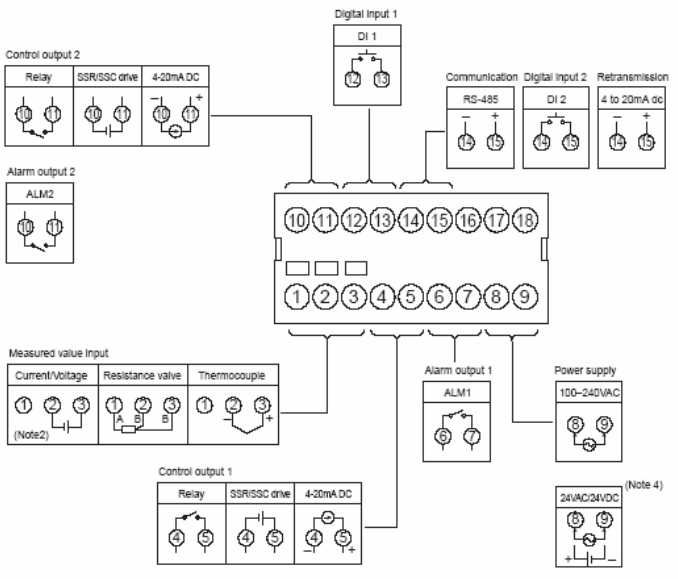
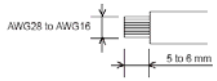
Wiring

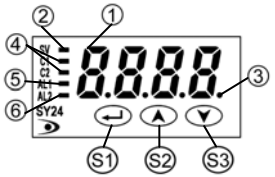




CAUTION: To prevent disconnection or short circuit, never use the wire other than the ona stated above, and make sure to insert it toward the recess of the terminal block.
Fastening torque: 0.4Nm.

Note1) Check the power supply voltage before instalation.
Note2) Connect the I/V unit (250Ω resistor) (accessory) between the terminal 2 and 3 in case of current input.
Note3) Tighten the terminal screw securely with fastening torque of 0.4 Nm.
Note4) If power supply is 24V AC/DC, an input power of 30VAC/30VDC or more will damage the instrument.

Name of functional parts and functions



	Name	Function
S1	Select key	The key shifting to the 1st, the 2nd or the 3rd block parameter, switching the display between parameter and the data at the 1st, the 2nd and the 3rd block.
S2	Up key	· The numerical value is increased by pressing the key once. The numerical value keeps on increasing by pressing the key continuously. · For searching parameters within the 1st, the 2nd and the 3rd block.
S3	Down key	· The numerical value is decreassed by pressing the key once. The numerical value keeps on decreassing by pressing the key continuously. · For searching parameters within the 1st, the 2nd and the 3rd block.

	Name	Function
1	Process value (PV)/ Set value (SV) / parameter name or parameter setting display	1) Displays a process value or set value at operation mode. 2) Displays the parameter name or settings at parameter setting mode. 3) Displays the various error indications (Refer to the Users manual chapter 8. Error indications). 4) Flickers at Standby mode when SV is displayed. 5) Displays the Set value (SV) and "SV-x" (x:1 to x:4) alternately when the SV-switching function is used and SV is displayed.
2	Set value (SV) indication lamp	1) The lamp is lit while a set value (SV) is displayed. 2) Flickers while the process value (PV) is displayed in Standby mode.
3	Auto-tuning/self-tuning indicator	The lamp flickers while the PID auto-tuning or self-tuning is being performed.
4	Control output indication lamp	C1 : The lamp is lit while the control output 1 is ON. C2 : The lamp is lit while the control output 2 is ON. (Note 1)
5	Alarm output 1 (AL1) indication lamp (Note 1)	The lamp is lit while the alarm output 1 is activated. It flickers during ON-delay operation.
6	Alarm output 2 (AL2) indication lamp (Note 1)	The lamp is lit while the alarm output 2 is activated. It flickers during ON-delay operation.

