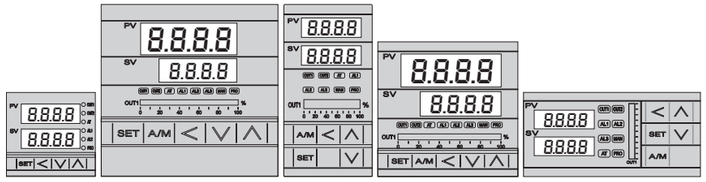
# User's Manual

## Digital PID Temperature / Process Controllers

VER 1.0 2018-05




## 1 Notes

### Warning

1. Beware of Electric Shock !
2. Once controller is activated, do not touch AC power wiring terminals to avoid electric shock !
3. First to confirm power is OFF, before working on the wiring of controller power supply !
4. Before using this product, please read through this operating manual thoroughly to understand the correct usage based on the fundamentals of its conten.
5. This product can be used in industrial equipment, working terminal, measurement equipment, but not in life-saving-related medical equipment.
6. In order to ensure safety even if the temperature controller fails, please set up another alarm system or safety redundancy.

### Caution

1. Before the controller transmits power, make sure that the position of the AC power assembly leg is correct. Otherwise,the controller may be seriously damaged after power transmission is initiated.
2. Before powering on, please confirm whether the power supply voltage is in accordance with the controller's specification (AC 85~265V or DC 24V.) Otherwise, the controller may be seriously damaged after power transmission is initiated.
3. Check if the wiring is connected to the terminal for the correct terminals (Input, Output.)
4. Do not install the controller in places subject to high-frequency interference, corrosive gases, and high temperature and humidity (normal working environment: 0 ~ 50°C, 20 ~ 90% RH.)
5. To avoid noise interference, please keep the sensor wiring away from the power cord and the loading power cord.
6. When the thermocouple lead is extended, please use the compensation lead of the corresponding type to this thermocouple.
7. When the RTD lead wire is extended, please use those with lower resistance value. Please use the same wire between the three wires.

## 2 Basic Function Setting

### 2.1 Input Type Setting

| | | | | | |
|---|---|---|---|---|---|
| 1. | PV 25 / SV 0 | Display after power-on. | 2. | PV inPt / SV tc | Hold SET key+ ≪ key 3 seconds, to enter LEVEL_3 upper display showing "INPT" with lower display showing current input type. |
| 3. | PV inPt / SV tc | Press ≪ , the lower display flashes. | 4. | PV inPt / SV Pt1 | Press ⌃ key and ⌄ key to enter the intended input type. |
| 5. | PV inPt / SV Pt1 | Press SET key to store new value of INPT. | Modify input type needs to interchange of jumper location, and it needs to recalibration for linear input type change. | | |

### 2.2 SV Value Setting

| | | | | | |
|---|---|---|---|---|---|
| 1. | PV 25 / SV 0 | Display after power-on. | 2. | PV 25 / SV 0000 | When ≪ key is pressed, the lower display flashes. |
| 3. | PV 25 / SV 0150 | Press ⌃ key and ⌄ key to adjust set value. | 4. | PV 25 / SV 150 | Press SET key to store new value of SV. |

### 2.3 RUN/STOP Mode Selection

| | | | | | |
|---|---|---|---|---|---|
| 1. | PV 25 / SV 150 | Display after power-on. | 2. | PV r_S / SV StoP | Press SET key to enter parameter setup display, with "R_S" shown on the upper display. |
| 3. | PV r_S / SV StoP | When ≪ key is pressed, the lower display flashes | 4. | PV r_S / SV run | Press ⌃ key or ⌄ key to select RUN/STOP mode. |
| 5. | PV r_S / SV run | Press SET key to store new value of R_S. | When controller is in STOP mode, it shuts off OUTPUT and ALARM functions | | |

### 2.4 Auto Tuning Execution

| | | | | | |
|---|---|---|---|---|---|
| 1. | PV 25 / SV 150 | Display after power-on. | 2. | PV At / SV oFF | Press SET key to get parameter setup display, as "OFF" will be shown on the upper display. |
| 3. | PV At / SV oFF | When ≪ key is pressed, the lower display flashes. | 4. | PV At / SV on | Press ⌃ key or ⌄ key to select auto tuning execution or not. |
| 5. | PV At / SV on | Press SET key to store new value of AT. | When auto tuning AT LED lamp lit and start to output, through a few circles to get new PID value with the precise control, if finished the AT LED will be lamp off. | | |

