

Multi-Channel programmable controller

TEMP 2000M

3CH / 5CH / 7CH SERIES



Communication Manual

※ This manual applies to TEMP2300M, TEMP2500M and TEMP2700M
The model stated the manual content is TEMP2500M.

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1. Safety Precautions

Thank you for purchasing TEMP2500M, programmable controller.
This Communication Manual describes communication of the TEMP2500M controller.



SAFETY SYMBOL MARK

(A) Symbolizes 'Caution' and 'Warning'. The information with this symbol is especially important for preventing from user injury and protecting the product and system.



(1)Product : This symbol indicates an imminently hazardous situation which if not avoided, will result in serious injury or system damage.

(2)Communication Manual : This symbol indicates potential hazard that may cause personal injury by electrical shock.

(B) Symbolizes 'Protective Earth (PE) Terminal.'



This symbol indicates that the terminal must be connected to the Ground prior to operating.

(C) Symbolizes 'Supplementary Explanation.'



The information with this symbol describes additional explanation for features.

(D) Symbolizes 'Reference.'



This symbol indicates further information and page to refer.



Precautionary Remarks on this Communication Manual

- (A) This manual should be passed on the End- User and kept at a suitable place for easy review in time.
- (B) Read and understand this Communication Manual carefully before using the product.
- (C) This Communication Manual describes functions and features of the product in detail, and SAMWONTECH can not guarantee against over applications would suit a customer's particular purpose which is not described in this manual.
- (D) Unauthorized duplication and modification of this Communication Manual are strongly prohibited.
- (E) The contents of this manual may be modified without prior notice.
- (F) If any errors or omissions in this manual should come to the attention of the user, feel free to contact our sales representatives or our sales office.



Precautions for Safety and Unauthorized Modification

- (A) For protecting and ensuring the safety of this product and relevant system, all of the safety instructions and precautions should be well recognized and strictly observed by all users.
- (B) SAMWONTECH does not guarantee against damage resulting from unauthorized alteration, misuse, or abuse.
- (C) When using additional safety circuit or part such as Noise Filter to protect this product and relevant system, it is strongly required to install that to outside of this product. Additional installation and modification inside of this product are prohibited.
- (D) Do not try to disassemble, repair, or modify the product. It may become the cause of a trouble such as malfunction, electric shock, fire.
- (E) Contact our sales dept. for part replacement or consumables.
- (F) Keep the product away from water inflowing. This may become a critical cause of trouble.
- (G) External shock on the product may lead to damage and malfunction.



Limitation of Liability

- (A) SAMWONTECH does not guarantee or accept responsibility for this product other than the clauses stated in our warranty policy.
- (B) SAMWONTECH assumes no liability to any party for any loss or damage, direct or indirect, caused by the use or any unpredictable defect of the product.



Warranty Policy

- (A) Warranty term of this TEMP2500M is one year after delivery to the first purchaser for being free of defects in materials and faulty workmanship under the condition that the product has been applied according to this manual.
- (B) The repairing cost will be charged for defective product out of warranty period. This charge will be the actual cost estimated by SAMWONTECH.
- (C) Repairing cost may be charged even if within warranty period for following cases.
 - (1) Damage due to USER FAULT (Ex.: Product initialization by password loss).
 - (2) Damage due to natural disaster (Ex.: fire, flood).
 - (3) Damage due to additional removal and re-installation after the first one.
 - (4) Damage due to unauthorized disassembles modification and alternation.
 - (5) Damage due to unexpected power failure caused unstable power supply.
 - (6) Others
- (D) If any A/S is required, feel free to contact our sales office or a representative.

2. Communication Specification

The TEMP2500M controller provides Half-Duplex method support on RS232C and RS485 communication interface.

- RS232C interface supports 1:1 direct communication between host computer on network system and TEMP2500M.
- RS485 interface supports to connect upper level network system with up to 31 slave TEMP2500M controller.

■ Parameters for communication setting

Parameter	Range	Description
PROTOCOL	PCLINK	Default protocol
	PCLINK+SUM	Default protocol + CheckSum
	MODBUS ASC	MODBUS ASCII
	MODBUS RTU	MODBUS RTU
SPEED (BPS)	9600	9600 bps
	19200	19200 bps
	38400	38400 bps
	57600	57600 bps
	115200	115200 bps
PARITY	NONE	None Parity
	EVEN	Even Parity
	ODD	Odd Parity
STOP BIT	1	1 bit
	2	2 bits
DATA LENGTH	7	7 bits
	8	8 bits
ADDRESS	1~99	Address
RESPONSE TIME	0~10	RESPONSE TIME(=PROCESS TIME+SPONSE TIME*10msec)
SYNC MASTER	OFF	OFF (Sync Operation Stop)
	ON	ON (Sync Operation Run)

■ Factory default value

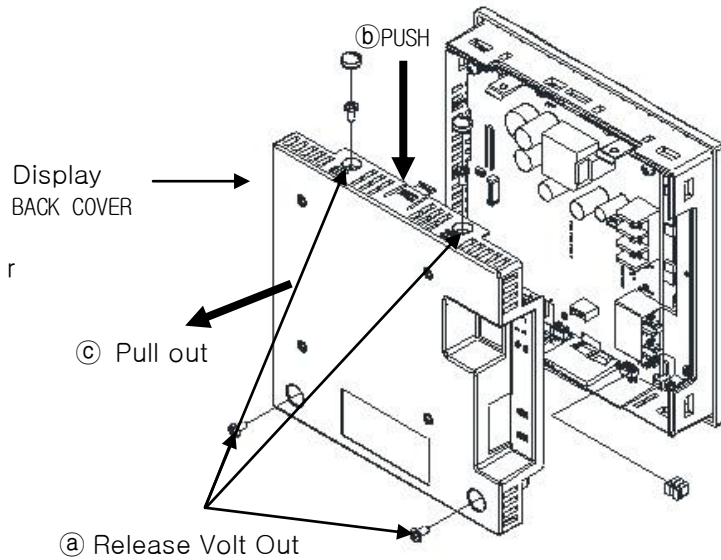
• PROTOCOL	PCLINK+SUM(PCLINK+CheckSum)
• BPS	9600 bps
• PARITY	NONE
• STOP BIT	1 (1 bit)
• DATA LENGTH	8 (8 bits)
• ADDRESS	1
• RESPONSE TIME	0 (PROCESS TIME+10msec)
• SYNC MASTER	OFF

3. Communication setting

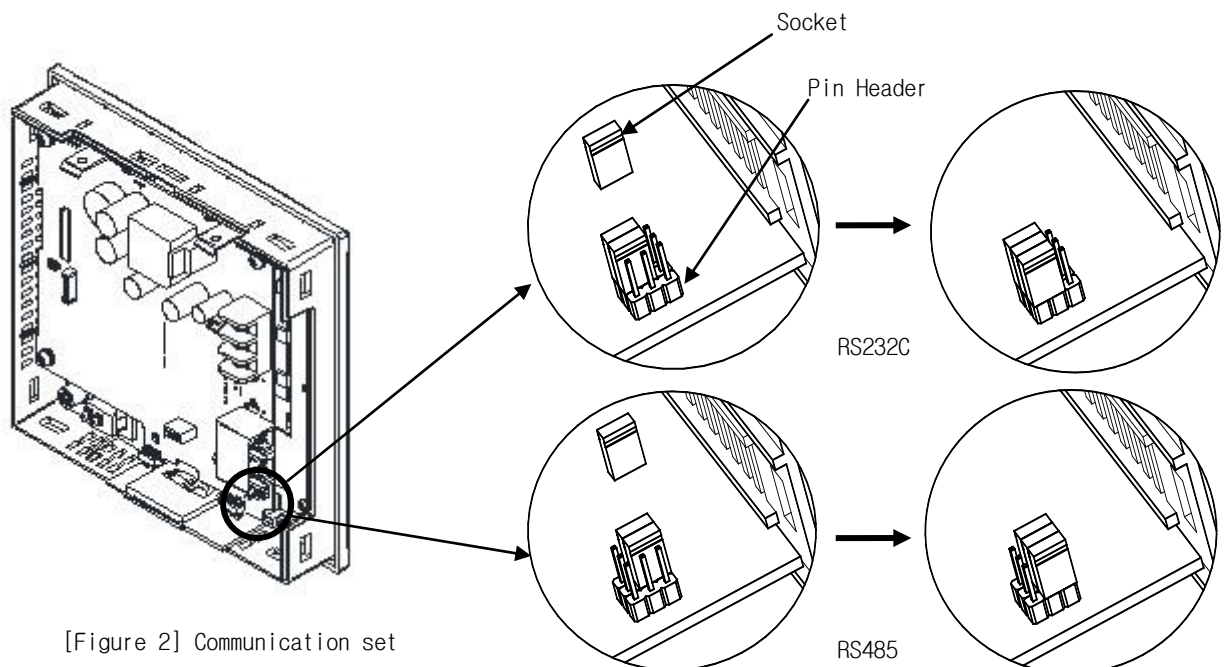
TEMP2500M provides flexible communication interface RS232C and RS485 from Control Unit directly.

- ▶ After detaching BACK COVER from Control Unit shown as [Figure-1], communication interface between RS232C and RS485 can be selected with socket and pin-header on power board of Control Board.
- ▶ It is recommended to use tool like tweezers for setting socket to pin-header correctly.

☞ Make sure setup completed correctly.



[Figure 1] DISPLAY



[Figure 2] Communication set

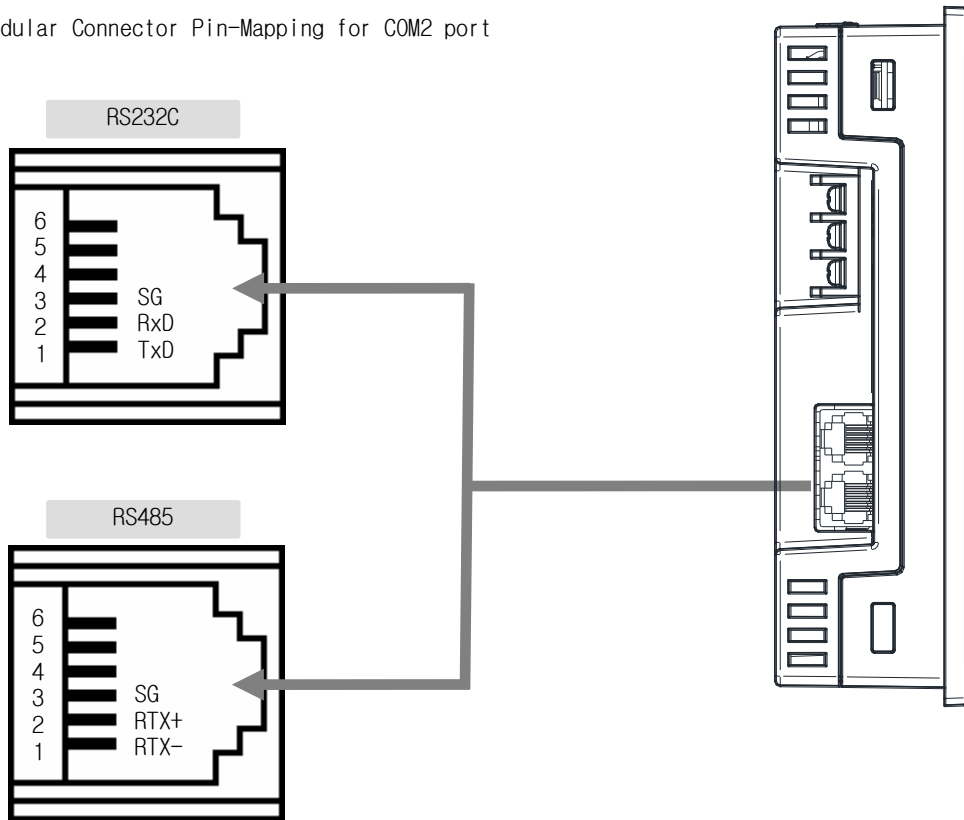


- ▶ Do not disassemble Power board from Control Unit case during setting comm. interface.
- ▶ It is recommended to use tool like tweezers for setting comm. interface.
- ▶ Make sure setup completed correctly.

4. Wiring for Communication

Connector wiring between TEMP2500M and upper network system depends on communication interface setting (RS232C/RS485).

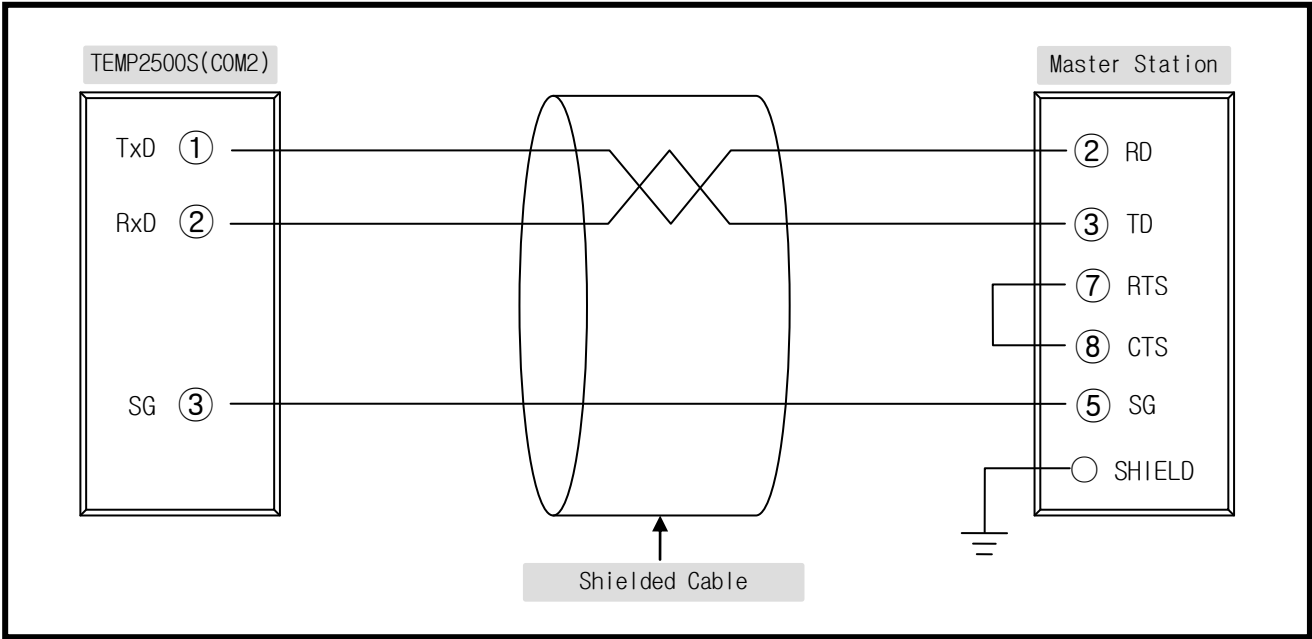
■ Modular Connector Pin-Mapping for COM2 port



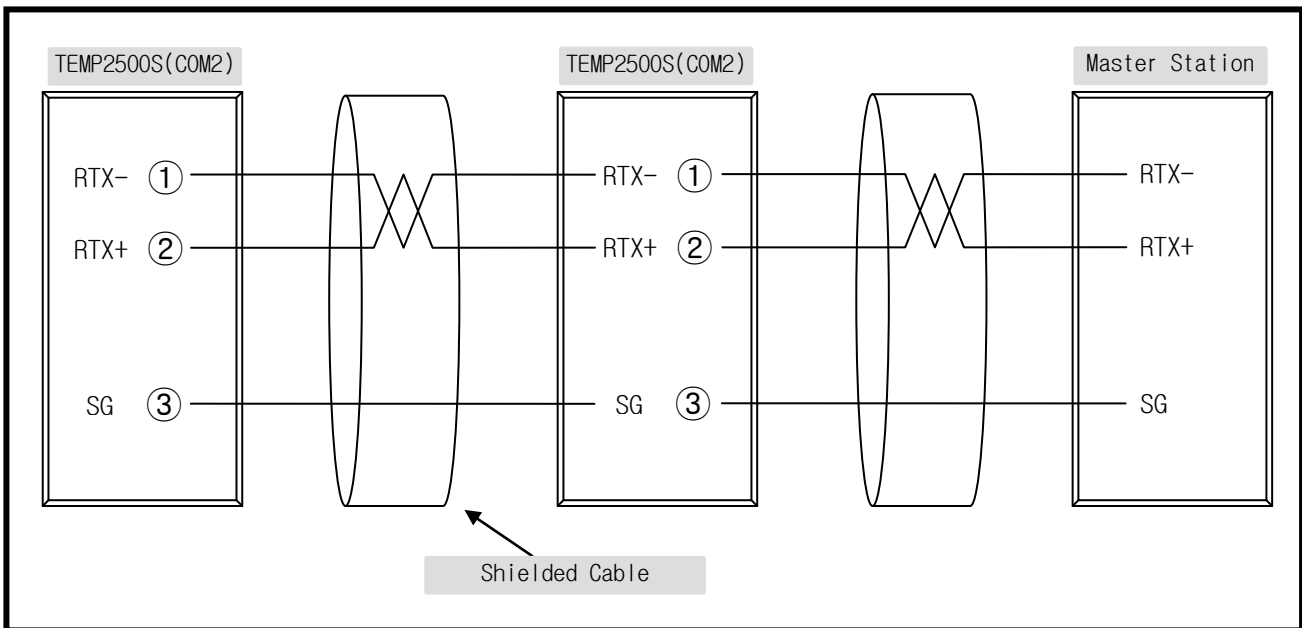
■ Description of Modular Connector Pin-Mapping for COM2 port

PIN no.	RS232C		RS485	
	Signal	Symbol	Signal	Symbol
1	Transmit Data	TxD	Receive/Transmit Data -	RTX-
2	Receive Data	RxD	Receive/Transmit Data +	RTX+
3	Signal Ground	SG	Signal Ground	SG
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-

6 Pin connector wiring for RS232C interface



6 Pin connector wiring for RS485 interface



☞ Up to 31 slave TEMP2500M controllers can be connected to a master device by multi-drop networking.

☞ Make sure to install 200Ω (1/4W) resistor on Last Leg at both end of terminal Slave and Master(PC, PLC).

5. Communication Command

5.1 The Frame Structure of standard protocol

The frame structure of protocol transmitting upper-level network system to TEMP2500M

①	②	③	④	⑤	⑥	⑦	⑧
STX	Address	Command	,	Data by rule of command	SUM	CR	LF

① Protocol Header

Display a beginning of communication command with STX (Start of Text), ASCII string with 0x02.

② Slave TEMP2500M Address

Slave unit address of TEMP2500M.

③ Command

Function Command for communication. (Refer to 5.2 ~ 5.10).

④ Delimiter

Symbolize to separate Command and Data by Comma. (',')

⑤ Data

Formal text strings regulated by communication command rule.

⑥ Check Sum

- 'SUM' protocol is a more sophisticated one which includes Check Sum as an error check.
- Check Sum is calculated as following.

- 1) Add the ASCII code of characters from the character next to STX one by one up to the character prior to SUM
- 2) Represent the lowest one byte of the sum as a hexadecimal notation (2 characters).

⑦, ⑧ Protocol Tail

ASCII code to close communication command by indicating CR(0x0D) and LF(0x0A).

■ Example for SUM

◆ Example

To read the consecutively D-Register from MCH.NPV(D0001) to MCH.COOLOUT(D0005)

- Transmit : [stx]01RSD,05,0001[cr][lf]
- Transmit (CheckSum Include) : [stx]01RSD,05,0001**C8**[cr][lf]

☞ As shown below, hexa decimal value adding each text at 01RSD,05,0001 by ASCII code is 2C8, and lower digit 2 characters **C8** will be used for CheckSum.

Text	0	1	R	S	D	,	0	5	,	0	0	0	1
Ascii value	30	31	52	53	44	2C	30	35	2C	30	30	30	31



■ ASCII Table

High Low	0	1	2	3	4	5	6	7
0	NUL	DLE	SPACE	0	@	P	`	p
1	SOH	DC1	!	1	A	Q	a	q
2	STX	DC2	"	2	B	R	b	r
3	ETX	DC3	#	3	C	S	c	s
4	EOT	DC4	\$	4	D	T	d	t
5	ENQ	NAK	%	5	E	U	e	u
6	ACK	SYN	&	6	F	V	f	v
7	BEL	ETB	'	7	G	W	g	w
8	BS	CAN	(	8	H	X	h	x
9	HT	EM	)	9	I	Y	i	y
A	LF	SUB	*	:	J	Z	j	z
B	VT	ESC	+	;	K	[	k	{
C	FF	FS	,	<	L	¥	l	|
D	CR	GS	-	=	M	]	m	}
E	SO	RS	.	>	N	^	n	~
F	SI	US	/	?	O	_	o	DEL

5.2 Type of Communication Command

Two types of commands are provided on TEMP2500M. One is general READ/WRITE command to read and write information on D-Register, and the other is Reference command to read self-information of TEMP2500M.

■ Reference Command

Command	Description
AMI	Displays model name and Version-Revision of TEMP2500M

■ Read/Write Command

Command	Description
RSD	Read data in consecutive D-Register in sequence (Read)
RRD	Read data in arbitrary single D-Register (Read)
WSD	Write data in consecutive D-Register in sequence (Write)
WRD	Write data in arbitrary single D-Register (Write)
STD	Register arbitrary single address to monitor (D-Register Monitoring Set)
CLD	Read data in address registered by STD command (D-Register Monitoring Call)

☞ Each Command can read or write up to 64 D-Register and all of the SED/CLD data will be reset by power OFF, so the data should be registered again.

5.3 ERROR Response

When an Error occurs during communication, TEMP2500M transmits a frame as following.

bytes	1	2	2	2	2	1	1
Frame	STX	Address	NG	Error Code	SUM	CR	LF

▣ Description of Error Code

Error Code	Description	Remarks
01	Invalid Command setting	
02	Invalid D-Register setting	
04	Data Setting Error	Invalid text data input (Available 0~9, A~F : hexadecimals)
08	Invalid Format configuration	<ul style="list-style-type: none"> ▪ Different designated and command format ▪ Differnet set number and designated number
11	Checksum Error	
12	Monitoring Command Error	No designated Monitoring Command
00	Other Errors	

5.4 RSD Command

RSD Command is used to read data in a part of D-Register by consecutive address in sequence.

▣ TRANSMIT Message Frame

bytes	1	2	3	1	2	1	4	2	1	1
Frame	STX	Address	RSD	,	Count Number	,	D-Reg.	SUM	CR	LF

▣ Response Message Frame

bytes	1	2	3	1	2	1	4	1	...
Frame	STX	Address	RSD	,	OK	,	Data - 1	,	...

1	4	2	1	1
,	Data - n	SUM	CR	LF

- Count Number : 1 ~ 64
- Data : 16 Hexa-decimal without decimal point

◆ Example

To read the D-Register **FROM** MCH.NPV(D0001) **TO** MCH.MVOUT(D0003)

- Transmit : [stx]01RSD,03,0001[cr][lf]
- Transmit (Checksum Include) : [stx]01RSD,03,0001C6[cr][lf]
 ([stx] = 0x02, [cr] = 0x0d, [lf] = 0x0a)

Response MCH.NPV(D0001) is 50.0 and MCH.MVOUT(D0003) is 30.0

- Receive : [stx]01RSD,OK,01F4,0000,012C[cr][lf]
- Receive (Checksum Include) : [stx]01RSD,OK,01F4,0000,012C05[cr][lf]

※ Converting procedure that received 16 hexadecimal to display by PV value on screen

- ① Radix conversion (Decimalize) : 01F4(hexadecimal) → 500(decimal)
- ② Multiply point one on converted value : 500 * 0.1 → 50.0

5.5 RRD Command

RRD Command is used to read data in arbitrary single D-Register.

