

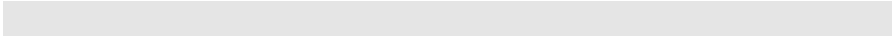
	u O\$ = >?8@@ e, A7 BCO 7tuQg=D E&>?F GH/I J:K L@j MN2O 7 ;<F tu @OgV4MNO\$ /
	u VPQk) RS u @(T: X8U/j O V8WX. 7Y 8Z/[\\ j ^_`/\] abc O@ def O8 WXcghi j k/(T(l m n O8opq8_r@SQV P Ou @s+ e87>?/
	u Qtu98Ur v, -. GHwx U)V) W/ (2@, -. 7 rUwx yz IEC8 * { | } ~O•@ Q r U/
	u ! " #7\$% O&kF (' () * +, 7- k@Qg . /O1) 82F GH/
	u 3J845678Oj MOSFET J89\$. k@. R! 1; < J8=P2@ d(ef V8WXc IGBT>? Oj . k@s +Qg. /@A/
	u a: OB OC7DEQ @ F2GHpI J7 K77 OC/
	u tL{} qj , - . - MoNr e7US@ t OuP: 7{} /



 Q R

!	1
S8T UVRS	6
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2.2 ScFde	8
2.3 fgWwx 7&r	9
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2.3.2 fgWwxr kj / 5i	10
2.3.3 fgWwxkl cQk	12
2.3.4 fgWwxQkZm	13
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QR

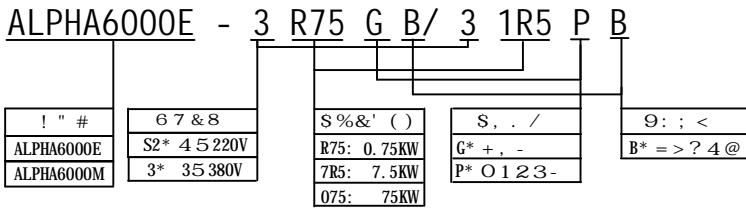
8.1.3	D \$H7. k	98
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- R 2	>? * b	104
- R 3	(MODBUS pq	106
- R 4	^_c _ } W ~	114
- R 5	, - . a	115

1.1

, - . j H) 5 7 @, - . UV @WX RSO s MG 7G
 7*) s U 7 ^JA O1 / @ * /

1.2

○ &Y* +



1-1

ALPHA6000E ALPHA6000M
 SVC V/F

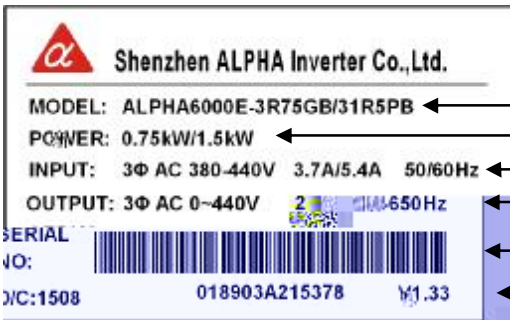
V/F

ALPHA6000M-S2R4GB ALPHA6000M-S2R75GB

SVC

1.3

j , - . X37 X S@- O/, - . c CD 7Z [@ R ALPHA6000E * + 7 8
 } ALPHA6000M * + } ~ - :



Q8
 CDGV8@@@89c-
 CDGH8@@@89c-
 t
 E @ k O

1-2

S\T

Qk

2.1.3

u 2@ t, -. .<@\/] E7 ^ 9d V, -. Oj / 2_ @ ` a<@\/

Y^ azl 40(@ (| b mT . Oj az @ /L2~45

<b@89 / 3 V . O/ @ . - ^ - C (/

2.2

O* +, -. YZ&[R *&Y/ YZcY ' @(Tt, -. j d Sc@{ . e Jf7 gX(h)(Ta#| 7de@ i 2-1) 2-2 (2-1 23DE67

E7

2.3

2.3.1

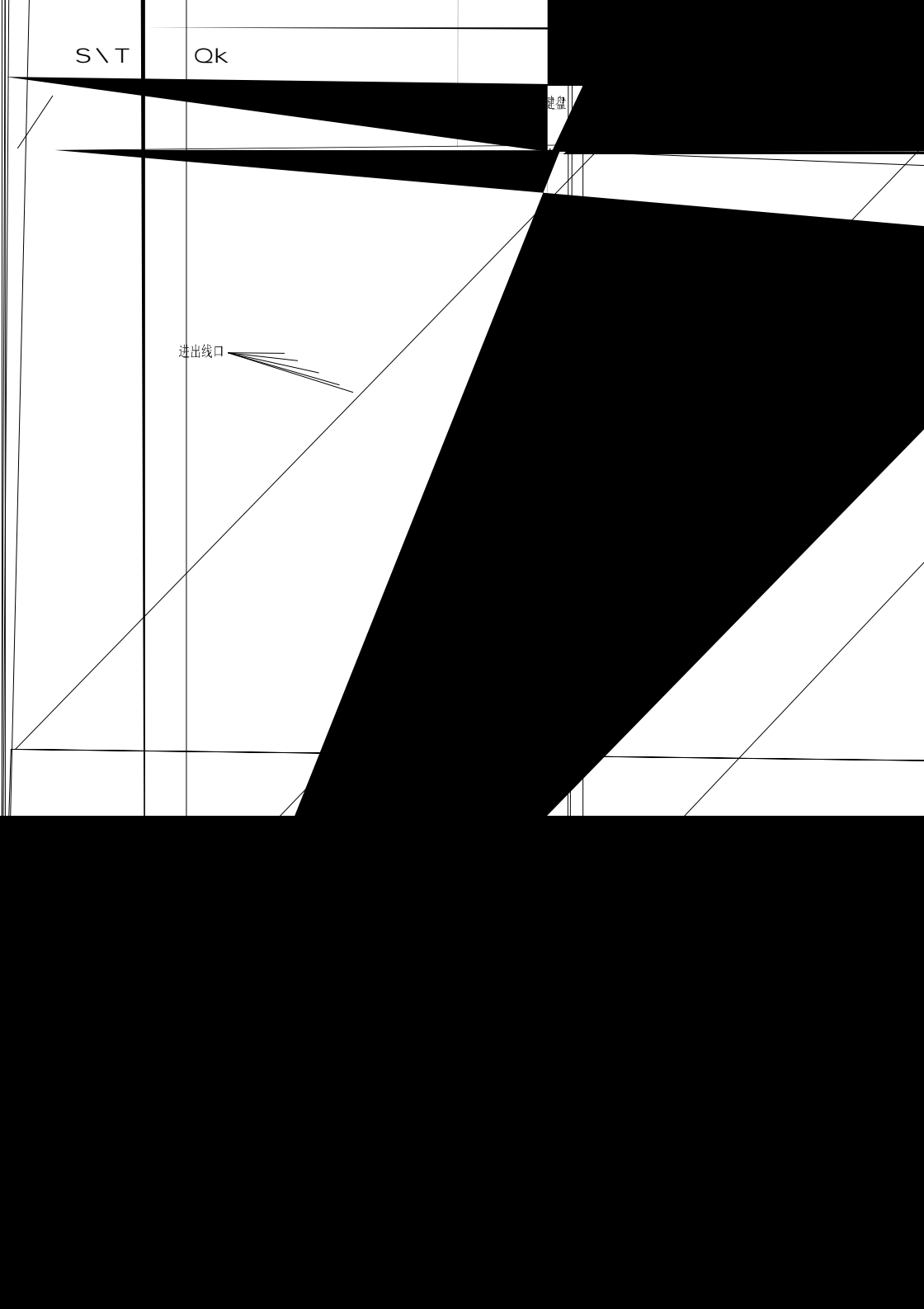
湖底下

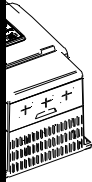
S\T

Qk

进盘

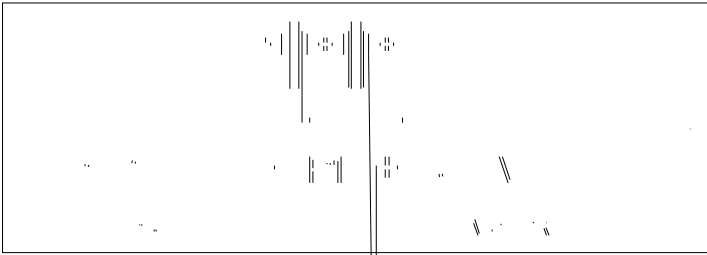
进出线口





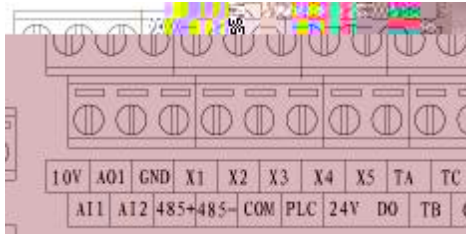
2.3.3





2.4

2.4.1



2-15 S2R4GB S2R75GB

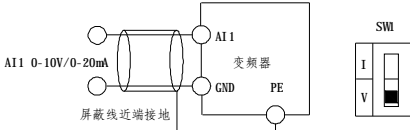
X2	X3	X4			TB	
		COM		DO	TA	TC

[f g G Vwx	X1	[f g G Vwx 1	Q D [^ f g 7 W ; ; G Vwx @ S z T 5.4 I/Owx < = } P3h - G Vwx f g { | /	NGV@GV R=3.9kt 5 GV- 400Hz@GV8@b 0) 30V@h U COM
	X2	[f g G Vwx 2		
	X3	[f g G Vwx 3		
	X4	[f g G Vwx 4	Q D [^ f g 7 W ; ; G Vwx (@ Q u B G Vws j S2R4GB) S2R75GB l g D [^ f g 7 W ; ; G Vwx @ S z T 5.4 I/Owx < = } P3h - G Vwx f g { | /	NGV@GV R=3.9kt 5 GV- 400Hz/50KHz(S21R5GB) S22R2GB) 3R75GB/31R5PB c R.)@GV8@b 0) 30V@h U COM
[f g G Vwx	X5	[f g G Vwx 5	Q D [^ f g 7 W ; ; G Vwx (@ Q D B G Vws S z T 5.4 I/Owx < = } P3h - G Vwx f g { | /	NGV@GV R=3.9kt 5 GV- 50KHz@GV8@b 0) 30V@h U COM
	X6 } S2R4 GB) S2R75G Baj ~	[f g G Vwx 6	Q D [^ f g 7 W ; ; G Vwx (@ Q D B G Vws S z T 5.4 I/Owx < = } P3h - G Vwx f g { | /	NGV@GV R=3.9kt 5 GV- 50KHz@GV8@b 0) 30V@h U COM
[f g G H	DO	WW 8 GHwx	Q D [f g 7 G Hwx @ 3QRu W ; ; GHw x / S z T 5.4 I/Owx < = } P3h - GHwx f g { | /	N 8 WWGH/ u8@b 0V) 26V@5x GH89 50mA@GH- b 0) 50KHz h U COM
8 . G H	TA	8. GH	Q D [^ f g 7 8. G Hwx @ S z T 5.4 I/Owx < = (P3 h) GHwx f g { | /	TA-TB X TA-TC W/ e x o ; @250VAC/2A } COS =1-@250VAC/1A } COS =0.4-30VDC/1A
	TB			
	TC			
	RA	8. GH		RA-RC W/ e x o ; @250VAC/2A } COS =1-@250VAC/1A } COS =0.4-30VDC/1A % 639 &!
	RC			
PLC	[f g G V v w	[f g G Vwx v w	H) 24V r @PLC 24VOj N/ 4 j (PLC 2T < = wx 7 SW4 k W/	Xwx # NPN F PNP &r SZ % 639 &!
8U	10V	+10V 8U	10V 8U } h U GND~	5x GH89 20 mA WW8@5xQ] 12V
	24V	+24V 8U	24V 8U } h U COM~	5x GH89 100mA
	GND	+10V 8U h U	> F 10V 8U 7 h U	Oj COM N +10V) AI1) AI2) AO1 v w
	COM	+24V 8U v w	{ | wx Q (	GND N
	PE	mnr U	(wx r k mn r U / > k) 485 p q k) 8 8l k 7 mn Qr j L wx	j Oj f g W r k wx PE J &

2.4.2

> GVwxQk

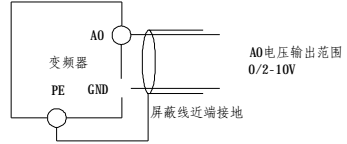
AI1) AI2wxr > GV(S2R4GB)
S2R75GB AI1)@AI1Q t W: SW3' uGV
8@} 0) 10V- GV89} 0) 20mA~/wx
QkSZ i



