

TP3 SAD - Sanna Blanchon

Pt

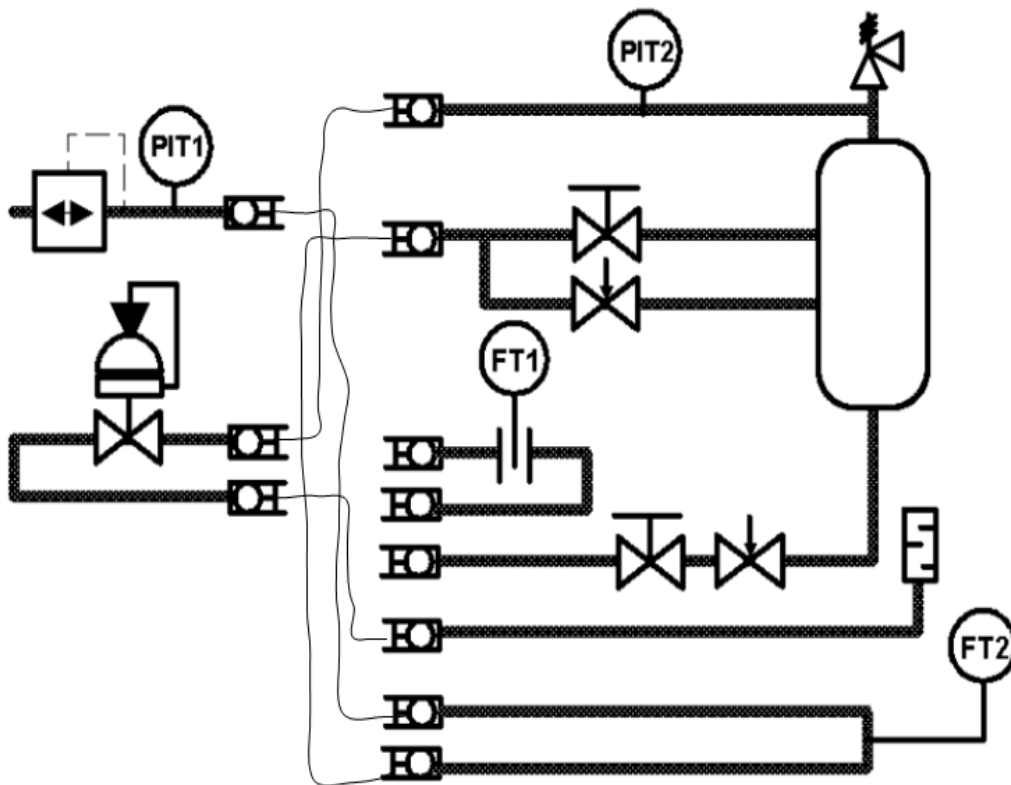
A B C D Note

	INSTRUMENTATION								
	Mise à l'échelle de l'affichage des mesures	2	X						0
	Cablage électrique et pneumatique	3	A						3
	REGULATION								
	Mise en place de la régulation	3	A						3
	Réglage de la boucle de régulation	3	A						3
	AUTOMATISMES								
	GRAFCET	3	C						1,05
	SUPERVISION								
	Respect du synopsys	3	C						1,05
	Programmation du bouton	3	X						0

