PLS-Program

SLAVE-PLS

EDI & JAT

MAI 2024

Data Name : Memory Capacity
Memory Capacity

[Memory Capacity]
8000

[Program Capacity]
8000 Steps

[Comments Capacity]
0 Block 0 Points

[File Register Capacity]
0 Block 0 Points

[Special Function Block Setting]
0 Block

[Positioning]
0 Block

[Built-in CC-Link/LT Setting]
0 Block

PLC System

[Battery Less Mode]

OFF

[MODEM Initialized]

None

[RUN Terminal Input]

None

[Device]

	Sym.	Dig.	Points	Start	End	Latch Start	End	Latch Setting Range
Supplemental Relay	M	10	7680	0	7679	500	1023	0 - 1023
State	S	10	4096	0	4095	500	999	0 - 999
Timer	T	10	512	0	511			
Counter(16bit)	C	10	200	0	199	100	199	0 - 199
Counter(32bit)	C	10	56	200	255	220	255	200 - 255
Data Register	D	10	8000	0	7999	200	511	0 - 511
Extended Register	R	10	32768	0	32767			

CC-Link Setting

[CC-Link Setting]

Connection Block Not Set

[CC-Link Setting]

	Setting Contents
Special Function Block No.	-
Type	-
Master Station Data Link Type	Start Parameter by BFM
Mode	-
Total Module Connected	-
Remote input(RX)	-
Remote output(RY)	-
Remote register(RWr)	-
Remote register(RWw)	-
Ver.2 Remote input(RX)	-
Ver.2 Remote output(RY)	-
Ver.2 Remote register(RWr)	-
Ver.2 Remote register(RWw)	-
Special relay(SB)	-
Special register(SW)	-
Retry Count	-
Automatic Reconnection Station Count	-
Standby Master Station No.	-
PLC Down Select	-
Scan Mode Setting	-
Delay Time Setting	-
Remote Device Station Initial Setting	-
Interrupt Settings	-

Data Name : Program setting

Execution type	Program file name [Title]	Task name [Title]	Task attribute
Execution Program	MAIN	stroombrudd	Priority (31), Always
		Task_01	Priority (31), Always
		task_2	Priority (31), Interval (T#200ms)

Task Setting

	Program Name	Comment
1	stroombrudd	

Task Setting

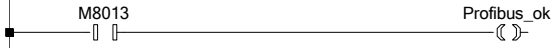
	Program Name	Comment
1	POU_01	

Task Setting

	Program Name	Comment
1	Regulator	

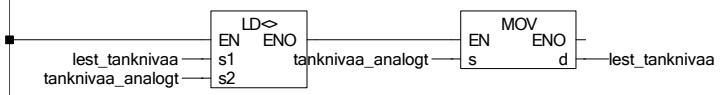
1

Profibus forbindelse

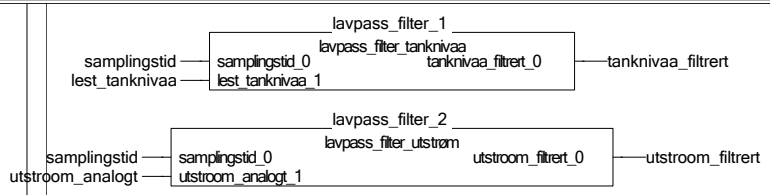


2

Tanknivå



3



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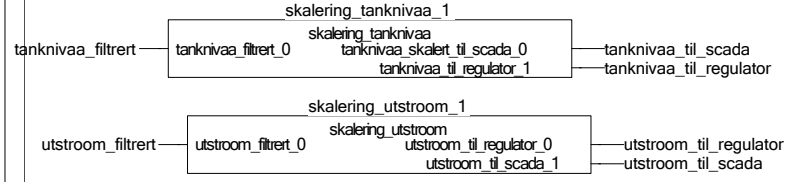
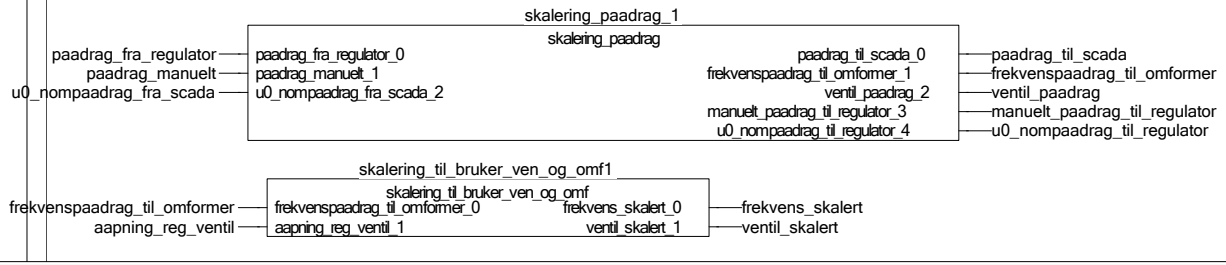
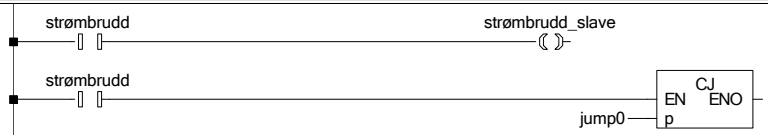


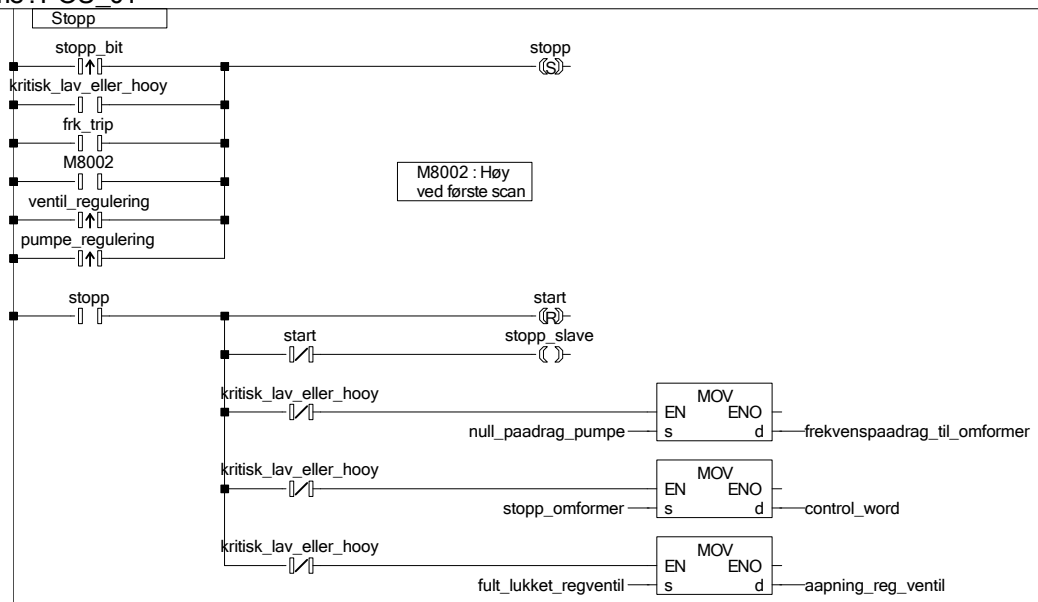
5



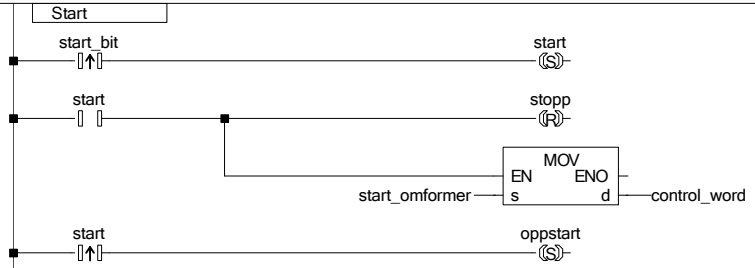
6



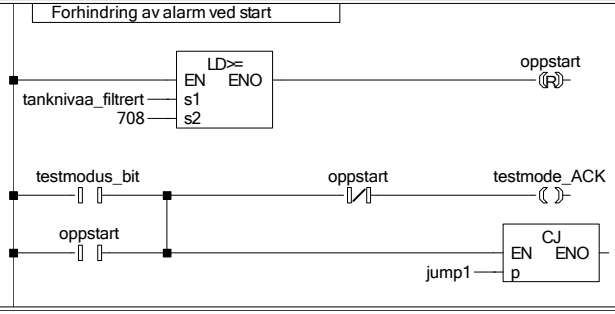
7


Stopp
stopp_bit
stopp
kritisk_lav_eller_hooy
frk_trip
M8002
M8002 : Høy
ved første scan
ventil_regulering
pumpe_regulering
stopp
start
start
stopp_slave
kritisk_lav_eller_hooy
MOV
EN
ENO
null_paadrag_pumpe
s
d
frekvenspaadrag_til_omformer
kritisk_lav_eller_hooy
MOV
EN
ENO
stopp_omformer
s
d
control_word
kritisk_lav_eller_hooy
MOV
EN
ENO
fult_lukket_regventil
s
d
aapning_reg_ventil

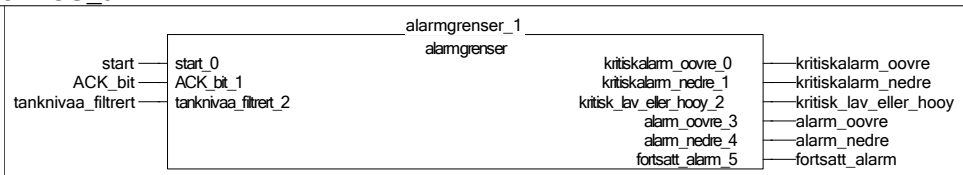
8


Start
start_bit
start
start
stopp
MOV
EN
ENO
start_omformer
s
d
control_word
start
oppstart