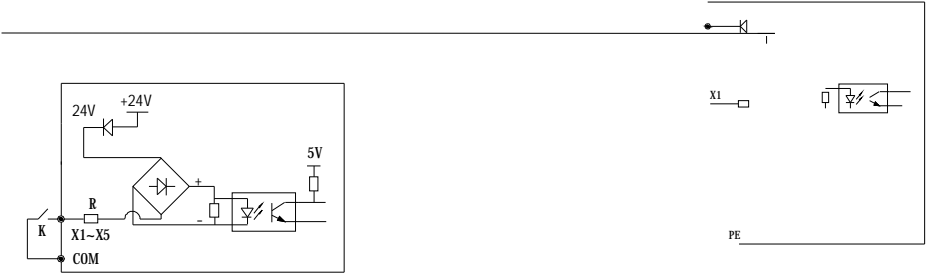
2-18 ' (* -

> GHwxQk

> GHwxAO S2R4GB) S2R75GB
#8@ GH@{ Qp t W: SW2
' u8@/89GH@ r > mQZ/[^ _
; @wxQkSZ i



2-21 PLC/ 1 23456 " 789: \$
f QR PC@3QR PLC@ O* +, - . / (PC f 2@ j f F k
e 8 RS232/RS485Er. (PLC f 2@t 7RS485wx Ff 7RS485wxz YwJr Q/
; 输入多功能端子配线



& BC*

1pqr s 24Vt uv COMt u o g Mwxmnyz { | > } ~ • N

2p! ` , " # a b & c \$ % & \ ' 1mm () D * g | > t u N

3p ` , a b & c] M & c a b + ~ , t ' - . / O ~ 1 t D k 2 3 . / O 4 % ~ g h 5 6 * g F . / O ~ g h } PEN


4p 7 \] | > & c k 8 9 : ; < & = v > & \ = ' ? @ & A \ A & ' \ AB & O \ Ag CO * g \ DD
30cm () ME F d GHI MI J | > & c v > & & c KLMNM (OPQRZ [z { . / OS ? TN

< = X . 7 ^ _ & r r s CN 2 1 (= < 7 RJ-45 s / n k 1 (X X D & r < = X F
^ _ X @ () 3 QR V 4 ~ ^ D = # 7 ^ _ k / 5 5
5 6000E LED CPU

^ _ F < = X 7 & r k 1 (O • l z } k @ RJ-45 r s & r 1 (p k SZ @ { w q EIA/TIA568B
k O • & r / () QR V 4 ~ ^ N = u ^ _ & r k /

2.6 BC






I j H8 2@ #9 , -. 7GV8U/
I j , -. pGH2SQ9H8 6N - 8U79H ; < /
I , -. \$ } =) 8 .) • . - 2@ " # (1000V s m ; \$ U
7 8 @a { A 4Mt /
I GVZ kc- m &k mn @ k@ ^ fgW N k@5 MNfgW
rk /
I 89KL. /7~ u@<=gW&rk 1(7mnk@rk N / 50 /
I 9dtmnk7mn re { | kc\$ q@Q(=t 7mn X /
I : &rk7 @(T , -. 78@ sJA /
I <p5 ; @7 E@<=rUwx PE fgWrUwx PE (TrU@rU Q { | \$
7rUkv(@fgWrUkl * x fgWkl * 8 /rk_ @ '(RSrk)
)rk s jj\$ O@ s @wxj b7 mk s { | wx r /

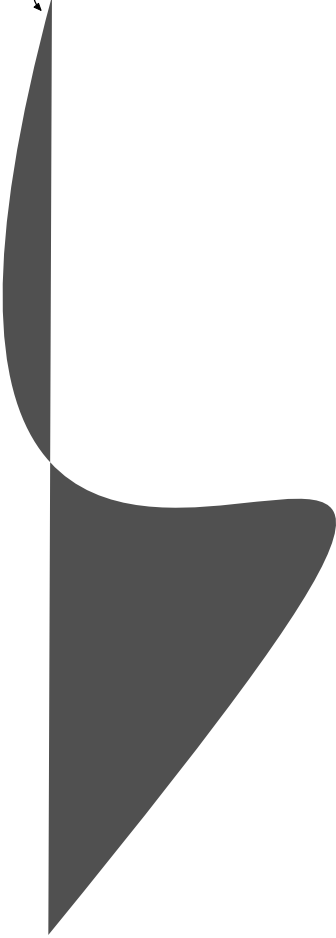
 危險	1) nwx \ 2 @SQX GV8U@p8 @ dj \ / e87>? / 2) d M \$ @ D82, - . 4 • / G7> ? / 1) y
--	--



3.1.2 KD

, - . ^ _ . \$ 8 q ^ @ V q ^ 7 f g D m 3 - 1 : / /
3-1 DEKD

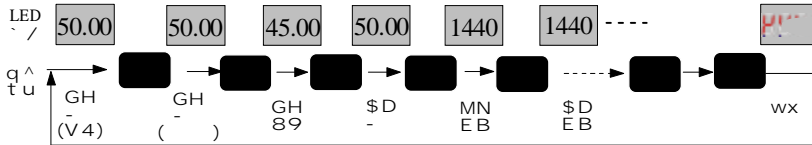
KD	KD	KD
	/ H ^	6V H /j l m 2@q PRG/ESC ^9H @' #6Vfgh@ q ENTER ^Q s6Vfg @fghi q PRG/ESC Q fghi fg @ fgh@ l m @ s H , - . @A2@9H@A` / fgh/, e2@ 9H, e Ffgh/
	D ^	6V s @ hi \$D2 hi Oo /
i t + - 	. W ^ (2)  - ^ (2) 	Q f g t h @ f g t f g t / h i \$ D @ L E D i t ` / % @ q L ^ @ + f g t j ` / @ \$ D ^ _ @ Q p i - \$ D @ B z P I D P D > P I D i P D /



M	T OP	UVOP
		@Sc E
REVC EMNScZ /	]	E MN
		CE LDMN
REVC EMNScZ /		CE B
		@Sc CE
TRIP @AZ / []	
		@A
REMOTE Z / []	^_<=
		wx <=
		Npq

3.1.4 DE FG

p ^_Q , - . 6N ^tu@
 hi 7` / 9H



SoT

45: MN hi Q\$% MN hi Q\$%/
 * V4R Dhi @ Q\$% -) \$D@({} Q\$%/

P0 nOhi

k	WL	] ^ #	+l] ^	m n	MODBUS o
P0.00	` / > Z	0 O• 1 > Z	0		0100
P0.01	< = SZ	0 V/F < = 1 aj 2 WY: ; < = 3 V/F bN < = } S2R4GB F S2R75GB : ; < = @ Q\$ 2-	0		0101
P0.02	- i \$ D	0.00Hz) 5x -	0.00Hz		0102
P0.03	- \$ DU 1	0 NULL 1 - i \$ D@i n 2 wx AI1 3 wx AI2} S2R4GB F S2R75GB aj ~ 5 GV 6 pqPD 8 [Bz 9 wx UP/DOWN 10 D2MN(PLC) 11 PID 4) 7 aj - U 0) 7 2[Bwx q [Bz _	1		0103

SxT fghi ym

k	WL	] ^ #	+l] ^	m n	MODBUS o
P1.19	g = (	30.0%) 100.0% 4 O* +, -. 3015GB cR OP B Vg =	100.0%		0213
P1.20	-	0 8 @d@A Uu1 1 2eOd, e Uu@ d@A Uu1 2 8 @d, e Uu	0		0214

k	WL	]	^	#	+l	m	MODBUS
					]	n	o
P2.34	B2e	f	132kW	0.1) 3600s	22kW C R		0322
		f	160kW	1.0) 3600s	{ | 10.0s	3.0s	
P2.35	B2e	0	1	1 10	2	0.1	0323
P2.36	YZ &[<=	0	pSZ	1	p8	&[8	ME
					0		0324

SxT fghi ym

k	WL	] ^ #	+l] ^	m n	MODBUS o
P3.03	X3 wx f gD	0) 49 z . 50 i . e GV 51 i . Di 53 D2 ' u 74 GHwx <= 77 PID GH =P 0 78 PID b 2e 79 & 9Hv ^ _<= 45) 46) 52) 54) 73) 75) 76 aj	37		0403
S21R5GB) S22R2GB) 3R75GB/31R5PB c R .					
P3.04	X4 wx f gD	0) 79 z . 82 J B B J GV	0		0404
P3.05	X5 wx f gD	0) 79 z . 80 PULSE GV 81 J B J B A J GV	0		0405
P3.06	X6 wx f gD	0) 79 z .	0		0406
S2R4GB) S2R75GB c R					
P3.04	X4 wx f gD	0) 79 z .	0		0404
P3.05	X5 wx f gD	0) 79 z . 80 PULSE GV 81 J B	0		0405
P3.06	aj	-	-	*	0406
P3.07	aj	-	-	*	0407
P3.08	aj	-	-	*	0408
P3.09	aj	-	-	*	0409
P3.10	aj	-	-	*	040A
P3.11	aj	-	-	*	040B
P3.12	aj	-	-	*	040C
P3.13	X wx • 2e	0.002s) 1.000s	0.010s	*	040D

0.851

SxT fghi ym

k	WL	] ^ #	+l] ^	m n	MODBUS o
P4.12	5/ ; GV _;	-100.0%) 100.0%	0.0%		050C
P4.13	5x ; GV	P4.11) 50.00kHz	50.00kHz		050D
P4.14	5x ; GV _;	-100.0%) 100.0%	100.0%		050E
P4.15	aj	-	-	*	050F
P4.16	aj	-	-	*	0510
P4.17	aj	-	-	*	0511
P4.18	aj	-	-	*	0512
P4.19	aj	-	-	*	0513
P4.20 P4.27	aj	-	-	*	0514

P5 PLC MN

k	WL	J ^ #	+l J ^	m n	MODBUS o
P5.00	MN>Z	0 cY1 1 cY2} a#5 ~ 2 & cY	2		0600
P5.01	PLC MN / SZ' u	0 S8 W MN 1 2 7 - MN 2 2 7MN- MN	0		0601
P5.02	82 PLC hi ' u	0 1 \$ 02 D MN R	0		0602
P5.03	2e ' u	0 1 b	0		0603
P5.04	MND2 T1	0.1) 3600	10.0		0604
P5.05	MND2 T2	0.0) 3600	10.0		0605
P5.06	MND2 T3		10.0		0606
P5.07	MND2 T4		10.0		0607
P5.08	MND2 T5		10.0		0608
P5.09	MND2 T6		10.0		0609
P5.10	MND2 T7		10.0		060A
P5.11	MND2 T8		10.0		060B
P5.12	MND2 T9	0.0) 3600	10.0		060C
P5.13	MND2 T10		10.0		060D
P5.14	MND2 T11		10.0		060E
P5.15	MND2 T12		10.0		060F
P5.16	MND2 T13		10.0		0610
P5.17	MND2 T14		10.0		0611

P7 PID < =

k	WL	J ^ #	+l J ^	m n	MODBUS o
P7.00	7	y y G 4 8 T D 6 (m)	T j	/ F	

P9 V/F <= hi

k	WL	] ^ #	+l] ^	m n	MODBUS o
P9.00	V/F k \$D	0 EF k 0 1 - EF k 1) 2.0~ 2 - EF k 2) 1.5~ 3 - EF k 3) 1.2~ 4 () \$D V/F k } QP9.01) P9.06 f gt D~	0		0A00
P9.01	V/F - F1	0.0) P9.03	10.00Hz		0A01
P9.02	V/F 8@ V1	0.0) 100.0%	20.0%		0A02
P9.03	V/F - F2	P9.01) P9.05	25.00Hz		0A03
P9.04	V/F 8@ V2	0.0) 100.0%	50.0%		0A04
P9.05	V/F - F3	P9.03) P0.09	40.00Hz		0A05
P9.06	V/F 8@ V3	0) 100.0%	80.0%		0A06
P9.07	EF W	0.0 EF W 0.1) 30.0% EF W	75kw c R 0.0% 93kw c R 0.1%		0A07
P9.08	EF W px	0.00) 50.00Hz	16.67Hz		0A08
P9.09	EU-	0.0) 250.0%) RCDEF 100%~	75kw c R 80.0% 93kw c R 0.0%		0A09
P9.10	EU 2e i	0.10) 25.00s	2.00s		0A0A
P9.11	g<=' u	0 g<= 1 g<=			

