neuro 202

1/16 DIN Size Universal
Single Loop Process Controller

Operation Manual

This brief manual is primarily meant for quick reference to wiring connections and parameter searching. For more details on operation and application; please log on to www.ppiindia.net

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INPUT/OUTPUT CONFIGURATION PARAMETERS : PAGE 12

Parameters	Settings (Default Value)
Control Action C.Act	On.OF On-Off PULS Pulse PId PID (Default : PID)
Control Logic CtrL	rEu Reverse dir Direct (Default : Reverse)
Setpoint Low Limit SP.Lo	Min. Range to Setpoint High for the selected Input Type (Default : -199)
Setpoint High Limit SP.Hi	Setpoint Low to Max. Range for the selected Input Type (Default : 1376)
Sensor Break Output Power % Sb.OP	0 to 100 (Default : 0)
Input Type inPt	Refer Table 1 (Default : Type K)
PV Units Unit	°C °F (Default : °C)

Signal Low SG.Lo

Input Type	Settings	Default
0 to 20 mA	0.00 to Signal High	0.00
4 to 20 mA	4.00 to Signal High	4.00
Reserved	0.0 to Signal High	0.0
0 to 80 mV	0.00 to Signal High	0.00
0 to 1.25 V	0.000 to Signal High	0.000
0 to 5 V	0.000 to Signal High	0.000
0 to 10 V	0.00 to Signal High	0.00
1 to 5 V	1.000 to Signal High	1.000

Signal High SG.Hi

Input Type	Settings	Default
0 to 20 mA	Signal Low to 20.00	20.00
4 to 20 mA	Signal Low to 20.00	20.00
Reserved	Signal Low to 80.00	80.00
0 to 80 mV	Signal Low to 80.00	80.00
0 to 1.25 V	Signal Low to 1.250	1.250
0 to 5 V	Signal Low to 5.000	5.000
0 to 10 V	Signal Low to 10.00	10.00
1 to 5 V	Signal Low to 5.000	5.000

PV Resolution rSLn	Refer Table 1 (Default : 1)
PV Range Low r.Lo	-1999 to 9999 (Default : 0)
PV Range High r.Hi	-1999 to 9999 (Default : 1000)
Offset for PV OFSt	**For DC mA/mV/V** : 1 to 9999 counts **For Thermocouples/RTD** : 1 to 999 or 0.1 to 999.9 (Default : 0)
Digital Filter Time Constant Fi Lt	0.5 to 60.0 Seconds (in steps of 0.5 Seconds) (Default : 2.0 Sec.)

CONTROL PARAMETERS : PAGE 10

Parameters	Settings (Default Value)
Proportional Band Pb	1 to 9999 counts (Default : 500)
Integral Time It	0 to 3600 Seconds (Default : 100 Sec.)
Derivative Time dt	0 to 600 Seconds (Default : 16 Sec.)
Cycle Time Ct	0.5 to 100.0 Seconds (in steps of 0.5 secs.) (Default : 10.0 Sec.)
Relative Cool Gain rEL.C	0.1 to 10.0 (Default : 1.0)
Cool Cycle Time CC.t	0.5 to 100.0 Seconds (in steps of 0.5 secs.) (Default : 10.0 sec.)
Hysteresis HYSt	1 to 9999 counts (Default : 2)
Pulse Time PL.t	Pulse ON Time to 120.0 Seconds (Default : 2.0 sec.)
Pulse On Time On.t	0.1 to Value set for Pulse Time (Default : 1.0)
Cool Hysteresis C.HYS	1 to 9999 counts (Default : 2)
Cool Pulse Time C.PL.t	Cool ON Time to 120.0 Seconds (Default : 2.0)
Cool Pulse ON Time C.On.t	0.1 to Value set for Cool Pulse Time (Default : 1.0)
Heat Power Low PL	0 to Heat Power High (Default : 0)
Heat Power High PH	Heat Power Low to 100 (Default : 100)
Cool Power Low C.PL	0 to Cool Power High (Default : 0)
Cool Power High C.PH	Cool Power Low to 100 (Default : 100)

