DX200 OPTIONS
INSTRUCTIONS

FOR INTERFACE PANEL FUNCTION

Upon receipt of the product and prior to initial operation, read these instructions thoroughly, and retain for future reference.

MOTOMAN INSTRUCTIONS

MOTOMAN-□□□ INSTRUCTIONS
DX200 INSTRUCTIONS
DX200 OPERATOR'S MANUAL (for each purpose)
DX200 MAINTENANCE MANUAL

The DX200 operator's manuals above correspond to specific usage. Be sure to use the appropriate manual.

Part Number: 165834-1CD
Revision: 0

YASKAWA
MOTOMAN ROBOTICS

MANUAL NO.
HW1481793◊

<table>
<tr><td colspan="2" align="center">🛈 MANDATORY</td></tr>
</table>

- This manual explains the interface panel function of the DX200 system and general operations. Read this manual carefully and be sure to understand its contents before handling the DX200.

- General items related to safety are listed in Chapter 1: Safety of the DX200 Instructions. To ensure correct and safe operation, carefully read the DX200 Instruction before reading this manual.

<table>
<tr><td colspan="2" align="center">⚠ CAUTION</td></tr>
</table>

- Some drawings in this manual are shown with the protective covers or shields removed for clarity. Be sure all covers and shields are replaced before operating this product.

- The drawings and photos in this manual are representative examples and differences may exist between them and the delivered product.

- YASKAWA may modify this model without notice when necessary due to product improvements, modifications, or changes in specifications. If such modification is made, the manual number will also be revised.

- If your copy of the manual is damaged or lost, contact a YASKAWA representative to order a new copy. The representatives are listed on the back cover. Be sure to tell the representative the manual number listed on the front cover.

- YASKAWA is not responsible for incidents arising from unauthorized modification of its products. Unauthorized modification voids your product's warranty.

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Notes for Safe Operation

Read this manual carefully before installation, operation, maintenance, or inspection of the DX200.

In this manual, the Notes for Safe Operation are classified as "WARNING," "CAUTION," "MANDATORY," or "PROHIBITED."

⚠	**WARNING**	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to personnel.
⚠	**CAUTION**	Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury to personnel and damage to equipment. It may also be used to alert against unsafe practices.
❗	**MANDATORY**	Always be sure to follow explicitly the items listed under this heading.
🚫	**PROHIBITED**	Must never be performed.

Even items described as "CAUTION" may result in a serious accident in some situations. At any rate, be sure to follow these important items.

> **NOTE** To ensure safe and efficient operation at all times, be sure to follow all instructions, even if not designated as "CAUTION" and "WARNING."

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| ⚠ **WARNING** |
|---|
| • Before operating the manipulator, check that servo power is turned OFF when the emergency stop buttons on the front door of the DX200 and programming pendant are pressed.
When the servo power is turned OFF, the SERVO ON LED on the programming pendant is turned OFF.

Injury or damage to machinery may result if the emergency stop circuit cannot stop the manipulator during an emergency. The manipulator should not be used if the emergency stop buttons do not function.

Figure 1: Emergency Stop Button

• Once the emergency stop button is released, clear the cell of all items which could interfere with the operation of the manipulator. Then turn the servo power ON.

Injury may result from unintentional or unexpected manipulator motion.

Figure 2: Release of Emergency Stop

 TURN
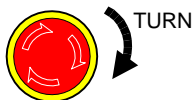
• Observe the following precautions when performing teaching operations within the P-point maximum envelope of the manipulator
– View the manipulator from the front whenever possible.
– Always follow the predetermined operating procedure.
– Keep in mind the emergency response measures against the manipulator's unexpected motion toward you.
– Ensure that you have a safe place to retreat in case of emergency.

Improper or unintended manipulator operation may result in injury.

• Confirm that no persons are present in the P-point maximum envelope of the manipulator and that you are in a safe location before:
– Turning ON the DX200 power
– Moving the manipulator with the programming pendant
– Running the system in the check mode
– Performing automatic operations

• Injury may result if anyone enters the P-point maximum envelope of the manipulator during operation. Always press an emergency stop button immediately if there are problems.The emergency stop buttons are located on the right of the front door of the DX200 and the pr |

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<table>
<tr><td colspan="2" align="center">⚠ CAUTION</td></tr>
</table>

• Perform the following inspection procedures prior to conducting manipulator teaching. If problems are found, repair them immediately, and be sure that all other necessary processing has been performed.
– Check for problems in manipulator movement.
– Check for damage to insulation and sheathing of external wires.
• Always return the programming pendant to the hook on the cabinet of the DX200 after use.
The programming pendant can be damaged if it is left in the manipulator's work area, on the floor, or near fixtures.
Read and understand the Explanation of Warning Labels in the DX200 Instructions before operating the manipulator.

Definition of Terms Used Often in This Manual

The MOTOMAN is the YASKAWA industrial robot product.

The MOTOMAN usually consists of the manipulator, the controller, the programming pendant, and supply cables.

In this manual, the equipment is designated as follows.

Equipment	Manual Designation
DX200 Controller	DX200
DX200 Programming Pendant	Programming Pendant
Cable between the manipulator and the controller	Manipulator cable

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Descriptions of the programming pendant keys, buttons, and displays are shown as follows:

Equipment		Manual Designation
Programming Pendant	Character Keys /Symbol Keys	The keys which have characters or its symbol printed on them are denoted with [ ]. ex. [ENTER]
	Axis Keys /Numeric Keys	[Axis Key] and [Numeric Key] are generic names for the keys for axis operation and number input.
	Keys pressed simultaneously	When two keys are to be pressed simultaneously, the keys are shown with a "+" sign between them, ex. [SHIFT]+[COORD]
	Displays	The menu displayed in the programming pendant is denoted with { }. ex. {JOB}

Description of the Operation Procedure

In the explanation of the operation procedure, the expression "Select • • • " means that the cursor is moved to the object item and the SELECT key is pressed, or that the item is directly selected by touching the screen.

Registered Trademark

In this manual, names of companies, corporations, or products are trademarks, registered trademarks, or brand names for each company or corporation. The indications of (R) and ^{TM} are omitted.

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1   Outline of Interface Panel Function

This function makes the system construction simple and enables the reduction of operation panel and Interlock panel (hereinafter called "I/L panel") by holding the roles of operation panel and I/L board in the programming pendant (hereinafter called "PP").

Users can construct the arbitrary operation panel for PP by setting data in Interface panel setting screen.

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2   Display and Operations of Panel Screen

2.1   Interface Panel Display

2.1.1   Panel Screen Display

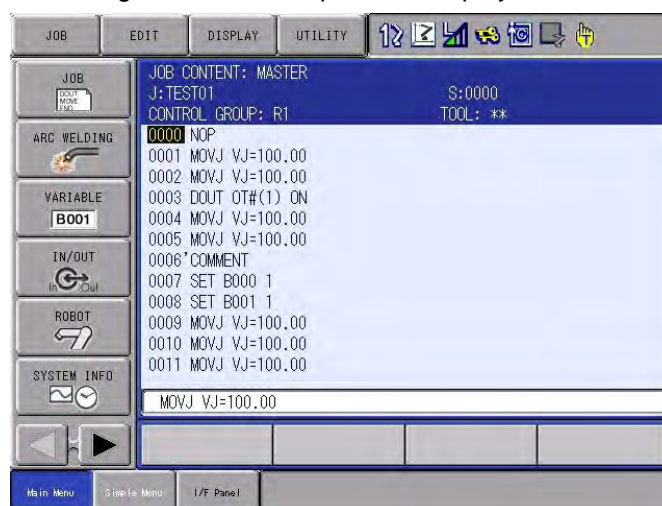Follow the operations as below to display the Interface panel.