PA: 8 hi

k

SxT fghi ym

PC ` / < =



k	WL	]	^	#	+]	]	^	m	n	MODBUS	o
		3	GV	4	p	q	\$	D			
Pd.05	8x, 8. ab	20)	110%						100%		OE05
Pd.06	i deRH	20.0)	200.0%						160.0%		OE06
0007											

PE MN R

k	WL	J ^ #	+l] ^	m n	MODBUS o
PE:00	` /@A' u	0) 30	1		0F00
PE.01	@A}	0 NULL 1 Uu1 k k @ 2 Uu2 <=8W 8@ 3 Uu3 Y8gW ' 4 OC1 B 9 5 OC2 B 9 6 OC3 B 9 7 Ou1 B @ 8 Ou2 B @ 9 Ou3 B @ 10 GF r U 11 OH1 +, . , 12 QL1 8 13 OL2, - . 14 SC W 15 EF0 D Np 7 j @A 16 EF1 wx . 7 j @A 17 SP1 GV J 18 SP0 GH J 19 CCF1 <=gW@A 1@p85 , - . ^_ e G g 20 CCF2 <=gW@A 2@, - . ^_ e &p @ G@A& 2 R. 21 CCF3 EEPROM @A 22 CCF4 AD E H@A 23 CCF5 RAM @A 24 CCF6 CPU KL 25 PCE hi =o- 26 aj 27 HE 89R @A 28 DE R @A 29 CUE @A	NULL	*	0F01
PE.02	@A2GH-	0.00Hz) . y -	0.00Hz	*	0F02
PE.03	@A2\$D-	0.00Hz) . y -	0.00Hz	*	0F03
PE.04	@A2GH89	0) 2 CD89	0.0A	*	0F04
PE.05	@A2k k 8@	0) 1000V	0V	*	0F05
PE.06	@A2MN 7	0: StP 1: Acc B 2: dEc B 3: con L B	S		S

PF hi abc B

k	WL	] ^ #	+l] ^	m n	MODBUS o
PF.00	{ } t	0 t { | tab	0		1000
PF.01	hi Vab	0 jhi! " % 1 \$D- } P0.02-F fgt @{| fgth i p% 2 Ofgt @ j p%	0		1001
PF.02	hi v	0 tu 1 D @A R 2 H) \$D (R\ t\8 hi) 3 H) \$D (R\ t)	0		1002
PF.03	hi	0 u 1 hi 2 hi . 3 8 hi 4 ^ _	0		1003
PF.04	G/P' u	0 G (EF) 1 P (&) })	0		1004
PF.05	aj	aj	-	*	1005
PF.06	aj	-	-	*	1006
PF.07	aj	-	-	*	1007
PF.08	aj	-	-	*	1008
PF.09	* +	0) 9999		*	1009
PF.10	k O	0.00) 99.99		*	100A
PF.11	' O OF	0.000) 9.999		*	100B

5.1 >? " P0 \$

P0.00 ` />Z	\$Db 0) 1 0
0 O• 1 >Z P0.00 \$D 12@6V >Z/j >Z @Qp n S F %Vh % 7f gt@{ ! %7fgtt ` / 6 % 0 @ j ` //	

P0.01 <=SZ	\$Db 0) 3 0
0 VF<= 1 aj 2 WY: ; <= 3 VFbN<= : VF<= j ~^( | , - . 8|R. 8 j (6N8 hi oD (p { w 8 hi 767 @ ' uL<=SZ/ WY: ; <= Bz \$. : ; <=SZ@Q(g p, B]: / S2R4GB F S2R75GB ; ; <=~ VFbN<= j ~^ - F8@ <=7] @Q' uL<=SZ/	

& BC*

UVWXYL |>1Z] M[` , ~q\] ^~_` a2bc&' Mx^_ def gI &' hi j kM
 dl G&' j kmn7(opqf ~ &' j kMrsopt f ~ |>unMI Jvw1xyGz{ | Ghi
 j kgI v&' j kmn7} ~xref gI YL |>5•j kM P8 YL |>j k ; <N
 v |>1Z M2 1 . /O&' n |>1 &' M . /O() D &' () D q
 5 3 M&' ~() D m(. /O() D 1 \$ 1 Mwxs |>un. \$ e y
 GN

P0.02 - i \$D	\$Db 0.00Hz) 5x - 0.00Hz
: fgj fgt P0.03 P0.04=12@ (^_6N- i \$D2 @| D 2, - . 7- \$ D /	

& BC*

P0.02~ , k ? M1 ENTERGf ^ M v. /O YM ` &
 qy N
 [P0.03g 7r 1M , (nj k P3.18M P3.18g 7r 2] Mk g 7/) ' P0.02Dv \ n ~
 & } q \ 2] M &q N
 D1

P0.03 - \$DU 1	\$Db 0) 11 1 1
----------------	----------------

6 Npq 7 aj 8 [Bz
9 EFU ;
: P0.03 \$D 1 ^_i \$D2@j l m Qp ^_. 7i %\$D- \$\$D-
P0.02 J: 2@l m Qp ^_ no P0.02 /
wx A11) A12 > GV @1 (wx A11) A12 2@Qp 0) 10V 8@ 0) 20mA 89 8
/

SzT fg{|

Sc D wx D7Sc #s5 @pq D7w @^_ D7Sc5A/ #s 7 2@
+QA #s7 D/

P0.09 nO-	\$Db A->Z 0.10) 650.0Hz ->Z} aj ~ 0.1) 1000Hz
P0.10 5xGH-	\$Db A->Z MAX[50.00Hz@. y- @\$D- @[- @ -) 650.0Hz 50.00Hz ->Z} aj ~ MAX[50.00Hz@. y- @\$D- @[- @ -) 1000Hz 50.0Hz

: nO- F_{BASE} \$, -. 7GH8@ CD8@U_N275/GH- @(Du n - 7n•/
p R8 CD- u nO- 7\$D /j p M(767 @ q8 7CD- ' uF_{BASE}/j
M(7] @Qq (^•\$D@ L2(T 45 8 7V/F 7Q c8 7H ^•@
i 5-0-1GH- GH8@: *i : //
5x- F_{MAX} O*+, - . ! " GH75 - / \$D x PCD @+ Qg 8

\$ ' 01
\$D-
\$no
8 si))rp
X pM
/ 30.00Hz@
P0.17=10 2@

P0.18 B2

P0.19 B2

: B2
O* +, - .
B2e@
B2

5.2 pY

P1.00 • S

0 • -
2 EB
:
• -
PD B2e
= (
#P 8
• @
E C
9= hi

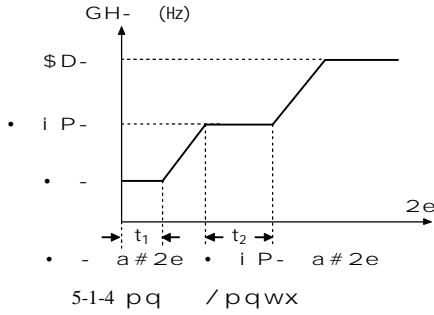


SzT fg{|

P1.01 • -	0.10) 60.00Hz 0.50Hz
P1.02 • - a# 2e	0.0) 10.0s 0.0s

• -

□



& BC*

? I /) R ? /) A R g 7 /) S ? I /)] r 0] M ? I /) N

P1.07	B > Z	\$Db	0) 3 0
-------	-------	------	--------

0 k

1 S k

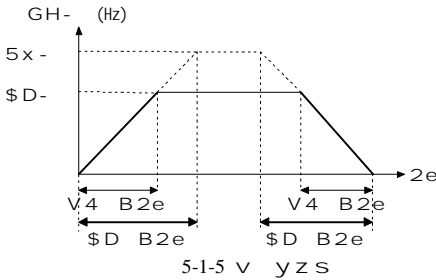
2 a j

3 a j

说明 k

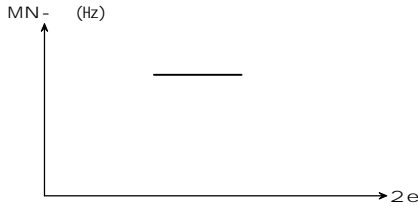
B 8 p (: (@GH- q z D

@ i 5-1-5: //



S k j B W F 2_2 %, GH- @Q7 * 7) // 2@

(A - 2~^ E F) - 2~^ 2 B 7 @ = /



& BC:

(n\v. /OgW ' , M2 , RB ' j DMq n, Re yG] ~ >?N
 v ' r ~ &Mk: >?4@SU, >?(n~' - N

P1.16	a# -	\$Db	0.00Hz) 5x -	0.00Hz
P1.17	a#2e	\$Db	0) 3600.0s	0.0s

a#- j q STOP ^ { k @MN- 4# - a#- @
 - 0/
 \$ a#2e 02@ a#- \$ \$D7a#- x MN- 2@ a#
 - /

P1.18 = ' u	\$Db	b 0) 3 3
-------------	------	----------

0 (= 1 (g =
 2 (Jp= 3 (g FJp=

& BC*

R. / uq\] r ~ &Mm(qg>?& ` , 2>?}
 R 2? LMd r ' ~ &M \IJs j kgI { 1\$3dUV %~n >?
 4@ >?& N
 15kW (' - I n >?4@N

P1.19 g = (\$Db	30.0) 100.0% 100.0%
-------------	------	---------------------

\$P7i x= @ = 8 . 7aWt x/: R hi 7\$P = 8 7
 Ff @' u 7 (Rj B= F89= 8 , eVW /
 g = u8@xFJB @x} Pd.11~: @380VGV7 @g = u8@ @JB
 xA 52V(n ux 700V)@220VGV7 A 23V(n ux 350V)/\$[Oo h Pd.11
 7rs/

P1.20 _	\$Db	0) 2 0
---------	------	--------

0 @d@AUul 1 2eOd, eUu@ d@AUul
 2 @d, eUu/

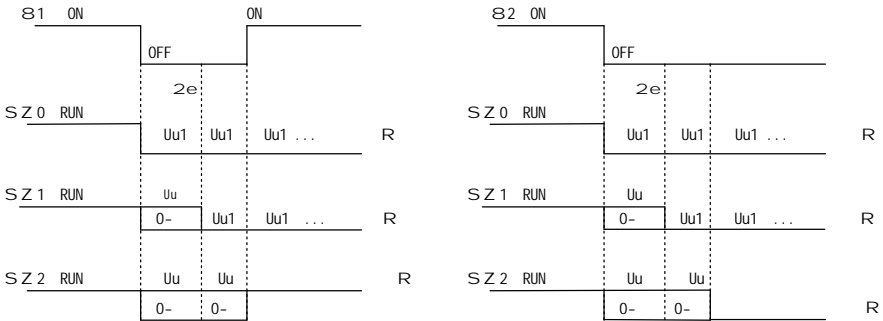
P1.21 2e	\$Db	0.5) 10.0s y D
----------	------	----------------

P1.22 , e u' u	\$Db	0) 1 0
----------------	------	--------

0 u 1 BMN

P1.23 BMN2 B	\$Db	0.10Hz/s) 5x - /s 10.00Hz/s
--------------	------	-----------------------------

: 2HW @@+l, eUu@L28 / /D/ i 5-1-8: /
 MN2HW @@d Uu Uul@ i 5-1-8: / E Uu 2@X @6V 0 - MN/ @
 + Uu J E Uul 2@+ @ - 8@v 300V R @+ u @A R@3 u @AGH
 @ R Uul @A/
 , e u' u 12@ , e qz P1.23 BB BMN@ j B2 8 @
 +q\$D\$2 \$ /



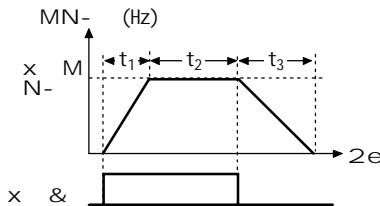
5-1-8 | Y}

5.3 ~ • @A" P2 \$

P2.00 x MN-	\$Db 0.10Hz) . y - 5.00Hz
P2.01 x B2e	\$Db 0.1) 3600s 6.0/20.0s
P2.02 x B2e	\$Db 0.0) 3600s 6.0/20.0s

