

Operator Panel

for Infilex™ AC / Infilex™ GC / Infilex™ GD

Model QY5100W0000 (Panel Mount Type)

Model RY5001Q0000 (Integral Type)

General

Operator Panel is a user terminal for data display and configuration, which can be connected to a remote unit: Infilex AC, Infilex GC, or Infilex GD. Two types of Operator Panel are available. Panel mount type (Model QY5100W0000) is mounted on the panel front surface. Integral type (Model RY5001Q0000) is attached directly to the remote unit or to its I/O module to integrate with the remote unit.

The Operator Panel can display all the management points that the remote unit has. Management points to be modified (by changing their data configuration) or operated, such as parameters, AO (analog output), and DO (digital output), can be modified or operated through the Operator Panel.

By connecting the Operator Panel to a remote unit (Infilex AC, Infilex GC, or Infilex GD), the remote unit can be managed not only through the main control unit, savic-net™ EV/savic-net™ FX, but also through the user terminal, Operator Panel. This greatly improves the efficiency of the building management.

Additionally, the Operator Panel facilitates status indication of the management points, and allows a remote unit to be easily used as standalone.

Features

1) Display of management points

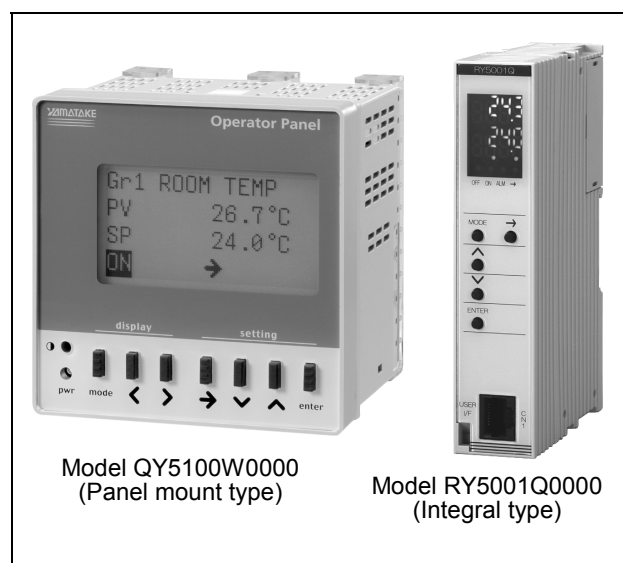
All management points of the remote unit can be managed through the Operator Panel.

The Operator Panel displays the management points as follows:

- Group-points mode
Management points divided into up to 4 groups are displayed per group.
- All-points mode
All the management points of the remote unit are displayed.

The management points that are modified or operated through the Operator Panel can be modified or operated in either mode.

Additionally, one point among the ON/OFF points and the alarm points of the remote unit can be selected to continuously display.



Model QY5100W0000
(Panel mount type)

Model RY5001Q0000
(Integral type)

2) Operation restriction

ON/OFF operation and data configuration functions of the Operator Panel, including ON/OFF and parameter change can be restricted.

3) Functions for a standalone remote unit

When the remote unit connected to the Operator Panel is standalone, an operation schedule of the point specified to continuously display its status can be set through the Operator Panel. Additionally, the Operator Panel has a manual override function for AO and DO.

4) LCD backlight and LED

Model QY5100W0000 is equipped with an LCD backlight, and Model RY5001Q0000 is equipped with a 7 segment LED. The Operator Panel thus displays the data and allows the operators to operate even in a dark place.








Safety Instructions

Please read instructions carefully and use the product as specified in this manual. Be sure to keep this manual nearby for ready reference.
















Usage Restrictions

This product is targeted for general air conditioning. Do not use this product in a situation where human life may be affected. If this product is used in a clean room or a place where reliability or control accuracy is particularly required, please contact Yamatake's sales representatives. Yamatake Corporation will not bear any responsibility for the results produced by the operators.

WARNING

-  • DANGER: To prevent the risk of severe or fatal electrical shock, always disconnect the product from power source before performing any wiring.
-  • Do not disassemble the product. Equipment damage or electrical shock may occur.
-  • Use crimp terminals with insulation for electric wires connected to the screw terminals.
-  • Make sure all the wires are tightly connected to prevent heat generation or equipment damages.
-  • Be sure to ground. Improper grounding may cause electrical shock and equipment damages.
-  • Do not detach the terminal cover at any time except when wiring. After wiring, be sure to attach the terminal cover. Before attaching/detaching the terminal cover, make sure that the wires are not current-carrying.
-  • Install a circuit breaker or circuit protector in the power supply circuit that supplies the power to the product.

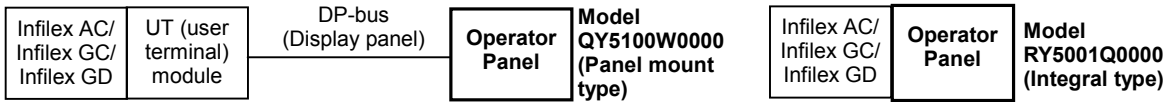
CAUTION

-  • Installation must be performed by qualified personnel in accordance with all applicable safety standards.
-  • Installation must be carried out according to the operating conditions specified in this manual to prevent equipment damages.
-  • All wiring must comply with local codes of indoor wiring and electric installation rules.
-  • If more than the rated power supply voltage is applied, product replacement is required for safety.
-  • Implement protection measures against lightning in consideration of the regional characteristics and building structure in order to minimize lightning damages.
-  • Before the product replacement, be sure to disconnect the power supply.
-  • After completing the wiring, be sure to peel off the protective sheet.
-  • Do not block the vent holes on the upper or lower part of the product to prevent equipment damages.
-  • Do not remove the sticker with  marked.
-  • Do not install the product in a location adjacent to heating/cooling system equipment or exposed to direct sunlight. This product may malfunction due to high temperature radiation. Also, install the product in a location where the display can be seen clearly.
-  • Do not allow condensation or water. The product enclosure is not water-proof.
-  • To clean the LCD panel, wipe it with dry soft cloth.
-  • Do not incinerate this product for waste disposal (the housing produces toxic gas when incinerated). Do not recycle all or a part of this product, either.
-  • Be sure to discharge static electricity charged in your body (by touching the unpainted metal part of the panel, etc.) before and during the LCD module installation.

Trademark information:




Inflex, savic-net, Neopanel, Neoplate are trademarks or registered trademarks of Yamatake Corporation in Japan or in other countries.

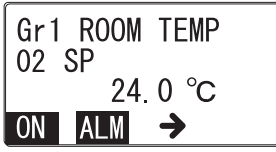

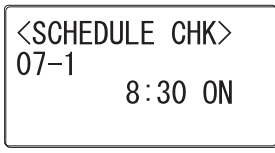

System Configuration



Functions

(1/2)

Function		Description
<p>Functions common to</p> <ul style="list-style-type: none"> - Operator Panel connected with the system and - Operator Panel connected with the standalone remote unit. 	<p>Display and data configuration of the management points</p> <p>Group-points mode (Display and data configuration)</p>	<p>Management points classified by group are displayed. Up to 4 groups can be configured, and up to 16 points per group can be registered in any order. Two points (points 1 and 2) are displayed on the group top display, and the points are respectively displayed on the group scroll display. Management points to be modified (by changing their data configuration) or operated, such as parameters, AO, and DO, can be modified or operated in the group-points mode.</p> <p style="text-align: center;">Group top display</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Gr1 ROOM TEMP PV 26.7 °C SP 24.0 °C ON →</p> <p>Model QY5100W0000 (Panel mount type)</p> </div> <div style="text-align: center;">  <p>Model RY5001Q0000 (Integral type)</p> </div> </div> <p style="text-align: center;">Group scroll display</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Gr1 ROOM TEMP 01 PV 26.7 °C ON</p> <p>Model QY5100W0000 (Panel mount type)</p> </div> <div style="text-align: center;">  <p>Model RY5001Q0000 (Integral type)</p> </div> </div>
	<p>All-points mode (Display and data configuration)</p>	<p>All management points of the remote unit (max. 99 points) are displayed. The points are respectively displayed. Management points to be modified (by changing their data configuration) or operated, such as parameters, AO, and DO, can be modified or operated in the all-points mode.</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Gr0 01 PV 26.7 °C ON</p> <p>Model QY5100W0000 (Panel mount type)</p> </div> <div style="text-align: center;">  <p>Model RY5001Q0000 (Integral type)</p> </div> </div>

Function		Description
Functions common to - Operator Panel connected with the system and - Operator Panel connected with the standalone remote unit.	Display and data configuration of the management points	Group-points mode All-points mode (Display of: - operating status - alarm status)
	Available only for <u>Model QY5100W0000</u> Display of: - Group name - Management point abbreviated name - Engineering unit	One point among the ON/OFF and alarm points is specified to continuously display its status on the bottom line of the screen.  <p>Model QY5100W0000 (Panel mount type)</p>  <p>Model RY5001Q0000 (Integral type)</p> <p>The above illustration shows that a point with ON/OFF and alarm status is specified to continuously display, indicating the operating status 'ON' and the alarm status 'reported.'</p> <p>When the operating status is 'OFF' and the alarm status 'not reported,'</p> <ul style="list-style-type: none"> - Model QY5100W0000: [ON] or [ALM] is not displayed. - Model RY5001Q0000: Green dot above [OFF] is on and the green dot above [ALM] is off.
Operation restriction	Group names, abbreviated point names, and engineering unit are displayed. Note that an abbreviated point name is displayed using up to 4 alphanumeric characters, and a group name is displayed using up to 12 alphanumeric characters.	
Functions of Operator Panel connected with the standalone remote unit	Schedule display*	Operation and data configuration functions can be restricted to prevent careless configuration change or undesirable ON/OFF operation. Operation schedules for current day and the following day are displayed.  <p>Model QY5100W0000 (Panel mount type)</p>  <p>Model RY5001Q0000 (Integral type)</p>
Schedule setting*	Operation schedule	The operation schedule can be set through the Operator Panel when it is connected to the standalone remote unit. Up to 8 schedules per day can be set and displayed for 8 days of the week (Monday through Sunday and one holiday).
	Holiday schedule	Dates for the holiday operation schedule can be set and displayed.
	Current date and time setting	Current date and time (year, month, day, hour, and minute) can be set.
	Manual override	For inspection and maintenance, manual operation and setting can be set to override the output signals from the remote unit.

*Note: Schedule display and setting functions are applicable only to the ON/OFF point specified to continuously display its status. If an alarm point is specified, the schedule display and setting function is not applicable.

Points to be continuously displayed on the screen (point types with their operating/alarm status)

Point type	Operating status	Alarm status
SAP (Status Alarm Point)	✓	✓
CAP (Command with Status Alarm Point)	✓*2	✓
SOP*1 (Status Only Point)	✓	
COP (Command Only Point)	✓	
CCP (Command with COS (Change of Status) Point)	✓*2	
AOP (Alarm Only Point)		✓

Note:

*1 Status Only Point, which does not have any command, can be specified to continuously display on the screen.

*2 If CCP or CAP disagrees with its COS, its indicator [ON] or [OFF] flashes.