### 2.5 PID Value Setting

| | | | | | |
|---|---|---|---|---|---|
| 1. | PV 25 / SV 0 | Display after power-on. | 2. | PV P1 / SV 3.0 | Hold SET key 3 seconds, then entering into LEVEL_2 upper display showing "P1", with lower display show current P1 value. |
| 3. | PV P1 / SV 003.0 | When ≪ key is pressed, the lower display flashes. | 4. | PV P1 / SV 050.0 | Press ⌃ key and ⌄ key to set the intended P1 value. |
| 5. | PV P1 / SV 50.0 | Press SET key to store new value of P1. | By the same procedure, use the same ways to set integral value(I1) and derivative value(D1). | | |

### 2.6 ON/OFF Control Setting

| | | | | | |
|---|---|---|---|---|---|
| 1. | PV 25 / SV 150 | Display after power-on. | 2. | PV P1 / SV 3.0 | Hold SET key 3 seconds, then entering into LEVEL_2, as upper display shows "P1",with lower display showing current P1 value. |
| 3. | PV P1 / SV 003.0 | When ≪ key is pressed, the lower display flashes, upper display. | 4. | PV P1 / SV 000.0 | Press ⌄ key until P1 = 0.0 |
| 5. | PV P1 / SV 0.0 | Press SET key to store new value. | 6. | PV HYS1 / SV 1 | Press SET key to get parameter setup display,"HYS1" shown on the upper display. |
| 7. | PV HYS1 / SV 1 | When ≪ key is pressed, the lower display flashes. | 8. | PV HYS1 / SV 10 | Press ⌃ key and ⌄ key to set the intended HYS1 value. |
| 9. | PV HYS1 / SV 10 | Press SET key to store new value. | Heat mode formula:<br>PV > (SV + HYS1) → OUT1 OFF<br>PV ≦ (SV – HYS1) → OUT1 ON<br>Cool mode formula:<br>PV ≧ (SV + HYS1) → OUT1 ON<br>PV < (SV – HYS1) → OUT1 OFF | | |

### 2.7 Alarm Mode Setting

| | | | | | |
|---|---|---|---|---|---|
| 1. | PV 25 / SV 0 | Display after power-on. | 2. | PV inP1 / SV tc | Hold SET key + ≪ key 3 seconds, then entering into LEVEL_3 upper display showing "INPT" with lower display showing current input type. |
| 3. | PV AL1 / SV dEA | Press SET key to get parameter setup display,with "ALD1" shown on the upper display. | 4. | PV AL1 / SV dEA | When ≪ SHIFT key is pressed, the lower display flashes. |
| 5. | PV AL1 / SV dEL | Press ⌃ key and ⌄ key to set the intended ALD1 value. | 6. | PV AL1 / SV dEL | Press SET key to store new value of ALD1. ※ Please refer to ch5 Alarm mode. |

### 2.8 Alarm Value Setting

| | | | | | |
|---|---|---|---|---|---|
| 1. | PV 25 / SV 0 | Display after power-on. | 2. | PV AL1H / SV 0 | Press SET key to get parameter setup display, with "AL1H" shown on the upper display. |
| 3. | PV AL1H / SV 0000 | When ≪ key is pressed, the lower display flashes. | 4. | PV AL1H / SV 0020 | Press ⌃ key and ⌄ key to set the intended AL1H value. |
| 5. | PV AL1H / SV 20 | Press SET key to store new value of AL1H. | | | |