1. Press {I/F Panel}.

    – The interface panel screen is displayed.

2. Press {I/F Panel} while the Interface panel appears on the screen.
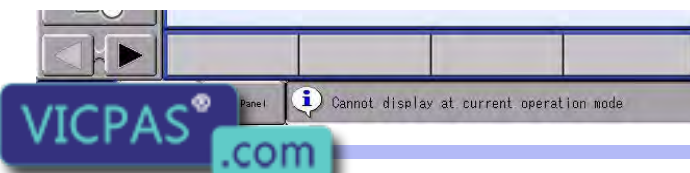
    – The screen goes back to the previous display.

> **NOTE**
>
> Due to some conditions during an operation, Interface panel may not appear on the screen.
>
> In that case, the message "Cannot display at current operation mode" appears when {I/F Panel} is pressed.
>
>

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2.1.2 Panel Screen Operation by Touch Panel

Follow the operations as below to perform ON/OFF operation on the panel screen by Touch panel.

1. Hold down [INTERLOCK] and select an appropriate button on the Touch panel.

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2   Display and Operations of Panel Screen
2.1 Interface Panel Display

2.1.3 Panel Screen Operation by PP Keys

Follow the operations as below to perform ON/OFF operation on the panel screen by PP keys.

1. Use the arrow key to move to the place where ON/OFF operation is to be performed.

2. Hold down [INTERLOCK] and press [SELECT].

SUPPLE-MENT	Set the item "INTERLOCK ENABLE" in the I/F PANEL SETUP screen to "PERMIT", and operations are allowed without pressing the [INTERLOCK] key. See the item No.8 "Interlock Enable" in the "*Table 3-2 Data of Each Setting Items* of *Section 3.2 "Details on Interface Panel Setting Items"*.

SUPPLE-MENT	Set the following parameter to "1" to allow operations only by the Touch panel (prohibiting the operations by cursor key). Parameter: S2C399 (IF panel operation by cursor key) 0: Enable, 1: Disable

2.1.4 Numeric Display

Follow the operations as below to display numeric values on the panel screen

1. Set the item "PANEL TYPE" in the I/F PANEL SETUP screen to either "Counter" or "Preset counter".

    – Numeric value will be displayed in either three-digit number or six-digit number according to the setting of indicated value.

    – If the indicated value exceeds the specified number of digits (three-digit or six-digit), an asterisk "*" appears instead of numeric value.

    Three-digit display: ***   Six-digit display: ******

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2.1.5 Input of Numeric Value

1. Set the item "PANEL TYPE" in the I/F PANEL SETUP screen to "Preset counter".

2. Hold down [INTERLOCK] and touch the icon of "Preset counter" or move the cursor to the icon of "Preset counter", then press [SELECT].

    – Numeric values can now be entered in the Preset counter.

Three-digit display: $\boxed{0}$ $\Rightarrow$ $\boxed{0}$

Six-digit display: $\boxed{0}$ $\Rightarrow$ $\boxed{0}$

3. Enter numeric values with the numeric keypad.

    – Numeric values in the range from -99 to 999 can be entered in the three-digit preset counter. Numeric values in the range from -99999 to 999999 can be entered in the six-digit preset counter.
    No other numeric value is unable to be set except for the possible range of settings shown below:

    – <Possible range of settings>

B-variable: 0 to 255

I-variable: -32768 to 32767

Register: 0 to 65535

NOTE   Numeric values cannot be entered in the Preset counter during playback.

2.1.6 Change of Panel Screen

Follow the operations as below to change the file number of Interface panel.

There are two ways of changing file number.

1. Press the [PAGE] .

    – The panel page changes one by one in the forward direction.

    – Hold down [SHIFT] and press [AREA] to change the panel in the backward direction

2. Instruct the page to be shown by the Touch panel directly.

Press [Shift] to show panel pages 6 to 10.(Pages 1 to 5 when pages 6 to 10 are displayed.)

2.1.7 Change of Language on Screen

The language can be changed only when bilingual function is enabled.

1. Hold down [SHIFT] and press [AREA] .

– The language on the screen changes.

SUPPLE-
MENT

Unless panel names and group names are set in each language mode, the panel names and group names will not be displayed when the screen is changed to the subject language mode.

In such a case, set the panel names and group names in the subject language mode.

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3   Data Setting and Touch Panel I/F Instructions

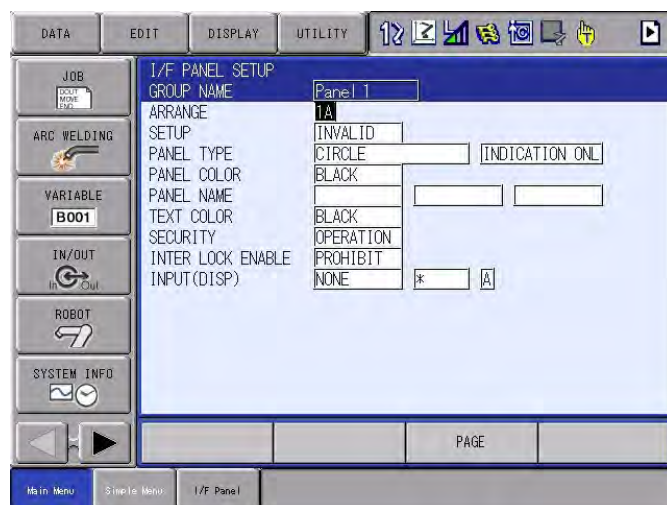Set the security level to "Management" mode.

Follow the operations as below to open I/F panel setting screen.

1. Select {SYSTEM INFO} under the main menu.

2. Select {I/F PANEL SETUP}.

   – The I/F panel setting screen appears.

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3.1   Setting Procedure

The procedure in the case of setting up the following table is shown.

Table 3-1: Example of I/F Panel Setting

Items	Set Data
ARRANGE	1A
SETUP	INVAL ID
PANEL TYPE	COUNTER 3 FIGURES
PANEL COLOR	BLACK
PANEL NAME	COUNTER U COUNTER M COUNTER D
TEXT COLOR	BLACK
SECURITY	OPERATION
INTER LOCK ENABLE	PERMIT
INPUT(DISP)	B VARIABLE B000
GROUP NAME	MAIN

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3.1.1 I/F Panel Setting Data and Display Position

1. Move the cursor to the item "ARRANGE" in the I/F panel setting screen, then press [SELECT].

   – The arrangement setting screen appears.