SUPERVISORY PARAMETERS : PAGE 13

Parameters	Settings (Default Value)
Self-Tune Command tUnE	no No YES Yes (Default : No)
Overshoot Inhibit OS. Ih	dSbL Disable EnbL Enable (Default : Disable)
Overshoot Inhibit Factor Oi h.F	1.0 to 2.0 (Default : 1.0)
SP Adjustment on Lower Readout SP.Lr	dSbL Disable EnbL Enable (Default : Enable)
SP Adjustment on Operator Page SP.OP	dSbL Disable EnbL Enable (Default : Enable)
Manual Mode HAnd	dSbL Disable EnbL Enable (Default : Disable)
Alarm SP Adjustment on Operator Page AL.SP	dSbL Disable EnbL Enable (Default : Disable)
Standby Mode Stby	dSbL Disable EnbL Enable (Default : Disable)
Profile Abort Command on Page-1 Abrt	dSbL Disable EnbL Enable (Default : Disable)

Parameters	Settings (Default Value)
Controller ID Number Id	1 to 127 (Default : 1)
Baud Rate bAUd	4.8 4800 9.6 9600 19.2 19200 (Default : 9.6)
Communication Parity PAri	nonE None EuEn Even Odd Odd (Default : Even)
Communication Write Enable Con.E	no No YES Yes (Default : Yes)

OP1, OP2 & OP3 FUNCTION PARAMETERS : PAGE 15

Parameters	Settings (Default Value)
Output-1 Type OP 1.t	rLY Relay SSr SSR 0-20 0 - 20mA 4-20 4 - 20mA 0-5 0 - 5 V 0-10 0 - 10 V (Default : Relay)
Output-2 Function Selection OP2.F	nonE None AL_1 Alarm EOP End of Profile CCon Cool Control (Default : None)
Alarm-1 Logic A1.LG	norn Normal rEu Reverse (Default : Normal)
Output-2 Type OP2.t	rLY Relay SSr SSR 0-20 0 - 20mA 4-20 4 - 20mA 0-5 0 - 5 V 0-10 0 - 10 V (Default : Relay)
OP2 Event Status O2.ES	On ON OFF OFF (Default : ON)
OP2 Event Time Units O2.Ut	SEC Seconds min Minutes HoUr Hours (Default : Seconds)
OP2 Event Time O2.Et	0 to 9999 (Default : 0)

Parameters	Settings (Default Value)
Output-3 Function Selection OP3.F	nonE None AL_2 Alarm-2 EOP End of Profile rEC Recorder (Default : Alarm)
Alarm-2 Logic A2.LG	norn Normal rEu Reverse (Default : Normal)
OP3 Event Status O3.ES	On ON OFF OFF (Default : ON)
OP3 Event Time Units O3.Ut	SEC Seconds min Minutes HoUr Hours (Default : Seconds)
OP3 Event Time O3.Et	0 to 9999 (Default : 0)
Recorder Output Type rEC.O	0-20 0 to 20mA 4-20 4 to 20mA 0-5 0 to 5 Volts 0-10 0 to 10 Volts (Default : 0 to 20mA)

ALARM AND RETRANSMISSION (RECORDER) PARAMETERS : PAGE 11

Parameters	Settings (Default Value)
Alarm-1 Type AL_1	nonE None P_Lo Process Low P_Hi Process High dE Deviation Band bAnd Window Band (Default : None)
Alarm-1 Setpoint A1.SP	Min. to Max. Range specified for the selected Input Type (Default : Min or Max Range)
Alarm-1 Deviation Band A1.dE	**For DC mA/mV/V** : -1999 to 9999 counts **For Thermocouples/RTD** : -999 to 999 or -1.999 to 999.9 (Default : 5)
Alarm-1 Window Band A1.bA	**For DC mA/mV/V** : 3 to 9999 counts **For Thermocouples/RTD** : 3 to 999 or 0.3 to 999.9 (Default : 5)
Alarm-1 Hysteresis A1.HY	**For DC mA/mV/V** : 1 to 9999 counts **For Thermocouples/RTD** : 1 to 999 or 0.1 to 999.9 (Default : 2)
Alarm-1 Inhibit A1.Ih	no No YES Yes (Default : No)
Alarm-2 Type AL_2	nonE None P_Lo Process Low P_Hi Process High dE Deviation Band bAnd Window Band (Default : None)

Parameters	Settings (Default Value)
Alarm-2 Setpoint A2.SP	Min. to Max. Range specified for the selected Input Type (Default : Min or Max Range)
Alarm-2 Deviation Band A2.dE	**For DC mA/mV/V** : -1999 to 9999 counts **For Thermocouples/RTD** : -999 to 999 or -1.999 to 999.9 (Default : 5)
Alarm-2 Window Band A2.bA	**For DC mA/mV/V** : 3 to 9999 counts **For Thermocouples/RTD** : 3 to 999 or 0.3 to 999.9 (Default : 5)
Alarm-2 Hysteresis A2.HY	**For DC mA/mV/V** : 1 to 9999 counts **For Thermocouples/RTD** : 1 to 999 or 0.1 to 999.9 (Default : 2)
Alarm-2 Inhibit A2.Ih	no No YES Yes (Default : No)
PV/SP Selection For Retransmission trnS	Pv Process Value SP Setpoint (Default : Process Value)
Recorder (Retransmission) Low rEC.L	Min. to Max. Range Specified for the Selected Input Type (Default : -199)
Recorder (Retransmission) High rEC.H	Min. to Max. Range Specified for the Selected Input Type (Default : 1376)

PROFILE CONFIGURATION PARAMETERS : PAGE 16

Parameters	Settings (Default Value)
Profile mode Enable PrOF	dSbL Disable EnbL Enable (Default : Disable)
Number of Segments n.SEG	1 to 16 (Default : 16)
Number of Repeats n.rPt	1 to 9999 (Default : 1)
Common Holdback Co.Hb	no No YES Yes (Default : Yes)
Output Off OP.OF	no No YES Yes (Default : No)
Power Fail Strategy Pr.FL	Abrt Abort Cont Continue (Default : Continue)

PROFILE SETTING PARAMETERS : PAGE 14

Parameters	Settings (Default Value)
Segment Number SEG.n	1 to 16 (Default : 1)
Target Setpoint t_SP	Min. to Max. Range specified for the selected Input Type (Default : -199)
Time Interval ti nE	0 to 9999 Minutes (Default : 0)
Holdback Type Hb.tY	nonE None UP Up dn Down both Both (Default : None)
Holdback Value Hb.uL	**For DC mA/mV/V** : 1 to 9999 counts **For Thermocouples/RTD** : 1 to 999 or 0.1 to 999.9 (Default : 1)

ON-LINE ALTERATIONS : PAGE 1

Parameters	Settings (Default Value)
End of Profile Acknowledge EOP.A	no No YES Yes (Default : No)
Profile Start Command Strt	no No YES Yes (Default : No)
Profile Abort Command Abrt	
Profile Pause Command PAUS	no No YES Yes (Default : No)
Segment Skip Command SP. P	no No YES Yes (Default : No)
Segment Time Interval ti nE	0 to 9999 Minutes
Segment Holdback Type Hb.tY	nonE None UP Up dn Down both Both
Segment Band Value Hb.uL	**For DC mA/mV/V** : 1 to 9999 counts **For Thermocouples/RTD** : 1 to 999 or 0.1 to 999.9
Profile Repeat Counter b.rPt	1 to 9999

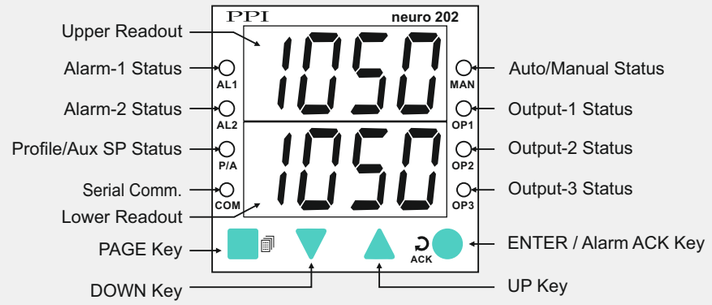
OPERATOR PAGE PARAMETERS : PAGE 0

Parameters	Settings (Default Value)
(De)Activate Standby Mode Stby	no No YES Yes (Default : No)
Control Setpoint SP	Setpoint Low Limit to Setpoint High Limit (Default : -1999)
Alarm-1 Setpoint A1.SP	Min. to Max. Range specified for the selected Input Type (Default : Min or Max Range)
Alarm-1 Deviation Band A1.dE	**For DC mA/mV/V**: -1999 to 9999 counts **For Thermocouples/RTD**: -999 to 999 or -1.999 to 999.9 (Default : 0)
Alarm-1 Window Band A1.bA	**For DC mA/mV/V**: 3 to 9999 counts **For Thermocouples/RTD**: 3 to 999 or 0.3 to 999.9 (Default : 0)
Alarm-2 Setpoint A2.SP	Same as that for Alarm-1 above but applied to Alarm-2.
Alarm-2 Deviation Band A2.dE	
Alarm-2 Window Band A2.bA	
Auxiliary Control Setpoint AU.SP	Setpoint Low Limit to Setpoint High Limit (Default : -1999)