▣ TRANSMIT Message Frame

bytes	1	2	3	1	2	1	4	1	...
Frame	STX	Address	RRD	,	Count Number	,	D-Reg.- 1	,	...

1	4	2	1	1
,	D-Reg.- n	SUM	CR	LF

▣ Receive Message Frame

bytes	1	2	3	1	2	1	4	1	...
Frame	STX	Address	RRD	,	OK	,	Data - 1	,	...

1	4	2	1	1
,	Data - n	SUM	CR	LF

- Count Number : 1 ~ 64
- Data : 16 Hexa-decimal without decimal point

◆ Example

To read the D-Register of MCH.NPV(D0001), MCH.MVOUT(D0003)

- Transmit : [stx]01RRD,02,0001,0003[cr][lf]
- Transmit (CheckSum Include) : [stx]01RRD,02,0001,0003B3[cr][lf]

Receive MCH.NPV(D0001) is 50.0 of D0001 (MCH.NPV) and MCH.MVOUT(D0003) 30.0)

- Receive : [stx]01RRD,OK,01F4,012C[cr][lf]
- Receive (INCLUDE CheckSum) : [stx]01RRD,OK,01F4,012C18[cr][lf]

5.6 WSD Command

WSD command is used to write data to a part of D-Register by consecutive address in sequence.

▣ TRANSMIT Message Frame

bytes	1	2	3	1	2	1	4	1	4
Frame	STX	Address	WSD	,	Count Number	,	D-Reg.	,	Data - 1

1	...	1	4	2	1	1
,	...	,	Data - n	SUM	CR	LF

▣ Receive Message Frame

bytes	1	2	3	1	2	2	1	1
Frame	STX	Address	WSD	,	OK	SUM	CR	LF

- Count Number : 1 ~ 64
- Data : Hexa-decimal 16bit string 4 character INCLUDE no decimal point

◆ Example

To write data into MCH.TIME_HOUR(D0132) **and** MCH.TIME_MIN(D0133) on FIX mode operation

- Setting MCH.TIME_HOUR: 99Hour → 16 Hexadecimalize (0x0063)
- Setting MCH.TIME_MIN: 50Min → 16 Hexadecimalize (0x0032)
- TRANSMIT : [stx]01WSD,02,0132,0063,0032[cr][lf]
- TRANSMIT(INCLUDE CheckSum) : [stx]01WSD,02,0132,0063,0032B5[cr][lf]

5.7 WRD Command

WRD Command is used to write data in arbitrary single D-Register.

▣ TRANSMIT Message Frame

bytes	1	2	3	1	2	1	4	1	4
Frame	STX	Address	WRD	,	Count Number	,	D-Reg.- 1	,	Data - 1

	1	...	1	4	1	4	2	1	1
	,	...	,	D-Reg. - n	,	Data - n	SUM	CR	LF

▣ Receive Message Frame

bytes	1	2	3	1	2	2	1	1
Frame	STX	Address	WRD	,	OK	SUM	CR	LF

- Count Number : 1 ~ 64
- Data : Hexa-decimal 16bit string 4 character INCLUDE no decimal point

◆ Example

To write data into the MCH.FIXTSP(D0102) and the MCH.SLOPE(D0117) on FIX mode operation.

- Setting MCH.FIXTSP : 50.0 °C → Remove decimal point (500) → Hexadecimalize (0x01F4)
- Setting MCH.SLOPE : 0.5 °C → Remove decimal point (5) → Hexadecimalize (0x0005)
- TRANSMIT : [stx]01WRD,02,0102,01F4,0117,0005[cr][lf]
- TRANSMIT (INCLUDE CheckSum) : [stx]01WRD,02,0102,01F4,0117,0005B8[cr][lf]

5.8 STD Command

STD Command is used to list the D-Registers that is necessary to monitor frequently.

▣ TRANSMIT Message Frame

bytes	1	2	3	1	2	1	4	1	4
Frame	STX	Address	STD	,	Count Number	,	D-Reg. - 1	,	D-Reg. - 2

1	...	1	4	1	4	2	1	1
,	...	,	D-Reg. - (n-1)	,	D-Reg. - n	SUM	CR	LF

▣ Receive Message Frame

bytes	1	2	3	1	2	2	1	1
Frame	STX	Address	STD	,	OK	SUM	CR	LF

- Count Number : 1 ~ 64

◆ Example

To register D0001 (MCH.MCH.NPV), D0002 (MCH.MCH.MVOUT) and D0003 (MCH.MVOUT)

- TRANSMIT : [stx] 01STD,03,0001,0002,0003[cr][lf]
- TRANSMIT (INCLUDE CheckSum) : [stx] 01STD,03,0001,0002,0003A5[cr][lf]

5.9 CLD Command

CLD Command is used to read data in the address which had been registered by STD command.

▣ TRANSMIT Message Frame

bytes	1	2	3	2	1	1
Frame	STX	Address	CLD	SUM	CR	LF

▣ Receive Message Frame

byte 수	1	2	3	1	2	1	4	1	4
Frame	STX	Address	CLD	,	OK	,	Data - 1	,	Data - 2

1	...	1	4	1	4	2	1	1
,	...	,	Data - (n-1)	,	Data - n	SUM	CR	LF

- Count Number : 16 *hex character without Demical point*

◆ Example

- TRANSMIT : [stx]01CLD[cr][lf]
- TRANSMIT (INCLUDE CheckSum) : [stx]01CLD34[cr][lf]

5.10 AMI Command

AMI Command is used to get the controller own-information.

▣ TRANSMIT Message Frame

bytes	1	2	3	2	1	1
Frame	STX	Address	AMI	SUM	CR	LF

▣ Receive Message Frame

bytes	1	2	3	1	2	1
Frame	STX	Address	AMI	,	OK	,

9	2	7	2	1	1
Model Name	SPACE	Version-Revision	SUM	CR	LF

◆ Example

To confirm controller own information

- TRANSMIT : [STX]01AMI[CR][LF]
- TRANSMIT (INCLUDE CheckSum) : [STX]01AMI38[CR][LF]
- Receive : [STX] 01AMI,OK,TEMP-2000M[sp][sp]V00-R00[CR][LF]
- Receive (INCLUDE CheckSum) : [stx] 01AMI,OK,TEMP-2000M[sp][sp]V00-R000A[cr][lf]

6. MODBUS Protocol

6.1 The Frame Structure of MODBUS protocol

▣ Data Format

Item	ASCII	RTU
Protocol Header	:(Colon)	N/A
Protocol Tail	[CR][LF]	N/A
Data length	7-bit(Fixed)	8-bit(Fixed)
Data type	ASCII	Binary
Error detecting	LRC (Longitudinal Redundancy Check)	CRC-16 (Cyclic Redundancy Check)
Data time interval	Under 1sec.	Under 24-bit time

▣ The Frame Structure of MODBUS protocol

▶ Modbus ASCII

Protocol Header	Address	Function Code	Data	LRC Check	Protocol Tail
1 character	2 character	2 character	N character	2 character	2 character (CR+LF)

▶ Modbus RTU

Protocol Header	Address	Function Code	Data	LRC Check	Protocol Tail
N/A	8-Bit	8-Bit	N * 8-Bit	16-Bit	N/A

- N : Number of Hexadecimal data

6.2 Function Code

TEMP2500M MODBUS protocol provides two function code subsets for READ/WRITE of D-Register and Loop-Back detecting test.

Function Code	Description
03	Read data in consecutive D-Register in sequence
06	Write data to arbitrary single D-Register
08	Diagnostics(Loop-Back Test)
16	Write data to consecutive D-Register in sequence



When using MODBUS, D-Register has to be subtracted '1' from the D-Register table we offer this manual, because it starts '0' D-Register address on MODBUS protocol.

6.3 Function code – 03

Function code-03 is used to read the data of consecutive D-Register block in sequence up to 64 registers.

▣ TRANSMIT Message Frame

Factor	ASCII	RTU
Protocol Header	:(Colon)	-
Slave Address	2 characters	8-Bit
Function code-03	2 characters	8-Bit
D-Register Hi	2 characters	8-Bit
D-Register Lo	2 characters	8-Bit
Address Count Hi	2 characters	8-Bit
Address Count Lo	2 characters	8-Bit
Error detecting	2 characters	16-Bit
Protocol Tail	2 characters (CR+LF)	-

◆ Exmaple

TRANSMIT message to read the D-Register **FROM** D0001 (MCH.MCH.NPV) **TO** D0003 (MCH.MVOUT) should be

- MODBUS ASCII :010300000003F9[cr][lf]
- MODBUS RTU 01030000000305CB

☞ D-Register has to be subtracted '1' from the designated address number on D-Register table in this manual.

▣ Receive Message Frame

Factor	ASCII	RTU
Protocol Header	:(Colon)	-
Slave Address	2 characters	8-Bit
Function code-03	2 characters	8-Bit
Data byte count	2 characters	8-Bit
Data - 1 Hi	2 characters	8-Bit
Data - 1 Lo	2 characters	8-Bit
...
Data - n Hi	2 characters	8-Bit
Data - n Lo	2 characters	8-Bit
Error detecting	2 characters	16-Bit
Protocol Tail	2 characters (CR+LF)	-

◆ Exmaple

When receive MCH.NPV(D0001) is 49.3 and MCH.MVOUT(D0003) is 10.8,

- MODBUS ASCII :01030601ED0000006C9C[cr][lf]
- MODBUS RTU 01030601ED0000006C8C9E

6.4 Function code – 06

Function code-06 is used to write data in arbitrary single D-Register.

■ TRANSMIT Message Frame

Factor	ASCII	RTU
Protocol Header	:(Colon)	-
Slave Address	2 characters	8-Bit
Function code-06	2 characters	8-Bit
D-Register Hi	2 characters	8-Bit
D-Register Lo	2 characters	8-Bit
Write Data Hi	2 characters	8-Bit
Write Data Lo	2 characters	8-Bit
Error detecting	2 characters	16-Bit
Protocol Tail	2 characters (CR+LF)	-

◆ Exmample

TRANSMIT message to write '2' to D0100 (pattern number) should be

- MODBUS ASCII :01060063000294[cr][lf]
- MODBUS RTU 010600630002F815

☞ D-Register has to be subtracted '1' from the designated address number on D-Register table in this manual.

■ Receive Message Frame

Factor	ASCII	RTU
Protocol Header	:(Colon)	-
Slave Address	2 characters	8-Bit
Function code-06	2 characters	8-Bit
D-Register Hi	2 characters	8-Bit
D-Register Lo	2 characters	8-Bit
Write Data Hi	2 characters	8-Bit
Write Data Lo	2 characters	8-Bit
Error detecting	2 characters	16-Bit
Protocol Tail	2 characters (CR+LF)	-

◆ Exmample

INCLUDEout any trouble, Receive message will be.

- MODBUS ASCII :01060063000294[cr][lf]
- MODBUS RTU 010600630002F815

6.5 Function code - 08

Function code-08 is used to test loopback for self-diagnosis.

■ TRANSMIT Message Frame

Factor	ASCII	RTU
Protocol Header	:(Colon)	-
Slave Address	2 characters	8-Bit
Function code-08	2 characters	8-Bit
Diagnosis code Hi	2 characters	8-Bit
Diagnosis code Lo	2 characters	8-Bit
Data Hi	2 characters	8-Bit
Data Lo	2 characters	8-Bit
Error detecting	2 characters	16-Bit
Protocol Tail	2 characters (CR+LF)	-

◆ Exmample

TRANSMIT message to test loopback for self-diagnosis should be

- MODBUS ASCII :010800000002F5[cr][lf]
- MODBUS RTU 01080000000261CA

■ Receive Message Frame

Factor	ASCII	RTU
Protocol Header	:(Colon)	-
Slave Address	2 characters	8-Bit
Function code-08	2 characters	8-Bit
Diagnosis code Hi	2 characters	8-Bit
Diagnosis code Lo	2 characters	8-Bit
Data Hi	2 characters	8-Bit
Data Lo	2 characters	8-Bit
Error detecting	2 characters	16-Bit
Protocol Tail	2 characters (CR+LF)	-

◆ Exmample

INCLUDEout any trouble, Receive message will be.

- MODBUS ASCII :010800000002F5[cr][lf]
- MODBUS RTU 01080000000261CA

6.6 Function code - 16

Function code-16 is used to write the data into consecutive D-Register block in sequence up to 64 registers.

■ TRANSMIT Message Frame

Factor	ASCII	RTU
Protocol Header	:(Colon)	-
Slave address	2 characters	8-Bit
Function code-16	2 characters	8-Bit
D-Register Hi	2 characters	8-Bit
D-Register Lo	2 characters	8-Bit
Address Count Hi	2 characters	8-Bit
Address Count Lo	2 characters	8-Bit
Data byte Count	2 characters	8-Bit
Data - 1 Hi	2 characters	8-Bit
Data - 1 Lo	2 characters	8-Bit
...
Data - n Hi	2 characters	8-Bit
Data - n Lo	2 characters	8-Bit
Error detecting	2 characters	-
Protocol Tail	2 characters (CR+LF)	16-Bit

◆ Example

to write '99' to the MCH.TIME_HOUR(D0132) and '50' to the MCH.TIME_MIN(D0133) on FIX mode operation should be set below

- MODBUS ASCII : 0110008300020400630032D1[cr][lf]
- MODBUS RTU 0110008300020400630032CA11

■ Receive Message Frame

Factor	ASCII	RTU
Protocol Header	:(Colon)	-
Slave address	2 characters	8-Bit
Function code-16	2 characters	8-Bit
D-Register Hi	2 characters	8-Bit
D-Register Lo	2 characters	8-Bit
Address Count Hi	2 characters	8-Bit
Address Count Lo	2 characters	8-Bit
Error detecting	2 characters	16-Bit
Protocol Tail	2 characters (CR+LF)	-

◆ Example

INCLUDEout any trouble, Receive message will be.

- MODBUS ASCII : 0110008300026A[cr][lf]
- MODBUS RTU 011000830002B020

7. D-REGISTER Description

D-Register is group of communication data to monitor and control all status of TEMP2000M.

D-Register is grouped by consecutive 100 addresses based on its concerned function as shown below.

D-Register address	Group Name	Description	Read	Write
D0001~D0099	PROCESS	General operation process information	○	◆
D0100~D0199	FUNCTION	Operating Function setting	○	△
D0200~D0299	GRAPH	Trends	○	○
D0300~D0399	RESERVATION	Time & Reserve operation setting	○	△
D0400~D0499	ON/OFF SIGNAL	ON/OFF signal setting	○	○
D0500~D0599	INNER SIGNAL	INNER signal setting	○	○
D0600~D0699	ALARM SIGNAL	ALARM signal setting	○	○
D0700~D0799	SEG ALARM SIGNAL	SEGMENT ALARM signal setting	○	○
D0800~D0899	TIME SIGNAL	TIME signal setting	○	○
D0900~D0999	COMMUNICATION	Communication concerned information	○	△
D1000~D1099	PID 1	USER SCREEN setting	○	○
D1100~D1199	PID 2	P.I.D setting-1	○	○
D1200~D1299	INPUT 1	P.I.D setting-2	○	○
D1300~D1399	INPUT 2	Sensor Input setting	○	○
D1400~D1499	OUTPUT	Control&retransmission Output setting	○	○
D1500~D1599	DO CONFIG 1	DO(Digital Output) Relay setting-1	○	○
D1600~D1699	DO CONFIG 2	DO(Digital Output) Relay setting-2	○	○
D1700~D1799	DI CONFIG 1	DI(Digital Input) setting	○	○
D1800~D1899	DI CONFIG 2	DI NAME input-1	○	○
D1900~D1999	DI CONFIG 3	DI NAME input-2	○	○
D2000~D2099	INITIAL 1	Initial system setting-1	○	○
D2100~D2199	INITIAL 2	Initial system setting-2	○	○
D2200~D2299	PROGRAM	Program pattern profile setting	○	○
D2300~D2399	PATTERN INFO	Pattern profile information	○	◆
D2400~D3999	FILE 1~FILE 16	Recorded Trend file information	○	◆

☞ D-Register is composed of hexadecimal 4 digit (2-Byte).

- ○ : Available to read / write over all designated address range.
- △ : Available to read / write in part of designated address range.
- ◆ : Not available to read / write over all designated address range.

7.1 PROCESS

PROCESS group consists of fundamental parameter information concerned INCLUDE operation process and status. Below table describes the detail Bit Map information of some parameter that indicates its status by Bit.

■ Bit Map information of TEMP2500M

BIT	MCH.NOWSTS	SCH1.NOWSTS	SCH2.NOWSTS	SCH3.NOWSTS	SCH4.NOWSTS	SCH5.NOWSTS	SCH6.NOWSTS
	D0024	D0025	D0026	D0027	D0028	D0029	D0030
0	MCH.RESET	SCH1.MVOUT	SCH2.MVOUT	SCH3.MVOUT	SCH4.MVOUT	SCH5.MVOUT	SCH6.MVOUT
1	MCH.FIX	SCH1.RUN	SCH2.RUN	SCH3.RUN	SCH4.RUN	SCH5.RUN	SCH6.RUN
2	MCH.PROG	SCH1.ALM1	SCH2.ALM1	SCH3.ALM1	SCH4.ALM1	SCH5.ALM1	SCH6.ALM1
3	MCH.HOLD	SCH1.ALM2	SCH2.ALM2	SCH3.ALM2	SCH4.ALM2	SCH5.ALM2	SCH6.ALM2
4	MCH.WAIT	SCH1.SOPN	SCH2.SOPN	SCH3.SOPN	SCH4.SOPN	SCH5.SOPN	SCH6.SOPN
5	MCH.AT	SCH1.HBA	SCH2.HBA	SCH3.HBA	SCH4.HBA	SCH5.HBA	SCH6.HBA
6							
7		SCH1.MOVR	SCH2.MOVR	SCH3.MOVR	SCH4.MOVR	SCH5.MOVR	SCH6.MOVR
8		SCH1.POVR	SCH2.POVR	SCH3.POVR	SCH4.POVR	SCH5.POVR	SCH6.POVR
9		SCH1.AT	SCH2.AT	SCH3.AT	SCH4.AT	SCH5.AT	SCH6.AT
10							
11							
12							
13							
14							
15		SCH1.READY	SCH2.READY	SCH3.READY	SCH4.READY	SCH5.READY	SCH6.READY

BIT	MCH.ISSTS	MCH.TSSTS	MCH.ALMSTS	MCH.SEGALMSTS	MCH.ONOFFSTS	MCH.ADERRSTS	MCH.DIDATA
	D0031	D0032	D0033	D0034	D0035	D0036	D0037
0	IS1	TS1	ALM1	SEGALM1	T1	+OVER	D11
1	IS2	TS2	ALM2	SEGALM2	T2	-OVER	D12
2	IS3	TS3	ALM3	SEGALM3	T3	S.OPN	D13
3	IS4	TS4	ALM4	SEGALM4	T4		D14
4	IS5	TS5			T5		D15
5	IS6	TS6			T6		D16
6	IS7	TS7			T7		D17
7	IS8	TS8					D18
8			HBA				D19
9							D110
10							D111
11							D112
12							D113
13							D114
14							D115
15							D116

BIT	MCH.DOSTS1	MCH.DOSTS2	MCH.DOCTRSTS	MCH.CTRSTS	MCH.SYSSTS	SCH.CUSTS	
	D0038	D0039	D0040	D0041	D0042	D0043	
0	D01	D017	RUN	RUN	DISP.COMERR	SCU1.ERR	
1	D02	D018	WAIT	WAIT	IO.COMERR	SCU2.ERR	
2	D03	D019	UP	UP	SD.INSERT	SCU3.ERR	
3	D04	D020	DOWN	DOWN			
4	D05	D021	SOAK	SOAK			
5	D06	D022	FEND	FEND			
6	D07	D023	PTEND	PTEND			
7	D08	D024	1REF	1REF			
8	D09	D025	REF	REF		SCU1.INS	

9	D010	D026				SCU2 . INS	
10	D011	D027				SCU3 . INS	
11	D012	D028					
12	D013	D029					
13	D014	D030					
14	D015	D031					
15	D016	D032					

■ Bit Map status information D-Register

D-Reg.	Symbol	Descriptions
D0024	MCH.NOWSTS	[Main Channel] Current operation status information..
D0025	SCH1.NOWSTS	[Sub Channel-1] Current operation status information..
D0026	SCH2.NOWSTS	[Sub Channel-2] Current operation status information..
D0027	SCH3.NOWSTS	[Sub Channel-3] Current operation status information..
D0028	SCH4.NOWSTS	[Sub Channel-4] Current operation status information..
D0029	SCH5.NOWSTS	[Sub Channel-5] Current operation status information..
D0030	SCH6.NOWSTS	[Sub Channel-6] Current operation status information..
D0031	MCH.ISSTS	INNER signal generating status information.
D0032	MCH.TSSTS	TIME signal generating status information.
D0033	MCH.ALMSTS	ALARM signal generating status information.
D0034	MCH.SEGALMSTS	SEGMENT ALARM signal generating status information.
D0035	MCH.ONOFFSTS	ON/OFF signal generating status information.
D0036	MCH.ADERRSTS	Error status out of control range.
D0037	MCH.DIDATA	DI Error outbreak status information.
D0038	MCH.DOSTS1	Actual generating Do signal status through I/O board
D0039	MCH.DOSTS2	
D0040	MCH.DOCTRSTS	Display the output information of operation
D0041	MCH.CTRSTS	Display the output information of operation
D0042	MCH.SYSSTS	The main control and display or the main control and I / O relay board Communication error occurs and the SD card used in the information indicates.
D0043	SCH.CUSTS	Display communication error information between Main-control and Sub Channel

■ Common process information D-Register for both PROG / FIX

D-Reg.	Symbol	Descriptions
D0001	MCH.NPV	[Main Channel] current.now PV
D0002	MCH.NSP	[Main Channel] current.now SP
D0003	MCH.MVOUT	[Main Channel] Control Output value
D0004	MCH.HEATOUT	[Main Channel] Heating Control Output value
D0005	MCH.COOLOUT	[Main Channel] Cooling Control Output value
D0006	SCH1.NPV	[Sub Channel-1] current.now PV
D0007	SCH2.NPV	[Sub Channel-2] current.now PV
D0008	SCH3.NPV	[Sub Channel-3] current.now PV
D0009	SCH4.NPV	[Sub Channel-4] current.now PV
D0010	SCH5.NPV	[Sub Channel-5] current.now PV
D0011	SCH6.NPV	[Sub Channel-6] current.now PV
D0012	SCH1.NSP	[Sub Channel-1] current.now SP
D0013	SCH2.NSP	[Sub Channel-2] current.now SP
D0014	SCH3.NSP	[Sub Channel-3] current.now SP
D0015	SCH4.NSP	[Sub Channel-4] current.now SP
D0016	SCH5.NSP	[Sub Channel-5] current.now SP
D0017	SCH6.NSP	[Sub Channel-6] current.now SP
D0018	SCH1.MVOUT	[Sub Channel-1] current.now Output value
D0019	SCH2.MVOUT	[Sub Channel-2] current.now Output value
D0020	SCH3.MVOUT	[Sub Channel-3] current.now Output value
D0021	SCH4.MVOUT	[Sub Channel-4] current.now Output value
D0022	SCH5.MVOUT	[Sub Channel-5] current.now Output value
D0023	SCH6.MVOUT	[Sub Channel-6] current.now Output value
D0044	MCH.CPIDNO	[Main Channel] Current PID number
D0045	MCH.RUNTIME_H	[Main Channel] Operating time (H)
D0046	MCH.RUNTIME_M	[Main Channel] Operating time (M)
D0047	MCH.RUNTIME_S	[Main Channel] Operating time (Second)

PROGRAM operation process information D-Register

D-Reg.	Symbol	Descriptions
D0048	MCH.PTNO	Currently running program pattern number
D0049	MCH.SEGNO	Currently running program segment number
D0050	MCH.NOWPT_RPT	Count of current Repeat operation at running pattern
D0051	MCH.TOTPT.RPT	Total Programmed Count of Repeat op. at running pattern
D0052	MCH.NOWSEG.RPT	Count of current Repeat operation at running segment
D0053	MCH.TOTSEG.RPT	Total Programmed Count of Repeat op. at running segment
D0054	MCH.NOWSEGTM_L	Process time(Low) of currently running segment
D0055	MCH.NOWSEGTM_H	Process time(High) of currently running segment
D0056	MCH.TOTSEGTM_L	Programmed total time(Low) of currently running segment
D0057	MCH.TOTSEGTM_H	Programmed total time(High) of currently running segment
D0058	MCH.PREV_TSP	Target Set Point of the preceding segment
D0059	MCH.NOW_TSP	Target Set Point of the current segment
D0060	MCH.AUXOUT	Current operating Sub Output value
D0062	USED PATTERN	Total number of programmed pattern
D0063	USED SEGMENT	Total number of programmed segment
D0064	MCH.HBCD	[Main Channel] Current in Heater
D0065	SCH1.HBCD	[Sub Channel-1] Current in Heater
D0066	SCH2.HBCD	[Sub Channel-2] Current in Heater
D0067	SCH3.HBCD	[Sub Channel-3] Current in Heater
D0068	SCH4.HBCD	[Sub Channel-4] Current in Heater
D0069	SCH5.HBCD	[Sub Channel-5] Current in Heater
D0070	SCH6.HBCD	[Sub Channel-6] Current in Heater

7.2 FUNCTION Group

FUNCTION group consists of setting parameter D-register related INCLUDE operational function and process.

