



# DVP04DA-S DVP04DA-S

1. Status indicator (Power, RUN and ERROR)	8. Expansion port
2. Model name	9. Expansion unit clip
3. DIN rail clip	10. DIN rail (35mm)
4. I/O terminals	11. RS-485 Communication port
5. I/O point indicator	12. Mounting rail of the expansion unit
6. Mounting hole of the expansion unit	13. DC Power input
7. Nameplate	14. Expansion port

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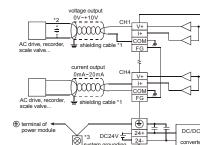
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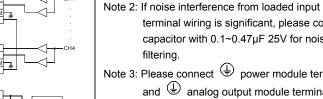
-04TC

Р Б

L+ SLG L+ SLG •

2.3 External wiring





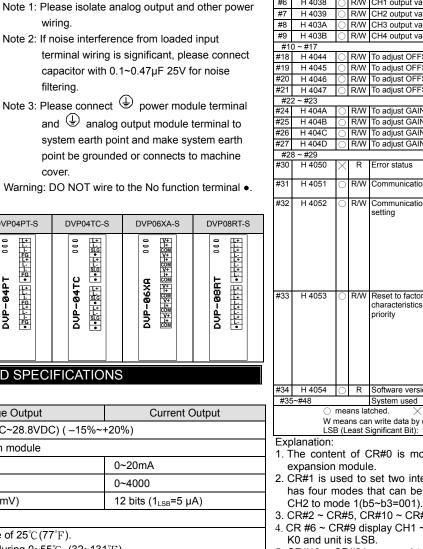
# terminal wiring is significant, please connect capacitor with 0.1~0.47µF 25V for noise Note 3: Please connect ( power module terminal and () analog output module terminal to system earth point and make system earth

#22 ~ #23 #24 H 404A #28 ~ #29 point be grounded or connects to machine #30 H 4050 #31 H 4051 ning: DO NOT wire to the No function terminal •. #32 H 4052 DVP04TC-S DVP06XA-S DVP08RT-S L+ SLG • L+ L-SLG • V+ |+ CON V+

V+ I+ COM V+ I+ COM V+ I+ COM V+ I+ COM

06XA

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- voltage or current is -2000~+2000. Voltage adjustable range: -5V~+5V(-2000<sub>LSB</sub>~+2000<sub>LSB</sub>). Current adjustable range: -10mA~+10mA (-2000<sub>LSB</sub>~+2000<sub>LSB</sub>).
- output voltage or current is -1600~+8000. Voltage adjustable range: -4V~+20V(-1600<sub>LSB</sub>~+8000<sub>LSB</sub>). Current adjustable range: -8mA ~+40mA (-1600<sub>LSB</sub>~+8000<sub>LSB</sub>).