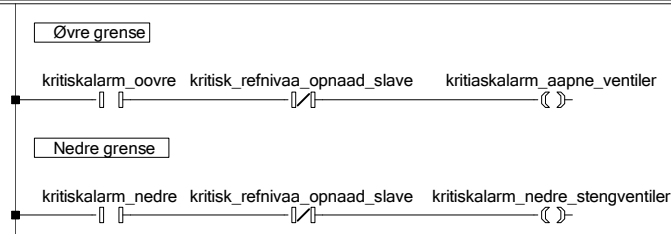
9


Forhindring av alarm ved start
LD>=
EN
ENO
tanknivaa_filtrert
s1
708
s2
oppstart
testmodus_bit
oppstart
testmode_ACK
oppstart
CJ
EN
ENO
jump1
p

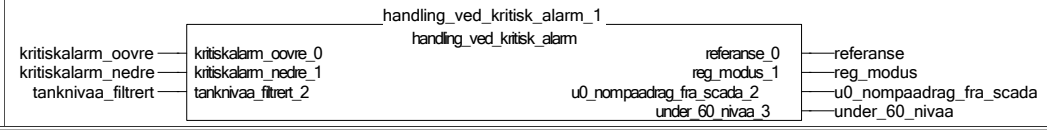
10


alarmgrenser_1
alarmgrenser
start
ACK_bit
tanknivaa_filtrert
start_0
ACK_bit_1
tanknivaa_filtrert_2
kritiskalarm_oovre_0
kritiskalarm_nedre_1
kritisk_lav_eller_hooy_2
alarm_oovre_3
alarm_nedre_4
fortsatt_alarm_5
kritiskalarm_oovre
kritiskalarm_nedre
kritisk_lav_eller_hooy
alarm_oovre
alarm_nedre
fortsatt_alarm

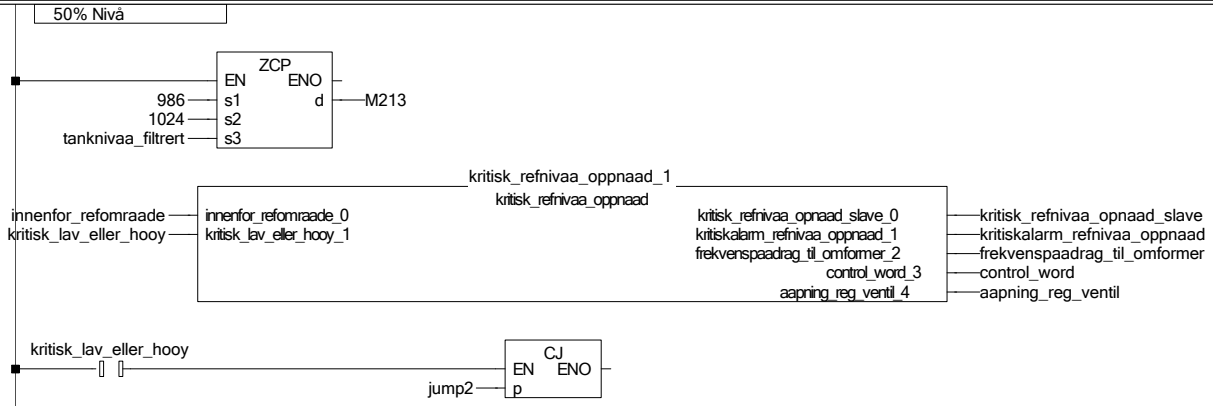
11


Øvre grense
kritiskalarm_oovre
kritisk_refnivaa_opnaad_slave
kritiaskalarm_aapne_ventiler
Nedre grense
kritiskalarm_nedre
kritisk_refnivaa_opnaad_slave
kritiskalarm_nedre_stengventiler

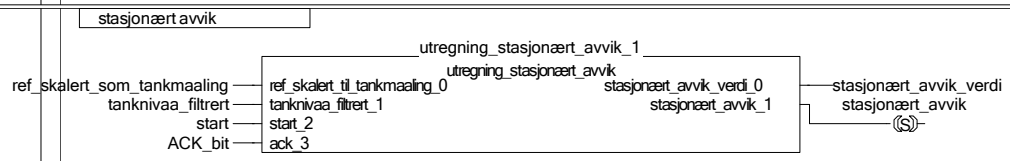
12


handling_ved_kritisk_alarm_1
handling_ved_kritisk_alarm
kritiskalarm_oovre
kritiskalarm_nedre
tanknivaa_filtrert
kritiskalarm_oovre_0
kritiskalarm_nedre_1
tanknivaa_filtrert_2
referanse_0
reg_modus_1
u0_nompaadrag_fra_scada_2
under_60_nivaa_3
referanse
reg_modus
u0_nompaadrag_fra_scada
under_60_nivaa

13

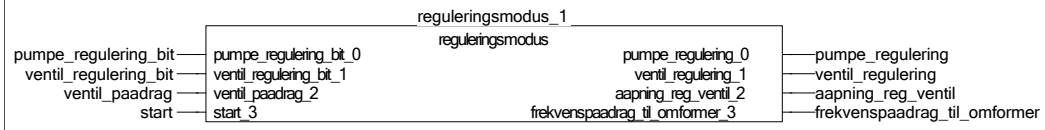

50% Nivå
ZCP
EN
ENO
986
s1
d
M213
1024
s2
tanknivaa_filtrert
s3
kritisk_refnivaa_oppnaad_1
kritisk_refnivaa_oppnaad
innenfor_refomraade
kritisk_lav_eller_hooy
innenfor_refomraade_0
kritisk_lav_eller_hooy_1
kritisk_refnivaa_opnaad_slave_0
kritiskalarm_refnivaa_oppnaad_1
frekvenspaadrag_til_omformer_2
control_word_3
aapning_reg_ventil_4
kritisk_refnivaa_opnaad_slave
kritiskalarm_refnivaa_oppnaad
frekvenspaadrag_til_omformer
control_word
aapning_reg_ventil
kritisk_lav_eller_hooy
CJ
EN
ENO
jump2
p

14


stasjonært avvik
utregning_stasjonært_avvik_1
utregning_stasjonært_avvik
ref_skalert_som_tankmaaling
tanknivaa_filtrert
start
ACK_bit
ref_skalert_til_tankmaaling_0
tanknivaa_filtrert_1
start_2
ack_3
stasjonært_avvik_verdi_0
stasjonært_avvik_1
stasjonært_avvik_verdi
stasjonært_avvik
S

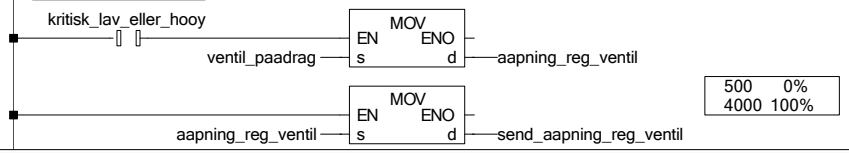
15
jump1:

Reguleringsmod



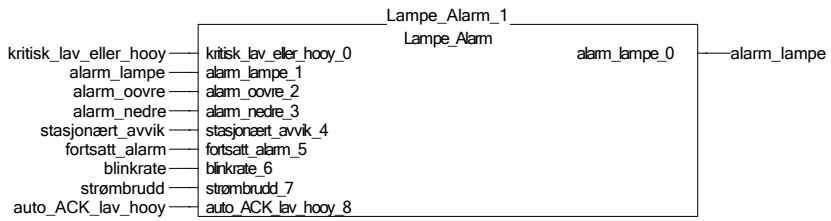
16
jump2:

