

# Programmable Logic Controller TOYOPUC-PC10G

This product is a new model PLC which realizes the high-speed performance and the reinforcement of the communication function and one which is equipped with a strong monitor function to support troubleshooting of equipment. It adopts three program languages such as ladder, SFC and Function Block.

## Purpose of Development

PC10G-CPU (Fig. 1) possesses the fastest-level performance to enable the widely control of even large-scale equipment and normally contains high-speed communication port, which can be used by switching three kinds of as Ethernet, FL-net and FL remote I/O (newly developed). In addition, it is equipped with a function (JTEKT's circumferential tool, PCwin) to display useful information (such as I/O diagram) for the adjustment and maintenance work of equipment by large-capacity equipment memory.

## Features

### 1) Flowchart of equipment motion (SFC)

When describing control circuit by a program ladder language only as before, a symbol can become enumeration of coil (Fig. 2 ladder circuit) showing contact A and contact B, so that it is not comprehensible and is hard to program the equipment motion or to read the motion from a program adversely.

The PC10G facilitated the description of the motion program by using the flowchart for the equipment motion through SFC. In addition, work performance was largely improved by possessing a function to easily understand the running motion by the color indication (Fig. 2 SFC) of the flowchart as a basic function.

### 2) Standardization of function (Function Block)

The control circuit was often standardized depending on the designer's management so far, and there is a problem that it is hard for the third party to understand whether a standard circuit is changed or not.

For this product, we, therefore, realized the thoughts of the circuit package by Function Block as means to standardize the customer's equipment circuit. Therefore, we can register customer's arbitrary circuit as a Function Block library and can carry out the promotion of efficiency for the circuit diversion and the standardization of the functional unit by providing the Function Block made for every function.



Fig. 1 PC10G-CPU

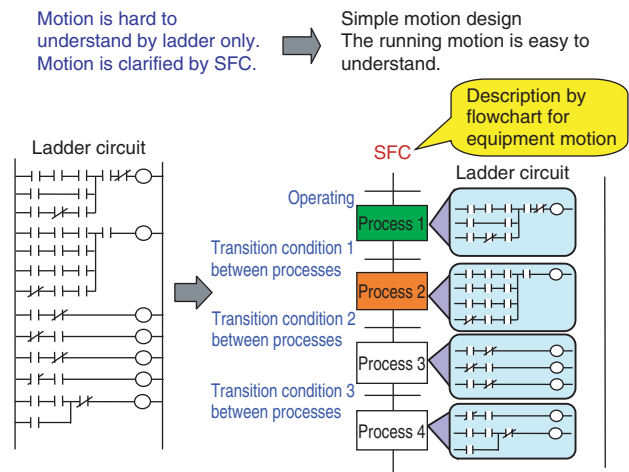


Fig. 2 Flowchart through SFC

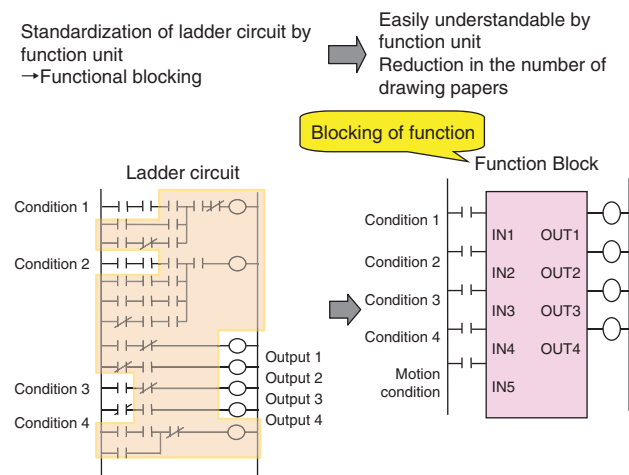


Fig. 3 Standardization by Function Block

3) Circuit monitor and I/O diagram indication

When equipment stopped, we need to investigate and find the signals of the sensor which do not meet the condition of the control circuit.

PC10G newly developed is equipped with functions of displaying the motion stopped by SFC, the input address not meeting the condition by ladder and the I/O diagram registered beforehand from the input address, and of displaying the information of the connected devices by change indication easily. I/O diagram indication function was enabled to support the adjustment and maintenance work of equipment by this developed product.

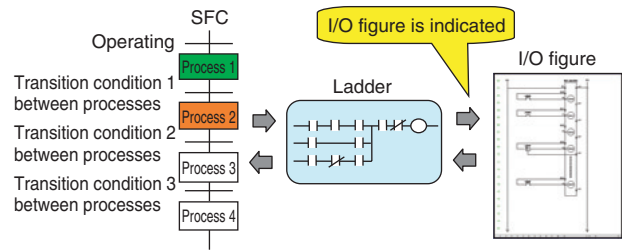


Fig. 4 Standardization by Function Block

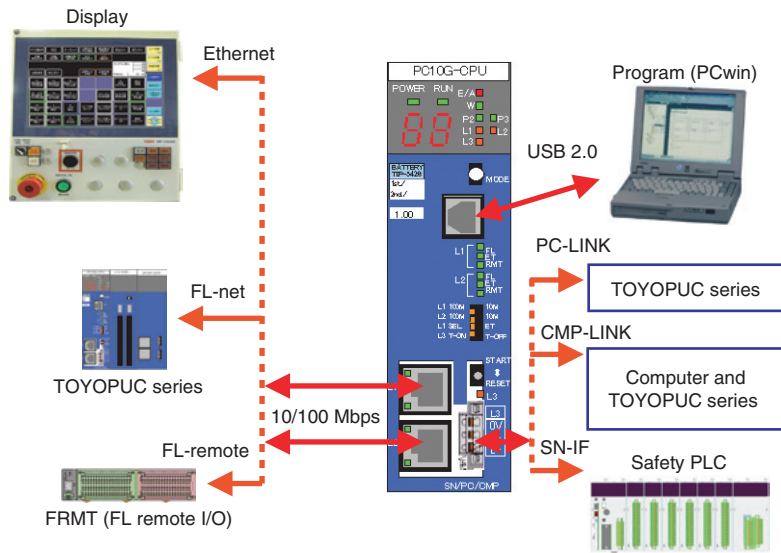
General Specifications

Table 1 PC10G-CPU specifications

	PC10G-CPU
Program capacity	180kW (60kW × 3)
FBD library capacity	60kW
Standard library capacity	32kW
Program language	SFC, LD, FBD
External I/O points	2 048 points (XY2 048)
Internal output points	79 872 points (M2 048 × 3+EM8 192+GM65 536)
Keep relay points	6 400 points
Timer counter points	3 584 points
Link relay points	14 336 points
Edge points	5 632 points
Data register	44kW
Equipment information memory	4 Mbyte
Processing speed	Contact: 0.015 μs~/instruction, Application instruction: 0.05 μs~/instruction
Basic instruction	19 kinds
Timer/counter instruction	21 kinds
Application instruction	More than 450 kinds
Built-in type network	(FL/ET/FL remote master) × 2 ports, SN-I/F (communication with safety PLC)/PC/CMP
Circumferential rule connection	USB connector (USB2.0: 480 Mbps)
Special module mounting number	Max. 24 units
External dimensions (W × H × D)	35 × 130 × 120

**Example of Device Connection**

Ethernet with 100 Mbps communication capacity, FL-net, communication port with FL remote I/O change and connection port with safety PLC as standard specifications



**Fig. 5** Example of PC10G-CPU connection

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