P2.00) P2.02D x MN27J: hi /
 i 5-2-1: /@t₁) t₃ V4MN7x BF B2e@t₂ x 2e@P2.00 x MN- @
 QP2.01 F P2.02 \$D7x B2e 0 5x - : ~72e/
 V4MN7x B2e t₁qz Z D/z_@V4MN7x B2e t₃3Q L D/
 SZQP2.02 \$D D \$P2.02 \$D ' 0 2@q SZ0 B P2.02 \$D 02@
 +q Q SZ

$$t_1 = \frac{x - x}{B2e}$$

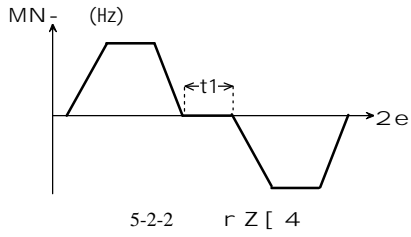


5-2-1 q@AWL

& BC*

1p ?yG ? 1Z 01 G ?M ? :] 4H 7r N
 2p[?] r 0mQ M ?yG3 M ' LK>?tu '] M] 4
 }
 3p T } A|>tu ml G ? |>N

P2.03 CE9H2e	\$Db 0.0) 3600s 0.0s
: , - . Q cME CcME@ QCcME cME7 @j GHi - 7 2e@ i 5-2-2 : /7t ₁ /	



P2.04 y - _>Z	\$Db 0) 3 0
---------------	-------------

0 MNj y -

1 0- MN

2

3 aj

: ' u0 MNj y - 2@ \$D- / y - @+V4MN- y - \$ @



P2.28	B2e2	\$Db	0.1)	3600s	6.0/20.0s
P2.29	B2e2	\$Db	0.1)	3600s	6.0/20.0s
P2.30	B2e3	\$Db	0.1)	3600s	6.0/20.0s
P2.31	B2e3	\$Db	0.1)	3600s	6.0/20.0s
P2.32	B2e4	\$Db	0.1)	3600s	6.0/20.0s
P2.33	B2e4	\$Db	0.1)	3600s	6.0/20.0s
P2.34	B2e	\$Db	0.1)	3600s	3.0/10.0s

b B2e2) 3) 46ND } B2e1QP0.18) P0.19D -, - . MN7) B2e
 Q j wxp hi P3.01) P3.05' u D @+ B2e1/\$wx' u * {
 672@q B2e N/ D2MNFx MN7 B2e@ j wx<=@
 Q \$D7hi' u/
 \$, - . wx * 2@+qP2.34 B 2e @ SZ} P1.10~7y
 =/ B2e7 n @QRp %P2.35 B2e t \$D2e / qx10 /

P2.35	B2e	\$Db	0)	2	0
-------	-----	------	----	---	---

0 1 1 10
 2 0.1
 V4 B2e = B2e " B2e

P2.36	YZ&[<=	\$Db	0)	1	0
-------	---------	------	----	---	---

0 pSZ 1 p8 &[8 ME
 pSZ , - . MN &[8 ME 3 bc @ >?az\$50(@&[E s+
 30j /F1+3 7. 44 Tf15. 12 O TD (8) Tj /F1+2 7. 4 O TD j /F1

SzT fg{|

P2.49 PG B i 1	\$Db 1) 1000 1
P2.50 PG B i 2	\$Db 1) 1000 1

\$ t. (PG) r j 8 . 2@~^\$P hhi @PG B i 1 8 . 7
i w@PG B i 2 7

P3.03 X3wx fg	\$Db 0) 79 37
P3.04 X4wx fg	\$Db 0) 79,82 0
P3.05 X5wx fg	\$Db 0) 81 0
P3.06 X6wx fg	\$Db 0) 79 0

<=wx X1) X6 [fgwx@p \$DP3.01) P3.067 D { 3fg/!" 6 D @6 D
 7wx@{ 8 2@ fg /\$D fg m5-3-1/

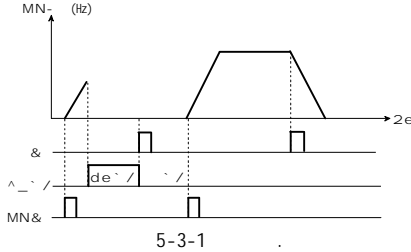
5-3-1

m5-3-1 : + 7fg{|

0- D :D wx wx@, -. R wx7 @3 6Ngh @ wx mn
/ (7wx LD @Q @Q <pKL ~ u/

1) 5 ME>Z@ P3.15ME>Z\$D/

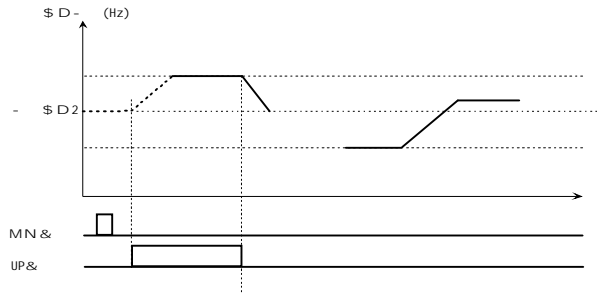
6-RST j @A @Q(^_STOP/RESET^ H@A @3Q(D RST7wx H@A
@j MN • (wxQ , -. q SZ /RSTZ j{. W N u/: R(
Tq - - - SZtu@ i 5-3-1: //



7-FC- \$D' u FC- \$D' u fgwx @+- \$DQP0.06MN- \$Dh 2 D
Lfgwx @+- \$DQP0.05MN- \$Dh 1 D/, -. MN @QRp FCwx 9
H- \$DSZ@ \$vw7<=, -. 7GH- /

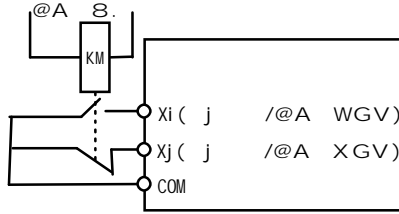
8) 9 CEx Z FJOG/RJOG

, -. p MNZ • MN} - GH-2@D FJOGfgwx @ N



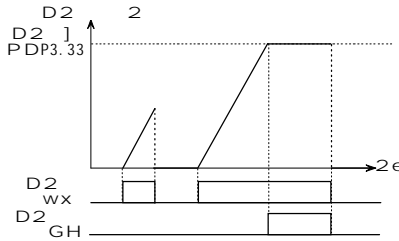
16- B pZ a#8 gh D 7 } & -@ # \$ EBME/
17-, -. MN p wx 2@MN 7, -. + Q @ + p/ /f^(~ ^
7] /
18) 24@26) 29 [B
[Bz MN27• / p<=Q' u^_) wxZ Npf 7. 44 O TD9
[/ (Q) Tj/ Tf 7.44 0 TD (I) Tj/F1+7 7.44
a d

EIO j W@EII j X , - . j MN @r j @ 0- MN/8
 j @, - . MN@Qh EH0 j @A W) EHI j @A X J: rs@ i 5-3-6
 : //



5-3-6 /

41- 9= (wx 7* VP 9= /
 42) 44 wx PLC<=
 PLC V D2MN/t- \$DIGH PLC PID V} z/ (- \$DU22@PLC V /
 PLC D2MN /wx 2 D2MN@6V0- MN Z ` x
 MN/wx e q STOP ^@ MN i . Di @ w• 2@q/ SZ/ / , - . ! j
 MNSZ u+ fg 5 /
 PLC j PLCMN>Z7 @ fgwx 2tD PLC 2 7MN
) MN2e /
 47-PID V PIDMN@t- \$DIGH PIDXY/ (- \$DU22@PID V /
 48-Bz/ F >Z9H
 j ; ; <=>Z @QP8.10EF <=>Z\$DF wx DMNj Bz EF>Z@ \$P8.10
 \$ 0} qBz >ZMN~ 2@\$wx\$ 48 2@+MN>Z 9H EF>Z/
 49) 53 D2
 49 wx 2D22eW 2@ 2D0/
 \$D2] PD} P3.33~ 2 p 2/ i 5-3-7: //
 53 fgwx 2@P3.33D2] PD 9H bc@ + /



5-3-7 ^ 4 q* -

50- i . e GV OP i . 7 i GVs@ 5 - 200Hz@ 82QR \$
 i /
 51- i . Di , - . OP7 i . 6NDi tu@ i . e GVQ (/
 74-GHwx <= fgwxGV 2@36 GHfgwxGH
 77-PIDGH =P0 Bz PIDMN2@\$wx\$P 2@GH =P \$DBz > PIDMN2@\$
 wx\$P 2@GH =P i - /
 78-PID b2e PIDMN>Z @8 PI<=@\$wx\$D @L22tI n @ b
 n 0/
 80-PULSE GV fgwxr u - PD@GV7 - \$D- 7: *@h
 P4h- PD k7rs/

SzT fg{|

81 J B GV OPPG J B GVwxfg fgZD7wxr E. t. }
PG~7AJ @VW J BzC /
82 J BBJ GVOPPG J BBJ GVfg@ fgZD7wxr t. } PG~B
J @F8I fgwxQ VW J BzC /

& BC*

I PG5 L- &`QS - ~ & OM&8 12) 30VDC@g\ 1Zmj 2.4.2
|> =tu~*gGN

• 2e i GV 6Ni • _@R<pKL * LD7 /
• 2e i x@<=LD@ <= , U /2@ @ Qg<= LD/ 5 \$
D @Q <= LD " 67 \$no\$D /

0 {kZME>Z 1 1 {kZME>Z 2
2 okZME>Z 1- a#fg}- X1) X6 g58wx~
3 okZME>Z 2- a#fg}- X1) X6 g58wx~
\$, -. MN& <=SZ} P0.07~ wx<=2@{kZ 1) 2@okZ 1) 2O 5 /
{kZME>Z 1@FWD@REV qZ/ScMN@FWD E@REV CE/({) Qp 9Hwx
FWD) REV@<=8 CE/\$FWD 2 EMN \$REV 2@ <CE' uP2.38 1 pCE@
+ p 0 !" CE@+CEMN/z 2 2@ p/wxr kSZ i 1: //
{kZME>Z 2@RUN MN& @FR:MNSc@{ 2 (/ \$RUN 2@• , -. @
FR\$D2@FR= 2 E@FR 2CE@ FR\$D2@ScQfgt D/\$RUN 2@ p,
-. MN/wxr kSZ i 2/
okZME>Z 1@FWD@REV qZ/ScMN@FWD E@REV CE/HLD 2@({) Qp
9Hwx FWD) REV@<=8 CE/\$FWD 2 E \$REV 2CE z 2 2@
/ HLD ONH L7L44 TD (#),Tj/F13Tf 15.12 0 TD 0.24 T44 0 TD (z) Tj/F1+3 7.44 Tf 7.(rk) Tj 0.24 Tc (SZ) Vc (

4 O TD (=) Tj /F1+6 7. 44 Tf 16. 8 O TD (@ Tf 15. 12 OTD O Tc (

wx UP/DOWNB D (UP/DOWNwx %\$D- 7, /UP/DOWNPD D (UP/DOWNwx %\$D- 7, b /

P3.18i - UP/DOWN ' u	\$Db 0) 2 2
----------------------	-------------

0 r STOP@UP/DOWN PD 0/
 1 r STOP@UP/DOWN PD 0@ 8 a /
 2 r STOP@UP/DOWN PD 0@ 8a fgt P0.03 \$D 12@P0.02j kno 8a /
 UP/DOWNMN i 5-3-3@5-3-4: //
 P0.03 \$D 1^_ \$D- 2 P3.18 \$D 22@i \$D- } P0.02~j kno 8a 22@ 8 a @ 3h P0.02 /

P3.19 D0wx f gD	\$Db 0) 37 0
-----------------	--------------

P3.24 8. 1(TA/TB/TC)GHf g' u	\$Db 0) 37 19
------------------------------	---------------

P3.25 8. 2(RA/RC~ GHf g' u	\$Db 0) 37 0
----------------------------	--------------

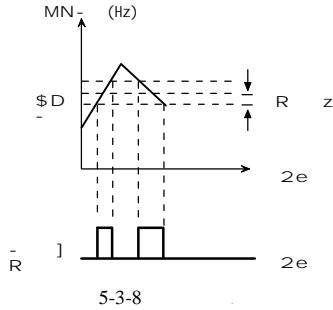
8. 2(RA/RC~ 639<=X /
 O* +, -. v2WW: ; GH@{ GHwx D0) 8. 1 Q [fgwx / () Q ~ ^ @
 uGH8j b <= F I m @ m5-3-4/
 5-3-4 1 * +

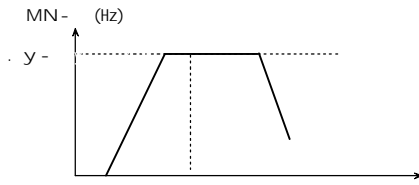
QR		
0	NULL	
1	RUN MN	, -. MN @wxGH
2	FAR -]	hzrs P3.26 -] RH z
3	FDT - R	h P3.27) P3.28 - R - R J: rs
4	FDTH . y-]	\$D- %. y- MN-] . y- " J] 2@wxGH /
5	FDTL y-]	\$D- \$ y- MN-]