7 CR#30 is fault code. Please refer to the following chart

Content	b15~b8	b7	b6	b5	b4	b3	b2	b1	b0
K1(H1)		0	0	0	0	0	0	0	1
K2(H2)		0	0	0	0	0	0	1	0
K4(H4)		0	0	0	0	0	1	0	0
K8(H8)	Beconvod	0	0	0	0	1	0	0	0
K16(H10)	Reserveu	0	0	0	1	0	0	0	0
K32(H20)		0	0	1	0	0	0	0	0
K64(H40)		0	1	0	0	0	0	0	0
K128(H80)		1	0	0	0	0	0	0	0
	K2(H2) K4(H4) K8(H8) K16(H10) K32(H20) K64(H40) K128(H80)	K2(H2)           K4(H4)           K8(H8)           K16(H10)           K32(H20)           K64(H40)	K2(H2)         0           K4(H4)         0           K8(H8)         0           K16(H10)         0           K32(H20)         0           K64(H40)         0           K128(H80)         1	K2(H2)         0         0           K4(H4)         0         0         0           K8(H8)         Reserved         0         0           K16(H10)         K32(H20)         0         0           K64(H40)         0         1         0	K2(H2)         0         0         0           K4(H4)         0         0         0         0           K8(H8)         Reserved         0         0         0         0           K16(H10)         K32(H20)         0         0         0         0         0           K64(H40)         0         1         0         1         0         0	K2(H2)         0         0         0         0           K4(H4)         0         0         0         0         0         0           K8(H8)         Reserved         0         0         0         0         0         0           K16(H10)         K32(H20)         0         0         1         0         0         1         0           K64(H40)         0         1         0         0         1         0         0	K2(H2)         0         0         0         0         0         0           K4(H4)         0         1         0         0         0         0         0         0         1         0 <td< td=""><td>K2(H2)         0         1         0         0         0         0         0         0         1         0         0         0         1         0         0         0         1         0<td>K2(H2)         0         0         0         0         0         1           K4(H4)         0         0         0         0         0         1         0           K8(H8)         K16(H10)         0         0         0         0         1         0         0           K32(H20)         K64(H40)         0         0         0         1         0</td></td></td<>	K2(H2)         0         1         0         0         0         0         0         0         1         0         0         0         1         0         0         0         1         0 <td>K2(H2)         0         0         0         0         0         1           K4(H4)         0         0         0         0         0         1         0           K8(H8)         K16(H10)         0         0         0         0         1         0         0           K32(H20)         K64(H40)         0         0         0         1         0</td>	K2(H2)         0         0         0         0         0         1           K4(H4)         0         0         0         0         0         1         0           K8(H8)         K16(H10)         0         0         0         0         1         0         0           K32(H20)         K64(H40)         0         0         0         1         0

(b0~b7). Two or more taults may nappe same time. 0 means normal and 1 means having fault.

- factory setting is K1.

Analog Output Module Instruction Sheet

# WARNING

- Please carefully read this instruction thoroughly prior to use the DVP04DA-S.
- ${
  m 
  m 
  m A}$  This is an OPEN-TYPE built-in DVP04DA-S, and the DVP04DA-S is certified to meet IEC 61131-2 (UL 508) safety requirements when installed in the enclosure to prevent high temperature, high humidity, exceessive vibration, corrosive gases, liquids, airbome dust or metallic particles. Also, it is equipped with protective methods such as some special tool or key to open the enclosure, in order to prevent the hazard to users or any damage to the DVP04DA-S.
- ${
  m I}$  Do not connect the AC power to any of the input/output terminals, or it may damage DVP04DA-S. Make sure that all the wiring is well conducted prior to power on.
- A Do not touch the internal circuit for at least 1 minute after the power is OFF.
- A Make sure that the DVP04DA-S is properly grounded (=) to prevent any electromagnetic nois

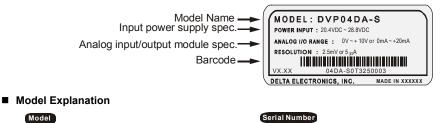
INTRODUCTION

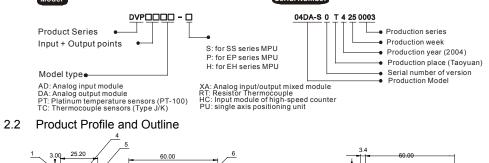
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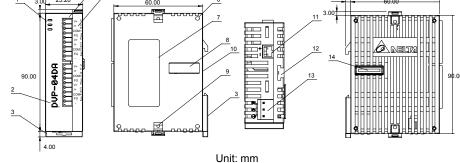
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#### Model Explanation and Peripherals 2.1