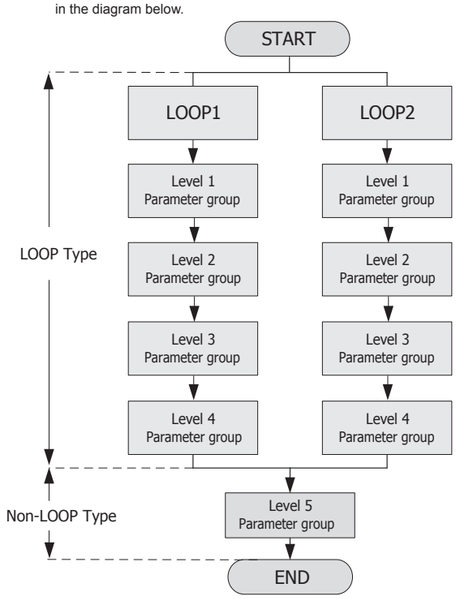
### 2.9 Manual Mode Selection

| | | | | | |
|---|---|---|---|---|---|
| 1. | PV 25 / SV 150 | Display after power-on. | 2. | PV A_M / SV Auto | Press SET key to get parameter setup display, with "A_M" shown on the upper display. |
| 3. | PV A_M / SV Auto | When ≪ key is pressed, the lower display flashes. | 4. | PV A_M / SV COM | Press ⌃ key or ⌄ key to select AUTO/MMAN mode. |
| 5. | PV A_M / SV COM | Press SET key to store new value of A_M. | 6. | PV MOUt / SV 45.0 | Press SET key to get parameter setup display, with "MOUT" shown on the Pressper display. |
| 7. | PV 25 / SV 045.0 | When ≪ key is pressed, the lower display flashes. | 8. | PV 25 / SV 100.0 | Press ⌃ key and ⌄ key to set the intended MOUT value. |
| 9. | PV MOUt / SV 100.0 | Press SET key to store new value of MOUT. | In manual mode and MOUT=100.0, output=100.0% continuously.<br>In manual mode and MOUT=20.0, output=20.0% continuously. | | |

## 3 Flow Chart of Parameter Setting

### 3.1 Parameter Structure

controller is an original dual-loop controller. The parameter group of Level 1~Level 4 is of LOOP type.There are two copies kept in LOOP1 and LOOP2. Level 5 parameter group non-LOOP type is of an independent, linked with Level 4 of LOOP1 or LOOP2,as the parameter structure is shown in the diagram below.




### 3.2 Level Operation Mode

**1. LEVEL 1 enter to the LEVEL 2**
Hold SET key for 3 seconds then entering into LEVEL 2

**2. LEVEL 1 enter to the LEVEL 3**
Hold SET key + SHIFT key for 3 seconds then entering into LEVEL 3

**3. LEVEL 2 return to the LEVEL 1**
Hold SET key for 3 seconds then return to LEVEL 1

**4. LEVEL 2 enter to the LEVEL 3**
Hold SET key for 3 seconds then return to LEVEL 3

**5. LEVEL 1 enter to the LEVEL 4**
Hold SET key for 3 seconds then entering into LEVEL 2, in LEVEL 2 press SET key to find parameter "LOCK", modify LOCK value from current value to 1111 then hold SET key + SHIFT key for 3 seconds then entering into LEVEL 4

**6. LEVEL 2 enter to the LEVEL 5**
Hold SET key for 3 seconds then entering into LEVEL 2, in LEVEL 2 press SET key to find parameter "LOCK", modify LOCK value from current value to 1000 then hold SET key + SHIFT key for 3 seconds then entering into LEVEL 5

**7. LEVEL 3 return to the LEVEL 1**
hold SET key + SHIFT key for 3 seconds then return to LEVEL 1

**8. LEVEL 3 enter to the LEVEL 2**
Hold SET key for 3 seconds then return to LEVEL 2

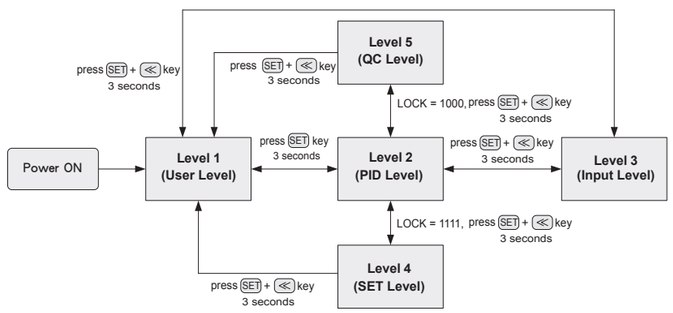
**9. LEVEL 4 return to the LEVEL 1**
Hold SET key + SHIFT key for 3 seconds then return to LEVEL 1

**10. LEVEL 4 return to the LEVEL 2**
Hold SET key for 3 seconds then return to LEVEL 2

**11. LEVEL 5 return to the LEVEL 1**
Hold SET key + SHIFT key for 3 seconds then entering into LEVEL 1

**12. LEVEL 5 return to the LEVEL 2**
Hold SET key for 3 seconds then return to LEVEL 2

### 3.3 Level Operation Diagram




※ : If no key is pressed within 60 seconds, it will automatically return to LEVEL 1 (user level) and display PV/SV.