Common Operational Function setting D-Register for both PROG / FIX

D-Reg.	Symbol	Descriptions
D0124	MCH.FUZZY	[Main Channel] Set FUZZY function (0:OFF, 1:ON)
D0125	SCH1.FUZZY	[Sub Channel-1] Set FUZZY function (0:OFF, 1:ON)
D0126	SCH2.FUZZY	[Sub Channel-2] Set FUZZY function (0:OFF, 1:ON)
D0127	SCH3.FUZZY	[Sub Channel-3] Set FUZZY function (0:OFF, 1:ON)
D0128	SCH4.FUZZY	[Sub Channel-4] Set FUZZY function (0:OFF, 1:ON)
D0129	SCH5.FUZZY	[Sub Channel-5] Set FUZZY function (0:OFF, 1:ON)
D0130	SCH6.FUZZY	[Sub Channel-6] Set FUZZY function (0:OFF, 1:ON)
D0134	LIGHT.OFFTM	Backlight ON time
D0135	KEYLOCK	KEYLOCK Function (0:OFF, 1:ON)
D0136	MCH.AT	[Main Channel] Set AUTO-TUNNING function (0:OFF, 1:ON)
D0137	SCH1.AT	[Sub Channel-1] Set AUTO-TUNNING function (0:OFF, 1:ON)
D0138	SCH2.AT	[Sub Channel-2] Set AUTO-TUNNING function (0:OFF, 1:ON)
D0139	SCH3.AT	[Sub Channel-3] Set AUTO-TUNNING function (0:OFF, 1:ON)
D0140	SCH4.AT	[Sub Channel-4] Set AUTO-TUNNING function (0:OFF, 1:ON)
D0141	SCH5.AT	[Sub Channel-5] Set AUTO-TUNNING function (0:OFF, 1:ON)
D0142	SCH6.AT	[Sub Channel-6] Set AUTO-TUNNING function (0:OFF, 1:ON)
D0143	USERKEY	User Key use (0: UNUSE, 1: USE)
D0144	BUZ.ONOFF	Buzzer sound (0: UNUSE, 1: USE)
D0146~D0149	SCH1.UTAGNAME1~ SCH1.UTAGNAME4	[Sub Channel-1] Set tag name
D0150~D0153	SCH2.UTAGNAME1~ SCH2.UTAGNAME4	[Sub Channel-2] Set tag name
D0154~D0157	SCH3.UTAGNAME1~ SCH3.UTAGNAME4	[Sub Channel-3] Set tag name
D0158~D0161	SCH4.UTAGNAME1~ SCH4.UTAGNAME4	[Sub Channel-4] Set tag name
D0162~D0165	SCH5.UTAGNAME1~ SCH5.UTAGNAME4	[Sub Channel-5] Set tag name
D0166~D0169	SCH6.UTAGNAME1~ SCH6.UTAGNAME4	[Sub Channel-6] Set tag name

PROGRAM Operation & Function setting D-Register

D-Reg.	Symbol	Descriptions
D0100	MCH.SET_PTNO	Pattern Number to run program operation
D0190	MCH.WAIT_USE	WAIT Function (0:UNUSE, 1:USE)
D0191	MCH.WAIT_ZONE	WAIT ZONE setting
D0192	MCH.WAIT_TIME	WAIT TIME setting
D0193	MCH.WAIT_METHOD	Target of WAIT function (0:ALL, 1:SEG)

FIX Operation & Function setting D-Register

D-Reg.	Symbol	Descriptions
D0102	MCH.FIXTSP	[Main Channel] set SP on FIX operation
D0103	SCH1.FIXTSP	[Sub Channel-1] set SP on FIX operation
D0104	SCH2.FIXTSP	[Sub Channel-2] set SP on FIX operation
D0105	SCH3.FIXTSP	[Sub Channel-3] set SP on FIX operation
D0106	SCH4.FIXTSP	[Sub Channel-4] set SP on FIX operation
D0107	SCH5.FIXTSP	[Sub Channel-5] set SP on FIX operation
D0108	SCH6.FIXTSP	[Sub Channel-6] set SP on FIX operation
D0117	MCH.SLOPE	[Main Channel] set UP/DOWN slope
D0118	SCH1.SLOPE	[Sub Channel-1] set UP/DOWN slope
D0119	SCH2.SLOPE	[Sub Channel-2] set UP/DOWN slope

D0120	SCH3.SLOPE	[Sub Channel-3] set UP/DOWN slope
D0121	SCH4.SLOPE	[Sub Channel-4] set UP/DOWN slope
D0122	SCH5.SLOPE	[Sub Channel-5] set UP/DOWN slope
D0123	SCH6.SLOPE	[Sub Channel-6] set UP/DOWN slope
D0114	MCH.TIMEOP	FIX Operating time set (0:UNUSE, 1:USE)
D0115	MCH.TIME_HOUR	HOUR setting
D0116	MCH.TIME_MIN	MINUTE & SEC setting

■ OPERATION mode & performance setting D-Register

D-Reg.	Symbol	Process method	Setting	Description
D0101	MCH.COM_OPMODE	RUN	1	RUN PROG/FIX Operation
		HOLD	2	HOLD ON/OFF
		STEP	3	Segment STEP
		STOP	4	Stop PROG/FIX Operation
D0109	MCH.OPMODE	PROG	0	PROG Operation MODE
		FIX	1	FIX Operation MODE
D0116	MCH.PWRMODE	STOP	0	Stop when return from Blackout
		RESTART	1	Restart when return from Blackout
		CONTINUE	2	Continue when return from Blackout

☞ To activate PROG operation RUN or FIX operation RUN, TEMP2500M should be in individual corresponding STOP(PROG STOP/FIX STOP) state. For example, to activate PROG operation RUN from currently operating FIX RUN state, convert the operation state to PROG STOP (D0109 = 0000, D0101 = 0004) first, then you can activate PROG operation RUN.

7.3 GRAPH

GRAPH Group contented TEMP2500M's D-Register : Graph save terms, save functions, selection save device and Graph pen set

■ GRAPH D-Register

D-Reg.	Symbol	Descriptions
D0200	RECORD_PLACE	Save device select. (0:Inner memory, 1:SD card, 2:Both)
D0201	RECORD_MODE	Save mode select. (0:Automatic, 1:Manual)
D0202	SAMPLING_TIME	Graph save terms set
D0203	GPEN1.SELECT	pen1 type select.
D0204~D0207	GPEN1.NAME1~GPEN1.NAME4	pen1 name set
D0208	GPEN1.SCHNO	In pen1 selection, When Sub channel select, channel number select.
D0209	GPEN2.SELECT	pen2 type select.
D0210~D0213	GPEN2.NAME1~GPEN2.NAME4	pen2 name set
D0214	GPEN2.SCHNO	pen2 selection, When Sub channel select, channel number select.
D0215	GPEN3.SELECT	pen3 type select.
D0216~D0219	GPEN3.NAME1~GPEN3.NAME4	pen3 name set
D0220	GPEN3.SCHNO	pen3 selection, When Sub channel select, channel number select.
D0221	GPEN4.SELECT	pen4 type select.
D0222~D0225	GPEN4.NAME1~GPEN4.NAME4	pen4 name set
D0226	GPEN4.SCHNO	pen4 selection, When Sub channel select, channel number select.
D0227	GPEN5.SELECT	pen5 type select.
D0228~D0231	GPEN5.NAME1~GPEN5.NAME4	pen5 name set
D0232	GPEN5.SCHNO	pen5 selection, When Sub channel select, channel number select.
D0233	GPEN6.SELECT	pen6 type select.
D0234~D0237	GPEN6.NAME1~GPEN6.NAME4	pen6 name set
D0238	GPEN6.SCHNO	pen6 selection, When Sub channel select, channel number select.

7.4 RESERVATION Group

TEMP2500M hours of group identification, and book set, PROGRAM driver's start time and end time of operation consists of related D-Register.

■ TIME setting and information D-Register

D-Reg.	Symbol	Description	Read	Write
D0301	NOW.YEAR	Current YEAR installed in TEMP2500M	○	×
D0302	NOW.MONTH	Current MONTH installed in TEMP2500M	○	×
D0303	NOW.DAY	Current DAY installed in TEMP2500M	○	×
D0304	NOW.AMPM	Current AM/PM installed in TEMP2500M	○	×
D0305	NOW.HOUR	Current HOUR installed in TEMP2500M	○	×
D0306	NOW.MIN	Current MN. installed in TEMP2500M	○	×
D0307	C.YEAR	Current YEAR setting in TEMP2500M	×	○
D0308	C.MONTH	Current MONTH setting in TEMP2500M	×	○
D0309	C.DAY	Current DAY setting in TEMP2500M	×	○
D0310	C.AMPM	Current AM/PM setting in TEMP2500M	×	○
D0311	C.HOUR	Current HOUR setting in TEMP2500M	×	○
D0312	C.MIN	Current MN. setting in TEMP2500M	×	○
D0313	MCHR.YEAR	YEAR setting for RESERVE Operation	○	○
D0314	MCHR.MONTH	MONTH setting for RESERVE Operation	○	○
D0315	MCHR.DAY	DAY setting for RESERVE Operation	○	○
D0316	MCHR.AMPM	AM/PM setting for RESERVE Operation	○	○
D0317	MCHR.HOUR	HOUR setting for RESERVE Operation	○	○
D0318	MCHR.MIN	MIN. setting for RESERVE Operation	○	○

■ RESERVE Operation

D-Reg.	Symbol	Operation	Setting	Description
D0300	MCHRRESERVE	OFF	0	Release RESERVE Oper.
		ON	1	Set RESERVE Oper.

■ PROGRAM Start time and end time running

D-Reg.	Symbol	Description
D0320	MCH_TIME_VALID	Show start time and end time (0: Normal, 1:---.-)
D0321	MCH_START_YEAR	Setting start time (Year)
D0322	MCH_START_MON	Setting start time (Month)
D0323	MCH_START_DAY	Setting start time (Day)
D0324	MCH_START_HOUR	Setting start time (Hour)
D0325	MCH_START_MIN	Setting start time (Min)
D0326	MCH_END_YEAR	Setting end time (Year)
D0327	MCH_END_MON	Setting end time (Month)
D0328	MCH_END_DAY	Setting end time (Day)
D0329	MCH_END_HOUR	Setting end time (Hour)
D0330	MCH_END_MIN	Setting end time (Min)

7.5 ON/OFF SIGNAL Group

This setting parameter D-register group is used to establish 6 ON/OFF SIGNALs.

■ ON/OFF SIGNAL setting D-Register

D-Reg.	Symbol	Description
D0401	T1.LSP	Set Low SP for ON/OFF SIGNAL 1
D0402	T1.MSP	Set Middle SP for ON/OFF SIGNAL 1
D0403	T1.HSP	Set High SP for ON/OFF SIGNAL 1
D0404	T1.HDV	Set High zone Deviation for operating Point at High Zone 1
D0405	T1.LDV	Set Low zone Deviation for operating Point at Low Zone 1
.	.	.
.	.	.
.	.	.
D0426	T6.LSP	Set Low SP for ON/OFF SIGNAL 6
D0427	T6.MSP	Set Middle SP for ON/OFF SIGNAL 6
D0428	T6.HSP	Set High SP for ON/OFF SIGNAL 6
D0429	T6.HDV	Set High zone Deviation for operating Point at High Zone 6
D0430	T6.LDV	Set Low zone Deviation for operating Point at Low Zone 6

7.6 INNER SIGNAL Group

This setting parameter D-register group is used to establish 8 INNER SIGNALs.

■ INNER SIGNAL setting D-Register

D-Reg.	Symbol	Descriptions
D0501	IS1.TYPE	Object Type of Target of INNER SIGNAL1 (0:SP, 1:PV, 2:MV)
D0502	IS1.BAND	Direction Band of INNER SIGNAL1 (0:IN-B, 1:OUT-B)
D0503	IS1.RH	Range High of INNER SIGNAL1
D0504	IS1.RL	Range Low of INNER SIGNAL1
D0505	IS1.DYT	DELAY TIME of INNER SIGNAL1
.	.	.
.	.	.
.	.	.
D0536	IS8.TYPE	Object Type of Target of INNER SIGNAL8 (SP/PV/MV)
D0537	IS8.BAND	Direction Band of INNER SIGNAL8 (IN-B/OUT-B)
D0538	IS8.RH	Range High of INNER SIGNAL8
D0539	IS8.RL	Range Low of INNER SIGNAL8
D0540	IS8.DYT	DELAY TIME of INNER SIGNAL8

7.6 ALARM SIGNAL Group

This setting parameter D-register group is used to establish 4 ALARM signals and HBA Signal

■ ALARM signal setting D-Register

D-Reg.	Symbol	Descriptions
D0601	MCHALM.OP	Conditions of ALARM Operation (0:RUN, 1:ALWAYS)
D0602	MCHALM1.TYPE	Type of ALARM signal 1
D0603	MCHALM1.POINT	Target Point of ALARM signal 1
D0604	MCHALM1.H_POINT	Limit High point of ALARM signal 1
D0605	MCHALM1.L_POINT	Limit Low point of ALARM signal 1
D0606	MCHALM1.HYS	Hysteresis of ALARM signal 1
D0607	MCHALM1.DYT	DELAY TIME of ALARM signal 1
.	.	.
.	.	.
.	.	.
D0620	MCHALM4.TYPE	Type of ALARM signal 4
D0621	MCHALM4.POINT	Target Point of ALARM signal 4
D0622	MCHALM4.H_POINT	Limit High point of ALARM signal 4
D0623	MCHALM4.L_POINT	Limit Low point of ALARM signal 4
D0624	MCHALM4.HYS	Hysteresis of ALARM signal 4
D0625	MCHALM4.DYT	DELAY TIME of ALARM signal 4

■ HBA(Heater Burned-out:Break Alarm) Signal D-Register

D-Reg.	Symbol	Descriptions
D0758	MCH.HBCS	[Main Channel] HBA Value of Current Set
D0759	MCH.HBDB	[Main Channel] HBA Hysteresis Set.
D0762	SCH1.HBCS	[Sub Channel-1] HBA Value of Current Set
D0763	SCH2.HBCS	[Sub Channel-2] HBA Value of Current Set
D0764	SCH3.HBCS	[Sub Channel-3] HBA Value of Current Set
D0765	SCH4.HBCS	[Sub Channel-4] HBA Value of Current Set
D0766	SCH5.HBCS	[Sub Channel-5] HBA Value of Current Set
D0767	SCH6.HBCS	[Sub Channel-6] HBA Value of Current Set
D0768	SCH1.HBDB	[Sub Channel-1] HBA Hysteresis Set
D0769	SCH2.HBDB	[Sub Channel-2] HBA Hysteresis Set
D0770	SCH3.HBDB	[Sub Channel-3] HBA Hysteresis Set
D0771	SCH4.HBDB	[Sub Channel-4] HBA Hysteresis Set
D0772	SCH5.HBDB	[Sub Channel-5] HBA Hysteresis Set
D0773	SCH6.HBDB	[Sub Channel-6] HBA Hysteresis Set
D0780	POWER.FREQUENCY	Power frequency Set (0:50Hz, 1:60Hz)

■ Sub Channel Alarm Signal D-Register

D-Reg.	Symbol	Descriptions
D0750	SCH1ALM.OP	[Sub Channel-1] Alarm Signal Run Conditions Select (0:Run, 1:Always)
D0751	SCH2ALM.OP	[Sub Channel-2] Alarm Signal Run Conditions Select (0:Run, 1:Always)
D0752	SCH3ALM.OP	[Sub Channel-3] Alarm Signal Run Conditions Select (0:Run, 1:Always)
D0753	SCH4ALM.OP	[Sub Channel-4] Alarm Signal Run Conditions Select (0:Run, 1:Always)
D0754	SCH5ALM.OP	[Sub Channel-5] Alarm Signal Run Conditions Select (0:Run, 1:Always)
D0755	SCH6ALM.OP	[Sub Channel-6] Alarm Signal Run Conditions Select (0:Run, 1:Always)
D0628	SCH1ALM1.TYPE	[Sub Channel-1] Alarm Signal1 Types Select
D0629	SCH1ALM1.POINT	[Sub Channel-1] Alarm Signal1 Alarm value Set
D0630	SCH1ALM1.H_POINT	[Sub Channel-1] Alarm Signal1 upper limit Alarm value Set
D0631	SCH1ALM1.L_POINT	[Sub Channel-1] Alarm Signal1 lower limit Alarm value Set
D0632	SCH1ALM1.HYS	[Sub Channel-1] Alarm Signal1 Hysteresis Set
D0633	SCH1ALM1.DYT	[Sub Channel-1] Alarm Signal1 Delay time Set
D0634	SCH1ALM2.TYPE	[Sub Channel-1] Alarm Signal2 Types Select
D0635	SCH1ALM2.POINT	[Sub Channel-1] Alarm Signal2 Alarm value Set
D0636	SCH1ALM2.H_POINT	[Sub Channel-1] Alarm Signal2 upper limit Alarm value Set
D0637	SCH1ALM2.L_POINT	[Sub Channel-1] Alarm Signal2 lower limit Alarm value Set
D0638	SCH1ALM2.HYS	[Sub Channel-1] Alarm Signal2 Hysteresis Set
D0639	SCH1ALM2.DYT	[Sub Channel-1] Alarm Signal2 Delay time Set
.	.	.
D0688	SCH6ALM1.TYPE	[Sub Channel-6] Alarm Signal1 Types Select
D0689	SCH6ALM1.POINT	[Sub Channel-6] Alarm Signal1 Alarm value Set
D0690	SCH6ALM1.H_POINT	[Sub Channel-6] Alarm Signal1 upper limit Alarm value Set
D0691	SCH6ALM1.L_POINT	[Sub Channel-6] Alarm Signal1 lower limit Alarm value Set
D0692	SCH6ALM1.HYS	[Sub Channel-6] Alarm Signal1 Hysteresis Set
D0693	SCH6ALM1.DYT	[Sub Channel-6] Alarm Signal1 Delay time Set
D0694	SCH6ALM2.TYPE	[Sub Channel-6] Alarm Signal2 Types Select
D0695	SCH6ALM2.POINT	[Sub Channel-6] Alarm Signal2 Alarm value Set
D0696	SCH6ALM2.H_POINT	[Sub Channel-6] Alarm Signal2 upper limit Alarm value Set
D0697	SCH6ALM2.L_POINT	[Sub Channel-6] Alarm Signal2 lower limit Alarm value Set
D0698	SCH6ALM2.HYS	[Sub Channel-6] Alarm Signal2 Hysteresis Set
D0699	SCH6ALM2.DYT	[Sub Channel-6] Alarm Signal2 Delay time Set

7.8 SEGMENT ALARM SIGNAL Group

This setting parameter D-register group is used to establish 8 SEGMENT ALARM signals.

■ SEGMENT ALARM signal setting D-Register

D-Reg.	Symbol	Descriptions
D0701	MCHSA1.TYPE	Type of SEGMENT ALARM signal 1
D0702	MCHSA1.POINT	Target Point of SEGMENT ALARM signal 1
D0703	MCHSA1.H_POINT	Limit High point of SEGMENT ALARM signal 1
D0704	MCHSA1.L_POINT	Limit Low point of SEGMENT ALARM signal 1
D0705	MCHSA1.HYS	Hysteresis of SEGMENT ALARM signal 1
D0706	MCHSA1.DYT	DELAY TIME of SEGMENT ALARM signal 1
.	.	.
.	.	.
.	.	.
D0743	MCHSA8.TYPE	Type of SEGMENT ALARM signal 8
D0744	MCHSA8.POINT	Target Point of SEGMENT ALARM signal 8
D0745	MCHSA8.H_POINT	Limit High point of SEGMENT ALARM signal 8
D0746	MCHSA8.L_POINT	Limit Low point of SEGMENT ALARM signal 8
D0747	MCHSA8.HYS	Hysteresis of SEGMENT ALARM signal 8
D0748	MCHSA8.DYT	DELAY TIME of SEGMENT ALARM signal 8

7.9 TIME SIGNAL Group

This setting parameter D-register group is used to establish 19 TIME SIGNALs.

■ TIME SIGNAL setting D-Register

D-Reg.	Symbol	Descriptions
D0801	TS2DYTM_H	DELAY TIME (HOUR) of generating TIME SIGNAL 2.
D0802	TS2DYTM_L	DELAY TIME (MIN. & SEC.) of generating TIME SIGNAL 2.
D0803	TS2KPTM_H	OPER.TIME (HOUR) to keep generating TIME SIGNAL 2.
D0804	TS2KPTM_L	OPER.TIME (MIN. & SEC.) to keep generating TIME SIGNAL 2.
.	.	.
.	.	.
.	.	.
D0873	TS20DYTM_H	DELAY TIME (HOUR) of generating TIME SIGNAL 20.
D0874	TS20DYTM_L	DELAY TIME (MIN. & SEC.) of generating TIME SIGNAL 20.
D0875	TS20KPTM_H	OPER.TIME (HOUR) to keep generating TIME SIGNAL 20.
D0876	TS20KPTM_L	OPER.TIME (MIN. & SEC.) to keep generating TIME SIGNAL 20.

7.10 COMMUNICATION Group

Check the Comm. Set information, plus, This group is consists of information parameter D-Register concerned communication.

