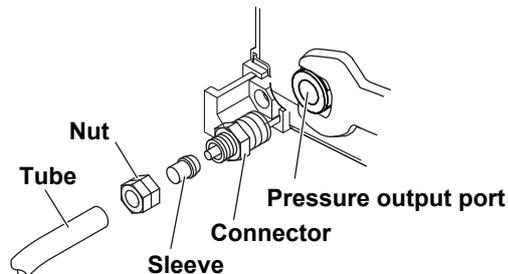
- Lors du raccordement du connecteur, le serrage à l'aide d'une clé uniquement sur le côté du connecteur peut endommager les composants internes de l'instrument. Veillez également à appliquer une clé sur les méplats du port d'entrée/sortie et à serrer à l'aide de deux clés.
  - Raccordez solidement la tubulure pour éviter les fuites d'air.
  - L'air évacué de la servovalve est libéré par l'orifice de purge (BLEED) situé sur le panneau arrière de l'instrument. Ne bloquez pas cet orifice.
-

## Procedure

Connect the device to the instrument's output port. The connector on the instrument's pressure output port is an Rc 1/4 female-thread (connection type -P1) or a 1/4 NPT female thread (connection type -P2) (the same as the supply pressure input port).



1. Wrap the supplied connector with sealing tape.
2. Using two wrenches, attach the connector to the pressure output port on the rear of the instrument (rear panel).



3. Securely connect the device to the connector attached in step 2 using tubing.

## Explanation

### Pressure output port (OUTPUT)

	Connection type -P1	Connection type -P2
Pressure output port/ supplied connector (tube side)	Rc 1/4 female-thread	1/4 NPT female-thread

The specifications of the pressure output port are the same as those of the supply pressure input port.

### Volume of the connected device

The volume of the connected device beyond the pressure output port is called load capacity. You can set the load capacity as a guideline for your operating conditions. Setting the load capacity appropriate for your operating conditions can improve the responsiveness of the pressure output.

For instructions on how to set, see section 2.3 in the User's Manual.

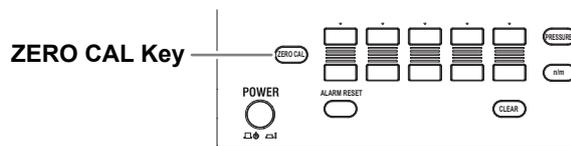
Setting	Load capacity as a guideline
Small	0 to 100 cm <sup>3</sup>
Middle	100 to 500 cm <sup>3</sup>
Large	500 to 1000 cm <sup>3</sup>

## 2.6 Zero Calibration

Be sure to perform zero calibration (zero CAL) before outputting pressure. Also, if the operating environment changes while pressure is being output continuously, or if you change the instrument's orientation, perform zero calibration again.

### Procedure

1. Turn the power on and allow a warm-up time of at least five minutes with the **OUTPUT** key left off.
2. Vent the pressure output port to the atmosphere, or if tubing is connected, check that there is no pressure remaining in the tubing.
3. With the **OUTPUT** key left off, press **ZERO CAL**. Zero calibration is performed.



### Explanation

#### Zero Calibration (Zero CAL)

Zero calibration corrects the influence caused by changes in the temperature and installation environment in order to perform highly accurate pressure output.

#### Executing zero calibration from the menu

You can also run zero calibration from the screen menu.

1. Press **MENU** to display the menu screen. Press the **ZeroCal** soft key.



2. The ZeroCal menu appears. Press the **Exec** soft key to run zero calibration.



#### Zero calibration history and initialization

You can view the history of zero calibration values and initialize the zero calibration values. See section 3.5 for details.

#### Note

- Zero calibration remains effective even if you change the unit.
- Perform zero calibration after the warm-up period has elapsed.
- Perform zero calibration each time you change the instrument's orientation during use.
- The zero calibration value cannot be reset to its default by initializing the instrument settings or by using the \*RST communication command.

For details on initializing the instrument settings, see section 3.4.

---

## 2.7 Setting the Output Method and Parameters

To output pressure, configure the following items, such as the pressure output value and unit, output method, and related parameters.

For operating procedures, see the User's Manual (IM MC300-01EN).

- Display unit
  - Pressure output value
  - Output method (normal output, divider output, auto-step output, sweep output, and their settings)
  - Load capacity
  - Output monitor (D/A output, comparator output, trigger, and their settings)
- etc.

## 2.8 Turning Pressure Output On and Off



### WARNING

Before outputting pressure from the instrument, ensure that the tubing is properly installed. If the tubing is not properly installed, air leakage may cause injury or damage to the instrument.

### French

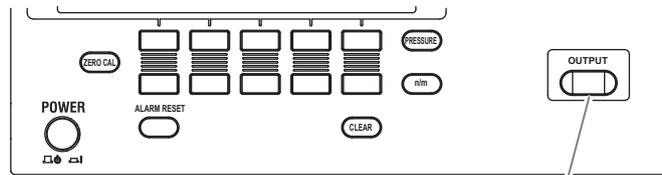


### AVERTISSEMENT

Avant de générer de la pression à partir de l'instrument, assurez-vous que la tubulure est correctement installée. Si la tubulure n'est pas correctement installée, une fuite d'air peut causer des blessures ou endommager l'instrument.

### Procedure

1. Press **OUTPUT**.  
The **OUTPUT** LED lights, and air at the set pressure is output from the pressure output port.
2. To stop the output while pressure is being output, press **OUTPUT** again. The **OUTPUT** LED turns off.



**Output Key** ⚠  
Key to turn the pressure output on/off

### Explanation

#### Turning pressure output on

After you have completed the settings for pressure output, turn the output on when you want to output air at the set pressure to the connected device.

#### Turning pressure output off

Turn the output off when you want to stop pressure output.

#### Pressure output setting range

	-G01 model (10 kPa range)	-G03 model (200 kPa range)
Output setting range	-0.12 kPa to 12 kPa	-2.4 kPa to 240 kPa

#### When not in use

When not using the pressure output, always turn the output off.

#### Note

- Turn the pressure output off when performing zero calibration.
- Turn the pressure output off while configuring the settings for pressure output.

# 3.1 Key Operation and Function

## How to operate menu items

Depending on the menu item on each menu screen, what happens when you press a key differs as described in A to G.

### Control Config (1/2) menu

Trigger	IntegTime	Load Cap	Monitor	Next
INT	1500ms	Small	Off	1/2
A	B	B	A	C

### Control Config (2/2) menu

Unit	D/A	Zero Set	Auto Hold	Next
kPa	Off	On Off	On Off	2/2
B	A	D	D	C

### Monitor menu

Monitor	Deviation
Off Pressure Percent	1.00
E	F

### ZeroCal menu

History	Initialize Exec	Exec
A	G	G

- A:** When you press the corresponding soft key, the related setting menu or dialog box appears (such as the Auto Step menu, Sweep menu, Trigger menu, and D/A menu).
- B:** When you press the corresponding soft key, a selection menu appears. Press the soft key corresponding to each option to set it.
- C:** This appears when a setting menu or selection menu has multiple pages. When you press the corresponding soft key, the next page of the menu appears.
- D:** Each time you press the corresponding soft key, the setting toggles.
- E:** When you press the soft key corresponding to an option, that selection is set.
- F:** When you press the corresponding soft key, a numeric input box appears.
- G:** When you press the corresponding soft key, the displayed operation is executed.