Note 1: Control output 2 and alarm function are optional.

Display and operation

Standby mode

To perform standby operation, set "Stby" as ON in the 1st block parameter.

Showing the process value (PV)

SV indication lamp flickers

Showing the set value (SV)

SV indication lamp is lit

Standby mode
(Output) Control outputs (1 and 2) and alarm outputs (all) are not provided. However, depending on setting of "P-n1", control action, control outputs are provided at the abnormal input. No alarm output is provided at standby mode, even in (Fault-condition)

Caution: Be careful since the equipment does not provide output of the alarm of the main unit abnormality during the Standby operation.

(Control) Control is not performed.
(Display) SV indication lamp flickers.
While SV being diplayed, SV display value flickers.

Caution: The SV display does not flicker while the 1st, 2nd and 3rd block parameters are displayed.
(Setting) SV and parameter settings are able to perform.

Switching by 1st block Stby settings

Operation mode

Showing the process value (PV)

SV indication lamp is lit

Showing the set value (SV)

The set value (SV) can be changed

1 Change of Set Value (SV)

Caution: After the data setting, the data are registered automaticaly in 3 seconds.

2 Shift to the 1st, 2nd and 3rd block parameter
To shift to the other blocks, press the ↵ key

Caution
Depending on the pressing time of the ↵ key, you can select the block to shift.

↵ Pressing time	Shifting block
About 1 sec pressing	1st block
About 3 sec pressing	2nd block
About 5 sec pressing	3rd block

Switching by the ↵ key

Parameter setting mode

Press the ↵ key for 2 sec.

3) Shift to operating condition

Operating mode (SV disp)

Parameter setting procedure:

1 Select a parameter you want to set by pressing the ▲ or ▼ key
2-1 Press the ↵ key to display the parameter set value.
2-2 Pressing the ▲ or ▼ key, change the parameter set value.
2-3 After the parameter has been changed, press the ↵ key for registration.
3 To shift to Operation/Standby mode, press the ↵ key for 2 sec.

1) Parameter selection
2) Parameter settings
Press ↵ once
Parameter search
Parameter SV change
▲ Increases value
▼ Decreases value
↵ Registers value
When the set value is changed the numeric value flickers

Caution: If it is left in this state for 30 sec., the change becomes invalid, and it returns to Operation/Standby mode.

Press ↵ once

▲ By repeating the same procedure, the parameters can be displayed according to the parameter lis shown in "Setting methods of temperature and parameters"

DITEL

SYROS SERIES

MODEL SY24

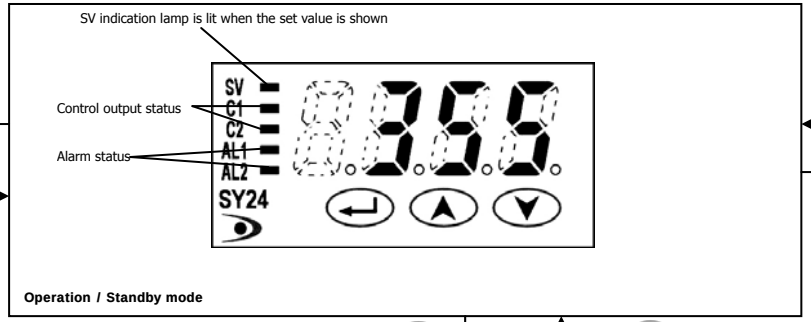
Temperature Regulator
FAST REFERENCE

For detailed information refer to
OPERATING MANUAL 30727247

Edition 27-01-2005 Code 30727246

Setting methods of temperature and parameters

Caution: Some parameters may not be displayed on the screen, depending upon the types.