	QR	
29		* 2wx GH
30	i B	GH- 0 2wx GH
31	aj	aj
32	aj	aj
33	V4 ESc	\$, - . 6NSc 9H2@GH78 34 E%,
34	aj	aj
35	RH } ULP~	\$, - . 2@ RH
36	[B	g58 [BGVwx} 18) 24) 26) 29~ @wx GH
37	< =	74 GVf gwxGV 2@wx GH

P3.26 -] RH z	\$Db 0.00) 10.00Hz 2.50Hz
----------------	---------------------------

GH-] \$D- 2@Lfgno{ R z@nob \$D- 70) &10.00Hz/ \$,
 - . 7GH- j \$D- 7 RH z O2@J GHf gwxGH @ i 5-3-8: //

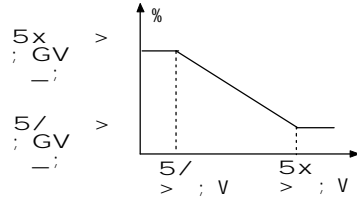
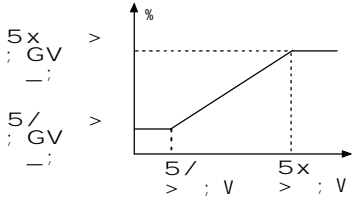




5.5 ' (" P4 \$

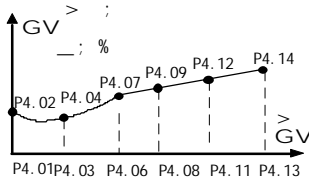
P4.00 > ; ' k ' u	\$Db 0) 3 0
-------------------	-------------

0 1 All
2 AI2} S2R4GB) S2R75GB aj ~ 3
\$ P4.00 \$D 0 2@P4.01) P4.05 \$DD All GV P4.11) P4.15 \$D GV \$D
2W\$D @ KL
P4.00 \$D 0@ ' k ' u 2@ P4.01) P4.15 : \$D P4.00 : ' p 7 x / • 2
eR p • @ 1Wp _; 0
\$ P4.00 \$D 1 2(S2R4GB) S2R75GB aj)2@ GV4 O TD (p) Tj / F1+8 765



5-4-1' (* - {

2 \$ P4.00 \$ P 1) 2(S2R4GB) S2R75GB aj) 3 2@P4.01) P4.04@P4.06) P4.09@ P4.11) P4.14
 ((. r s l z / () Q R p \$ D @ D ' k k / Q \$ D M N k 7 x / i
 5-4-2 : / @ P4.01) P4.03) P4.06) P4.08) P4.11) P4.13 7 /



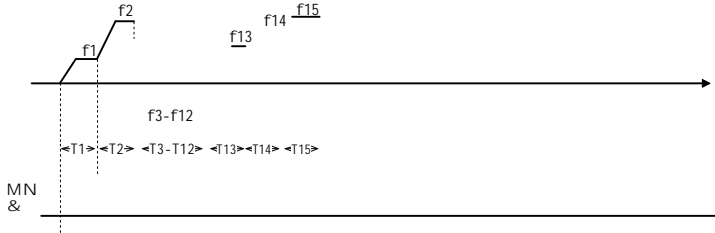
5-4-2' (* - {

3 • 2e i GV 6Ni • _@R<pKL * LD7 /
 • 2e i x@<=LD@ <= , U / 2@ @ Qg<= LD/ 5 \$ D @
 Q

P4.31	A01	P	\$Db	-100%	100%	0.0%
P4.32	A02	P	\$Db	-100%	100%	0.0%

P(b m/@ (k m/@V4GH(y m/@O• GH(x m/@+V4GH
y=kx 10b A01 P100% 10V/O• GHZGH0) 10V > GH; 70) 5x /8 (
> GH7i FGH 7 U/3QR D gh~^7GH k/ > GHOo MN-
@ j - 02GH8V@- 5x2GH3V@+ \$ -0.50 @ P \$ 80% /

P4.34	D0	5x GH	-	\$Db		
-------	----	-------	---	------	--	--





P5.28 T10	MN\$D	\$Db 1 F) 4 r 1F
P5.29 T11	MN\$D	\$Db 1 F) 4 r 1F
P5.30 T12	MN\$D	\$Db 1 F) 4 r 1F
P5.31 T13	MN\$D	\$Db 1 F) 4 r 1F
P5.32 T14	MN\$D	\$Db 1 F) 4 r 1F
P5.33 T15	MN\$D	\$Db 1 F) 4 r 1F

* D , - . B2eFMNSc/v 8^h @ { m5-5-1/

5-5-1 PLC i @A] ^

h Oo	B2e	MN Sc
1F	B2e1	F c
1r		r Cc
2F	B2e2	F c
2r		r Cc
3F	B2e3	F c
3r		r Cc
4F	B2e4	F c
4r		r Cc

P5.34	MN RDi	\$Db 0) 1 0
P5.35	MN i R	\$Db 0) 15 0
P5.36	MNO 2e	\$Db 0.0) 3600 0.0

MN i RP5.35 R\$ PLCMN i /
MNO 2eP5.36 R\$ PLCO MN2e/
P5.34 12D MN i RP5.35) MNO 2eP5.36@D0 Of gt 0/

& . . O

P7.03 PIDC U1	\$Db 0) 5 0
P7.04 PIDC U2	\$Db 0) 5 0

0 OPPG J BGV} P7.03~/ aj } P7.04~
 1 AIIwx 2 AI2wx (S2R4GB) S2R75GBaj)
 3 aj 4 GV
 5 Npq

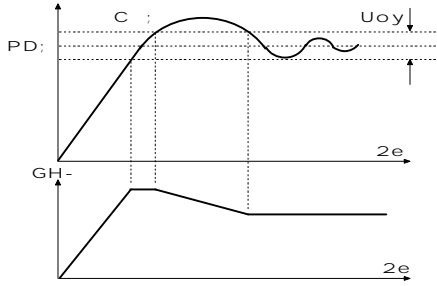
P7.05 C ; h	\$Db 0) 5 0
-------------	-------------

0 PIDC U1 1 PIDC U2
 2 MIN} PIDC U1@PIDC U2~ 3 MAX} PIDC U1@PIDC U2~
 4 PIDC U1 PIDC U2 5 PIDC U1-PIDC U2
 (DPIDC ; GVSZFp /C p 02@MNj Bz PID>Z@{ PD > ; 2@q
 { ; 5xEB(5x- 7EB) EBPD/{ C p 2Nj (D) Tj /F1+2 7.

P7.22 ~Uoy	\$Db 0.0) 999.9 0.0
------------	---------------------

```

: $C F$D7U A PID~Uoy$D 2@PID<=. no@, -. # $ 7GH/
i 5-7-1: //
Lfg7 $P$ ! * GH7 zFLDz/~Uoy-A2* 7n z@ 2
* LD z@89 (^7GH. /
> PID2@~Uoy$DP7.22 _; 7 @^ ; Q@EBPID2-Uoy$DP7.22 E
B/ i 5-7-1: /
    
```



5-7-1

P7.23 PIDn	\$Db 0) 1 0
------------	-------------

```

0 u( 1 Cu(
u( $PIDGH @ - @: <=7 _; 2' (@ * /
Cu( $PIDGH @ - @: <=7 _; /2' (@ =Y* /
    
```

P7.24 bn 'u	\$Db 0) 1 0
-------------	-------------

```

0 - . y2@ p bn 1 - . y2@ bn
    
```

& BC*

R r k~ MIJU0M (/) F)]M P 9 N

P7.25 • (\$Db 0) 1 0
-----------	-------------

```

0 • ( 1 • (
    
```

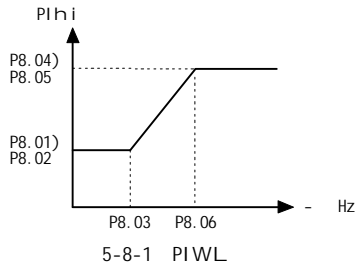
& BC*

2 PID] (nN

P7.26 " 2	\$Db 0) 999s 120s
P7.27	\$Db 0.00Hz) . y- 20.00Hz
P7.28	\$Db 0.0) 100% 80%

```

Lfg(j 9; i 2 p, ; } : ! ~j ^67 @ , ; 7- A
@" 2 • /
j L" 2 @- A @+, ; / o $ /
^9Hv @ C (T-v /L2, ; / } i: / 5-7-2~/ $
Db 7 > PIDC 7 b /
~^(^_ n @ $D@Qt PCh PC.01-PC.20 PC.16,PC.17$ 1@{ $ @0
j l <' / n @@ $D4 H@ , / n @Qq ENTER n/
86 MN@ n 7@ /
    
```

p \$DBzn . 7 *i F b2e@QRn ; ; <=7Bz / @
 / b2e@ Q BzY7 / x b2e / Qg * E /
 n S(H) hi g{| ^• @+j H) hi nG. 6NEn # x @a
 *

P8.14 \$D * i	\$Db 0.0%) 200.0% 102.4%
---------------	--------------------------

: ; <=SZ @ hi EFZ 6N @%, hi QR%, GH89@p %/

P8.15 EF B2e	\$Db 0.00) 120.0s 0.50s
--------------	-------------------------

P8.16 EF B2e	\$Db 0.00) 120.0s 0.50s
--------------	-------------------------

\$PEF>Z27EF B2e@Bz>Z Lfg
EF 0]CDEF72e EF B2e@ CDEF]072e EF B2e/

P8.17 AB EU	\$Db 50.0%) 200.0% 117.0%
-------------	---------------------------

Bz \$. : ; <=@ AB2= MN LD@Q \$ xLhi /

P8.18 B EU	\$Db 50.0%) 200.0% 117.0%
------------	---------------------------

Bz \$. : ; <=@ hi (Dno8 7LB z \$8 = 2Bz A+ x hi @
C + / hi /

P8.23 i BEF W	\$Db 0.0) 50.0% 0.0%
---------------	----------------------

P8.24 i B	\$Db 0) 20% 5%
-----------	----------------

P8.23i BEF W 2 i B27GHEF@ 8 j i B2a#8D7 F/
i B \$Db 7 0) 20%75xGH-

P8.25 = EF\$DU	\$Db 0) 5 0
----------------	-------------

0 P8.11 75 EF\$D 8T 1 AII

2 AI2 (\$2R4GB) S2R75GBaj) 3 aj

4 GV 5 Npq

P8.26 B F	\$Db 40.0%) 160.0% 100.0%
-----------	---------------------------

P8.27 B F y	\$Db 0) 1) 2 0
-------------	----------------

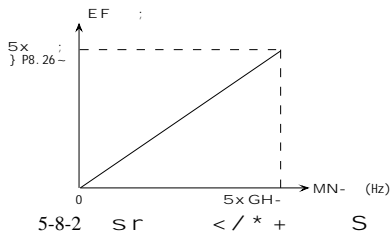
0 qMN- 1 qkBz } aj ~

2 aj F MNBz 7 @ * 4 D [7EF@ BEF 2 j b *

7 F a# 7EFnO , /

P8.26\$D7 5x ; @100.0% 8 CDGHEF@\$ y qMN- 2@ F

; \$ MN- 7: * i 5-8-2



P8.28 i J 2e	\$Db 0.05) 10.00s y D
--------------	-----------------------

i J f g (D 8 • J] @Ohi \$ P # 72e/

5.10 V/F " P9 \$

P9.00 V/F k \$D

\$Db 0) 4 0

0

& BC*

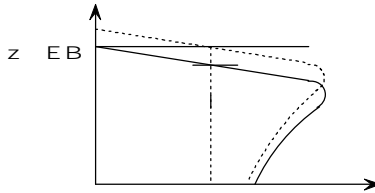
1p j kgI q m &' \$3K
 2p ? c&'] MI J, ` , ?23B Md &' j kv`, & nV/F \N

P9.08	EF W px	\$Db	0.00)	50.00Hz	16.67 Hz
-------	---------	------	-------	---------	----------

fgD EF W7 p- @ i 5-9-3/ p- (P9.00 D7ghV/F k/

P9.09	EU-	\$Db	0.0)	250.0%	75kw cR	80.0%	93kw cR.	0.0%
P9.10	EU	2e i	\$Db	0.10)	25.00s	2.00s		