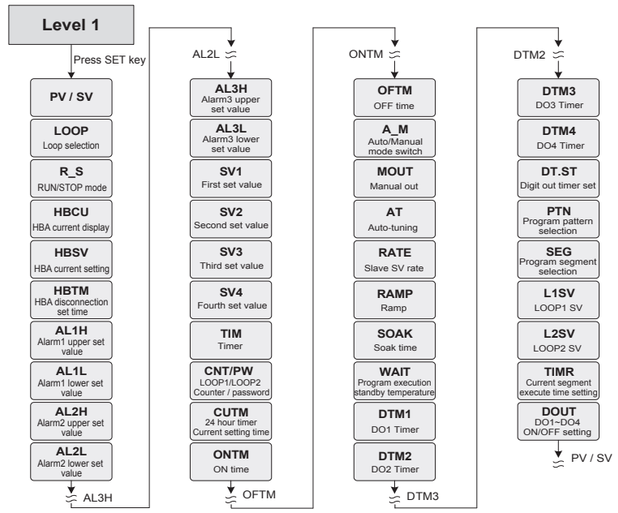
### 3.4 Data Lock Function

LOCK provides a parameter protection function to prevent the first line operator from touching or modifying important parameters.Conversely, when the parameter cannot be modified, please make sure that the set value of LOCK.

| LOCK | LEVEL | | | | | Descriptions |
|---|---|---|---|---|---|---|
| | Level_1 USERLevel | Level_2 PIDLevel | Level_3 INPUTLevel | Level_4 SETLevel | Level_5 QC Level | |
| 0000 | ◎ | ◎ | ◎ | X | X | All parameters of Level 1, 2 & 3 are able to be modified (Factory default setting) |
| 1111 | ◎ | ◎ | X | ◎ | X | All parameters of Level 1, 2 & 4 are able to be modified |
| 1000 | ◎ | ◎ | X | X | ◎ | All parameters of Level 1, 2 & 5 are able to be modified |
| 0001 | ◎ | ◎ | X | X | X | Only SV, LOOP, R_S, A_M,LOCK can be modified |
| 0101 | ◎ | ◎ | X | X | X | Only LOCK can be modified |
| 0110 | ◎ | ◎ | X | X | X | Only parameters of Level 1 and LOCK can be modified |
| Other | ◎ | ◎ | ◎ | X | X | Once jumping to other levels, LOCK will be automatically restored to 0000 |

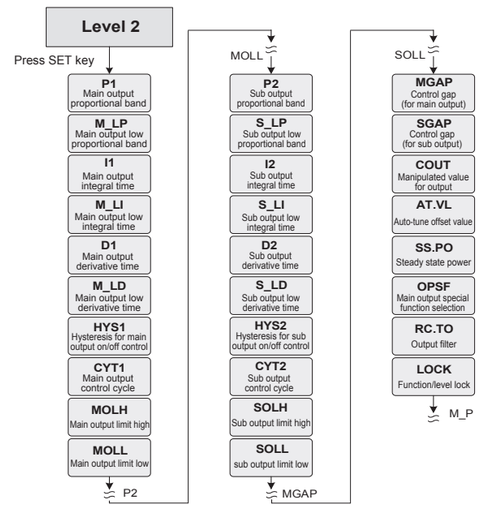
◎ : able to enter X : unable to enter

### 3.5 Level 1 (User Level) All Parameters Display



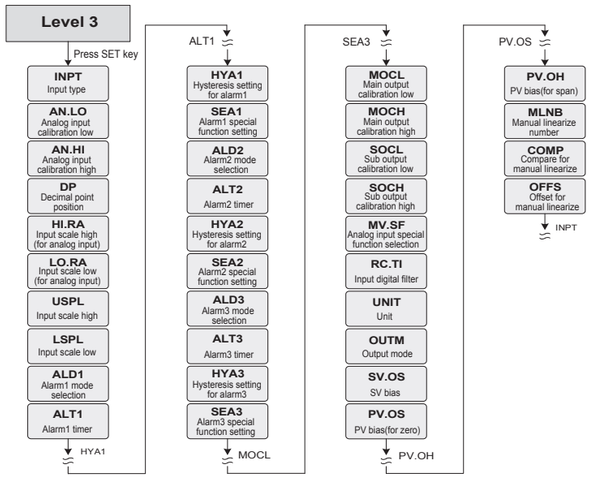

※ If no key is pressed within 60 seconds, it will automatically return to LEVEL 1 (user level) and display PV/SV.