AD/DA-omformer



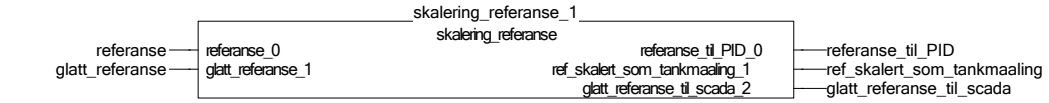
17

Alarm - Lampe



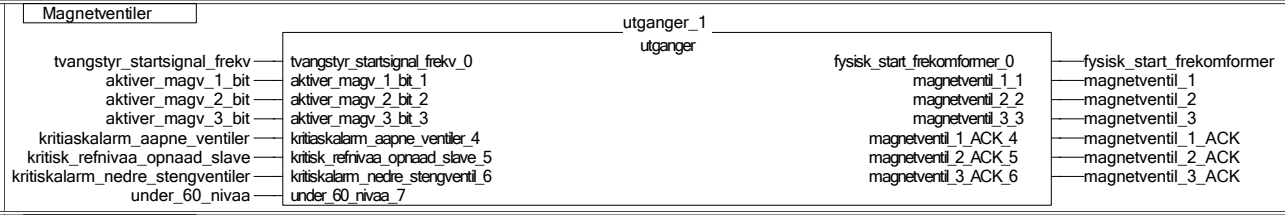
18

Referanseskalering



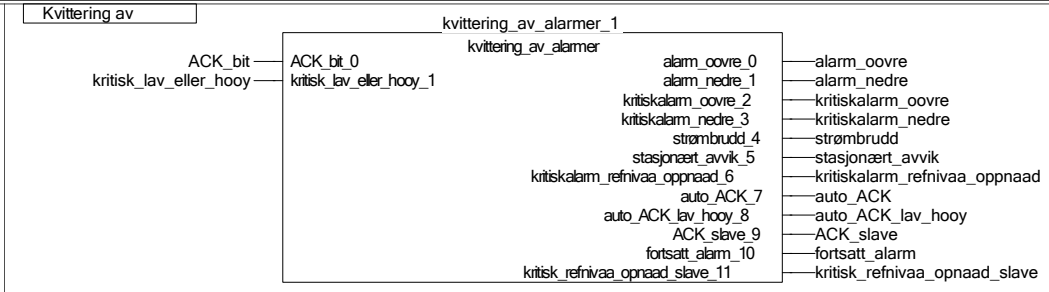
19

Magnetventiler



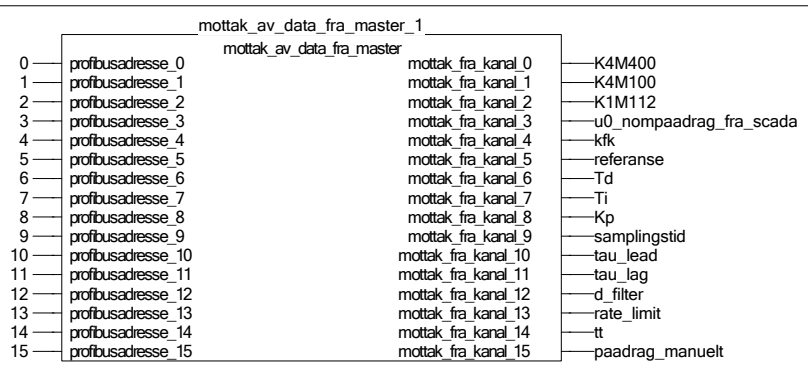
20
jump0:

Kvittering av



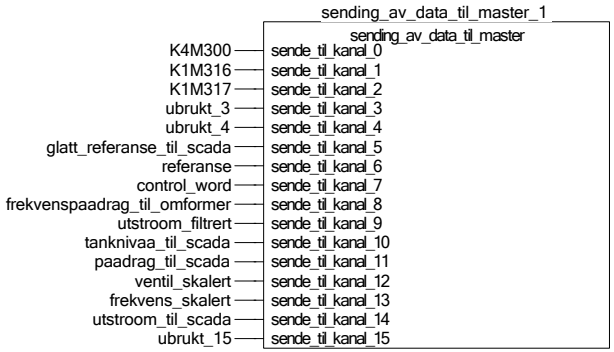
21

RX

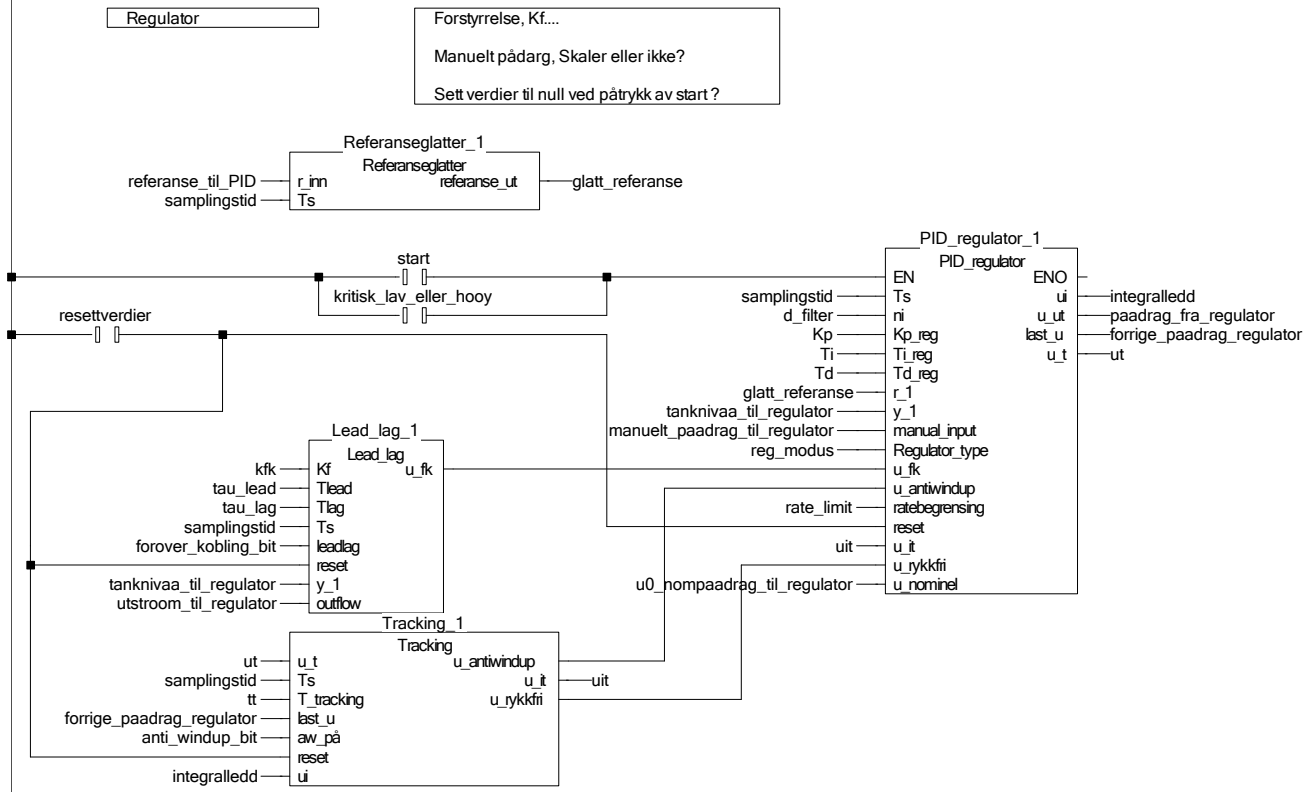

mottak_av_data_fra_master_1
mottak_av_data_fra_master
0 profibusadresse_0
1 profibusadresse_1
2 profibusadresse_2
3 profibusadresse_3
4 profibusadresse_4
5 profibusadresse_5
6 profibusadresse_6
7 profibusadresse_7
8 profibusadresse_8
9 profibusadresse_9
10 profibusadresse_10
11 profibusadresse_11
12 profibusadresse_12
13 profibusadresse_13
14 profibusadresse_14
15 profibusadresse_15
mottak_fra_kanal_0 K4M400
mottak_fra_kanal_1 K4M100
mottak_fra_kanal_2 K1M112
mottak_fra_kanal_3 u0_nompaadrag_fra_scada
mottak_fra_kanal_4 kfk
mottak_fra_kanal_5 referanse
mottak_fra_kanal_6 Td
mottak_fra_kanal_7 Ti
mottak_fra_kanal_8 Kp
mottak_fra_kanal_9 samplingstid
mottak_fra_kanal_10 tau_lead
mottak_fra_kanal_11 tau_lag
mottak_fra_kanal_12 d_filter
mottak_fra_kanal_13 rate_limit
mottak_fra_kanal_14 tt
mottak_fra_kanal_15 paadrag_manuelt

22

TX

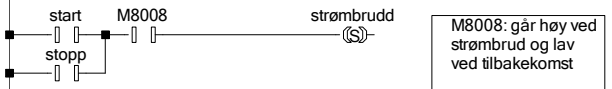

sending_av_data_til_master_1
sending_av_data_til_master
K4M300 sende_til_kanal_0
K1M316 sende_til_kanal_1
K1M317 sende_til_kanal_2
ubrukt_3 sende_til_kanal_3
ubrukt_4 sende_til_kanal_4
glatt_referanse_til_scada sende_til_kanal_5
referanse sende_til_kanal_6
control_word sende_til_kanal_7
frekvenspaadrag_til_omformer sende_til_kanal_8
utstroom_filtrert sende_til_kanal_9
tanknivaa_til_scada sende_til_kanal_10
paadrag_til_scada sende_til_kanal_11
ventil_skalert sende_til_kanal_12
frekvens_skalert sende_til_kanal_13
utstroom_til_scada sende_til_kanal_14
ubrukt_15 sende_til_kanal_15