- Thank you for choosing DELTA DVP PLC Series. The analog output module of DVP04DA-S se can read/write the data of analog output module by using commands FROM / TO via DVP-P SS/SA/SX MPU program. The analog output module receives 12-bit digital data of 4 groups from PLC MPU and converts it into 4 points analog output signal either in voltage or in current.
- The Software version of DVP04DA-S analog output module can be updated via RS-485 communication. Power unit and module are separate. Size is small and easy to install.
- Users can select output from voltage or current via wiring. Voltage output range is 0V ~ +10V DC (resolution is 2.5 mV). Current output range is 0mA ~ 20mA (resolution is 5 µA).
- Nameplate Explanation







ey to S.	class 3 gro (100 Ω or I	ounding ess)		o Warning:
the	2.4 Termina	Il of analog m	odule layout	warning.
	DVP04AD-S	DVP02DA-S	DVP04DA-S	DVP04PT-S
se.	0 <u>V+</u> 0 <u>C</u> 0 <u>FG</u> <u>V+</u> <u>+</u> <u>+</u> <u>+</u> <u>+</u> <u>+</u> <u>+</u> <u>+</u> <u></u>		0 0 0 FG V+ V+ COM FG V+ FG V+ COM FG	0 0 0 0 <b>L</b>
eries PLC	>UP-04AI	00P-02DA	0UP-04DA -B2++582+4.	>UP-04P'

3

# STANDARD SPECIFICATIONS

3.1 Specifications		
Digital/Analog (2D/A) Module	Voltage Output	Current Output
Power Supply Voltage	24 VDC (20.4VDC~28.8VDC) (-15%~-	+20%)
Analog Input Channel	2 channels / each module	
Analog Output Range	0~10V	0~20mA
Digital Data Range	0~4000	0~4000
Resolution	12 bits (1 <sub>LSB</sub> =2.5 mV)	12 bits (1 <sub>LSB</sub> =5 µA)
Output Impedance	0.5Ω or lower	
Overall Accuracy	$\pm 0.5\%$ of full scale of $25^{\circ}C(77^{\circ}F)$ . $\pm 1\%$ of full scale during $0\sim 55^{\circ}C$ (32~131	°F <b>)</b> .
Response Time	3 ms $\times$ channels	
Max. Output Current	20mA (1KΩ~2MΩ)	_
Tolerance Carried Impedance	—	<b>0~500</b> Ω
Digital Data Format	2's complementary of 16-bit, 13 Signific	ant Bits
Isolation Method	Isolation between digital area and analo channels.	og area. But no isolation among
Protection	Voltage output has short circuit protection may cause internal wire damage and cu	irrent output break.
Communication Mode (RS-485)	Yes, communication formats are (4800 / 115200bps) Communication format: A stop bit (7 E 1). Communication format stop bit (8 E 1). When connecting to PL be used.	SCII mode is 7Bit, even bit, 1 of RTU mode is 8Bit, even bit, 1
Connect to DVP-PLC MPU in Series	If DVP04DA-S modules are connect numbered from 0 – 7. 0 is the closest a 8 modules is the max and they do not the MPU.	nd 7 is the furthest to the MPU.
3.2 Other Specification		
Max. Rated Consuming Powe	external power	%~+20%), 4W, supply from
Environment Condition and W	/iring Follow the DVP-PLC MPU	

4

CR (Control Register)