- Serial Communication D-Register
- Serial Communication D-Register

D-Reg.	Symbol	Descriptions
D0801	COM2.PROTOCOL	[COM2] Communication protocol set checking
D0802	COM2.BPS	[COM2] Communication speed set checking
D0803	COM2.PARITY	[COM2] Parity set checking
D0804	COM2.STOP.BIT	[COM2] Stop Bit set checking
D0805	COM2.DATA.LENGTH	[COM2] Data Length set checking
D0806	COM2.ADDRESS	[COM2] Address set checking
D0807	COM2.RESPONSE	[COM2] Respond delay time set checking
D0808	COM4.BPS	[COM4] Communication speed set checking
D0809	SYNC.MST	SYNC Master Select (0:Unuse, 1:Use)

- Ethernet Communication D-Register

D-Reg.	Symbol	Descriptions
D0930	DHCP_USE	DHCP use mode Select (0:Unuse, 1:Use)
D0931~D0934	IP_ADDRESS1~IP_ADDRESS4	IP address Set
D0935~D0938	SUBNET_MASK1~SUBNET_MASK4	Subnet mask Set
D0939~D0942	GATEWAY1~GATEWAY4	Gateway Set

- Sync. operation D-Register

D-Reg.	Symbol	Descriptions
D0950	SCH1.SYNCMODE	[Sub Channel-1] SYNC Communication Run Select (0:Unuse, 1:Use)
.	.	.
.	.	.
.	.	.
D0955	SCH6.SYNCMODE	[Sub Channel-6]] SYNC Communication Run Select (0:Unuse, 1:Use)
D0956	SCH1.SYNCBIAS	[Sub Channel-1] SYNC Run Calibration value Set
.	.	.
.	.	.
.	.	.
D0961	SCH6.SYNCBIAS	[Sub Channel-6] SYNC Run Calibration value Set

- User schreen D-Register

D-Reg.	Symbol	Descriptions
D0970	VIEW.ROTATE	User BMP Use/Unuse Select
D0971	R.ST_TIME	Run screen, during the set time, No KEY input, Use mode start.
D0972	R.INT_TIME	User BMP switch by set time

7.11 PID Group

Set 6 Main Channel PID, Individual Sub Channel PID Set

■ Main Channel PID setting D-Register

D-Reg.	Symbol	Descriptions
D1001	MCH.RP1	Reference Point 1 (T1) to define PID ZONE.
D1002	MCH.RP2	
D1003	MCH.RP3	
D1004	MCH.RP4	
D1005	MCH.RHYS	Selects hysteresis when ZONE PID.
D1006	MCH.RDEV	Sets deviation for selecting deviation PID.
D1007	MCH.CMOD	Select the control method. (0:D.PV, 1:D.DV)
D1008	MCH.AT_POINT	Auto-tuning sets the reference value.
D1009	MCH.AT_DISPLAY	Setting to display or hide AT KEY. (0:HIDE, 1:DISPLAY)
D1010	MCH.PID_OPMODE	Select sets of PID. (0:SEG, 1:ZONE)
D1011	MCH.PID_APP	ZONE PID sets of selection criteria. (0:PV, 1:SP)
D1013	1.MCH_P	Proportional band of PID1
D1014	1.MCH_I	Integral time of PID1
D1015	1.MCH_D	Differential time of PID1
D1016	1.MCH_OH	Control Output High limit of PID1
D1017	1.MCH_OL	Control Output Low limit of PID1
D1018	1.MCH_MR	Integral time of PID1 is set manually.
D1019	1.MCH_HHYS	PID1 the ON / OFF control hysteresis High limit is set at.
D1020	1.MCH_LHYS	PID1 the ON / OFF control hysteresis at the Low setting.
.	.	.
.	.	.
.	.	.
D1053	6.MCH_P	Proportional band of PID6
D1054	6.MCH_I	Integral time of PID6
D1055	6.MCH_D	Differential time of PID6
D1056	6.MCH_OH	Control Output High limit of PID6
D1057	6.MCH_OL	Control Output Low limit of PID6
D1058	6.MCH_MR	Integral time of PID6 is set manually.
D1059	6.MCH_HHYS	PID6 the ON / OFF control hysteresis High limit is set at.
D1060	6.MCH_LHYS	PID6 the ON / OFF control hysteresis at the Low setting.

7.12 INPUT

Main Channel and Sub Channel' s Sensor Inout Setting and Zone Sensor Inout Calibration Setting

■ INPUT setting D-Register

D-Reg.	Symbol	Descriptions
D1201	MCH.SENGP	Select the sensor group. (0:T/C, 1:RTD, 2:DCV)
D1202	MCH.SENTP	Sets the type of sensor.
D1203	MCH.UNIT	Sets the sensor unit.
D1204	MCH.DP	Set demical point position.
D1205	MCH.TCSL	T/C select show (0:T/C, 1:T/C+RJC, 2:RJC)
D1206	MCH.SOPN_SEL	Sensors-open, pv direction select (0:UNSET, 1:UP, 2:DOWN)
D1207	MCH.INRH	Set Upper limit range of use.
D1208	MCH.INRL	Set Lower limit range of use.
D1209	MCH.BIAS	Set whole range Calibration value.
D1210	MCH.INFL	Removes noise when measuring input includes noise of high frequency.
D1211	MCH.INSH	Scale Upper limit set.
D1212	MCH.INSL	Scale Loew limit set.
D1213~D1220	BP1.MCHDDV~BP8.MCHDDV	Set calibration temperature on each standard temperature.
D1221~D1228	BP1.MCHDPV~BP8.MCHDPV	Set each standard temperature which need calibration.
D1229~D1230	MCHUNITNAME1~MCHUNITNAME2	[Main Channel] Unit name Set

■ Sub Channel Sensor Inout D-Register

D-Reg.	Symbol	Descriptions
D1233	SCH1.SENTP	[Sub Channel-1] Sensor Types Set
D1234	SCH1.TCSL	[Sub Channel-1] Thermocouple (T/C) display mode Select (0:T/C, 1:T/C+RJC, 2:RJC)
D1235	SCH1.SOPN_SEL	[Sub Channel-1] When Sensor open, PV direction Select (0:NS, 1:UP, 2:DOWN)
D1236	SCH1.INRH	[Sub Channel-1] Category Temperature Range upper limit value Set
D1237	SCH1.INRL	[Sub Channel-1] Category Temperature Range lower limit value Set
D1238	SCH1.BIAS	[Sub Channel-1] Whole Temperature Range Calibration value Set
D1239	SCH1.INFL	[Sub Channel-1] Input noise removal
D1240	SCH1.INSH	[Sub Channel-1] Scale upper limit value Set
D1241	SCH1.INSL	[Sub Channel-1] Scale lower limit value Set
D1242~D1247	BP1.SCH1DDV~BP6.SCH1DDV	[Sub Channel-1] each St' d temperature, Calibration temperature Set
D1248~D1253	BP1.SCH1DPV~BP6.SCH1DPV	[Sub Channel-1] Set each st' d temperature which needed calibration
.	.	.
.	.	.
D1275	SCH3.SENTP	[Sub Channel-3] Sensor Types Set
D1276	SCH3.TCSL	[Sub Channel-3] Thermocouple (T/C) display mode Select (0:T/C, 1:T/C+RJC, 2:RJC)
D1277	SCH3.SOPN_SEL	[Sub Channel-3] Sensor open, PV direction Select (0:NS, 1:UP, 2:DOWN)
D1278	SCH3.INRH	[Sub Channel-3] Category Temperature Range upper limit value Set
D1279	SCH3.INRL	[Sub Channel-3] Category Temperature Range lower limit

		value Set
D1280	SCH3.BIAS	[Sub Channel-3] Whole Temperature Range Calibration value Set
D1281	SCH3.INFL	[Sub Channel-3] Input noise removal.
D1282	SCH3.INSH	[Sub Channel-3] Scale upper limit value Set
D1283	SCH3.INSL	[Sub Channel-3] Scale lower limit value Set
D1284-D1289	BP1.SCH3DDV~BP6.SCH3DDV	[Sub Channel-3] each St' d temperature, Calibration temperature Set
D1290-D1295	BP1.SCH3DPV~BP6.SCH3DPV	[Sub Channel-3] Set each st' d temperature which needed calibration

D-Reg.	Symbol	Descriptions
D1301	SCH4.SENTP	[Sub Channel-4] Sensor Types Set
D1302	SCH4.TCSL	[Sub Channel-4] Thermocouple (T/C) display mode Select (0:T/C, 1:T/C+RJC, 2:RJC)
D1303	SCH4.SOPN_SEL	[Sub Channel-4] When Sensor open, PV direction Select (0:NS, 1:UP, 2:DOWN)
D1304	SCH4.INRH	[Sub Channel-4] Category Temperature Range upper limit value Set
D1305	SCH4.INRL	[Sub Channel-4] Category Temperature Range lower limit value Set
D1306	SCH4.BIAS	[Sub Channel-4] Whole Temperature Range Calibration value Set
D1307	SCH4.INFL	[Sub Channel-4] Input noise removal
D1308	SCH4.INSH	[Sub Channel-4] Scale upper limit value Set
D1309	SCH4.INSL	[Sub Channel-4] Scale lower limit value Set
D1310-D1315	BP1.SCH4DDV~BP6.SCH4DDV	[Sub Channel-4] each St' d temperature, Calibration temperature Set
D1316-D1321	BP1.SCH4DPV~BP6.SCH4DPV	[Sub Channel-4] Set each st' d temperature which needed calibration
.	.	.
.	.	.
.	.	.
D1343	SCH6.SENTP	[Sub Channel-6] Sensor Types Set
D1344	SCH6.TCSL	[Sub Channel-6] Thermocouple (T/C) display mode Select (0:T/C, 1:T/C+RJC, 2:RJC)
D1345	SCH6.SOPN_SEL	[Sub Channel-6] Sensor open, PV direction Select (0:NS, 1:UP, 2:DOWN)
D1346	SCH6.INRH	[Sub Channel-6] Category Temperature Range upper limit value Set
D1347	SCH6.INRL	[Sub Channel-6] Category Temperature Range lower limit value Set
D1348	SCH6.BIAS	[Sub Channel-6] Whole Temperature Range Calibration value Set
D1349	SCH6.INFL	[Sub Channel-6] Input noise removal.
D1350	SCH6.INSH	[Sub Channel-6] Scale upper limit value Set
D1351	SCH6.INSL	[Sub Channel-6] Scale lower limit value Set
D1352-D1357	BP1.SCH6DDV~BP6.SCH6DDV	[Sub Channel-6] each St' d temperature, Calibration temperature Set
D1358-D1363	BP1.SCH6DPV~BP6.SCH6DPV	[Sub Channel-6] Set each st' d temperature which needed calibration
D1372	SCH1.INDP	[Sub Channel-1] Set Demical point
.	.	.
.	.	.
.	.	.
D1377	SCH6.INDP	[Sub Channel-6] Set Demical point

7.13 OUTPUT

ControlOutput and Transmit Output Set

■ Main Channel ControlOutput and Transmit Output D-Register

D-Reg.	Symbol	Descriptions
D1401	OUT1.MODE	OUT1 ControlOutput Types Select (0:SSR, 1:SCR)
D1402	OUT2.MODE	OUT2 ControlOutput Types Select (0:SSR, 1:SCR)
D1403	OUT1.TYPE	OUT1 Output Types Select
D1404	OUT2.TYPE	OUT2 Output Types Select
D1407	MCH.DIR	Run direction Select (0:Reverse, 1:Normal)
D1408	MCH.UOPPR	Control Output Up slope Set
D1409	MCH.DNOPR	Control Output Down slope Set
D1410	MCH.CT	Outputcycle Set
D1411	MCH.PO	In emergency case, Output value Set
D1412	MCH.ATG	Set GAIN value which controls PID value manually
D1413	MCH.ARW	Prevention too much integralvalue Set
D1414	MCH.RETT	Transmit Output Types Select (0:PV, 1:SP, 2:MV)
D1415	MCH.RETH	Transmit Output Range upper limit value Set
D1416	MCH.RETL	Transmit Output Range lower limit value Set

■ Sub Channel ControlOutput D-Register

D-Reg.	Symbol	Descriptions
D1422	SCH1.MODE	[Sub Channel-1] ControlOutput Types Select (0:SSR, 1:SCR)
D1423	SCH1.DIR	[Sub Channel-1] Run(operation) mode direction Select (0:Reverse, 1:Normal)
D1424	SCH1.UOPPR	[Sub Channel-1] Control Output Up slope Set
D1425	SCH1.DNOPR	[Sub Channel-1] Control Output Down slope Set
D1426	SCH1.CT	[Sub Channel-1] Outputcycle Set
D1427	SCH1.PO	[Sub Channel-1] In emergency case, Output value Set
D1428	SCH1.ATG	[Sub Channel-1] Set GAIN value which controls PID value manually
D1429	SCH1.ARW	[Sub Channel-1] Prevention too much integralvalue Set
.	.	.
.	.	.
.	.	.
D1462	SCH6.MODE	[Sub Channel-6] ControlOutput Types Select (0:SSR, 1:SCR)
D1463	SCH6.DIR	[Sub Channel-6] Run(operation) mode direction Select (0:Reverse, 1:Normal)
D1464	SCH6.UOPPR	[Sub Channel-6] Control Output Up slope Set
D1465	SCH6.DNOPR	[Sub Channel-6] Control Output Down slope Set
D1466	SCH6.CT	[Sub Channel-6] Outputcycle Set
D1467	SCH6.PO	[Sub Channel-6] In emergency case, Output value Set
D1468	SCH6.ATG	[Sub Channel-6] Set GAIN value which controls PID value manually
D1469	SCH6.ARW	[Sub Channel-6] Prevention too much integralvalue Set

7.14 DO CONFIG Group

DO CONFIG group consists of setting and information parameter D-Register related to establish RELAY number on I/O board to generate signal and its sub setting for auxiliary Digital Output.

■ DO CONFIG setting and information D-Register

D-Reg.	Symbol	Descriptions
D1501~D1508	MCHIS1.RLY~MCHIS8.RLY	Set INNER SIGNAL output RELAY Number
D1509~D1516	MCHTS1.RLY~MCHTS8.RLY	Set Time SIGNAL output RELAY Number
D1517~D1520	MCHALM1.RLY~MCHALM4.RLY	Set Alram SIGNAL output RELAY Number
D1521~D1524	MCHSA1.RLY~MCHSA4.RLY	Set RELAY No. on I/O SEGMENT ALARM SIGNAL.
D1525~D1538	MCHT1.RLY~MCHT7.DYT	Set RELAY No.on I/O and DELAY TIME for ON/OFF SIGNAL.
D1539,D1540	MCHRUN.RLY,MCHRUN.DYT	Set RELAY No.on I/O and DELAY TIME for RUN SIGNAL.
D1541,D1542	MCHSOPN.RLY,MCHSOPN.KPT	Set RLY No.on I/O and KEEP TIME for SENSOR-OPEN SIGNAL.
D1543,D1544	MCHWAIT.RLY,MCHWAIT.KPT	Set REALY No.on I/O and KEEP TIME for WAIT SIGNAL.
D1545~D1547	MCHFEND.RLY~MCHFEND.KPT	Set RELAY No.on I/O and DEVIATION for UP SIGNAL.
D1548~D1550	MCHPTEND.RLY~MCHPTEND.KPT	Set REALY No.on I/O and KEEP TIME for SOAK SIGNAL.
D1551~D1553	MCHUP.RLY~MCHUP.DEVSEL	Set RELAY No.on I/O and DEVIATION for DOWN SIGNAL
D1554,D1555	MCHSOAK.RLY,MCHSOAK.KPT	Set RLY No.on I/O and KEEP TIME for FIX-END SIGNAL.
D1556~D1558	MCHDOWN.RLY~MCHDOWN.DEVSEL	Set RLY No.on I/O and KEEP TIME for PROGRAM PTN-END SIGNAL.
D1559,D1560	MCHERROR.RLY,MCHERROR.KPT	Set RELAY No.on I/O and DELAY TIME for 1 st Refrigerator oper.
D1561,D1562	MCH1REF.RLY,MCH1REF.DYT	Set RELAY No.on I/O and DELAY TIME for 2 nd Refrigerator oper.
D1563,D1564	MCH2REF.RLY,MCH2REF.DYT	Set REALY No.on I/O and KEEP TIME for ERROR SIGNAL.
D1565	UKEY.RLY	Set RELAY No.on I/O for USER KEY SIGNAL.
D1566~D1581	DI1.RLY~DI16.RLY	When DI occur, Output Relay number Set
D1582~D1593	USER.RLY1~USER.RLY12	Manualy, Output Relay number Set
D1594	USER.RLY_ON/OFF	Manualy, Output Relay Select
D1595~D1598	MCHFIXTIMER.RLY~ MCHFIXTIMER.OPT	When Fix Run maintain, Signal Output Relay number, Delay time and running time Set
D1599	MCHHBA.RLY	HBA Signal Output Relay number Set
D1601~D1612	SCH1AL1.RLY~SCH6AL2.RLY	Sub Channel Alram Signal Output Relay number Set
D1613~D1618	SCH1HAB.RLY~SCH6HBA.RLY	Sub Channel HBA Signal Output Relay number Set
D1620~D1631	LOG.OURTRY1~LOG.OPERAND3	Arithmetic Relay 1/2 number, Arithmetic, and Arithmetic Output Relay number Set

7.15 DI CONFIG

DI CONFIG group consists of setting parameter D-Register for DI ERROR and its name.

■ DI CONFIG setting D-Register

D-Reg.	Symbol	Descriptions
D1701	DISP.METHOD	DISPLAY METHOD for DI ERROR. (0:TEXT, 1:PICTURE)
D1702	BUZ.TIME	Sets time for DI Error buzzer.
D1703	DIDEC.TIME	DETECT TIME to recognize DI ERROR from actual occurrence
D1704	DI1.OP_MODE	Select OPERATION MODE when DI 1 ON. (0:ERROR, 1:RUN/STOP)
D1705	DI2.OP_MODE	Select OPERATION MODE when DI 2 ON. (0:ERROR, 1:HOLD)
D1706	DI3.OP_MODE	Select OPERATION MODE when DI 3 ON. (0:ERROR, 1:STEP)
D1707	DI4.OP_MODE	Select OPERATION MODE when DI 4 ~ 16 ON (0:ERROR, 1:PATTERN SELECTION)
D1708,D1709	DI1.OP,DI1.DYT	Set DI 1 OPERATION after detecting and DELAY TIME
.	.	.
D1738,D1739	DI16.OP,DI16.DYT	Set DI 1 OPERATION after detecting and DELAY TIME
D1652~D1667	DI1.DETECT~DI16.DETECT	Set DI 1 ERROR NAME.
D1801~D1812	DI1.NAME1~DI1.NAME12	.
.	.	.
D1985~D1996	DI16.NAME1~DI16.NAME12	Set DI16 ERROR NAME

7.16 INITIAL Group

INITIAL group consists of setting parameter D-Register for system initial configuration.

■ INITIAL setting D-Register

D-Reg.	Symbol	Descriptions
D2001	LANGUAGE	Language Select
D2002	DISP.MODE	Select Display mode on initial screen (0:text, 1:image)
D2003	UKEY.USE	ser key use (0:Unuse, 1:Use)
D2006~D2018	INFORM1.NAME1 ~INFORM1.NAME13	Set Information 1 's name of initial screen
.	.	.
.	.	.
.	.	.
D2032~D2044	INFORM3.NAME1 ~INFORM3.NAME13	Set Information 3 's name of initial screen
D2100~D2150	MCH.LAMP_IS1 ~MCH.LAMP_DI16	[Main Channel] Status display ramp Set
D2151~D2162	SCH1.LAMP_AL1 ~SCH6.LAMP_AL2	[Sub Channel] Status display ramp Set

7.17 PROGRAM PATTERN Group and Setting

7.17.1 PROGRAM

PROGRAM group consists of parameter D-Register to arrange program PATTERN organized by each segment profile. Each segment should be established step by step.

■ Program PATTERN setting D-Register

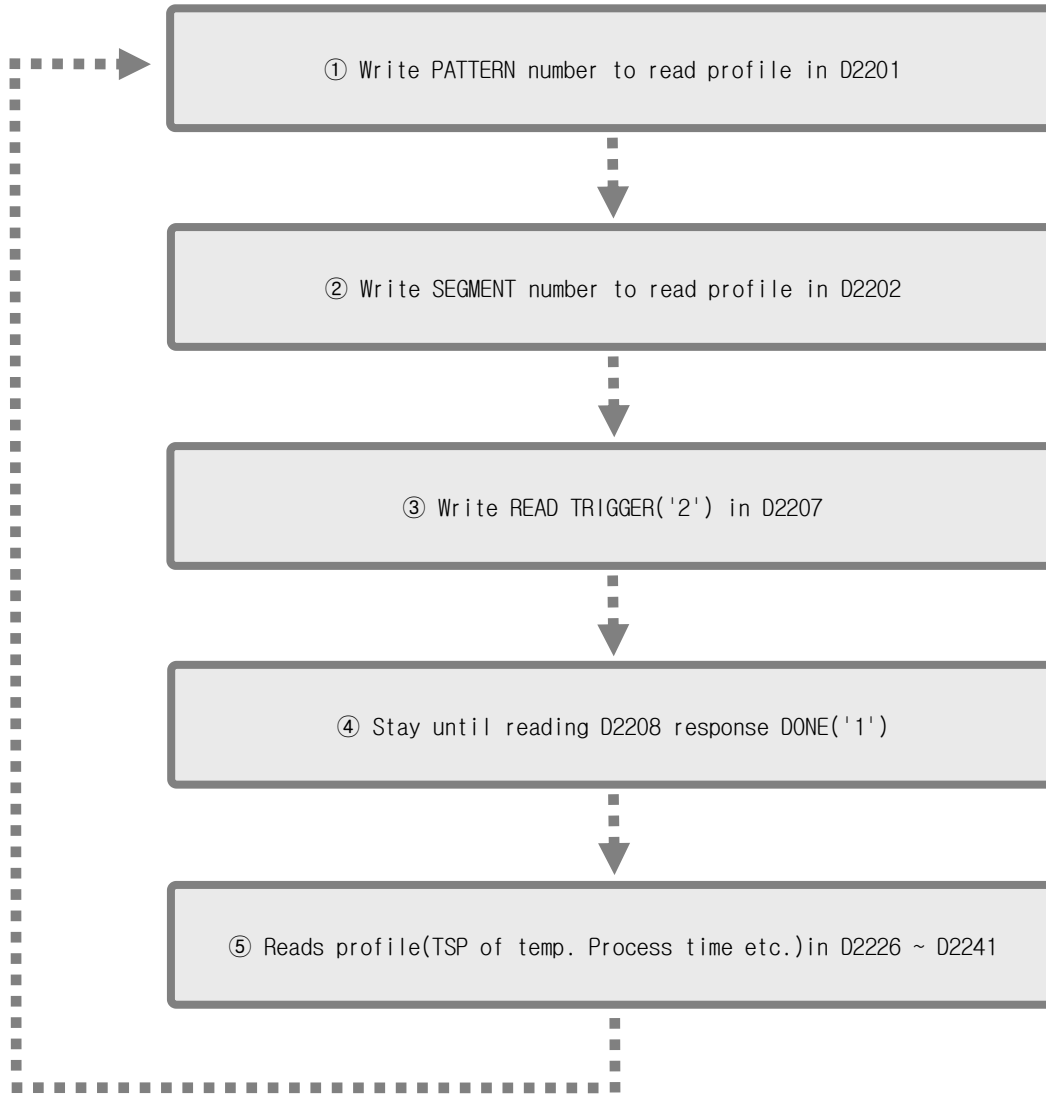
D-Reg.	Symbol	Range	Description
D2201	COM_PTNO	1~40	Program PATTERN number to Read or Write
D2202	COM_SEGNO	0	To Read or Write in D2145~D2167
		1~99	Segment number to Read or Write
D2203	PTCOPY_START	-	First target (START) pattern number to paste
D2204	PTCOPY_END	-	Last target (END) pattern number to paste
D2205	PTDEL_START	-	First target (START) pattern number to delete
D2206	PTDEL_END	-	Last target (END) pattern number to delete
D2207	TRIGGER	1	INIT : Initialize D2101~D2108 to '0'
		2	READ : Read profiles in D2101 and D2102
		3	WRITE : Write profiles in D2101 and D2102
		4	PT COPY : Copy PTN in D2101 to PTN designated in D2103~2104
		5	PT DEL : Delete PTN designated in D2105~D2106
		6	PT NAME READ : Read PTN NAME in D2101
		7	PT NAME WRITE : Write PTN NAME in D2101
		8	ALL PT : Write pattern profile at D2101 into D2300
D2208	ANSWER	0	FULL : Excessive number of pattern or segment setting
		1	DONE : Normally accessed of D2107(TRIGGER) command
		2	PT EMPTY : No profile in designated pattern
		3	SEG EMPTY : No profile in designated segment
		4	PT RUN : Program RUN state of designated PTN
		5	PARA ERROR : Program setting Error of D2101~D2107
D2211~D2222	PATTERN_NAME1~12	-	Pattern NAME to Read or Write
D2226	TSP	-	Target Set Point(TSP) to Read or Write
D2227	SEG.TIME_H	-	Target Process time (HOUR) of segment to Read or Write
D2228	SEG.TIME_L	-	Target Process time (MIN & SEC) of segment to Read or Write
D2229	TS1	-	TS1 to Read or Write
D2230	TS2	-	TS2 to Read or Write
D2231	TS3	-	TS3 to Read or Write
D2232	TS4	-	TS4 to Read or Write
D2233	TS5	-	TS5 to Read or Write
D2234	TS6	-	TS6 to Read or Write
D2235	TS7	-	TS7 to Read or Write
D2236	TS8/AUX_OUT	-	TS8 or AUX to Read or Write
D2237	SEGAL1	-	SEGMENT ALARM1 to Read or Write
D2238	SEGAL2	-	SEGMENT ALARM2 to Read or Write
D2239	SEGAL3	-	SEGMENT ALARM3 to Read or Write
D2240	SEGAL4	-	SEGMENT ALARM4 to Read or Write
D2241	SEG_PID	-	SEGMENT PID to Read or Write