1

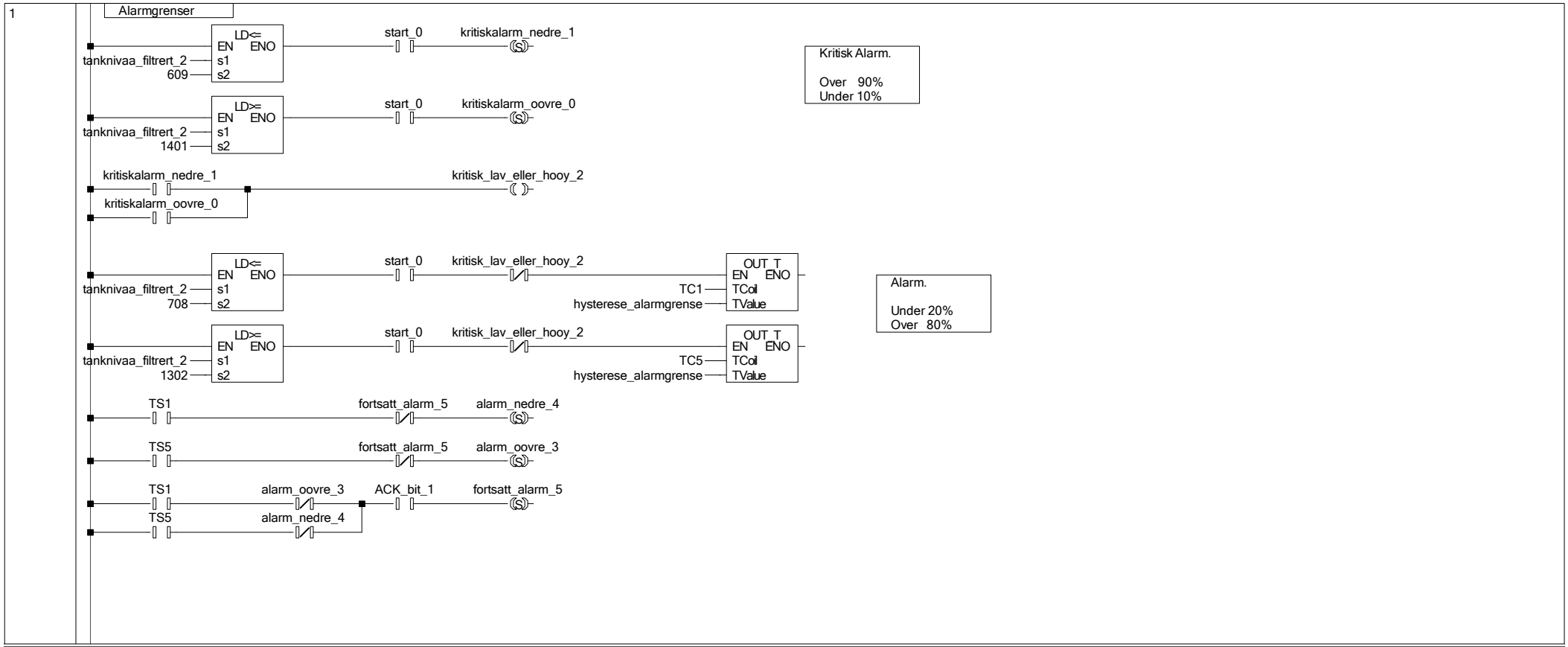

Regulator
Forstyrrelse, Kf....
Manuelt pådarg, Skaler eller ikke?
Sett verdier til null ved påtrykk av start ?
Referanseglatter_1
Referanseglatter
referanse_til_PID
samplingstid
r_inn
Ts
referanse_ut
glatt_referanse
start
kritisk_lav_eller_hooy
resettverdier
PID_regulator_1
PID_regulator
EN
ENO
samplingstid
Ts
ui
integralledd
d_filter
ni
u_ut
paadrag_fra_regulator
Kp
Kp_reg
last_u
forrige_paadrag_regulator
Ti
Ti_reg
u_t
ut
Td
Td_reg
glatt_referanse
r_1
tanknivaa_til_regulator
y_1
manuelt_paadrag_til_regulator
manual_input
reg_modus
Regulator_type
Lead_lag_1
Lead_lag
kfk
Kf
u_fk
u_fk
tau_lead
Tlead
tau_lag
Tlag
samplingstid
Ts
forover_kobling_bit
leadlag
reset
u_antiwindup
rate_limit
ratebegrensing
reset
uit
u_it
u_rykkfri
tanknivaa_til_regulator
y_1
u0_nompaadrag_til_regulator
u_nominel
utstroom_til_regulator
outflow
Tracking_1
Tracking
ut
u_t
u_antiwindup
samplingstid
Ts
u_it
uit
tt
T_tracking
u_rykkfri
forrige_paadrag_regulator
last_u
anti_windup_bit
aw_på
reset
integralledd
ui

1

strømbrudd



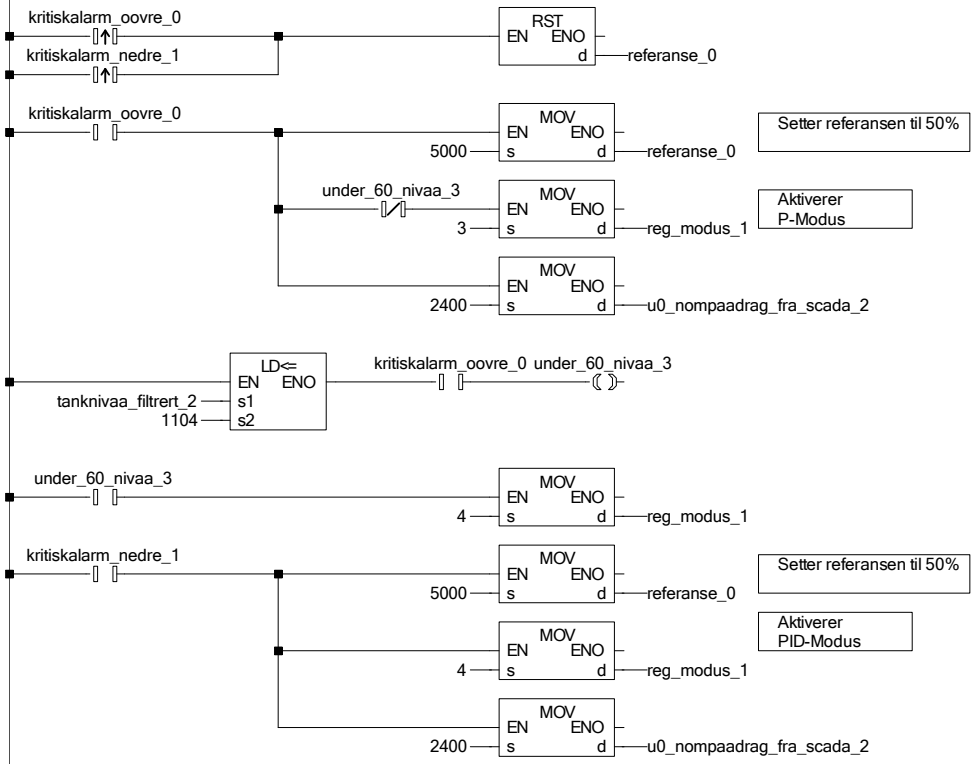
M8008: går høy ved strømbrud og lav ved tilbakekomst


1
Alarmgrenser
LD<=
EN ENO
tanknivaa_filtrert_2
s1
609
s2
start_0
kritiskalarm_nedre_1
Kritisk Alarm.
Over 90%
Under 10%
LD>=
EN ENO
tanknivaa_filtrert_2
s1
1401
s2
start_0
kritiskalarm_oovre_0
kritiskalarm_nedre_1
kritiskalarm_oovre_0
kritisk_lav_eller_hooy_2
LD<=
EN ENO
tanknivaa_filtrert_2
s1
708
s2
start_0
kritisk_lav_eller_hooy_2
OUT_T
EN ENO
TC1
TCoil
hysterese_alarmgrense
TValue
Alarm.
Under 20%
Over 80%
LD>=
EN ENO
tanknivaa_filtrert_2
s1
1302
s2
start_0
kritisk_lav_eller_hooy_2
OUT_T
EN ENO
TC5
TCoil
hysterese_alarmgrense
TValue
TS1
fortsatt_alarm_5
alarm_nedre_4
TS5
fortsatt_alarm_5
alarm_oovre_3
TS1
alarm_oovre_3
ACK_bit_1
fortsatt_alarm_5
TS5
alarm_nedre_4

```
gjelende_siffer_real := INT_TO_REAL(gjelende_siffer_input);
ti_til_gjellende_siffer := EXP(gjelende_siffer_real * LN(10.0));

IF DINT_TO_REAL(REAL_TO_DINT(real_to_round* ti_til_gjellende_siffer) ) > (real_to_round*ti_til_gjellende_siffer - 0.5) THEN;
   int_round := REAL_TO_DINT(real_to_round * ti_til_gjellende_siffer);
   real_rounded := DINT_TO_REAL(int_round)/ti_til_gjellende_siffer;
ELSE
   int_round := REAL_TO_DINT(real_to_round * ti_til_gjellende_siffer + 1.0);
   real_rounded := DINT_TO_REAL(int_round)/ti_til_gjellende_siffer;
END_IF;
```

