

*Changes for the Better*

# PROGRAMMABLE LOGIC CONTROLLERS FX3U-1PG Pulse Output Block

Smooth start

Change target position without stopping the line

Change operation speed without stopping the line

High-speed high-accuracy transportation

## Reduce production time with the new FX3U-1PG.

### The features you need

 point  
**1**

#### Smooth start

Ensure products do not break during transportation start and stop with smooth acceleration and deceleration.

 point  
**2**

#### Change target position without stopping the line

Transport inspected pieces to their proper destinations without stopping the line by changing the target address in mid-operation.

 point  
**3**

#### Change operation speed without stopping the line

Change speeds dynamically as the situation demands.

 point  
**4**

#### High-speed high-accuracy transportation

Change speeds dynamically as the situation demands. Transport pieces with speed and precision provided by high frequency output.

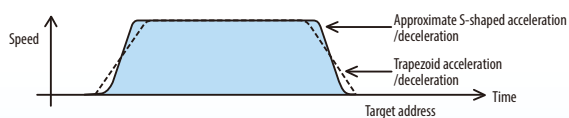


## FX3U-1PG Pulse Output Block

 point  
**1**

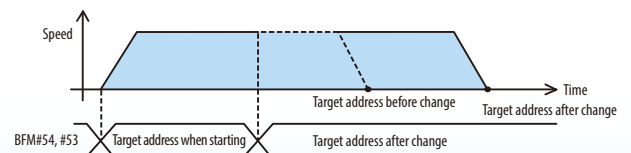
#### Approximate S-shaped acceleration/deceleration

Provide smooth acceleration and deceleration.


 point  
**2**

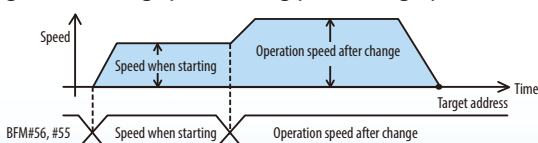
#### Target address change function

Change the target address during positioning operation.


 point  
**3**

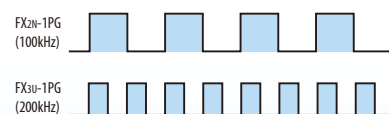
#### Operation speed change function

Change the running speed during positioning operation.


 point  
**4**

#### Maximum 200 kHz pulse train

Combine high precision with fast movements.


**Twice the Speed!**

### Driving pattern list

JOG driving

 DOG type  
mechanical zero return

 Data set type  
mechanical zero return

One-speed positioning

Two-speed positioning

 Interrupt one-speed  
positioning

 Interrupt two-speed  
positioning

Interrupt stop

 External command  
positioning

 Variable  
speed operation

# PROGRAMMABLE LOGIC CONTROLLERS

## FX3U-1PG Pulse Output Block

### Power Supply Specifications

Item	Specification	
Drive power supply	Input signal	24 V DC $\pm 10\%$ Current consumption 40 mA or less
	Output signal	For pulse output: 5 to 24 V DC Current consumption 35 mA or less For CLR signal: 5 to 24 V DC Current consumption 20 mA or less
	Inner control	5 V DC Current consumption 150 mA (Power is supplied through the extension cable from the PLC.)

### Performance Specifications

Item	Specification	
Number of control axes	One axis	
Positioning program	Created by sequence programs (using FROM/TO instruction or direct specification of the buffer memory etc. on the MOV instruction etc.**)	
Positioning	Method	Increment, Absolute
	Unit	PLS, $\mu\text{m}$ , $10^{-4}$ inch, mdeg
	Unit magnification	1, 10, 100, 1000-fold
	Range	-2,147,483,648 to 2,147,483,647 PLS
	Operation speed	Hz, cm/min, inch/min, 10 deg/min
	Output frequency	1 Hz to 200 kHz
	Acceleration/ deceleration process	Trapezoidal acceleration/deceleration: 1 to 32,767 ms Approximate S-shaped acceleration/deceleration: 1 to 5,000 ms
	Starting time	Motor system: 1 ms or less Machine system: 2 ms or less
Number of I/O occupied points	8 points (taken from either the input or output points of the PLC)	
Corresponding PLC	FX3U series PLC: Ver. 2.20 or later, maximum number of 8 units. FX3UC series PLC*: Ver. 2.20 or later, maximum number of 6 units.	