8 EF7, t 8 MNEU@mT8 Bz, /p EU @ 8 EF
 no, -. GH- @R 8 7 z@ i 5-9-4: //



PA.01 8 1 i	\$Db 2) 56 4
PA.02 8 ICDF	\$Db 0.4) 999.9kW y D
PA.03 8 ICDE B	\$Db 0) 24000r/m-280.855 0.851 0.86H
PA.04 8 IC89	\$Db 0.1) 999.9A y D

PA.01) PA.04(\$P <8 17i @ <= g@ qz 8 7Z[hi \$P
 J: /
 8 , - s QQP@8 I! " - . / x8s @ ga 7 44. f

4p j kn73 ' b D PA.29m? I r 0N

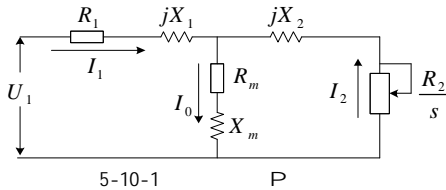
5p j kn73 M T } C -At- M j kn7q{ (M T } s C AtE N

4 J poD2@8 d 89 S(F8 \$ S(Z: @ { L 8 \$ @ I₀ d 8

9@L_m \$@h 8 @I 8 CD89@U 8 CD8@f 8 n- /

$$d 89 I_0 = I \cdot \sqrt{1-h^2} \quad \$ \quad L_m = \frac{U}{2\sqrt{3}pf \cdot I_0} - L$$

R. 8 hi 7 3 i 5-10-1: //



i 5-10-1 7R₁) X₁) R₂) X₂) X_m) I₀ b m D x 8) D x \$) E x 8) E x \$)
\$) d 89 /

5.12 MODBUS 23" Pb \$

* +, - . QR1 (MODBUS pq FQ <= . } PLC-6N Npq/MODBUS Q
8 f < PLC F 1-31 | O* +, - . h / f < F < e7 f < • @ < L
uH /

f < 8wF8 | < , - . 6N / < , - . r f < D7Z N { f g @ g
Pf < /

pq* r s RS-485 z SZ
Ghi • Q (200) 2400) 4800)

SzT fg{|

Pb.03 pql 2R 2e	\$Db 0) 100.0s 0.0s
-----------------	---------------------

0 I 2R /
0 I 2R /Ve Pb.03 \$D @* R pq @ i d j pq@
A} EF0~ ~ D

& BC*

[] F b k MqTr 2 M }

Pb.04 " 2e	\$Db 0) 500ms 5ms
------------	-------------------

f g D , - . r i @ \$D7" 2e O /

Pb.06 pqi Eeprom ' u	\$Db 0) 1 0
----------------------	-------------

0 r Eeprom 1 r Eeprom

fgt(\$Dpq %fgthhi 2@ s r Eeprom \$D 12@Vw %fgthh
i t Eeprom \$D 02@+ % @ ~ ^ Eeprom 7i Qp fghi 7
MODBUS . U a K(U 0x00FF @thi Ooa EEPROM@J \$ ^_7ENTER/



Eeprom Eeprom ! " #
\$%RAM & ' () * + , - " Pb.06 ' 0.

Pb.07 CCF6@A _	\$Db 0) 1 0
----------------	-------------

0 d@A N 1 d@A Q
fgt(\$Dpq2 s`/pq@A \$D 12@pq E@A ` / qz @A27
SZ . \$D 02@ ` /pq@A@ MN/

Pb.08 <=	\$Db 0) 1 0
----------	-------------

0 1 Z
f g \$D 12@, - . Z } 0x06) 0x10~ @Z) __ @

& E@n B Q 0.01Hz@n 0.1Hz@5 Qn 1Hz@VW- B @ 6h P0.17/

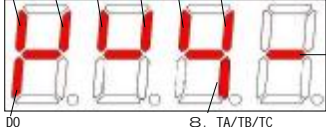
PC.05 MNEB} r/min~	\$Db 0) 1 1
PC.06 \$DEB} r/min ~	\$Db 0) 1 0

0 ` / 1 ` /
 PC.05 \$D 1@j l m ` /MNEB@ r/min/ \$D 0@+

SzT fg{|

PC.19 wx } ~	\$Db 0) I 0
--------------	-------------

0 ` / 1 ` /
 PC.19 \$D 1@+` /wx @ \$D 0@+ ` / /
 wx [fgwx X1) X6) cWW 8 GHwx D0@RcGH 8. 17 @1 (LED
 i t ZD 7] Dms fgw7 @i t m/J wx @] +m/J wx
 @i t x 7 @ST / i 5-12-1: /



5-12-1 OP

PC.21 W ` /' u	\$Db 1) 20 1
----------------	--------------

PC.21 W ` /' u@Ofgt(\$DW #` /hi /\$D 1) 20 b PC.01) PC.20/
 \$: \$D` /hi 7` /<= 0 ` /2@ \$ \$D q c }i / x@] 20 2 g 1~
 S @ vHW` /<= 0 7hi @` //
 W #` /hi y PC.01) PC.20 hi #@ W 2 / \$W j @A) , e pq CALL` /
 2qb #s` /@L 2 #` / /u(/

PC.22 EB` / * i	\$Db 0.1) 999.9% 100.0%
-----------------	-------------------------

PC.22 EB` / * i Ofgt(EB z` / ~U@ V4EB /
 EB=V EB"PC.22} PG~
 EB=120"MN- #8 i "PC.22} ' PG~
 \$DEB=PID \$DEB"PC.22} PG~
 \$DEB=120"\$D- #8 i "PC.22} ' PG~

PC.23 kBz * i	\$Db 0.1) 999.9% 100.0%
---------------	-------------------------

PC.23 kBz * i (kBz z` / ~U@ V4EB /
 kBz =MN- "PC.23} ' PG~ kBz = EB"PC.23} PG~
 \$DKBz=\$D- "PC.23} ' PG~ \$DKBz=\$DEB"PC.23} PG~

& BC*

C~ **07** @9 DT D D DT C 67 87 () T.26.48(T.16.11)26.4(19)14. T.r) T.44 Tf7. Tf7k (P)f14./F2+1 7.

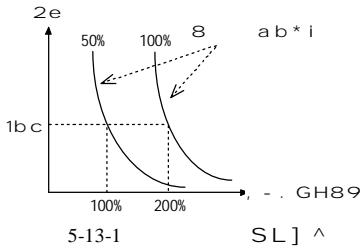
\$. ab} ab~@VW28 r, 8. 7abfg@p Pd.01 Pd.03\$P8 IF
 8 27ab p Pd.02 Pd.04\$P \$. p /

Pd.01 8 1ab	\$Db 0.0) 10.0V 10.0V
Pd.02 8 1ab \$. GVp	\$Db 0) 4 0
Pd.03 8 2ab	\$Db 0.0) 10.0V 10.0V
Pd.04 8 2ab \$. GVp	\$Db 0) 4 0

0 wx All 1 A12(S2R4GB) S2R75GB aj)
 2 aj 3 GV
 4 pq\$D

Pd.05 8x, 8. ab	\$Db 20) 110% 100%
-----------------	--------------------

/O 2 8 VP 7 ab@ z8 f , - . ! " GH8975x 6Nno/
 i 5-13-1: //



8 ab*i = ! " 5x 89 / 100%
 , - . CDGH89
 noQQ 7 Z D
 { ! " 5x 89 8 8 7CD89/
 8 , 2Qj 7nG. x8 (10%)@ , U2@ / 8 /

& BC*

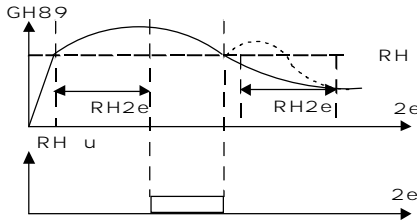
&' ~ 67&K . /O~ 67&Kq %] M23g7Pd.05~ m(&' ~ N
 ?T] PWMMd OLI N

Pd.06 , - . i deRH	\$Db 20.0) 200.0% 160.0%
Pd.07 , - . i deRH2e	\$Db 0.0) 60.0s 60.0s

/O i deRH } Pd.06~D 2 i de u789 @ { \$D J , - . CD8
 97 b /

i deRH2e} Pd.07~D 2, - . GH89# x RH } Pd.06~# I H8D2
 e @GH i de OLP2/

i de , - . u89I RH a#72eI RH2e/



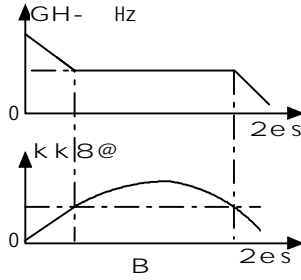
& BC*

1p3/ S! OA] ~gI 1" k # dR. /O3/ ?TN
2pv3/ S] M[ST&K R3/ S! OMx' ~3/ S]
0N

Pd.08 89y	\$Db 0) 3 1
0	1 B @ B
2	3 92- AMNBz

Pd.09 89y	\$Db G 30) 180% 160% P 60) 140% 120%
-----------	--------------------------------------

/O , - . j B L MN2@Q B2e 8 ; Q EF , @4HW . W7
89/ <=GH89@Pd.08' u1) 2 32@, - . GH- Qg no/
\$D 1 2@ B2@\$GH89] 0o6D; (d) Tj /F1+3 7. 44 Tf 7. 44[6[4



5-13-5 z s i

Pd.12	GV	JR	n•	\$Db	1)	100%	100%
Pd.13	GV	JR	2e	\$Db	2)	255s	10s

fgQR GV J GVoJ 56 @Rab, -... GV Jab 9\$@Q \$. 96 T

SzT fg{|

Pd.33	ky9x} S2R4GB F S2R75GB aj -	\$Db	100.0%) 300.0%	y	D
Pd.34	ky9 g S2R4GB F S2R75GB aj ~	\$Db	0) 1 1		

0 p 1 ! "

ky9x 100.0% , - . CD89/ Pd.33\$D 300.0%2@Pd.33
ky9x D , - . CD897230.0%e @ 3i . : /
ky9 ky9fgC \$ @: Rp ; ky9fg/

Pd.35 ky9 J R g1 3030G/3037P f e y 9 B 309 fig.48 0 TD . 477.12 TD 15 Tf e 60 0 TD bo

PE.11	W 2e } h~	\$Db	0) 65530h 0
PE.12	(8; (MWh)	\$Db	0) 9999MWh 0
PE.13	(8; (KWh)	\$Db	0) 999KWh 0

MN2e(h) , - . MN 72e /
 W 2e(h) , - . W 2e /
 (8; (MWh) , - . (8; 7 /
 (8; (KWh) , - . (8; 7A /

PE.14	IGBTaz	\$Db	0.0) 200.0(0.0(
-------	--------	------	------------------

(` / , - . IGBT7\$ az /

PE.15	o9 az	\$Db	0.0) 200.0(0.0(
-------	-------	------	------------------

(` / , - . o9 7\$ az /

5.16 WL " PF \$

PF.00	{ } t	\$Db	0) 9999 0
-------	-------	------	-----------

{ } t \$D { } tv \$D 0@m/ tab\$D@L2(+3 7. 44 Tf 7. 4 Tj / F1

SzT fg{|

PF01\$D 0@ j hi!" % / l him O(7hi @Qj MNF p2% @O"7h
i @l gj p2Q% @{ |hi + g% /: MNF p2 sQR %@ S4T/ S ^
_. 7hi `/@ hi i `/@+m/ hi!"% i `/@+ !" % /
PF01\$D 1 \$D- } P0.02~F fgt @{ |fgthi p% /
PF01\$D 2 Ofgt @ j p% /

& BC*

vW' j k; < MPF01 g7r 0=Yj k>? @Mxmv\ nd g7/) A j PID
A7vOP PIDk A7N PF01g7r 1] M nv\ nd g7/) N PF01g7r 2] M4
v\ n{ N

PF02 hi v	\$Db 0) 3 0
-----------	-------------

0 tu 1 D @A R
2 H) \$D (R\ t\ 8 hi) 3 H) \$D (R\ t)

PF02 \$D 0@ tu/

PF02 \$D 1@tD PEh PE.00 PE.08hi O7: @A R@T () n b @A/

PF02 \$D 2@t H) \$D (MN R) () t\$DF8 hi) /

PF02 \$D 3@t H) \$D (MN RF () t\$D) /

& BC*

[, 4 . /Oj kg7 BqC1 1 D Mxm`, PF02g7r 2~(nM E S6 M
FRGHg7j kN

IJK LSE S6g7 MPF02m?E r 0MJC k~ TMNO{ N

PF03 hi	\$Db 0) 3 0
---------	-------------

0 tu 1 j hi
2 hi . 3 8 hi

1- j hi ^_. 7 () \$Dhi t , - .

