

CONPROSYS Alpha Series
PLC-Backup
CPSA-PCB100



* Specifications, color and design of the products are subject to change without notice.
* CODESYS® is a registered trademark of 3S-Smart Software Solutions GmbH.

Features

- PLCs of the most major manufacturers supported

PLCs including TOYOPUC-PC10G series by JTEKT, JW300 series, JW50H/70H/100H series, and JW30H series by SHARP, MELSEC-Q series and MELSEC-FX series by MITSUBISHI are supported.

- Backup

Backup areas including PLC's "parameter", "program", and "setting data" can be specified. Moreover, up to 3 most recent backup data can be stored, and backup scheduling and manual setting can be performed.

*Refer to the Reference Manual on the CONTEC website for available backup items and device ranges.

- Monitoring function

Backup history and elapsed days of PLC battery can be monitored. In addition, battery change date or the prospective day can be managed as well.

- Compact design

Compact design, 44.7(W)×94.7(D)×124.8 (H), features flexibility in installation.

- Adaptable to a temperature range between -20 and +60°C

The product is capable of operating in the temperature between -20 and + 60°C. It can be installed in the various environments.

- A powerful running platform without fan

The product contains the ARM® Cortex®-A8 processor (600MHz) and the DDR3 512MB system memory.

- Installation easy with two pieces of terminal support and DIN rail

You can install and remove a terminal connector without a screwdriver so that it can shorten the time of the replacement. As the product can be mounted on a DIN rail, removing and replacing are easy as well.

- Equipped with LED for an operation check

The product has LED for an operation check, which helps you visually confirm the communication status of each interface.

- No electrolytic capacitor battery

No electrolytic capacitor is used. The Contec is creating the product with a longer life.

This product is a controller which periodically obtains and saves the programs and the configured data as well as the parameters of PLC used in a control device so that they can be restored easily when the system fails.

It supports the PLCs of the most major manufacturers and backs up the specified area required by user.

Setting the backup area can be specified with ease through a browser.

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- * Visit the CONTEC website to check the latest details in the document.
- * The information in the data sheets is as of July 2022.

Specifications

Functional Specifications

Item		Description
CODESYS Compatible Function	Version	V3.5 SP7 Patch2 or any later version
	Language	LD, SFC, FBD, ST, IL, CFC (IEC61131-3 compliant)
	Field Bus	Modbus TCP Master / Slave
	Communication Protocol	OPC-UA Server
Program Size	ROM Size	1MB
	The Number of Maximum Steps	250K steps
CPU Basic Performance	Basic Command Operation Speed (LD)	1.6nsec
	Applied Command Operation Speed (ST)	5.8nsec
	Jitter	Maximum 300 µsec approx.
	Scan Time	74 µsec (at 20000 steps)

Hardware Specifications

Item		Description
CPU		ARM Cortex-A8 600MHz
Memory		On Board 512MB DDR3 SDRAM
ROM		On-Board 32MB NOR Flash for OS
LAN	Transmission standard	10BASE-T/100BASE-TX
	The number of channels	2
	Connector	RJ-45 Connector
	LED	Speed (Yellow), Link/Act (Green)
USB (reserved)	Transmission standard	USB2.0 standard follow
	The number of channels	1ch
	Connector	TYPE-A
SD card slot (occupied)	Standard	SD standard follow
	Connector	SD memory card slot
	LED	Read/Write (Green)
RS-232C	Baud Rate	300bps - 115.2kbps
	Data length	5, 6, 7, 8 bit 1, 1.5, 2 stopbit
	Parity check	Even, Odd, Non-parity
	Isolation/Resistance	Non-isolated
	The number of channels	1
	Connector	9-pin D-SUB connector (Male)
Digital input and Output (reserved)	LED	Transmission (Green), Reception (Green)
	Input type	Opto-coupler Isolation Input (Compatible with current sink output) (negative logic) *1
	Input isolation	Opto-coupler Isolation
	Input voltage resistance	1000V
The number of input signal channels		4