Specifications: Model QY5100W0000 (Panel Mount Type)

Main unit specifications

Item		Specification	
Power supply	Model QY5100W0000	Rated voltage	100 V AC to 240 V AC, 50 Hz/60 Hz
		Allowable voltage range	85 V AC to 264 V AC
		Power consumption	8 VA
Environmental conditions	Rated operating conditions	Ambient temperature	0 °C to 50 °C
		Ambient humidity	10 %RH to 85 % RH (Non-condensing)
		Vibration	Max. 5.9 m/s ² (0.6 G) (at 10 Hz to 150 Hz)
	Transport and storage conditions	Ambient temperature	-20 °C to 60 °C
		Ambient humidity	5 %RH to 85 % RH (Non-condensing)
		Vibration (for storage)	Max. 5.9 m/s ² (0.6 G) (at 10 Hz to 150 Hz)
Vibration (for transport)	Max. 9.8 m/s ² (1 G) (at 10 Hz to 150 Hz)		
Status indication	LED (Green)	Power	ON: Power ON, OFF: Power OFF
Communication	DP-bus	Transmission system	RS485
		Transmission speed	4800 bps
		Transmission distance	10 m
		Number of remote units to be connected	1
Display	LCD	Resolution	128 × 64 (dots)
		Gradation	2 tones: black and white
		Backlight	LED backlight
		Contrast adjustment	Trimmer
Input	Key	Material	Silicon rubber
		Key names	[mode], [<], [>], [->], [↖], [↘], [enter]
Weight		400 g	
Material / color		Modified PPE / light gray	
Terminal block	Power terminal	M3	
	Communication (DP-bus)	M3 (Modular connection*) * Modular adaptor is connected to the terminals before shipment.	

Wiring specifications

Item	Wiring	Wiring length	Condition
Power supply	JIS*1 IV 2.0 mm ² or JIS CVV 2.0 mm ² or greater	—	—
Ground	JIS IV 2.0 mm ² or JIS CVV 2.0 mm ² or greater	—	Ground resistance: 100 Ω or lower
DP-bus	EIA/TIA*2-568 Category 5 or over	10 m	—

*1 JIS: Japanese Industrial Standards

*2 EIA/TIA: Electronic Industrial Association/Telecommunication Industrial Association

Model number specifications

Base model number	Power	—	Description
QY5100			Operator Panel for Inflex AC / Inflex GC / Inflex GD Panel surface mount type
	W		100 V AC to 240 V AC
		0000	—

Note: Operation manual for Model QY5100W0000 (AB-6547) is available. When you order the product, request the manual if necessary.

Specifications: Model RY5001Q0000 (Integral Type)

Main unit specifications

Item		Specification	
Environmental conditions	Rated operating conditions	Ambient temperature	0 °C to 50 °C
		Ambient humidity	10 %RH to 90 %RH (Non-condensing)
		Vibration	When mounted to Inflex AC: Max. 5.9 m/s ² (0.6 G) at 10 Hz to 150 Hz When mounted to Inflex GC/Inflex GD: Max. 3.2 m/s ² (0.3 G) at 10 Hz to 150 Hz
	Transport and storage conditions	Ambient temperature	-20 °C to 60 °C
		Ambient humidity	5 %RH to 95 %RH (Non-condensing)
		Vibration (for storage)	When mounted to Inflex AC: Max. 5.9 m/s ² (0.6 G) at 10 Hz to 150 Hz When mounted to Inflex GC/Inflex GD: Max. 3.2 m/s ² (0.3 G) at 10 Hz to 150 Hz
Vibration (for transport)	Max. 9.8 m/s ² (1 G) at 10 Hz to 150 Hz		
Display	LED	7 segment LED	4 digit × 2 lines (Upper line in green, lower line in red) Upper line: Point number is displayed. Lower line: Max. 6 digit number is displayed. (Upper 2 digits are displayed first, and lower 4 digits are displayed with [^] key.) For the decimal number, max. 3 digits after the decimal point are displayed.
		Dot LED for status indication	[OFF], [ON], and [→] in green [ALM] in red.
Input	Key	Material	Silicon rubber
		Key names	[MODE], [^], [v], [ENTER], [→]
Weight		250 g	
Material / color		Modified PPE / light gray	

Wiring specifications

Item	Wiring	Wiring length	Condition
Remote Controller bus	EIA/TIA-568 Category 3 or over	50 m	—

Model number specifications of RY5001Q0000 (remote unit mount type)

Base model number	—	—	Description
RY5001			Operator Panel for Inflex AC / Inflex GC / Inflex GD Integral type
	Q		—
		0000	—

Note: Operation manual for Model RY5001Q0000 (AB-6642) is available. When you order the product, request the manual if necessary.

Dimensions: Model QY5100W0000 (Panel Mount Type)