## ESC key operation

When a setting menu or options are displayed, pressing **ESC** returns you to the menu one level up.

## How to operate lists

Use the arrow (▲ and ▼) keys to move the cursor to the item you want to select. Press **ESC** to return to the menu one level up.

Code	Message	
113	Undefined header . OUTP:ST	2026/02/24 15:12:08
109	Missing parameter . SOURCE:PRESSURE:FUNCTION	2026/02/24 15:12:09
Clear		

## 3.2 Entering Values and Strings

### Procedure

#### Entering values

Use the arrow keys to input values.

1. Use the arrow (◀ and ▶) keys to move to the input position.
2. Use the arrow (▲ and ▼) keys to input values.

**When you enter or change a value, Enter appears.**



3. Press **ENTER**. The value is confirmed, and the display returns to the previous menu.

#### Entering character strings

Use the arrow keys to input character strings.

1. Use the arrow (▲ and ▼) keys to input characters.

When you press the up (▲) key, a character appears at the input position in the following order.  
When you press the down (▼) key, the order is reversed.

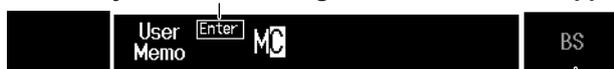
**Characters that can be entered and their display order**

a to z, A to Z, 0 to 9, /, @, -, blank



2. Use the arrow (◀ and ▶) keys to move to the input position.

**When you enter or change a character, Enter appears.**



Deletes the last character

3. Press **ENTER**. The character string is confirmed, and the display returns to the previous menu.

#### Note

@ cannot be entered consecutively.

## 3.3 Setting the Date and Time

### Procedure

To set the clock:

1. Press **MENU** to display the menu screen. Press the **Utility** soft key and then the **Next 1/3** soft key.

	Control Config	ZeroCal	Auto Step	Sweep	Utility
--	-------------------	---------	-----------	-------	---------

2. Press the **Time Adjust** soft key.

	Beep On Off		Overview	Time Adjust	Next 2/3
--	----------------	--	----------	----------------	-------------

3. Use the arrow (**▲**, **▼**, **◀**, and **▶**) keys to enter the date and time, and then press **ENTER**.  
The settings are confirmed, and the display returns to the previous menu.

	Time Adjust	2026/02/09 16:03:02
--	----------------	---------------------

## 3.4 Initializing Settings

### Procedure

To reset the settings to their factory default:

1. Press **MENU** to display the menu screen. Press the **Utility** soft key.

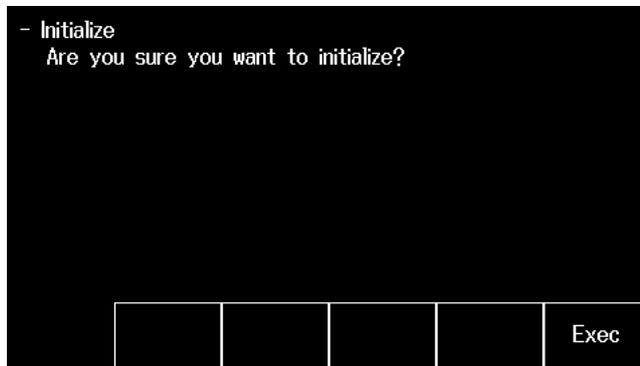


2. Press the **Initialize** soft key.



3. Press the **Exec** soft key to initialize the settings.

Press **ESC** to return to the previous screen.



### Explanation

You can reset various settings to their factory default values. This is useful when you want to cancel the settings you have made or reconfigure the instrument from scratch.

For the items that are initialized and their default values, see appendix 1.

## 3.5 Initializing the Zero Calibration Value

### Procedure

To initialize the zero calibration value:

1. Press **MENU** to display the menu screen. Press the **ZeroCal** soft key.

	Control Config	ZeroCal	Auto Step	Sweep	Utility
--	-------------------	---------	-----------	-------	---------

2. Press the **Initialize Exec** soft key. Zero calibration value initialization is executed.

	History			Initialize Exec	Exec
--	---------	--	--	--------------------	------

### Note

If you press the History soft key in step 2, you can view the zero calibration history. You can check the zero calibration date and the zero calibration value. For details on the zero calibration history, see section 5.2 in the User's Manual.

DATE	VALUE(kPa)	METHOD
2019/02/07 14:00:00	0.1300	Exec
2019/03/09 14:01:00	0.0000	Initialize
2019/04/11 14:02:00	0.1500	Exec
2019/05/13 14:03:00	0.1300	Exec
2019/06/15 14:04:00	0.1800	Exec
2019/07/17 14:05:00	0.0000	Initialize
2019/08/19 14:06:00	0.1900	Exec

	History			Initialize Exec	Exec
--	---------	--	--	--------------------	------

### Explanation

#### Zero calibration value (Zero CAL value)

The instrument saves as the zero calibration value the correction value obtained either when zero calibration is performed or when a zero calibration communication command is received. Each time zero calibration is performed, the zero calibration value is overwritten.

#### Initializing the zero calibration value (Zero CAL value)

This function resets the zero calibration value to its default (0 kPa).



## 4.1 External Trigger/Sync Signal Input (TRIG IN/ SYNC IN)

### CAUTION

Input only signals that meet the following specifications. Excessive voltage or the like may damage the instrument.

### French

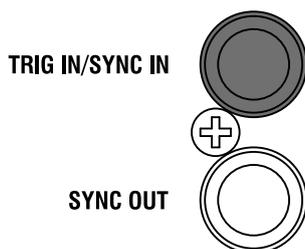
### ATTENTION

N'entrez que des signaux conformes aux spécifications suivantes. Une tension excessive ou un phénomène similaire peut endommager l'instrument.

### External trigger/sync signal input terminal (TRIG IN/SYNC IN)

Use for the following purposes:

- When using an auxiliary signal as the trigger source for the output monitor function.
- When inputting a sync signal to synchronize up to four MC300s and MT300s.



Item	Specification
Input level	HIGH: 2.5 V or more, LOW: 0.8 V or less
Input range	-0.3 V to 5.5 V
Effective input edge	Falling
Trigger signal pulse width	≥ 10 ms
Terminal	BNC terminal

### Note

- For the minimum trigger input interval, see section 3.7 in the User's Manual.
- This function is for pressure monitoring, not for pressure control.

## 4.2 Sync Signal Output (SYNC OUT)

### CAUTION

Do not short the sync signal output terminal (SYNC OUT) or apply voltage from an external source. Doing so may damage the instrument.

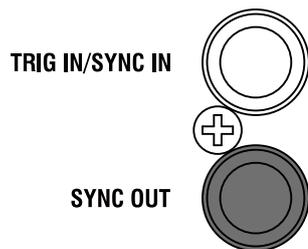
### French

### ATTENTION

Ne court-circuitiez pas la borne de sortie du signal de synchronisation (SYNC OUT) et n'appliquez pas de tension provenant d'une source externe. Cela pourrait endommager l'instrument.

