Toho Technology

YOSHIDA

PLC Migration Adapter

Yaskawa 2000/1000 I/O series
Sharp JW/ZW series

PS series

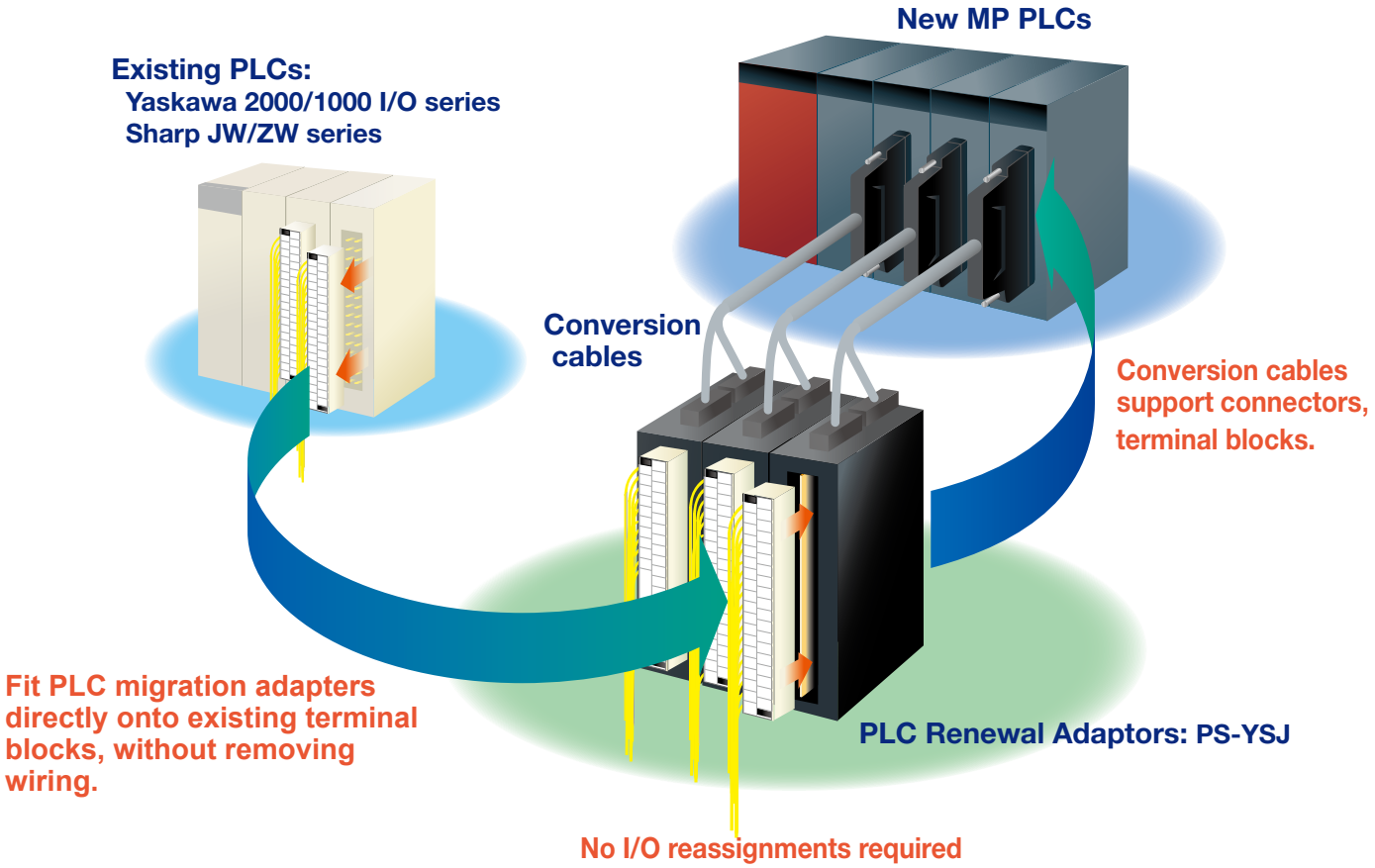
Toho Technology

Migrating outdated PLCs into new PLCs without wiring

The PLC Renewal Adapter allows you to migrate Yaskawa 2000/1000 I/O series PLCs or Sharp JW/ZW series PLCs into new PLC without rewiring and reconnecting cables or rechecking I/O assignments.

Features

- Renew old PLCs from various manufactures including Mitsubishi, JTEKT , Omron and more.
- Voltage conversion models allow new PLCs to be rated at 24 VDC.
- Toho custom-builds cable that adapt PLCs from all major manufacturers with changing connector pin assign.
- Small-footprint installation mounts available upon request.
- “Low-profile” models with reduced depth available.



●PLC Renewal Adaptor Selection

Existing PLC				New PLC	PLC Renewal Adaptor		
Series name	Model name/Configuration	Voltage rating	Number of I/O points	Voltage rating	Model name	Circuit	Reference page
Yaskawa 2000 I/O	Model with 20-pole terminal block	125 VAC/DC max	16	Same as existing PLC	PS-YSJ1	Direct coupling	5
					PS-YSJ1-S	Direct coupling	
	Model with 38-pole terminal block	125 VAC/DC max	32	Same as existing PLC	PS-YSJ2	Direct coupling	6
					PS-YSJ2-S	Direct coupling	
	Model with 38-pole terminal block	250 VAC/DC max	32	Same as existing PLC	PS-YSJ2A22	Direct coupling	7
	B2500	250 VAC/24 VDC output	16	24 VDC	PS-YSJ1-RY1	Relay	8
					PS-YSJ1-RY1-S	Relay	
	B2902	250 VAC/24 VDC output	32	24 VDC	PS-YSJ2-RY1	Relay	9
					PS-YSJ2-RY1-S	Relay	
	B2904 B2914	250 VAC/24 VDC output	16	24 VDC	PS-YSJ1-RY2	Relay	10
					PS-YSJ1-RY2-S	Relay	
	B2500	80-240 VAC output	16	24 VDC	PS-YSJ1-TR1	Triac	11
					PS-YSJ1-TR1-S	Triac	
	B2504	80-240 VAC output	32	24 VDC	PS-YSJ2-TR1	Triac	12
					PS-YSJ2-TR1-S	Triac	
	B2501A	100/110 VAC input	16	24 VDC	PS-YSJ1-PH1	Photocoupler	13
					PS-YSJ1-PH2-S	Photocoupler	
	B2505A	100/110 VAC input	32	24 VDC	PS-YSJ2-PH1	Photocoupler	14
					PS-YSJ2-PH2-S	Photocoupler	
	B2503A	200/240 VAC input	16	24 VDC	PS-YSJ1-PH2	Photocoupler	15
					PS-YSJ1-PH2-S	Photocoupler	
	B2507A	200/240 VAC input	32	24 VDC	PS-YSJ2-PH2	Photocoupler	16
					PS-YSJ2-PH2-S	Photocoupler	
Yaskawa 1000 I/O	Model with 24-pole (12P×2) terminal block	125 VAC/DC max	16	Same as existing PLC	PS-YSJ1000-1	Direct coupling	17
	Model with 38-pole terminal block	125 VAC/DC max	32	Same as existing PLC	PS-YSJ1000-2	Direct coupling	18
	B1090B	250 VAC/24 VDC output	16	24 VDC	PS-YSJ1000-1-RY1	Relay	19
	B1094	250 VAC/24 VDC output	8	24 VDC	PS-YSJ1000-0-RY2	Relay	
	B1056	48 VDC output	16	24 VDC	PS-YSJ1000-1-RY3	SSR	20
	B1050	80-240 VAC output	16	24 VDC	PS-YSJ1000-1-TR1	Triac	21
	B1051B	100/110 VAC input	16	24 VDC	PS-YSJ1000-1-PH1	Photocoupler	22
	B1055	200/240 VAC input	16	24 VDC	PS-YSJ1000-1-PH2	Photocoupler	23
	B1057	48 VDC output	16	24 VDC	PS-YSJ1000-1-48	Resistor	24
Sharp JW/ZW *1	Model with 20-pole terminal block	125 VAC/DC max	16	Same as existing PLC	PS-YSJ1	Direct coupling	5
					PS-YSJ1-S	Direct coupling	
	Model with 38-pole terminal block	125 VAC/DC max	32	Same as existing PLC	PS-YSJ2	Direct coupling	6
					PS-YSJ2-S	Direct coupling	
	Model with 38-pole terminal block	250 VAC/DC max	32	Same as existing PLC	PS-YSJ2A22	Direct coupling	7

*1 Renewal of a ZW series PLC requires an attachment from Sharp Manufacturing System.
*2 Please contact Toho Technology for other existing PLC models than those listed on the above table.

●Ordering Information

PLC Renewal Adaptor

For Yaskawa 2000 I/O and Sharp JW/ZW series PLCs

PS-YSJ | 1 | - | PH1 | - | S | - | CM | F | 2

Basic model code

Number of I/O points
1: 16 points
2: 32 points

Shape
Blank: Standard
S: Low-profile

Coating

Blank: PCB coating not required
CM: PCB coating required

Blank: Single coating
2: Double coating

F: Parts side only
R: Solder side only
W: Both sides

Circuit Configuration

Blank: Direct coupling
A22: Direct coupling (250 VAC allowed)
RY1: Voltage conversion, for output
RY2: Voltage conversion, for output (independent common)
TR1: Voltage conversion, for output (triac output)
PH1: Voltage conversion, for input (100/110 VAC)
PH2: Voltage conversion, for input (200/220 VAC)

*1 If you require a low-profile model with 100 VAC input, you can only select a model with a circuit configuration code of PH2.
*2 RY2 is only available in models with a basic model code of PS-YSJ1.
*3 Adaptors for Sharp JW series PLCs are all in a direct-coupling circuit configuration.
*4 Renewal of a Sharp ZW series PLC requires an attachment from Sharp Manufacturing System.

For Yaskawa 1000 I/O series PLCs

PS-YSJ1000 | - | 1 | - | PH1 | - | CM | F | 2

Basic model code

Number of I/O points
0: 8 points
1: 16 points
2: 32 points

Coating

Blank: PCB coating not required
CM: PCB coating required

Blank: Single coating
2: Double coating

F: Parts side only
R: Solder side only
W: Both sides

Circuit Configuration

Blank: Direct coupling
RY1: Voltage conversion, for output
RY2: Voltage conversion, for output (independent common)
RY3: Voltage conversion, for output (independent common)
TR1: Voltage conversion, for output (SSR output)
PH1: Voltage conversion, for input (100/110 VAC)
PH2: Voltage conversion, for input (200/220 VAC)
48: Voltage conversion, for input (Resistor input)

*See pages 17 to 24 for possible combinations of the number of I/O points and the circuit configuration.

Conversion Cables

●**Can be custom-made according to your specification.** See page 4.

Installation Mounts

●**Can be custom-made according to your space availability.** See pages 4 and 26.

Ordering Procedure

The following outlines the ordering procedure.

1 PLC Renewal Adaptor

Choose a new PLC model you want to use in place of the existing PLC model.

Advise us of the model names of the existing PLC and the new PLC you have chosen.
(You may be requested to provide us with additional information on the PLCs concerned.)

We will provide a recommendation for a PLC Renewal Adapter model.

Finally choose what PLC Renewal Adaptor model to use.

Some working or loading conditions could hinder the proper function of the Adaptor. Pay due attention to these conditions in advance.

2 Conversion Cable

Advise us of the I/O signal names of the existing and new PLCs.

We prepare a delivery specification and submit it for your approval.

The specification is checked.

The specification is confirmed.

3 Installation Mount (see page 26)

Provide us with information including outer dimensions of the existing mount and the space available for the new mount.

We prepare a delivery specification and submit it for your approval.

The specification is checked.

The specification is confirmed.