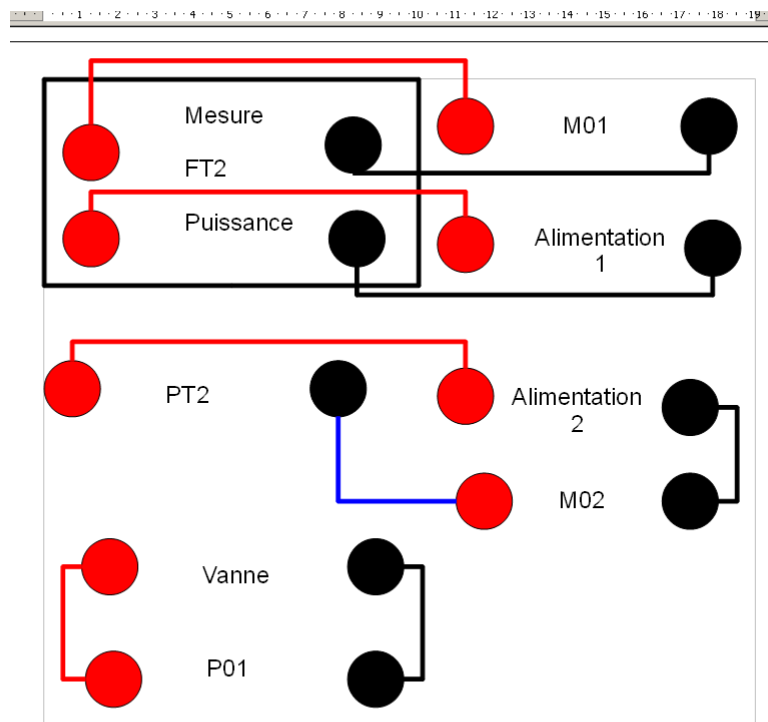
Note : 11,1/20

tp3 sad

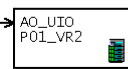
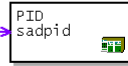
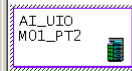
1)



2)



Use I/O page to configure I/O function blocks.

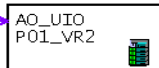
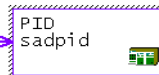
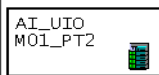


...  
DG\_CONN  
DGMS  
LOOP\_PID  
MAN\_STAT

PID CONTROL BLOCK  
Generates a PID (Proportional/Integral/Derivative) control output OP, from a resultant setpoint SP & process variable input PV.

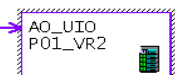
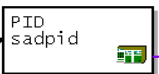
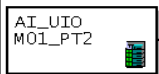
Block: M01_PT2					
Comment					
Connections					
TagName	M01_PT2		LIU Name	M01_PT2	
Type	AI_UIO		DBase	<local>	
Task	3 (110ms)		Rate	0	
MODE	AUTO		Alarms		
Fallback	AUTO		Node	>00	
PV	0.0		Stello	1	
HR	100.0		Channel	1	
LR	0.0		InType	mA	
HHI	100.0		HR_in	20.00	
HI	100.0		LR_in	4.00	
Lo	0.0		AI	0.00	
LoLo	0.0		Res	0.000	
Hyst	0.5000			Ohms	
Filter	0.000		CJ_type	Auto	
Char	Linear		CJ_temp	0.000	
UserChar			LeadRes	0.000	
PVoffset	0.000		Emissiv	1.000	
AlmOnTim	0.000		Delay	0.000	
AlmOffTim	0.000			Secs	
			SBreak	Up	
			PVErrAct	Up	
			Options	>0000	
			Status	>0000	

Use I/O page to configure I/O function blocks.



