sonep 5002U-P masibu

PARAMETER SETTINGS

Following parameters can view or change during run time.

- For Thermocouple input type, Press ⇈ key to show ambient temperature
- Press ⇊ key to show percentage power (0.0 to 100.0%).
- For Acknowledgment press ACK key in Run mode.
- Press ⟲ key for approx. 3 sec to enter into Level mode.

Into Level mode, press ⟲ key to go forward to show next parameter, press ⇊ key to go backward to show previous parameter.

- Following parameters can be viewed using ⟲ or ⇊ Keys. It can be save using ⟲ key, it can be changed using ⇈ or ⇊ Keys.

Set Point Setting

Display	Name	Description	Default Value
Sp.1 (SP.1)	Target Set point-1	Depending on PV sensor type selected	200
[2]Pb (Pb)	Proportional Band	0.1 to 999.9	50.0
[3]HY (hy)	hysteresis (For On/Off control)	1 to 250	2
[1]A1.SP (A1.SP)	Alarm 1 Set point	PV range selected[4]	0
[1]A1.HY (A1.hy)	Alarm 1 Hysteresis	1 to 250	2
A2.SP (A2.SP)	Alarm 2 Set point	PV range selected[4]	0
A2.HY (A2.hy)	Alarm 2 Hysteresis	1 to 250	2
A3.SP (A3.SP)	Alarm 3 Set point	PV range selected[4]	0
A3.HY (A3.hy)	Alarm 3 Hysteresis	1 to 250	2
A4.SP (A4.SP)	Alarm 4 Set point	PV range selected[4]	0
A4.HY (A4.hy)	Alarm 4 Hysteresis	1 to 250	2

[1] Display if output type is None
[2] Display if Control type is P
[3] Display if Control type is on/off
[4] If the value falls outside the range, output is unpredictable.

LEVEL 1: Alarm Settings

Display	Name	Description	Default Value
Pwd (Pwd)	Password	0 to 9999(Password Protection for Level-1)	-
[2]A1.tP (A1.tP)	Alarm 1 Type	0 to 22. Refer alarm type Table-1.2 in Quick User Guide	0 (none)
[2]A1.LC (A1.Lc)	Alarm 1 Logic (normal or fail safe selection)	norm/ FLSF 0:(norm) 1: (FLSF)	Normal
[2]A1.Dy (A1.dy)	Alarm 1 Delay	1 to 99 sec	10
[2]A1.LT (A1.Lt)	Alarm 1 Latch	YES/no 1:(YES) 0: (no)	0
A2.TP (A2.tP)	Alarm 2 Type	0 to 22. Refer alarm type Table-1.2 in Quick User Guide	0(none)
A2.LC (A2.LC)	Alarm 2 Logic (normal or fail safe selection)	norm/ FLSF 0:(norm) 1:(FLSF)	Normal
A2.Dy (A2.dy)	Alarm 2 Delay	1 to 99 sec	10
A1.LT (A1.Lt)	Alarm 2Latch	YES/no 1:(YES) 0: (no)	0
A3.tP (A3.tP)	Alarm 3 Type	0 to 22. Refer alarm type Table-1.2 in Quick User Guide	0(none)
A3.LC (A3.Lc)	Alarm 3 Logic	norm/ FLSF 0:(norm) 1:(FLSF)	Normal
A3.Dy (A3.dy)	Alarm 3 Delay	1 to 99 sec	10
A3.LT (A3.Lt)	Alarm 3Latch	YES/no 1:(YES) 0: (no)	0
A4.tP (A4.tP)	Alarm 4 type	0 to 22. Refer alarm type Table-1.2 in Quick User Guide	0(none)
A4.LC (A4.LC)	Alarm 4 Logic	norm/ FLSF 0:(norm) 1:(FLSF)	Normal
A4.Dy (A4.dy)	Alarm 4 Delay	1 to 99 seconds	10
A4.LT (A4.Lt)	Alarm 4Latch	YES/no 1:(YES) 0:(no)	0

[1] If the value falls outside the range, output is unpredictable.
[2] Display if output type is None