Press ↵ for about 1 s

Press ↵ for about 2 s

Press ↵ for about 3 s

Press ↵ for about 2 s

Press ↵ for about 5 s

Press ↵ for about 2 s

1st block parameter

Parameter display simbol		Parameter	Description	Default Setting	Notes
StbY	STbY	Standby settings	Switches RUN or Standby of the control. ON: Control standby (output: OFF alarm: OFF) OFF: Control RUN.	OFF	
ProG	ProG	Ramp/Soak control	OFF: Stop rUn: Start HLd : Status hold	OFF	
LACH	LACH	Alarm latch cancel	0:Keeps the alarm latch 1:Opens up the alarm latch.	0	
AT	AT	Auto-tuning	Used for setting the constants P, I and D by auto-tunning 0:OFF 1:Standard AT start 2:low PV type start	0	
tM-1	TM-1	Timer 1 display	Time displays indicating the remaining time at the timer mode.	-	
tM-2	TM-2	Timer 2 display		-	
AL1	AL1	Alarm 1 set value	Sets the value at which alarm 1 is detected. AL1 appears only with alarm action type 1 to 10. Setting range: Note 1	10	Tabla3 Pag.43 Note
A1-L	A1-L	Lower limit value of alarm 1	Sets the lower limit value at which alarm 1 is detected. A1-L appears only with alarm action type 16 to 31. Setting range: Note 1	10	
A1-H	A1-H	Upper limit value of alarm 1	Sets the upper limit value at which alarm 1 is detected. A1-H appears only with alarm action type 16 to 31. Setting range: Note 1	10	
AL2	AL2	Alarm 2 set value	Sets the value at which alarm 2 is detected. AL2 appears only with alarm action type 1 to 10. Setting range: Note 1	10	
A2-L	A2-L	Lower limit value of alarm 2	Sets the lower limit value at which alarm 2 is detected. A2-L appears only with alarm action type 16 to 31. Setting range: Note 1	10	
A2-H	A2-H	Upper limit value of alarm 2	Sets the upper limit value at which alarm 2 is detected. A2-H appears only with alarm action type 16 to 31. Setting range: Note 1	10	
LoC	Loc	Key lock	Setting of key lock status	0	

LoC	All parameters		SV	
	Front key	Communi-cation	Front key	Communi-cation
0	O	O	O	O
1	X	O	X	O
2	X	O	O	O
3	O	X	O	X
4	X	X	X	X
5	X	X	O	X

O:Enabled X:Disabled

2nd BLOCK PARAMETER

Parameter display simbol		Parameter	Description	Default Setting	Notes
P	P	Proportional band	Setting range : 0,0 to 999,9% ON/OFF control when "P"=0.0	5.0	
I	I	Integral time (reset)	Setting range: 0 to 3200 sec. No integral action when "I" = 0	240	
d	D	Derivative action time	Setting range: 0,0 to 999,9 sec. No derivative action when "D" = 0.0	60.0	
HYS	HYS	Hysteresis for ON/OFF control	Setting range: 0 to 50% FS.	1	
CooL	CooL	Proportional band coefficient for cooling side	Setting range: 0.0 to 100.0 ON/OFF control when "CooL" = 0.	1.0	
db	db	Deadband/Overlap	Setting range: -50.0 to +50.0%	0.0	
CTrL	CTrL	Control algorithm	PID: Runs normal PID control FUZY:Runs PID control with fuzzy logic SELF:Runs PID control with self-running	PID	
tC	TC	Cycle time of control output 1	Setting range: 1 to 150 sec.	30/2	Note 2
tC2	TC2	Cycle time of control output 2	Setting range: 1 to 150 sec.	30/2	Note 2
P-n2	P-n2	Input type code	Setting range: 1 to 16 (1:Pt100, 2:TC"J", 3:TC"K")	3	Table1 Pag.42
P-SL	P-SL	Lower limit of input range	Setting range: -1999 to 9999	-150	Table2 Pag.42
P-SU	P-SU	Upper limit of input range	Setting range: -1999 to 9999	400	
P-dP	P-dP	Setting of decimal point position	Setting range: 0 to 2	0	
PVOF	PVOF	PV Offset	Setting range: -10 to 10%FS	0	
P-dF	P-dF	Time constant of input filter	Setting range: 0.0 a 900.0 sec.	5.0	
ALM1	ALM1	Type of alarm 1	Setting range: 0 a 34	0/5	Table4 Pag.48
ALM2	ALM2	Type of alarm 2		0/9	
STAT	STAT	Ramp/Soak status	No setting can be made	OFF	
PTn	PTn	Ramp/Soak execute type	1: Executes 1st to 4th segment 2: Executes 5th to 8th segment 3: Executes 1st to 8th segment	1	
SV-1 ... SV-8	SV-1 to SV-8	Ramp target SV-1 to SV-8	Setting range: 0 to 100% FS	0%	
TM1r ... TM8r	TM1r to TM8r	1st Ramp segment time to 8th Ramp segment time	Setting range: 0 to 99h59m	0.00	
TM1S ... TM8S	TM1S a TM8S	1st Soak segment time to 8th Soak segment time	Setting range: 0 to 99h59m	0.00	