### Sync signal output terminal (SYNC OUT)

Outputs a signal when the output monitor function is triggered.



Item	Specification
Output level	HIGH: 3.5 V or more, LOW: 0.45 V or less
Output range	-0.3 V to 5.5 V
Terminal	BNC terminal

### Note

This function is for pressure monitoring, not for pressure control.

## 4.3 Monitor D/A output (D/A OUTPUT)

### CAUTION

Do not short the monitor D/A output terminal (D/A OUTPUT) or apply voltage from an external source. Doing so may damage the instrument.

### French

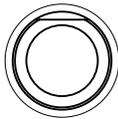
### ATTENTION

Ne court-circuitez pas la borne de sortie D/A du moniteur (D/A OUTPUT) et n'appliquez pas de tension provenant d'une source externe. Cela pourrait endommager l'instrument.

### Monitor D/A output terminal (D/A OUTPUT)

Converts the output pressure measured by the pressure controller sensor to a voltage value by D/A conversion and outputs it.

#### D/A OUTPUT



Item	Specification
Output range	2 V DC range, 5 V DC range
Output update interval	Approx. 2 ms
Terminal	BNC terminal

#### Note

For details on the monitor D/A output, see section 3.4 in the User's Manual.

## 4.4 Comparator Output (COMP/BUSY OUT)

### CAUTION

Do not short the comparator output terminal (COMP/BUSY OUT) or apply voltage from an external source. Doing so may damage the instrument.

### French

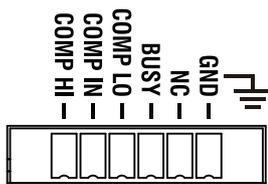
### ATTENTION

Ne court-circuitez pas la borne de sortie du comparateur (COMP/BUSY OUT) et n'appliquez pas de tension provenant d'une source externe. Cela pourrait endommager l'instrument.

### Comparator output terminal (COMP/BUSY OUT)

Compares the monitored output pressure value with the set reference value and outputs a signal according to the comparison result.

When the output pressure is stable within the reference value range, COMP IN becomes HIGH.



COMP/BUSY OUT

Item	Specification
Output signal	HI/IN/LO, BUSY
Output level	HIGH: 3.5 V or more, LOW: 0.45 V or less
Output range	-0.3 V to +5.5 V
Terminal	Detachable terminal block

### Note

For details on the comparator output, see section 3.6 in the User's Manual.

## 5.1 If a Problem Occurs

### Faults and corrective actions

- If an error code is displayed on the screen, see section 5.2.
- If the software does not operate properly even after you have attempted to deal with the problem according to the instructions in this section, contact your nearest YOKOGAWA dealer.

Problems and solutions	Reference
The instrument does not turn on.	
Securely connect the power cord to the instrument and to the power outlet.	Section 2.3
Set the supply voltage and frequency to within the permitted range.	Section 2.3
The display is odd.	
Confirm that the ambient temperature and humidity are within their specified ranges.	Section 2.2
Connect the connectors securely.	Section 2.5
Turn the power off and then on again.	Section 2.3
Keys do not work.	
Check the REMOTE indicator. If the REMOTE indicator is lit, press LOCAL to turn it off.	Section 1.4
Confirm that keys are not locked.	Section 1.4
The pressure output value is abnormal. The pressure is not output.	
Confirm that the ambient temperature and humidity are within their specified ranges.	Section 2.2
After turning the power on, wait at least 5 minutes to allow the instrument to warm up.	Section 2.3
Check that the connectors are connected properly.	Sections 2.4, 2.5
Check that connection plugs are not loose.	Sections 2.4, 2.5
Perform a zero calibration.	Section 2.6
Unable to configure or control the instrument through the communication interface.	
GP-IB communication	Section 6.3*
Confirm that the GP-IB address setting matches the specifications.	
RS-232 communication	Section 7.3*
Confirm that the RS-232 setting matches the specifications. Check the port number used in the program and the PC's port number.	
Ethernet communication	Section 8.3*
Confirm that the TCP/IP settings match the specifications.	
USB CDC communication	Section 9.3*
Check the port number used in the program and the PC's port number.	
USB TMC communication and Ethernet communication	Sections 6.3, 7.3, 8.3, 9.3 *
Confirm that the command type is set to Nrm.	
Confirm that the interface meets the electrical and mechanical specifications.	Sections 6.1, 7.1, 8.1, 9.1 *

\* Reference sections are in the User's Manual (IM MC300-01EN).

## 5.2 Error Code Details and Corrective Actions

This section describes the details of error codes (information, warnings, and error messages) and the corresponding corrective actions. If servicing is required, contact your nearest YOKOGAWA dealer.

### Error code notification methods

Error code details are notified to the user in the following two ways:

#### Display

Displayed on the screen unconditionally when an event occurs.

#### History (error log)

Stored as error history. You can view it in the error log display under the UTILITY menu or by using the communication command :STATus:ERRor?.

### Error code classification and notification

Error code classifications and their notification methods are as follows:

Code	Description	History	Display
001 to 049	Information and warnings	No	Yes
050	Information and warnings (communication)	Yes	No
051 to 099	Instrument execution error	No	Yes
100 to 199	Communication syntax error	Yes	No
200 to 299	Communication execution error	Yes	No
301 to 398	Instrument-specific error (other)	Yes	No
300, 399	System error (communication)	Yes	No
400 to 499	Communication query error	Yes	No
800 to 899	Execution error	Yes	No
900 to 919	Emergency instrument error (exception handling error)	No	Yes
920 to 999	Power-on and self-test errors	Operation	No
		Communication	Yes

### Emergency instrument errors (900 to 919)

If any of the following error message is displayed, a continuous beep sounds. Turn the power off immediately. Servicing is required. Contact your nearest YOKOGAWA dealer.

Code	Message	Cause, Corrective Action
904	Internal Power is abnormal. Maintenance service is required.	Servicing is required.

## Power-on and self-test errors (920 to 999)

If any of the following error messages is displayed at power-on or during a self-test, servicing is required. If it occurs at power-on, a beep sounds (when the beep setting is ON).

Code	Message	Cause, Corrective Action
920	CPU board error.	Servicing is required.
921	CPU board error.	Servicing is required.
922	CPU board error.	Servicing is required.
923	CPU board error.	Servicing is required.
924	CPU board error.	Servicing is required.
950	Hardware error detected in GP-IB interface section.	If this display persists, servicing is required.
951	Hardware error detected in RS-232 interface section.	If this display persists, servicing is required.
952	Internal lithium battery failure.	Servicing is required.
953	Error detected in zero calibration value or zero calibration history.	The zero CAL value is set to its default value. Servicing is required.
955	Error detected in D/A adjustment value or calibration date.	Servicing is required.
956	Error detected in the adjustment value of pressure sensor unit or the calibration date.	Servicing is required.
957	Error detected in the adjustment value of pressure calculation unit or the calibration date.	Servicing is required.
958	Failed to detect pressure sensor.	Servicing is required.
959	Hardware error detected in the pressure measurement section.	Servicing is required.