   – An item with an asterisk "*" indicates that the item has already been set (the setting is enabled).
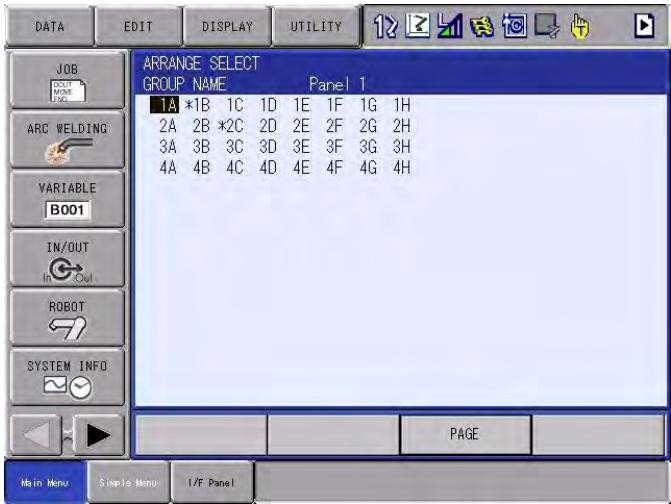
   – The display position of set data is as follows:
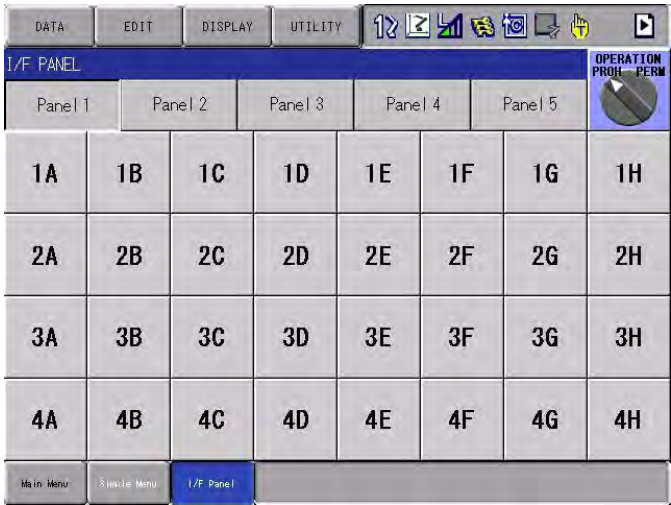
2. Move the cursor to the position where the item is to be arranged and press [SELECT].

   – Using the [PAGE] or the {PAGE} button changes the control group of the arrangement setting screen and a user can select the position where the item is to be arranged.

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3   Data Setting and Touch Panel I/F Instructions
3.1 Setting Procedure

3.1.2   Editing of Setup

1. Move the cursor to the item "SETUP" in the I/F panel setting screen and press [SELECT].

   – The status of "SETUP" switches between "VALID" and "INVALID" with each pressing of [SELECT].

   – If the items "INPUT (DISP)" and "OUTPUT (SETUP)" in the I/F panel setting screen are not set, the status of "SETUP" cannot be set to "VALID".(See the No.2 "SETUP" in the table "Data of Each Setting Items" of *Section 3.2 "Details on Interface Panel Setting Items".*)

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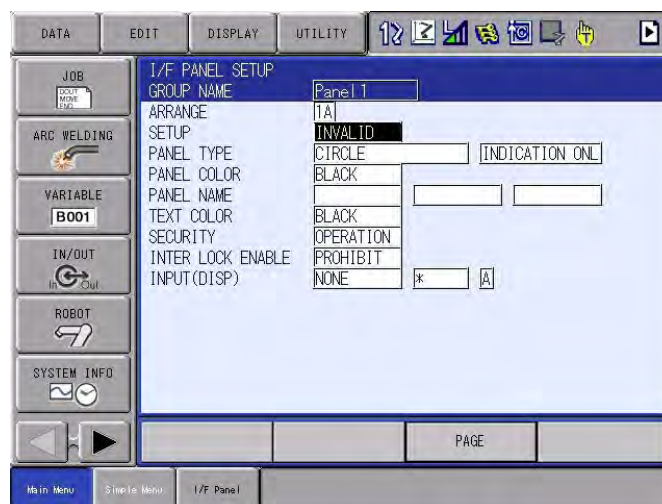
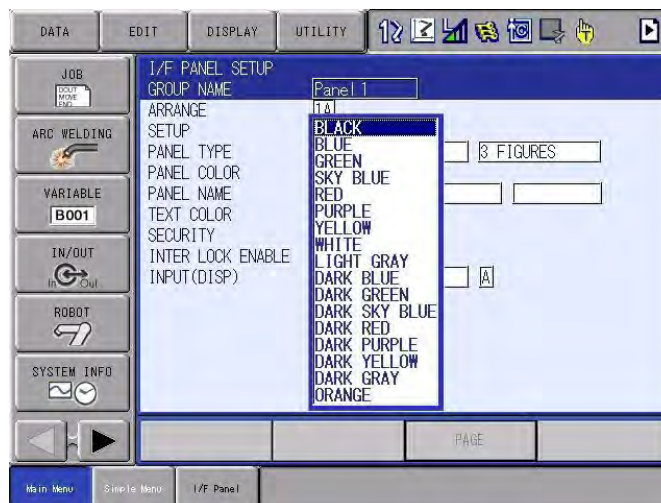### 3.1.3   Editing of Panel Type

1. Move the cursor to the item "PANEL TYPE" in the I/F panel setting screen and press [SELECT].

    – The list of panel types is displayed.
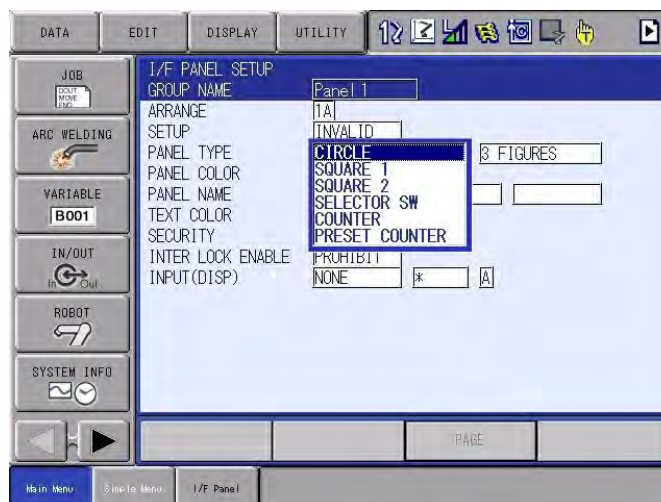
2. Move the cursor to the panel type to be selected and press [SELECT].

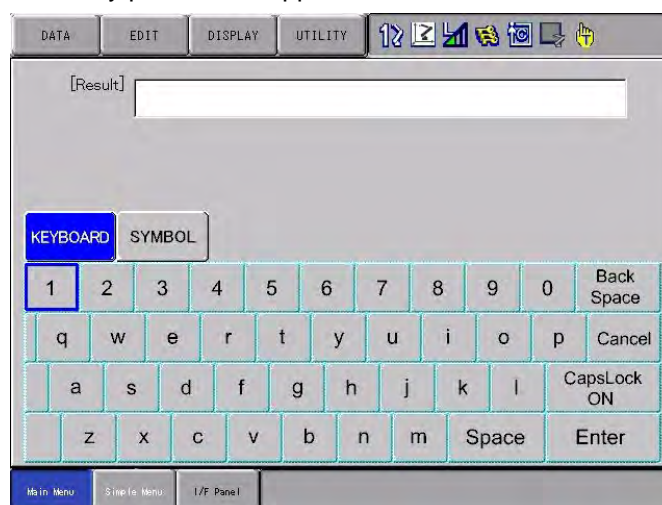### 3.1.4   Editing of Panel Color

1. Move the cursor to the item "PANEL COLOR" in the I/F panel setting screen and press [SELECT].

    – The list of panel colors is displayed.