2-hi . () \$D7: hi t , - . ^_.

3-' 8 hi t ^_. 7 8 hi 7 () \$Dhi @ , - . /

pq\$D PF03 @ !" ^_ \$D PF03 . hi @ pq) R@A

^_ \$D PF03 . @ ^_ / @ _ PF03 0@ ^_ / 2 @q STOP

^@ ^_ l m ` // <=X Eeprom + rd CCF3/
/ t

t		t		t	
dn0	j hi	dn1	8 hi	uP	hi .
SUCC	f	StP	^_ Stop ^	rEt	6
EFLF	) * + 8T	bdAF	^_ . i	rEF	i
UrO	<=Xr l 2	brO	^_ r l 2	LdtO	l 2

& BC*

. /Ov PS M[` , (nMm QR, g7f~j kM S TU ~] N
j kQR(n QR V' U%WD M >? !A ' - ~. /O l GQR}

6000M-S2R4GBA S2R75GB XWY3 V110 S () M6000M) S21R5GBA S22R2GBA 6000E ! XWY
3 V140 S () Y3 j k QRN

PF04 G/P u	\$Db 0) 1 0
------------	-------------

0 G } EF ~ 1 P } &) } ~

fghi \$P GP 8*+, -. s+ hi 0 PF.02v H) hi 2 %
 hi
 , -. H) hi \$P G @ ^' uP t fgt\$P 1
 H) 2 5.5kWG @^\$% 7.5kWp @~^\$PPF.04=1

& BC*
 ZM (n QP- rG-]M T1 [N

PF.09 * +	\$Db 0) 9999 y D
PF.10 k O	\$Db 0.00) 99.99 y D
PF.11 ' O OF	\$Db 0.000) 9.999 y D
PF.12 kB t	\$Db 0) 9999 y D

1 2 34

6.1

O* +, -. R H8 @A2@j ^_ . 4` / @A@z 2X PWM GH@6V@Aab @@
AZ/[TRIP @Ar xGH@8 Q /L2TRS@Ab F1; =P/ : 7
RS =P g @ rF */@Ak @ 26 • @Qq p/ ^
p j wx /45 \$wxMN ` 67 @ @AD @, -. 3 g• @(T#
WMN wX OgMN/3QR WfgW8U8w@ @A / HW7 SC @A+ ^
10s O! " /j @A` / ^S @A E27 7} GH-)\$D-)GH89) 9
kk8@ ~@Rc5M E7ow@AOo@" #q / H^ 6Vfgt @ p
fg t PE.00) PE.08 6NS /

6-1

T			Q
Uul	kk @	I GV8@	I RS8U8@ I RSR 8 \$P U

T			Q
OL2	, - .	| , - . GHI , - . | 9= ; x | W/F k | 8 8@ A | x | B2e | 89y A	| / @" # B2e | / 9= 89@" # = 2e | no V/F k FEF W | RS8 8@ | ' uf 6. 48e O TD ( | ) Tj / F1 6.

6.3

@ j 8 E +g8@A@RS{ b 1; J =P/ RSF =P g
 •>? /

6-3

8 E	8U8@ s j 8Uwx R) S) T. @CHARGE LEDZ/[s	| rp8U | W8U wp8 | RS8U8@ | nwx p
8 E	(o9 8@m GHwx U) V) W 78@ s	| W8U wrp
	Q @8 s X	| Fa X
	^_.. @A`/@RSTRIP[s	| @A tS m6-1
	s MNZ	| RSMNwxrk sQ
	<CE' u\$P s ScZ	| \$P! " CE %, ScZ
	@A wxMN s# W .	| wxMN # W .
- PD8@ sGV	| RS- PD8@	
MESZ7\$D s	| GV \$D	
8 EcJ C	wxU) V) W 7rk s	| no8 U) V) W 7 rk | nofgt P2.45
8 E g, B	- PD8W7rk s s x	| % rk | " # B2e
8 EB A	5xGH- \$D s (o98@mRS8 wx e8@- 7 s [	| RS5xGH- \$D | RS V/F
ME e8 EB L	s x	|
	, s x	| 7,
	oJ8U J	| RSoJ8U7rk J | J8U@&r AC 8 . v8U
	- PDU L	| RS- PDU
8 x	K7) ') Ex • - A	| 8 | • -
8 x	v	| no -
		| no
	oJGH	| RS, - . GH

5789

7.1



NW:

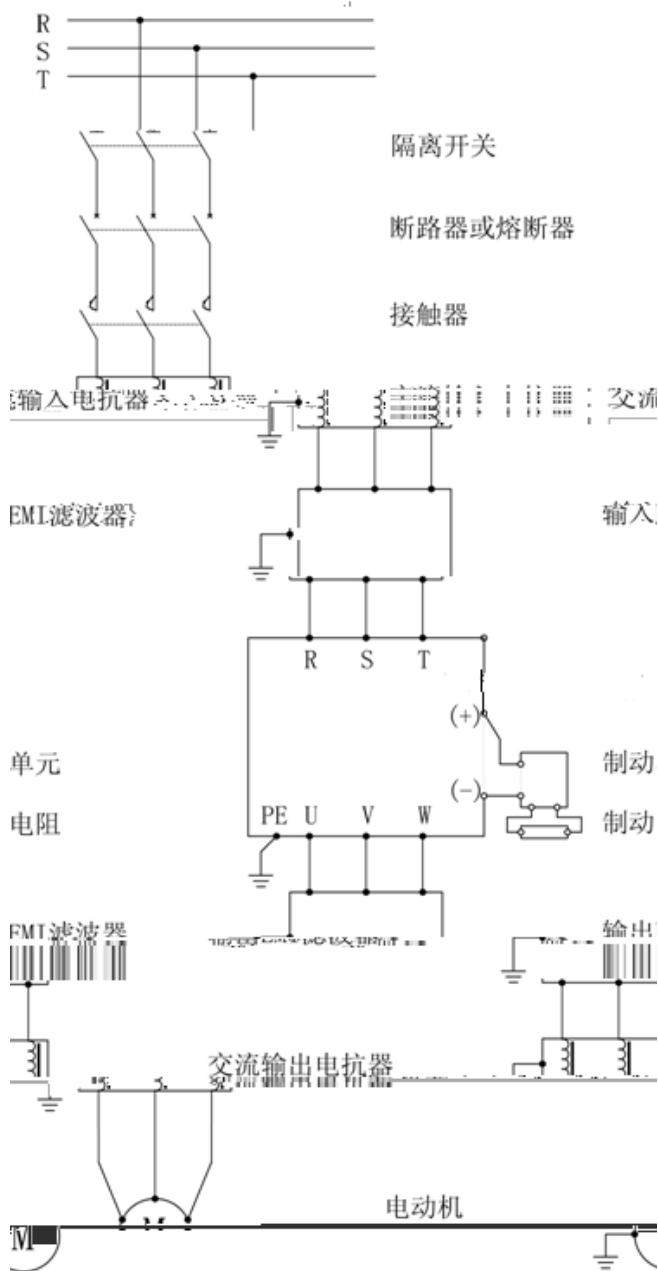
W. . . ,

%# (7-1 S2 [BPBo#] pNO(
PB+- 8

ALPHA5000PE

EMI

%84CHEMI e . . u9G



7-2 3018G/3022P

]

7.2 #]

7-1 l #] G

] / c			* h	*EMI	* qN q
rs	(B9 , -. 7@A89 < p, -. c{ kW@Am T8U@A	j, -. @A 29 f8U < p 8c @A 7 /	(%` G Vf i@ - A w • c = 8 U7	(/, -. E7 k 8KL/8 , -. eQ k N/ 20 2@ & rj 8U @Qk Nx 20 2@&rj GH ~	j = F g{ | ^• 2' (@ (x ; c - = B 7]

4 =* g' k/

7.2.1 h* -

u9GV8 . Q =, -. GV897 w • @s` %` , -. 7f i@ j +67
 (u98 .
 I , -. : (78Uo; , -. 7o; 10 1 R. /
 I z88U. r Q< = W: <=7f i P/
 I oJ8U78@ z x} 3%-

7.2.2 qN q

O* +15kwcR , -. OP= @- ^g = 2() ~ r = 8 /18.5kwv93kw@
 Q' Q= /110kwcR. OP= @ ~g = @+~ r = /OP=
 <=j b) j bcq88 /<=j b hzO*+, -. 8@ab u 6Nno@q88
 j b , ab@ { <=rx &rvf<=gWO/
 8 = 10%=@= 8 cf hz m
 7-2 q cdQR

= 28 7 Eg; j j = 8 . , Q Z = f

U U; R = Pb

Z R 8

S T \$ \$

S T a b

8.1.2 ^

, -. D a RS2@8D^9 8U@ l m. ` /cf 8W8UZ/[\] 5) 10 bcR @
 Og6NRS@R9, -. 78o. j 78@Gca L/
 D bRSOo m 8-2 : //

8-2 ^

RS<Q	RSOo	
f gWwx) <=gWw x	s	(
+,	s ?@	(4) 6kg/cm ² @ 7K @ d
PCB V8WX	s ?@	(4) 6kg/cm ² @ 7K @ d
YZ&[	E svw@ s K) @ s @)	\$HYZ&[@D @F
f k	s ?@	(4) 6kg/cm ² @ 7K @ d
8 8o	s,))) >	\$H8 8o
= 8	xU s'	t= 8 qj K) 7US

j RS @ QF5j . k . k@\$ QF5P r k@s+QgmT, -. g M
 N 6V@A` / @ vmT. k@A fW: . kIGBT>? { | . k 778/
 j -^ ; 2@ 45 ^ z l mOg HU x7 ; 2 /+, (Z8@m ; GV8
 @@(Z8@m ; GH8@@(Z89m ; GV) GH89@(8 m ; f /j k
 2@Q1(z 8^m6N ; RRT /
 -6N•) @ (- x 40MHz 7/. @ , •) 2+ (100MHz R
 7/. / /•. (T 8 N/
 j 8U56 oJ89 2@ 1(o (; f /
 Q O H) p 8 c{ 8 z @ L{ } ~a L} } V
 8w 4-A 7 @ @ \$7L} vQg. / . k78/ ~^ L} @
 QM 7>? L6Ntu/
 f gW @ @(T (2e) 89Q\$D7o; J\$7 @ l @O t-A %&/
 f gW @(TtfgWwx R) S) T) U) V) W) PB(P1)) + - j Q W@ (8@
 sJM7 m) 220V s(250V@380V s(500V@660V s(1000V-6N ; / <=gW Q(
 m ; @Q((m8 ; /
 380Vs7 f gW U 8 / 5M'@<=gW U 8 / 3M'/

8.1.3 ^ m[

2 , -. # Q MN@(T , -. Oj 8x . k7 (%&@D 6Na F b/,
 -. 8x . k7 (%& { (Y`F (k7 z z/8 & (2@Qq m7*D
 \$H@ m (Y` @ 67c, -. W 367 D/
 m 83 : /, -. 7a y () (2h /

8-3

. kY	O•\$H i
YZ&[	2) 3
8 8o.	4) 5
V8WX	5) 8

8.2 /

, -. UV (@~ 2 # 2@
 I qj *D7a). zb O .) ?@) @) p&' 7] : /
 I l 8 ! (@+ 6NY8 /R Of gW8 8o. 7 R /Y82
 (n@. W , -. 7GV8@ vCD8@@p82ej 1) 2 /2R. /
 I . v V 8w/
 QF5VP @V @| tmT, -. %&- A@ v . k78/ @QR1(500V
 m6N ; @{ 8 / 4M'/

B CD

EC CD F ! GHI

a b Z, -. O3@a y H W //O 7a U

\ @ I Z[7= 724 O/

Q b ./7@A@ j a O@3

I 7tu ! ! " N _c% :. /7

I IHO• *b^• (, -. 7

I U 7 M 778

I j A O({ ^• 7Y` (: ./7. k @A

I j 6V7 } ~ 7, -. 78

I &rko~ 7, -. 78

I Q UI)O1)& 1H) 2) 8@ { | 1HF 1HJ 72: }f8.