				aalag Output Madula								vala	201	ion						
		ID/	4-5 A	nalog Output Module				_		-	E	xpla	nat	lon	-	1	1	1	1	-
CR No	RS-485 Parameters Address	La	atched	Register Name	b15	b14	b13	b12	b11	b10	b9	b8	b7	7 b6	b5	b4	b3	b2	b1	b0
#0	H 4032	$\bigcirc$	R	Model type	Sys	stem ı	used	data	a lenç	gth is	8 bit	s (b7	~bC	)). DV	P-041	DAm	odel (	cod	e=H 8	89
#1	H 4033	$\bigcirc$	R/W	Output mode setting		Rese				CH4			CH			CH2			CH	1
						tput n lode lode lode lode	0: ou 1: ou 2: ou 3: ou	tput v tput v tput o tput o	voltag voltag curre curre	ge mo ge mo nt mo	ode ( ode (2 ode (4	0V~1 2V~1 4mA~	0V 0V ~20	). ). mA).						
#2	~ #5				Re	serve	d													
#6	H 4038	$\bigcirc$	R/W	CH1 output value																
#7	H 4039	$\bigcirc$	R/W	CH2 output value	The	e out	put s	settin	a ra	nae	of c	hann	el	CH1~	CH4	is K	0~K4	1000	). Fa	ictory
#8	H 403A	Ō	R/W	CH3 output value		ting is							-				• • • •			,
#9	H 403B	$\tilde{\circ}$	R/W	CH4 output value	ſ	•														
#1	0~#17	0			Re	serve	d													
#18	H 4044	$\bigcirc$	R/W	To adjust OFFSET value of CH1			-													
#19	H 4045	$\overline{\bigcirc}$	R/W	To adjust OFFSET value of CH2	lt ic		t to e	ot the		FSFI	l valı	o of	сн	1~CF	l4. Th	a sat	tina r	ana	o ie	
#20	H 4046	$\overline{\circ}$	R/W	To adjust OFFSET value of CH3											init is			ang	0 13	
#21	H 4047	$\overline{)}$	R/W	To adjust OFFSET value of CH4						,		.9.0								
	2 ~ #23	$\cup$	10.00		Re	serve	d													
#24	H 404A	$\bigcirc$	R/W	To adjust GAIN value of CH1	T(C)	30170	u													
#25	H 404B	$\overline{0}$	R/W	To adjust GAIN value of CH2	It ic		t to e	ot the				f CH	~^1	- 1 A	ne se	Hina r	2000	ie		
#26	H 404C		R/W	To adjust GAIN value of CH3											nd un			; 13		
#27	H 404C	$\frac{0}{0}$	R/W	To adjust GAIN value of CH4	1.1	000	11000	0. 11		citory	Jetti	ig 13	1121	500 a		11.13	00.			
	8 ~ #29	U	17/11	To adjust GAIN value of CI14	Bo	serve	d													
#30	H 4050	$\times$	R	Error status				to s	21/0	ہم الد	ror s	tatus	P	معدما	refer	to f	ault c	ode	cha	rt for
#30	114030	$\sim$		End status	det		JISICI	10 3	ave		101 3	atus		10030	TCICI	10 10	aun c	Juac		
#31	H 4051	0	R/W	Communication address setting		ed to 255 ai							add	ress.	The s	settin	g ran	ige i	is fro	m 01
#32 #33	H 4052	0	R/W	Communication Baud Rate setting Reset to factory setting and set characteristics adjustable priority	115 (7 I E 1 b0: b2: b4: b14 b14 b15 Our Giv	200b = 1). 4800 1920 5760 b13: 4: exc 5: ASC b14 Rese tput la e CH . Whe CR#	ps). ( Com ) bps )0 bp )0 bp reser hang CII / F b13 erved atche 1 set en b0 24).	Comi muni (bit/s s (bit s (bit s (bit s (bit ved. e lov RTU b12 d set ting f )=0, Whe	municatio sec). /sec) /sec) /sec) w and mode b11 b11 cor ex user	cation n forn - - - - - - - - - - - - - - - - - - -	byte byte ction b9 ry se le: set (	nat: <i>A</i> of RT b1: 90 b3: 3 b5: 1 c of C b8 b8 tting	ASC U n 600 840 152 RC <u>b7</u> CH H0 SET	Cll mc node bps 00 bps 00 bp chec <u>7 b6</u> 13 000.	is 8B (bit/se s (bit/so s (bit/so s (bit k cod b5 GAIN	7Bit, eve it, eve sec). (F sec). /sec). /sec). e (R1 	even en bit actor U mo b3	n bit, t, 1 ry s ode b2	1 stop stop etting only) <u>cH</u>	bit (8 g)
#34 #35	H 4054 ~#48	O	R ans lat	Software version. System used ched. X means not latcher	3 Sho	. b1 i (fact . Whe	s`us ory s en b2 ftwar	ed to etting is se e ver	o che g), b' et to rsion	ck if I=1 n 1, all in he	ot lat settir xade	ched igs a cima	l. re r II. F	eset i or ex	ister o fact ample	tory s e: H 0	etting 10A r	g. mea	ns 1.	0A.