2. Move the cursor to the panel color to be selected and press [SELECT].

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3.1.5   Editing of Panel Name

1. Move the cursor to the item " PANEL NAME" in the I/F panel setting screen and press [SELECT].
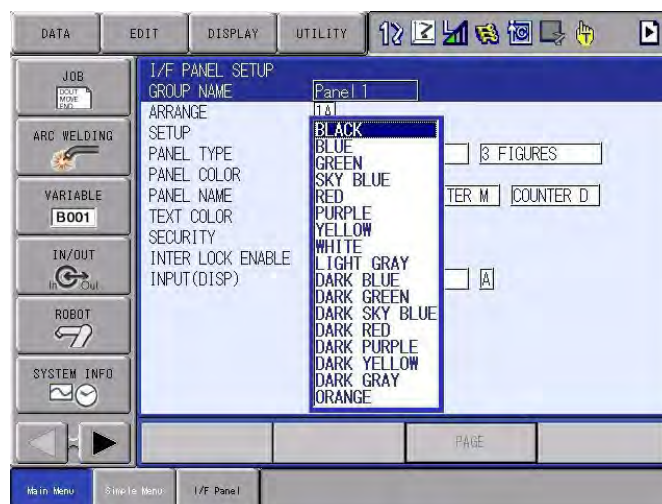
   – The soft key pad screen appears.

2. Enter the desired panel name up to 10 one-byte characters.

> **SUPPLE-MENT**   For character entry operation, refer to Section 1.2.6 "Character Input" in the DX200 OPERATOR'S MANUAL.

3.1.6   Editing of Text Color

1. Move the cursor to the item "TEXT COLOR" in the I/F panel setting screen and press [SELECT].

2. Move the cursor to the text color to be selected and press [SELECT].
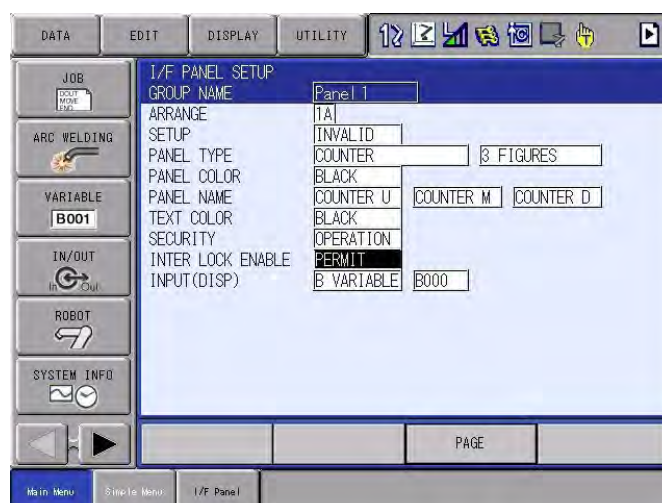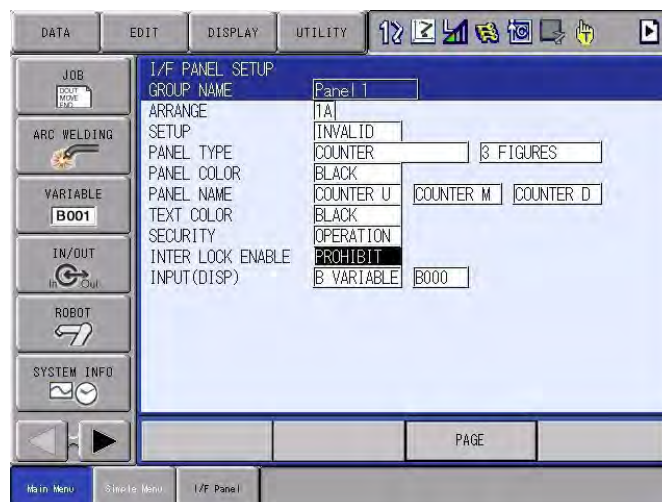
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3.1.7   Editing of Security

1. Move the cursor to the item "SECURITY" in the I/F panel setting screen and press [SELECT].

    – The list of security modes is displayed.

2. Move the cursor to the security mode to be selected and press [SELECT].

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3.1.8   Editing of Interlock Enable

1. Move the cursor to the item "INTERLOCK ENABLE" in the I/F panel setting screen and press [SELECT].

– The status of INTERLOCK ENABLE switches between "PROHIBIT" and "PERMIT" with each pressing of [SELECT].

> **NOTE** Be aware that operations are allowed without pressing the [INTERLOCK] key simultaneously if the item "INTERLOCK ENABLE" is set to "PERMIT".

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3.1.9 Editing of Input

1. Move the cursor to the item "INPUT (DISP)" in the I/F panel setting screen and press [SELECT].

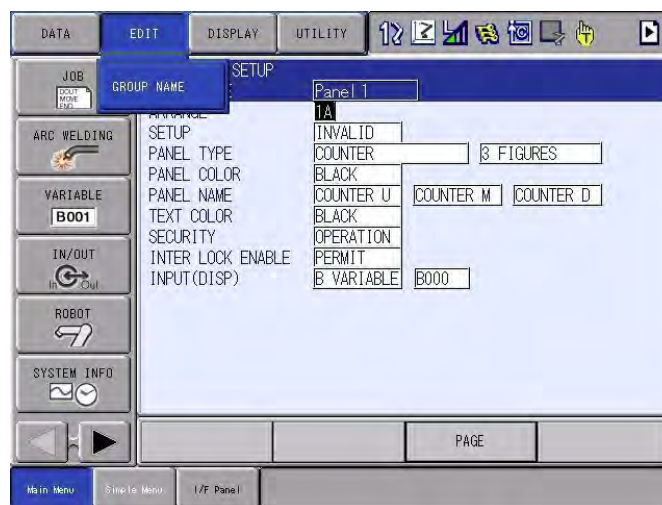   – The list of input items is displayed.
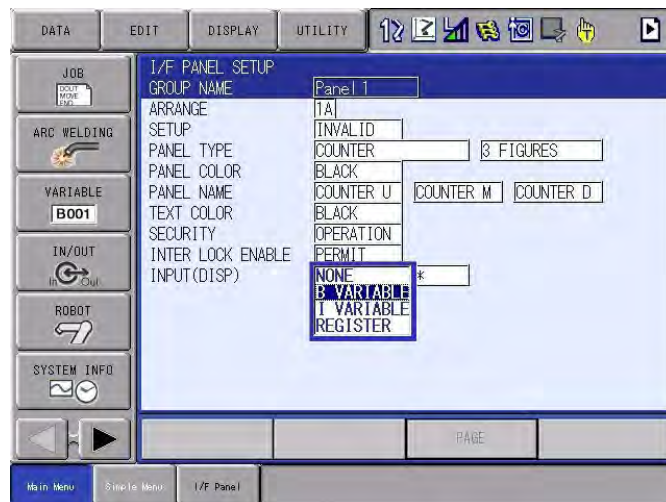
2. Move the cursor to the input No. setting area on the right of {INPUT (DISP)}, and press [SELECT].

    – Enter the numeric input mode.
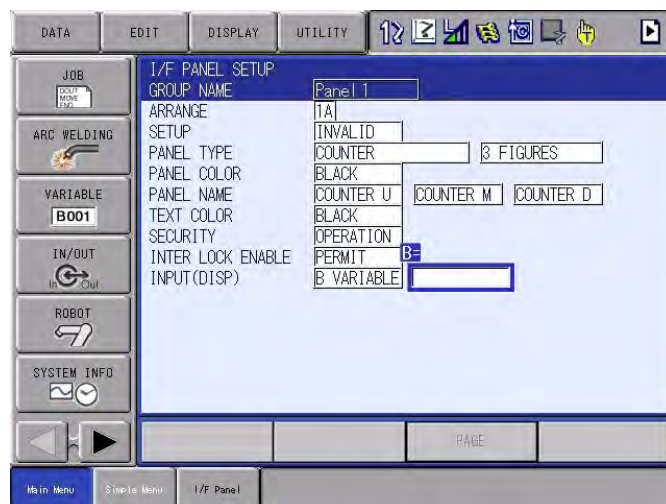
3. Enter the input No. with the numeric keypad, and press [ENTER].