LEVEL 2:Functional Parameters Configuration Part-1

Display	Name	Description	Default Value
Pwd (Pwd)	Password	0 to 9999(Password Protection for Level-2)	-
inP.t (inP.t)	PV Input Type (E, J, K, T etc.)	Follow Table-1.1 in Quick User Guide	K-TC
[1]A.CJC (A.cJc)	Auto Cold junction Compensation	YES/no 1:(YES) 0:(no)	YES
[1]F.CJC (F.cJc)	Fix cold junction Compensation	0 to 60.0 Degree	0.0
Pv.Hi (Pv.hi)	Process value range high setting (span > zero)	Range of the sensor(Table-1.1 in Quick User Guide) / -1999 to 9999	1370
		(for linear input types)	
Pv.Lo (Pv.Lo)	Process value range lower setting		-200
[2]IN.HI (in.hi)	Input value range higher setting	Input high value (For Linear type only)	0
[2]IN.LO (in.Lo)	Input value range lower setting	Input low value (For Linear type only)	0
[2]dP (dP)	Decimal Point Setting	0 to 3	0
Ot (ot)	Output Type	onof/ P/nonE 0:(onof) – on-off 1:(P) – Proportional Control 2:(none) – None	0(On-off)
[3]Pb (Pb)	Proportional Band	0.1 to 999.9	50.0
[3]Ct (ct)	Cycle Time	1 to 250 sec	10
[3]MR (mr)	Manual Reset	-50 to 50 %	0%
[4]HY (hy)	hysteresis (For On/Off control)	1 to 250	2
PV.SC (Pv.Sc)	Process value scale	doun/ UP 0:(down) 1:(up)	down
o.dir (o.dir)	Output (Cool / Heat) Direction (Dir / Rev)	dir/ rEv 1:(dir) 0:(rev)	Rev
Rdly (rdLy)	Relay Delay	0 to 99	0
[2]Sqrt (Sqrt)	Square Root for Linear Inputs Type	YES/no 1:(YES) 0:(no)	No
SP.no (SP.no)	Set point selection to display set point in RUN mode	1/2/3/4 1:(sp.1) 2:(sp.2) 3:(sp.3) 4:(sp.4)	1 (Set Point–1)
FLtr (FLtr)	Filter for Process value(1st order low-pass IIR filter)	0 to 60 sec	5
OFST (OFSt)	Offset for Process Value	For TC,RTD input range- -100.0 to 100.0 For Linear input range - -1000 to 1000	0
SP (SP)	Set Point and hysteresis Display Option	UnLP/LP 0:(Unlock) 1:(Lock)	UnLP (Unlock)

[1] Display if input type is T/C
[2] Display only if input type is Linear
[3] Display if Control type is P
[4] Display if Control type is on/off

LEVEL 3: Functional Parameters Configuration Part-2

Display	Name	Description	Default Value
Pwd (Pwd)	Password	0 to 9999(Password Protection for Level-3)	-
Sr.no (Sr.no)	Unit ID	1 to 247	1
bAUd (bAUd)	Communication Baud rate	9600/ 19.2P 0:(9600) – 9600 bps 1:(19.2K) – 19.2 Kbps	19.2k bps
Pr.St (Pr.St)	Parity/Stop bit selection	P.nS.1/P.nS2 /P.oS.1/P.E.S.1 0:(P.N.S.1)-parity none-stop bit-1 1:(P.N.S.2)-parity none - stop bit-2 2:(P.O.S.1)-parity odd -stop bit-1 3:(P.E.S.1)-parity even - stop bit-1	No parity /Stop bit - 2
rtr.t (rtr.t)	Retransmission 1 Output Type	0-20/4-20 / 0-5u/ 1-5u/ 0-10u 0:(0-20) – 0-20mA 1:(4-20) – 4-20mA 2:(0 - 5) – 0 – 5volt 3:(1 - 5) – 1 – 5volt 4:(0 – 10) - 0 - 10volt	4-20 mA
r.dir (r.dir)	Retransmission 1 direction	dir/ rEu 1:(dir) 0: (rev)	Dir
rtr.H (rtr.h)	Retransmission 1 upper limit	-5.0% to 105.0%	105.0%
rtr.L (rtr.L)	Retransmission 1 lower limit	-5.0% to 105.0%	-5.0%
rtr.S (rtr.S)	Retransmission 1 Span	Higher Range of Output as per Range of the sensor	1370
rtr.Z (rtr.Z)	Retransmission 1 Zero	Lower Range of Output as per Range of the sensor	-200
rtr.t (rtr.t)	Retransmission 2 Output Type	0-20/4-20 / 0-5u/ 1-5u 0-10v 0:(0-20) – 0-20mA 1:(4-20) – 4-20mA 2:(0 - 5) – 0 – 5volt 3:(1 - 5) – 1 – 5volt 4:(0 – 10) - 0 - 10volt	4-20 mA
r.dir (r.dir)	Retransmission 2 direction	dir/ rEu 1:(dir) 0: (rev)	Dir
rtr.H (rtr.H)	Retransmission 2 upper	-5.0% to 105.0%	105.0%