W means can write data by using TO command or RS-485. LSB (Least Significant Bit): 1. Voltage output: 1<sub>LSR</sub>=10V/8000=2.5mV. 2. Current output: 1<sub>LSR</sub>=20mA/4000=5µA

1. The content of CR#0 is model type, user can read the data from program to check if there is

2. CR#1 is used to set two internal channels working mode of analog output module. Every channel has four modes that can be set individually. For example: if setting CH1 to mode 2 (b2~b0=010), CH2 to mode 1(b5~b3=001). It needs to set CR#1 to H000A. The factory setting of CR#1 is H0000. 3. CR#2 ~ CR#5. CR#10 ~ CR#17. CR#22. CR#23. CR#28. CR#29 Reserved.

4. CR #6 ~ CR#9 display CH1 ~ CH4 output signals. The setting range is K0~K4000. Factory setting is

5. CR#18 ~ CR#21 are used to adjust the OFFSET value of CH1 and CH4. The factory setting is K0 and unit is LSB. If output value equal to 0 after calculation, the adjustable range of analog output

6. CR#24 ~ CR#27 are used to adjust the GAIN value of CH1 and CH4. The factory setting is K2000 and unit is LSB. If output value equal to 2000 after calculation, the adjustable range of analog

Please be noticed that GAIN VALUE - OFFSET VALUE = +400<sub>LSB</sub> ~+6000<sub>LSB</sub> (voltage or current). If the value difference comes up small (within range), the output signal resolution is then slim and the variation is definitely larger. On the contrast, if the value difference exceeds the range, the output signal resolution becomes larger and the variation is definitely smaller.

8. CR#31 is used to set RS-485 communication address. The setting range is from 01 to 255. The

9. CR#32 is used to set RS-485 communication baud rate: 4800, 9600, 19200, 38400, 57600, 115200

bps. b0: 4800bps, b1: 9600bps, (factory setting) b2: 19200bps, b3: 38400 bps, b4: 57600 bps, b5: 115200 bps, b6-b13: reserved, b14: exchange low and high byte of CRC check code. (RTU mode only) b15=0: ASCII mode, b15=1: RTU mode, Communication format: ASCII mode is 7Bit, even bit, 1 stop bit (7 E 1), while RTU mode is 8Bit, even bit, 1 stop bit (8 E 1).

- 10. CR#33 is used to set the internal function priority. For example: characteristic register. Output latched function will save output setting to the internal memory before power loss.
- 11. CR#34 is software version of model type.
- 12. CR#35~ CR#48 are used for system.

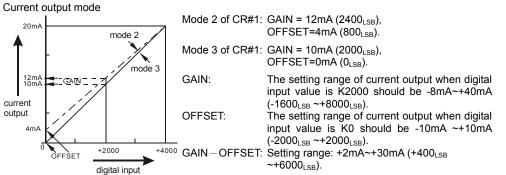
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- 13. The corresponding parameters address H4032~H4063 of CR#0~CR#48 are provided for user to read/write data via RS-485.
  - Communication baud rate: 4800, 9600, 19200, 38400, 57600, 115200 bps.
  - Β. Communication format: ASCII mode is 7Bit, even bit, 1 stop bit (7 E 1). Communication
  - format of RTU mode is 8Bit, even bit, 1 stop bit (8 E 1). C. Function code: 03H-read data from register. 06H-write one WORD to register. 10H-write multiple WORD to register