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3   Data Setting and Touch Panel I/F Instructions
3.1 Setting Procedure

3.1.10   Editing of Group Name

1. Select {EDIT} from the menu on the I/F panel setting screen.

2. Select {Group Name}.

    – The virtual keypad is displayed.

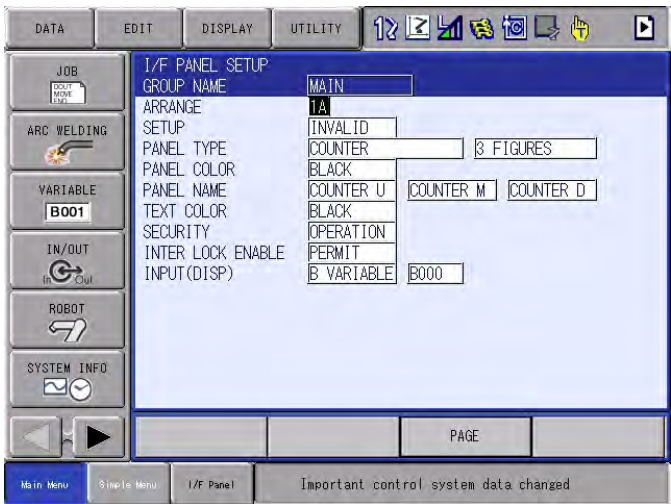3. Enter a new group name (up to 12 one-byte characters).

> SUPPLE-
> MENT
>
> For character entry operation, refer to Section 1.2.6 "Character Input" in the DX200 OPERATOR'S MANUAL.

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– The new group name is displayed in the I/F panel setting screen.

4. Press {I/F PANEL} to display the I/F PANEL screen.

– The new group name is displayed in the I/F panel setting screen.

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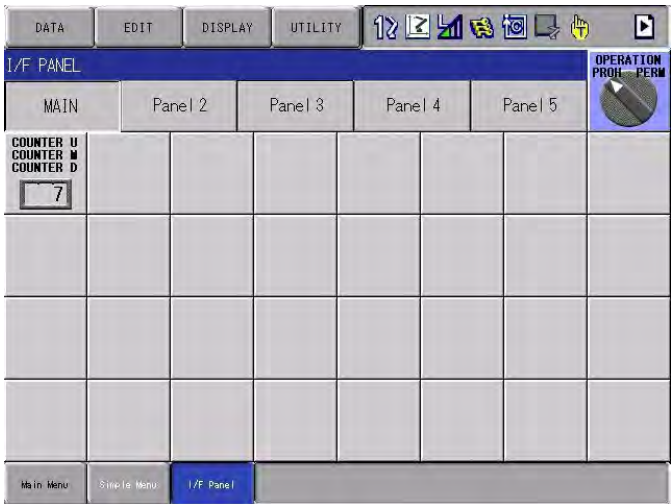
3.1.11　Initialization of Set Data

Perform the following procedures to completely initialize the data which have been set.

1. Select {DATA} from the menu on the I/F panel setting screen.
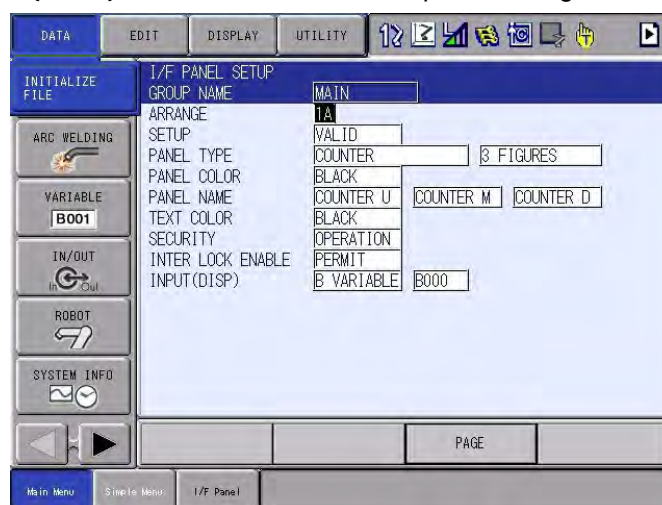
2. Select {Initialize File}.

　– The confirmation dialog box to proceed with initialization appears.

3. Press "Yes" to initialize.

　– The file has been initialized.

3.2   Details on Interface Panel Setting Items

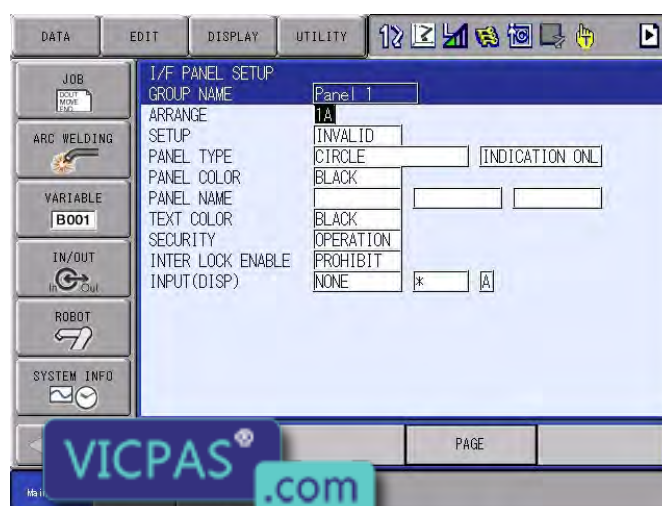The following describe details on the setting items of the Interface panel screen.
Refer to them as required when setting the Interface panel data.

Table 3-2: Data of Each Setting Items

No.	Items		Explanations
1	Arrangement		32 positions in total: 1A to 4H

2	Setup		0: INVALID, 1: VALID
			VALID ⇒ INVALID: the setup status can be changed from Valid to Invalid without conditions.
			INVALID ⇒ VALID: When the set parameter is OK after checking, the status can be changed from Invalid to Valid.
			The following setting is required for VALID status:
			  <When Icon type is circle, square, or selector switch>
			  Input: Signal
			  Output: none or within the range of general output signals
			  <When Icon type is counter>
			  Input: B-variable, I-variable, or register
			  <When Icon type is preset counter>
			  Input: B-variable, I-variable, or register
			  Output: B-variable, I-variable, or register
			  * If the setting item is edited in the Valid status, the status becomes Invalid.