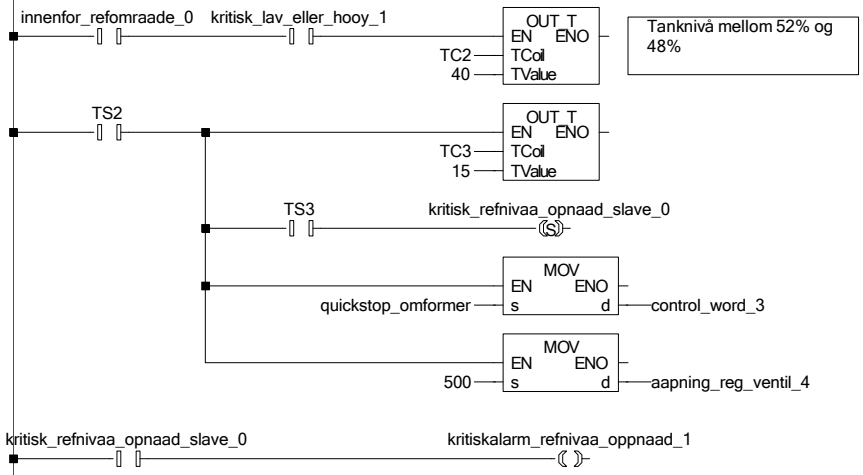
1

Handlinger ved kritisk alarm



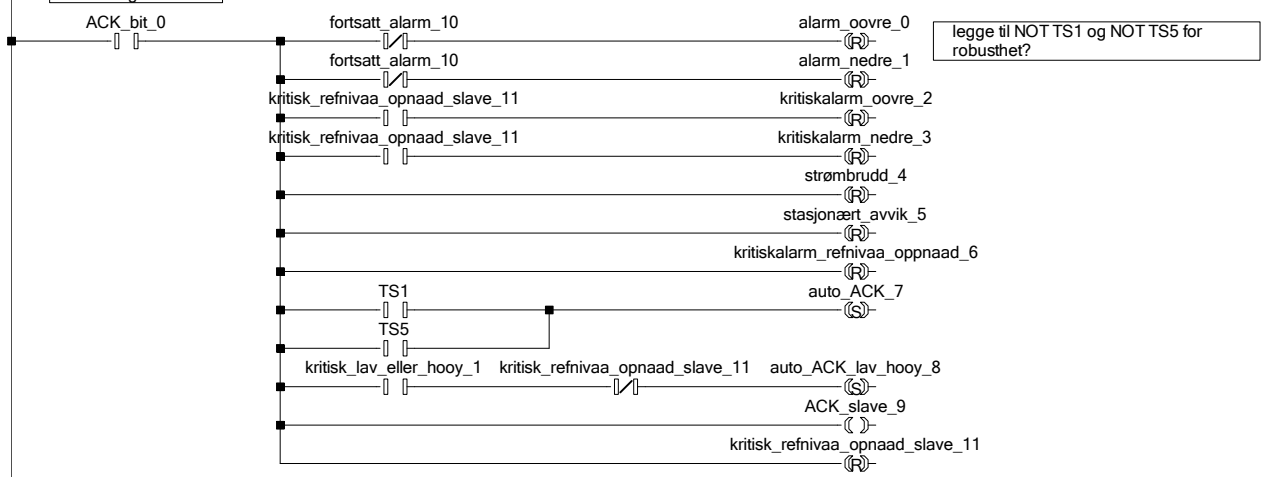
1

50% Nivå

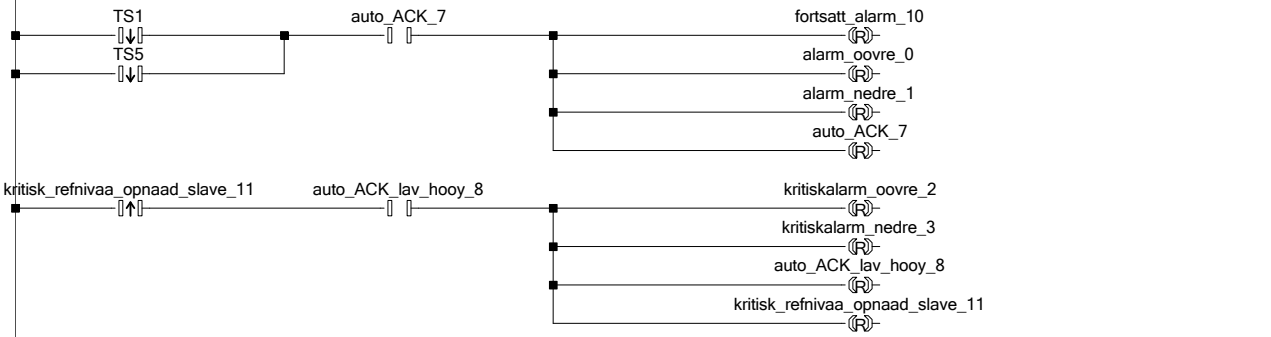

innenfor_refomraade_0
kritisk_lav_eller_hooy_1
OUT_T
EN ENO
TC2
TCoil
40
TValue
Tanknivå mellom 52% og 48%
TS2
OUT_T
EN ENO
TC3
TCoil
15
TValue
TS3
kritisk_refnivaa_opnaad_slave_0
MOV
EN ENO
quickstop_omformer
s d
control_word_3
MOV
EN ENO
500
s d
aapning_reg_ventil_4
kritisk_refnivaa_opnaad_slave_0
kritiskalarm_refnivaa_oppnaad_1