### Information and warning messages (001 to 049)

If any of the following error messages persists, servicing is required.

Code	Message	Cause, corrective action
038	Hardware error detected in the pressure measurement section.	If this display persists, servicing is required. (Communication error)
040	Hardware error detected in the pressure generate section.	If this display persists, servicing is required. (OT sensor not connected error)
041	Hardware error detected in GP-IB interface section.	If this display persists, servicing is required.
042	Hardware error detected in RS-232 interface section.	If this display persists, servicing is required.
043	Hardware error detected in the driving section of pressure output.	If this display persists, servicing is required. (Motor overcurrent, positive polarity)
044	Hardware error detected in the driving section of pressure output.	If this display persists, servicing is required. (Motor overcurrent, negative polarity)
045	Hardware error detected in the driving section of pressure output.	Confirm that the specified pressure is being applied to the supply pressure input port, that the pressure output port is not open, and that the volume of the device or tubing connected to the pressure output port is not excessively large. If there are no abnormalities and this display persists, service is required. (Motor overtravel label, positive side)
046	Hardware error detected in the driving section of pressure output.	Confirm that the specified pressure is being applied to the supply pressure input port, that the pressure output port is not open, and that the volume of the device or tubing connected to the pressure output port is not excessively large. If there are no abnormalities and this display persists, service is required. (Motor overtravel label, negative side)
047	Hardware error detected in the driving section of pressure output.	Confirm that the specified pressure is being applied to the supply pressure input port, that the pressure output port is not open, and that the volume of the device or tubing connected to the pressure output port is not excessively large. If there are no abnormalities and this display persists, service is required. (Abnormal pressure deviation)
048	Hardware error detected in the driving section of pressure output.	If this display persists, servicing is required. (OT sensor error)

### Instrument execution errors (051 to 099)

Code	Message	Cause, corrective action
052	Invalid reference pressure value.	Confirm that the reference pressure is entered correctly.
053	Attempted to perform an operation not allowed in the instrument's current mode.	Check that the operation is correct.
056	Overrange or overflow occurred in the measured pressure value.	Overrange or overflow has occurred in the measured pressure value.
058	Please reboot the instrument.	Restart the instrument.
059	The measured value is out of range.	Initialize the adjustment values to their factory default, and then perform adjustment again. (See section 3.4.)

## 5.3 Communication Error Messages

This section explains communication error messages.

### Communication syntax errors (100 to 199)

Code	Message	Cause, Corrective Action	Reference*
102	Syntax error.	A syntax error not covered by error codes 100 to 199.	Chapters 10, 11
103	Invalid separator.	Separate data values with a comma.	Section 10.1
104	Data type error.	Use a correct data type.	Section 10.4
108	Parameter not allowed.	Check the number of data values.	Section 10.4, chapter 11
109	Missing parameter.	Be sure to include all necessary data values.	Section 10.4, chapter 11
111	Header separator error.	Use a space to separate each header from its data.	Section 10.1
112	Program mnemonic too long.	Check the mnemonic (a string consisting of letters and numbers).	Chapter 11
113	Undefined header.	Check the header.	Chapter 11
114	Header suffix out of range.	Check the header.	Chapter 11
120	Numeric data error.	A value must be specified where the syntax contains <NRf>.	Section 10.4
123	Exponent too large.	Where the syntax contains <NR3>, make the exponent that follows E smaller.	Section 10.4, chapter 11
124	Too many digits.	Limit numeric values to 255 digits or less.	Section 10.4, chapter 11
128	Numeric data not allowed.	Use a data type other than <NRf>.	Section 10.4, chapter 11
131	Invalid suffix.	Check the unit of <Voltage>, <Time>, or <Pressure>.	Section 10.4
134	Suffix too long.	Check the unit of <Voltage>, <Time>, or <Pressure>.	Section 10.4
138	Suffix not allowed.	Units can only be used for <Voltage>, <Time>, <Pressure>.	Section 10.4
141	Invalid character data.	Be sure to select one of the listed choices when the syntax contains {... ... ...}.	Chapters 10, 11
144	Character data too long.	Check the spelling of the strings when the syntax contains {... ... ...}.	Chapter 11
148	Character data not allowed.	Use a data type other than {... ... ...}.	Chapter 11
150	String data error.	Enclose parameters with single or double quotation marks where the syntax contains <String>.	Section 10.4
151	Invalid string data.	The <String> is either too long, or it contains an unusable character.	Chapter 11
158	String data not allowed.	Use a data type other than <String>.	Chapter 11
161	Invalid block data.	<Block data> cannot be used.	Section 10.4, chapter 11
168	Block data not allowed.	<Block data> cannot be used.	Section 10.4
171	Missing right.	Mathematical operations cannot be used.	–
172	Invalid expression.	Mathematical operations cannot be used.	Chapter 11
178	Expression data not allowed.	Mathematical operations cannot be used.	Chapter 11
181	Invalid outside macro definition.	The instrument does not support the IEEE 488.2 macro specifications.	–

\* Reference sections or chapters are in the User's Manual (IM MC300-01EN).

### 5.3 Communication Error Messages

## Communication execution errors (200 to 299)

Code	Message	Cause, Corrective Action	Reference*
203	Command protected.	Enter the password. See section 5.7, "Adjustment and Calibration."	–
221	Setting conflict.	Check settings that are related to each other.	Chapter 11
222	Data out of range.	Check the ranges of the settings.	Chapter 11
223	Too much data.	Check data byte lengths.	Chapter 11
224	Illegal parameter value.	Check the ranges of the settings.	Chapter 11
225	OverFlow.	Keep program messages to 1024 bytes or less in length, including <PMT>.	Section 10.1
226	Out of memory.	Keep program messages to 1024 bytes or less in length, including <PMT>.	Section 10.1
241	Hardware missing.	Check that the specified options are all installed.	–
260	Expression error.	Mathematical operations cannot be used.	–
270	Macro error.	The instrument does not support the IEEE 488.2 macro specifications.	–
272	Macro execution error.	The instrument does not support the IEEE 488.2 macro specifications.	–
273	Illegal macro label.	The instrument does not support the IEEE 488.2 macro specifications.	–
275	Macro definition too long.	The instrument does not support the IEEE 488.2 macro specifications.	–
276	Macro recursion error.	The instrument does not support the IEEE 488.2 macro specifications.	–
277	Macro redefinition not allowed.	The instrument does not support the IEEE 488.2 macro specifications.	–
278	Macro header not found.	The instrument does not support the IEEE 488.2 macro specifications.	–

\* Reference sections or chapters are in the User's Manual (IM MC300-01EN).

## System errors (communication) (300 and 399)

Code	Message	Cause, Corrective Action	Reference
300	Device-specific error.	Servicing is required.	–
399	System error.	Servicing is required.	–

## Communication query errors (400 to 499)

Code	Message	Cause, Corrective Action	Reference*
410	Query INTERRUPTED.	Check the transmission and reception order.	Section 10.1
420	Query UNTERMINATED.	Check the transmission and reception order.	Section 10.1
430	Query DEADLOCKED.	Keep program messages to 1024 bytes or less in length, including <PMT>.	Section 10.1
440	Query UNTERMINATED after indefinite response. Do not write a query after *IDN? or *OPT?.		–

\* Reference sections are in the User's Manual (IM MC300-01EN).