3	Panel Type		0:Circle indication light (display only) 1:Circle indication light (push button) 2:Circle indication light (push-lock/push-release button) 3:Square indication light 1 (display only) 4:Square indication light 1 (push button) 5:Square indication light 1 (push-lock/push-release button) 6:Square indication light 2 (display only) 7:Square indication light 2 (push button) 8:Square indication light 2 (push-lock/push-release button) 9:Selector switch (left: ON) 10:Selector switch (right: ON) 11:Selector switch (2-point output) 12:Selector switch (panel operation) 16:Counter (3-digit display) 17:Counter (6-digit display) 18:Preset counter (3-digit display) 19:Preset counter (6-digit display)
4	Panel Color		0: Black, 1: Blue, 2: Green, 3: Sky blue, 4: Red, 5: Purple, 6: Yellow, 7: White, 8: Light gray, 9: Dark blue, 10: Dark green, 11: Dark sky blue, 12: Dark red, 13: Dark purple, 14: Dark yellow, 15: Dark gray, 16: Orange
5	Panel Name		10 one-byte characters for one line Three lines can be indicated at maximum.
6	Text Color		0: Black, 1: Blue, 2: Green, 3: Sky blue, 4: Red, 5: Purple, 6: Yellow, 7: White, 8: Light gray, 9: Dark blue, 10: Dark green, 11: Dark sky blue, 12: Dark red, 13: Dark purple, 14: Dark yellow, 15: Dark gray, 16: Orange
7	Security		0: Operation mode, 1: Editing mode, 2: Management mode
8	Interlock Enable		0: Prohibited, 1: Permitted
9	Input	ID	0: None, 1: Signal, 2: B-variable, 3: I-variable, 4: Register
		No.	Numbers differ according to the ID. (See the table *Table 3-3 Input/Output Allocation Status.*)
		Contact	OFF: A-contact, ON: B-contact The setting is invalid when the ID is not set to 1:Signal.
10	Output	ID	0: None, 1: Signal, 2: B-variable, 3: I-variable, 4: Register
		No.	Numbers differ according to the ID. (See the table *Table 3-3 Input/Output Allocation Status on page 3-15*.
		Contact	OFF: A-contact, ON: B-contact The setting is invalid when the ID is not set to 1: Signal.

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Table 3-2: Data of Each Setting Items

No.	Items	Explanations
11	Group Name	Enable to input up to 12 one-byte characters per 1 line: 1-line display.w

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SUPPLE-MENT

Shown below is the status of output signals. The status varies depending on which of "push button" and "push-lock/push-release button" is selected by pressing "circle indication light", "square indication light 1", or "square indication light 2".

■**When selecting "push button":**

(For form A contacts)
Press the button to turn the output (setting) signal state to ON.
Release the button to turn the output (setting) signal state to OFF.

(For form B contacts)
Press the button to turn the output (setting) signal state to OFF.
Release the button to turn the output (setting) signal state to ON.

■**When selecting "push-lock/push-release button":**

An input signal (indicated value) of when pressing "push-lock/push-release button" is reversed to an output signal (set value).

The status of signal does not change even when the button is released. (The status is held.)

① When pressing the button: Input = ON $\Rightarrow$ Output = OFF

Input = OFF $\Rightarrow$ Output = ON

kWhen releasing the button: Hold the status (= ①) of output

■**When selecting "2-point output" by selector switch:**
 The status of output signal of when pressing a selector switch is as follows.

When pressing a selector switch while the switch is pointing left:

Output 1 = OFF, Output 2 = ON

When pressing a selector switch while the switch is pointing right:

Output 1 = ON, Output 2 = OFF

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See the following table "Input/Output Allocation Status" when allocating input/output signals.

Table 3-3: Input/Output Allocation Status

ID	Items	Range	Input Allocation	Output Allocation	Icon Type
1	General input	#00010 to #05127 (4096 signals)	enable	disable	Circle/Square indication light Selector switch
	General output	#10010 to #15127 (4096 signals)	enable	enable	Circle/Square indication light Selector switch
	External input	#20010 to #25127 (4096 signals)	enable	disable	Circle/Square indication light Selector switch
	External output	#30010 to #35127 (4096 signals)	enable	enable	Circle/Square indication light Selector switch
	Special input	#40010 to #41607 (1280 signals)	enable	disable	Circle/Square indication light Selector switch
	Special output	#50010 to #53007 (2400 signals)	enable	disable	Circle/Square indication light Selector switch
	I/F panel	#60010 to #60647 (512 signals)	enable	enable	Circle/Square indication light Selector switch
	Auxiliary relay	#70010 to #79997 (7992 signals)	enable	disable	Circle/Square indication light Selector switch
	Control input	#80010 to #80647 (512 signals)	enable	disable	Circle/Square indication light Selector switch
	Pseudo input	#82010 to #82207 (160 signals)	enable	disable	Circle/Square indication light Selector switch
	DL input	#27010 to #29567 (2048 signals)	enable	disable	Circle/Square indication light Selector switch
	DL output	#37010 to #39567 (2048 signals)	enable	enable	Circle/Square indication light Selector switch
2	B-variable	B000 to B099 (100 signals)	enable	-	Counter
			enable	enable	Preset counter
3	I-variable	I000 to I099 (100 signals)	enable	-	Counter
			enable	enable	Preset counter
4	Register	Input allocation: M000 to M999 (1000 signals) Output allocation: M000 to M559 (560 signals)	enable	-	Counter
			enable	enable	Preset counter

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3   Data Setting and Touch Panel I/F Instructions
3.2 Details on Interface Panel Setting Items

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> MENT
>
> The table above describes the status of input / output alloca-
> tion on Interface panel.
> Don't refer to this allocation table when allocating input/out-
> put signals for Concurrent I/O program.

> NOTE
>
> • Note that the following two signals are assumed to be
>   unused for OUT/GOUT in the CIO program.
>
>   External output #30010 to #35127: Output allocation: enable
>   DL output   #37010 to #39567: Output allocation: enable
>
> • The "Setup" box cannot be enabled if a signal used for the
>   OUT/GOUT command in the CIO program is assigned as
>   output in the I/F panel.
>   The 4240 error will occur ("Relay No.duplicated in CIO
>   program and I/F panel").
>
> • While a signal is in IO simulation, assigning that signal as
>   output in the I/F panel prohibits the toggling of signal's ON/
>   OFF state in the I/F panel. Message: "Signal state cannot
>   change in I/O simulation mode"

The following table "Touch Panel I/F" describes the buttons corresponding
to icon types.

The light turns on when the status of input signal (indicated value) is ON,
whereas it turns o when OFF.
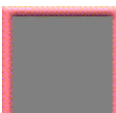
Table 3-4: Touch Panel I/F

No.	Items	Icon	Icon Type
0,1,2	Circle indication light	ON OFF	Indicates the status of allocated signals. The light turns on when the status of input signal (indicated value) is ON, whereas it turns off when OFF.
3,4,5	Square indication light 1	ON OFF	Indicates the status of allocated signals. The light turns on when the status of input signal (indicated value) is ON, whereas it turns off when OFF.

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Table 3-4: Touch Panel I/F

No.	Items	Icon	Icon Type
6,7,8	Square indication light 2	ON OFF	Indicates the status of allocated signals. The light turns on when the status of input signal (indicated value) is ON, whereas it turns off when OFF.
9,10, 11,12	Selector switch		Indicates the status of allocated signals. When a selector switch is set to "left: ON" or "2-point output): The switch points left when the status of input signal (indicated value) is ON, whereas it points right when OFF. When a selector switch is set to "right: ON": The switch points right when the status of input signal (indicated value) is ON, whereas it points left when OFF.
16,17, 18,19	Counter (3 digits) Counter (6 digits)		Indicates the allocated variables or registers. * The BG color of the preset counter is white.

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4   Save and Load of Set Data

Set the security level to "Management" mode.