#### ADJUST D/A CONVERSION CHARACTERISTIC CURVE

# 5.1 Adjust D/A Conversion Characteristic Curve

Voltage output mode: Mode 0 of CR#1: GAIN =  $5V(2000_{LSB})$ , OFFSET=0V (0<sub>LSB</sub>) mode ' Mode 1 of CR#1: GAIN =  $6V(2400_{LSB})$ , OFFSET=2V (800<sub>LSB</sub>). GAIN: The setting range of voltage output value when 6V GAIN digital input value is K2000 should be -4V~+20V(-1600<sub>LSB</sub> ~+8000 <sub>LSB</sub>). voltage The setting range of voltage output value when output OFFSET: digital input value is K0 should be -5V~+5V(-2000<sub>LSB</sub> ~ +2000<sub>LSB</sub>). GAIN-OFFSET: Setting range: +1V~+15V (+400<sub>LSB</sub> ~ +6000 <sub>LSB</sub>). ÒFFÈF Digital input



The charts above are D/A conversion characteristic curve of voltage input mode and current input mode. Users can adjust conversion characteristic curve by changing OFFSET values (CR#18~CR#21) and GAIN values (CR#24~CR#27) depend on application

LSB (Least Significant Bit): 1.voltage output: 1LSB=10V/4000=2.5mV. 2.current output: 1<sub>LSB</sub>=20mA/4000=5µA.

## 5.2 Program Example for Adjusting D/A Conversion Characteristics Curve

Example 1: Setting OFFSET value of CH1 to 0V(=K0<sub>LSB</sub>) and GAIN value is 2.5V(=K1000<sub>LSB</sub>).

M1002		_				-	Writing 1110 to CD#1 of apples output
	то	K1	K1	H10	K1		Writing H10 to CR#1 of analog output module#0. Setting CH1 to mode 0
						_	(voltage output 0V~ +10V) and CH2 to
	то	К1	K33	Н0	K1	]	mode 2 (current output 4mA~ +20mA).
							Writing H0 to CR#33 and allow CH1 ~
X0						-	CH4 to adjust characteristic.
Lí¥Ľ	то	К1	K18	К0	K1		
			L VIO	R0	IX I	•	When X0 switches from Off to On,
						_	K0 <sub>LSB</sub> of OFFSET value will be written
	то	K1	K24	K1000	K1		to CR#18 and K1000 <sub>LSB</sub> of GAIN value will be written to CR#24

Example 2: Setting OFFSET value of CH2 to 2mA (=K400 LSB)

M1002	то	K1	K1	H18	K1
	то	K1	K33	H0	K1
	то	K1	K19	K400	K1
	то	K1	K25	K3600	K1

•	When X0 switches from Off to On, $K0_{LSB}$ of OFFSET value will be written to CR#18 and $K1000_{LSB}$ of GAIN value will be written to CR#24.
) ar	d GAIN value to 18mA (=K3600 <sub>LSB</sub> ).
•	Writing H10 to CR#1 of analog output

- module#0. Setting CH1 to mode 0 (voltage output 0V~ +10V) and CH2 to mode 3 (current output 0mA~ +20mA).
- Writing H0 to CR#33 and allow CH1 ~ CH4 to adjust characteristic.
- When X0 switches from Off to On, K400<sub>LSB</sub> of OFFSET value will be written to CR#19 and K3600<sub>LSB</sub> of GAIN value will be written to CR#25.

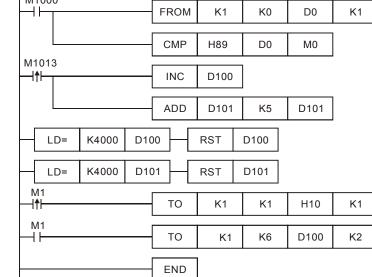
# **INITIAL PLC START-UP**

Lamp display

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- 1. When power is on, POWER LED will be lit and ERROR LED will be lit for 0.5 second.
- 2. It is normal that POWER LED should be lit and ERROR LED should turn off. When power supp is lower than 19.5V, ERROR LED will blink continuously till the power voltage is higher than 19
- 3. When it connects to PLC MPU in series, RUN LED on MPU will be lit and A/D LED or D/A LED should blink.
- 4. After receiving the first RS-485 command during controlling via RS-485, A/D LED or D/A LED should blink.
- 5. After converting, ERROR LED should blink if input or output exceeds the upper bound or below the lower bound.