■ PROGRAM and its REPEAT operation setting D-Register

D-Reg.	Symbol	Descriptions
D2245	START.CODE	START CODE for operation (0:TPV, 1:SPV, 2:SSP)
D2246	START.SP	START SSP
D2250	PT.RPT	Count number for PATTERN REPEAT (0:Infinitely, 1 ~ 999)
D2251	PT.EMOD	PATTERN END MODE (0:RESET, 1:SEG HOLD, 2:LINK RUN)
D2252	LINK.PT	LINK PATTERN (1 ~ 80)
D2256	SEG_RPT.S1	SEGMENT START-1
D2257	SEG_RPT.E1	SEGMENT END-1
D2258	SEG_RPT.C1	SEGMENT COUNT-1
D2259	SEG_RPT.S2	SEGMENT START-2
D2260	SEG_RPT.E2	SEGMENT END-2
D2261	SEG_RPT.C2	SEGMENT COUNT-2
D2262	SEG_RPT.S3	SEGMENT START-3
D2263	SEG_RPT.E3	SEGMENT END-3
D2264	SEG_RPT.C3	SEGMENT COUNT-3
D2265	SEG_RPT.S4	SEGMENT START-4
D2266	SEG_RPT.E4	SEGMENT END-4
D2267	SEG_RPT.C4	SEGMENT COUNT-4

7.17.2 How to READ program PATTERN

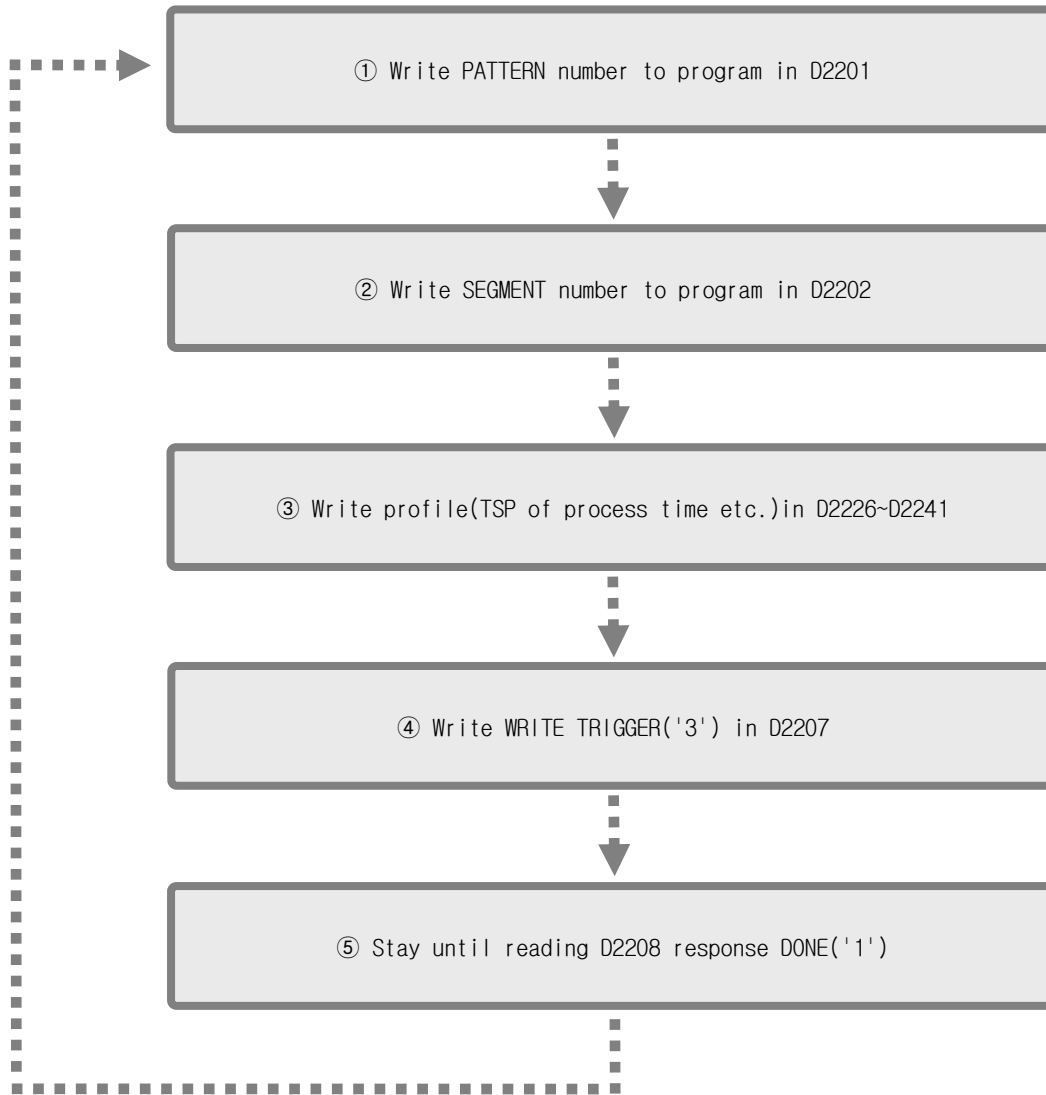
▶ Below describes process step to read programmed PATTERN profile in TEMP2500M.



Above process step ① ~ ⑤ is used to read 'ONE SEGMENT' profile among all in programmed pattern. To read many segments, reiterate ① ~ ⑤ process step by changing segment number. Setting '0' in D2202 at process step ② will read profile in D2245 ~ D2267.

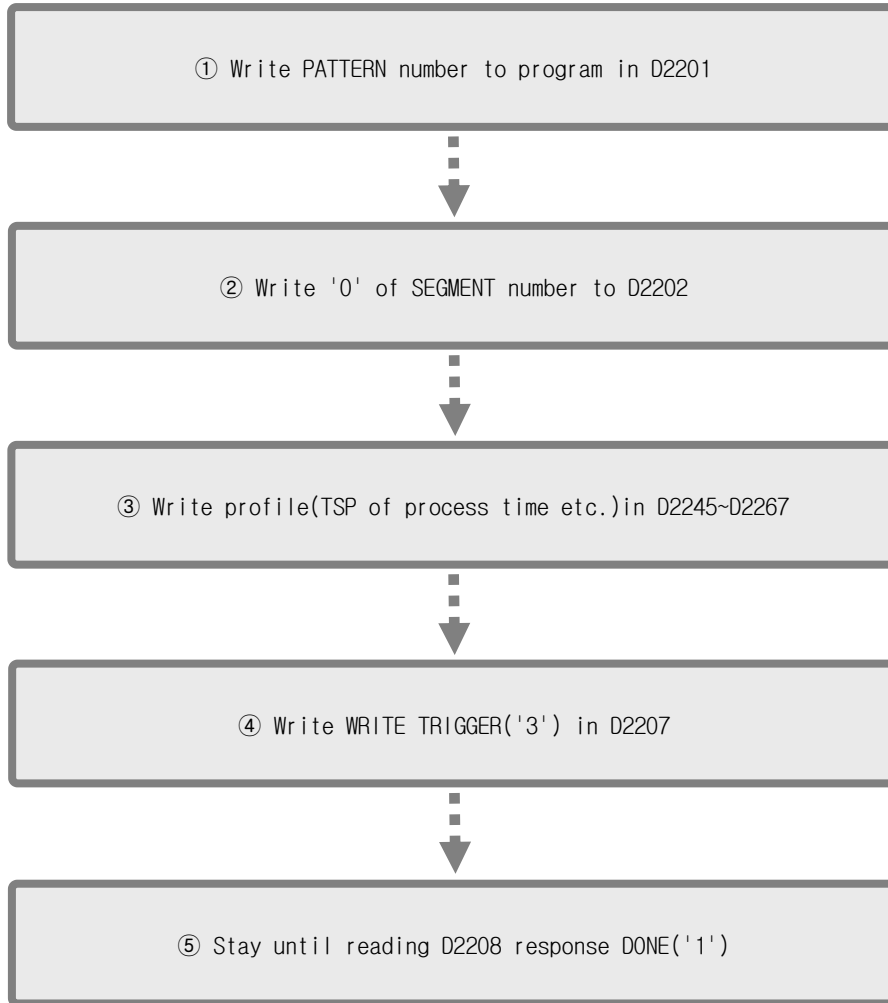
7.17.3 WRITE PROGRAM PATTERNS

▶ Below describes process step to write programming PATTERN profile in TEMP2500M.



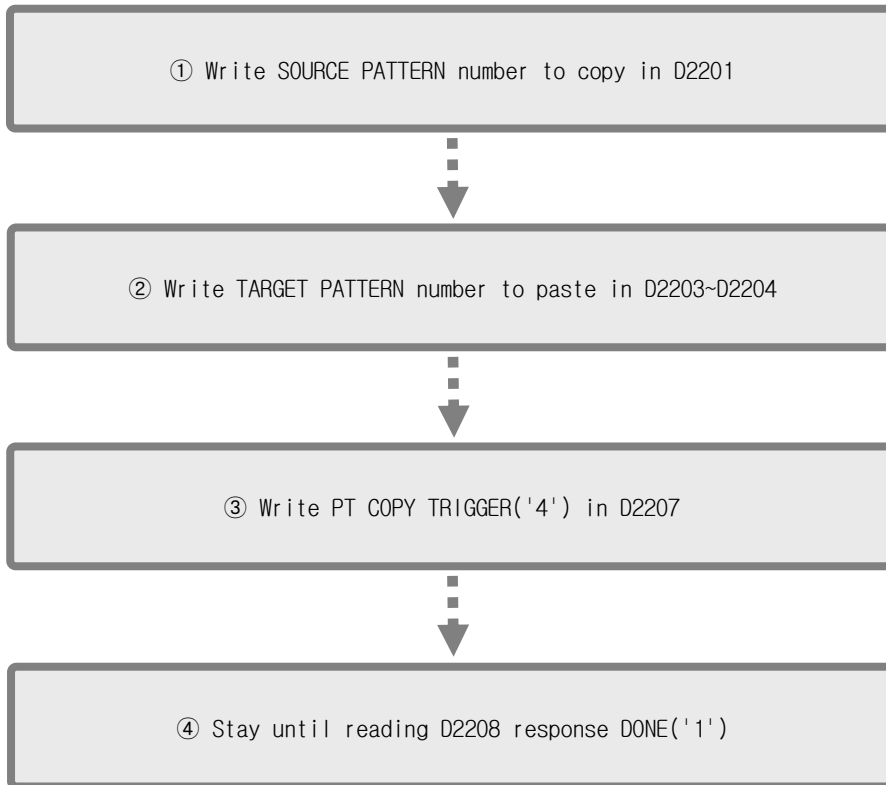
Above process step ① ~ ⑤ is used to write 'ONE SEGMENT' profile among all in programmed pattern. Reiterate ① ~ ⑤ process step by changing segment number to write many segments.

► Below describes process step to write program in D2245-D2267

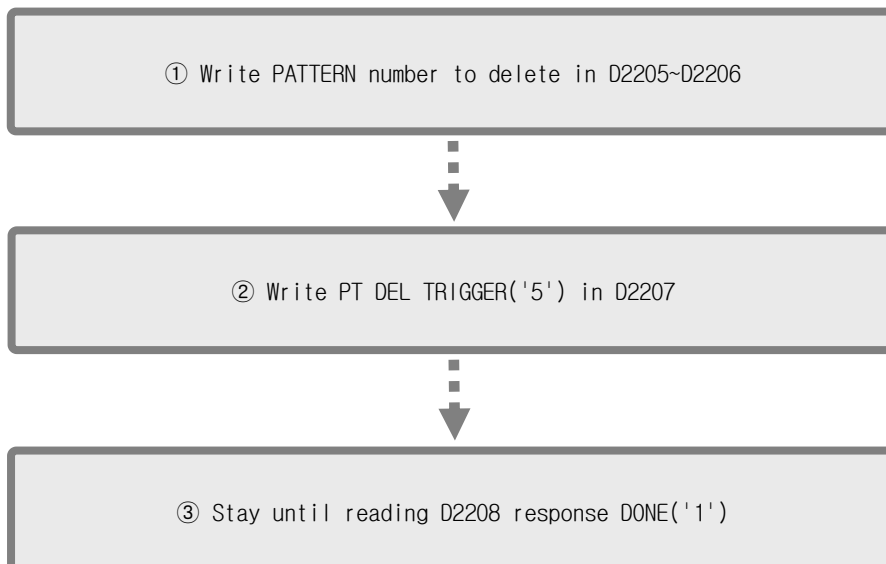


7.17.4 FILE EDIT (PATTERN COPY / DELETE)

► Below describes step to copy pattern.



► Below describes step to delete pattern.



7.18 PATTERN INFO

PATTERN INFO group consists of programmed pattern and segment information parameter D-Register.

■ Programmed pattern and segment information D-Register

D-Reg.	Symbol	Descriptions
D2301	NPT1	The number of programmed SEGMENT in PATTERN no.1
.	.	.
.	.	.
D2340	NPT40	The number of programmed SEGMENT in PATTERN no.80

7.19 FILE

FILE group consists of profile information of programmed pattern parameter D-Register.

■ FILE information D-Register

D-Reg.	Symbol	Descriptions
D2401~D2499	C.TSP1~C.TSP99	Disply SP in reading pattern.
D2501~D2599	C.SRTIME_H1~C.SRTIME_H99	Disply Total operation time (Hour) in reading pattern.
D2601~D2699	C.SRTIME_L1~C.SRTIME_L99	Disply Total operation time (Minute&Second) in reading pattern.
D2701~D2799	C.TS1_1~C.TS1_99	Disply TS(Tims Signal)1 in reading pattern.
D2801~D2899	C.TS2_1~C.TS2_99	Disply TS2 in reading pattern.
D2901~D2999	C.TS3_1~C.TS3_99	Disply TS3 in reading pattern.
D3001~D3099	C.TS4_1~C.TS4_99	Disply TS4 in reading pattern.
D3101~D3199	C.TS5_1~C.TS5_99	Disply TS5 in reading pattern.
D3201~D3299	C.TS6_1~C.TS6_99	Disply TS6 in reading pattern.
D3301~D3399	C.TS7_1~C.TS7_99	Disply TS7 in reading pattern.
D3401~D3499	C.TS8_1~C.TS8_99	Disply TS8 or AUX(auxiliaries) in reading pattern.
D3501~D3599	C.SEGAL1_1~C.SEGAL1_99	Disply SEGMENT ALARM1 in reading pattern.
D3601~D3699	C.SEGAL2_1~C.SEGAL2_99	Disply SEGMENT ALARM2 in reading pattern.
D3701~D3799	C.SEGAL3_1~C.SEGAL3_99	Disply SEGMENT ALARM3 in reading pattern.
D3801~D3899	C.SEGAL4_1~C.SEGAL4_99	Disply SEGMENT ALARM4 in reading pattern.
D3901~D3999	C.SEGPID_1~C.SEGPID_99	Disply SEGMENT PID in reading patten.

D-Register 0000 ~ 0599

: Read Only

D-Reg.	PROCESS	FUNCTION	GRAPH	RESERVE	ON/OFF SIGNAL	INNER SIGNAL
	0	100	200	300	400	500
0		MCH.SET_PTNO	RECORD_PLACE	MCHRESERVE		
1	MCH.NPV	MCH.COM_OPMODE	RECORD_MODE	NOW.YEAR	T1.LSP	IS1.TYPE
2	MCH.NSP	MCH.FIXTSP	SAMPLING_TIME	NOW.MONTH	T1.MSP	IS1.BAND
3	MCH.MVOUT	SCH1.FIXTSP	GPEN1.SELECT	NOW.DAY	T1.HSP	IS1.RH
4	MCH.HEATOUT	SCH2.FIXTSP	GPEN1.NAME1	NOW.AMPM	T1.HDV	IS1.RL
5	MCH.COOLOUT	SCH3.FIXTSP	GPEN1.NAME2	NOW.HOUR	T1.LDV	IS1.DYT
6	SCH1.NPV	SCH4.FIXTSP	GPEN1.NAME3	NOW.MIN	T2.LSP	IS2.TYPE
7	SCH2.NPV	SCH5.FIXTSP	GPEN1.NAME4	C.YEAR	T2.MSP	IS2.BAND
8	SCH3.NPV	SCH6.FIXTSP	GPEN1.SCHNO	C.MONTH	T2.HSP	IS2.RH
9	SCH4.NPV	MCH.OPMODE	GPEN2.SELECT	C.DAY	T2.HDV	IS2.RL
10	SCH5.NPV		GPEN2.NAME1	C.AMPM	T2.LDV	IS2.DYT
11	SCH6.NPV		GPEN2.NAME2	C.HOUR	T3.LSP	IS3.TYPE
12	SCH1.NSP		GPEN2.NAME3	C.MIN	T3.MSP	IS3.BAND
13	SCH2.NSP		GPEN2.NAME4	MCHR.YEAR	T3.HSP	IS3.RH
14	SCH3.NSP		GPEN2.SCHNO	MCHR.MONTH	T3.HDV	IS3.RL
15	SCH4.NSP		GPEN3.SELECT	MCHR.DAY	T3.LDV	IS3.DYT
16	SCH5.NSP	MCH.PWRMODE	GPEN3.NAME1	MCHR.AMPM	T4.LSP	IS4.TYPE
17	SCH6.NSP	MCH.SLOPE	GPEN3.NAME2	MCHR.HOUR	T4.MSP	IS4.BAND
18	SCH1.MVOUT	SCH1.SLOPE	GPEN3.NAME3	MCHR.MIN	T4.HSP	IS4.RH
19	SCH2.MVOUT	SCH2.SLOPE	GPEN3.NAME4		T4.HDV	IS4.RL
20	SCH3.MVOUT	SCH3.SLOPE	GPEN3.SCHNO	MCH_TIME_VALID	T4.LDV	IS4.DYT
21	SCH4.MVOUT	SCH4.SLOPE	GPEN4.SELECT	MCH_START_YEAR	T5.LSP	IS5.TYPE
22	SCH5.MVOUT	SCH5.SLOPE	GPEN4.NAME1	MCH_START_MON	T5.MSP	IS5.BAND
23	SCH6.MVOUT	SCH6.SLOPE	GPEN4.NAME2	MCH_START_DAY	T5.HSP	IS5.RH
24	MCH.NOWSTS	MCH.FUZZY	GPEN4.NAME3	MCH_START_HOUR	T5.HDV	IS5.RL
25	SCH1.NOWSTS	SCH1.FUZZY	GPEN4.NAME4	MCH_START_MIN	T5.LDV	IS5.DYT
26	SCH2.NOWSTS	SCH2.FUZZY	GPEN4.SCHNO	MCH_END_YEAR	T6.LSP	IS6.TYPE
27	SCH3.NOWSTS	SCH3.FUZZY	GPEN5.SELECT	MCH_END_MON	T6.MSP	IS6.BAND
28	SCH4.NOWSTS	SCH4.FUZZY	GPEN5.NAME1	MCH_END_DAY	T6.HSP	IS6.RH
29	SCH5.NOWSTS	SCH5.FUZZY	GPEN5.NAME2	MCH_END_HOUR	T6.HDV	IS6.RL
30	SCH6.NOWSTS	SCH6.FUZZY	GPEN5.NAME3	MCH_END_MIN	T6.LDV	IS6.DYT
31	MCH.ISSTS	MCH.TIMEOP	GPEN5.NAME4			IS7.TYPE
32	MCH.TSSTS	MCH.TIME_HOUR	GPEN5.SCHNO			IS7.BAND
33	MCH.ALSTS	MCH.TIME_MIN	GPEN6.SELECT			IS7.RH
34	MCH.SEGALMSTS	LIGHT.OFFTM	GPEN6.NAME1			IS7.RL
35	MCH.ONOFFSTS	KEYLOCK	GPEN6.NAME2			IS7.DYT
36	MCH.ADERRSTS	MCH.AT	GPEN6.NAME3			IS8.TYPE
37	MCH.DIDATA	SCH1.AT	GPEN6.NAME4			IS8.BAND
38	MCH.DOSTS1	SCH2.AT	GPEN6.SCHNO			IS8.RH
39	MCH.DOSTS2	SCH3.AT				IS8.RL
40	MCH.DOCTRSTS	SCH4.AT				IS8.DYT
41	MCH.CTRSTS	SCH5.AT				
42	MCH.SYSSTS	SCH6.AT				
43	SCH.CUSTS	USERKEY				
44	MCH.CPIDNO	BUZ.ONOFF				
45	MCH.RUNTIME_H					
46	MCH.RUNTIME_M	SCH1.UTAGNAME1				
47	MCH.RUNTIME_S	SCH1.UTAGNAME2				
48	MCH.PTNO	SCH1.UTAGNAME3				
49	MCH.SEGNO	SCH1.UTAGNAME4				