3rd BLOCK PARAMETER

Parameter display simbol		Parameter	Description	Default Setting	Notes
P-n1	P-n1	Control action	Selects the control action	0/4	Table4 Pag.44
SV-L	SV-L	Lower limit of SV	Lower limit of SV Setting range: 0 to 100% FS.	0%FS	
SV-H	SV-H	Upper limit of SV	Upper limit of SV Setting range: 0 to 100% FS.	100%FS	
dLY1	dLY1	ON delay time of alarm 1	On delay setting for alarm output. Setting range: 0 to 9999 sec.	0	
dLY2	dLY2	ON delay time of alarm 2		0	
A1hY	A1h	Hysteresis for alarm 1	Sets ON-OFF hysteresis for alarm output. Setting range: 0 a 50% FS.	1	
A2hY	A2h	Hysteresis for alarm 2		1	
A1oP	A1oP	Additional function of alarm 1	Additional function of alarm 1 and 2 Alarm latch (1: use; 0: not use) Alarm of error status (1:use; 0:not use) De-energized (1: use; 0:not use) (Note 3)	000	
A2oP	A2oP	Additional function of alarm 2		000	
dI-1	di-1	DI1 Function	Sets digital input 1 (DI1) function Setting range: 0 to 12	0 (OFF)	6-7 Pag.35
dI-2	di-2	DI2 Function	Sets digital input 2 (DI2) function Setting range: 0 to 12	0 (OFF)	6-7 Pag.35
Stno	STn	Station number	Communication station number Setting range: 0 to 255	1	
CoM	CoM	Parity setting	Parity setting (baud rate is fixed at 9600bps.) Setting range: 0 to 2	0	6-6 Pag.34
PyP	PYP	Code for PYP input type	Input code type used when communicating with PYP. See Operation manual. (Initial value: K: 0 to 400 ºC)	34	
Ao-T	Ao-T	Re-transmission output type	Switches the signals to be output for re-transmission (0: PV ; 1: SV ; 2: MV ; 3: DV)	0	
Ao-L	Ao-L	Re-transmission output scale lower limit	Lower limit of the scaling for re-transmission output Setting range: -100 to 100%	0	
Ao-H	Ao-H	Re-transmission output scale upper limit	Upper limit of the scaling for re-transmission output Setting range: -100 to 100%	100%	
dSP1 ... dSP9 ... dP10 dP13	dsP1 to dsP9 ... dP10 to dP13	Parameter mask	Specifying parameter mask		

Note: All table/page references in this quick guide, are refered to the users manual.

Note 1: Setting range : 0 to 100% FS (in case of absolute value alarm)
-100 to 100% FS (in case of deviation alarm)

Note 2: When using the heather break alarm, set the parameter "TC" to 20 or more.
Set the "CT" (Current transformer) so that it measures the current of the heather connected to the control output 1.
Disconnection of the control output 2 cannot be detected.
Never set "TC" / "TC2" = 0.

Note 3: De-energized: Contact opens when the alarm "ON"