### 3.6 Level 2 (PID Level) All Parameters Display



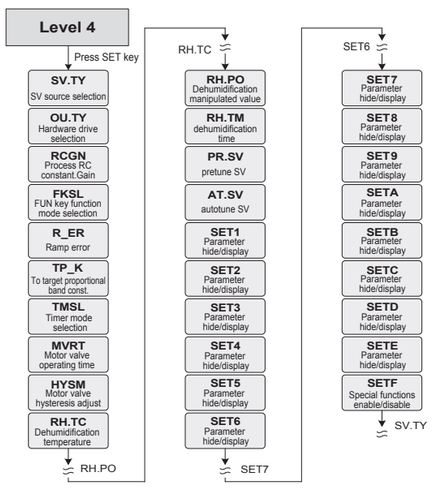

※ If no key is pressed within 60 seconds, it will automatically return to LEVEL 1 (user level) and display PV/SV.

## 3.7 Level 3 (Input Level) All Parameters Display



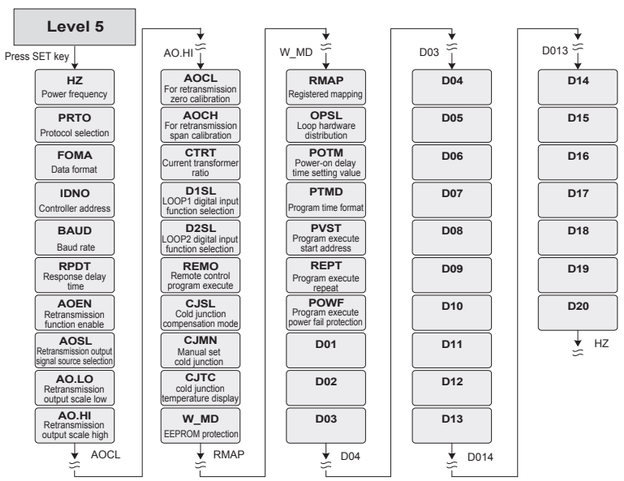

※ If no key is pressed within 60 seconds, it will automatically return to LEVEL 1 (user level) and display PV/SV.

## 3.8 Level 4 (Setting Level) All Parameters Display



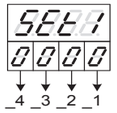

※ If no key is pressed within 60 seconds, it will automatically return to LEVEL 1 (user level) and display PV/SV.

## 3.9 Level 5 (Quality Control) All Parameters Display




※ If no key is pressed within 60 seconds, it will automatically return to LEVEL 1 (user level) and display PV/SV.

## 4 Parameters Hide/Display Table on Level 4



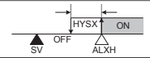
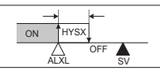
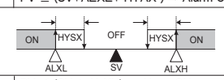
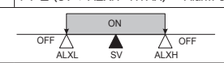
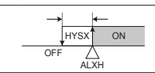
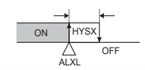
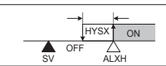
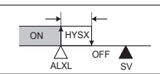
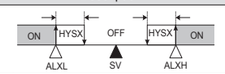
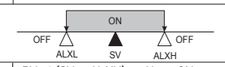
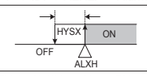
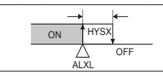