<Main unit dimensions>

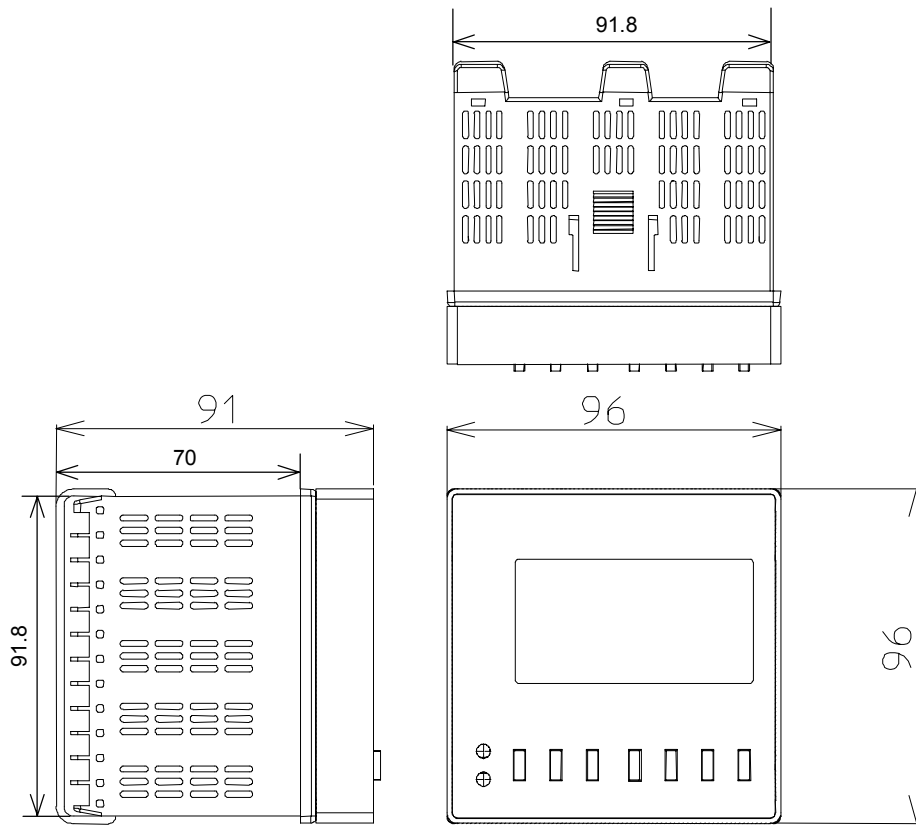


Figure 1. Main unit dimensions (mm): Model QY5100W0000

<Mounting panel cutout dimensions>

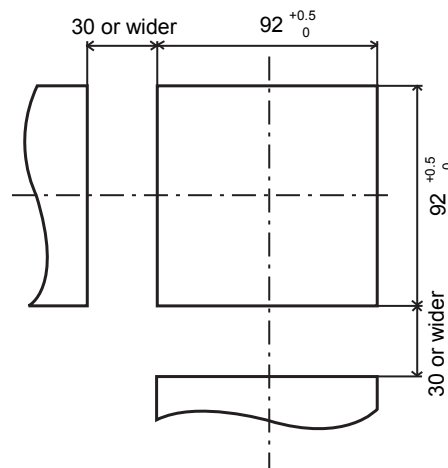


Figure 2. Mounting panel cutout dimensions (mm): Model QY5100W0000

Dimensions: Model RY5001Q0000 (Integral Type)

<Main unit dimensions>

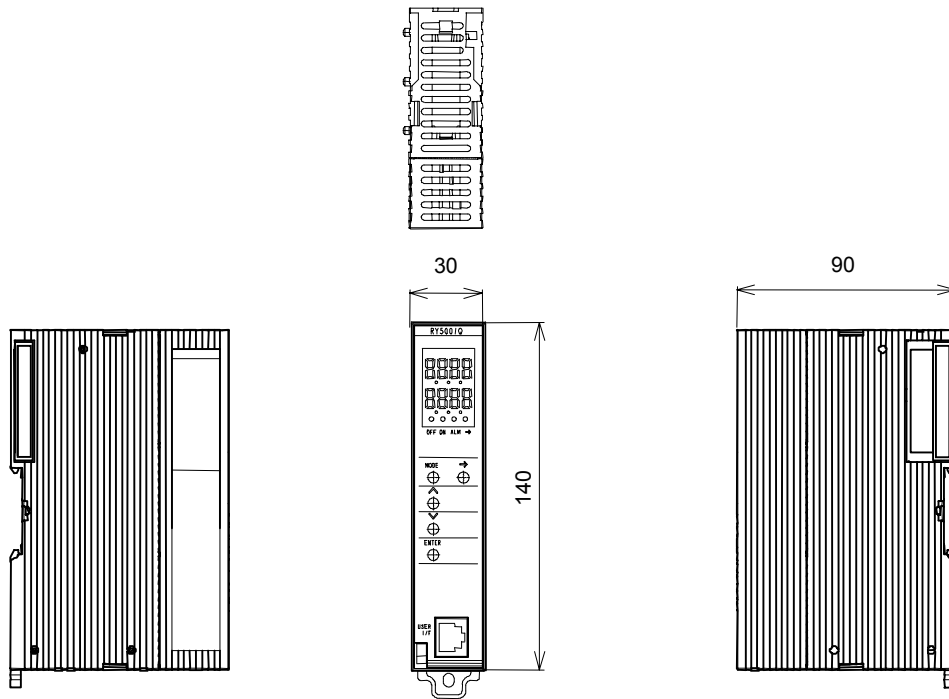


Figure 3. Main unit dimensions (mm): Model RY5001Q0000

Parts Identification: Model QY5100W0000 (Panel Mount Type)