#### Program example: M1000



Explanation:

Program Example

- Read the data of model type from expansion module K1 and distinguish if the data is H89 (DVP04DA-S model type).
- D100 will increase K1 and D101 will increase K5 every second.
- When value of D100 and D101 attain to K4000, they will be reset to 0.
- If the model type is DVP04DA-S, M1 will be on and set the output mode: CH1 mode to 0, CH2 mod to 2
- Writing output setting CR#6 and CR#7 to D100 and D101. Analog output will vary with D100 and D value.

7									(	COM	Μ	AN	D	EХ	ΡL	ANATIO	DN			
AP	I		_	_	~			_	_	_		_		Re	ad	special	module	Ada	ptive	e model
78		D	F	R	O	M	Р	(m1)	( <u>m</u> 2)		(	<u> </u>	1			ata		ES	EF	P EH
		_																$\checkmark$	✓	✓
$\overline{)}$	Bi	t d	evi	се				۷	Vord c	levice	)					16 bit co	mmand (9 S			
$\backslash$	Х	Υ	Μ	S	Κ	H	KnX	KnY	KnM	KnS	Т	С	D	E	F			DIEF3)	Puls	
$m_1$					*	*										FROM	Continuous	FROMP	Puis	cution
$m_2$					*	*											xcoution		CAC	cution
D								*	*	*	*	*	*	*	*	<u>32-bit co</u>	<u>mmand (17</u>	STEPS	)	
n					*	*										DFROM	Continuous		MP	Pulse
	•	Ν	lote						of ope							Birtom	execution	Binto	•	execution
					The	e us	sage r	ange	of ope	erand	$m_2$	: E8	S/E	P:		<ul> <li>Flag:</li> </ul>	When M10	83 on, it	allov	vs enable
					0-4	8, I	EH: 0	-254.								_	the interrup	t during	FRO	M/TO.
				-	The	e us	sage r	ange	of ope	erand	n: I	ES/	EΡ	: n=			Refer to foll	lowina fo	or de	tail.
					1~(	49-	-m2),	EH: 1	~(255	-m2).								5		
					ES	se	ries n	nodel	doesn	't sup	po	rt pi	ulse	Э						
					exe	ecu	tion c	omma	and (F	ROMF	, E	DFF	RON	ИΡ).						
			_		_	_									_	•				

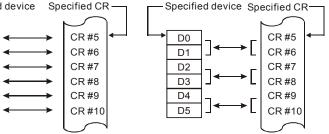
◆ (m1): the number for special module. (m2): the number of CR (Control Register) of Command Explanation special module that will be read. D: the location to save reading data. C: the data number of reading ONCE.

- DVP-series PLC uses this command to read CR data of special module.
- D: When assign the bit operand, K1~K4 are used for 16-bit and K5~K8 are used for 32-hit
- Please refer the footnote below for calculation the special module number.
- Read the content of CR#24 of special module#0 save it to D0 of PLC, and read the content of CR#25 of special module#0 save it to D1 of PLC. 2 data are read in one time when n=2
- Command will be executed when X0=ON. Command won't be executed if X0=OFF and the content of previous reading data won't change.