D-Reg.	PROCESS	FUNCTION	GRAPH	RESERVE	ON/OFF SIGNAL	INNER SIGNAL
	0	100	200	300	400	500
50	MCH.NOWPT_RPT	SCH2.UTAGNAME1				
51	MCH.TOTPT_RPT	SCH2.UTAGNAME2				
52	MCH.NOWSEG_RPT	SCH2.UTAGNAME3				
53	MCH.TOTSEG_RPT	SCH2.UTAGNAME4				
54	MCH.NOWSEGTM_L	SCH3.UTAGNAME1				
55	MCH.NOWSEGTM_H	SCH3.UTAGNAME2				
56	MCH.TOTSEGTM_L	SCH3.UTAGNAME3				
57	MCH.TOTSEGTM_H	SCH3.UTAGNAME4				
58	MCH.PREV_TSP	SCH4.UTAGNAME1				
59	MCH.NOW_TSP	SCH4.UTAGNAME2				
60	MCH.AUXOUT	SCH4.UTAGNAME3				
61		SCH4.UTAGNAME4				
62	USED PATTERN	SCH5.UTAGNAME1				
63	USED SEGMENT	SCH5.UTAGNAME2				
64	MCH.HBCD	SCH5.UTAGNAME3				
65	SCH1.HBCD	SCH5.UTAGNAME4				
66	SCH2.HBCD	SCH6.UTAGNAME1				
67	SCH3.HBCD	SCH6.UTAGNAME2				
68	SCH4.HBCD	SCH6.UTAGNAME3				
69	SCH5.HBCD	SCH6.UTAGNAME4				
70	SCH6.HBCD					
71						
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83						
84						
85						
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89						
90		MCH.WAIT_USE				
91		MCH.WAIT_ZONE				
92		MCH.WAIT_TIME				
93		MCH.WAIT_METHOD				
94						
95						
96						
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98						
99						

D-Register 0600 ~ 1199

D-Reg.	ALARM SIGNAL	SEG ALARM	TIME SIGNAL	COMMUNICATION	PID 1	PID 2
	600	700	800	900	1000	1100
0						
1	MCHALM.OP	MCHSA1.TYPE	TS2DYTM_H	COM2.PROTOCOL	MCH.RP1	SCH1.P
2	MCHALM1.TYPE	MCHSA1.POINT	TS2DYTM_L	COM2.BPS	MCH.RP2	SCH1.I
3	MCHALM1.POINT	MCHSA1.H_POINT	TS2KPTM_H	COM2.PARITY	MCH.RP3	SCH1.D
4	MCHALM1.H_POINT	MCHSA1.L_POINT	TS2KPTM_L	COM2.STOP.BIT	MCH.RP4	SCH1.OH
5	MCHALM1.L_POINT	MCHSA1.HYS	TS3DYTM_H	COM2.DATA.LENG	MCH.RHYS	SCH1.OL
6	MCHALM1.HYS	MCHSA1.DYT	TS3DYTM_L	COM2.ADDRESS	MCH.RDEV	SCH1.MR
7	MCHALM1.DYT	MCHSA2.TYPE	TS3KPTM_H	COM2.RESPONSE	MCH.CMOD	SCH2.P
8	MCHALM2.TYPE	MCHSA2.POINT	TS3KPTM_L		MCH.AT_POINT	SCH2.I
9	MCHALM2.POINT	MCHSA2.H_POINT	TS4DYTM_H		MCHAT_DISPLAY	SCH2.D
10	MCHALM2.H_POINT	MCHSA2.L_POINT	TS4DYTM_L		MCH.PID_OPMODE	SCH2.OH
11	MCHALM2.L_POINT	MCHSA2.HYS	TS4KPTM_H		MCH.PID_APP	SCH2.OL
12	MCHALM2.HYS	MCHSA2.DYT	TS4KPTM_L			SCH2.MR
13	MCHALM2.DYT	MCHSA3.TYPE	TS5DYTM_H		1.MCH_P	SCH3.P
14	MCHALM3.TYPE	MCHSA3.POINT	TS5DYTM_L		1.MCH_I	SCH3.I
15	MCHALM3.POINT	MCHSA3.H_POINT	TS5KPTM_H		1.MCH_D	SCH3.D
16	MCHALM3.H_POINT	MCHSA3.L_POINT	TS5KPTM_L		1.MCH_OH	SCH3.OH
17	MCHALM3.L_POINT	MCHSA3.HYS	TS6DYTM_H		1.MCH_OL	SCH3.OL
18	MCHALM3.HYS	MCHSA3.DYT	TS6DYTM_L		1.MCH_MR	SCH3.MR
19	MCHALM3.DYT	MCHSA4.TYPE	TS6KPTM_H		1.MCH_HHYS	SCH4.P
20	MCHALM4.TYPE	MCHSA4.POINT	TS6KPTM_L		1.MCH_LHYS	SCH4.I
21	MCHALM4.POINT	MCHSA4.H_POINT	TS7DYTM_H		2.MCH_P	SCH4.D
22	MCHALM4.H_POINT	MCHSA4.L_POINT	TS7DYTM_L		2.MCH_I	SCH4.OH
23	MCHALM4.L_POINT	MCHSA4.HYS	TS7KPTM_H		2.MCH_D	SCH4.OL
24	MCHALM4.HYS	MCHSA4.DYT	TS7KPTM_L		2.MCH_OH	SCH4.MR
25	MCHALM4.DYT	MCHSA5.TYPE	TS8DYTM_H		2.MCH_OL	SCH5.P
26		MCHSA5.POINT	TS8DYTM_L		2.MCH_MR	SCH5.I
27		MCHSA5.H_POINT	TS8KPTM_H		2.MCH_HHYS	SCH5.D
28	SCH1ALM1.TYPE	MCHSA5.L_POINT	TS8KPTM_L		2.MCH_LHYS	SCH5.OH
29	SCH1ALM1.POINT	MCHSA5.HYS	TS9DYTM_H		3.MCH_P	SCH5.OL
30	SCH1ALM1.H_POINT	MCHSA5.DYT	TS9DYTM_L	DHCP_USE	3.MCH_I	SCH5.MR
31	SCH1ALM1.L_POINT	MCHSA6.TYPE	TS9KPTM_H	IP_ADDRES1	3.MCH_D	SCH6.P
32	SCH1ALM1.HYS	MCHSA6.POINT	TS9KPTM_L	IP_ADDRES2	3.MCH_OH	SCH6.I
33	SCH1ALM1.DYT	MCHSA6.H_POINT	TS10DYTM_H	IP_ADDRES3	3.MCH_OL	SCH6.D
34	SCH1ALM2.TYPE	MCHSA6.L_POINT	TS10DYTM_L	IP_ADDRES4	3.MCH_MR	SCH6.OH
35	SCH1ALM2.POINT	MCHSA6.HYS	TS10KPTM_H	SUBNET_MASK1	3.MCH_HHYS	SCH6.OL
36	SCH1ALM2.H_POINT	MCHSA6.DYT	TS10KPTM_L	SUBNET_MASK2	3.MCH_LHYS	SCH6.MR
37	SCH1ALM2.L_POINT	MCHSA7.TYPE	TS11DYTM_H	SUBNET_MASK3	4.MCH_P	
38	SCH1ALM2.HYS	MCHSA7.POINT	TS11DYTM_L	SUBNET_MASK4	4.MCH_I	
39	SCH1ALM2.DYT	MCHSA7.H_POINT	TS11KPTM_H	GATEWAY1	4.MCH_D	
40	SCH2ALM1.TYPE	MCHSA7.L_POINT	TS11KPTM_L	GATEWAY2	4.MCH_OH	
41	SCH2ALM1.POINT	MCHSA7.HYS	TS12DYTM_H	GATEWAY3	4.MCH_OL	
42	SCH2ALM1.H_POINT	MCHSA7.DYT	TS12DYTM_L	GATEWAY4	4.MCH_MR	
43	SCH2ALM1.L_POINT	MCHSA8.TYPE	TS12KPTM_H		4.MCH_HHYS	
44	SCH2ALM1.HYS	MCHSA8.POINT	TS12KPTM_L		4.MCH_LHYS	
45	SCH2ALM1.DYT	MCHSA8.H_POINT	TS13DYTM_H		5.MCH_P	
46	SCH2ALM2.TYPE	MCHSA8.L_POINT	TS13DYTM_L		5.MCH_I	
47	SCH2ALM2.POINT	MCHSA8.HYS	TS13KPTM_H		5.MCH_D	
48	CH2ALM2.H_POINT	MCHSA8.DYT	TS13KPTM_L		5.MCH_OH	
49	CH2ALM2.L_POINT		TS14DYTM_H		5.MCH_HHOL	

D-Reg.	ALARM SIGNAL	SEG ALARM	TIME SIGNAL	COMMUNICATION	PID 1	PID 2
	600	700	800	900	1000	1100
50	SCH2ALM2.HYS	SCH1ALM.OP	TS14DYTM_L	SCH1.SYNCMODE	5.MCH_MR	
51	SCH2ALM2.DYT	SCH2ALM.OP	TS14KPTM_H	SCH2.SYNCMODE	5.MCH_HHYS	
52	SCH3ALM1.TYPE	SCH3ALM.OP	TS14KPTM_L	SCH3.SYNCMODE	5.MCH_LHYS	
53	SCH3ALM1.POINT	SCH4ALM.OP	TS15DYTM_H	SCH4.SYNCMODE	6.MCH_P	
54	SCH3ALM1.H_POINT	SCH5ALM.OP	TS15DYTM_L	SCH5.SYNCMODE	6.MCH_I	
55	SCH3ALM1.L_POINT	SCH6ALM.OP	TS15KPTM_H	SCH6.SYNCMODE	6.MCH_D	
56	SCH3ALM1.HYS		TS15KPTM_L	SCH1.SYNCBIAS	6.MCH_OH	
57	SCH3ALM1.DYT		TS16DYTM_H	SCH2.SYNCBIAS	6.MCH_OL	
58	SCH3ALM2.TYPE	MCH.HBCS	TS16DYTM_L	SCH3.SYNCBIAS	6.MCH_MR	
59	SCH3ALM2.POINT	MCH.HBDB	TS16KPTM_H	SCH4.SYNCBIAS	6.MCH_HHYS	
60	SCH3ALM2.H_POINT		TS16KPTM_L	SCH5.SYNCBIAS	6.MCH_LHYS	
61	SCH3ALM2.L_POINT		TS17DYTM_H	SCH6.SYNCBIAS		
62	SCH3ALM2.HYS	SCH1.HBCS	TS17DYTM_L			
63	SCH3ALM2.DYT	SCH2.HBCS	TS17KPTM_H			
64	SCH4ALM1.TYPE	SCH3.HBCS	TS17KPTM_L			
65	SCH4ALM1.POINT	SCH4.HBCS	TS18DYTM_H			
66	CH4ALM1.H_POINT	SCH5.HBCS	TS18DYTM_L			
67	CH4ALM1.L_POINT	SCH6.HBCS	TS18KPTM_H			
68	SCH4ALM1.HYS	SCH1.HBDB	TS18KPTM_L			
69	SCH4ALM1.DYT	SCH2.HBDB	TS19DYTM_H			
70	SCH4ALM2.TYPE	SCH3.HBDB	TS19DYTM_L	VIEW.ROTATE		
71	SCH4ALM2.POINT	SCH4.HBDB	TS19KPTM_H	R.ST_TIME		
72	CH4ALM2.H_POINT	SCH5.HBDB	TS19KPTM_L	R.INT_TIME		
73	CH4ALM2.L_POINT	SCH6.HBDB	TS20DYTM_H			
74	SCH4ALM2.HYS		TS20DYTM_L			
75	SCH4ALM2.DYT		TS20KPTM_H			
76	SCH5ALM1.TYPE		TS20KPTM_L			
77	SCH5ALM1.POINT					
78	CH5ALM1.H_POINT					
79	CH5ALM1.L_POINT					
80	SCH5ALM1.HYS	POWER.FREQUENCY				
81	SCH5ALM1.DYT					
82	SCH5ALM2.TYPE					
83	SCH5ALM2.POINT					
84	CH5ALM2.H_POINT					
85	CH5ALM2.L_POINT					
86	SCH5ALM2.HYS					
87	SCH5ALM2.DYT					
88	SCH6ALM1.TYPE					
89	SCH6ALM1.POINT					
90	SCH6ALM1.H_POINT					
91	SCH6ALM1.L_POINT					
92	SCH6ALM1.HYS					
93	SCH6ALM1.DYT					
94	SCH6ALM2.TYPE					
95	SCH6ALM2.POINT					
96	SCH6ALM2.H_POINT					
97	SCH6ALM2.L_POINT					
98	SCH6ALM2.HYS					
99	SCH6ALM2.DYT					

D-Reg.	INPUT 1	INPUT 2	OUTPUT	DO CONFIG 1	DO CONFIG 2	DI CONFIG 1
	1200	1300	1400	1500	1600	1700
0						
1	MCH.SENGP	SCH4.SENTP	OUT1.MODE	MCHIS1.RLY	SCH1AL1.RLY	DISP.METHOD
2	MCH.SENTP	SCH4.TCSL	OUT2.MODE	MCHIS2.RLY	SCH1AL2.RLY	BUZ.TIME
3	MCH.UNIT	SCH4.SOPN_SEL	OUT1.TYPE	MCHIS3.RLY	SCH2AL1.RLY	DIDET.TIME
4	MCH.DP	SCH4.INRH	OUT2.TYPE	MCHIS4.RLY	SCH2AL2.RLY	DI1.OP_MODE
5	MCH.TCSL	SCH4.INRL		MCHIS5.RLY	SCH3AL1.RLY	DI2.OP_MODE
6	MCH.SOPN_SEL	SCH4.BIAS		MCHIS6.RLY	SCH3AL2.RLY	DI3.OP_MODE
7	MCH.INRH	SCH4.INFL	MCH.DIR	MCHIS7.RLY	SCH4AL1.RLY	DI4.OP_MODE
8	MCH.INRL	SCH4.INSH	MCH.UOPPR	MCHIS8.RLY	SCH4AL2.RLY	DI1.OP
9	MCH.BIAS	SCH4.INSL	MCH.DNOPR	MCHTS1.RLY	SCH5AL1.RLY	DI1.DVT
10	MCH.INFL	BP1.SCH4DDV	MCH.CT	MCHTS2.RLY	SCH5AL2.RLY	DI2.OP
11	MCH.INSH	BP2.SCH4DDV	MCH.PO	MCHTS3.RLY	SCH6AL1.RLY	DI2.DVT
12	MCH.INSL	BP3.SCH4DDV	MCH.ATG	MCHTS4.RLY	SCH6AL2.RLY	DI3.OP
13	BP1.MCHDDV	BP4.SCH4DDV	MCH.ARW	MCHTS5.RLY	SCH1HBA.RLY	DI3.DVT
14	BP2.MCHDDV	BP5.SCH4DDV	MCH.RETT	MCHTS6.RLY	SCH2HBA.RLY	DI4.OP
15	BP3.MCHDDV	BP6.SCH4DDV	MCH.RETH	MCHTS7.RLY	SCH3HBA.RLY	DI4.DVT
16	BP4.MCHDDV	BP1.SCH4DPV	MCH.RETL	MCHTS8.RLY	SCH4HBA.RLY	DI5.OP
17	BP5.MCHDDV	BP2.SCH4DPV		MCHALM1.RLY	SCH5HBA.RLY	DI5.DVT
18	BP6.MCHDDV	BP3.SCH4DPV		MCHALM2.RLY	SCH6HBA.RLY	DI6.OP
19	BP7.MCHDDV	BP4.SCH4DPV		MCHALM3.RLY		DI6.DVT
20	BP8.MCHDDV	BP5.SCH4DPV		MCHALM4.RLY	LOG.OUTRLY1	DI7.OP
21	BP1.MCHDPV	BP6.SCH4DPV		MCHSA1.RLY	LOG.SRCRLYa1	DI7.DVT
22	BP2.MCHDPV	SCH5.SENTP	SCH1.MODE	MCHSA2.RLY	LOG.SRCRLYb1	DI8.OP
23	BP3.MCHDPV	SCH5.TCSL	SCH1.DIR	MCHSA3.RLY	LOG.OPERAND1	DI8.DVT
24	BP4.MCHDPV	SCH5.SOPN_SEL	SCH1.UOPPR	MCHSA4.RLY	LOG.OUTRLY2	DI9.OP
25	BP5.MCHDPV	SCH5.INRH	SCH1.DNOPR	MCHT1.RLY	LOG.SRCRLYa2	DI9.DVT
26	BP6.MCHDPV	SCH5.INRL	SCH1.CT	MCHT1.DYT	LOG.SRCRLYb2	DI10.OP
27	BP7.MCHDPV	SCH5.BIAS	SCH1.PO	MCHT2.RLY	LOG.OPERAND2	DI10.DVT
28	BP8.MCHDPV	SCH5.INFL	SCH1.ATG	MCHT2.DYT	LOG.OUTRLY3	DI11.OP
29	MCHUNITNAME1	SCH5.INSH	SCH1.ARW	MCHT3.RLY	LOG.SRCRLYa3	DI11.DVT
30	MCHUNITNAME2	SCH5.INSL	SCH2.MODE	MCHT3.DYT	LOG.SRCRLYb3	DI12.OP
31		BP1.SCH5DDV	SCH2.DIR	MCHT4.RLY	LOG.OPERAND3	DI12.DVT
32		BP2.SCH5DDV	SCH2.UOPPR	MCHT4.DYT		DI13.OP
33	SCH1.SENTP	BP3.SCH5DDV	SCH2.DNOPR	MCHT5.RLY		DI13.DVT
34	SCH1.TCSL	BP4.SCH5DDV	SCH2.CT	MCHT5.DYT		DI14.OP
35	SCH1.SOPN_SEL	BP5.SCH5DDV	SCH2.PO	MCHT6.RLY		DI14.DVT
36	SCH1.INRH	BP6.SCH5DDV	SCH2.ATG	MCHT6.DYT		DI15.OP
37	SCH1.INRL	BP1.SCH5DPV	SCH2.ARW	MCHT7.RLY		DI15.DVT
38	SCH1.BIAS	BP2.SCH5DPV	SCH3.MODE	MCHT7.DYT		DI16.OP
39	SCH1.INFL	BP3.SCH5DPV	SCH3.DIR	MCHRUN.RLY		DI16.DVT
40	SCH1.INSH	BP4.SCH5DPV	SCH3.UOPPR	MCHRUN.DYT		
41	SCH1.INSL	BP5.SCH5DPV	SCH3.DNOPR	MCHSOPN.RLY		
42	BP1.SCH1DDV	BP6.SCH5DPV	SCH3.CT	MCHSOPN.KPT		
43	BP2.SCH1DDV	SCH6.SENTP	SCH3.PO	MCHWAIT.RLY		
44	BP3.SCH1DDV	SCH6.TCSL	SCH3.ATG	MCHWAIT.KPT		
45	BP4.SCH1DDV	SCH6.SOPN_SEL	SCH3.ARW	MCHFEND.RLY		
46	BP5.SCH1DDV	SCH6.INRH	SCH4.MODE	MCHFEND.DLY		
47	BP6.SCH1DDV	SCH6.INRL	SCH4.DIR	MCHFEND.KPT		
48	BP1.SCH1DPV	SCH6.BIAS	SCH4.UOPPR	MCHPTEND.RLY		
49	BP2.SCH1DPV	SCH6.INFL	SCH4.DNOPR	MCHPTEND.DLY		

D-Reg.	INPUT 1	INPUT 2	OUTPUT	DO CONFIG 1	DO CONFIG 2	DI CONFIG 1
	1200	1300	1400	1500	1600	1700
50	BP3.SCH1DPV	SCH6. INSH	SCH4. CT	MCHPTEND. KPT		
51	BP4.SCH1DPV	SCH6. INSL	SCH4. PO	MCHUP. RLY		
52	BP5.SCH1DPV	BP1.SCH6DDV	SCH4. ATG	MCHUP. DEV	DI1. DETECT	
53	BP6.SCH1DPV	BP2.SCH6DDV	SCH4. ARW	MCHUP. DEVSEL	DI2. DETECT	
54	SCH2. SENTP	BP3.SCH6DDV	SCH5. MODE	MCHSOAK. RLY	DI3. DETECT	
55	SCH2. TCSL	BP4.SCH6DDV	SCH5. DIR	MCHSOAK. KPT	DI4. DETECT	
56	SCH2.SOPN_SEL	BP5.SCH6DDV	SCH5.UPOPR	MCHDOWN. RLY	DI5. DETECT	
57	SCH2. INRH	BP6.SCH6DDV	SCH5.DNOPR	MCHDOWN. DEV	DI6. DETECT	
58	SCH2. INRL	BP1.SCH6DPV	SCH5. CT	MCHDOWN. DEVSEL	DI7. DETECT	
59	SCH2. BIAS	BP2.SCH6DPV	SCH5. PO	MCHERROR. RLY	DI8. DETECT	
60	SCH2. INFL	BP3.SCH6DPV	SCH5. ATG	MCHERROR. KPT	DI9. DETECT	
61	SCH2. INSH	BP4.SCH6DPV	SCH5. ARW	MCH1REF. RLY	DI10. DETECT	
62	SCH2. INSL	BP5.SCH6DPV	SCH6. MODE	MCH1REF. DYT	DI11. DETECT	
63	BP1.SCH2DDV	BP6.SCH6DPV	SCH6. DIR	MCH2REF. RLY	DI12. DETECT	
64	BP2.SCH2DDV		SCH6.UPOPR	MCH2REF. DYT	DI13. DETECT	
65	BP3.SCH2DDV		SCH6.DNOPR	UKEY. RLY	DI14. DETECT	
66	BP4.SCH2DDV		SCH6. CT	DI1. RLY	DI15. DETECT	
67	BP5.SCH2DDV		SCH6. PO	DI2. RLY	DI16. DETECT	
68	BP6.SCH2DDV		SCH6. ATG	DI3. RLY		
69	BP1.SCH2DPV		SCH6. ARW	DI4. RLY		
70	BP2.SCH2DPV			DI5. RLY		
71	BP3.SCH2DPV			DI6. RLY		
72	BP4.SCH2DPV	SCH1. INDP		DI7. RLY		
73	BP5.SCH2DPV	SCH2. INDP		DI8. RLY		
74	BP6.SCH2DPV	SCH3. INDP		DI9. RLY		
75	SCH3. SENTP	SCH4. INDP		DI10. RLY		
76	SCH3. TCSL	SCH5. INDP		DI11. RLY		
77	SCH3.SOPN_SEL	SCH6. INDP		DI12. RLY		
78	SCH3. INRH			DI13. RLY		
79	SCH3. INRL			DI14. RLY		
80	SCH3. BIAS			DI15. RLY		
81	SCH3. INFL			DI16. RLY		
82	SCH3. INSH			USER. RLY1		
83	SCH3. INSL			USER. RLY2		
84	BP1.SCH3DDV			USER. RLY3		
85	BP2.SCH3DDV			USER. RLY4		
86	BP3.SCH3DDV			USER. RLY5		
87	BP4.SCH3DDV			USER. RLY6		
88	BP5.SCH3DDV			USER. RLY7		
89	BP6.SCH3DDV			USER. RLY8		
90	BP1.SCH3DPV			USER. RLY9		
91	BP2.SCH3DPV			USER. RLY10		
92	BP3.SCH3DPV			USER. RLY11		
93	BP4.SCH3DPV			USER. RLY12		
94	BP5.SCH3DPV			USER. RLY_ON/OFF		
95	BP6.SCH3DPV			MCHFXTIMER. RLY		
96				MCHFXTIMER. DEV		
97				MCHFXTIMER. DLY		
98				MCHFXTIMER. OPT		
99				MCHHBA. RLY		