| | | | | |
|---|---|---|---|---|
| SET1 | SET1_1 | 0 | hide | HBCU HBSV HBTM |
| | | 1 | display | HBCU HBSV HBTM |
| | SET1_2 | 0 | hide | AL1H AL1L |
| | | 1 | display | AL1H AL1L |
| | SET1_3 | 0 | hide | AL2H AL2L |
| | | 1 | display | AL2H AL2L |
| | SET1_4 | 0 | hide | AL3H AL3L |
| | | 1 | display | AL3H AL3L |
| SET2 | SET2_1 | 0 | hide | SV1 SV2 |
| | | 1 | display | SV1 SV2 |
| | SET2_2 | 0 | hide | SV3 SV4 |
| | | 1 | display | SV3 SV4 |
| | SET2_3 | 0 | hide | TIM |
| | | 1 | display | TIM |
| | SET2_4 | 0 | hide | (CNT→ LOOP1) (PW→ LOOP2) |
| | | 1 | display | (CNT→ LOOP1) (PW→ LOOP2) |
| SET3 | SET3_1 | 0 | hide | CUTM ONTM OFTM |
| | | 1 | display | CUTM ONTM OFTM |
| | SET3_2 | 0 | hide | A_M MOUT |
| | | 1 | display | A_M MOUT |
| | SET3_3 | 0 | hide | AT |
| | | 1 | display | AT |
| | SET3_4 | 0 | hide | RATE RAMP SOAK |
| | | 1 | display | RATE RAMP SOAK |
| SET4 | SET4_1 | 0 | hide | WAIT |
| | | 1 | display | WAIT |
| | SET4_2 | 0 | hide | DTM1 DTM2 DTM3 DTM4 |
| | | 1 | display | DTM1 DTM2 DTM3 DTM4 |
| | SET4_3 | 0 | hide | DT.ST |
| | | 1 | display | DT.ST |
| | SET4_4 | 0 | hide | PV1 PV2 |
| | | 1 | display | PV1 PV2 |
| SET5 | SET5_1 | 0 | hide | M_LP M_LI M_LD |
| | | 1 | display | M_LP M_LI M_LD |
| | SET5_2 | 0 | hide | MOLH MOLL |
| | | 1 | display | MOLH MOLL |
| | SET5_3 | 0 | hide | S_LP S_LI S_LD |
| | | 1 | display | S_LP S_LI S_LD |
| | SET5_4 | 0 | hide | SOLH SOLL |
| | | 1 | display | SOLH SOLL |
| SET6 | SET6_1 | 0 | hide | COUT |
| | | 1 | display | COUT |
| | SET6_2 | 0 | hide | AT.VL SS.PO |
| | | 1 | display | AT.VL SS.PO |
| | SET6_3 | 0 | hide | OPSF RC.TO |
| | | 1 | display | OPSF RC.TO |
| | SET6_4 | 0 | hide | LOOP R_S |
| | | 1 | display | LOOP R_S |
| SET7 | SET7_1 | 0 | hide | AN.LO AN.HI DP |
| | | 1 | display | AN.LO AN.HI DP |
| | SET7_2 | 0 | hide | HI.RA LO.RA |
| | | 1 | display | HI.RA LO.RA |
| | SET7_3 | 0 | hide | LSPL USPL |
| | | 1 | display | LSPL USPL |
| | SET7_4 | 0 | hide | ALD1 ALT1 HYA1 SEA1 |
| | | 1 | display | ALD1 ALT1 HYA1 SEA1 |
| SET8 | SET8_1 | 0 | hide | ALD2 ALT2 HYA2 SEA2 |
| | | 1 | display | ALD2 ALT2 HYA2 SEA2 |
| | SET8_2 | 0 | hide | ALD3 ALT3 HYA3 SEA3 |
| | | 1 | display | ALD3 ALT3 HYA3 SEA3 |
| | SET8_3 | 0 | hide | MOCL MOCH |
| | | 1 | display | MOCL MOCH |
| | SET8_4 | 0 | hide | SOCL SOCH |
| | | 1 | display | SOCL SOCH |