1

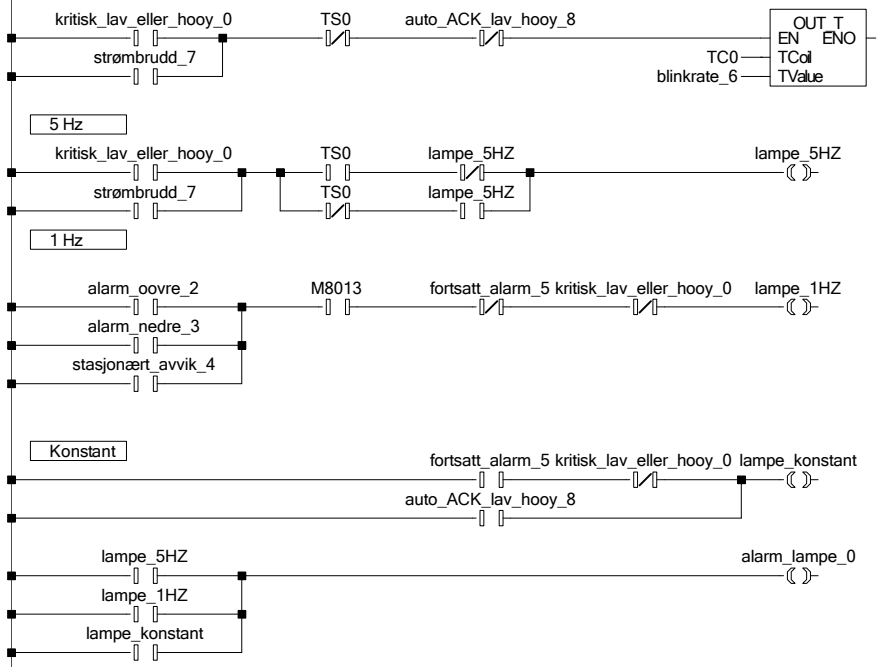
Kvittering av



Auto- resett alarm



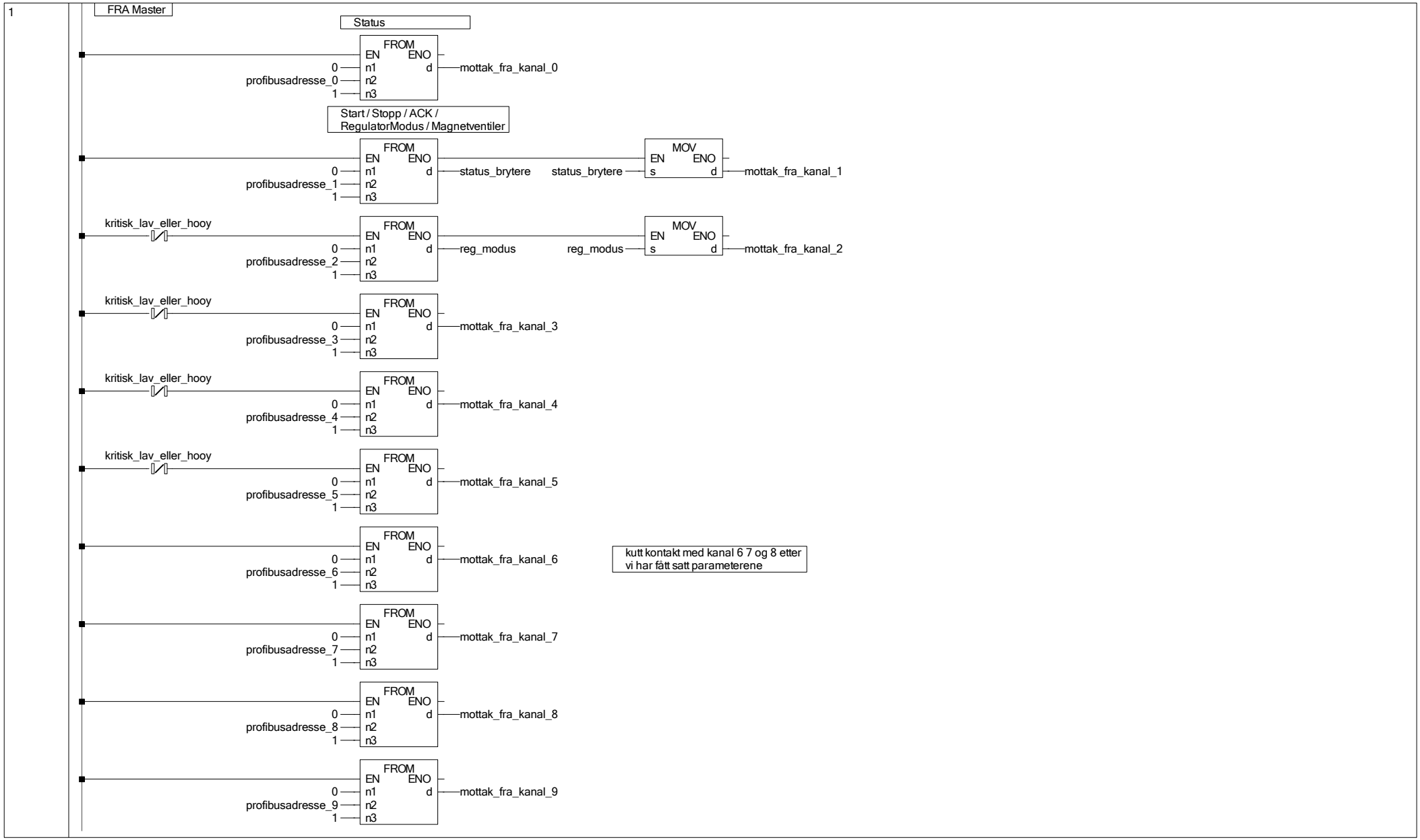
1

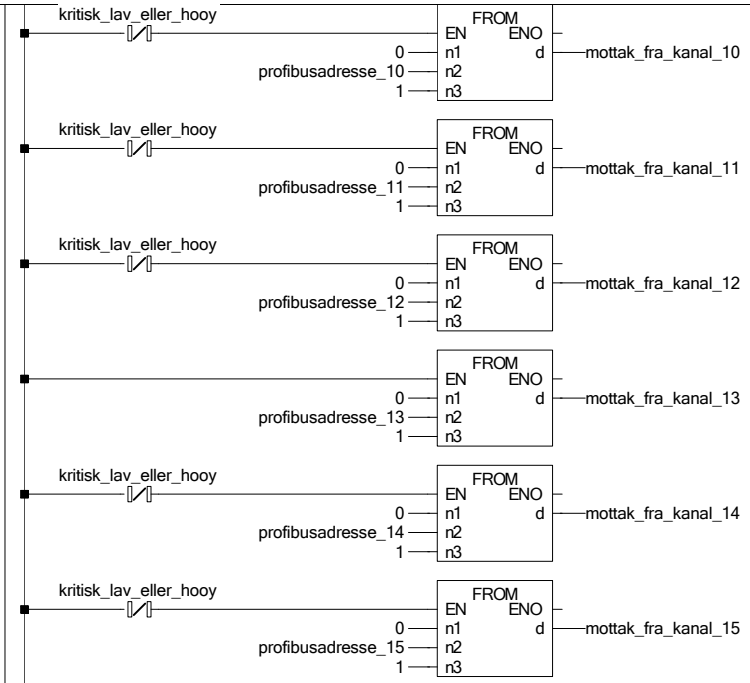

kritisk_lav_eller_hooy_0
TS0
auto_ACK_lav_hooy_8
strømbrudd_7
OUT_T
EN
ENO
TC0
TCoil
blinkrate_6
TValue
5 Hz
kritisk_lav_eller_hooy_0
TS0
lampe_5HZ
lampe_5HZ
strømbrudd_7
TS0
lampe_5HZ
1 Hz
alarm_oovre_2
M8013
fortsatt_alarm_5
kritisk_lav_eller_hooy_0
lampe_1HZ
alarm_nedre_3
stasjonært_avvik_4
Konstant
fortsatt_alarm_5
kritisk_lav_eller_hooy_0
lampe_konstant
auto_ACK_lav_hooy_8
lampe_5HZ
alarm_lampe_0
lampe_1HZ
lampe_konstant

```
tastetid_float :=  INT_TO_REAL (samplingstid_0)/100.0;
eksponent := -tastetid_float*omega_0*two_pi;
filter_faktor := EXP(eksponent);
input_float := INT_TO_REAL (lest_tanknivaa_1);
avg_maaling := filter_faktor * avg_maaling_k_minus_1 + (1.0 - filter_faktor) * input_float;
avg_maaling_k_minus_1 := avg_maaling;
DEROUND_1(real_to_round := avg_maaling, gjelende_siffer_input := 0);
tanknivaa_filtrert_0 := REAL_TO_INT(DEROUND_1.real_rounded);
```

```
tastetid_float :=  INT_TO_REAL (samplingstid_0)/100.0;
eksponent := -tastetid_float*omega_0*two_pi;
filter_faktor := EXP(eksponent);
input_float := INT_TO_REAL (utstroom_analogt_1);
avg_maaling := filter_faktor * avg_maaling_k_minus_1 + (1.0 - filter_faktor) * input_float;
avg_maaling_k_minus_1 := avg_maaling;
DEROUND_1(real_to_round := avg_maaling, gjelende_siffer_input := 0);
utstroom_filtrert_0 := REAL_TO_INT(DEROUND_1.real_rounded);
```

```
IF (reset) THEN
   last_v := 0.0;
   last_u_fk := 0.0;
END_IF;

(*Trengs det skalering??*)
Kf_ny := INT_TO_REAL(Kf)/100.00;
Tlead_ny := INT_TO_REAL(Tlead)/100.00;
Tlag_ny := INT_TO_REAL(Tlag)/100.00;
Ts_ut := INT_TO_REAL(Ts)/100.00;

forstyrr := outflow - 0.00025367*y_1*y_1*y_1+0.04313578*y_1*y_1-2.8730536*y_1-5.08111888;

IF forstyrr < 0.00 THEN
   forstyrr_ny := 0.00;
ELSE
   forstyrr_ny := forstyrr;
END_IF;


IF (leadlag=1) THEN
   u_fk := (Kf_ny*Tlead_ny*(forstyrr_ny-last_v)+Kf_ny*forstyrr_ny*Ts_ut+Tlag_ny*last_u_fk)/(Ts_ut+Tlag_ny);
   (*ingen tidsforsinkelse her, skal vi ha det??*)
   last_v := forstyrr_ny;
   last_u_fk := u_fk;
ELSE
   u_fk := 0.00;
   last_u_fk := 0.00;
END_IF;
```


1
FRA Master
Status
FROM
EN ENO
0 n1 d mottak_fra_kanal_0
profibusadresse_0 n2
1 n3
Start / Stopp / ACK /
RegulatorModus / Magnetventiler
FROM
0 n1 d status_brytere
profibusadresse_1 n2
1 n3
MOV
EN ENO
s d
status_brytere
mottak_fra_kanal_1
kritisk_lav_eller_hooy
FROM
0 n1 d reg_modus
profibusadresse_2 n2
1 n3
MOV
reg_modus
mottak_fra_kanal_2
kritisk_lav_eller_hooy
FROM
0 n1 d mottak_fra_kanal_3
profibusadresse_3 n2
1 n3
kritisk_lav_eller_hooy
FROM
0 n1 d mottak_fra_kanal_4
profibusadresse_4 n2
1 n3
kritisk_lav_eller_hooy
FROM
0 n1 d mottak_fra_kanal_5
profibusadresse_5 n2
1 n3
FROM
0 n1 d mottak_fra_kanal_6
profibusadresse_6 n2
1 n3
kutt kontakt med kanal 6 7 og 8 etter
vi har fått satt parameterene
FROM
0 n1 d mottak_fra_kanal_7
profibusadresse_7 n2
1 n3
FROM
0 n1 d mottak_fra_kanal_8
profibusadresse_8 n2
1 n3
FROM
0 n1 d mottak_fra_kanal_9
profibusadresse_9 n2
1 n3


kritisk_lav_eller_hooy
FROM
EN
ENO
0
n1
d
mottak_fra_kanal_10
profibusadresse_10
n2
1
n3
kritisk_lav_eller_hooy
FROM
EN
ENO
0
n1
d
mottak_fra_kanal_11
profibusadresse_11
n2
1
n3
kritisk_lav_eller_hooy
FROM
EN
ENO
0
n1
d
mottak_fra_kanal_12
profibusadresse_12
n2
1
n3
FROM
EN
ENO
0
n1
d
mottak_fra_kanal_13
profibusadresse_13
n2
1
n3
kritisk_lav_eller_hooy
FROM
EN
ENO
0
n1
d
mottak_fra_kanal_14
profibusadresse_14
n2
1
n3
kritisk_lav_eller_hooy
FROM
EN
ENO
0
n1
d
mottak_fra_kanal_15
profibusadresse_15
n2
1
n3

```
IF (reset) THEN
   last_up := 0.0;
   last_ui := 0.0;
   last_ud := 0.0;
   last_y := 0.0;
   last_u_nom := 0.00;
END_IF;

Kp_ut := INT_TO_REAL(Kp)/100.00;
Ti_ut := INT_TO_REAL(Ti)/100.00;
Td_ut := INT_TO_REAL(Td)/100.00;
Ts_ut := INT_TO_REAL(Ts)/100.00;
d_filt := INT_TO_REAL(ni)/100.00;

e_reg := r_1-y_1;

alpha := Ts_ut / Ti_ut;
beta :=  Td_ut/(Td_ut+d_filt*Ts_ut);

up := e_reg*Kp_ut;

IF (up-last_up>INT_TO_REAL(ratebegrensing)) THEN
   up := last_up+INT_TO_REAL(ratebegrensing);
ELSIF (up-last_up<INT_TO_REAL(0-ratebegrensing)) THEN
   up := last_up - INT_TO_REAL(ratebegrensing);
END_IF;

IF (e_reg)<0.00 THEN
   konstant := 1.00;
ELSE
   konstant := 1.00;
END_IF;

ui := last_ui + Kp_ut*alpha* e_reg*konstant+u_it+u_antiwindup;

IF (ui-last_ui>INT_TO_REAL(ratebegrensing)) THEN
   ui := last_ui+INT_TO_REAL(ratebegrensing);
ELSIF (ui-last_ui<INT_TO_REAL(0-ratebegrensing)) THEN
   ui := last_ui - INT_TO_REAL(ratebegrensing);
END_IF;

ud := beta*last_ud-Kp_ut*(Td_ut/Ts_ut)*(1.00-beta)*(y_1-last_y);

IF (ud-last_ud>INT_TO_REAL(ratebegrensing)) THEN
   ud := last_ud+INT_TO_REAL(ratebegrensing);
ELSIF (ud-last_ud<INT_TO_REAL(0-ratebegrensing)) THEN
   ud := last_ud - INT_TO_REAL(ratebegrensing);
END_IF;

(*velger regulatortype*)
CASE regulator_type OF
   0:
   u_reg := manual_input;
   ui := 0.00;
(*  up := 0.00;
   ud := 0.00;*)
   1:
   u_reg := up+u_nominel+u_fk+u_rykkfri;
   ui := u_nominel;
(*  ud := 0.00;*)
   2:
   u_reg := up+ui+u_fk+u_rykkfri;
   (*ud := 0.00;*)
   3:
```