Item	Description	
	Open-circuit impedance	10kΩ or more
	Short-circuit impedance	500Ω or less
	Response time (digital input)	Within 200μsec
	Interrupt (digital input)	4 interrupt input signals are arranged into a single output of interrupt signal. An interrupt is generated at the falling edge (HIGH-to-LOW transition) or rising edge (LOW-to-HIGH transition). (setting can be done by software)
	Output type	Semiconductor relay output
	Output isolation	Semiconductor relay isolation
	Output voltage resistance	1000V
	The number of output signal channels	4 *usable as digital input or digital output channels
	Maximum output voltage/current	13.2V/100mA
	Response time	Within 2msec
	ON resistance	8Ω or less (at 25 °C)
	OFF leakage current	4μA or less (at 25 °C)
	Surge protection element	Interactive TVS Diode Stand off voltage: ±30V, Peak pulse power: 400W (1ms)
	LED	DIO-DB (Green)
Connector	2-piece 3.81mm pitch 6-pin Terminal (N.C, DIO3, DIO2, DIO1, DIO0, MCOM)	
Applicable wire	AWG28 - 16	
Stack Bus	The maximum number of stack buses	16 *2
LED	Power (Green)/Status 1(Green) / Status2(Red)/ Error (Red)	
Switch (reserved)	Power SW, Rotary SW, DIP SW	
RTC	RTC built-in (battery within)	
Power supply *3	Rated input voltage	24VDC
	Input voltage range	21.6 - 26.4VDC
	Power consumption	Controller alone: 24V 0.3A (Max) With module(s): 24V 3.6A (Max)
	Connector	2-piece 3.5mm pitch 3-pin terminal (V+, V-, FG)
	Applicable wire	AWG20 - 16
	Surge protection element	Interactive TVS diode Stand off voltage: ±30V, Peak pulse power: 400W (1msec)
Physical dimensions (mm)	44.7(W) x 94.7(D) x 124.8(H) (No projection included)	
Weight	300g	
Installation method	Quick mounting on the 35mm DIN rail	
OS	Linux kernel 3.2	

*1 Data 0 corresponds to High level and Data 1 corresponds to Low level.
 *2 The total current consumption of the devices should be less than 3.3A
 *3 Use power cable within 3meters.

Installation Environment Requirements

Item	Description	
Operating ambient temperature	-20 - +60°C *4	
Operating ambient humidity	10 - 90%RH (No condensation)	
Non-operating ambient temperature	-20 - +60°C	
Non-operating ambient humidity	10 - 90%RH (No condensation)	
Floating dust particles	Not to be excessive	
Corrosive gases	None	
Line-noise resistance	Line noise	AC Line/±2kV *4 Signal Line /±1kV (IEC61000-4-4 Level 3, EN61000-4-4 Level 3)
	Static electricity resistance	Touch /±4kV (IEC61000-4-2 Level 2, EN61000-4-2 Level 2) Air /±8kV (IEC61000-4-2 Level 3, EN61000-4-2 Level 3)
Vibration resistance	Sweep resistance	10 - 57Hz *5 /semi-amplitude vibration 0.15mm, 57 - 150Hz/2.0G 40minutes each in X, Y, and Z directions (JIS C60068-2-6-compliant, IEC60068-2-6-compliant)
Shock resistance	15G half-sine shock for 11ms in X, Y, and Z directions (JIS C 60068-2-27-compliant, IEC 60068-2-27-compliant)	
Grounding	Class D grounding (previous class 3 grounding), SG-FG/ non-conduction	
Standard	VCCI Class A, FCC Class A, CE Marking (EMC Directive Class A, RoHS Directive), UKCA	

*4 If you use the USB with bus power, operate the product at between -20 and +55°C.
 *5 When you use an optional power product
 *6 When you use an optional power product: 10-55Hz (See the manual of optional power product for details)

PLC Specifications

Item	Description
Supported PLCs *7	The same series of up to five PLCs can be connected. PLC by SHARP JW300 series "Configured data" backup available JW50H/70H/100H series, JW30H series "Program" "Configured data" backup available PLC by Mitsubishi Electric MELSEC-Q series "Parameter" "Program" "Configured data" backup available MELSEC-FX series "Configured data" backup available PLC by JTEKT PC10G series "Configured data" backup available
Communication method	Ethernet or RS-422 (one-on-one connection)
Communication speed	4800/9600/19200 BPS

*7 Refer to the Reference Manual on the CONTEC website for available backup items and device ranges..

CAUTION

You can set the modules as you desire to the configurable controller up to 16 modules.
 The total current consumption of the modules should be less than 3.3A.

Packing List

- Product...1
- End Cover (attached to the product)...1
- Product Guide...1
- Warranty Certificate...1
- Serial Number Label...1
- 3-pin Connector...1
- 6-pin Connector...1
- DIN rail...1
- CODESYS Runtime license...1 (attached on the side of the product)

- * This product is verified in conformity with our recommended power supply. In case you use other power supplies, thus, it may not be able to fulfil certification requirements. Please see the Contec website regarding power supply recommendation (<https://www.contec.com/>).
- * Use the supplied plastic DIN rail when connecting this product and a module on a desk top for system development or validation. If you use the supplied plastic DIN rail in the field, it cannot be covered by warranty. Therefore, when you set the product and module in the field, use the commercially available DIN rail.

Physical Dimensions