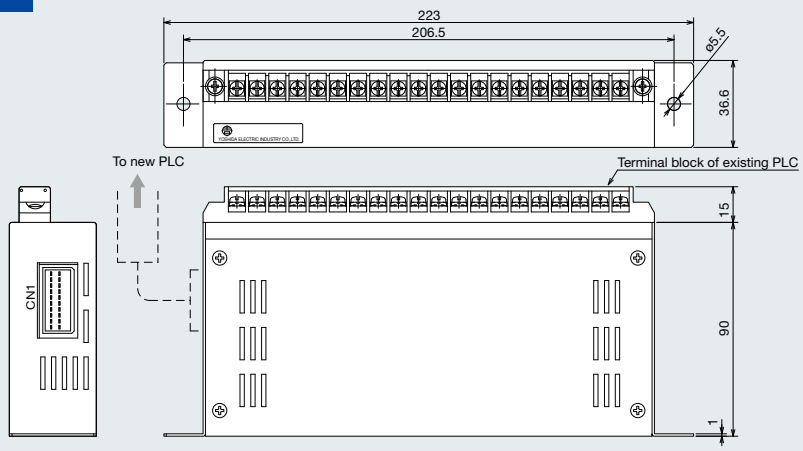
Direct-coupling models

For 16-point input/output module
Circuit configuration: Direct coupling

Standard

PS-YSJ1

(24 – 100 V supported)

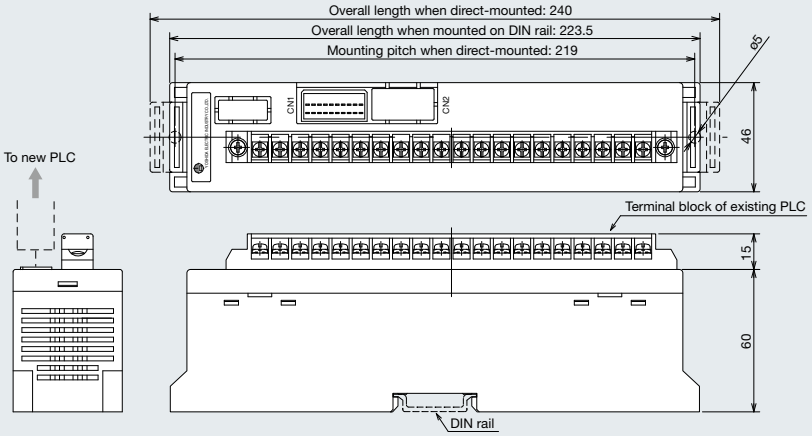


* The product comes with no terminal block.

Low-profile

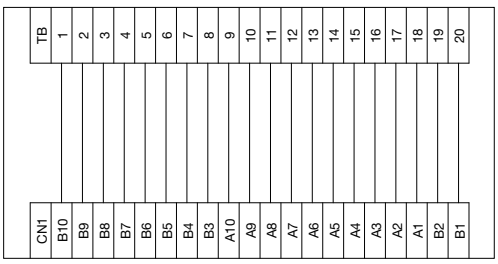
PS-YSJ1-S

(24 – 100 V supported)



* The product comes with no terminal block.

Circuit diagram



Specifications

Signal output (new-PLC side)	Connector
Rated voltage	125 VAC/DC
Rated current	1A
Mounting scheme	Direct mounting, DIN rail mounting (for low-profile model only)
Insulation resistance (500 VDC megger)	1000 Mohm min. (to GND)
Dielectric strength	2000 VAC for one minute (to GND)
Lighting impulse (1.2/50 μs)	±4000 V, three times each (to GND)
Vibration resistance	10 – 55 Hz, 0.5mm/p-p
Impact resistance	98m/S^2 (10G)

* PS-YSJ-S is not applicable for triac output.

Existing PLC supported

PLC with 20-pole terminal block (B2601)

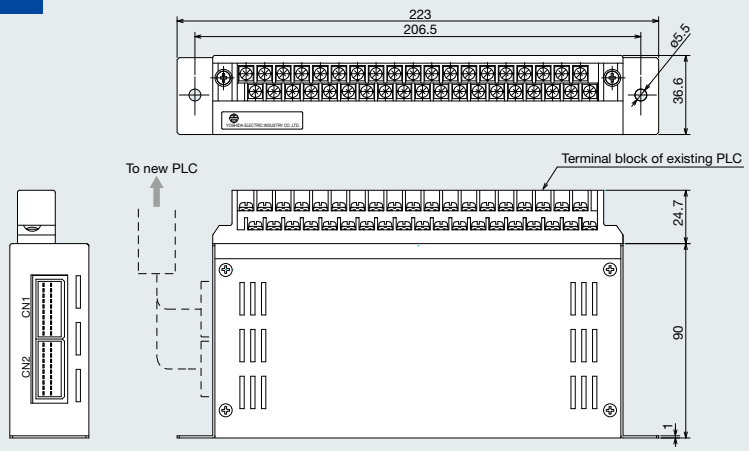
Direct-coupling models

For 32-point input/output module
Circuit configuration: Direct coupling

Standard

PS-YSJ2

(24 – 100 V supported)

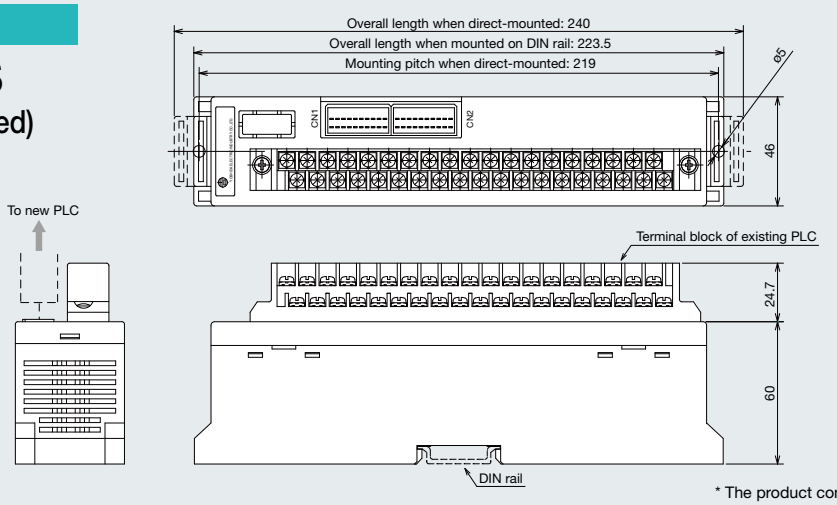


* The product comes with no terminal block.

Low-profile

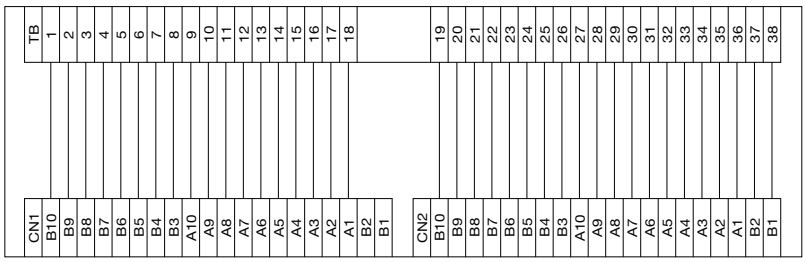
PS-YSJ2-S

(24 – 100 V supported)



* The product comes with no terminal block.

Circuit diagram



Specifications

Signal output (new-PLC side)	Connector
Rated voltage	125 VAC/DC
Rated current	1A
Mounting scheme	Direct mounting, DIN rail mounting (for low-profile model only)
Insulation resistance (500 VDC megger)	1000 Mohm min. (to GND)
Dielectric strength	2000 VAC for one minute (to GND)
Lighting impulse (1.2/50 μs)	±4000 V, three times each (to GND)
Vibration resistance	10 – 55 Hz, 0.5mm/p-p
Impact resistance	98m/S^2 (10G)

Existing PLC supported

PLC with 38-pole terminal block (B2603, B2604)

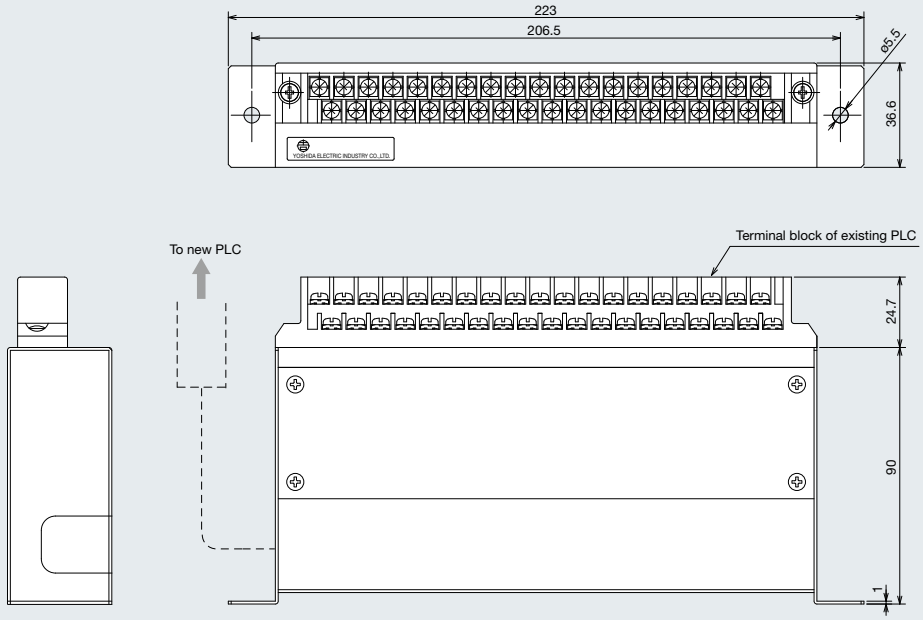
Direct-coupling models

For 32-point input/output module
Circuit configuration: Direct coupling

Standard

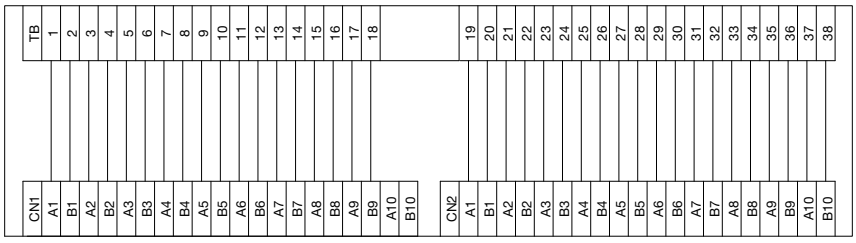
PS-YSJ2A22

(24 – 250 V supported)



* The product comes with no terminal block.

Circuit diagram



Specifications

Signal output (new-PLC side)	Connector
Rated voltage	250 VAC/DC
Rated current	1A
Mounting scheme	Direct mounting
Insulation resistance (500 VDC megger)	1000 Mohm min. (to GND)
Dielectric strength	2000 VAC for one minute (to GND)
Lighting impulse (1.2/50 µs)	±4000 V, three times each (to GND)
Vibration resistance	10 – 55 Hz, 0.5mm/p-p
Impact resistance	98m/S^2 (10G)

Existing PLC supported

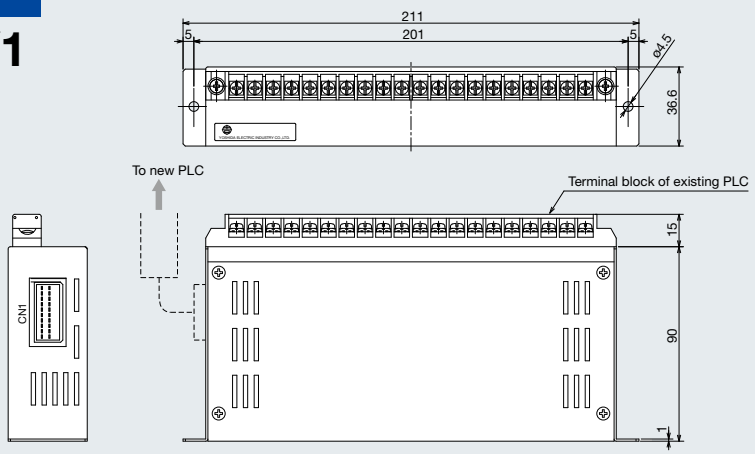
PLC with 38-pole terminal block (B2902, B2507A)

Voltage conversion model

For 16-point output module
Circuit configuration: Relay

Standard

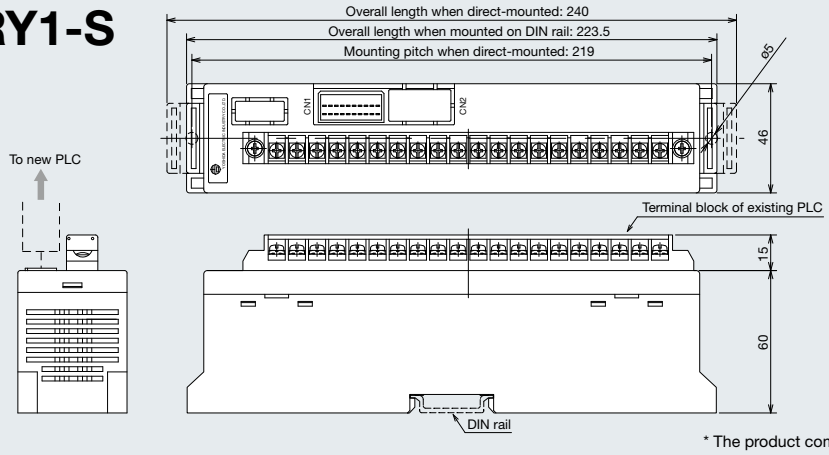
PS-YSJ1-RY1
(Contact output)



* The product comes with no terminal block.

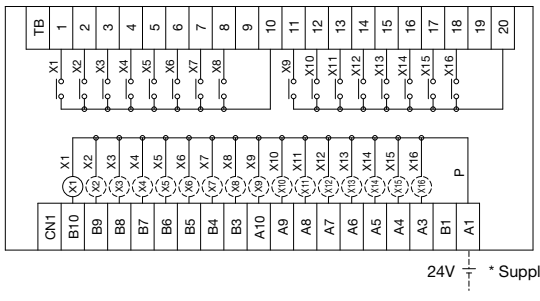
Low-profile

PS-YSJ1-RY1-S
(Contact output)



* The product comes with no terminal block.

Circuit diagram



24V * Supply power to new PLC through conversion cable.

Specifications

Number of points per common (existing-PLC side)	8
Signal output (new-PLC side)	Connector
Rated voltage	250 VAC/24 VDC (existing-PLC side), 24 VDC (new-PLC side)
Rated current (output side)	2A (5A per common)
Circuit configuration	Relay
Mounting scheme	Direct mounting, DIN rail mounting (for low-profile model only)
Insulation resistance (500 VDC megger)	100 Mohm min. (to GND)
Dielectric strength	2000 VAC for one minute (to GND)
Lighting impulse (1.2/50 μs)	±4000 V, three times each (to GND)
Vibration resistance	10 – 55 Hz, 0.5mm/p-p
Impact resistance	98m/S^2 (10G)

Existing PLC supported

B2500

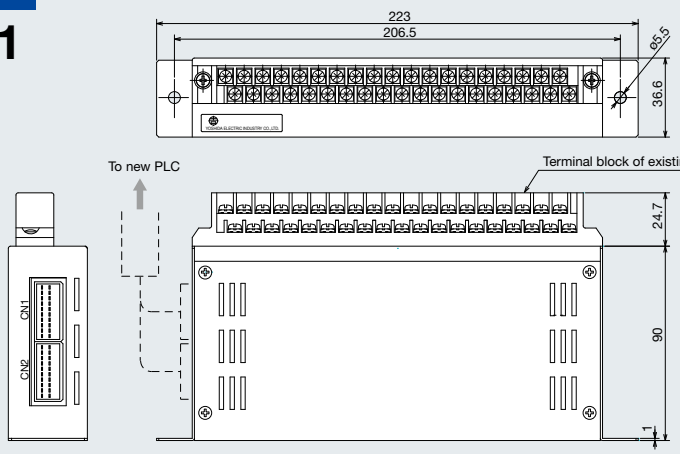
* These models do not deliver triac output.

Voltage conversion model

For 32-point output module
Circuit configuration: Relay

Standard

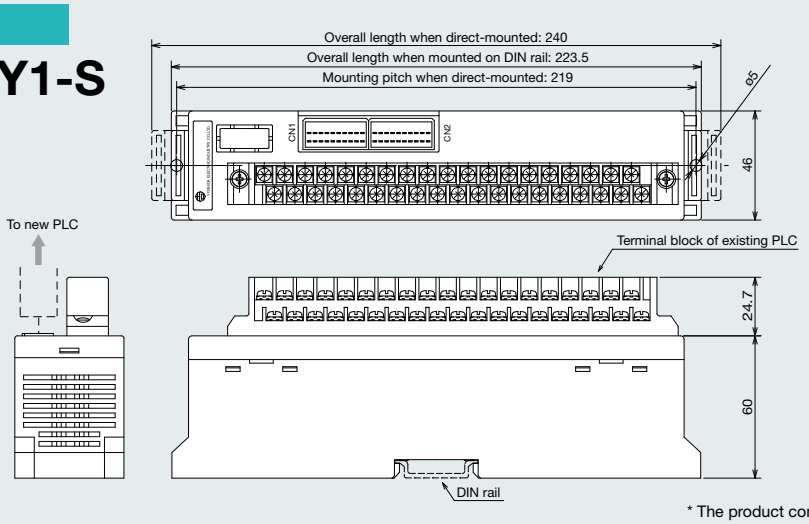
PS-YSJ2-RY1
(Contact output)



* The product comes with no terminal block.

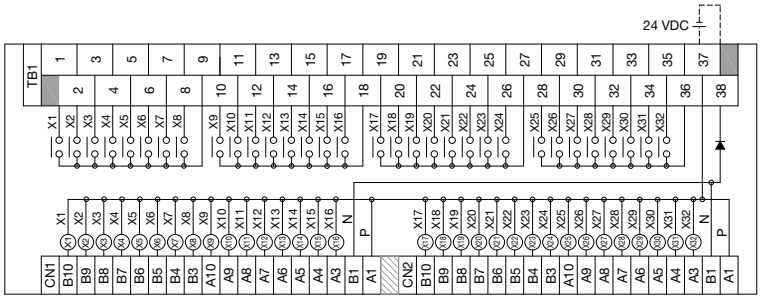
Low-profile

PS-YSJ2-RY1-S
(Contact output)



* The product comes with no terminal block.

Circuit diagram



Specifications

Number of points per common (existing-PLC side)	8
Signal output (new-PLC side)	Connector
Rated voltage	250 VAC/24 VDC (existing-PLC side), 24 VDC (new-PLC side)
Rated current (output side)	2A (5A per common)
Circuit configuration	Relay
Mounting scheme	Direct mounting, DIN rail mounting (for low-profile model only)
Insulation resistance (500 VDC megger)	100 Mohm min. (to GND)
Dielectric strength	2000 VAC for one minute (to GND)
Lighting impulse (1.2/50 µs)	±4000 V, three times each (to GND)
Vibration resistance	10 – 55 Hz, 0.5mm/p-p
Impact resistance	98m/S^2 (10G)

Existing PLC supported

B2902

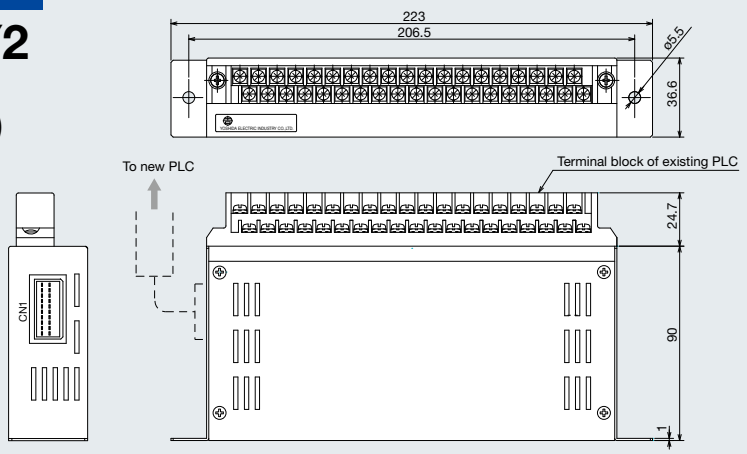
Voltage conversion model

For 16-point output module
Circuit configuration: Relay

Standard

PS-YSJ1-RY2

(Contact output/
Independent common)

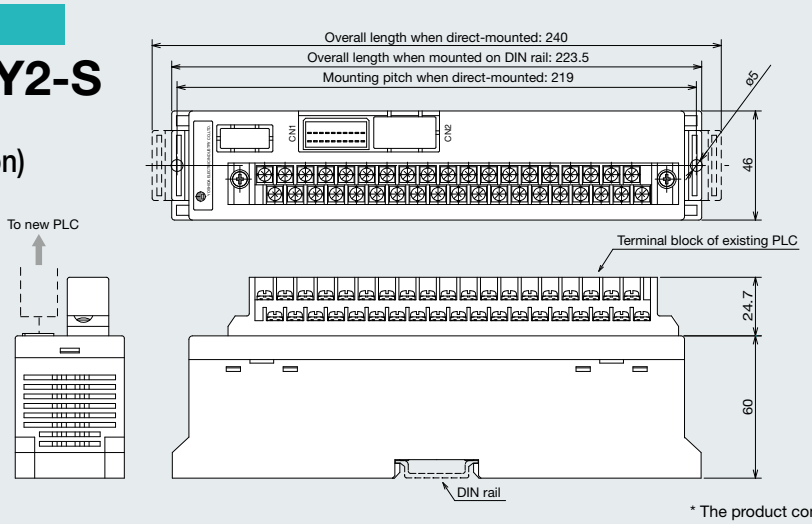


* The product comes with no terminal block.

Low-profile

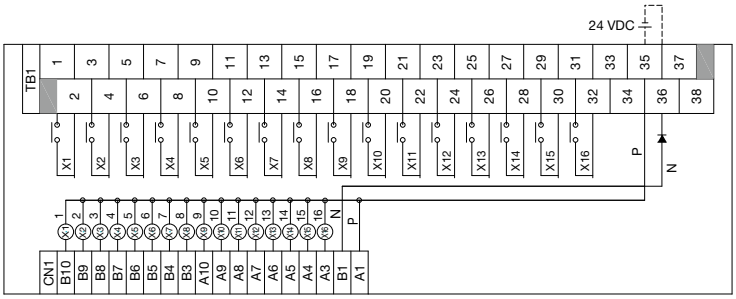
PS-YSJ1-RY2-S

(Contact output/
Independent common)



* The product comes with no terminal block.

Circuit diagram



Specifications

Number of points per common (existing-PLC side)	Independent common
Signal output (new-PLC side)	Connector
Rated voltage	250 VAC/24 VDC (existing-PLC side), 24 VDC (new-PLC side)
Rated current (output side)	2A
Circuit configuration	Relay
Mounting scheme	Direct mounting, DIN rail mounting (for low-profile model only)
Insulation resistance (500 VDC megger)	100 Mohm min. (to GND)
Dielectric strength	2000 VAC for one minute (to GND)
Lighting impulse (1.2/50 µs)	±4000 V, three times each (to GND)
Vibration resistance	10 – 55 Hz, 0.5mm/p-p
Impact resistance	98m/S^2 (10G)

* Relays used are not Bestact™ relays from Yaskawa.