	limit		
rtr.L (rtr .L)	Retransmiss-ion 2 lower limit	-5.0% to 105.0%	-5.0%
rtr.S (rtr .S)	Retransmiss-ion 2 Span	Higher Range of Output as per Range of the sensor	1370
rtr.Z (rtr .Z)	Retransmiss-ion 2 Zero	Lower Range of Output as per Range of the sensor	-200
t.out (t .out)	Timeout of display back to PV/SV	10 to 100 Seconds	60
Pwd (Pwd)	Password to Enter into lock mode	0 to 9999	-
LOCK (LOCK)	Lock LEVEL-1	L1on/L1oF 1:L1on 0:L1oF	L1 OF
LOCK (LOCK)	Lock LEVEL-2	L2on/L2oF 1:L2on 0:L2oF	L2 OF
LOCK (LOCK)	Lock LEVEL-3	L3on/L3oF 1:L3on 0:L3oF	L3 OF
[1]S.Pwd (S .Pwd)	Password Set password to lock selected level	0 to 9999	0

[1] If lock is on user can set password for all level

Calibration

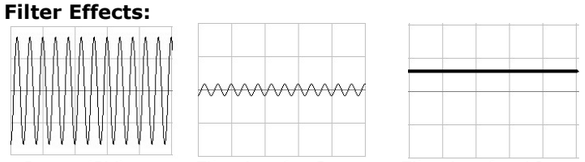
Display	Name	Description	Default Value
Pwd (Pwd)	Password	0 to 9999(Password Protection for Level-4)	-
[1]Amb (Amb)	Ambient	Ambient Adjustment	-
[2]tc.L.S (tc .L .S)	Thermocouple and Linear Span Calibration	Depending on PV sensor type selected	-
[3]rtd.Z (rtd .Z)	Calibration Zero FOR RTD Input		-
[3]rtd.S (rtd .S)	Calibration Span FOR RTD Input		-
rtr.Z (rtr .Z)	Retransmissio n1 Zero calibration		-
rtr.S (rtr .S)	Retransmissio n1Span calibration		-
rtr.Z (rtr .Z)	Retransmissio n2 Zero calibration		-
rtr.S (rtr .S)	Retransmissio n2 Span calibration		-

[1]Display if PV Sensor type is T/c.
[2]Display if Pv sensor type is T/c or Linear
[3]Display if PV Sensor type is RTD

Factory Reset Mode

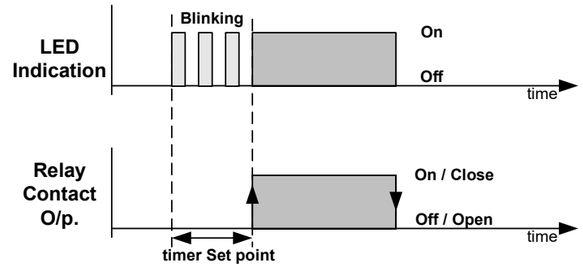
Display	Name	Description	Default Value
Pwd (Pwd)	Password	0 to 9999	-
L.dEF (L .dEF)	LOAD Default	CAL\PArA (CAL)\(PARA) CAL- Only calibration set to default value PARA- All parameters excluding calibration will set to default value	