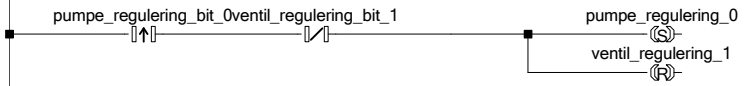
```
    u_reg := up+ud+u_nominel+u_fk+u_rykkfri;
    ui := u_nominel;
    4:
    u_reg := up+ui+ud+u_fk+u_rykkfri;
END_CASE;

u_t := u_reg;

IF u_reg<0.00 THEN
    u_reg := 0.00;
END_IF;

IF (u_reg-last_u>INT_TO_REAL(ratebegrensing)) THEN
    u_reg := last_u+INT_TO_REAL(ratebegrensing);
ELSIF (u_reg-last_u<INT_TO_REAL(0-ratebegrensing)) THEN
    u_reg := last_u - INT_TO_REAL(ratebegrensing);
END_IF;

u_nom := u_nominel;

IF (u_nominel-last_u_nom>INT_TO_REAL(ratebegrensing)) THEN
    u_nom := last_u_nom+INT_TO_REAL(ratebegrensing);
ELSIF (u_nominel-last_u_nom<INT_TO_REAL(0-ratebegrensing)) THEN
    u_nom := last_u_nom - INT_TO_REAL(ratebegrensing);
END_IF;

last_u_nom := u_nom;
last_u := u_reg;
last_up := up;
last_ui := ui;
last_ud := ud;
last_y :=  y_1;
u_ut := u_reg;
```

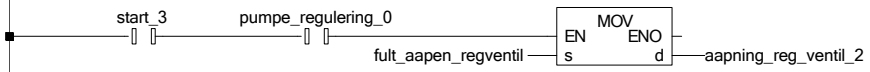
```
IF (M8002) THEN
   last_rut := 0.0;
   lastlast_rut := 0.0;
END_IF;

Ts_ut := INT_TO_REAL(Ts)/100.00;
r_glatting := r_inn;

referanse_ut := (Ts_ut*Ts_ut*a_rglatt*r_glatting-lastlast_rut+(2.00+b*Ts_ut)*last_rut)/(1.00+Ts_ut*b+a_rglatt*Ts_ut*Ts_ut);

lastlast_rut := last_rut;
last_rut := referanse_ut;
```

1

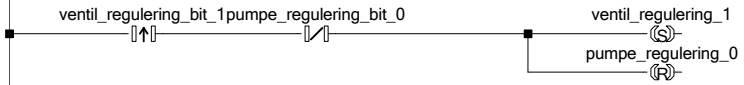
Ventil eller pumpe-regulering

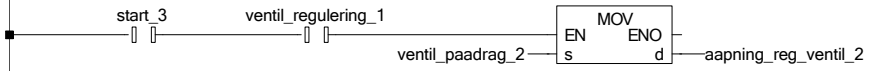
Pumperegulering

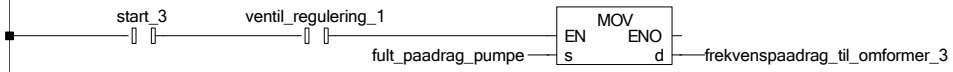


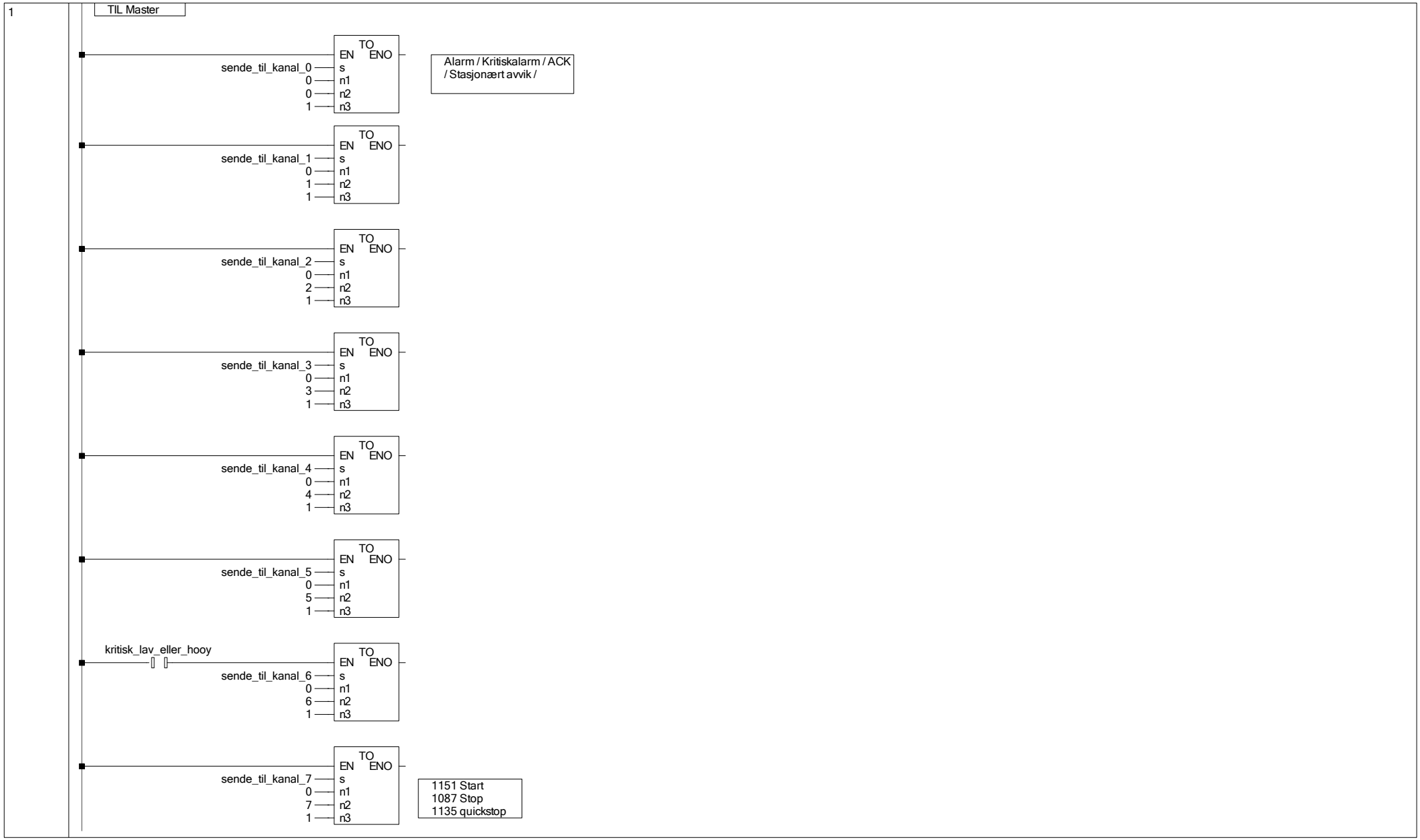


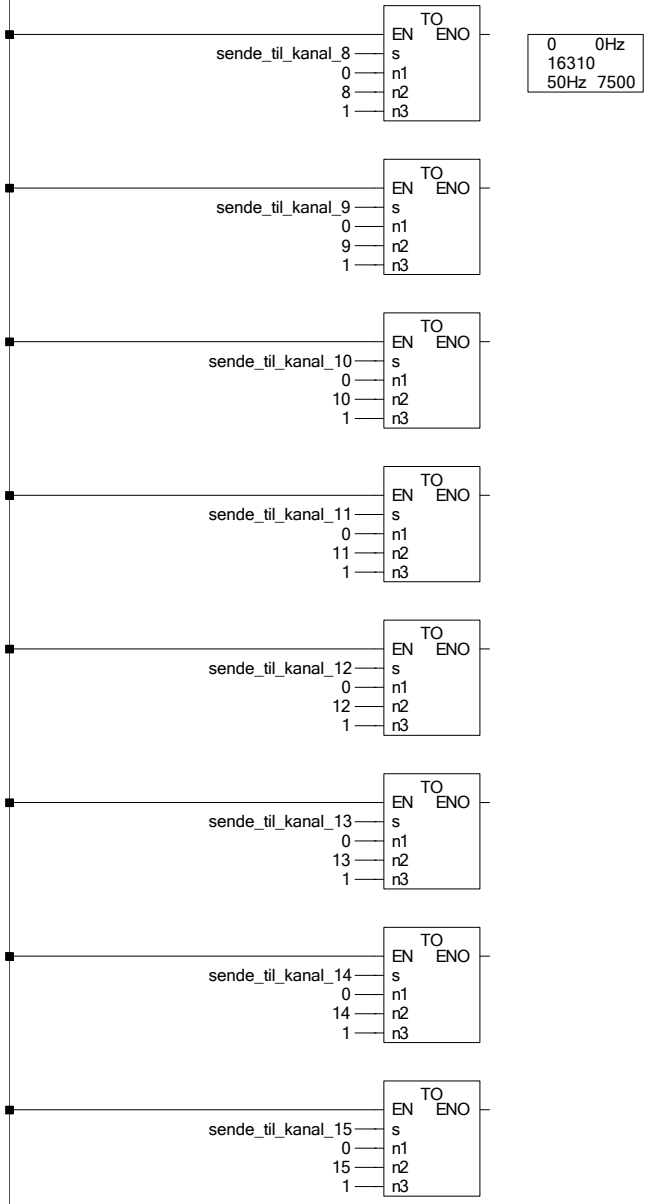
Ventilregulering








1
TIL Master
TO
EN ENO
sende_til_kanal_0
s
0
n1
0
n2
1
n3
Alarm / Kritiskalarm / ACK
/ Stasjonært avvik /
sende_til_kanal_1
1
1
sende_til_kanal_2
2
1
sende_til_kanal_3
3
1
sende_til_kanal_4
4
1
sende_til_kanal_5
5
1
kritisk_lav_eller_hooy
sende_til_kanal_6
6
1
sende_til_kanal_7
7
1
1151 Start
1087 Stop
1135 quickstop