Existing PLC supported

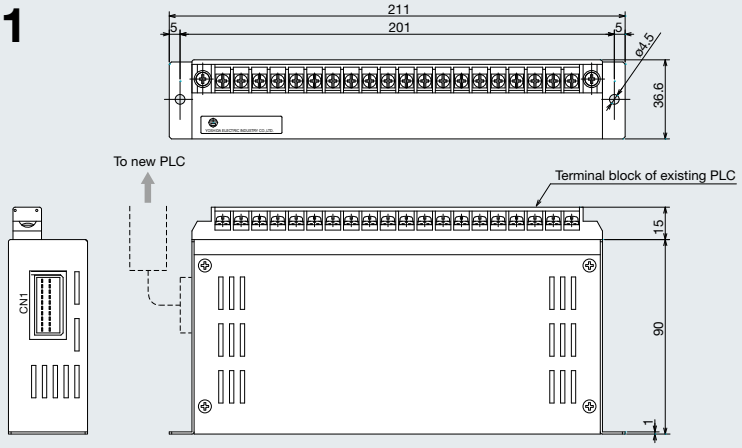
B2904, B2914

Voltage conversion model

For 16-point output module
Circuit configuration: Triac

Standard

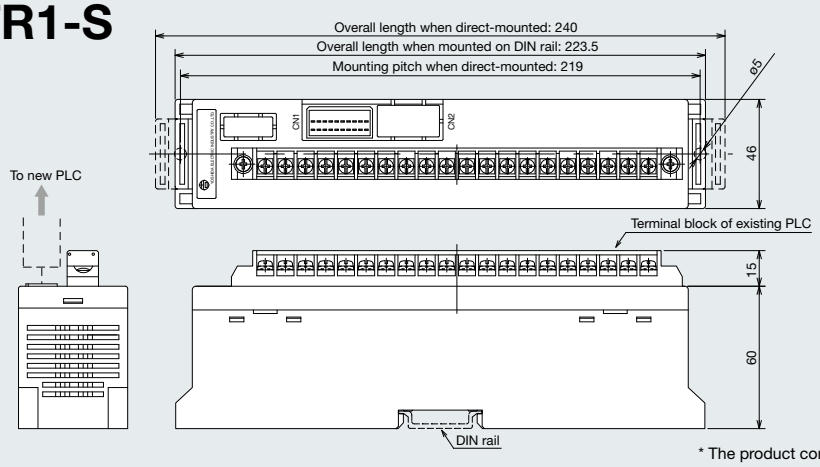
PS-YSJ1-TR1
(Triac output)



* The product comes with no terminal block.

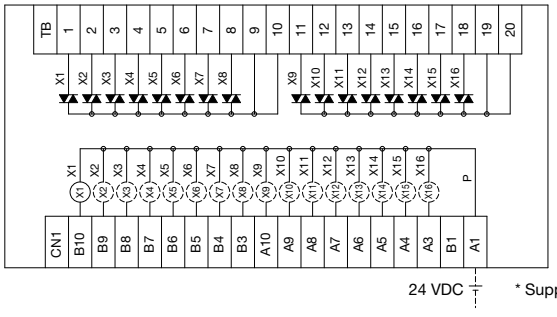
Low-profile

PS-YSJ1-TR1-S
(Triac output)



* The product comes with no terminal block.

Circuit diagram



* Supply power to new PLC through conversion cable.

Specifications

Number of points per common (existing-PLC side)	8
Signal output (new-PLC side)	Connector
Rated voltage	80 – 240 VAC (existing-PLC side), 24 VDC (new-PLC side)
Rated current (output side)	0.6A (2.4A per common)
Circuit configuration	Triac
Mounting scheme	Direct mounting, DIN rail mounting (for low-profile model only)
Insulation resistance (500 VDC megger)	100 Mohm min. (to GND)
Dielectric strength	2000 VAC for one minute (to GND)
Lighting impulse (1.2/50 µs)	±4000 V, three times each (to GND)
Vibration resistance	10 – 55 Hz, 0.5mm/p-p
Impact resistance	98m/S^2 (10G)

Existing PLC supported

B2500

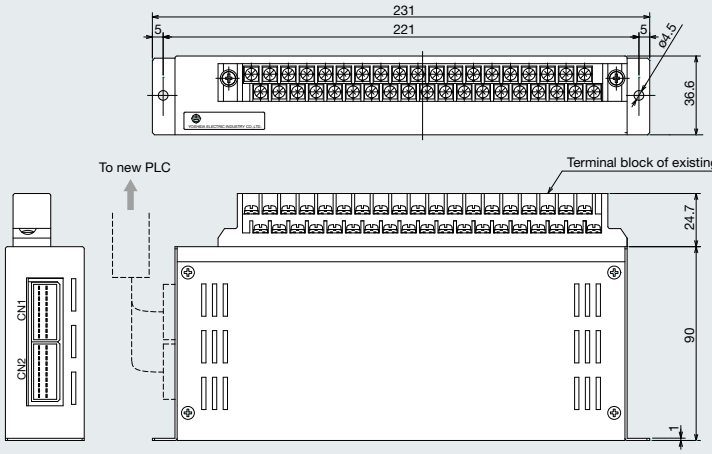
Voltage conversion model

For 32-point output module
Circuit configuration: Triac

Standard

PS-YSJ2-TR1

(Triac output)

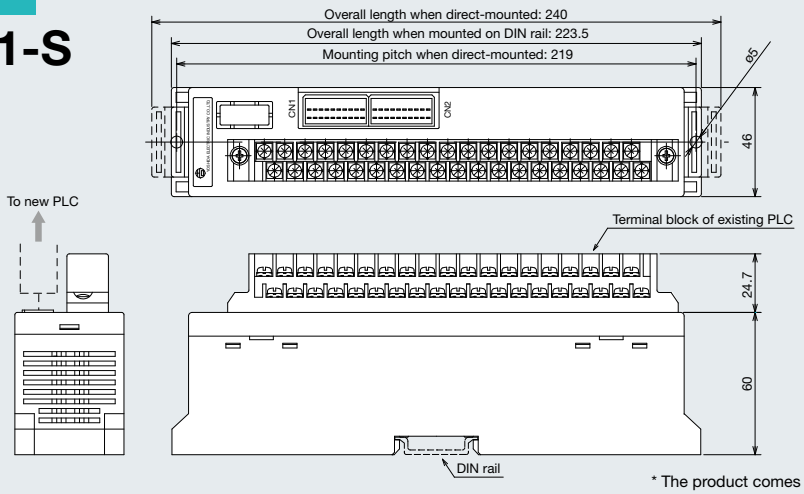


* The product comes with no terminal block.

Low-profile

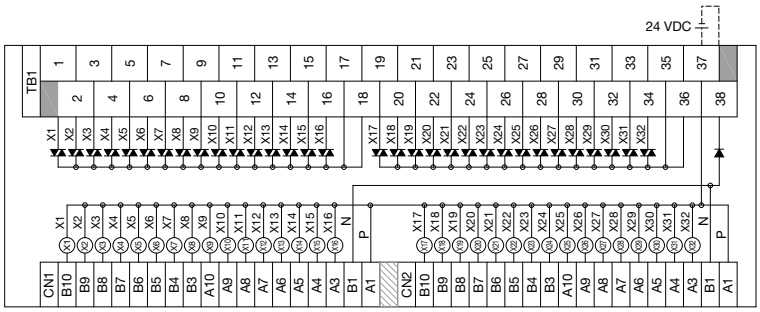
PS-YSJ2-TR1-S

(Triac output)



* The product comes with no terminal block.

Circuit diagram



Specifications

Number of points per common (existing-PLC side)	16
Signal output (new-PLC side)	Connector
Rated voltage	80 – 240 VAC (existing-PLC side), 24 VDC (new-PLC side)
Rated current (output side)	0.6A (2.4A per common)
Circuit configuration	Triac
Mounting scheme	Direct mounting, DIN rail mounting (for low-profile model only)
Insulation resistance (500 VDC megger)	100 Mohm min. (to GND)
Dielectric strength	2000 VAC for one minute (to GND)
Lighting impulse (1.2/50 μs)	±4000 V, three times each (to GND)
Vibration resistance	10 – 55 Hz, 0.5mm/p-p
Impact resistance	98m/S^2 (10G)

Existing PLC supported

B2504

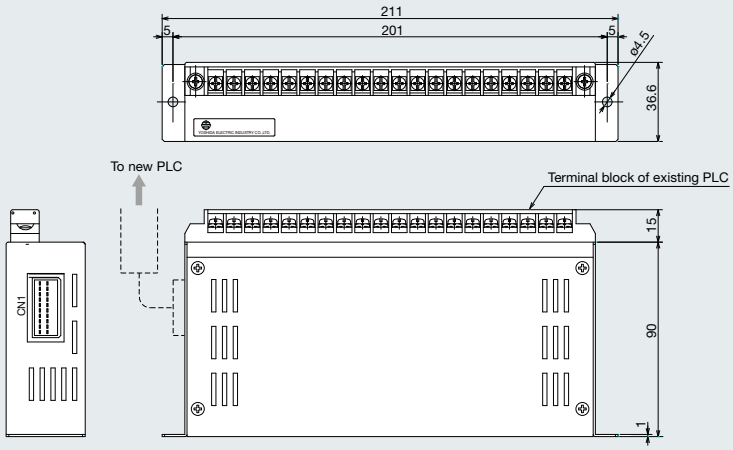
Voltage conversion model

For 16-point 100/110 VAC input module
Circuit configuration: Photocoupler

Standard

PS-YSJ1-PH1

(Conversion of
100/110 VAC to 24 VDC)

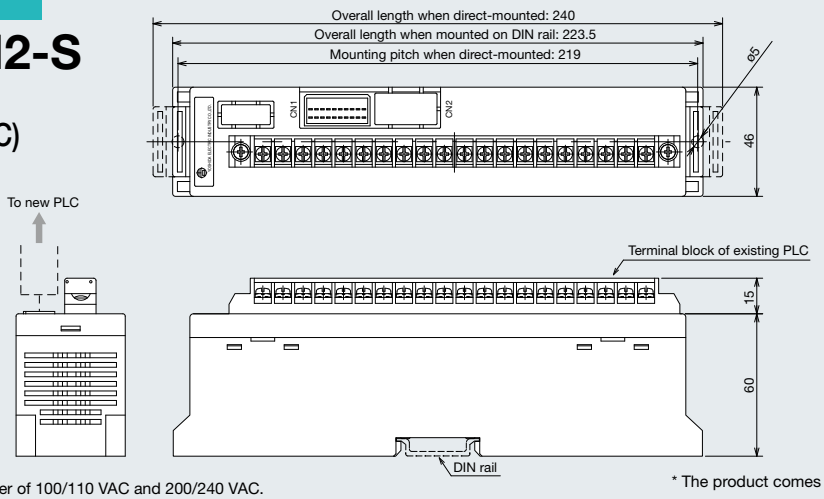


* The product comes with no terminal block.

Low-profile

PS-YSJ1-PH2-S

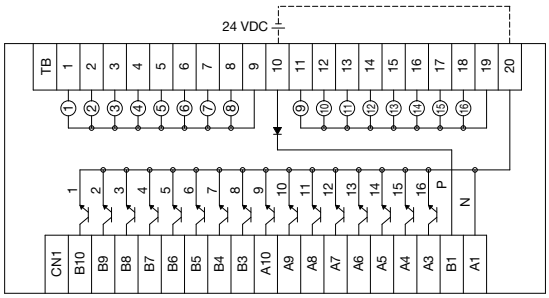
(Conversion of
100/110 VAC to 24 VDC)



* These models can be used with either of 100/110 VAC and 200/240 VAC.

* The product comes with no terminal block.