## Warning (communication) messages (050)

Code	Message	Cause, Corrective Action	Reference
050	*OPC/? exists in message.	Write *OPC or *OPC? at the end of program messages.	–

## Execution errors (800 to 899)

Code	Message	Cause, Corrective Action	Reference
800	Illegal date-time.	Set the values correctly.	Section 3.3
802	Invalid command.	The command cannot be executed in user adjustment mode.	–
803	Invalid command.	The command cannot be executed in factory adjustment mode.	–
804	Invalid command.	The command cannot be executed in compatible mode.	–

## Other errors (350)

Code	Message	Cause, Corrective Action	Reference*
350	Queue overflow.	This error occurs when the error queue overflows. Read the error queue.	Chapter 12

\* Reference chapters are in the User's Manual (IM MC300-01EN).

## 5.4 Viewing the System Status (Overview)

### Procedure

#### Viewing the system status

View the system status of the instrument on the Overview screen.

1. Press **MENU** to display the menu screen. Press the **Utility** soft key and then the **Next 1/3** soft key.

	Control Config	ZeroCal	Auto Step	Sweep	Utility
--	-------------------	---------	-----------	-------	---------

2. Press the **Overview** soft key.

	Beep On Off		Overview	Time Adjust	Next 2/3
--	----------------	--	----------	----------------	-------------

3. From the Overview menu, press the soft key for the information you want to view.

	Model Info	Version Info	Remote Info	Cal Info	Option Info
--	---------------	-----------------	----------------	-------------	----------------

#### Displaying text in Model Info

Set and display any text in the User Memo field under Model Info. Up to 15 characters can be specified.

1. Press **MENU** to display the menu screen. Press the **Utility** soft key, the **Next 1/3** soft key, and then the **Next 2/3** soft key.

	Control Config	ZeroCal	Auto Step	Sweep	Utility
--	-------------------	---------	-----------	-------	---------

2. Press the **Maintenance** soft key.

	Language English	Mainte nance			Next 3/3
--	---------------------	-----------------	--	--	-------------

3. From the Maintenance menu, press the **User Memo** soft key.

	Selftest	Calibration	User Memo	Calibration Date	
--	----------	-------------	--------------	---------------------	--

4. Use the arrow keys (**▲**, **▼**, **◀**, **▶**) to enter text, and then press **ENTER**.

For details on the available character types and how to enter them, see section 3.2.

	User Memo	Enter	MC		BS
--	--------------	-------	----	--	----

## Explanation

You can display the following system status information: Model Info, Version Info, Remote Info, Cal Info, and Option Info.

### Model information (Model Info)

- Model Information					
Model	MC300				
Serial No	TEMP01				
MAC Address	00:00:00:00:00:00				
Sensor Range	200kPa g				
Sensor Position	76mm				
User Memo					
	Model Info	Version Info	Remote Info	Cal Info	Option Info

#### Description

<b>Model</b>	Model (MC300)
<b>Serial No</b>	The serial number (instrument number)
<b>MAC Address</b>	MAC address
<b>Sensor Range</b>	Pressure range (10 kPa g or 200 KPa g)
<b>Sensor Position</b>	The reference point of the pressure sensor's pressure receiving section when the sensor is installed horizontally
<b>User Memo</b>	User notes

### Version information (Version Info)

- Version Information					
Firmware Version	1.01 (2019/09/05 17:38)				
Boot Version	1.01 (-)				
Servo Version	1.01				
FPGA Version	1.01				
Hardware Version	P(03)/Pwb(00)/Hw(0)				
	Model Info	Version Info	Remote Info	Cal Info	Option Info

#### Description

<b>Firmware Version</b>	Firmware version (link date and time)
<b>Boot Version</b>	Boot version
<b>Servo Version</b>	Servo version
<b>FPGA Version</b>	FPGA version
<b>Hardware Version</b>	Hardware version

## Communication information (Remote Info)

The displayed items vary depending on the installed communication interface.

### For GP-IB interface (when -C01 selected)

- Remote Information	
Command Type	Normal
GPIB Address	1
USB Function	TMC
IP Address	192.168.0.1
Subnet mask	255.255.255.0
Default Gateway	0.0.0.0

Model Info	Version Info	Remote Info	Cal Info	Option Info
------------	--------------	-------------	----------	-------------

### For RS-232 interface (when -C02 selected)

- Remote Information	
Command Type	Normal
RS-232	115200,OFF_OFF,8,NONE,1
USB Function	TMC
IP Address	192.168.0.1
Subnet mask	255.255.255.0
Default Gateway	0.0.0.0

Model Info	Version Info	Remote Info	Cal Info	Option Info
------------	--------------	-------------	----------	-------------

### Description

<b>Command Type</b>	Command type
<b>GPIB Address (when -C01 selected)</b>	GPIB address
<b>RS-232 Address (when -C02 selected)</b>	Baud rate, handshaking method, data length, parity, stop bit
<b>USB Function</b>	USB function (TMC or CDC)
<b>IP Address</b>	IP address
<b>Subnet mask</b>	Subnet mask
<b>Default Gateway</b>	Default gateway

## Calibration date information (Cal Info)

Latest: Latest calibration date for Pressure and D/A output

Detail: The date calibrated by YOKOGAWA (Yokogawa) and the date calibrated by the user (User) for each item

### Latest calibration date (Latest)

- Latest Calibration Date Information				
Pressure	2020/01/01,	(Yokogawa)		
D/A	2021/01/01,	(User)		
	Latest	Detail		

### Detailed display of latest calibration date (Detail)

- Details Calibration Date Information				
	[ Yokogawa ]	[ User ]		
Pressure	2020/01/01	2019/01/01		
D/A	2021/01/01	2021/01/01		
	Latest	Detail		

### Note

For details on how to enter the user calibration date, see section 5.7.

## Option Information (Option Info)

- Option Information				
Biological Pressure Unit		[/MD]	:	No
Model Info	Version Info	Remote Info	Cal Info	Option Info

### Description

Biological Pressure Unit	[/MD]	Units for biological pressure measuring instruments: Yes/No
--------------------------	-------	--

## 5.5 Carrying Out Self-Tests

### Procedure

1. Press **MENU** to display the menu screen. Press the **Utility** soft key, the **Next 1/3** soft key, and then the **Next 2/3** soft key.