| SET9 | SET9_1 | 0 | hide | MV.SF |
| | | 1 | display | MV.SF |
| | SET9_2 | 0 | hide | RC.TI |
| | | 1 | display | RC.TI |
| | SET9_3 | 0 | hide | UNIT |
| | | 1 | display | UNIT |
| | SET9_4 | 0 | hide | OUTM |
| | | 1 | display | OUTM |
| SETA | SETA_1 | 0 | hide | SV.OS |
| | | 1 | display | SV.OS |
| | SETA_2 | 0 | hide | PV.OS PV.OH |
| | | 1 | display | PV.OS PV.OH |
| | SETA_3 | 0 | hide | MLNB COMP OFFS |
| | | 1 | display | MLNB COMP OFFS |
| | SETA_4 | 0 | hide | SV.TY |
| | | 1 | display | SV.TY |
| SETB | SETB_1 | 0 | hide | OU.TY |
| | | 1 | display | OU.TY |
| | SETB_2 | 0 | hide | RCGN |
| | | 1 | display | RCGN |
| | SETB_3 | 0 | hide | FKSL |
| | | 1 | display | FKSL |
| | SETB_4 | 0 | hide | R_ER TP_K |
| | | 1 | display | R_ER TP_K |
| SETC | SETC_1 | 0 | hide | TMSL |
| | | 1 | display | TMSL |
| | SETC_2 | 0 | hide | MVRT HYSM |
| | | 1 | display | MVRT HYSM |
| | SETC_3 | 0 | hide | RH.TC RH.PO RH.TM |
| | | 1 | display | RH.TC RH.PO RH.TM |
| | SETC_4 | 0 | hide | PR.SV AT.SV |
| | | 1 | display | PR.SV AT.SV |
| SETD | SETD_1 | 0 | hide | PRTO FOMA IDNO BAUD RPDT |
| | | 1 | display | PRTO FOMA IDNO BAUD RPDT |
| | SETD_2 | 0 | hide | AOEN AOSL AO.LO AO.HI AOCL AOCH |
| | | 1 | display | AOEN AOSL AO.LO AO.HI AOCL AOCH |
| | SETD_3 | 0 | hide | CTRT D1SL D2SL |
| | | 1 | display | CTRT D1SL D2SL |
| | SETD_4 | 0 | hide | REMO |
| | | 1 | display | REMO |
| SETE | SETE_1 | 0 | hide | CJSL CJMN CJTC W_MD RMAP OPSL POTM PTMD PVST REPT POWF |
| | | 1 | display | CJSL CJMN CJTC W_MD RMAP OPSL POTM PTMD PVST REPT POWF |
| | SETE_2 | 0 | hide | D01 D02 D03 D04 D05 D06 D07 D08 D09 D10 D11 D12 D13 D14 D15 D16 D17 D18 D19 D20 |
| | | 1 | display | D01 D02 D03 D04 D05 D06 D07 D08 D09 D10 D11 D12 D13 D14 D15 D16 D17 D18 D19 D20 |
| | SETE_3 | 0 | hide | reserve |
| | | 1 | display | reserve |
| | SETE_4 | 0 | hide | reserve |
| | | 1 | display | reserve |
| SETF | SETF_1 | 0 | | valve control close Relay b contact out |
| | | 1 | | valve control close Relay a contact out |
| | ※SETF_2 | 0 | | in abnormal condition MOUT = SS.PO display MOUT |
| | | 1 | | in abnormal condition MOUT = 0 display PV(error message) |
| | SETF_3 | 0 | | PV Hysteresis_mode disable |
| | | 1 | | PV Hysteresis_mode enable |
| | SETF_4 | 0 | | manul_linearize_mode disable |
| | | 1 | | manul_linearize_mode enable |