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D-Reg.	DI CONFIG 2	DI CONFIG 3	INITIAL 1	INITIAL 2	PROGRAM	PATTERN INFO
	1800	1900	2000	2100	2200	2300
0				MCH.LAMP_IS1		
1	D11.NAME1	D19.NAME1	LANGUAGE	MCH.LAMP_IS2	COM_PTNO	NPT1
2	D11.NAME2	D19.NAME2	DISP.MODE	MCH.LAMP_IS3	COM_SEGNO	NPT2
3	D11.NAME3	D19.NAME3	UKEY.USE	MCH.LAMP_IS4	PTCOPY_START	NPT3
4	D11.NAME4	D19.NAME4		MCH.LAMP_IS5	PTCOPY_END	NPT4
5	D11.NAME5	D19.NAME5		MCH.LAMP_IS6	PTDEL_START	NPT5
6	D11.NAME6	D19.NAME6	INFORM1.NAME1	MCH.LAMP_IS7	PTDEL_END	NPT6
7	D11.NAME7	D19.NAME7	INFORM1.NAME2	MCH.LAMP_IS8	TRIGGER	NPT7
8	D11.NAME8	D19.NAME8	INFORM1.NAME3	MCH.LAMP_TS1	ANSWER	NPT8
9	D11.NAME9	D19.NAME9	INFORM1.NAME4	MCH.LAMP_TS2		NPT9
10	D11.NAME10	D19.NAME10	INFORM1.NAME5	MCH.LAMP_TS3		NPT10
11	D11.NAME11	D19.NAME11	INFORM1.NAME6	MCH.LAMP_TS4	PATTERN_NAME1	NPT11
12	D11.NAME12	D19.NAME12	INFORM1.NAME7	MCH.LAMP_TS5	PATTERN_NAME2	NPT12
13	D12.NAME1	D110.NAME1	INFORM1.NAME8	MCH.LAMP_TS6	PATTERN_NAME3	NPT13
14	D12.NAME2	D110.NAME2	INFORM1.NAME9	MCH.LAMP_TS7	PATTERN_NAME4	NPT14
15	D12.NAME3	D110.NAME3	INFORM1.NAME10	MCH.LAMP_TS8	PATTERN_NAME5	NPT15
16	D12.NAME4	D110.NAME4	INFORM1.NAME11	MCH.LAMP_AL1	PATTERN_NAME6	NPT16
17	D12.NAME5	D110.NAME5	INFORM1.NAME12	MCH.LAMP_AL2	PATTERN_NAME7	NPT17
18	D12.NAME6	D110.NAME6	INFORM1.NAME13	MCH.LAMP_AL3	PATTERN_NAME8	NPT18
19	D12.NAME7	D110.NAME7	INFORM2.NAME1	MCH.LAMP_AL4	PATTERN_NAME9	NPT19
20	D12.NAME8	D110.NAME8	INFORM2.NAME2	MCH.LAMP_SEGAL1	PATTERN_NAME10	NPT20
21	D12.NAME9	D110.NAME9	INFORM2.NAME3	MCH.LAMP_SEGAL2	PATTERN_NAME11	NPT21
22	D12.NAME10	D110.NAME10	INFORM2.NAME4	MCH.LAMP_SEGAL3	PATTERN_NAME12	NPT22
23	D12.NAME11	D110.NAME11	INFORM2.NAME5	MCH.LAMP_SEGAL4		NPT23
24	D12.NAME12	D110.NAME12	INFORM2.NAME6	MCH.LAMP_T1		NPT24
25	D13.NAME1	D111.NAME1	INFORM2.NAME7	MCH.LAMP_T2		NPT25
26	D13.NAME2	D111.NAME2	INFORM2.NAME8	MCH.LAMP_T3	TSP	NPT26
27	D13.NAME3	D111.NAME3	INFORM2.NAME9	MCH.LAMP_T4	SEG.TIME_H	NPT27
28	D13.NAME4	D111.NAME4	INFORM2.NAME10	MCH.LAMP_T5	SEG.TIME_L	NPT28
29	D13.NAME5	D111.NAME5	INFORM2.NAME11	MCH.LAMP_T6	TS1	NPT29
30	D13.NAME6	D111.NAME6	INFORM2.NAME12	MCH.LAMP_T7	TS2	NPT30
31	D13.NAME7	D111.NAME7	INFORM2.NAME13	MCH.LAMP_RUN	TS3	NPT31
32	D13.NAME8	D111.NAME8	INFORM3.NAME1	MCH.LAMP_1REF	TS4	NPT32
33	D13.NAME9	D111.NAME9	INFORM3.NAME2	MCH.LAMP_2REF	TS5	NPT33
34	D13.NAME10	D111.NAME10	INFORM3.NAME3	MCH.LAMP_SD	TS6	NPT34
35	D13.NAME11	D111.NAME11	INFORM3.NAME4	MCH.LAMP_D11	TS7	NPT35
36	D13.NAME12	D111.NAME12	INFORM3.NAME5	MCH.LAMP_D12	TS8/AUXOUT	NPT36
37	D14.NAME1	D112.NAME1	INFORM3.NAME6	MCH.LAMP_D13	SEGAL1	NPT37
38	D14.NAME2	D112.NAME2	INFORM3.NAME7	MCH.LAMP_D14	SEGAL2	NPT38
39	D14.NAME3	D112.NAME3	INFORM3.NAME8	MCH.LAMP_D15	SEGAL3	NPT39
40	D14.NAME4	D112.NAME4	INFORM3.NAME9	MCH.LAMP_D16	SEGAL4	NPT40
41	D14.NAME5	D112.NAME5	INFORM3.NAME10	MCH.LAMP_D17	SEG_PID	
42	D14.NAME6	D112.NAME6	INFORM3.NAME11	MCH.LAMP_D18		
43	D14.NAME7	D112.NAME7	INFORM3.NAME12	MCH.LAMP_D19		
44	D14.NAME8	D112.NAME8	INFORM3.NAME13	MCH.LAMP_DI10		
45	D14.NAME9	D112.NAME9		MCH.LAMP_DI11	START.CODE	
46	D14.NAME10	D112.NAME10		MCH.LAMP_DI12	START.SP	
47	D14.NAME11	D112.NAME11		MCH.LAMP_DI13		
48	D14.NAME12	D112.NAME12		MCH.LAMP_DI14		
49	D15.NAME1	D113.NAME1		MCH.LAMP_DI15		

D-Reg.	DI CONFIG 2	DI CONFIG 3	INITIAL 1	INITIAL 2	PROGRAM	PATTERN INFO
	1800	1900	2000	2100	2200	2300
50	D15.NAME2	D113.NAME2		MCH.LAMP_DI16	PT.RPT	
51	D15.NAME3	D113.NAME3		SCH1.LAMP_AL1	PT.EMOD	
52	D15.NAME4	D113.NAME4		SCH1.LAMP_AL2	LINK.PT	
53	D15.NAME5	D113.NAME5		SCH2.LAMP_AL1		
54	D15.NAME6	D113.NAME6		SCH2.LAMP_AL2		
55	D15.NAME7	D113.NAME7		SCH3.LAMP_AL1		
56	D15.NAME8	D113.NAME8		SCH3.LAMP_AL2	SEG_RPT.S1	
57	D15.NAME9	D113.NAME9		SCH4.LAMP_AL1	SEG_RPT.E1	
58	D15.NAME10	D113.NAME10		SCH4.LAMP_AL2	SEG_RPT.C1	
59	D15.NAME11	D113.NAME11		SCH5.LAMP_AL1	SEG_RPT.S2	
60	D15.NAME12	D113.NAME12		SCH5.LAMP_AL2	SEG_RPT.E2	
61	D16.NAME1	D114.NAME1		SCH6.LAMP_AL1	SEG_RPT.C2	
62	D16.NAME2	D114.NAME2		SCH6.LAMP_AL2	SEG_RPT.S3	
63	D16.NAME3	D114.NAME3			SEG_RPT.E3	
64	D16.NAME4	D114.NAME4			SEG_RPT.C3	
65	D16.NAME5	D114.NAME5			SEG_RPT.S4	
66	D16.NAME6	D114.NAME6			SEG_RPT.E4	
67	D16.NAME7	D114.NAME7			SEG_RPT.C4	
68	D16.NAME8	D114.NAME8				
69	D16.NAME9	D114.NAME9				
70	D16.NAME10	D114.NAME10				
71	D16.NAME11	D114.NAME11				
72	D16.NAME12	D114.NAME12				
73	D17.NAME1	D115.NAME1				
74	D17.NAME2	D115.NAME2				
75	D17.NAME3	D115.NAME3				
76	D17.NAME4	D115.NAME4				
77	D17.NAME5	D115.NAME5				
78	D17.NAME6	D115.NAME6				
79	D17.NAME7	D115.NAME7				
80	D17.NAME8	D115.NAME8				
81	D17.NAME9	D115.NAME9				
82	D17.NAME10	D115.NAME10				
83	D17.NAME11	D115.NAME11				
84	D17.NAME12	D115.NAME12				
85	D18.NAME1	D116.NAME1				
86	D18.NAME2	D116.NAME2				
87	D18.NAME3	D116.NAME3				
88	D18.NAME4	D116.NAME4				
89	D18.NAME5	D116.NAME5				
90	D18.NAME6	D116.NAME6				
91	D18.NAME7	D116.NAME7				
92	D18.NAME8	D116.NAME8				
93	D18.NAME9	D116.NAME9				
94	D18.NAME10	D116.NAME10				
95	D18.NAME11	D116.NAME11				
96	D18.NAME12	D116.NAME12				
97						
98						
99						

D-Register 2400 ~ 2999

D-Reg.	FILE 1	FILE 2	FILE 3	FILE 4	FILE 5	FILE 6
	2400	2500	2600	2700	2800	2900
0						
1	C.TSP1	C.SRTIME_H1	C.SRTIME_L1	C.TS1_1	C.TS2_1	C.TS3_1
2	C.TSP2	C.SRTIME_H2	C.SRTIME_L2	C.TS1_2	C.TS2_2	C.TS3_2
3	C.TSP3	C.SRTIME_H3	C.SRTIME_L3	C.TS1_3	C.TS2_3	C.TS3_3
4	C.TSP4	C.SRTIME_H4	C.SRTIME_L4	C.TS1_4	C.TS2_4	C.TS3_4
5	C.TSP5	C.SRTIME_H5	C.SRTIME_L5	C.TS1_5	C.TS2_5	C.TS3_5
6	C.TSP6	C.SRTIME_H6	C.SRTIME_L6	C.TS1_6	C.TS2_6	C.TS3_6
7	C.TSP7	C.SRTIME_H7	C.SRTIME_L7	C.TS1_7	C.TS2_7	C.TS3_7
8	C.TSP8	C.SRTIME_H8	C.SRTIME_L8	C.TS1_8	C.TS2_8	C.TS3_8
9	C.TSP9	C.SRTIME_H9	C.SRTIME_L9	C.TS1_9	C.TS2_9	C.TS3_9
10	C.TSP10	C.SRTIME_H10	C.SRTIME_L10	C.TS1_10	C.TS2_10	C.TS3_10
11	C.TSP11	C.SRTIME_H11	C.SRTIME_L11	C.TS1_11	C.TS2_11	C.TS3_11
12	C.TSP12	C.SRTIME_H12	C.SRTIME_L12	C.TS1_12	C.TS2_12	C.TS3_12
13	C.TSP13	C.SRTIME_H13	C.SRTIME_L13	C.TS1_13	C.TS2_13	C.TS3_13
14	C.TSP14	C.SRTIME_H14	C.SRTIME_L14	C.TS1_14	C.TS2_14	C.TS3_14
15	C.TSP15	C.SRTIME_H15	C.SRTIME_L15	C.TS1_15	C.TS2_15	C.TS3_15
16	C.TSP16	C.SRTIME_H16	C.SRTIME_L16	C.TS1_16	C.TS2_16	C.TS3_16
17	C.TSP17	C.SRTIME_H17	C.SRTIME_L17	C.TS1_17	C.TS2_17	C.TS3_17
18	C.TSP18	C.SRTIME_H18	C.SRTIME_L18	C.TS1_18	C.TS2_18	C.TS3_18
19	C.TSP19	C.SRTIME_H19	C.SRTIME_L19	C.TS1_19	C.TS2_19	C.TS3_19
20	C.TSP20	C.SRTIME_H20	C.SRTIME_L20	C.TS1_20	C.TS2_20	C.TS3_20
21	C.TSP21	C.SRTIME_H21	C.SRTIME_L21	C.TS1_21	C.TS2_21	C.TS3_21
22	C.TSP22	C.SRTIME_H22	C.SRTIME_L22	C.TS1_22	C.TS2_22	C.TS3_22
23	C.TSP23	C.SRTIME_H23	C.SRTIME_L23	C.TS1_23	C.TS2_23	C.TS3_23
24	C.TSP24	C.SRTIME_H24	C.SRTIME_L24	C.TS1_24	C.TS2_24	C.TS3_24
25	C.TSP25	C.SRTIME_H25	C.SRTIME_L25	C.TS1_25	C.TS2_25	C.TS3_25
26	C.TSP26	C.SRTIME_H26	C.SRTIME_L26	C.TS1_26	C.TS2_26	C.TS3_26
27	C.TSP27	C.SRTIME_H27	C.SRTIME_L27	C.TS1_27	C.TS2_27	C.TS3_27
28	C.TSP28	C.SRTIME_H28	C.SRTIME_L28	C.TS1_28	C.TS2_28	C.TS3_28
29	C.TSP29	C.SRTIME_H29	C.SRTIME_L29	C.TS1_29	C.TS2_29	C.TS3_29
30	C.TSP30	C.SRTIME_H30	C.SRTIME_L30	C.TS1_30	C.TS2_30	C.TS3_30
31	C.TSP31	C.SRTIME_H31	C.SRTIME_L31	C.TS1_31	C.TS2_31	C.TS3_31
32	C.TSP32	C.SRTIME_H32	C.SRTIME_L32	C.TS1_32	C.TS2_32	C.TS3_32
33	C.TSP33	C.SRTIME_H33	C.SRTIME_L33	C.TS1_33	C.TS2_33	C.TS3_33
34	C.TSP34	C.SRTIME_H34	C.SRTIME_L34	C.TS1_34	C.TS2_34	C.TS3_34
35	C.TSP35	C.SRTIME_H35	C.SRTIME_L35	C.TS1_35	C.TS2_35	C.TS3_35
36	C.TSP36	C.SRTIME_H36	C.SRTIME_L36	C.TS1_36	C.TS2_36	C.TS3_36
37	C.TSP37	C.SRTIME_H37	C.SRTIME_L37	C.TS1_37	C.TS2_37	C.TS3_37
38	C.TSP38	C.SRTIME_H38	C.SRTIME_L38	C.TS1_38	C.TS2_38	C.TS3_38
39	C.TSP39	C.SRTIME_H39	C.SRTIME_L39	C.TS1_39	C.TS2_39	C.TS3_39
40	C.TSP40	C.SRTIME_H40	C.SRTIME_L40	C.TS1_40	C.TS2_40	C.TS3_40
41	C.TSP41	C.SRTIME_H41	C.SRTIME_L41	C.TS1_41	C.TS2_41	C.TS3_41
42	C.TSP42	C.SRTIME_H42	C.SRTIME_L42	C.TS1_42	C.TS2_42	C.TS3_42
43	C.TSP43	C.SRTIME_H43	C.SRTIME_L43	C.TS1_43	C.TS2_43	C.TS3_43
44	C.TSP44	C.SRTIME_H44	C.SRTIME_L44	C.TS1_44	C.TS2_44	C.TS3_44
45	C.TSP45	C.SRTIME_H45	C.SRTIME_L45	C.TS1_45	C.TS2_45	C.TS3_45
46	C.TSP46	C.SRTIME_H46	C.SRTIME_L46	C.TS1_46	C.TS2_46	C.TS3_46
47	C.TSP47	C.SRTIME_H47	C.SRTIME_L47	C.TS1_47	C.TS2_47	C.TS3_47
48	C.TSP48	C.SRTIME_H48	C.SRTIME_L48	C.TS1_48	C.TS2_48	C.TS3_48
49	C.TSP49	C.SRTIME_H49	C.SRTIME_L49	C.TS1_49	C.TS2_49	C.TS3_49

D-Reg.	FILE 1	FILE 2	FILE 3	FILE 4	FILE 5	FILE 6
	2400	2500	2600	2700	2800	2900
50	C.TSP50	C.SRTIME_H50	C.SRTIME_L50	C.TS1_50	C.TS2_50	C.TS3_50
51	C.TSP51	C.SRTIME_H51	C.SRTIME_L51	C.TS1_51	C.TS2_51	C.TS3_51
52	C.TSP52	C.SRTIME_H52	C.SRTIME_L52	C.TS1_52	C.TS2_52	C.TS3_52
53	C.TSP53	C.SRTIME_H53	C.SRTIME_L53	C.TS1_53	C.TS2_53	C.TS3_53
54	C.TSP54	C.SRTIME_H54	C.SRTIME_L54	C.TS1_54	C.TS2_54	C.TS3_54
55	C.TSP55	C.SRTIME_H55	C.SRTIME_L55	C.TS1_55	C.TS2_55	C.TS3_55
56	C.TSP56	C.SRTIME_H56	C.SRTIME_L56	C.TS1_56	C.TS2_56	C.TS3_56
57	C.TSP57	C.SRTIME_H57	C.SRTIME_L57	C.TS1_57	C.TS2_57	C.TS3_57
58	C.TSP58	C.SRTIME_H58	C.SRTIME_L58	C.TS1_58	C.TS2_58	C.TS3_58
59	C.TSP59	C.SRTIME_H59	C.SRTIME_L59	C.TS1_59	C.TS2_59	C.TS3_59
60	C.TSP60	C.SRTIME_H60	C.SRTIME_L60	C.TS1_60	C.TS2_60	C.TS3_60
61	C.TSP61	C.SRTIME_H61	C.SRTIME_L61	C.TS1_61	C.TS2_61	C.TS3_61
62	C.TSP62	C.SRTIME_H62	C.SRTIME_L62	C.TS1_62	C.TS2_62	C.TS3_62
63	C.TSP63	C.SRTIME_H63	C.SRTIME_L63	C.TS1_63	C.TS2_63	C.TS3_63
64	C.TSP64	C.SRTIME_H64	C.SRTIME_L64	C.TS1_64	C.TS2_64	C.TS3_64
65	C.TSP65	C.SRTIME_H65	C.SRTIME_L65	C.TS1_65	C.TS2_65	C.TS3_65
66	C.TSP66	C.SRTIME_H66	C.SRTIME_L66	C.TS1_66	C.TS2_66	C.TS3_66
67	C.TSP67	C.SRTIME_H67	C.SRTIME_L67	C.TS1_67	C.TS2_67	C.TS3_67
68	C.TSP68	C.SRTIME_H68	C.SRTIME_L68	C.TS1_68	C.TS2_68	C.TS3_68
69	C.TSP69	C.SRTIME_H69	C.SRTIME_L69	C.TS1_69	C.TS2_69	C.TS3_69
70	C.TSP70	C.SRTIME_H70	C.SRTIME_L70	C.TS1_70	C.TS2_70	C.TS3_70
71	C.TSP71	C.SRTIME_H71	C.SRTIME_L71	C.TS1_71	C.TS2_71	C.TS3_71
72	C.TSP72	C.SRTIME_H72	C.SRTIME_L72	C.TS1_72	C.TS2_72	C.TS3_72
73	C.TSP73	C.SRTIME_H73	C.SRTIME_L73	C.TS1_73	C.TS2_73	C.TS3_73
74	C.TSP74	C.SRTIME_H74	C.SRTIME_L74	C.TS1_74	C.TS2_74	C.TS3_74
75	C.TSP75	C.SRTIME_H75	C.SRTIME_L75	C.TS1_75	C.TS2_75	C.TS3_75
76	C.TSP76	C.SRTIME_H76	C.SRTIME_L76	C.TS1_76	C.TS2_76	C.TS3_76
77	C.TSP77	C.SRTIME_H77	C.SRTIME_L77	C.TS1_77	C.TS2_77	C.TS3_77
78	C.TSP78	C.SRTIME_H78	C.SRTIME_L78	C.TS1_78	C.TS2_78	C.TS3_78
79	C.TSP79	C.SRTIME_H79	C.SRTIME_L79	C.TS1_79	C.TS2_79	C.TS3_79
80	C.TSP80	C.SRTIME_H80	C.SRTIME_L80	C.TS1_80	C.TS2_80	C.TS3_80
81	C.TSP81	C.SRTIME_H81	C.SRTIME_L81	C.TS1_81	C.TS2_81	C.TS3_81
82	C.TSP82	C.SRTIME_H82	C.SRTIME_L82	C.TS1_82	C.TS2_82	C.TS3_82
83	C.TSP83	C.SRTIME_H83	C.SRTIME_L83	C.TS1_83	C.TS2_83	C.TS3_83
84	C.TSP84	C.SRTIME_H84	C.SRTIME_L84	C.TS1_84	C.TS2_84	C.TS3_84
85	C.TSP85	C.SRTIME_H85	C.SRTIME_L85	C.TS1_85	C.TS2_85	C.TS3_85
86	C.TSP86	C.SRTIME_H86	C.SRTIME_L86	C.TS1_86	C.TS2_86	C.TS3_86
87	C.TSP87	C.SRTIME_H87	C.SRTIME_L87	C.TS1_87	C.TS2_87	C.TS3_87
88	C.TSP88	C.SRTIME_H88	C.SRTIME_L88	C.TS1_88	C.TS2_88	C.TS3_88
89	C.TSP89	C.SRTIME_H89	C.SRTIME_L89	C.TS1_89	C.TS2_89	C.TS3_89
90	C.TSP90	C.SRTIME_H90	C.SRTIME_L90	C.TS1_90	C.TS2_90	C.TS3_90
91	C.TSP91	C.SRTIME_H91	C.SRTIME_L91	C.TS1_91	C.TS2_91	C.TS3_91
92	C.TSP92	C.SRTIME_H92	C.SRTIME_L92	C.TS1_92	C.TS2_92	C.TS3_92
93	C.TSP93	C.SRTIME_H93	C.SRTIME_L93	C.TS1_93	C.TS2_93	C.TS3_93
94	C.TSP94	C.SRTIME_H94	C.SRTIME_L94	C.TS1_94	C.TS2_94	C.TS3_94
95	C.TSP95	C.SRTIME_H95	C.SRTIME_L95	C.TS1_95	C.TS2_95	C.TS3_95
96	C.TSP96	C.SRTIME_H96	C.SRTIME_L96	C.TS1_96	C.TS2_96	C.TS3_96
97	C.TSP97	C.SRTIME_H97	C.SRTIME_L97	C.TS1_97	C.TS2_97	C.TS3_97
98	C.TSP98	C.SRTIME_H98	C.SRTIME_L98	C.TS1_98	C.TS2_98	C.TS3_98
99	C.TSP99	C.SRTIME_H99	C.SRTIME_L99	C.TS1_99	C.TS2_99	C.TS3_99