	Control Config	ZeroCal	Auto Step	Sweep	Utility
--	-------------------	---------	-----------	-------	---------

2. Press the **Maintenance** soft key.

	Language English	Mainte nance			Next 3/3
--	---------------------	-----------------	--	--	-------------

3. From the Maintenance menu, press the **Selftest** soft key.

	Selftest	Calibration	User Memo	Calibration Date	
--	----------	-------------	--------------	---------------------	--

4. Press the **Exec** soft key to start the self-test.  
Press **ESC** to return to the previous screen.

- Selftest					
					Exec

### Explanation

Tests the following items:

- Memory test (internal memory)
- Flash test (flash memory)
- FPGA test (internal circuits)
- ETHERNET test (communication)
- RTC test (clock)
- Sensor test (pressure control section)
- D/A test (D/A board)
- GPIB test (GP-IB communication) (when -C01 selected)
- RS-232 test (RS-232 communication) (when -C02 selected)

The instrument automatically performs a self-test at power-on.

You can also perform a self-test using the communication command \*TST?.

When all items pass, "Complete." appears on the screen.

### If an error occurs during the self-test

Run the self-test again. If errors continue to occur after running the self-test several times, contact your nearest YOKOGAWA dealer.

## 5.6 Recommended Replacement Parts

The life and replacement period for expendable items varies depending on the conditions of use. Refer to the table below as a general guideline.

For part replacement and purchase, contact your nearest YOKOGAWA dealer. You cannot replace them by yourself.

### Parts with limited service life

The life varies depending on the frequency and condition of use.

Part name	Service life
LCD panel	Approx. 50000 hours for the backlight brightness to become half the initial brightness
Motor	Approx. 2000 hours under normal use

### Consumable parts

We recommend replacement at the following cycles.

Part name	Recommended replacement cycle
Backup battery (lithium battery)	5 year

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## 5.7 Adjustment and Calibration

### Adjustment

Contact your nearest YOKOGAWA dealer to have your instrument adjusted.

### Calibration

We recommend that you calibrate the instrument once a year to check its accuracy. Contact your nearest YOKOGAWA dealer to have your instrument calibrated.

#### Calibrating the pressure source function

The word calibration as used in this document refers to finding the relationship between the pressure value output by this instrument and that indicated by the standard.

This instrument is a high-precision pressure controller. We recommend that you calibrate it once a year. When calibrating, you need to carefully consider the pressure standard to use and the measurement environment.

Use a pressure standard with a clear traceability to national standards and an accuracy better than  $\pm 0.04\%$ .

YOKOGAWA performs accurate calibration according to your request. We recommend that you ask your nearest YOKOGAWA dealer to have your instrument calibrated.

## Procedure

If you are calibrating the instrument, enter the calibration date.

### Entering the user calibration date

1. Press **MENU** to display the menu screen. Press the **Utility** soft key, the **Next 1/3** soft key, and then the **Next 2/3** soft key.

	Control Config	ZeroCal	Auto Step	Sweep	Utility
--	-------------------	---------	-----------	-------	---------

2. Press the **Maintenance** soft key.

	Language English	Mainte nance			Next 3/3
--	---------------------	-----------------	--	--	-------------

3. From the Maintenance menu, press the **Calibration Date** soft key.

	Selftest	Calibration	User Memo	Calibration Date	
--	----------	-------------	--------------	---------------------	--

4. To enter the date when the pressure was calibrated, press the **Pressure Cal. Date** soft key.

	Pressure Cal. Date	D/A Cal. Date			
--	-----------------------	------------------	--	--	--

5. Use the arrow keys (**▲**, **▼**, **◀**, **▶**) to enter the date, and then press **ENTER**.  
The settings are confirmed, and the display returns to the previous menu.

	Pressure Cal. Date	<input type="text" value="Enter"/>	2026/02/01		
--	-----------------------	------------------------------------	------------	--	--

6. To enter the date when the D/A output was calibrated, press the **D/A Cal. Date** soft key in step 4. Enter the calibration date in the same way as for Pressure Cal. Date.

## 6.1 Pressure Output Specifications

### Output specifications

Item		-G01	-G03
Pressure type		Gauge pressure	Gauge pressure
Range		10 kPa	200 kPa
Guaranteed accuracy range		0 kPa to 10 kPa	0 kPa to 200 kPa
Output setting range		-0.12 kPa to 12 kPa	-2.4 kPa to 240 kPa
Accuracy <sup>1</sup>	Accuracy	±0.05 % of full scale	
	Relative accuracy <sup>2</sup>	±0.04 % of full scale	
Output noise		±0.005 kPa	±0.04 kPa
Setting resolution		0.001 kPa	0.01 kPa
Influence of positional setup (at zero point)	Left, right 30°	±0.25 kPa	±0.26 kPa
	Stand unfolded	±0.003 kPa	±0.004 kPa
Influence of temperature		±(0.002 % of setting + 0.0003 kPa)/°C	±(0.002 % of setting + 0.006 kPa)/°C
Supply pressure		50 kPa±10 kPa	280 kPa±20 kPa
Allowable supply pressure		100 kPa (gauge)	500 kPa (gauge)
Air consumption <sup>3</sup>		30 L/min or less	
Output response time <sup>4</sup>		5 s for the value to settle within ±0.1 % of the full scale after the start of change	
Output setting display digits		4.5 (at kPa unit) <sup>5</sup>	
Output method	Divider output	Outputs pressure at n/m of the set value n = 0 to m, m = 1 to 25, n/m ≤ 100 %	
	Auto-step output	Automatically generates divider output for each step Interval time: 10 s to 600 s (resolution: 5 s) Repetitions: 1 or infinite (can be paused)	
	Sweep output <sup>6</sup>	Linearly outputs between the lower and upper limits at interval time. Increase/decrease direction switchable Interval time: 15 s to 600 s (resolution: 5 s) Repetitions: 1 or infinite (can be paused)	

- 1 Accuracy guaranteed for 1 year after calibration, 23 °C ± 3 °C, after zero calibration under atmospheric pressure
- 2 A value relative to the YOKOGAWA working standard
- 3 Within the supply pressure specification range
- 4 At any 20 % or 25 % division output in 1 step without load
- 5 Depends on the unit selected
- 6 Load capacity 10 cm<sup>3</sup>!!! or less. If the load capacity is large, the output may not be able to keep up.

### Common specifications

Item		Specifications
Pressure supply source		Dry air, 5 °C to 40 °C, with minimal temperature change. Use a pressure-reducing valve with a filter to input a stable supply pressure.
Pressure control principle		Needle-type servo valve
Pressure sensor		Silicon resonant sensor
Display unit	-U1	Pa, hPa, kPa, MPa, mbar, bar, atm
	-U2	Pa, hPa, kPa, MPa, mbar, bar, atm, mmHg, inHg, gf/cm <sup>2</sup> , kgf/cm <sup>2</sup> , Torr, psi, mmH <sub>2</sub> O (@4 °C, @20 °C), ftH <sub>2</sub> O (@4 °C, @20 °C), inH <sub>2</sub> O (@4 °C, @20 °C)
	-U1+/MD selected	Pa, hPa, kPa, MPa, mbar, bar, atm, mmHg, cmHg, mHg, mmH <sub>2</sub> O, cmH <sub>2</sub> O, mH <sub>2</sub> O, mTorr, Torr
Input/output connection		Rc 1/4 female thread (when -P1 is selected), 1/4 NPT female thread (when -P2 is selected)
Correction function (zero correction)		Zero calibration
Error display		ALARM LED lights up when supply pressure is abnormal

