

# DVP-PCC01 Instruction Sheet

## Program Transfer Module

### 1 Warning

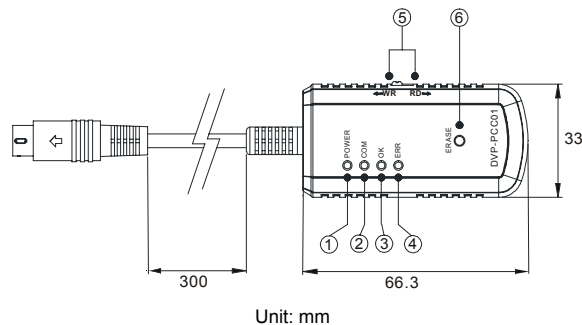
- Please set the RD/WR switch before operating the .
- Do not disconnect PCC01 before Transmission ends; otherwise, it may cause data loss in the PCC01
- Do not change the RD/WR switch during PCC01 operation.

### 2 Introduction

- PCC01 can read or write PLC programs, devices (coils and registers) and passwords to all series of PLC via COM. It provides rapidly and safely data transmission to PLC.
- Applicable Models and Read/Write Device Types:

Device type	Program area	PLC device area		
		Program (Steps)	D register	M device
DVP-ES/EX/EC/SS	4K	D0~D599	M0~M1279	N/A
DVP-SA/SX/SC	8K	D0~D4999	M0~M4095	1600
DVP-EH/SV	16K	D0~D9999	M0~M4095	10000

- Product Profile



1. Power LED	4. Error LED
2. Communication Indicator LED	5. Operation mode: read/write functional switch
3. Operation completed LED	6. PCC01 Data Erase button

- Specification

Data Retention	10 years
Write Cycles	At Least 10,000 times
Transmission speed	9600 /19200 bps (PB: 9600 bps only)
Storage	-25°C~70°C (Temperature), 5~95% (Humidity)
Operation	0°C~55°C (Temperature), 50~95% (Humidity), Pollution degree 2
Noise Immunity	ESD: ±4KV Air Discharge EFT: Power Line: 2KV RS: 0.15MHz~80MHz, 10V/m Surge : ±1KV
Vibration / Shock Resistance	International Standard: IEC1131-2, IEC 68-2-6 ( TEST Fc) IEC1131-2 & IEC 68-2-27 (TEST Ea)

### 3 Operation and Function Description

#### 3.1 Read/Write Operation Sequence:

Step	(PLC→PCC01) RD (Read)	(PLC←PCC01) WR (Write)
1	Set RD/WR switch to "RD" mode	Set RD/WR switch to "WR" mode and confirm PLC is STOP status
2	Connect PCC01 to PLC COM1. Reading will start after 5sec. waiting.	Set RD/WR switch to "WR" mode and place the PLC RUN/STOP switch in the STOP position.
3	After reading data from PLC, "OK" LED will light	Connect PCC01 to PLC COM1. Writing will start after 5 sec.
4	Disconnect PCC01 when read process is done.	Disconnect PCC01 when write process is done.

#### 3.2 Password Function

- The PCC01 transfer module can obtain a password from the source PLC along with the program. When the program is transferred from the ACPGMXFER to the destination PLC it will compare the password and if the password in the PLC matches or no password was previously set the transfer will complete. This will require future ACPGMXFER transfers to a password protected PLC to have the same password as the PLC. Also if a password is set via the transfer module any WPLSOFT users will be required to enter the password before any program changes can be made.
- The password is entered into registers D1086 and D1087 and set on by enabling M1086. These addresses serve only as an entry point for the password at the source PLC. When the file is 'Wrote' to the destination PLC the unit will be password protected and registers D1086 and D1087 will not be populated with the password. If M1086 is not set on the passwords will be ignored.
- The password is set in the source PLC by using the Batch Monitoring feature of the PLC software or hand held programmer to enter the password into registers D1086 and D1087. Enter the value in Hexadecimal format, a password of 1234 would be entered as follows. H3132 into register D1086 followed by H3334 into register D1087. Refer to the table in section 6 for cross reference of valid ASCII characters. Next set M1086 on to make this password active.
- Connect the transfer module to the source PLC with the switch set to read. This will upload the program and the password of 1234. The destination PLC will have to be in the stop mode, next connect the transfer module to the destination PLC with the switch set to the "write" position. The transfer module will download the program and set the password to 1234.
- The password key has four digits. Each digit is 8bits number and form with ASCII in D1086 and D1087. Example as follows:

Password Key	D1086		D1087	
	High byte	Low byte	High byte	Low byte
ASCII code (HEX)	Byte 1	Byte 2	Byte 3	Byte 4
	1 (0x31=H31)	2 (0x32=H32)	3 (0x33=H33)	4 (0x34=H34)

#### 3.3 The conditions when PCC01 will read/write to an PLC:(w/ PW: with password; w/o PW: without password)

PLC Status	PCC01	Read		Write	
		w/o PW	w/ PW	w/o PW	w/ PW
RUN	w/o PW	Able to read	Password verify error	Unable to write	Unable to write
	w/ PW	Unable to read	Unable to read	Unable to write	Unable to write
STOP	w/o PW	Able to read	Password verify error	Able to write	Able to write and write password to PLC
	w/ PW	Unable to read	Unable to read	Password verify error	Able to write after verification

#### 3.4 PCC01 force PLC in RUN/STOP status

PCC01 provide Run/Stop function in DVP-ES/EX/EC series MPUs. When PCC01 ERR and OK LEDs are blinking simultaneously in WR mode and PLC is in RUN status, user can press the ERASE button within 30 seconds to force PLC in STOP After that, disconnect PCC01 from the PLC and then connect to PLC again. Once data write-in is completed, push ERASE within 30 seconds while PCC01's OK LED is ON to switch PLC status from STOP to RUN.