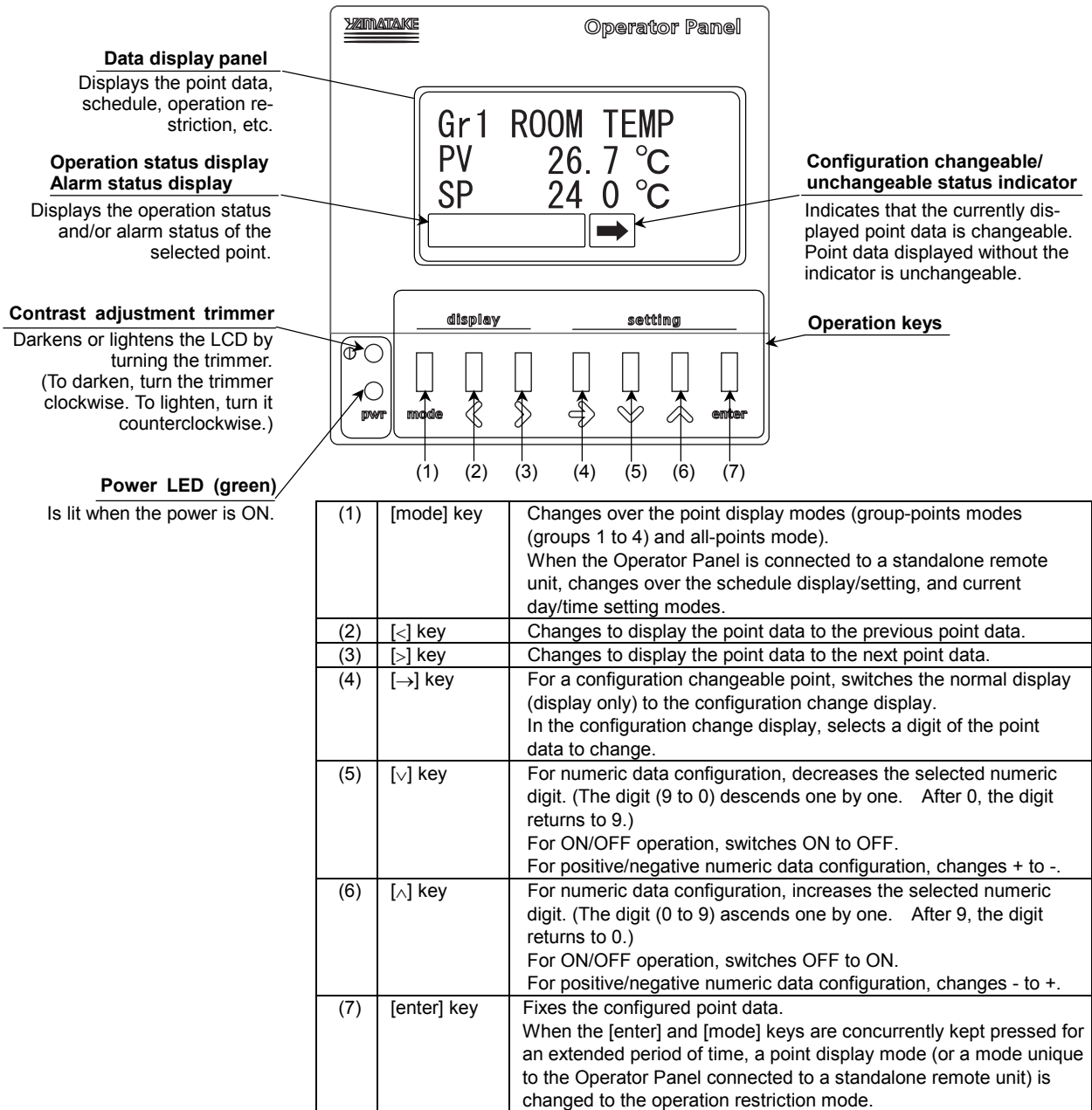
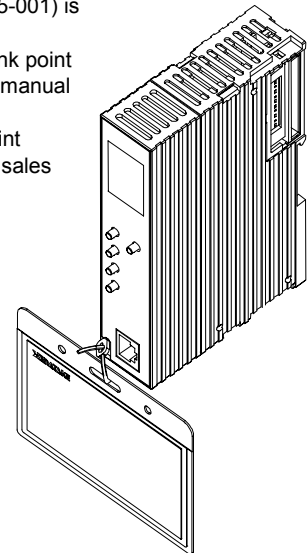
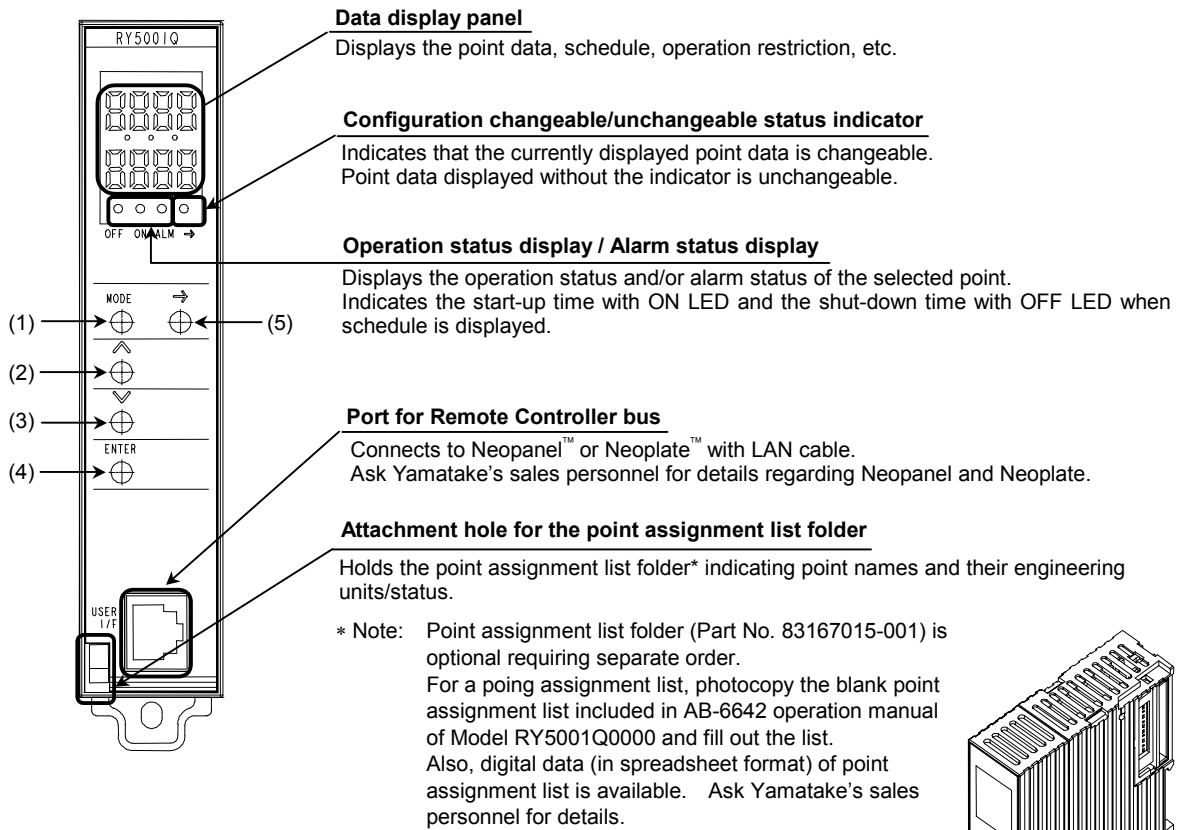