## 6.2 Functional Specifications

### Output monitor function

Item		-G01	-G03
Display range		Up to 12 kPa	Up to 240 kPa
Display resolution		0.0001 kPa	0.001 kPa
Display update interval <sup>1</sup>		250 ms	
D/A output	Output range	2 V DC, 5 V DC	
	Output setting range	Approx. $\pm 120$ % of the range	
	Output resolution	16 bit	
	Output update interval	Approx. 2 ms	
	Response time <sup>2</sup>	Conforms to the integration time of the output monitor <sup>3</sup>	
	Output resistance	0.1 $\Omega$ or less	
	Load resistance	10 k $\Omega$ or more	
	Load capacity	0.1 $\mu$ F or less	
	Output terminal <sup>4</sup>	BNC terminal	
	D/A output scaling	Any pressure output range can be output at full scale of D/A output range. (Set in the 2-point mode or direct input mode)	
	Output stability monitor function	Display method	The display color of output monitor indicates output stability state. Stable: green, otherwise: white <sup>5</sup>
Judgment cycle/period		At each trigger. Integration time of output monitor.	
Judgment value setting range		0.01 % to 10 % of full scale (resolution: 0.01 %)	
Comparator output <sup>6</sup>	Output signal	HI/IN/LO, BUSY	
	Output setting range	-0.3 V to 5.5 V	
	Output level	HIGH: 3.5 V or more, LOW: 0.45 V or less	
	Output terminal <sup>7</sup>	Detachable terminal block	
Output monitor trigger	Trigger mode	Internal trigger, external trigger, sync trigger	
	Trigger source	Internal trigger: Display update (update interval: 250 ms)	
		External trigger: External input (TRIG IN/SYNC IN), communication command	
		Sync trigger: External input (TRIG IN/SYNC IN)	
	Trigger input/output range	-0.3 V to 5.5 V	
	Trigger input level	HIGH: 2.5 V or more, LOW: 0.8 V or less	
	Effective trigger input edge	Falling	
	Trigger output level	HIGH: 3.5 V or more, LOW: 0.45 V or less	
I/O terminals	Input (TRIG IN/SYNC IN): BNC terminal, output (SYNC OUT): BNC terminal		
Output monitor sync	Number of units synced	Up to four in a daisy chain connection	
	Sync accuracy	The trigger delay of the subordinate unit (sub) relative to the trigger of the reference unit (main) is within 2.5 ms.	
	I/O terminals	Same as the trigger I/O terminals	

1 The data output cycle via communication is the same as the display update cycle.

2 Measurement conditions for monitor D/A output response time: Time required for the value to settle within  $\pm 1$  % of the convergence value after the start of change.

3 Integration time: Select from 250 ms, 1500 ms, 2500 ms, and 4000 ms

4 Rated grounding voltage between monitor D/A output terminal and earth: 42 V<sub>peak</sub>

5 Stability judgment condition:  $-(\text{judgment value}) \leq (\text{deviation between output setting value and output monitor value}) \leq +(\text{judgment value})$

6 The judgment criteria are the same as those of the output stability monitor function.

7 Ground the comparator output GND terminal.

## 6.3 Communication Specifications

### Communication interface (standard)

Item		Specifications
USB PC	Connector type	USB type B (receptacle)
	Electrical and mechanical specifications	USB Rev. 2.0 compliant
	Supported transfer mode	HS (High Speed) mode (480 Mbps) FS (Full Speed) mode (12 Mbps)
	Supported protocols	USB-FUNCTION interface USBTMC-USB488 (USB Test and Measurement Class Ver.1.0) Virtual COM port CDC (Communication Device Class)
ETHERNET	Connector type	RJ-45
	Electrical and mechanical specifications	IEEE 802.3 compliant
	Transmission system	100 BASE-TX/10 BASE-T
	Transfer rate	100 Mbps max.
	Protocol	TCP/IP
	Supported services	DHCP/VXI-11

### Communication interface (select either)

Either GP-IB interface (when -C01 is selected) or RS-232 interface (when -C02 is interface) is installed.

Item		Specifications
GP-IB	Electrical and mechanical specifications	IEEE St'd 488-1978 compliant
	Functional specifications	SH1, AH1, T6, L4, SR1, RL1, PP0, DC1, DT1, C0
	Protocol	IEEE St'd 488.2-1992 compliant
	Addresses	0 to 30
Serial (RS-232)	Connector type	D-sub 9-pin
	Electrical Specifications	EIA RS232 compliant
	Connection method	Point to point
	Communication method	Full duplex
	Synchronization method	Asynchronous (start-stop)
	Baud rate	1200, 2400, 4800, 9600, 14400, 19200, 38400, 57600, 115200 bps

## 6.4 General Specifications

### General specifications

Item	Specifications	
Display	Display device	4.3-inch TFT color LCD (480 × 272 dots) <sup>1</sup>
	Output setting display digits	4.5 digits (excluding minus sign) <sup>2</sup>
	Output monitor display digits	5.5 digits (excluding minus sign) <sup>2</sup>
Warm-up time	Approx. 5 minutes	
Operating temperature and humidity	5 °C to 40 °C, 20 % RH to 80 % RH, no condensation	
Operating altitude range	2000 m or less	
Storage temperature range	-20 °C to 60 °C, no condensation	
AC power supply rating	Rated supply voltage	100 VAC to 120 VAC, 200 VAC to 240 VAC
	Permitted supply voltage range	90 VAC to 132 VAC, 180 VAC to 264 VAC
	Rated power frequency	50 Hz/60 Hz
	Permitted supply frequency range	47 Hz to 63 Hz
Power consumption	30 VA max. (100 VAC system), 40 VA max. (200 VAC system)	
Insulation resistance	100 MΩ or more at 500 V VDC (between the AC power supply and case)	
Withstand Voltage	1500 VAC, at 50 Hz/60 Hz for 1 minute (between the AC power supply and case) 350 VAC, at 50 Hz/60 Hz for 1 minute (between the monitor D/A output terminal and case)	
Dimensions	Approx. 213 mm (W) × 132 mm (H) × 400 mm (D), excluding protrusions	
Weight	Approx. 7.5 kg	

1 The LCD may include a few defective pixels.

There may be some pixels on the LCD that never light or are always lit (total number defective pixels 5 or less). These pixels are not defects.