I :)

I : :) f})*))

I } 8

).8}

S T a

>c 3 { E&7 +(@' (;# O /
I (upMG\$
I P
I g) 8 \$
I d) P
I ^ P
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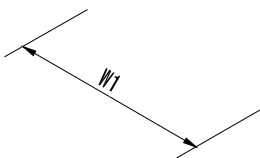
L O M PQ

x({ O 7 \$) g) c ' H7 @O t } \$
%/

1

/





2

RS

		T	TU kVA	V A	V A	W kW
ALPHA6000M	S2R4GB	1PH 220V 50/60Hz	1.0	5.1	2.4	0.4
	S2R75GB	8@b 176)	1.7	9.2	4.5	0.75
	S21R5GB	264V	2.8	13.1	7.0	1.5
	S22R2GB	- J / &5%	4.0	23	10.0	2.2
	3R75GB		1.6	3.7	2.5	0.75

31R

ALPHA6000E

3PH 380V
50/60Hz
8@b 304)
456V
8@J /
3%
- J /
&5%

X YZ [

CDGH8@	0) CDGV8@
5x 89	G 150% 1bc@180% 20 P : 120% 1bc@150% 1
<=SZ	Jp: ; <=/89: ; <=
- <=b	A - >Z 0.00) 650.0Hz - >Z 0.0) 1000Hz} aj ~
- z	i Z 0.01 } -10() +40(~> Z 0.01 } 25(10(~
\$D- b	i Z 0.01Hz > Z 1/1000 5x -
GH- b	0.01Hz
- \$D	0) 10V@0) 20mA
B2e	0.1) 3600 }) B2e \$D-
= EF	- = 8 Q] 125%
8@/-	4 ^ D V/F Q' ucg5 V/F 7\$D@= PG V/F <=
abfg	@) @) 89y) 9)) 8x, 8.) ,) @JB) W) r U@ @ab@GV J@GH J@ UcJe W@8 ab
(Y` az	-10() +40(@

3 MODBUS 2 3

O* +, -. Q(Q <=. } PLC~ . \$ p MODBUSpq 6Ni uH/
 I MODBUS pq7
 pqi k 1| f <=. (PLC) F1) 31| 7, -. / f <=. W @, -.
 H /
 f <=. @z 2 1| 7, -. 6N @ , -. ^\$D 7U @f <=. qZD
 6N /, -. r f <=7Z @VP u@ C Pf <=. /

I pqO•

rs	RS-485
pqSZ	
pqhi	B 1200/2400/4800/9600/19200/38400bps 'u R 'u i / i / i #z RTU>Z D8 @ASCII>Z7) 8 Q' p RTU>Z D1 @ASCII>Z 21) 22
pq	MODBUS RTU>Z) ASCII>Z} aj ~
Qr, -. | i	31 |

I pq&r wx 7rs

MODBUSpq (wx 485+@485-wx /

I rk2745; <

(1) pqrk^ fgWrkc{ | 7 k@8 kbN/

(2) pq(Qk^(mnk@mn ^rj, -. rUwx. @ 8wu &r _/(<pKL. /-u)

PLC 6Npq7

1. j 8U9 7 @&r PLC F , -. e7pq8I /

2. rV8U/

3. j ^_. \$Dpq: ~7hi (Pb.00) Pb.08)/

4. 9 8U@ ^_` /_ J/

5. wW• 8U/

6. 6N PLC 7pq/

I pqhi \$D

PLCpq2@~^\$D pq : 7hi / hi @ 3rs S S4) 5T

P0.03@ P0.04@ P0.07@P0.11 @P7.00@ P7.01@ P7.03@ P7.04@P8.11@ P9.19@ Pd.02@ Pd.04@ Pb.00) Pb.08@ Pd.16

*41: l 'u2 pq\$D p @OgtZ i VJ . @s+d 02H/

*42: • 'uF 'u E% @+(T • @ 7\$DOE /. F

L{ <\$P(T8T/s+ (pq pqHo/

*43:\$, -. U \$P 02@, -. r pqZ @ Z /\$, -. U >02@U

E% Q E /

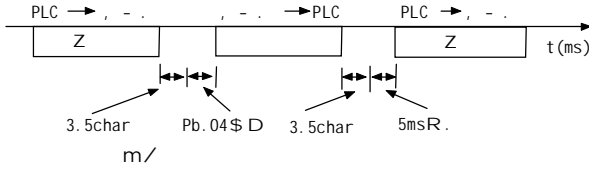
I yD

-ApqKL. /7l @ 5 7pq @ jf @ ~^yDi /

a Fr i /j' u 7SZ @({)Q 5 7pq /

I Z

pq2f <=. (PLC) , -. HZ @, -. 6N /FZ fg) Oo z@i j b 7. 44



/	, - . U	Z	i Oo	CRC	2_
e 3.5charR.	1 char	1 char	n char	2 char	e 3.5charR.

i 1 (CRC-16@o h @CRC 7 S(:
 1~8 CRC-16 2v 0@pq w* +7v \$D 1/(16 1)
 2~q, - . U 7 LSB MSB@5 7i MSB (LSB CRC-16/
 3~, - . 7 Z 3^ CRC-16@ Z 7 CRC-16 6N /

2) MODBUS-ASCII > Z

(ASCII > Z@ } :~ A} ASCII t 3AH~@ g HNA} ASCII t 0DH,0AH~/
 2 F @QR (7 G A 6=70) 9@A) F} x ~@ j RASCII t SZ
 @# 4 @ A4 /i 1 (LRC @, - . U) Z) i Ooh @
 : h i 7 AF} 6 ~7 t/8 _ 2e5# gl 1 @s+t
 n Go~/V4 " 2 / 1ms/8 : /

/	, - . U	Z	i Oo	LRC	2_A
1 char} 3AH~	2 char	2 char	n char	2 char	2 char} 0DH@0AH~

\]

, - . U (0) 31)@\$D 02@ ghZ @ _/

I Z

O* +, - . # 7 MODBUS Z R 4 ^

Z (16)	f g	Z #z		#z		#z	
		5/ i	5x i	5/ i	5x i	5/ i	5x i
03H	H R	8	8	7	7	5	5
06H		8	8	8	8	5	5
08H	gY	8	8	8	8	5	5
10H	V R	11	11	8	8	5	5

I ^_` aH

16

[03H]

; Z : ZD7 @ ; 1 7 ROo/ ROob 8 FA 8 @q
 Oo78j b/
 ; 1 , - . 7 /

RTU> Z

Z Oo	Oo	Oo																																								
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CRC	31																																									
45 i i U i 72																																										

ASCII> Z

Z 3A 3031 3033 3030 3230 3030 3031 4442 0D0A } LRC DB~
 3A 3031 3033 3032 3030 4331 3339 0D0A } LRC 39~
 3A 3031 3833 3033 3739 0D0A } LRC 79~

[06H]

V Z Z D . @j Z D7 . . Z D7i @ i (Tj R
 @q 8 @A 8 7 k+Z Oo/
 • 1 , - . MN/

RTU> Z

Z Oo	Oo	Oo																																										
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	02																																											
	C3																																											
CRC	A1																																											

ASCII> Z

Z 3A 3031 3036 3030 3031 3030 3031 4637 0D0A } LRC F7~
 3A 3031 3036 3030 3031 3030 3031 4637 0D0A } LRC F7~
 3A 3031 3836 3032 3737 0D0A } LRC 77~

[08H]

gW Z Z Ootb\R } ZC @(f<= . , - . e7 / @i Q
 (g5 /
 gWC

RTU> Z

Z Oo	Oo	Oo																																										
<table border="1" style="width: 100%;"><tr><td style="width: 50%;"></td><td style="width: 50%;">01</td></tr><tr><td></td><td>08</td></tr><tr><td></td><td>00</td></tr><tr><td></td><td>00</td></tr><tr><td></td><td>12</td></tr><tr><td></td><td>34</td></tr><tr><td>CRC</td><td>ED</td></tr><tr><td></td><td>7C</td></tr></table>		01		08		00		00		12		34	CRC	ED		7C	<table border="1" style="width: 100%;"><tr><td style="width: 50%;"></td><td style="width: 50%;">01</td></tr><tr><td></td><td>08</td></tr><tr><td></td><td>00</td></tr><tr><td></td><td>00</td></tr><tr><td></td><td>12</td></tr><tr><td></td><td>34</td></tr><tr><td>CRC</td><td>ED</td></tr><tr><td></td><td>7C</td></tr></table>		01		08		00		00		12		34	CRC	ED		7C	<table border="1" style="width: 100%;"><tr><td style="width: 50%;"></td><td style="width: 50%;">01</td></tr><tr><td></td><td>88</td></tr><tr><td></td><td>03</td></tr><tr><td></td><td>06</td></tr><tr><td>CRC</td><td>01</td></tr></table>		01		88		03		06	CRC	01
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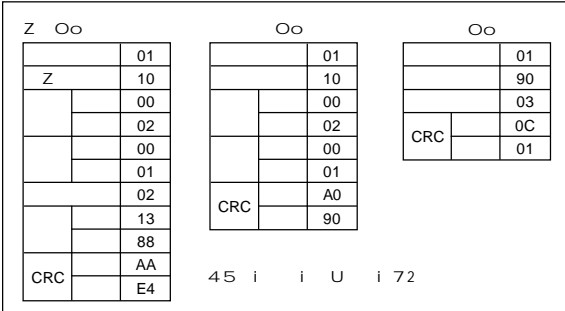
ASCII> Z

Z 3A 3031 3038 3030 3030 3132 3334 4231 0D0AA03S

[10H]

V Z Oo ZD . @j ZD7 . . VZD7i @ Vi (Tj R @
 q 8 @A 8 7 k+Z Oo/
 \$D- 50.00Hz/

RTU>Z



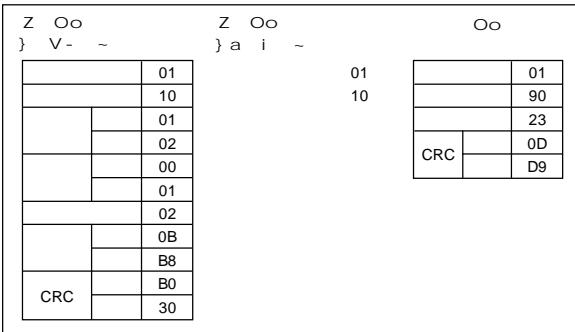
ASCII>Z

Z 3A 3031 3130 3030 3032 3030 3031 3032 3133 3838 3446 0D0A } LRC 4F~
 3A 3031 3130 3030 3032 3030 3031 4543 0D0A } LRC EC~
 3A 3031 3930 3033 3643 0D0A } LRC 6C~

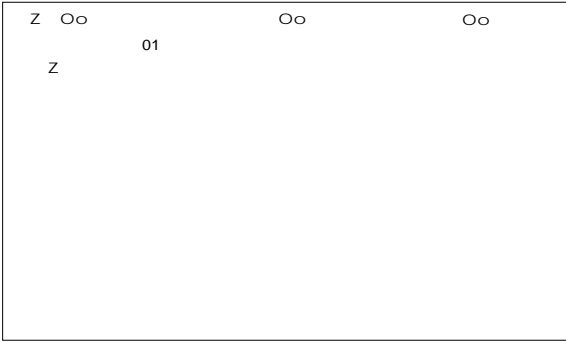
[10H]

i a Z fghi 7MODBUS . U a K(U 0x00FF @hi Ooa EEPROM@
 J\$ ^_7ENTER@ti a 83 IJ/q 8 @A 8 7 k+Z Oo/00FFH i a
 K(@Pb.06=02 /
 \$DP.02 30.0Hz@ a EEPROM/

RTU>Z



RTU> Z



hi a [GVZ]} Q V~

R	Y	Oo	\$Db	v
00FFH	GVZ	f gym MODBUSU	0100H) 0FFFH	

06 F10 Vi Z @I ti VRAM MN@ OwmN / 8 • @+. w V
 7i / ~ 8

0 i t o i 0 0 1 0 T 8 D 3 3 (F T) j T j - 0 7
 i T I D (F) T j

fgtmhi (6= DEC)	Modbus . U (6= HEX)
PF.00) PF.12	1000H) 100CH
(hi ()	(1100H) FFFFH)

I Modbus U tS(:
h fgtm fgt @ 8 HI=fg h 1 A 8 L0=fg t .{ |! +s . U aj /

8 m	
Oo	
01H	Z o~ Z j 03H@08H@10H R /
02H	. U o~ . U @1 ! / ; ENTER nK(. [0x00FFH] ! j fgt \$D @Wp U 7pqf g/ 41~ i o~
03H	V7i i j 1 R. 16 R V03

5

N

N

({ } Y	
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*	8
U	@A

@A 7

8 KW	8 (
@A E2e V8U d	{
@AW	
@A` / OC OL OU OH LU	{
(< = wx	
MN Q Q	GH8@
u2e: / 2	@A-

] 67

8U8@ U-V V@ V-W V@W-U V
, @. o; KVA , - . r U
v8U N m v8 N m
8 @ 8 [
{ | 67