D-Register 3000 ~ 3599

D-Reg.	FILE 7	FILE 8	FILE 9	FILE 10	FILE 11	FILE 12
	3000	3100	3200	3300	3400	3500
0						
1	C.TS4_1	C.TS5_1	C.TS6_1	C.TS7_1	C.TS8_1	C.SEGAL_1_1
2	C.TS4_2	C.TS5_2	C.TS6_2	C.TS7_2	C.TS8_2	C.SEGAL_1_2
3	C.TS4_3	C.TS5_3	C.TS6_3	C.TS7_3	C.TS8_3	C.SEGAL_1_3
4	C.TS4_4	C.TS5_4	C.TS6_4	C.TS7_4	C.TS8_4	C.SEGAL_1_4
5	C.TS4_5	C.TS5_5	C.TS6_5	C.TS7_5	C.TS8_5	C.SEGAL_1_5
6	C.TS4_6	C.TS5_6	C.TS6_6	C.TS7_6	C.TS8_6	C.SEGAL_1_6
7	C.TS4_7	C.TS5_7	C.TS6_7	C.TS7_7	C.TS8_7	C.SEGAL_1_7
8	C.TS4_8	C.TS5_8	C.TS6_8	C.TS7_8	C.TS8_8	C.SEGAL_1_8
9	C.TS4_9	C.TS5_9	C.TS6_9	C.TS7_9	C.TS8_9	C.SEGAL_1_9
10	C.TS4_10	C.TS5_10	C.TS6_10	C.TS7_10	C.TS8_10	C.SEGAL_1_10
11	C.TS4_11	C.TS5_11	C.TS6_11	C.TS7_11	C.TS8_11	C.SEGAL_1_11
12	C.TS4_12	C.TS5_12	C.TS6_12	C.TS7_12	C.TS8_12	C.SEGAL_1_12
13	C.TS4_13	C.TS5_13	C.TS6_13	C.TS7_13	C.TS8_13	C.SEGAL_1_13
14	C.TS4_14	C.TS5_14	C.TS6_14	C.TS7_14	C.TS8_14	C.SEGAL_1_14
15	C.TS4_15	C.TS5_15	C.TS6_15	C.TS7_15	C.TS8_15	C.SEGAL_1_15
16	C.TS4_16	C.TS5_16	C.TS6_16	C.TS7_16	C.TS8_16	C.SEGAL_1_16
17	C.TS4_17	C.TS5_17	C.TS6_17	C.TS7_17	C.TS8_17	C.SEGAL_1_17
18	C.TS4_18	C.TS5_18	C.TS6_18	C.TS7_18	C.TS8_18	C.SEGAL_1_18
19	C.TS4_19	C.TS5_19	C.TS6_19	C.TS7_19	C.TS8_19	C.SEGAL_1_19
20	C.TS4_20	C.TS5_20	C.TS6_20	C.TS7_20	C.TS8_20	C.SEGAL_1_20
21	C.TS4_21	C.TS5_21	C.TS6_21	C.TS7_21	C.TS8_21	C.SEGAL_1_21
22	C.TS4_22	C.TS5_22	C.TS6_22	C.TS7_22	C.TS8_22	C.SEGAL_1_22
23	C.TS4_23	C.TS5_23	C.TS6_23	C.TS7_23	C.TS8_23	C.SEGAL_1_23
24	C.TS4_24	C.TS5_24	C.TS6_24	C.TS7_24	C.TS8_24	C.SEGAL_1_24
25	C.TS4_25	C.TS5_25	C.TS6_25	C.TS7_25	C.TS8_25	C.SEGAL_1_25
26	C.TS4_26	C.TS5_26	C.TS6_26	C.TS7_26	C.TS8_26	C.SEGAL_1_26
27	C.TS4_27	C.TS5_27	C.TS6_27	C.TS7_27	C.TS8_27	C.SEGAL_1_27
28	C.TS4_28	C.TS5_28	C.TS6_28	C.TS7_28	C.TS8_28	C.SEGAL_1_28
29	C.TS4_29	C.TS5_29	C.TS6_29	C.TS7_29	C.TS8_29	C.SEGAL_1_29
30	C.TS4_30	C.TS5_30	C.TS6_30	C.TS7_30	C.TS8_30	C.SEGAL_1_30
31	C.TS4_31	C.TS5_31	C.TS6_31	C.TS7_31	C.TS8_31	C.SEGAL_1_31
32	C.TS4_32	C.TS5_32	C.TS6_32	C.TS7_32	C.TS8_32	C.SEGAL_1_32
33	C.TS4_33	C.TS5_33	C.TS6_33	C.TS7_33	C.TS8_33	C.SEGAL_1_33
34	C.TS4_34	C.TS5_34	C.TS6_34	C.TS7_34	C.TS8_34	C.SEGAL_1_34
35	C.TS4_35	C.TS5_35	C.TS6_35	C.TS7_35	C.TS8_35	C.SEGAL_1_35
36	C.TS4_36	C.TS5_36	C.TS6_36	C.TS7_36	C.TS8_36	C.SEGAL_1_36
37	C.TS4_37	C.TS5_37	C.TS6_37	C.TS7_37	C.TS8_37	C.SEGAL_1_37
38	C.TS4_38	C.TS5_38	C.TS6_38	C.TS7_38	C.TS8_38	C.SEGAL_1_38
39	C.TS4_39	C.TS5_39	C.TS6_39	C.TS7_39	C.TS8_39	C.SEGAL_1_39
40	C.TS4_40	C.TS5_40	C.TS6_40	C.TS7_40	C.TS8_40	C.SEGAL_1_40
41	C.TS4_41	C.TS5_41	C.TS6_41	C.TS7_41	C.TS8_41	C.SEGAL_1_41
42	C.TS4_42	C.TS5_42	C.TS6_42	C.TS7_42	C.TS8_42	C.SEGAL_1_42
43	C.TS4_43	C.TS5_43	C.TS6_43	C.TS7_43	C.TS8_43	C.SEGAL_1_43
44	C.TS4_44	C.TS5_44	C.TS6_44	C.TS7_44	C.TS8_44	C.SEGAL_1_44
45	C.TS4_45	C.TS5_45	C.TS6_45	C.TS7_45	C.TS8_45	C.SEGAL_1_45
46	C.TS4_46	C.TS5_46	C.TS6_46	C.TS7_46	C.TS8_46	C.SEGAL_1_46
47	C.TS4_47	C.TS5_47	C.TS6_47	C.TS7_47	C.TS8_47	C.SEGAL_1_47
48	C.TS4_48	C.TS5_48	C.TS6_48	C.TS7_48	C.TS8_48	C.SEGAL_1_48
49	C.TS4_49	C.TS5_49	C.TS6_49	C.TS7_49	C.TS8_49	C.SEGAL_1_49

D-Reg.	FILE 7	FILE 8	FILE 9	FILE 10	FILE 11	FILE 12
	3000	3100	3200	3300	3400	3500
50	C.TS4_50	C.TS5_50	C.TS6_50	C.TS7_50	C.TS8_50	C.SEGAL_1_50
51	C.TS4_51	C.TS5_51	C.TS6_51	C.TS7_51	C.TS8_51	C.SEGAL_1_51
52	C.TS4_52	C.TS5_52	C.TS6_52	C.TS7_52	C.TS8_52	C.SEGAL_1_52
53	C.TS4_53	C.TS5_53	C.TS6_53	C.TS7_53	C.TS8_53	C.SEGAL_1_53
54	C.TS4_54	C.TS5_54	C.TS6_54	C.TS7_54	C.TS8_54	C.SEGAL_1_54
55	C.TS4_55	C.TS5_55	C.TS6_55	C.TS7_55	C.TS8_55	C.SEGAL_1_55
56	C.TS4_56	C.TS5_56	C.TS6_56	C.TS7_56	C.TS8_56	C.SEGAL_1_56
57	C.TS4_57	C.TS5_57	C.TS6_57	C.TS7_57	C.TS8_57	C.SEGAL_1_57
58	C.TS4_58	C.TS5_58	C.TS6_58	C.TS7_58	C.TS8_58	C.SEGAL_1_58
59	C.TS4_59	C.TS5_59	C.TS6_59	C.TS7_59	C.TS8_59	C.SEGAL_1_59
60	C.TS4_60	C.TS5_60	C.TS6_60	C.TS7_60	C.TS8_60	C.SEGAL_1_60
61	C.TS4_61	C.TS5_61	C.TS6_61	C.TS7_61	C.TS8_61	C.SEGAL_1_61
62	C.TS4_62	C.TS5_62	C.TS6_62	C.TS7_62	C.TS8_62	C.SEGAL_1_62
63	C.TS4_63	C.TS5_63	C.TS6_63	C.TS7_63	C.TS8_63	C.SEGAL_1_63
64	C.TS4_64	C.TS5_64	C.TS6_64	C.TS7_64	C.TS8_64	C.SEGAL_1_64
65	C.TS4_65	C.TS5_65	C.TS6_65	C.TS7_65	C.TS8_65	C.SEGAL_1_65
66	C.TS4_66	C.TS5_66	C.TS6_66	C.TS7_66	C.TS8_66	C.SEGAL_1_66
67	C.TS4_67	C.TS5_67	C.TS6_67	C.TS7_67	C.TS8_67	C.SEGAL_1_67
68	C.TS4_68	C.TS5_68	C.TS6_68	C.TS7_68	C.TS8_68	C.SEGAL_1_68
69	C.TS4_69	C.TS5_69	C.TS6_69	C.TS7_69	C.TS8_69	C.SEGAL_1_69
70	C.TS4_70	C.TS5_70	C.TS6_70	C.TS7_70	C.TS8_70	C.SEGAL_1_70
71	C.TS4_71	C.TS5_71	C.TS6_71	C.TS7_71	C.TS8_71	C.SEGAL_1_71
72	C.TS4_72	C.TS5_72	C.TS6_72	C.TS7_72	C.TS8_72	C.SEGAL_1_72
73	C.TS4_73	C.TS5_73	C.TS6_73	C.TS7_73	C.TS8_73	C.SEGAL_1_73
74	C.TS4_74	C.TS5_74	C.TS6_74	C.TS7_74	C.TS8_74	C.SEGAL_1_74
75	C.TS4_75	C.TS5_75	C.TS6_75	C.TS7_75	C.TS8_75	C.SEGAL_1_75
76	C.TS4_76	C.TS5_76	C.TS6_76	C.TS7_76	C.TS8_76	C.SEGAL_1_76
77	C.TS4_77	C.TS5_77	C.TS6_77	C.TS7_77	C.TS8_77	C.SEGAL_1_77
78	C.TS4_78	C.TS5_78	C.TS6_78	C.TS7_78	C.TS8_78	C.SEGAL_1_78
79	C.TS4_79	C.TS5_79	C.TS6_79	C.TS7_79	C.TS8_79	C.SEGAL_1_79
80	C.TS4_80	C.TS5_80	C.TS6_80	C.TS7_80	C.TS8_80	C.SEGAL_1_80
81	C.TS4_81	C.TS5_81	C.TS6_81	C.TS7_81	C.TS8_81	C.SEGAL_1_81
82	C.TS4_82	C.TS5_82	C.TS6_82	C.TS7_82	C.TS8_82	C.SEGAL_1_82
83	C.TS4_83	C.TS5_83	C.TS6_83	C.TS7_83	C.TS8_83	C.SEGAL_1_83
84	C.TS4_84	C.TS5_84	C.TS6_84	C.TS7_84	C.TS8_84	C.SEGAL_1_84
85	C.TS4_85	C.TS5_85	C.TS6_85	C.TS7_85	C.TS8_85	C.SEGAL_1_85
86	C.TS4_86	C.TS5_86	C.TS6_86	C.TS7_86	C.TS8_86	C.SEGAL_1_86
87	C.TS4_87	C.TS5_87	C.TS6_87	C.TS7_87	C.TS8_87	C.SEGAL_1_87
88	C.TS4_88	C.TS5_88	C.TS6_88	C.TS7_88	C.TS8_88	C.SEGAL_1_88
89	C.TS4_89	C.TS5_89	C.TS6_89	C.TS7_89	C.TS8_89	C.SEGAL_1_89
90	C.TS4_90	C.TS5_90	C.TS6_90	C.TS7_90	C.TS8_90	C.SEGAL_1_90
91	C.TS4_91	C.TS5_91	C.TS6_91	C.TS7_91	C.TS8_91	C.SEGAL_1_91
92	C.TS4_92	C.TS5_92	C.TS6_92	C.TS7_92	C.TS8_92	C.SEGAL_1_92
93	C.TS4_93	C.TS5_93	C.TS6_93	C.TS7_93	C.TS8_93	C.SEGAL_1_93
94	C.TS4_94	C.TS5_94	C.TS6_94	C.TS7_94	C.TS8_94	C.SEGAL_1_94
95	C.TS4_95	C.TS5_95	C.TS6_95	C.TS7_95	C.TS8_95	C.SEGAL_1_95
96	C.TS4_96	C.TS5_96	C.TS6_96	C.TS7_96	C.TS8_96	C.SEGAL_1_96
97	C.TS4_97	C.TS5_97	C.TS6_97	C.TS7_97	C.TS8_97	C.SEGAL_1_97
98	C.TS4_98	C.TS5_98	C.TS6_98	C.TS7_98	C.TS8_98	C.SEGAL_1_98
99	C.TS4_99	C.TS5_99	C.TS6_99	C.TS7_99	C.TS8_99	C.SEGAL_1_99

D-Register 3600 ~ 4199

D-Reg.	FILE 13	FILE 14	FILE 15	FILE 16	RESERVED	RESERVED
	3600	3700	3800	3900	4000	4100
0						
1	C.SEGAL2_1	C.SEGAL3_1	C.SEGAL4_1	C.SEGPID_1		
2	C.SEGAL2_2	C.SEGAL3_2	C.SEGAL4_2	C.SEGPID_2		
3	C.SEGAL2_3	C.SEGAL3_3	C.SEGAL4_3	C.SEGPID_3		
4	C.SEGAL2_4	C.SEGAL3_4	C.SEGAL4_4	C.SEGPID_4		
5	C.SEGAL2_5	C.SEGAL3_5	C.SEGAL4_5	C.SEGPID_5		
6	C.SEGAL2_6	C.SEGAL3_6	C.SEGAL4_6	C.SEGPID_6		
7	C.SEGAL2_7	C.SEGAL3_7	C.SEGAL4_7	C.SEGPID_7		
8	C.SEGAL2_8	C.SEGAL3_8	C.SEGAL4_8	C.SEGPID_8		
9	C.SEGAL2_9	C.SEGAL3_9	C.SEGAL4_9	C.SEGPID_9		
10	C.SEGAL2_10	C.SEGAL3_10	C.SEGAL4_10	C.SEGPID_10		
11	C.SEGAL2_11	C.SEGAL3_11	C.SEGAL4_11	C.SEGPID_11		
12	C.SEGAL2_12	C.SEGAL3_12	C.SEGAL4_12	C.SEGPID_12		
13	C.SEGAL2_13	C.SEGAL3_13	C.SEGAL4_13	C.SEGPID_13		
14	C.SEGAL2_14	C.SEGAL3_14	C.SEGAL4_14	C.SEGPID_14		
15	C.SEGAL2_15	C.SEGAL3_15	C.SEGAL4_15	C.SEGPID_15		
16	C.SEGAL2_16	C.SEGAL3_16	C.SEGAL4_16	C.SEGPID_16		
17	C.SEGAL2_17	C.SEGAL3_17	C.SEGAL4_17	C.SEGPID_17		
18	C.SEGAL2_18	C.SEGAL3_18	C.SEGAL4_18	C.SEGPID_18		
19	C.SEGAL2_19	C.SEGAL3_19	C.SEGAL4_19	C.SEGPID_19		
20	C.SEGAL2_20	C.SEGAL3_20	C.SEGAL4_20	C.SEGPID_20		
21	C.SEGAL2_21	C.SEGAL3_21	C.SEGAL4_21	C.SEGPID_21		
22	C.SEGAL2_22	C.SEGAL3_22	C.SEGAL4_22	C.SEGPID_22		
23	C.SEGAL2_23	C.SEGAL3_23	C.SEGAL4_23	C.SEGPID_23		
24	C.SEGAL2_24	C.SEGAL3_24	C.SEGAL4_24	C.SEGPID_24		
25	C.SEGAL2_25	C.SEGAL3_25	C.SEGAL4_25	C.SEGPID_25		
26	C.SEGAL2_26	C.SEGAL3_26	C.SEGAL4_26	C.SEGPID_26		
27	C.SEGAL2_27	C.SEGAL3_27	C.SEGAL4_27	C.SEGPID_27		
28	C.SEGAL2_28	C.SEGAL3_28	C.SEGAL4_28	C.SEGPID_28		
29	C.SEGAL2_29	C.SEGAL3_29	C.SEGAL4_29	C.SEGPID_29		
30	C.SEGAL2_30	C.SEGAL3_30	C.SEGAL4_30	C.SEGPID_30		
31	C.SEGAL2_31	C.SEGAL3_31	C.SEGAL4_31	C.SEGPID_31		
32	C.SEGAL2_32	C.SEGAL3_32	C.SEGAL4_32	C.SEGPID_32		
33	C.SEGAL2_33	C.SEGAL3_33	C.SEGAL4_33	C.SEGPID_33		
34	C.SEGAL2_34	C.SEGAL3_34	C.SEGAL4_34	C.SEGPID_34		
35	C.SEGAL2_35	C.SEGAL3_35	C.SEGAL4_35	C.SEGPID_35		
36	C.SEGAL2_36	C.SEGAL3_36	C.SEGAL4_36	C.SEGPID_36		
37	C.SEGAL2_37	C.SEGAL3_37	C.SEGAL4_37	C.SEGPID_37		
38	C.SEGAL2_38	C.SEGAL3_38	C.SEGAL4_38	C.SEGPID_38		
39	C.SEGAL2_39	C.SEGAL3_39	C.SEGAL4_39	C.SEGPID_39		
40	C.SEGAL2_40	C.SEGAL3_40	C.SEGAL4_40	C.SEGPID_40		
41	C.SEGAL2_41	C.SEGAL3_41	C.SEGAL4_41	C.SEGPID_41		
42	C.SEGAL2_42	C.SEGAL3_42	C.SEGAL4_42	C.SEGPID_42		
43	C.SEGAL2_43	C.SEGAL3_43	C.SEGAL4_43	C.SEGPID_43		
44	C.SEGAL2_44	C.SEGAL3_44	C.SEGAL4_44	C.SEGPID_44		
45	C.SEGAL2_45	C.SEGAL3_45	C.SEGAL4_45	C.SEGPID_45		
46	C.SEGAL2_46	C.SEGAL3_46	C.SEGAL4_46	C.SEGPID_46		
47	C.SEGAL2_47	C.SEGAL3_47	C.SEGAL4_47	C.SEGPID_47		
48	C.SEGAL2_48	C.SEGAL3_48	C.SEGAL4_48	C.SEGPID_48		
49	C.SEGAL2_49	C.SEGAL3_49	C.SEGAL4_49	C.SEGPID_49		

D-Reg.	FILE 13	FILE 14	FILE 15	FILE 16	RESERVED	RESERVED
	3600	3700	3800	3900	4000	4100
50	C.SEGAL2_50	C.SEGAL3_50	C.SEGAL4_50	C.SEGPID_50		
51	C.SEGAL2_51	C.SEGAL3_51	C.SEGAL4_51	C.SEGPID_51		
52	C.SEGAL2_52	C.SEGAL3_52	C.SEGAL4_52	C.SEGPID_52		
53	C.SEGAL2_53	C.SEGAL3_53	C.SEGAL4_53	C.SEGPID_53		
54	C.SEGAL2_54	C.SEGAL3_54	C.SEGAL4_54	C.SEGPID_54		
55	C.SEGAL2_55	C.SEGAL3_55	C.SEGAL4_55	C.SEGPID_55		
56	C.SEGAL2_56	C.SEGAL3_56	C.SEGAL4_56	C.SEGPID_56		
57	C.SEGAL2_57	C.SEGAL3_57	C.SEGAL4_57	C.SEGPID_57		
58	C.SEGAL2_58	C.SEGAL3_58	C.SEGAL4_58	C.SEGPID_58		
59	C.SEGAL2_59	C.SEGAL3_59	C.SEGAL4_59	C.SEGPID_59		
60	C.SEGAL2_60	C.SEGAL3_60	C.SEGAL4_60	C.SEGPID_60		
61	C.SEGAL2_61	C.SEGAL3_61	C.SEGAL4_61	C.SEGPID_61		
62	C.SEGAL2_62	C.SEGAL3_62	C.SEGAL4_62	C.SEGPID_62		
63	C.SEGAL2_63	C.SEGAL3_63	C.SEGAL4_63	C.SEGPID_63		
64	C.SEGAL2_64	C.SEGAL3_64	C.SEGAL4_64	C.SEGPID_64		
65	C.SEGAL2_65	C.SEGAL3_65	C.SEGAL4_65	C.SEGPID_65		
66	C.SEGAL2_66	C.SEGAL3_66	C.SEGAL4_66	C.SEGPID_66		
67	C.SEGAL2_67	C.SEGAL3_67	C.SEGAL4_67	C.SEGPID_67		
68	C.SEGAL2_68	C.SEGAL3_68	C.SEGAL4_68	C.SEGPID_68		
69	C.SEGAL2_69	C.SEGAL3_69	C.SEGAL4_69	C.SEGPID_69		
70	C.SEGAL2_70	C.SEGAL3_70	C.SEGAL4_70	C.SEGPID_70		
71	C.SEGAL2_71	C.SEGAL3_71	C.SEGAL4_71	C.SEGPID_71		
72	C.SEGAL2_72	C.SEGAL3_72	C.SEGAL4_72	C.SEGPID_72		
73	C.SEGAL2_73	C.SEGAL3_73	C.SEGAL4_73	C.SEGPID_73		
74	C.SEGAL2_74	C.SEGAL3_74	C.SEGAL4_74	C.SEGPID_74		
75	C.SEGAL2_75	C.SEGAL3_75	C.SEGAL4_75	C.SEGPID_75		
76	C.SEGAL2_76	C.SEGAL3_76	C.SEGAL4_76	C.SEGPID_76		
77	C.SEGAL2_77	C.SEGAL3_77	C.SEGAL4_77	C.SEGPID_77		
78	C.SEGAL2_78	C.SEGAL3_78	C.SEGAL4_78	C.SEGPID_78		
79	C.SEGAL2_79	C.SEGAL3_79	C.SEGAL4_79	C.SEGPID_79		
80	C.SEGAL2_80	C.SEGAL3_80	C.SEGAL4_80	C.SEGPID_80		
81	C.SEGAL2_81	C.SEGAL3_81	C.SEGAL4_81	C.SEGPID_81		
82	C.SEGAL2_82	C.SEGAL3_82	C.SEGAL4_82	C.SEGPID_82		
83	C.SEGAL2_83	C.SEGAL3_83	C.SEGAL4_83	C.SEGPID_83		
84	C.SEGAL2_84	C.SEGAL3_84	C.SEGAL4_84	C.SEGPID_84		
85	C.SEGAL2_85	C.SEGAL3_85	C.SEGAL4_85	C.SEGPID_85		
86	C.SEGAL2_86	C.SEGAL3_86	C.SEGAL4_86	C.SEGPID_86		
87	C.SEGAL2_87	C.SEGAL3_87	C.SEGAL4_87	C.SEGPID_87		
88	C.SEGAL2_88	C.SEGAL3_88	C.SEGAL4_88	C.SEGPID_88		
89	C.SEGAL2_89	C.SEGAL3_89	C.SEGAL4_89	C.SEGPID_89		
90	C.SEGAL2_90	C.SEGAL3_90	C.SEGAL4_90	C.SEGPID_90		
91	C.SEGAL2_91	C.SEGAL3_91	C.SEGAL4_91	C.SEGPID_91		
92	C.SEGAL2_92	C.SEGAL3_92	C.SEGAL4_92	C.SEGPID_92		
93	C.SEGAL2_93	C.SEGAL3_93	C.SEGAL4_93	C.SEGPID_93		
94	C.SEGAL2_94	C.SEGAL3_94	C.SEGAL4_94	C.SEGPID_94		
95	C.SEGAL2_95	C.SEGAL3_95	C.SEGAL4_95	C.SEGPID_95		
96	C.SEGAL2_96	C.SEGAL3_96	C.SEGAL4_96	C.SEGPID_96		
97	C.SEGAL2_97	C.SEGAL3_97	C.SEGAL4_97	C.SEGPID_97		
98	C.SEGAL2_98	C.SEGAL3_98	C.SEGAL4_98	C.SEGPID_98		
99	C.SEGAL2_99	C.SEGAL3_99	C.SEGAL4_99	C.SEGPID_99		



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