Figure 4. Parts identification: Model QY5100W0000

Parts Identification: Model RY5001Q0000 (Integral Type)



(1)	[MODE] key	Changes over the point display modes (group-points modes (groups 1 to 4) and all-points mode). When the Operator Panel is connected to a standalone remote unit, changes over the schedule display/setting, and current day/time setting modes.
(2)	[∨] key	Changes to display the point data to the previous point data. For numeric data configuration, increases the selected numeric digit. (The digit (0 to 9) ascends one by one. After 9, the digit returns to 0.) For ON/OFF operation, switches OFF to ON. For positive/negative numeric data configuration, changes - to +.
(3)	[∨] key	Changes to display the point data to the next point data. For numeric data configuration, decreases the selected numeric digit. (The digit (9 to 0) descends one by one. After 0, the digit returns to 9.) For ON/OFF operation, switches ON to OFF. For positive/negative numeric data configuration, changes + to -.
(4)	[ENTER] key	Fixes the configured point data. When the [ENTER] and [MODE] keys are concurrently kept pressed for an extended period of time, the normal display mode (or a mode unique to the Operator Panel connected to a standalone remote unit) is changed to the operation restriction mode.
(5)	[→] key	For a configuration changeable point, switches the normal display (display only) to the configuration change display. In the configuration change display, selects a digit of the point data to change.

Figure 5. Parts identification: Model RY5001Q0000

Mounting: Model QY5100W0000 (Panel Mount Type)

Cautions

- 1) Since Model QY5100W0000 is equipped with the LCD, do not install Model QY5100W0000 in a high temperature environment including locations exposed to heat radiation from heating/cooling system equipment or to the direct sunlight. Also, install in a location where the displaying contents can be seen clearly.
- 2) Do not allow Model QY5100W0000 to get wet. Protect it from water such as raindrops.
- 3) Use a 2 mm thick or thicker steel plate for the mounting panel.
- 4) The allowable mounting angle is ranging from upright position to 10° tilted upwards or downwards.
- 5) The angle of visibility is 80° (vertical and horizontal). Be sure to install Model QY5100W0000 in a location where its LCD is visible.
- 6) Do not remove the protective sheet until the wiring work is completed.

Mounting procedure

- 1) Insert Model QY5100W0000 from the front of the mounting panel.
- 2) From the rear of the mounting panel, attach the mounting brackets to Model QY5100W0000.
- 3) Keep the mounting brackets pushed until its claws are engaged with the grooves on Model QY5100W0000.
- 4) Tighten the screws of the mounting brackets attached to the top and the bottom of Model QY5100W0000 to fix it on the mounting panel.

⚠ CAUTION

- Tighten the screws supplied with the mounting brackets until the mounting brackets get unshaken. Then, rotate (to tighten) the screws once to fix Model QY5100W0000 on the mounting panel. If the screws are tightened excessively, the case of Model QY5100W0000 may get deformed.

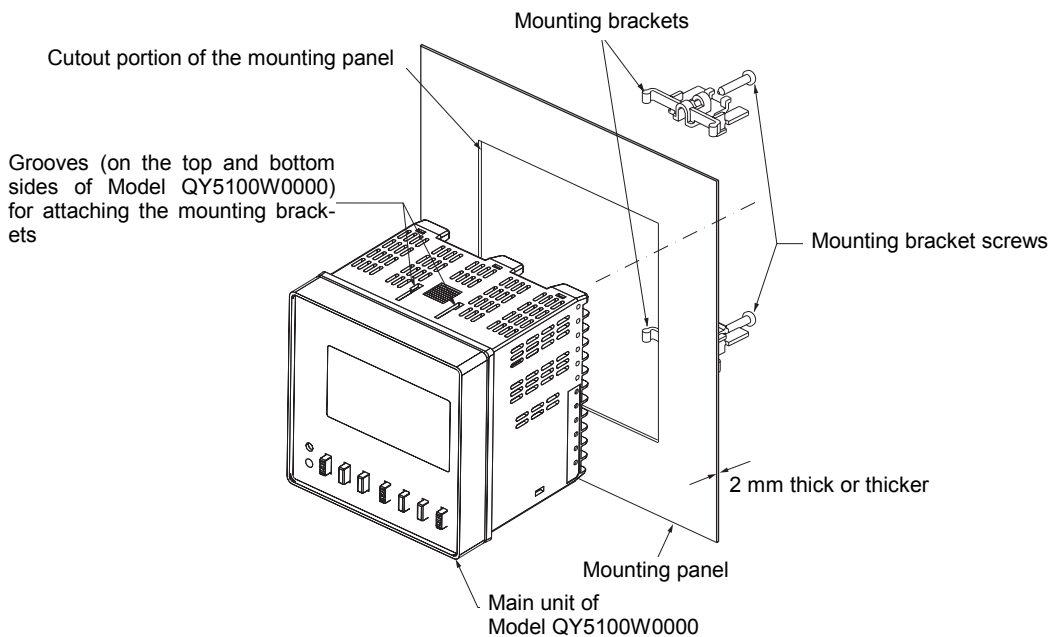


Figure 6. Mounting to the mounting panel

Mounting: Model RY5001Q0000 (Integral Type)