Circuit diagram



Specifications

Number of points per common (existing-PLC side)	8
Signal output (new-PLC side)	Connector
Rated voltage	100/110 VAC (existing-PLC side), 24 VDC (new-PLC side)
Rated current (input side)	10 mA (for standard model), 5 mA (for low-profile model)
Photocoupler ON voltage	50 VAC
Circuit configuration	Photocoupler
Mounting scheme	Direct mounting, DIN rail mounting (for low-profile model only)
Insulation resistance (500 VDC megger)	100 Mohm min. (to GND)
Dielectric strength	2000 VAC for one minute (to GND)
Lighting impulse (1.2/50 µs)	±4000 V, three times each (to GND)
Vibration resistance	10 – 55 Hz, 0.5mm/p-p
Impact resistance	98m/S^2 (10G)

Existing PLC supported

B2501A

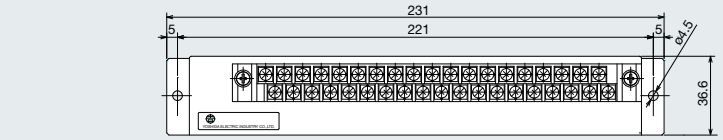
Voltage conversion model

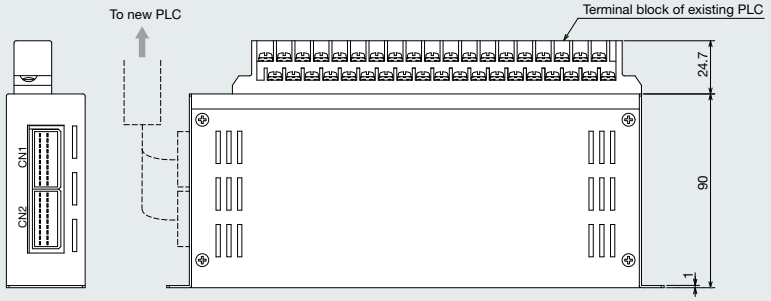
For 32-point 100/110 VAC input module
Circuit configuration: Photocoupler

Standard

PS-YSJ2-PH1

(Conversion of
100/110 VAC to 24 VDC)



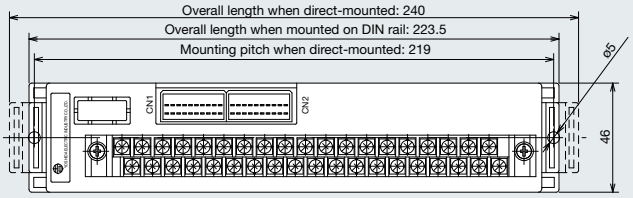


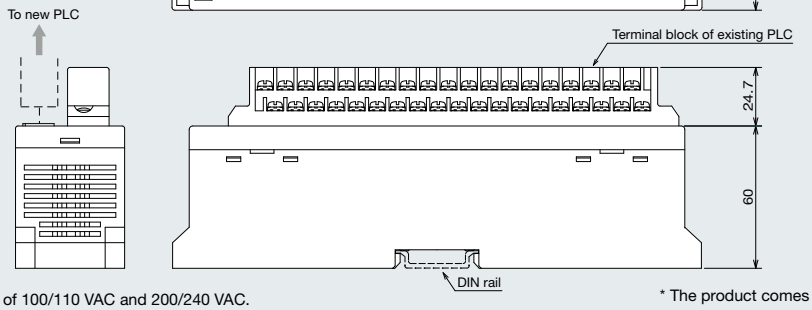
* The product comes with no terminal block.

Low-profile

PS-YSJ2-PH2-S

(Conversion of
100/110 VAC to 24 VDC)

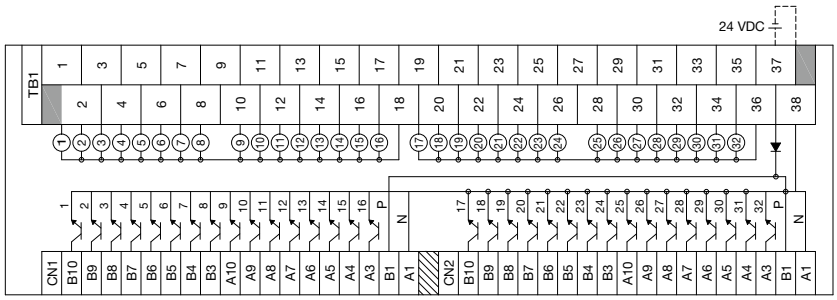




* These models can be used with either of 100/110 VAC and 200/240 VAC.

* The product comes with no terminal block.

Circuit diagram



Specifications

Number of points per common (existing-PLC side)	16
Signal output (new-PLC side)	Connector
Rated voltage	100/110 VAC (existing-PLC side), 24 VDC (new-PLC side)
Rated current (input side)	10 mA
Photocoupler ON voltage	50 VAC
Circuit configuration	SSR or photocoupler
Mounting scheme	Direct mounting, DIN rail mounting (for low-profile model only)
Insulation resistance (500 VDC megger)	100 Mohm min. (to GND)
Dielectric strength	2000 VAC for one minute (to GND)
Lighting impulse (1.2/50 μs)	±4000 V, three times each (to GND)
Vibration resistance	10 – 55 Hz, 0.5mm/p-p
Impact resistance	98m/S^2 (10G)

Existing PLC supported

B2505A

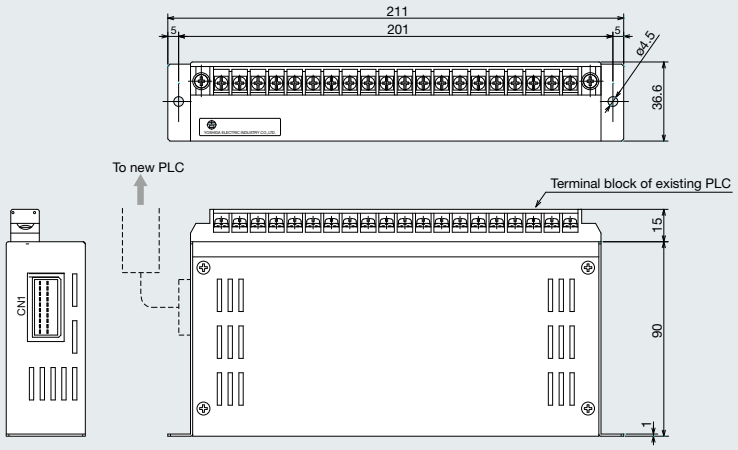
Voltage conversion model

For 16-point 200/240 VAC input module
Circuit configuration: Photocoupler

Standard

PS-YSJ1-PH2

(Conversion of
200/240 VAC to 24 VDC)

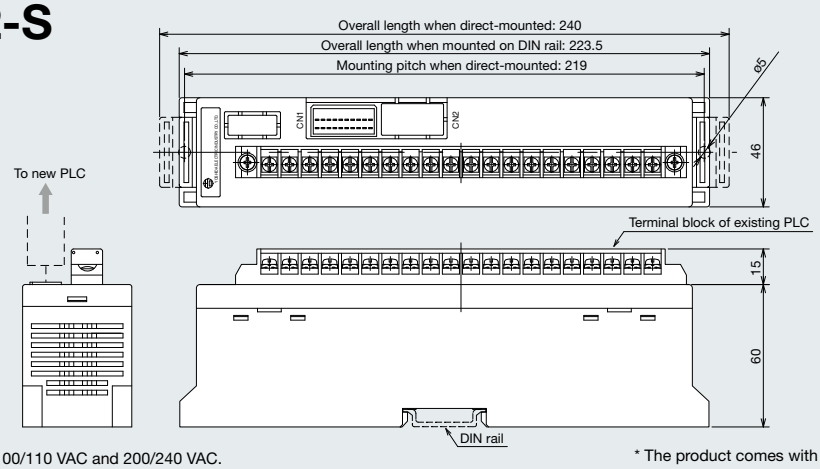


* The product comes with no terminal block.

Low-profile

PS-YSJ1-PH2-S

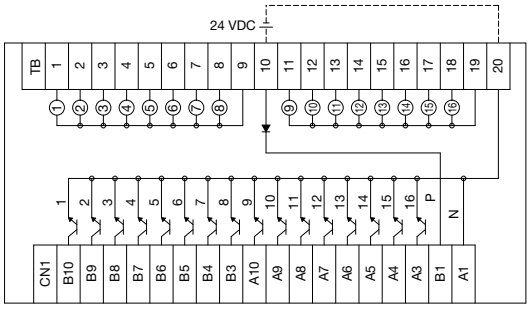
(Conversion of
200/240 VAC to 24 VDC)



* These models can be used with either of 100/110 VAC and 200/240 VAC.

* The product comes with no terminal block.

Circuit diagram



Specifications

Number of points per common (existing-PLC side)	8
Signal output (new-PLC side)	Connector
Rated voltage	200/240 VAC (existing-PLC side), 24 VDC (new-PLC side)
Rated current (input side)	10 mA (for standard model), 5 mA (for low-profile model)
Photocoupler ON voltage	100 VAC (for standard model), 50 VAC (for low-profile model)
Circuit configuration	SSR or photocoupler insulation
Mounting scheme	Direct mounting, DIN rail mounting (for low-profile model only)
Insulation resistance (500 VDC megger)	100 Mohm min. (to GND)
Dielectric strength	2000 VAC for one minute (to GND)
Lighting impulse (1.2/50 µs)	±4000 V, three times each (to GND)
Vibration resistance	10 – 55 Hz, 0.5mm/p-p
Impact resistance	98m/S² (10G)

Existing PLC supported

B2503A

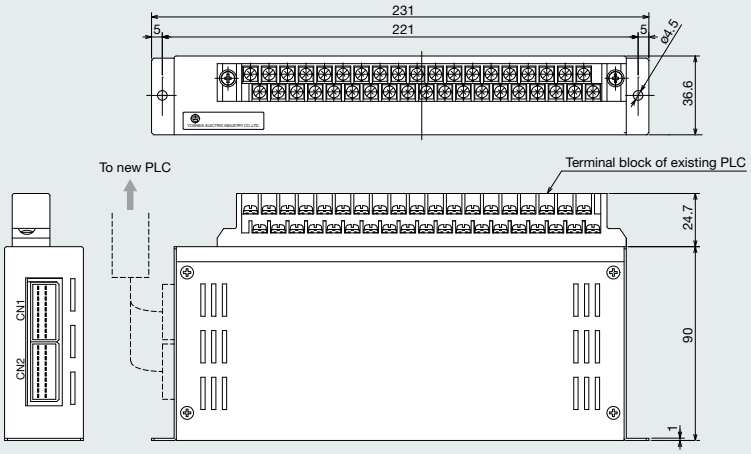
Voltage conversion model

For 32-point 200/240 VAC input module
Circuit configuration: Photocoupler

Standard

PS-YSJ2-PH2

(Conversion of
200/240 VAC to 24 VDC)

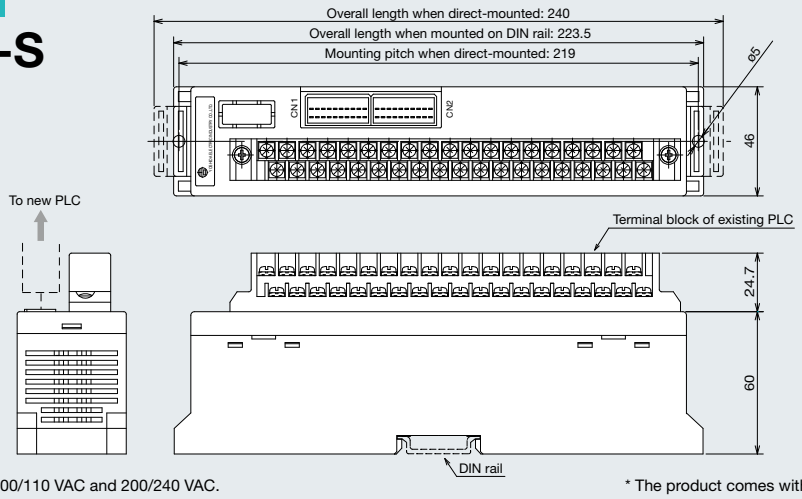


* The product comes with no terminal block.