2 Depends on the selected display unit.

## 6.5 Compliant Standards

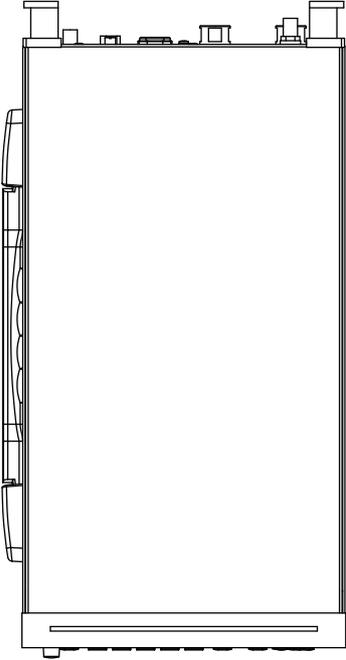
### Compliant standards

Item	Specifications
Safety standards	EN 61010-1 Overvoltage Category II <sup>1</sup> Pollution degree 2 <sup>2</sup> Indoor use
Emissions	EN 61326-1 Class A Group 1 Table 2 EN IEC 61326-1 Class A Group 1 Table 2 EN 61000-3-2 EN 61000-3-3 EMC Regulatory Arrangement in Australia and New Zealand EN61326-1 Class A, Group 1 Table 2 Korea Electromagnetic Conformity Standard ( 한국 전자파적합성기준 ) This product is classified as Class A (for use in industrial environments). 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 (USB) Use a shielded cable that is 3 m in length or less. GP-IB connector (GP-IB) Use a shielded cable that is 3 m in length or less. RS-232 port (RS-232) Use a shielded cable that is 3 m in length or less. Ethernet port (ETHERNET) Use a category 5 or better Ethernet cable (STP) that is 30 m in length or less. Trigger/sync input terminal (TRIG IN/SYNC IN) Use a BNC cable that is 3 m in length or less. Sync output terminal (SYNC OUT) Use a BNC cable that is 3 m in length or less. D/A output terminal Use a BNC cable that is 3 m in length or less. Comparator output terminal Use the included terminal plug (A2119JT) and a cable that is 3 m in length or less.
Immunity	EN 61326-1 Table 2 (for use in industrial locations) Influence in the immunity test environment: Within $\pm 20$ % of the range setting
Cable conditions	Same as the emission cable conditions
Environmental standard <sup>3</sup>	EU RoHS Directive compliant
Pressure directive	Sound Engineering Practice (SEP) as defined in the Pressure Equipment Directive (PED)

- 1 The overvoltage category (installation category) is a value used to define the transient overvoltage condition and includes the rated impulse withstand voltage. The overvoltage category II applies to electrical equipment that is powered through a fixed installation, such as a switchboard.
- 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 For conformity to environmental regulations and/or standards other than EU, contact your nearest YOKOGAWA office (PIM 113-01Z2).

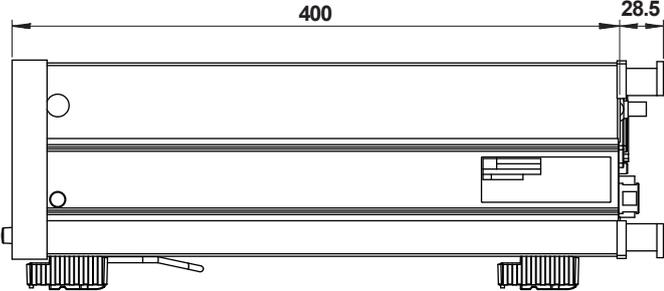
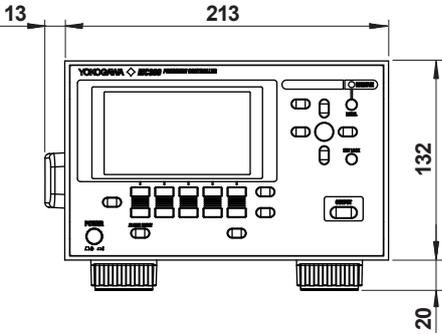
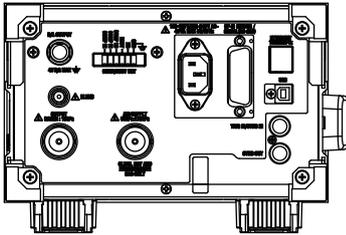
# 6.6 External Dimensions

Unless otherwise specified, tolerances are  $\pm 3\%$  (however, tolerances are  $\pm 0.3\text{ mm}$  when below 10 mm).



Unit: mm

Rear view



# Appendix 1 Factory Default Settings

## System and communication setup data

Item		Factory default value	Initialized	Resumed
System setup				
BEEP	ON/OFF	ON	No	Yes
Display	Brightness	3	No	Yes
	Range information	OFF	No	Yes
	Range information color	Black	No	Yes
	Key lock	OFF/Z.Lock/K.Lock/A.Lock	OFF	Yes
Display language	English/Japanese/Korean/Chinese	English	No	Yes
Date and time	Date	2000/01/01	No	Yes
	Time	00:00:00	No	Yes
Communication setup				
Command type		NORMAL	No	Yes
Header of measured value output data		Available	No	Yes
Status byte cause setting*		31	No	Yes
GP-IB	Addresses	1	No	Yes
RS-232	Baud rate	115200 bps	No	Yes
	Handshaking	OFF-OFF	No	Yes
	Data length	8 bit	No	Yes
	Parity	None	No	Yes
	Stop bits	1 bit	No	Yes
ETHERNET	DHCP	ON	No	Yes
	IP address	192.168.0.1	No	Yes
	Subnet mask	255.255.255.0	No	Yes
	Gateway address	0.0.0.0	No	Yes
USB	Operation protocol	USB-TMC	No	Yes
	Terminator	CR+LF	No	Yes

\* Valid only when the command type is compatible command

## Pressure output/output monitor setup data

Item		Factory default value	Initialized	Resumed		
Pressure output setup						
	Output ON/OFF	OFF	Yes	No		
Pressure output setting	Output value	0 kPa	Yes	No		
	Load capacity	Small	Yes	Yes		
	Unit	kPa	Yes	Yes		
	Output mode	Manual	Yes	No		
Divider output	Divider ratio n	1	Yes	No		
	Divider ratio m	1	Yes	No		
Auto-step output	Divider ratio n	1	Yes	No		
	Divider ratio m	1	Yes	No		
	Interval	10	Yes	Yes		
Sweep output	Sweep range	Upper limit	10 kPa/200 kPa	Yes	No	
		Lower limit	0 kPa	Yes	No	
	Sweep direction	UP	Yes	No		
	Interval	15	Yes	Yes		
	Repeat	No	Yes	No		
	Auto hold	OFF	Yes	Yes		
Output monitor setup						
	Display	OFF	Yes	Yes		
	Measurement integration time	1500 ms	Yes	Yes		
Trigger	Trigger mode	Internal	Yes	Yes		
	Delay time	0 ms	Yes	Yes		
Correction value	Zero CAL value	0.0	No	Yes		
	Zero CAL history	–	No	Yes		
Monitor D/A output						
	ON/OFF	OFF	Yes	Yes		
	Range	2 V	Yes	Yes		
D/A scaling	ON/OFF	OFF	Yes	Yes		
	Scaling method	Two points	Yes	Yes		
		2-point mode	Span upper limit	+(Measurement range)	Yes	Yes
			Span lower limit	–(Measurement range)	Yes	Yes
		Scale upper limit	+(Voltage range)	Yes	Yes	
		Scale lower limit	–(Voltage range)	Yes	Yes	
	Direct input mode	Gain	(Measurement range)/2	Yes	Yes	
Offset		0.0	Yes	Yes		
Output stability monitor setting						
	Output stability monitor judgement value	1.0 %	Yes	Yes		
Zero pressure setting when output is off						
	ON/OFF	OFF	Yes	Yes		