#### 3.5 PCC01 Data Erase function:

Once PCC01 connects to PLC, please press and hold the ERASE button within 5 secs. Continue to hold the button until the OK LED turns on. Release the button and the ACPGMXFER module can now be removed.

#### 3.6 Data Duplication Function

- Besides program transfer, the PCC01 can also read/write register and coil data to/from the PLC. The PCC01 will monitor coil M1085 to see if it should read/write the data. When M1085 is OFF, the PCC01 will read or write the data depending on the operation selected. If M1085 is ON he PCC01 will not read or write the data.

- Data Duplication steps:

- Set M1085 On/Off in PLC
- Select PCC01 RD/WR switch in reading or writing mode.
- Connect PCC01 to PLC COM1 communication port
- After operation is completed, "OK" LED will turn on.
- Disconnect PCC01 from the PLC.

#### 3.7 Estimation of Read/Write Operating Timing

Model	M1085=OFF		M1085=ON	
	Read	Write	Read	Write
DVP-ES/EX/SS	35 sec.	45 sec.	30 sec.	35 sec.
DVP-SA/SX/SC	1 min. 10 sec.	1 min. 15 sec.	1 min. 5 sec.	1 min. 10 sec.
DVP-EH/SV	2 min. 50 sec.	3 min.	1 min. 10 sec.	1 min. 20 sec.

### 4 Error Indication

PCC01 will show an error or warning status with the ERR and OK LEDs.

- Below is the summary:

Error Message	Indicator		Recommend
	ERR	OK	
PCC01 Internal memory error	On	Off	PCC01 hardware may be damaged, please replace it.
Incompatible model	Blinking	Off	Make sure PCC01 model record is compatible with PLC model.
Operation error – unable to write	Synchronous blinking		PCC01 doesn't contain a valid program for "WR" mode. PCC01 in "WR" mode, and PLC is in RUN mode. Please place PLC in STOP mode. Communication protocol error! Please confirm the PLC is in STOP mode and reboot the PLC. Check PLC program syntax.
	Cross blinking		PLC protect with password. Communication protocol error! Please confirm PLC in STOP mode and remove/apply power to.
Password verify error	On	Blinking	PCC01 is in "RD" mode, and is protected by password. Please push erase button when PCC01 connect to the PLC. For more detailed operation of erasure, please reference to section 3.4.
	Off	On	PCC01 is in "WR" mode, and PLC is protected by password. Please disable the password in PLC, or set the same PLC's password in the PCC01. For more detailed operation , please reference to section 3.2.
ERASE completed	Off	On	Please refer to section 3.5.

### 5 Troubleshooting

- If ERR LED is always ON or blinking. Please refer to section 4.
- Disconnecting the PCC01 or powering down the PLC when the operation in progress will cause unexpected results:
  - PCC01 in "RD" mode: PCC01 data will be invalid. Please reboot the PLC again or re-connect PCC01 to PLC.
  - PCC01 in "WR" mode: PLC program will be invalid. Please reboot PLC again or re-connect the PCC01 to PLC.

### 6 Appendix: ASCII Table

The password composed of 4 bytes. Each byte is an ASCII character of '0'~'9', 'A'~'Z', 'a'~'z'. The password is case sensitive. Below is ASCII table.

HEX	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
ASCII	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
HEX	10	11	12	13	14	15	16	17	18	19	1A	1B	1C	1D	1E	1F
ASCII	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
HEX	20	21	22	23	24	25	26	27	28	29	2A	2B	2C	2D	2E	2F
ASCII	SP	!	"	#	\$	%	&	'	(	)	*	+	,	-	.	/
HEX	30	31	32	33	34	35	36	37	38	39	3A	3B	3C	3D	3E	3F
ASCII	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
HEX	40	41	42	43	44	45	46	47	48	49	4A	4B	4C	4D	4E	4F
ASCII	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
HEX	50	51	52	53	54	55	56	57	58	59	5A	5B	5C	5D	5E	5F
ASCII	P	Q	R	S	T	U	V	W	X	Y	Z	☒	☒	☒	☒	☒
HEX	60	61	62	63	64	65	66	67	68	69	6A	6B	6C	6D	6E	6F
ASCII	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
HEX	70	71	72	73	74	75	76	77	78	79	7A	7B	7C	7D	7E	7F
ASCII	p	q	r	s	t	u	v	w	x	y	z	{		}	~	☒

Note: '☒' : Denotes invalid ASCII character, do not use.