Low-profile

PS-YSJ2-PH2-S

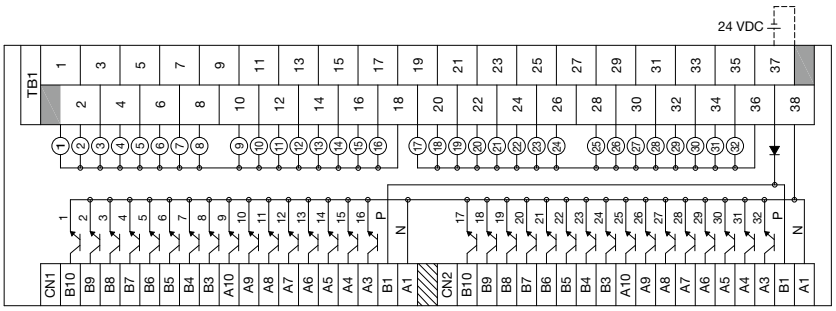
(Conversion of
200/240 VAC to 24 VDC)



* These models can be used with either of 100/110 VAC and 200/240 VAC.

* The product comes with no terminal block.

Circuit diagram



Specifications

Number of points per common (existing-PLC side)	16
Signal output (new-PLC side)	Connector
Rated voltage	200/240 VAC (existing-PLC side), 24 VDC (new-PLC side)
Rated current (input side)	10 mA (for standard model), 5 mA (for low-profile model)
Photocoupler ON voltage	100 VAC (for standard model), 50 VAC (for low-profile model)
Circuit configuration	SSR or photocoupler insulation
Mounting scheme	Direct mounting, DIN rail mounting (for low-profile model only)
Insulation resistance (500 VDC megger)	100 Mohm min. (to GND)
Dielectric strength	2000 VAC for one minute (to GND)
Lighting impulse (1.2/50 μs)	±4000 V, three times each (to GND)
Vibration resistance	10 – 55 Hz, 0.5mm/p-p
Impact resistance	98m/S² (10G)

Existing PLC supported

B2507A

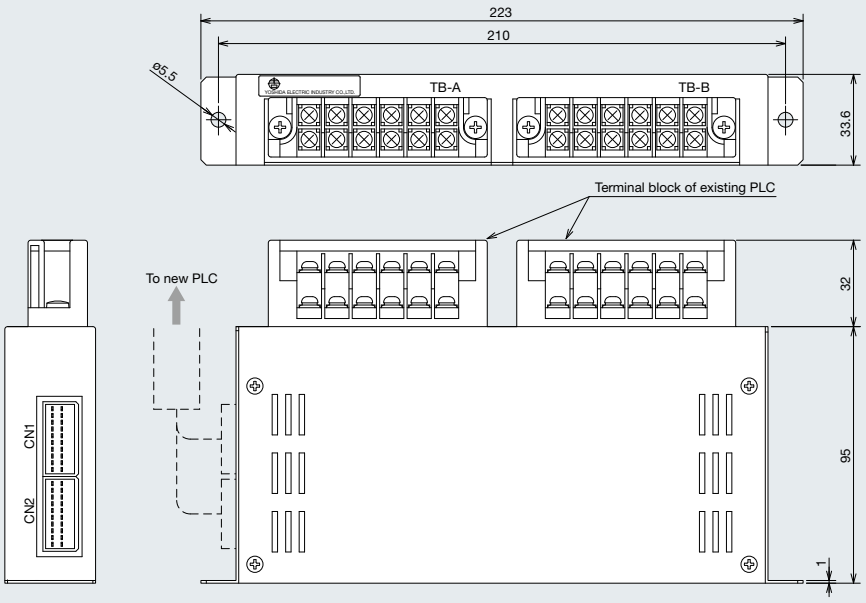
Direct-coupling models

For 16-point input/output module
Circuit configuration: Direct coupling

Standard

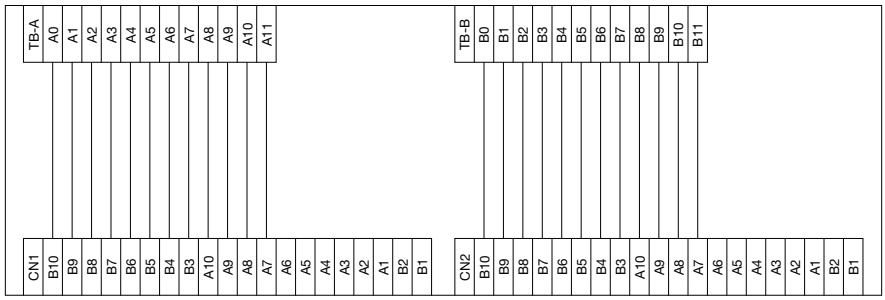
PS-YSJ1000-1

(24 – 100 V supported)



* The product comes with no terminal block.

Circuit diagram



Specifications

Signal output (new-PLC side)	Connector
Rated voltage	125 VAC/DC
Rated current	1A
Mounting scheme	Direct mounting
Insulation resistance (500 VDC megger)	100 Mohm min. (to GND)
Dielectric strength	2000 VAC for one minute (to GND)
Lighting impulse (1.2/50 μs)	±4000 V, three times each (to GND)
Vibration resistance	10 – 55 Hz, 0.5mm/p-p
Impact resistance	98m/S^2 (10G)

Existing PLC supported

PLC with 24-pole (12-pole x 2) terminal block (B1059C)

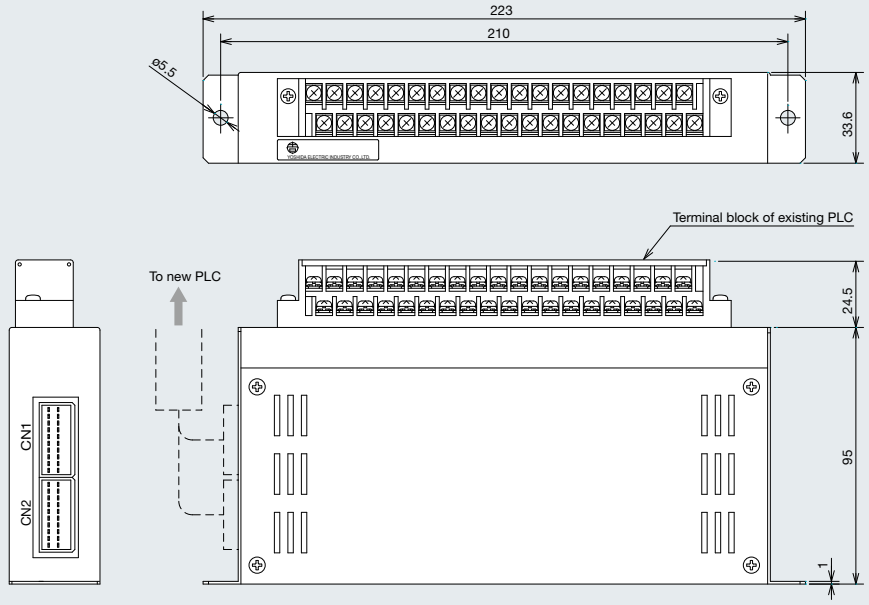
Voltage conversion model

For 32-point input/output module
Circuit configuration: Direct coupling

Standard

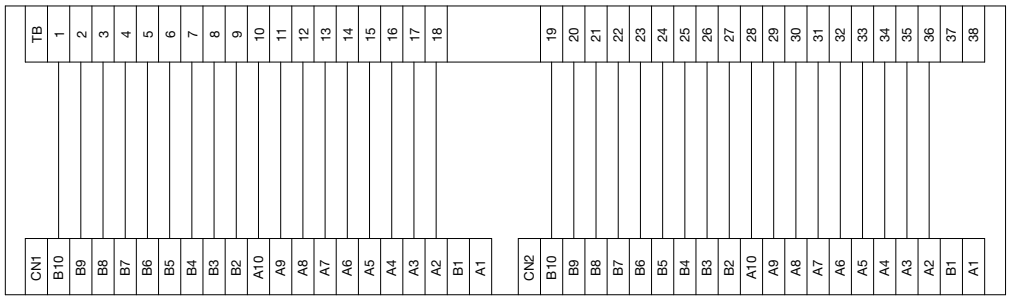
PS-YSJ1000-2

(24 – 100 V supported)



* The product comes with no terminal block.

Circuit diagram



Specifications

Signal output (new-PLC side)	Connector
Rated voltage	125 VAC/DC
Rated current	1A
Mounting scheme	Direct mounting
Insulation resistance (500 VDC megger)	100 Mohm min. (to GND)
Dielectric strength	2000 VAC for one minute (to GND)
Lighting impulse (1.2/50 μs)	±4000 V, three times each (to GND)
Vibration resistance	10 – 55 Hz, 0.5mm/p-p
Impact resistance	98m/S^2 (10G)

Existing PLC supported

PLC with 38-pole terminal block (B1062, B1063)

Voltage conversion model

For 16-point/8-point output module
Circuit configuration: Relay

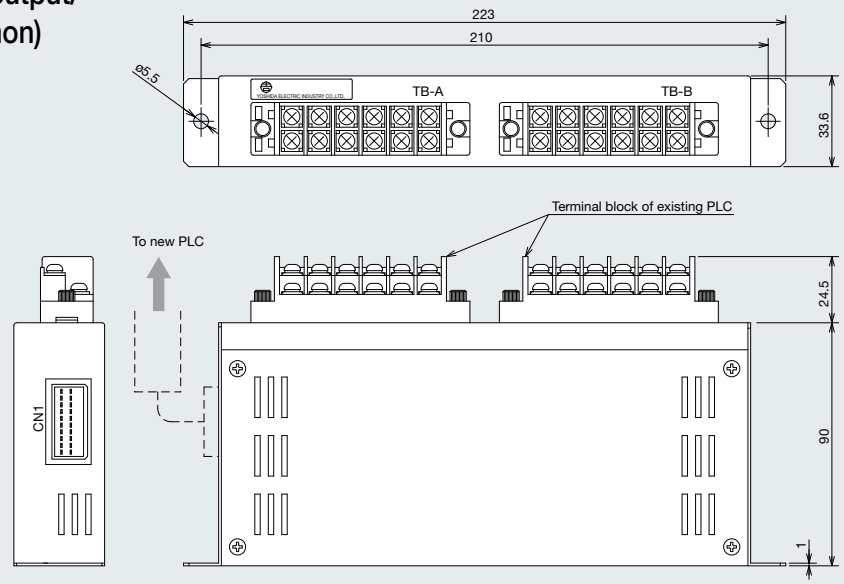
Standard

PS-YSJ1000-1-RY1

(16 points, Contact output)

PS-YSJ1000-0-RY2

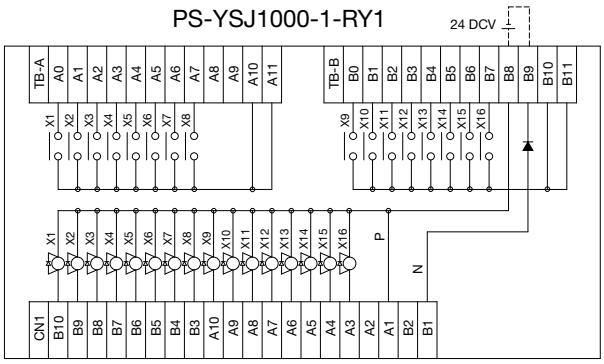
(8 points, Contact output/
Independent common)



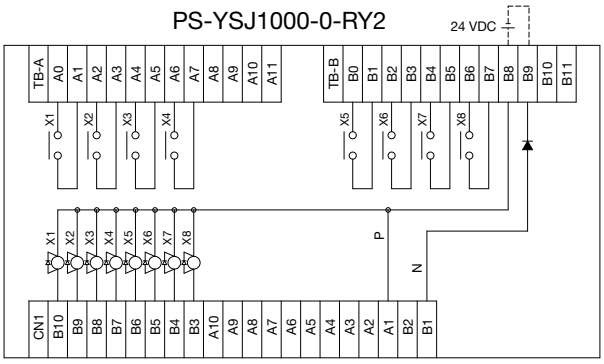
* The product comes with no terminal block.

