CTN481G

IKO Programmable Controller

CTN481G (RoHS Compliant)

IKO Programmable controller is a controller for positioning control with high functionality and operability, and CTN481G is a high-end model with additional functions and compatibility with conventional CTN480G products.
As the external appearance dimensions, mounting dimensions and connector specifications are the same as those of conventional CTN480G products, this may simply replace CTN480G.
Drivers and connection cords of conventional CTN480G products can be used. For details of dimensions, please contact IKO.

①Super high function type that enables to program input up to 10000 steps
②Both high speed and high resolution controls are realized with high speed pulse output up to 8 MHz.
③Four-axis linear interpolation and two-axis circular interpolation functions are available as standard functions.
④Position correction control by linear encoder is supported.
⑤Data can be stored and transferred via USB memory available on the market.
⑥By using integrated I/O sequence function, timer, counter and calculation function, a system can be configured easily without any sequencer.
⑦As the USB 1.1 interface is equipped as standard equipment, data editing, controller operations and direct execution from PC are allowed using dedicated commands.
⑧As absolute encoders of YASKAWA ELECTRIC CORPORATION, Panasonic Corporation, and Mitsubishi Electric Corporation are supported, return to origin operation at the startup is not required.
⑨The synchronization control function allows for simultaneous execution and shutdown of 2 axes possible (gantry mechanism control is possible).
⑩Multi-tasking function allows for simultaneous execution of up to 5 programs.
⑪You can correct the positioning accuracy control by entering positioning correction data in advance.
⑫Axis-dedicated input / output function makes wiring with driver easy.
⑬Up to 4 controllers (sixteen-axis control) can be connected through RS485 connection.
⑭Thanks to RS422 interface as standard equipment, LAN cable available on the market can be used and streamlined wiring by touch panel or sequencer data communication is possible.

Functions and Performance

Table 1 Functions and performance

Item \ Model			CTN481G
Command pulse output specification	Number of control axis		Four-axis（executable simultaneously）
	Max. command level		±2147483647 pulses（signed 32-bit length）
	Max. output frequency		8MHz
	Acceleration / deceleration time		0 to 65.533 sec（linear / cycloid / S acceleration/deceleration）
	Output type		CW/CCW direction pulse, direction command / forward and backward pulse, and pulse with 90-degree difference
Program specification	Entry method		MDI, teaching, and PC input via USB
	Command input type		Absolute command or incremental command
	Program capacity		10 000steps
	Function		Jump, call, repeat, four arithmetic, logic operation, speed setting, acceleration/deceleration setting, timer control, I/O control, input condition branching, and various editing functions（creating, erasing, deleting, inserting and copying, etc.）
Input/Output specification	Input	No. of input points	LS input 16 points Specific input 16 points Universal input 20 points（can be extended to 80 points）
			Start, stop, emergency stop, forward / backward manual running, return to origin, present position resetting, interrupt, positioning complete, and driver arm input, etc.（selected and assigned by universal input parameters）
		Input method	Photo coupler input（non voltage contact or open collector supported）
	Output	No. of output points	Specific output 28 points Universal output 20 points（can be extended to 80 points）
		Operational output	Automatic running, limit sensor detection, emergency stop, pulse outputting, return to origin completed servo on, driver alarm resetting, proportional control, and deviation counter clear（selected and assigned by universal output parameters）
		Output type	Open collector output（DC30V; 100mA; MAX）
	Input & output power voltage		For I/O, DC24V 4 A For Limit, DC24V 100mA
Communication with external devices			USB1.1（Mini-B type connector） RS422 （RJ-45 type connector）
Data saving			USB1.1（A type connector）
Other major functions			USB serial communication（data reading, writing and direct execution, etc.）, storage and transfer of programs via a USB memory available on the market, position correction by linear scale, backlash correction, software limit, changing limit sensor signal logic, four-axis linear interpolation, two-axis circular interpolation and check functions（I/O monitor, limit sensor monitor and shutdown conditions monitor）, etc.

Table 2 General specification

Item \ Model	CTN481G
Power supply voltage	DC24V ±10%
Max. current consumption	4.5A
Ambient temperature	0~50℃ storage –10~60℃
Ambient humidity	20~85% RH（keep dewdrop free）
Measure against power outage	Flash memory
Mass (Ref.)	Main body : 1.2kg Teaching box : 0.5kg I/O add-in unit : 0.4kg

Remark: Model number of the dedicated teaching box (separately sold) is TAE10M5-TB.

● External appearance dimensions for CTN481G

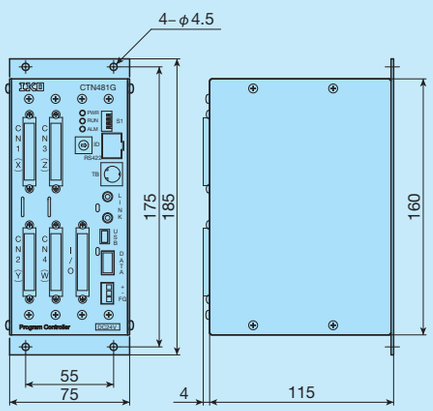

Table 3 List of CTN481G accessories

Type	Model	Qty.	Remark
I/O connector	10150-3000PE (plug)	1	3M Japan Limited
	10350-52Y0-008 (cover)	1	
Power supply connector	XW4B-03B1-H1	1	OMRON Corporation
Link connector	4832.1310	2	Schurter AG
	CFS1/4C101J (terminal resistance)	1	KOA Corporation
DIN rail mounting parts	DRT-1	1	TAKACHI ELECTRONICS ENCLOSURE CO., LTD.
	Bind M3×4 (attachment screw)	4	—

Table 4 Optional items

Type	Model	Remark
Teaching box	TAE10M5-TB	
I/O add-in unit	TAE10M6-KB	Add-in of 40 input points and 40 output points (up to two units can be added)

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch