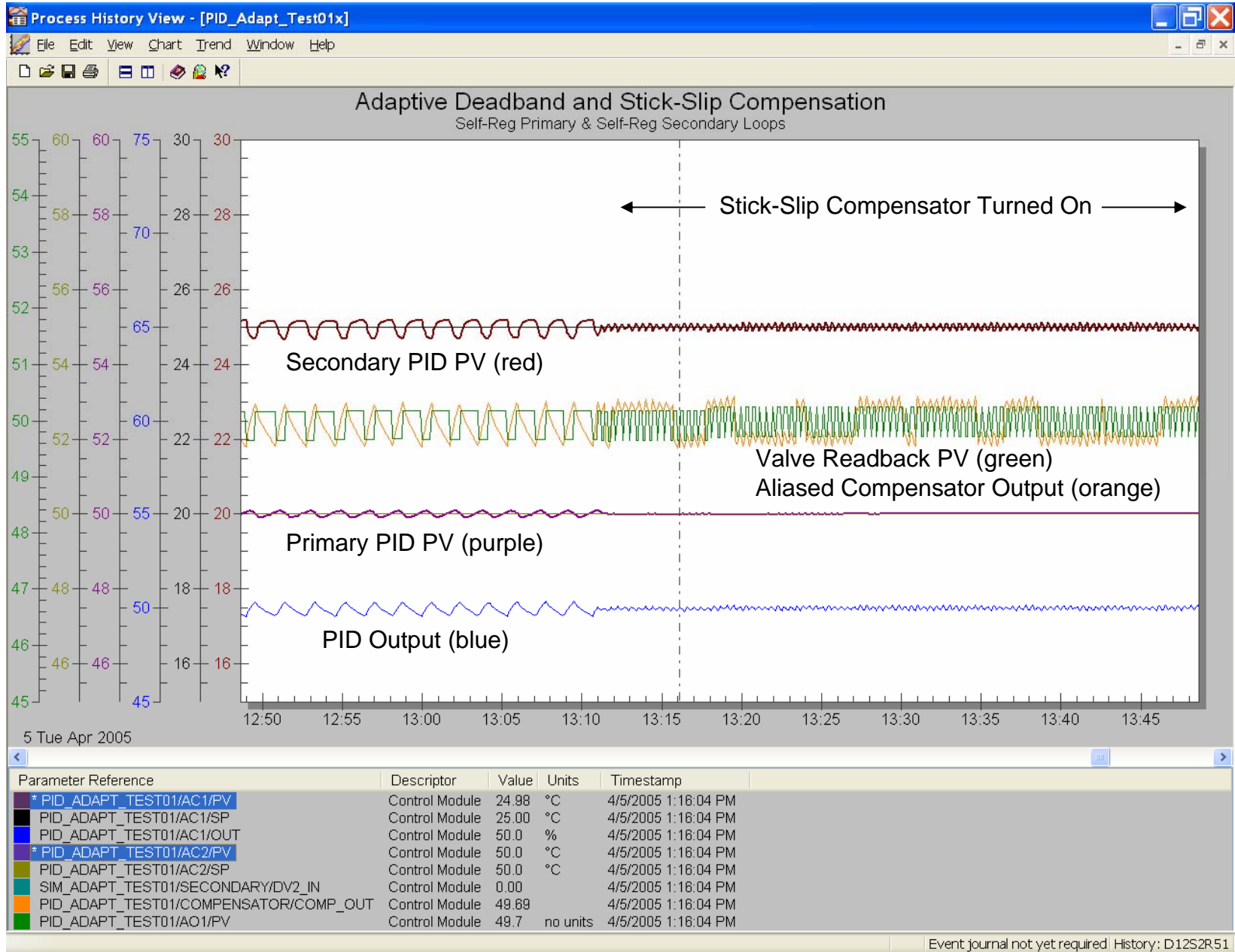


DeltaV Compensation of 0.5% Stick-Slip by Valve Dither and Relay Auto Tuner Type Correction
 (Resolution = 0.5% and Deadband = 0.2% => Dither = Resolution + 0.5 * Deadband = 0.6% peak to peak)





100%



Filtered by:

Alphabetic Categorized

Parameter	Default
CNTRL_ACTION	-1
COMP_START	0
DEADBAND	0
DITHER_AMP	0
DITHER_DELT	0
DITHER_FACTOR	1
DITHER_OUT	0
INITIALIZE	0
KICK_START	0
KICKER_DELT	0
KICKER_FACTOR	1
KICKER_OUT	0
NOISE_BAND	0
NOISE_FACTOR	1
PROCESS_GAIN	2
PV	0
RESET_TIME	8
RESOLUTION	0
SIGNAL_IN	0
SIGNAL_OUT	0
SP	0
VALVE_ACTION	1

Parameters Automatically Read

PID OUT (%)
SIGNAL_IN

Backlash (%)
DEADBAND

Stick-Slip (%)
RESOLUTION

Identified Process Gain
PROCESS_GAIN

PID Set Point (eu)
SP

PID Process Variable (eu)
PV

Reverse = -1, Direct = +1
CNTRL_ACTION

Inc-close = -1, Inc-open = +1
VALVE_ACTION

Dither Amplitude (%)
DITHER_AMP

PID Reset Time (sec)
RESET_TIME

If you want to kick start the kicker when compensation is started by initializing noiseband=0, then set KICK_START=1

KICK_START

CALC
COMPENSATOR #4

Parameters Automatically Compute

AO CAS_IN (%)
SIGNAL_OUT

PV Noise Band (%)
NOISE_BAND

KICKER_OUT

KICKER_DELT

DITHER_OUT

DITHER_DELT

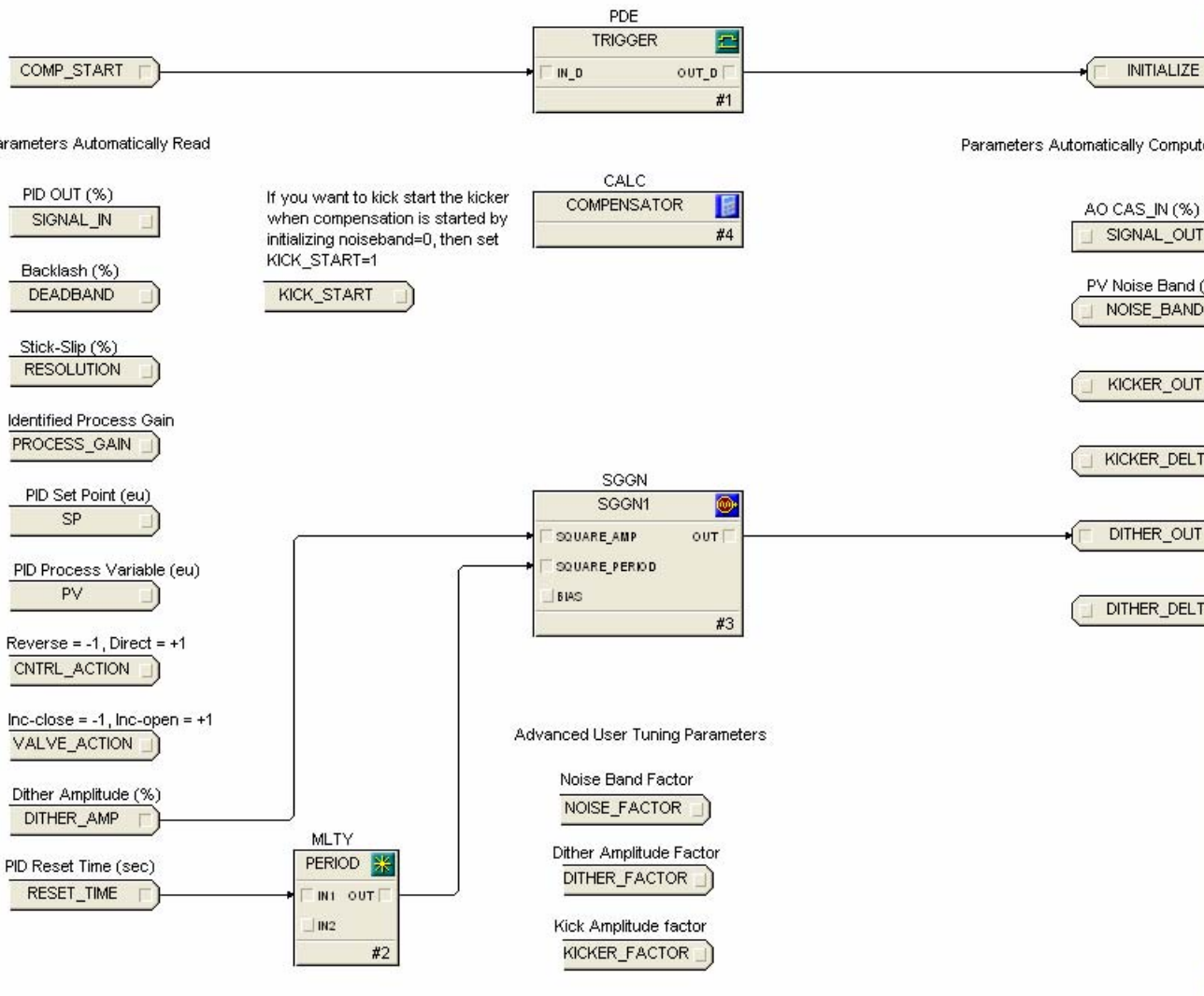
SGGN
SGGN1 #3

Advanced User Tuning Parameters

Noise Band Factor
NOISE_FACTOR

Dither Amplitude Factor
DITHER_FACTOR

Kick Amplitude factor
KICKER_FACTOR



COMPENSATOR Expression

+

-

*

/

(

)

<

>

<=

>=

=

|=

:=

NOT

AND

OR

Insert Internal
Parameter...Insert External
Parameter...Insert Named
State...

SELSTR...

LOGEVENT...

Insert Alias...

Expression:

```

1  (* COMPUTE DITHER AND KICK AMPLITUDES *)
2  '^/DITHER_AMP' := ('^/RESOLUTION' + 0.5*'^/DEADBAND')*'^/DITHER_FACTOR'*0.5;
3  '^/KICKER_OUT' := ('^/RESOLUTION' + 0.5*'^/DEADBAND')*'^/KICKER_FACTOR'*0.5;
4  (* NOISE BAND *)
5  IF ('^/INITIALIZE' = 1 AND '^/KICK_START' = 1 ) THEN
6  '^/NOISE_BAND' := 0.0
7  ELSE
8  '^/NOISE_BAND' := '^/DITHER_AMP'*'^/PROCESS_GAIN'*'^/NOISE_FACTOR';
9  ENDIF;
10 (* IF LOOP IS IN MANUAL, PASS THROUGH PID OUTPUT WITHOUT COMPENSATION *)
11 IF ('^/COMP_START' = 0) THEN
12 '^/SIGNAL_OUT' := '^/SIGNAL_IN'
13 ELSE
14 (* IF OUTSIDE NOISE BAND, KICK THE PV BACK TOWARDS THE SP DITHER OTHERWISE THE OUTPUT *)
15   IF ('^/PV' > ('^/SP' + '^/NOISE_BAND'*0.5)) THEN
16     '^/KICKER_DELT' := '^/KICKER_OUT'*'^/CNTRL_ACTION'*'^/VALVE_ACTION';
17     '^/DITHER_DELT' := 0.0;
18   ELSE
19     IF ('^/PV' < ('^/SP' - '^/NOISE_BAND')) THEN
20       '^/KICKER_DELT' := - '^/KICKER_OUT'*'^/CNTRL_ACTION'*'^/VALVE_ACTION';
21       '^/DITHER_DELT' := 0.0;
22     ELSE
23       '^/DITHER_DELT' := '^/DITHER_OUT'*'^/CNTRL_ACTION'*'^/VALVE_ACTION'
24     ENDIF;
25   ENDIF;
26 '^/SIGNAL_OUT' := '^/SIGNAL_IN' + '^/KICKER_DELT' + '^/DITHER_DELT'
27 ENDIF;
28 '^/SIGNAL_OUT.ST' := '^/SIGNAL_IN.ST';

```

Parser output

OK

Cancel

Parse

Load...

Save...

Print

Help