Circuit diagram

PS-YSJ1000-1-RY1



PS-YSJ1000-0-RY2



Specifications

Number of points per common (existing-PLC side)	8 (PS-YSJ-1-RY1)
	Independent common (PS-YSJ1000-0-RY2)
Signal output (new-PLC side)	Connector
Rated voltage	250 VAC/24 VDC (existing-PLC side), 24 VDC (new-PLC side)
Rated current (output side)	2A (5A per common)
Circuit configuration	Relay
Mounting scheme	Direct mounting
Insulation resistance (500 VDC megger)	100 Mohm min. (to GND)
Dielectric strength	2000 VAC for one minute (to GND)
Lighting impulse (1.2/50 μs)	±4000 V, three times each (to GND)
Vibration resistance	10 – 55 Hz, 0.5mm/p-p
Impact resistance	98m/S^2 (10G)

Existing PLC supported

PS-YSJ1000-1-RY1: B1090B

PS-YSJ1000-0-RY2: B1094

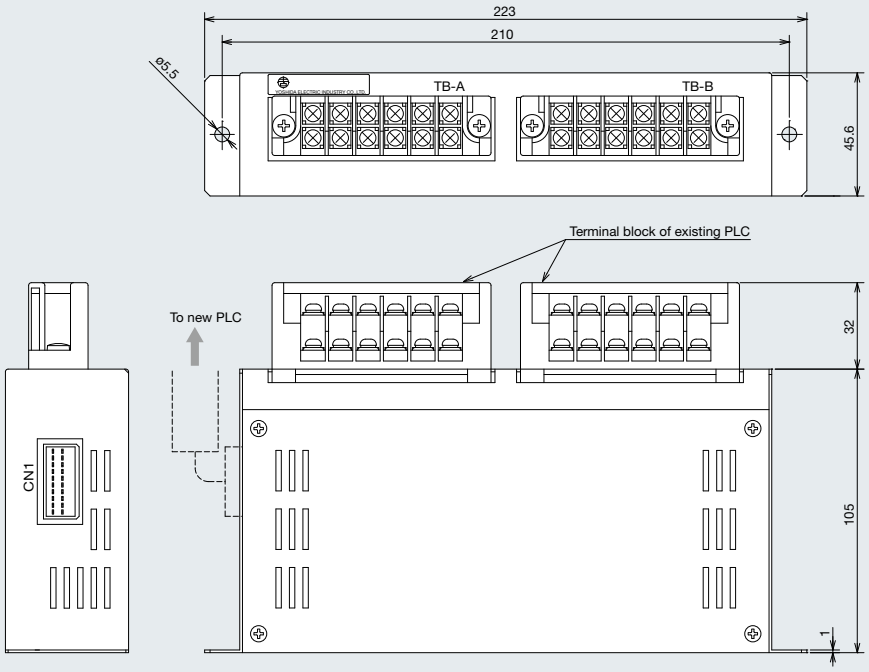
Voltage conversion model

For 16-point output module
Circuit configuration: SSR

Standard

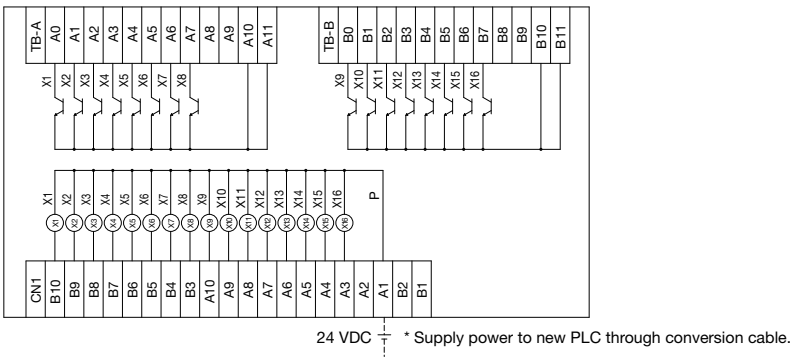
PS-YSJ1000-1-RY3

(SSR output)



* The product comes with no terminal block.

Circuit diagram



* Supply power to new PLC through conversion cable.

Specifications

Number of points per common (existing-PLC side)	8
Signal output (new-PLC side)	Connector
Rated voltage	48 VDC (existing-PLC side), 24 VDC (new-PLC side)
Rated current (output side)	2A (5A per common)
Circuit configuration	SSR
Mounting scheme	Direct mounting
Insulation resistance (500 VDC megger)	100 Mohm min. (to GND)
Dielectric strength	2000 VAC for one minute (to GND)
Lighting impulse (1.2/50 μs)	±4000 V, three times each (to GND)
Vibration resistance	10 – 55 Hz, 0.5mm/p-p
Impact resistance	98m/S² (10G)

Existing PLC supported

B1056

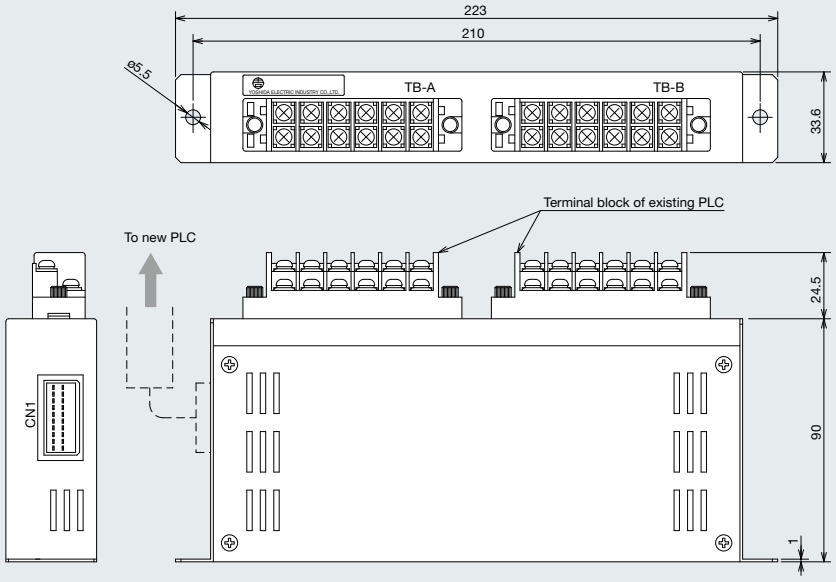
Voltage conversion model

For 16-point output module
Circuit configuration: Triac

Standard

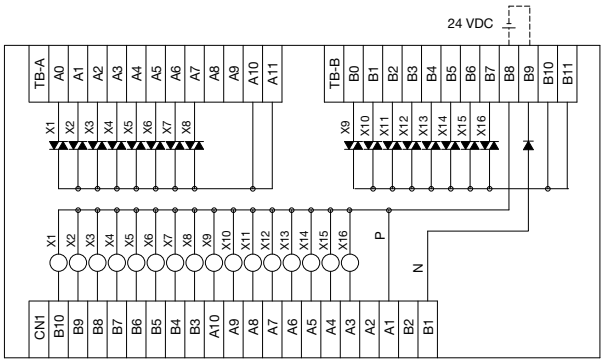
PS-YSJ1000-1-TR1

(Triac output)



* The product comes with no terminal block.

Circuit diagram



Specifications

Number of points per common (existing-PLC side)	8
Signal output (new-PLC side)	Connector
Rated voltage	80 – 240 VAC (existing-PLC side), 24 VDC (new-PLC side)
Rated current (output side)	0.6A (2.4A per common)
Circuit configuration	Triac
Mounting scheme	Direct mounting
Insulation resistance (500 VDC megger)	100 Mohm min. (to GND)
Dielectric strength	2000 VAC for one minute (to GND)
Lighting impulse (1.2/50 μs)	±4000 V, three times each (to GND)
Vibration resistance	10 – 55 Hz, 0.5mm/p-p
Impact resistance	98m/S^2 (10G)

Existing PLC supported

B1050

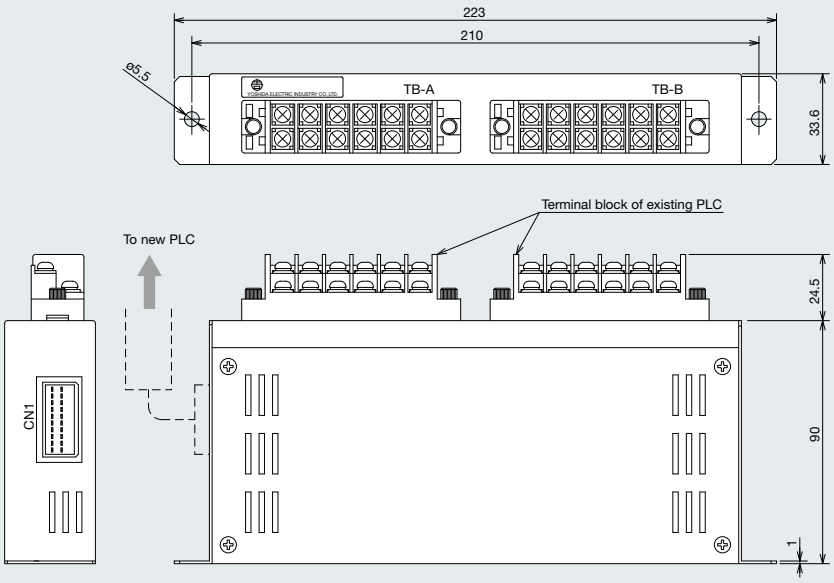
Voltage conversion model

For 16-point 100/110 VAC input module
Circuit configuration: Photocoupler

Standard

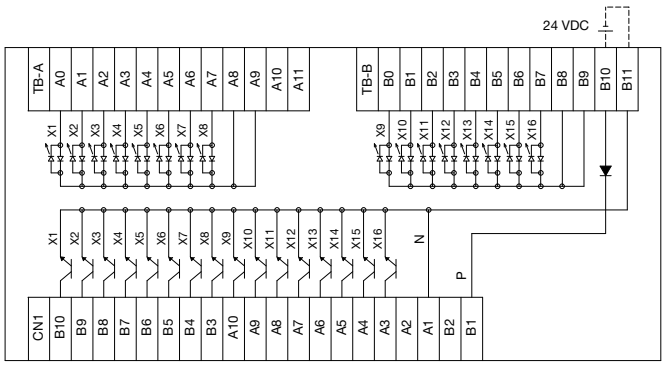
PS-YSJ1000-1-PH1

(Conversion of
100/110 VAC to 24 VDC)



* The product comes with no terminal block.