※ SETF_2 local default is 1, when PV show error message output turn 0, if need show error message on PV still has quantitative output, may change SETF_2 = 0 and use with SSPO parameter, this function may cause some dangerous, please check systems characteristic again, before revised parameter setting.

## 5 Alarm Mode

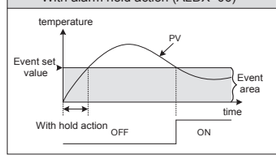
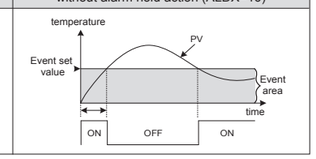
The LED display shows if there is a dot for the first time without alarm, such as → dEHL (Deviation high With hold action)
(When the controller power is ON, the PV value is within the alarm range, and no alarm action will be generated at this time.
Until the alarm range is exceeded, the PV value again enters the alarm range and the alarm will be activated. )

▲ : SV △ : Alarm set value **X : 1 / 2 / 3** (There are up to 3 sets of alarms)

| ALDX | Set value | Alarm mode | Description |
|---|---|---|---|
| nONE | 0 | No alarm function | Not drive any alarm relays and the corresponding LED lamp. |
| dEH. | 1 | Deviation high (With hold action) |   Formula: PV ≧ (SV +ALXH) → Alarm ON; PV ≦ (SV + ALXH - HYAX) → Alarm OFF |
| dEL. | 2 | Deviation low (With hold action) |   Formula: PV ≦ (SV +ALXL) → Alarm ON; PV ≧ (SV+ALXL+ HYAX ) → Alarm OFF |
| dEHL | 3 | Deviation high/low (With hold action) |   Formula: PV ≦ (SV + ALXL) → Alarm ON; PV ≧ (SV + ALXL + HYAX) → Alarm OFF; PV ≧ (SV + ALXH) → Alarm ON; PV ≦ (SV + ALXH - HYAX) → Alarm OFF |
| bAnd | 4 | Band (With hold action) |   Formula: PV ≦ (SV + ALXH) → Alarm ON; PV > (SV + ALXH ) → Alarm OFF; PV ≧ (SV + ALXL ) → Alarm ON; PV < (SV + ALXL) → Alarm OFF |
| PrH. | 5 | Process high (With hold action) |   Formula: PV ≧ ALXH → Alarm ON; PV ≦ (ALXH - HYAX) → Alarm OFF |
| PrL. | 6 | Process low (With hold action) |   Formula: PV ≦ ALXL → Alarm ON; PV ≧ (ALXL + HYAX) → Alarm OFF |
| PEnd | 7 | Program end | When the program is end, the alarm action (applicable to programmable controllers only) |
| SYAb | 8 | System error | The Alert action, when PV displays error message |
| HbA | 9 | HBA (Heater Break Alarm) | Activated conditions：<br>1. Heater current(HBCU) is less the HBSV set value<br>2. OUT1 manipulated value exceed 90%<br>3. Fit with Condition1 and 2 and exceed set the seconds of HBTM |
| SOAK | 10 | soak timer | After the controller in RUN state, the alarm operates (ON). When PV=target SV SOAK start, alarm off in SOAK finish state.For details, please refer to chapter 13.11 RAMP + SOAK(This function has no alarm flash action mode) |
| dEH. | 11 | Deviation high |   Formula: PV ≧ (SV +ALXH) → Alarm ON; PV ≦ (SV + ALXH - HYAX) → Alarm OFF |
| dEL. | 12 | Deviation low |   Formula: PV ≦ (SV +ALXL) → Alarm ON; PV ≧ (SV+ALXL+ HYAX ) → Alarm OFF |
| dEHL | 13 | Deviation high/low |   Formula: PV ≦ (SV + ALXL) → Alarm ON; PV ≧(SV + ALXL + HYAX) → Alarm OFF; PV ≧ (SV + ALXH) → Alarm ON; PV ≦ (SV + ALXH - HYAX) → Alarm OFF |
| bAnd | 14 | Band |   Formula: PV ≦ (SV + ALXH) → Alarm ON; PV > (SV + ALXH ) → Alarm OFF; PV ≧ (SV + ALXL ) → Alarm ON; PV < (SV + ALXL) → Alarm OFF |
| PrH. | 15 | Process high |   Formula: PV ≧ ALXH → Alarm ON; PV ≦ (ALXH - HYAX) → Alarm OFF |
| PrL. | 16 | Process low |   Formula: PV ≦ ALXL → Alarm ON; PV ≧ (ALXL + HYAX) → Alarm OFF |
| PrUN | 17 | Program run | When the program is being executed, the alarm action (applicable to programmable controllers only) |
| SYno | 18 | System normal | The Alert action, when PV displays no-error message |
| SoAK | 19 | Ramp Soak Timer | After the controller in RUN state, the alarm operates (ON). RAMP start, when PV=target SV SOAK start, alarm off in SOAK finish state. |
| tIM. | 20 | Timer | Alarm action after timer time-count is reached |
| CNt | 21 | Counter | Alarm action after counter value is reached |
| CUET | 22 | 24H Timer | When CUTM=ONTM, alarm activates<br>When CUTM=OFTM, alarm stops |

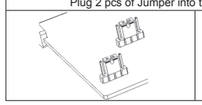
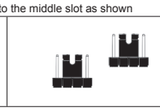
**Alarm Example**

Example 1 : Deviation low, the difference between With alarm hold action and without alarm hold action, shown in the diagram below

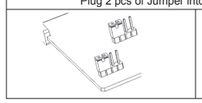
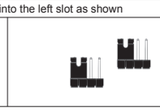
| With alarm hold action (ALDX=06) | without alarm hold action (ALDX=16) |
|---|---|
|   |   |

## 6 Modification of Input Signal

### 6.1 Input Modification to Thermocouple Mode

| Jumper Position | | Software Setting |
|---|---|---|
| Plug 2 pcs of Jumper into the middle slot as shown | | |
|  |  | Parameter set as "INPT=K1~L" |

### 6.2 Input Modification to RTD Mode

| Jumper Position | | Software Setting |
|---|---|---|
| Plug 2 pcs of Jumper into the left slot as shown | | |
|  |  | Parameter set "INPT=PT1~PT3" |

## 7 Error Message

If controller exhibits any of the following issues, please proceed with the following procedures

| Symbol | Error | Solution |
|---|---|---|
| inEr | INIE : Input1 Error | Check whether input loop is opened or wiring is incorrect. |
| UUUU | UUUU : PV is above USPL | Check whether the input value is correct or not. |
| nnnn | NNNN : PV is below LSPL | Check whether the input value is correct or not. |

If any of the indication in the table below appear, the controller need to be repaired do not try to repair the controller by yourself, order a new one or contact us to repair.

| Symbol | Error | Solution |
|---|---|---|
| AdCF | ADCF: A/D convert failed | Please send for repair.. |
| CJER | CJER: Cold junction compensation failed | Please send for repair.. |
| RAMF | RAMF: EEPROM failed | Please send for repair.. |

No. EV1 2018.06 Printed in taiwan