	м ко	K24	D0	K2
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	API											Sn	eci	cial module CR Adaptive mod	el
	79	D		то	Ī	Ρ	(m1)	(m <sub>2</sub> )	S	$\sim$	n			write in	1
bly		Di4	davi				14/	امیدما ما							
.5V.		Bit of X		S K	Н	KnX		ord d				DE	F	16-bit command (9 STEPS)	4
	m <sub>1</sub>			*	*									TO Continuous TOP Pulse execution	n
	<u>m</u> 2 S			*	*	*	*	*	*	*	* *	k *	*		۶
/	n			*	*									Continuous Pulse	ᆌ
	•	• •	lote	: The										execution	<u>n</u> ]
				0-48		,	0	of oper	and	m <sub>2</sub> :	E2/I	EP:		<ul> <li>Flag: When M1083 on, it allows to enable the interrupt during</li> </ul>	
				The	usag	ge ra	nge o	f oper		n: E	S/E	P:		FROM/TO. Refer to below for	
				•				(255-		nort	-			detail.	
								oesn'i nd (T(			÷	se			
	_		_									0	_		
		mmai blanat												the number of CR (Control Register) of the data to write in CR. (n): the data	
		Janat		n	umbe	er to	write	in one	e time	Э.					
														rite data into CR of special module.	
							n assi 2-bit.	igning	DITO	pera	ana,	K1~	K4	t can be used for 16-bit and K5~K8 can be	1
				♦ U	se 3	2-bit	comn	nand I	DTO.	pro	arar	n wil	l wr	vrite D11 and D10 to CR#3 and CR#2 of	
		rograr xampl												p of data in one time when=1.	
								e exe ata wo					۷N,	, will not be executed when X0=OFF. The	
								0	<u> </u>	то		K0		K2 D0 K1	
							1.	•				κυ		K2 D0 K1	
	F	ootno	te	וד ♦ <sub>(</sub>	ne ru •			mand			oer c	ofen	oria	ial module. The number of special module	
	$\subseteq$			)		tha	t conr	nects	to PL	.C N	IPU.	. The	nu	umber sequence of special module from the	
								o the t /O poi		est c	of MI	PU is	s fro	rom 0 to 7. 8 modules is the max and it wo	n't
					•	m2	2: the	numb	er of					49 CR (Control Register) with 16-bit each	
														dule. The number of CR uses decimal digit setting values of special module have	al
4.5							luded			.9 -					
de					•									ead/write CR data 1pcs at a time, while	
101						DF		per 16						o read/write CR data 2pcs in one time.	
								CR #'		1	CR				
					•	T۲		-	-	 	-	-		Specified CR number ps n. The meaning of n=2 of 16-bit	
lel														ie same.	
Н				Г	— S	peci	fied de	evice	Sp	ecifi	ed C	R —	٦	Specified device Specified CR	
1					<b>.</b> ۲		_								
				-	╶┝	D0 D1	-  ★		→ _>		R #5 R #6		-	$\begin{array}{c} & & \\$	
					F	D1 D2	┤칥		÷		、#0 R #7			D2 $ CR#7$	
===					F	D3	╡╺		→		R #8			$D_3 \rightarrow L CR \#8$	
						D4	_ ←		→	CI	R #9				
on					L	D5	_ ←		→	CI	R #1	0		D5 L CR #10	
ble						16	bit co	ommar	ad wh		5	r		32-bit command when n=3	
				٠	In Es							is n	ot n	provided. All interrupts (including external	or
				i	inter	nal	interru	upt s	ubroi	utine	es)	will	be	e disabled when FROM/TO command	is
														er FROM/TO command complete. Please be executed in the interrupt subroutine.	be
														M/TO mode exchange) provided in EP/I	ΞН
							odels:		5			`		<i>3 / 1</i>	
							-								

DTOК0K2D0K1
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A. When M1083=Off. all interrupts (including external or internal interrupt subroutines) will be disabled when FROM/TO command is executed. The Interrupts will resumed after FROM/TO command complete. Please be advised FROM/TO command can be executed in the interrupt subroutine.

B. When M1083=On, if an interrupt enable occurs while FROM/TO command are executing, the interrupt FROM/TO command will be blocked till the requested interrupt finish. Unlike M1080 off situation. FROM/TO command cannot be executed in the interrupt subroutine.