Circuit diagram



Specifications

Number of points per common (existing-PLC side)	8
Signal output (new-PLC side)	Connector
Rated voltage	100/110 VAC (existing-PLC side), 24 VDC (new-PLC side)
Rated current (input side)	10 mA
Photocoupler ON voltage	50 VAC
Circuit configuration	Photocoupler
Mounting scheme	Direct mounting
Insulation resistance (500 VDC megger)	100 Mohm min. (to GND)
Dielectric strength	2000 VAC for one minute (to GND)
Lighting impulse (1.2/50 μs)	±4000 V, three times each (to GND)
Vibration resistance	10 – 55 Hz, 0.5mm/p-p
Impact resistance	98m/S² (10G)

Existing PLC supported

B1051B

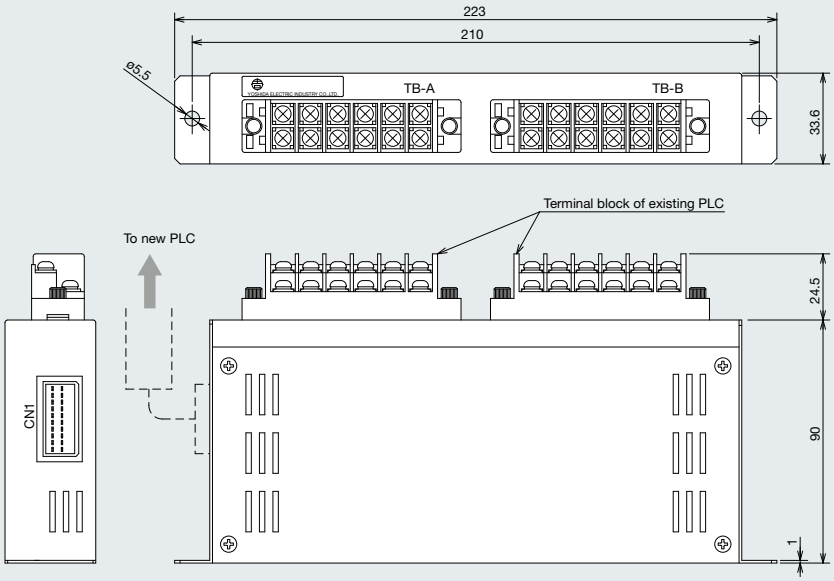
Voltage conversion model

For 16-point 200/240 VAC input module
Circuit configuration: Photocoupler

Standard

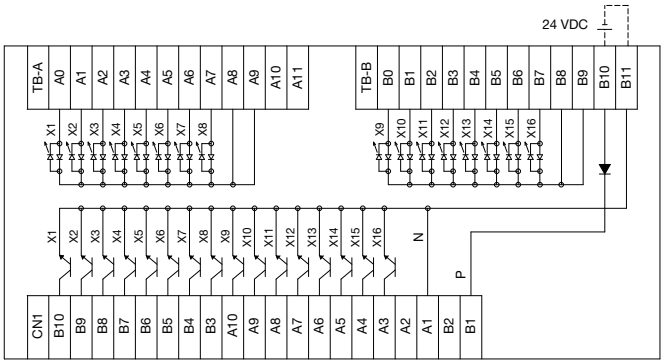
PS-YSJ1000-1-PH2

(Conversion of
200/240 VAC to 24 VDC)



* The product comes with no terminal block.

Circuit diagram



Specifications

Number of points per common (existing-PLC side)	8
Signal output (new-PLC side)	Connector
Rated voltage	200/240 VAC (existing-PLC side), 24 VDC (new-PLC side)
Rated current (input side)	10 mA
Photocoupler ON voltage	100 VAC
Circuit configuration	Photocoupler
Mounting scheme	Direct mounting
Insulation resistance (500 VDC megger)	100 Mohm min. (to GND)
Dielectric strength	2000 VAC for one minute (to GND)
Lighting impulse (1.2/50 μs)	±4000 V, three times each (to GND)
Vibration resistance	10 – 55 Hz, 0.5mm/p-p
Impact resistance	98m/S^2 (10G)

Existing PLC supported

B1055

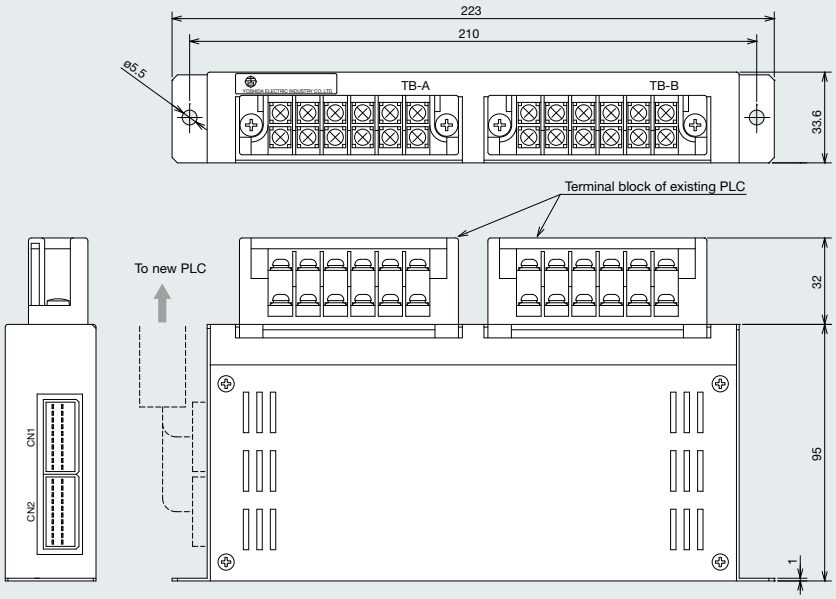
Voltage conversion model

For 16-point input module
Circuit configuration: Resistor

Standard

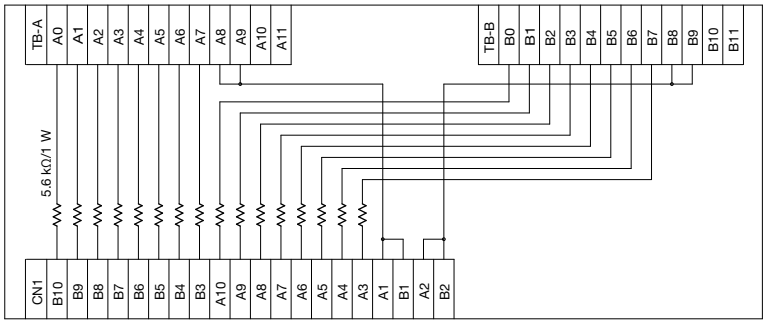
PS-YSJ1000-1-48

(Resistor input)



* The product comes with no terminal block.

Circuit diagram



Specifications

Signal output (new-PLC side)	Connector
Rated voltage	48 VDC (existing-PLC side), 24 VDC (new-PLC side)
Input impedance	5.6 kΩ
Circuit configuration	Resistor
Mounting scheme	Direct mounting
Insulation resistance (500 VDC megger)	100 Mohm min. (to GND)
Dielectric strength	2000 VAC for one minute (to GND)
Lighting impulse (1.2/50 μs)	±4000 V, three times each (to GND)
Vibration resistance	10 – 55 Hz, 0.5mm/p-p
Impact resistance	98m/S^2 (10G)

Existing PLC supported

B1057

Operating Precautions

Reference information regarding models having relays

Applicable models: PS-YSJ1-RY1 • PS-YSJ1-RY2 • PS-YSJ2-RY1 • PS-YSJ1000-1-RY1
PS-YSJ1000-0-RY2 • PS-YSJ1-RY1-S • PS-YSJ1-RY2-S • PS-YSJ2-RY1-S

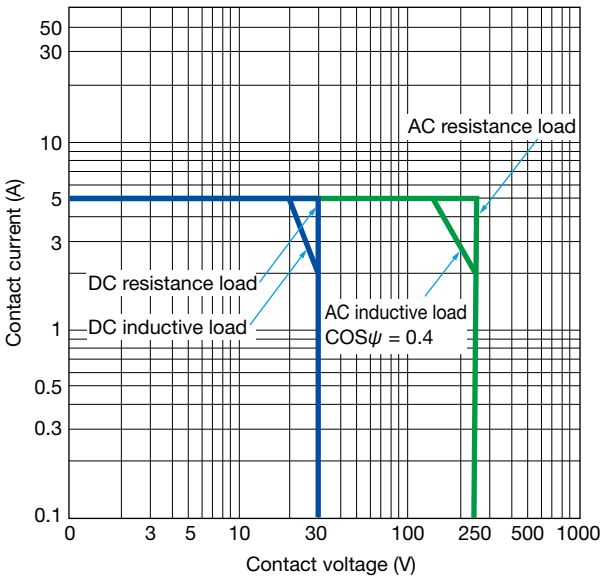
1. Relay ratings

Rated voltage	Rated current	Coil resistance	Operating voltage	Release voltage	Max. permissible voltage	Power consumption
24 VDC	8.3 mA	2.880Ω±10%	70% max.	10% min.	Approx. 110%	200 mW/point

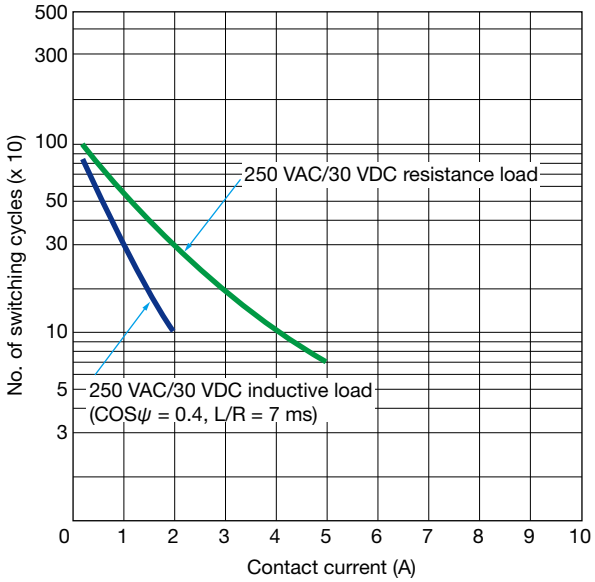
2. Switching performance

Item	Load	
Resistance load	250 VAC/2 A, 24 VDC/2 A	
Contact resistance	100 Mohm max. (initial value)	
Durability	Mechanical	At least 20 x 10^6 switching cycles at a rate of 1800 cycles/h
	Electrical	At least 3 x 10^5 250 VAC/2 A resistance load cycles
		At least 3 x 10^5 30 VDC/2 A resistance load cycles at a switching rate of 1800 cycles/h
Failure rate (P level)	5 VDC/10 mA	

Max. switching capacity



Durability curves



3. Notes

1. The applicable Adaptor models are rated at 2 A although the relays used are rated at 5 A.
2. Relays used are not of socket type, and cannot be replaced.
   Pay due attention to working and operating conditions of the Adaptors prior to using them.
3. The durability of relays may vary significantly depending on the switching conditions.
4. L-load actuated by a relay may cause reverse voltage to occur at switching off, resulting in generation of noises.
   Be sure to use a surge absorption circuit when using L-load.

Installation mount

Features

- The installation mount allows you to take advantage of the space in the depth direction of the control panel so as to install new PLCs without the need for occupying a space outside the control panel.
- The lockable upper cover of the installation mount can be opened for smooth and easy installation and maintenance of PLC modules, and is able to withstand up to 10 kg of weight.
- **Installation mounts are custom-made, depending on the size and number of PLCs from various manufacturers that are available at time of order.**
- The mounting space of existing PLC modules can be used to install the installation mount.

Installation procedure

1 Place PLC Renewal adapters on the bottom of the installation mount and fit terminal blocks to the adapters.

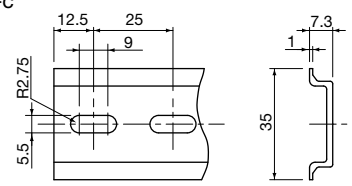
2 Connect conversion cables to the adapters.

3 Place new PLC modules on top of the installation mount and plug the connector of the conversion cables into new modules.

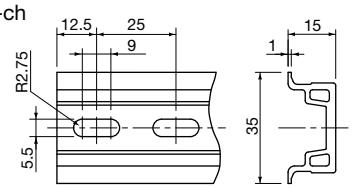
Accessories

Item	Model name	Applicable Rail	Length	No. of pieces per package
Mounting Rail	UK-c	—	1000, 1500, 2000	10
	EK-ch	—	1000, 1500, 2000	10
Rail End Cap	UK-ec	UK-c	—	100
	EK-ec	EK-ch	—	100
End Bracket	UK-b	UK-c, EK-ch	—	100
	EK-b	UK-c, EK-ch	—	100

UK-c



EK-ch



Mounting Rail

UK-c

Rail End Cap

EK-ec

End Bracket

UK-b

EK-b

Safety Precautions

- Please use appropriate current and voltage according to the manual.
- Our products were not designed or manufactured for use in devices or systems directly related to human life. Users who intend to use the product described in this manual for special purposes must contact Toho Technology Inc, beforehand.
- If this product is to be involved a life and death situation or in a facility where failure may cause a serious accident, safety devices MUST be installed to minimize the likelihood of any accident.

★The products and specifications described in this manual or the content and presentation of the manual may be changed without notice to improve the product and/or the manual.

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