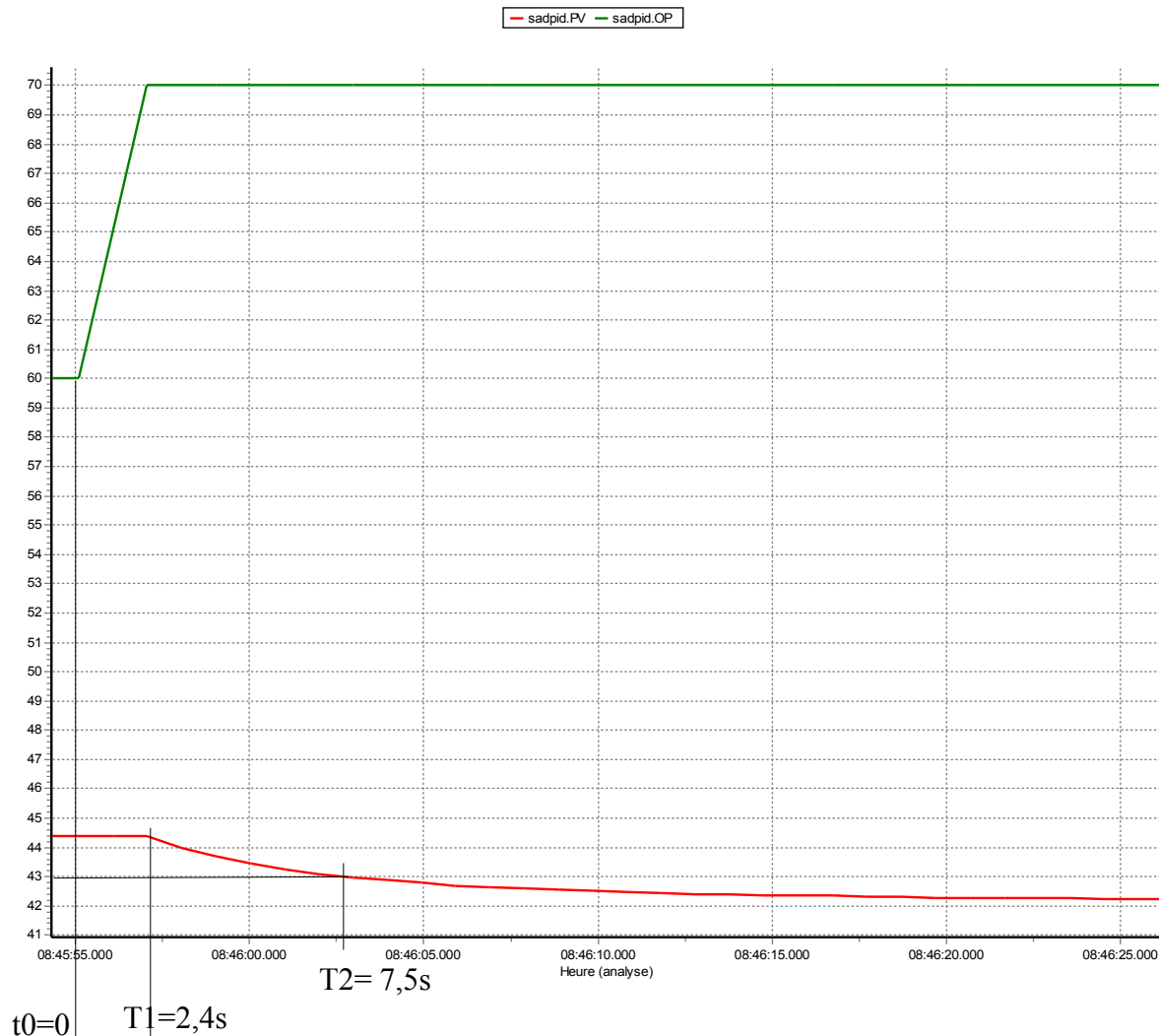
Block: sadpid					
Comment					
Connections					
	TagName	sadpid		LIH Name	sadpid
	Type	PID		DBase	<local>
	Task	3 (110ms)		Rate	0
	Mode	MANUAL		Alarms	
	FallBack	MANUAL			
				HAA	100.0 %
→	PV	0.0	%	LAA	0.0 %
	SP	0.0	%	HDA	100.0 %
	OP	0.0	%	LDA	100.0 %
	SL	0.0	%		
	TrimSP	0.0	%	TimeBase	Secs
	RemoteSP	0.0	%	XP	100.0 %
	Track	0.0	%	TI	0.00
				TD	0.00
	HR_SP	100.0	%		
	LR_SP	0.0	%	Options	00101100
	HL_SP	100.0	%	SelMode	00000000
	LL_SP	0.0	%		
	HR_OP	100.0	%	ModeSel	00100000
	LR_OP	0.0	%	ModeAct	00100001
	HL_OP	100.0	%		
	LL_OP	0.0	%	FF_PID	50.0 %
				FB_OP	0.0 %

Use I/O page to configure I/O function blocks.



Block: P01_VR2					
Comment		Connections			
TagName	P01_VR2		LIH Name	P01_VR2	
Type	AO_UIO		DBase	<local>	
Task	3 (110ms)		Rate	0	
MODE	AUTO		Alarms		
Fallback	AUTO		Node	>00	
→OP	0.0		Stello	2	
			Channel	1	
HR	100.0		OutType	mA	
LR	0.0		HR_out	20.00	
			LR_out	4.00	
Out	0.0		AO	0.00	
Track	0.0				
Trim	0.000		Options	>0000	
			Status	>0000	