1. Select {FD/PC CARD} under the main menu.

2. Select {SAVE} or {LOAD}.

   – The external storage device screen is displayed.
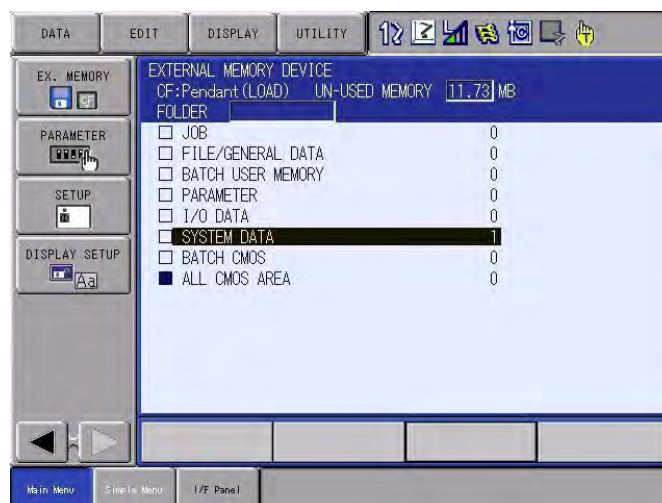
3. Move the cursor to "SYSTEM DATA" and press [SELECT].

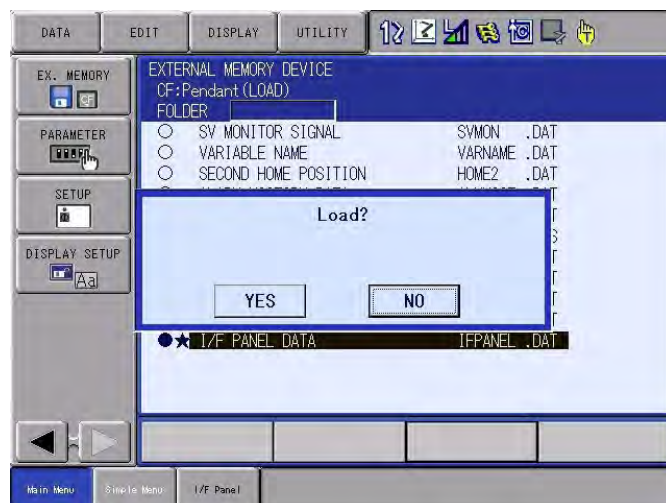   – The list of files to be saved or loaded is displayed.

4. Move the cursor to "I/F PANEL DATA" and press [SELECT].

– A star sign " ★ " appears if a file can be saved or loaded.

5. Press [ENTER].

– The confirmation dialog box is displayed.

6. Move the cursor to "YES" and press [SELECT].

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5   Editing Saved Data

The following explain how to modify the data which is saved in FD/PC CARD on PC.

<Data Example>

//IFPANEL 1

//NAME Panel 1, Panel 1

1A,0,0,0,1,NAME1,NAME2,NAME3,1,1,0,11111,0,0,0,0,0,0,0,NAME1,NAME2,NAME3,0

1B,1,0,0,1,NAME1,NAME2,NAME3,1,1,0,11111,0,0,22222,1,0,0,0,NAME1,NAME2,NAME3,0

1C,1,0,0,1,,NAME2,,1,1,0,11111,0,0,22222,1,0,0,0,NAME1,NAME2,NAME3,0

   .

   .

//IFPANEL 10

///NAME Panel 10, Panel 10

   .

4G,0,0,0,1,NAME1,NAME2,NAME3,1,1,0,11111,0,0,0,0,0,0,0,NAME1,NAME2,NAME3,0

4H,1,0,0,1,NAME1,NAME2,NAME3,1,1,0,11111,0,0,22222,1,0,0,0,NAME1,NAME2,NAME3,0

<Details on Each Data Items>

   Interface panel data: //IFPANEL <N1>

       <N1>: File number of interface panel data

   Interface panel group name: ///NAME <N2>,<N3>

       <N2>: First language group name (12 one-byte characters)

       <N3>: Second language group name (12 one-byte characters)

<Item Data>

<D1>,<D2>,<D3>,<D4>,<D5>,<D6>,<D7>,<D8>,<D9>,<D10>,<D11>,<D12>,<D13>,<D14>,<D15>,<D16>,<D17>,<D18>,<D19>,<D20>,<D21>,<D22>,<D23>

<D1>: Panel Arrangement

       1A,1B,1C,1D,1E,1F,1G,1H,2A,···,4F,4G,4H Total: 32 positions (2 one-byte characters);
       the lower-case letters cannot be used.

<D2>: Setup 0: Invalid 1: Valid

<D3>: Panel Type

       0: Circle indication light (display only)
       1: Ci   push button)
       2: Ci   ck/push-release button)

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3: Square indication light 1 (display only)

4: Square indication light 1 (push button)

5: Square indication light 1 (push-lock/push-release button)

6: Square indication light 2 (display only)

7: Square indication light 2 (push button)

8: Square indication light 2 (push-lock/push-release button)

9: Selector switch (left: ON)

10: Selector switch (right: ON)

11: Selector switch (2-point output)

12: Selector switch (panel operation)

16: Counter (3-digit display)

17: Counter (6-digit display)

18: Preset counter (3-digit display)

19: Preset counter (6-digit display)

<D4>: Panel Color

    0: Black 1: Blue 2: Green 3: Sky blue 4: Red 5: Purple 6: Yellow 7: White

    8: Light gray 9: Dark blue 10: Dark green 11: Dark sky blue 12: Dark red

    13: Dark purple 14: Dark yellow 15: Dark gray 16: Orange

<D5>: Text Color

    Same as the Panel Color

<D6>: First language panel name on the 1st line (10 one-byte characters)

<D7>: First language panel name on the 2nd line (10 one-byte characters)

<D8>: First language panel name on the 3rd line (10 one-byte characters)

<D9>: Security 0: Operation mode 1: Editing mode 2: Management mode

<D10>: Interlock Enable   0: Prohibited 1: Permitted

<D11>: Input Type

    0: None

    1: Signal (numbers are 5-digit)

    2: B-variable (B000 to B099: numbers are 3-digit)

    3: I-variable (I000 to I099: numbers are 3-digit)

    4: Register (M000 to M999: numbers are 3-digit)

<D12>: Number

<D13>: Input Contact   0: A-contact 1: B-contact

<D14>: Output Type 1

    0: None

    1: Signal (numbers are 5-digit)

    ...99: numbers are 3-digit)

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3: I-variable (I000 to I099: numbers are 3-digit)

4: Register (M000 to M999: numbers are 3-digit)

<D15>: Number

<D16>: Output Contact 1   0: A-contact 1: B-contact

<D17>: Output Type 2

0: None

1: Signal (numbers are 5-digit)

2: B-variable (B000 to B099: numbers are 3-digit)

3: I-variable (I000 to I099: numbers are 3-digit)

4: Register (M000 to M999: numbers are 3-digit)

<D18>: Number

<D19>: Output Contact 2   0: A-contact 1: B-contact

<D20>: Second language panel name on the 1st line (10 one-byte characters)

<D21>: Second language panel name on the 2nd line (10 one-byte characters)

<D22>: Second language panel name on the 3rd line (10 one-byte characters)

<D23>: Optional   0: Standard

⚠ **CAUTION**

- Syntax error will occur when inserting line feeds into the data "Data Example".

- Syntax error will occur when the number of commas differs from the saved data in FD/PC card.

- Define capital letters for variables.

- Wrong signal range or type instruction will make the attribute invalid when loading.