\*1. For details of other applied instructions and methods, refer to the FX3G/FX3U/FX3GC/FX3UC Programming Manual.

\*2. For connection to the FX3UC PLC, the FX2NC-CNV-IF or FX3UC-1PS-5V is needed.

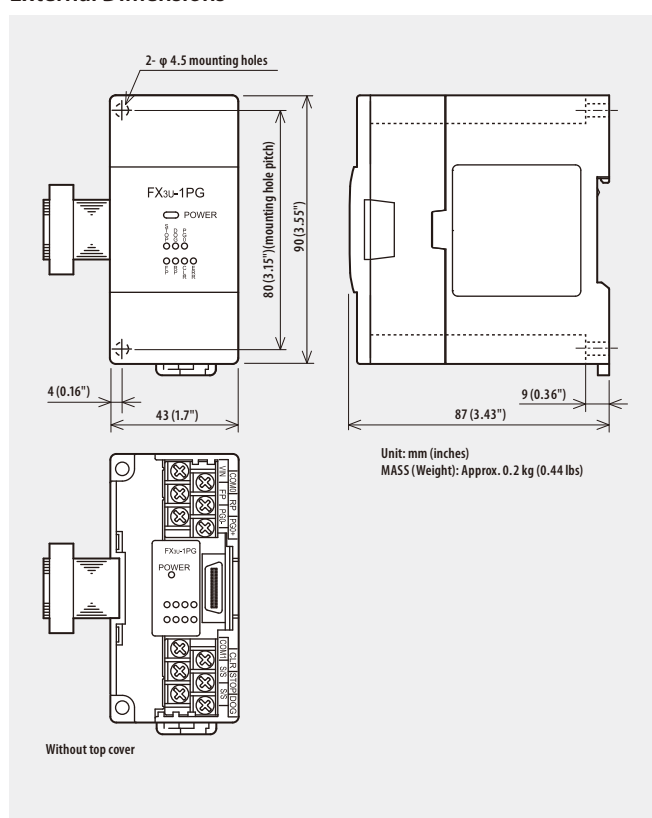
### Input specifications

Item	Specification	
Input signal name	Group 1	STOP: Deceleration stop input or used for interrupt input of External command positioning, Interrupt 2-speed positioning operation DOG: Used for DOG input of DOG type mechanical zero return operation or used for interrupt input of External command positioning, Interrupt 1-speed positioning, Interrupt stop, Interrupt 2-speed positioning operation
	Group 2	PG0: Zero point signal input Used for DOG type mechanical zero return
Group 1 (STOP, DOG)	Signal voltage	24 V DC (Power is supplied from S/S terminal.)
	Input current	7.0 mA
	ON current	4.5 mA or more
	OFF current	1.5 mA or less
	Signal form	No-voltage contact input Sink input: NPN open collector transistor Source input: PNP open collector transistor
	Response time	DOG input: 1 ms STOP input: 4 ms
	Circuit insulation	Photo-coupler insulation
Group 2 (PG0)	Signal voltage	5 to 24 V DC
	Input current	20 mA or less
	ON current	4.0 mA or more
	OFF current	0.5 mA or less
	Signal form	NPN open collector transistor
	Response time	4 $\mu\text{s}$ or more
	Circuit insulation	Photo-coupler insulation
	Operation display	LED ON at input ON

### Output specifications

Item	Specification	
Output signal name	Group 1	FP: Forward pulse or pulse train RP: Reverse pulse or direction signal
	Group 2	CLR: CLR signal
Group 1 (FP, RP)	Output form	Transistor
	Output system	Forward (FP) and reverse (RP) pulse or pulse (PLS) with direction (DIR) can be selected.
	Output frequency	1 Hz to 200 kHz
	Rated load voltage	5 to 24 V DC
	Max. load current	20 mA or less
	VIN current consumption	5 to 24 V DC 35 mA or less
	Output ON voltage	1.0 V or less
Group 2 (CLR)	Operation display	LED ON at output ON
	Output form	Transistor
	Output system	Pulse (Output pulse width: 20 ms)
	Rated load voltage	5 to 24 V DC
	Max. load current	20 mA or less
	Output ON voltage	1.5 V or less
	Operation display	LED ON at output ON

### External Dimensions



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### Registration

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### Safety Warning

To ensure proper use of the products in this leaflet, please be sure to read the instruction manual prior to use.