Filter Effects:

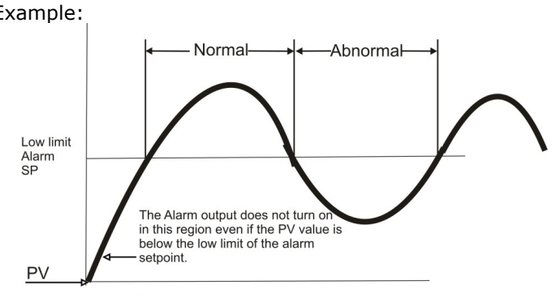


Input (PV) Filtering for 2 sec Filtering for 10 sec

Hysteresis : Hysteresis application is shown in the figure.
Direction: All the figures here are shown considering the setting is Normal. If the settings are Fail Safe, the relays will behave exactly the opposite way. However, it's worth mentioning that the relays will be in off (de-energized state on
Power on / reset condition). They will energize only after approximate 5 seconds. When alarm type none is selected, relay status depends on Direction.
Delay:
A time delay can be provided for the actual output. Effects of delay are illustrated in the diagram below.



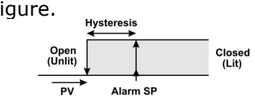
Standby operation:
For alarm types, 15 to 20, the relay action happens only after the PV has crossed the SP after power on.
Example:



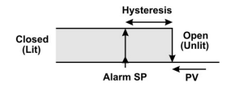
Stand-by Action

ALARM OUTPUT

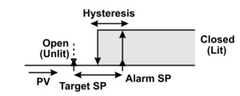
Alarm Types:
Various alarm operations are shown in the reference figure.



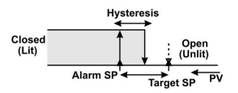
Absolute Value High Alarm
Figure: 1



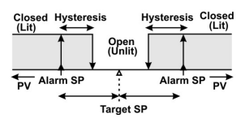
Absolute Value Low Alarm
Figure: 2



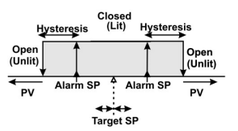
Deviation High Alarm
Figure: 3



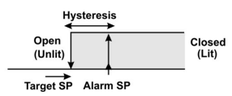
Deviation Low Alarm
Figure: 4



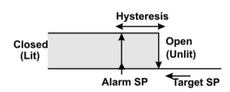
Deviation High/Low Range Alarm
Figure: 5



Deviation High/Low Band Alarm
Figure: 6



Absolute Value
Set Point High Alarm
Figure: 7



Absolute Value
Set Point Low Alarm
Figure: 8

Display message	ALARM TYPE	Display message	ALARM TYPE
none	None	**P.A.L.A**	Absolute value Low alarm
P.D.H.C	Deviation High control	**SP.A.H**	Absolute value set point high alarm
P.D.H.A	Deviation High alarm	**SP.A.L**	Absolute value set point low alarm
P.D.L.C	Deviation Low control	**P.S.D.H**	Deviation High alarm with standby
P.D.L.A	Deviation Low alarm	**P.S.D.L**	Deviation Low alarm with standby
P.D.R.C	Deviation High & Low Range control	**P.S.D.R**	Deviation High & Low Range alarm with standby
P.D.R.A	Deviation High & Low Range alarm	**P.S.D.B**	Deviation High & Low Band alarm with standby
P.D.B.C	Deviation High & Low Band control	**P.S.A.H**	Absolute value High alarm with standby
P.D.B.A	Deviation High & Low Band alarm	**P.S.A.L**	Absolute value Low alarm with standby
.A.H.C	Absolute	**PV-E**	PV
	value High control		error(OPEN/OVER/UNDER)
P.A.H.A	Absolute value High alarm	**PRVE**	Any type of error
P.A.L.C	Absolute value Low control		

Table 1.2

Note**:** The fault diagnosis output turns on in case of input burnout (PV) failure.

For operation manual please visit www.masibus.com
Specifications are subject to change without notice due to continuous improvements.
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