- Loading for one item is possible as follow;
  //IFPANEL 4
  ///NAME Panel 4, Panel 4
  1A,0,0,0,1,NAME1,NAME2,NAME3,1,1,0,11111,0,0,0,0,0,0,0,0,NAME1,NAME2,NAME3,0

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6   Parameters

6.1   Clearing the Status of Signals

By setting parameters, input/output signals at the time of power supply ON or mode change can be set to "hold" or "clear".

The possible settings and the timing of status signal settings are as follows:

Signals	Timing of setting the status of signals	Parameters	Set values
General output signals	Mode change	S4C0064 to S4C0079 S4C1164 to S4C1179	0: Hold / 1: Clear
General output signals	Power supply ON	S2C0235	0: Hold / 1: Clear
Auxiliary relay signals	Power supply ON	S4C0080 to S4C0095	0: Clear / 1: Hold
I/F panel signals	Power supply ON	S4C0569 to S4C0572	0: Hold / 1: Clear

*Notice that auxiliary relay signals have different set values of parameters from general output signals or I/F panel signals.

"Hold" and " Clear" of the status of signlas are defined as follows:

- "Hold " means to keep the status of the previous one at the time of when the power supply is turned OFF or the mode is changed.

- "Clear" means to turn the status of signals into OFF regardless of the previous status at the time of when the power supply is turned OFF or the mode is changed.

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Interface Panel Function

6   Parameters
6.1 Clearing the Status of Signals

6.1.1 Status of General Output Signals at Mode Change

By setting parameters from S4C0064 to S4C0079 and S4C1164 to S4C1179 , it allows to set the status of general output signals (#10010 to #15127) at the time of when changing mode.
For the parameter settings, refer to the table below.

Parameters	General Output Signals	Set Values	Explanation
S4C0064	#10010 to #10167	(Bit specification) 0: Hold, 1: Clear	When a bit specification is set to "1", the status of general output signals will be cleared at the time of changing mode. (Bit specification is to be set by a series of 8 signals.)
S4C0065	#10170 to #10327		
S4C0066	#10330 to #10487		
S4C0067	#10490 to #10647		
S4C0068	#10650 to #10807		
S4C0069	#10810 to #10967		
S4C0070	#10970 to #11127		
S4C0071	#11130 to #11287		
S4C0072	#11290 to #11447		
S4C0073	#11450 to #11607		
S4C0074	#11610 to #11767		
S4C0075	#11770 to #11927		
S4C0076	#11930 to #12087		
S4C0077	#12090 to #12247		
S4C0078	#12250 to #12407		
S4C0079	#12410 to #12567		
S4C1164	#12570 to #12727	(Bit specification) 0: Hold, 1: Clear	When a bit specification is set to "1", the status of general output signals will be cleared at the time of changing mode. (Bit specification is to be set by a series of 8 signals.)
S4C1165	#12730 to #12887		
S4C1166	#12890 to #13047		
S4C1167	#13050 to #13207		
S4C1168	#13210 to #13367		
S4C1169	#13370 to #13527		
S4C1170	#13530 to #13687		
S4C1171	#13690 to #13847		
S4C1172	#13850 to #14007		
S4C1173	#14010 to #14167		
S4C1174	#14170 to #14327		
S4C1175	#14330 to #14487		
S4C1176	#14490 to #14647		
S4C1177	#14650 to #14807		
S4C1178	#14810 to #14967		
S4C1179	#14970 to #15127		

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6.1.2   Status of General Output Signals at Power Supply ON

By setting parameter S2C0235, it allows to set the status of general output signals (#10010 to #15127) at the time of when turning the power supply ON.

For the parameter setting, refer to the table below.

Parameters	General Output Signals	Set Values	Explanation
S2C235	#10010 to #15127	0: Hold, 1: Clear	When S2C235 is set to "1", the status of general output signals will be cleared at the time of power supply ON. (All signals are to be set together.)

6.1.3   Status of Auxiliary Relay Signals at Power Supply ON

By setting parameters from S4C080 to S4C095, it allows to set the status of auxiliary relay signals (#70010 to #79997) at the time of when turning the power supply ON.

For the parameter settings, refer to the table below.

Parameters	Auxiliary Relay Signals	Set Values	Explanation
S4C080	#70010 to #70647	(Bit specification) 0: Clear, 1: Hold	When a bit specification is set to "1", the status of auxiliary relay signals will be held at the time of power supply ON. (Bit specification is to be set by a series of 32 signals.)
S4C081	#70650 to #71287		
S4C082	#71290 to #71927		
S4C083	#71930 to #72567		
S4C084	#72570 to #73207		
S4C085	#73210 to #73847		
S4C086	#73850 to #74487		
S4C087	#74490 to #75127		
S4C088	#75130 to #75767		
S4C089	#75770 to #76407		
S4C090	#76410 to #77047		
S4C091	#77050 to #77687		
S4C092	#77690 to #78327		
S4C093	#78330 to #78967		
S4C094	#78970 to #79607		
S4C095	#79610 to #79997		

6.1.4   Status of I/F Panel Signals at Power Supply ON

By setting parameters from S4C569 to S4C572, it allows to set the status of I/F panel signals (#60010 to #60647) at the time of when turning the power supply ON.

For the parameter settings, refer to the table below.

Parameters	I/F Panel Signals	Set Values	Explanation
S4C569	#60010 to #60167	(Bit specification) 0: Hold, 1: Clear	When a bit specification is set to "1", the status of I/F panel signals will be cleared at the time of power supply ON. (Bit specification is to be set by a series of 8 signals.)
S4C570	#60170 to #60327		
S4C571	#60330 to #60487		
S4C5__	___0647		

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6.2 Allocation of General Input Signals to Interface Panel Screens

By setting general input signal numbers to parameters from S4C597 to S4C607, general input signals can be allocated to interface panel screens.
For the parameter settings, refer to the table below.

Parameters	Corresponding Panel Screens	Set Values	Explanation
S4C597	NONE	0: No function 1 to 1024 (Integral number): General input signal numbers	Allocates the general input signals set for parameters to the panel screens corresponded to the parameters.
S4C598	Panel 1		
S4C599	Panel 2		
S4C600	Panel 3		
S4C601	Panel 4		
S4C602	Panel 5		
S4C603	Panel 6		
S4C604	Panel 7		
S4C605	Panel 8		
S4C606	Panel 9		
S4C607	Panel 10		

6.2.1 Notification of the Status of General Input Signals

1. Set general input signal numbers to the parameters from S4C597 to S4C607. (Set values are available from 1 to 2048)

   – When the general input signal set to the parameter turns ON, the Interface panel gets activated automatically and the corresponding panel screen appears.

   – If there are several corresponding screens, the panel of smaller number appears on the display.
   However, when the signal set to S4C597 (which has no corresponding panel) turns ON, the panel screen of the previous one appears on the display.

   – When the signals set from S4C598 to S4C607 turn ON, the page button (on which the group name is indicated) changes its color in the corresponding panel.

SUPPLE-MENT	In the cases below, the ｛I/F Panel｝ button flashes in the lower left of the display notifying the "ON" status of the general input signals set for the parameters.

• The case when the Interface panels are unable to get activated (during imputing characters or numeric values) when the general input signals set for the parameters turn ON.

• The case when a page button of the corresponding panel is not shown when the general input signals set for the parameters turn ON.

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DX200 OPTIONS
INSTRUCTIONS

FOR INTERFACE PANEL FUNCTION

YASKAWA
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MANUAL NO.
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