Model RY5001Q0000, as well as the other modules (I/O and UT) connected to the remote unit (Inflex GC/Inflex GD/Inflex AC), is mounted on a DIN rail. The connectable modules including Model RY5001Q0000 vary because the power supplied by the remote unit is limited. For details about mounting Model RY5001Q0000, please refer to the specifications/instructions manual of the remote unit and that of the modules connected to the remote unit.

Product	Document number	Document type
Inflex AC	AB-6438	Specifications/Instructions
Inflex GC	AB-6528	Specifications/Instructions
Inflex GD	AB-6529	Specifications/Instructions
Modules (I/O, UT, Operator Panel)	AB-6527	Specifications/Instructions

Wiring: Model QY5100W0000 (Panel Mount Type)

⚠ WARNING



- Be sure to ground. Improper grounding may cause electrical shock and equipment damages.

⚠ CAUTION



- Use max. $\phi 5.8$ mm wide (outer diameter) crimp terminals.



- Multiple cable wires cannot be connected together to the power supply terminal area. Avoid parallel wiring via the power supply terminal of Model QY5100W0000.



- Install a circuit breaker or circuit protector in the power supply circuit that supplies the power to Model QY5100W0000.

Wiring procedure

1) Connect the UT (user terminal) module and Model QY5100W0000 with the modular cable. Then, perform wiring.

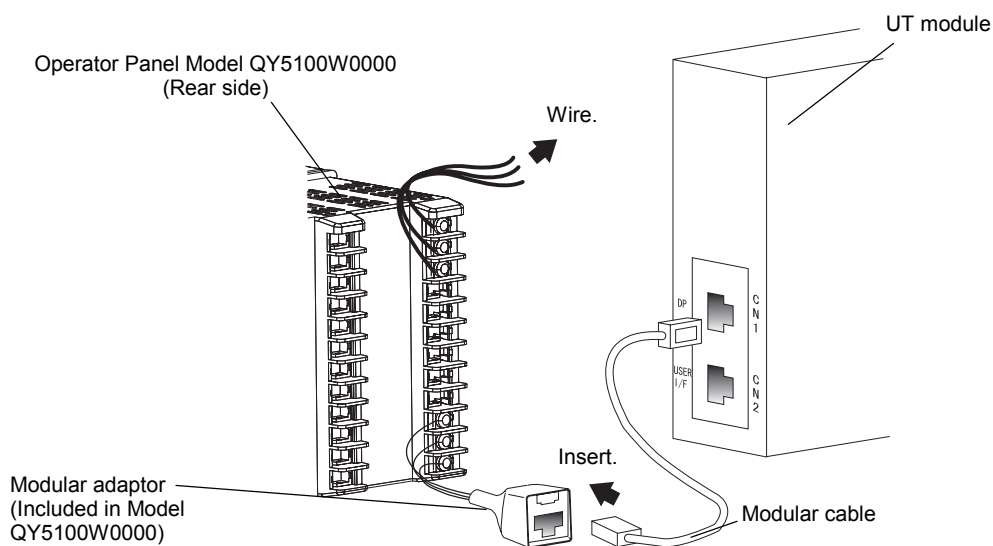


Figure 7. Connection to UT module

2) After the wiring installation is completed, peel off the protective sheet before supplying the power.

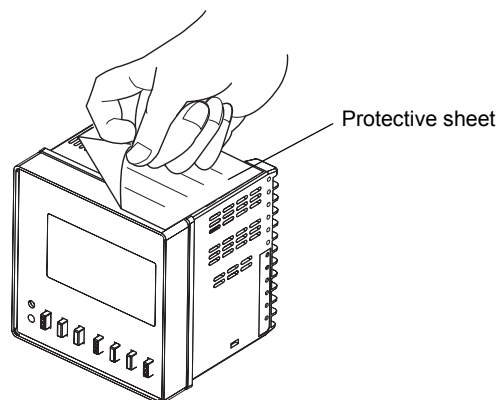


Figure 8. Protective sheet

Wiring: Model RY5001Q0000

Model RY5001Q0000 is directly attached to a remote unit or to its I/O module. Wiring connection therefore is not necessary unless Neopanel or Neoplate is connected to Model RY5001Q0000. (Neopanel/Neoplate is connected to Model RY5001Q0000 with LAN cable. A modular jack (port for Remote Controller bus) is provided on the front lower side of Model RY5001Q0000. (Refer to Fig. 5.)







Maintenance: Model QY5100W0000 (Panel Mount Type)

Model QY5100W0000 does not require any periodic part replacement. However, if the brightness or contrast of the LCD deteriorates, replace the LCD module.

LCD module: Part No. 83167012-001

If any part other than LCD module gets damaged (e.g. fuse disconnection), the whole unit requires to be replaced.