On règle les paramètres du capteurs du pid et de la vanne sur lintools,  
on cherche  $X_p$   $t_i$  et  $t_d$  à l'aide de la méthode simple  
pour cela on règle en position initial la pression à 1,35bar et une commande de 60% cela nous fait  
un débit de  $12,6\text{m}^3/\text{h}$   
on réalise un échelon de commande de 10%



$$44,4 - 42,2 = 2,2 \rightarrow 100\%$$

$$1,38 \rightarrow 63\%$$

$$T = t_1 - t_2 = 2,5\text{s}$$

$$t = t_2 - t_1 = 5,1\text{s}$$

$$k = dx/dy = 2,2/10 = 0,22$$

quand on augmente y, x diminue procédé inverse donc régulateur direct

$$k_r = 2,5/5,1 = 0,5 \rightarrow \text{pid //}$$

$$A = 9,05 \quad x_p = 100/A = 11,04$$

$$t_i = 0,73\text{s}$$

$$t_d = 8,11\text{s}$$

on règle le pid

pid1.DBF - LINTools - [Main (ROOT)]

File Edit Make View Online Tools Window Help

Contents

- pid1 [Default DB]
  - Main (ROOT)
    - Diagnost (T2550\_D)
    - pid1 (IO\_NODE)
    - Data Recording
    - I/O
    - Tags

FILENAME: TACTICIAN pid1  
 DATE :  
 VERSION :  
 FUNCTION: T2550 Standard Diagnostics With Database Header

!!!!!! IF NOT A LAYER DATABASE !!!!!!  
 !!!!!! RENAME DIAGNOSTIC BLOCKS !!!!!!  
 !!!!!! THEN DELETE THIS MESSAGE !!!!!!  
 Use I/O page to configure I/O function blocks.

Diagram showing connections between blocks: AT\_U10 M01\_PT2, AT\_U10 M02\_FT2, PID sadpid, AO\_U10 P01\_VR2, AO\_U10 O2P02\_OC.

Properties

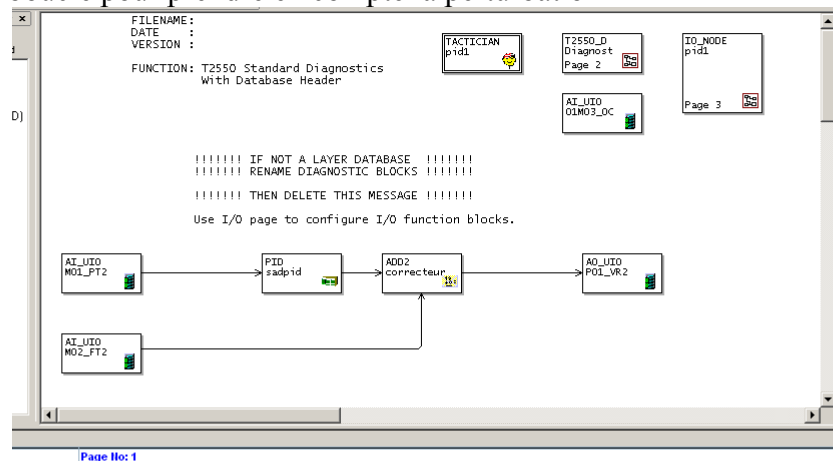
Block: sadpid	Comment	Connections
Tagname	sadpid	LIH Name
Type	PID	DBase
Task	3 (110ms)	Rate
Mode	AUTO	Alarms
FallBack	AUTO	
PV	42.0	HAA
SP	0.0	LAA
OP	70.0	HDA
SL	0.0	LDA
TrimSP	0.0	TimeBase
RemoteSP	0.0	XP
Track	0.0	TI
		TD
HR_SP	100.0	Options
LR_SP	0.0	SelMode
HL_SP	100.0	
LL_SP	0.0	
HR_OP	100.0	ModeSel
LR_OP	0.0	ModeAct
HL_OP	100.0	
LL_OP	0.0	FF_PID
		FB_OP

For Help, press F1

Tags: None DB: <pid1.DBF> 206, 378 100% Connect

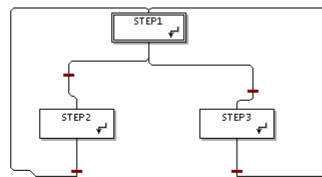
Démarrer TP3 SAD - CIR... tp3 sad.odt - Li... Sens nom 2 - Li... Local Instru... Build Window sad(Active Proj... pid1.DBF - LI... ITools OPC Scope 09:06

on modifie notre boucle pour prendre en compte la perturbation





DB]  
:hart)



C0,X>49,3  
10s/x2  
C0X<39,5  
10s/x1