Table 2

Option	What it means	Range (Min. to Max.)	Resolution
tC_J	Type J Thermocouple	0 to +960°C / +32 to +1760°F	Fixed 1°C / 1°F
tC_K	Type K Thermocouple	-200 to +1376°C / -328 to +2508°F	
tC_t	Type T Thermocouple	-200 to +385°C / -328 to +725°F	
tC_r	Type R Thermocouple	0 to +1770°C / +32 to +3218°F	
tC_S	Type S Thermocouple	0 to +1765°C / +32 to +3209°F	
tC_b	Type B Thermocouple	0 to +1825°C / +32 to +3092°F	
tC_n	Type N Thermocouple	0 to +1300°C / +32 to +2372°F	
rESu	Reserved for customer specific Thermocouple type not listed above. The type shall be specified in accordance with the ordered (optional on request) Thermocouple type.		
rtd	3-wire, RTD Pt100	-199 to +600°C / -328 to +1112°F **or** -199.9 to 600.0°C / -199.9 to 999.9°F	User settable 1°C / 1°F **or** 0.1°C / 0.1°F
0-20	0 to 20mA DC current	-1999 to +9999 units	User settable 1 / 0.1 / 0.01 / 0.001 units
4-20	4 to 20mA DC current		
rESu	Reserved		
0.080	0 to 80mV DC voltage		
1.25	0 to 1.25V DC voltage		
5.0	0 to 5.0V DC voltage		
10.0	0 to 10.0V DC voltage		
1-5	1 to 5.0V DC voltage		

FRONT PANEL LAYOUT



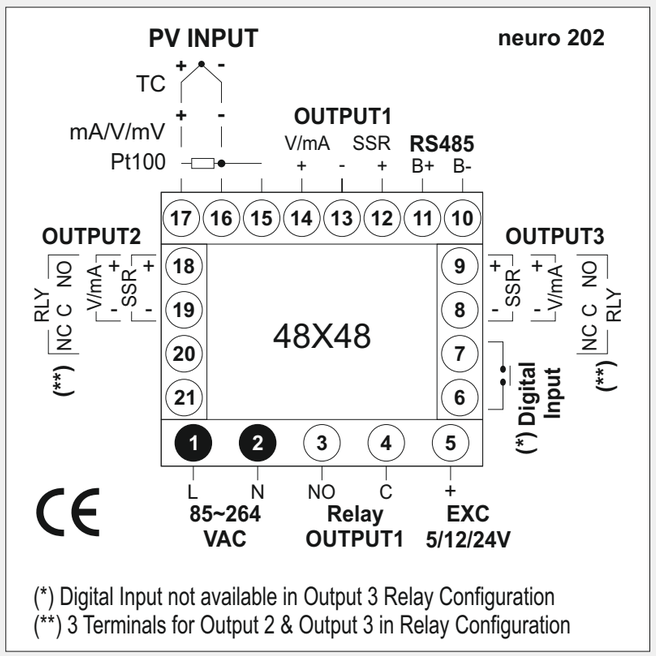
Keys Operation

Symbol	Key	Function
	PAGE	Press to enter or exit set-up mode.
	DOWN	Press to decrease the parameter value. Pressing once decreases the value by one count; keeping pressed speeds up the change.
	UP	Press to increase the parameter value. Pressing once increases the value by one count; keeping pressed speeds up the change.
ACK	ENTER / ACK	Set up Mode : Press to store the set parameter value and to scroll to the next parameter on the PAGE. Run Mode : Press to acknowledge any pending Alarm(s). This also turns off the Alarm relay.

PV Error Indications

Message	PV Error Type
Or	Over-range (**PV** above Max. Range)
Ur	Under-range (**PV** below Min. Range)
OPEn	Open (Sensor open / broken)

ELECTRICAL CONNECTIONS



(*) Digital Input not available in Output 3 Relay Configuration
(**) 3 Terminals for Output 2 & Output 3 in Relay Configuration