LCD module replacement

 CAUTION	
	<ul style="list-style-type: none"> Only authorized service personnel are allowed to replace the LCD.
	<ul style="list-style-type: none"> Do not touch the power supply part during LCD replacement.
	<ul style="list-style-type: none"> Before replacing the LCD, be sure to turn off the power completely. Always replace the LCD with the power disconnected.
	<ul style="list-style-type: none"> Plastic screws are used to prevent static electricity. Be sure not to excessively tighten them so as not to break the screws, or be sure not to lose them. Metal screws cannot be substituted for the plastic screws.
	<ul style="list-style-type: none"> Be sure to discharge static electricity charged in your body (by touching the unpainted metal part of the panel, etc.) before and during the LCD module installation

Required tools:

- Slotted screwdriver
- Phillips screwdriver

1) Remove the front panel with a slotted screwdriver.

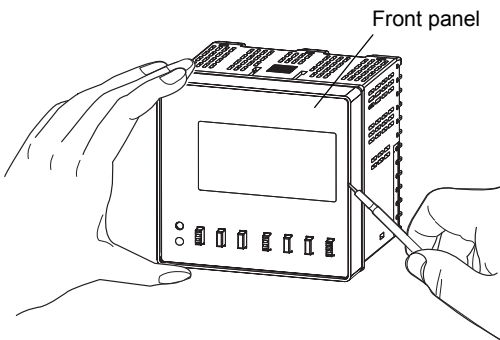


Figure 9. Front panel removal

2) Remove the transparent cover. Insert a slotted screwdriver in the clearance on the right, and pry the transparent cover.

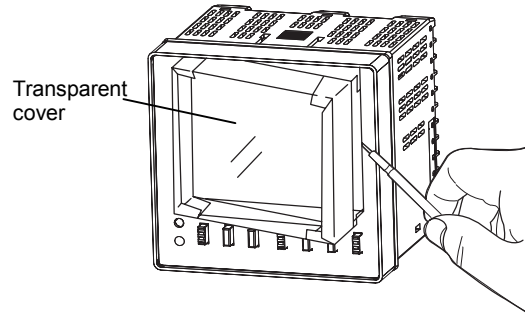


Figure 10. Transparent cover removal (1/2)

Hold the pried cover with fingers to pull it out.

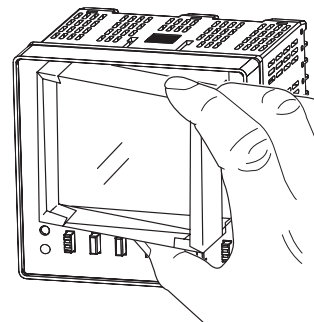


Figure 11. Transparent cover removal (2/2)

3) Remove the screw at the lower left of the LCD board.

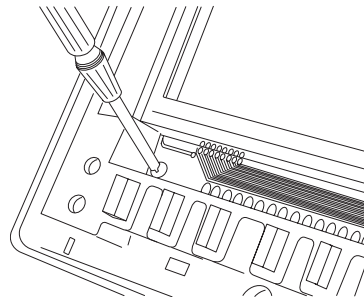


Figure 12. Screw removal

4) Remove the upper portion of the LCD module. At this time, note that the LCD module is connected to the LCD board with the connector.

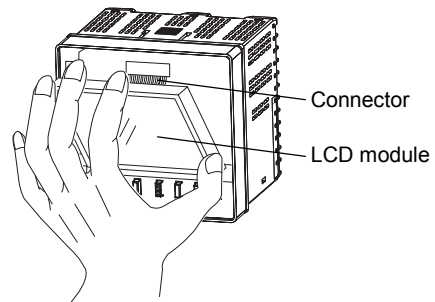


Figure 13. LCD module removal

5) Disconnect the connector to remove the LCD module.

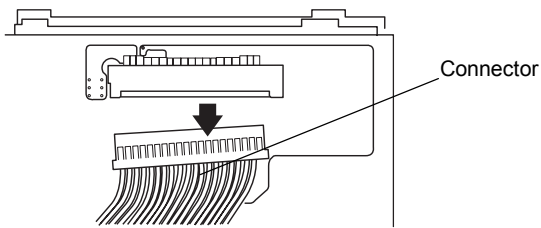


Figure 14. Connector disconnection

6) Mount a new LCD module.

Connect the connector and hook the LCD module with the claws of the LCD board.

Insert the screw into the hole located at the lower left of the LCD board, and then engage the LCD module with the boss at the lower right of the LCD board.

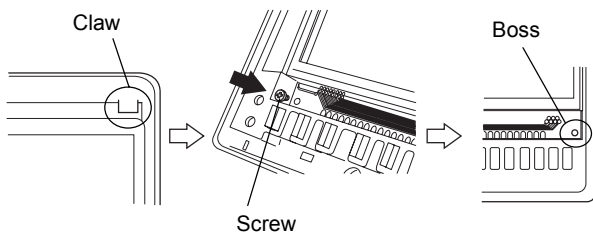




Figure 15. LCD module mounting

7) When the LCD module fits to the LCD board, tighten the screw at the lower left of the LCD board (in one location).

 CAUTION	
	<ul style="list-style-type: none">The tightening torque is 0.07 N·m (0.7 kgf·cm). Higher torque than 0.07 N·m may break the screw.

8) Attach the transparent cover to the LCD module.
(The wider side surface (to be inserted into the LCD module) needs to be located on the right.)

9) Mount the front panel.

Maintenance: Model RY5001Q0000 (Integral Type)

Any part replacement is not available for Model RY5001Q0000. If any part of Model RY5001Q0000 gets damaged, the whole unit requires to be replaced.

For details regarding the maintenance, ask Yamatake's sales personnel.

Specifications are subject to change without notice.

YAMATAKE

Yamatake Corporation
Building Systems Company

Tamachi Kiyota Building
4-3-4, Shibaura
Minato-ku, Tokyo 108-0023
<http://www.yamatake.com>
JAPAN

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