TO
EN ENO
sende_til_kanal_8
s
0
n1
8
n2
1
n3
0 0Hz
16310
50Hz 7500
TO
EN ENO
sende_til_kanal_9
s
0
n1
9
n2
1
n3
TO
EN ENO
sende_til_kanal_10
s
0
n1
10
n2
1
n3
TO
EN ENO
sende_til_kanal_11
s
0
n1
11
n2
1
n3
TO
EN ENO
sende_til_kanal_12
s
0
n1
12
n2
1
n3
TO
EN ENO
sende_til_kanal_13
s
0
n1
13
n2
1
n3
TO
EN ENO
sende_til_kanal_14
s
0
n1
14
n2
1
n3
TO
EN ENO
sende_til_kanal_15
s
0
n1
15
n2
1
n3

```
IF pumpe_regulering THEN;
   DEROUND_1(real_to_round := paadrag_fra_regulator_0*84.85 + 7825.0, gjelende_siffer_input := 0);
   frekvenspaadrag_til_omformer_1 := REAL_TO_INT(DEROUND_1.real_rounded);
ELSIF ventil_regulering THEN;
   DEROUND_2(real_to_round := paadrag_fra_regulator_0*35.0 + 500.0, gjelende_siffer_input := 0);
   ventil_paadrag_2 := REAL_TO_INT(DEROUND_2.real_rounded);
END_IF;
DEROUND_3(real_to_round := paadrag_fra_regulator_0*100.0, gjelende_siffer_input := 0);
paadrag_til_scada_0 := REAL_TO_INT(DEROUND_3.real_rounded);
manuelt_paadrag_til_regulator_3 := INT_TO_REAL(paadrag_manuelt_1)/100.0;
u0_nompaadrag_til_regulator_4 := INT_TO_REAL(u0_nompaadrag_fra_scada_2)/100.0;
```

```
referanse_til_PID_0 := INT_TO_REAL(referanse_0)/100.0;
DEROUND_1(real_to_round := referanse_til_PID_0*9.9 + 510.0, gjelende_siffer_input := 0);
ref_skalert_som_tankmaaling_1 := REAL_TO_INT(DEROUND_1.real_rounded);
DEROUND_2(real_to_round := glatt_referanse_1*100.0, gjelende_siffer_input := 0);
glatt_referanse_til_scada_2 := REAL_TO_INT(DEROUND_2.real_rounded);
```

```
IF (tanknivaa_filtrert_0 < 510) THEN;
   tanknivaa_til_regulator_1 := 0.0;
   tanknivaa_skalert_til_scada_0 := 0;
ELSE
   tanknivaa_til_regulator_1 := INT_TO_REAL(tanknivaa_filtrert_0-510)/9.9;
   DEROUND_1(real_to_round := INT_TO_REAL(tanknivaa_filtrert_0-510)/9.9*100.0, gjelende_siffer_input := 0);
   tanknivaa_skalert_til_scada_0 := REAL_TO_INT(DEROUND_1.real_rounded);
END_IF;
```

```
IF frekvenspaadrag_til_omformer_0 < 7825 THEN;
   frekvens_skalert_0 := 0;
ELSE
   DEROUND_1(real_to_round := (INT_TO_REAL(frekvenspaadrag_til_omformer_0) - 7825.0)/0.8485, gjelende_siffer_input := 0);
   frekvens_skalert_0 := REAL_TO_INT(DEROUND_1.real_rounded);
END_IF;
DEROUND_2(real_to_round := (INT_TO_REAL(aapning_reg_ventil_1) - 500.0)/0.35, gjelende_siffer_input := 0);
ventil_skalert_1 := REAL_TO_INT(DEROUND_2.real_rounded);
```

```
IF utstroom_filtrert_0 < 400 THEN;
   utstroom_til_regulator_0 := 0.0;
   utstroom_til_scada_1 := 0;
ELSE
   utstroom_til_regulator_0 := INT_TO_REAL(utstroom_filtrert_0-400)/12.35;
   DEROUND_2(real_to_round := INT_TO_REAL(utstroom_filtrert_0 - 400)/200.00, gjelende_siffer_input := 2);
   utstroom_til_scada_1 := REAL_TO_INT(DEROUND_2.real_rounded*100.00);
END_IF;
```

```
DEROUND_1(real_to_round := INT_TO_REAL(ventil_input - 500)/0.35, gjelende_siffer_input := 0);
ventil_scada := REAL_TO_INT(DEROUND_1.real_rounded);
ventil_regulator := INT_TO_REAL(ventil_input - 500)/35.0;
```

```
IF (reset) THEN;
   last_u_antiwindup := 0.00;
   last_u_rykkfri := 0.00;
END_IF;

Ts_ut := INT_TO_REAL(Ts)/100.00;
T_tut := INT_TO_REAL(T_tracking)/100.00;

u_aw := u_metning-u_t;
u_rf := u_t;

IF ((u_aw+5.00)<0.00) THEN;
   IF (aw_på) THEN;
      u_antiwindup := u_aw*(Ts_ut/T_tut)+last_u_antiwindup;
   ELSE;
      u_antiwindup := 0.00;
   END_IF;
ELSIF (u_t<0.00) THEN;
   IF (aw_på) THEN;
      u_antiwindup := -u_t*(Ts_ut/T_tut)+last_u_antiwindup;
   ELSE;
      u_antiwindup := 0.00;
   END_IF;
ELSIF((u_rf+10.00)<last_u) THEN;
   u_rykkfri := (last_u-u_rf)*(Ts_ut/T_tut)+last_u_rykkfri;
ELSIF((u_rf-10.00)>last_u) THEN;
   u_rykkfri := (last_u-u_rf)*(Ts_ut/T_tut)+last_u_rykkfri;
ELSE;
   u_rykkfri := 0.00;
   u_antiwindup := 0.00;
END_IF;

last_u_antiwindup := u_antiwindup;
last_u_rykkfri := u_rykkfri;
```

1

Utganger

tvangstyr_startsignal_frekv_0 kritisk_refnivaa_opnaad_slave_5 fysisk_start_frekomformer_0

Magnetventil 1

aktiver_magv_1_bit_1 kritisk_refnivaa_opnaad_slave_5 magnetventil_1_1

kritiaskalarm_aapne_ventiler_4

Ved normal drift:
skal ventil 1 og 2 være
åpen og 3 lukket.

Magnetventil 2

aktiver_magv_2_bit_2 kritisk_refnivaa_opnaad_slave_5 magnetventil_2_2

kritiaskalarm_aapne_ventiler_4

Magnetventil 3

aktiver_magv_3_bit_3 kritisk_refnivaa_opnaad_slave_5 kritiskalarm_nedre_stengunder_60_nivmagnetventil_3_3

kritiaskalarm_aapne_ventiler_4

Magnetventil

magnetventil_1_1 magnetventil_1_ACK_4

magnetventil_2_2 magnetventil_2_ACK_5

magnetventil_3_3 magnetventil_3_ACK_6

```
stasjonært_avvik_verdi_0 := ABS(ref_skalert_til_tankmaaling_0 - tanknivaa_filtrert_1);

IF ((stasjonært_avvik_verdi_0 >= 99 ) AND (start_2) AND (NOT ack_3))THEN;
   myTimer(IN := TRUE, PT := T#60s);
ELSE
   myTimer(IN := FALSE);
END_IF;

IF myTimer.Q THEN
   stasjonært_avvik_1 := TRUE;
ELSE
   stasjonært_avvik_1 := FALSE;
END_IF;
```

	Class	Label Name	Data Type	Constant	Device	Address	Comment	Remark	Relation with System Label	System Label Name	Attribute
1	VAR_GLOBAL	tanknivaa_analogt	Word[Signed]		D8260	%MW0.8260		NIVÅMÅLER			
2	VAR_GLOBAL	utstroom_analogt	Word[Signed]		D8261	%MW0.8261		FLOWMETER			
3	VAR_GLOBAL	send_aapning_reg_ventil	Word[Signed]		D8262	%MW0.8262		ÅPNING REGVENTIL			
4											
5											
6	VAR_GLOBAL	start_bit	Bit		M101	%MX0.101		M100 til M199 Reserveres TIL SLAVE			
7	VAR_GLOBAL	stopp_bit	Bit		M100	%MX0.100					
8	VAR_GLOBAL	ACK_bit	Bit		M102	%MX0.102					
9	VAR_GLOBAL	aktiver_magv_1_bit	Bit		M103	%MX0.103					
10	VAR_GLOBAL	aktiver_magv_2_bit	Bit		M104	%MX0.104					
11	VAR_GLOBAL	aktiver_magv_3_bit	Bit		M105	%MX0.105					
12	VAR_GLOBAL	ventil_regulering_bit	Bit		M106	%MX0.106					
13	VAR_GLOBAL	pumpe_regulering_bit	Bit		M107	%MX0.107					
14	VAR_GLOBAL	forover_kobling_bit	Bit		M108	%MX0.108					
15	VAR_GLOBAL	anti_windup_bit	Bit		M109	%MX0.109					
16	VAR_GLOBAL	testmodus_bit	Bit		M110	%MX0.110					
17	VAR_GLOBAL	kritisk_lav_eller_hooy_bit	Bit		M111	%MX0.111					
18	VAR_GLOBAL	reg_modus_bit	Bit		M112	%MX0.112	Til og med M115				
19											
20											
21	VAR_GLOBAL	tvangstyr_startsignal_frekv	Bit		M1	%MX0.1	Aktiver kontaktor for startsignal til omformer	M0 til M99 Reservert INTERNT i slave			
22	VAR_GLOBAL	intern_start_regventil	Bit		M2	%MX0.2					
23											
24	VAR_GLOBAL	intern_aktiver_magventil_1	Bit		M4	%MX0.4	Lokalt for slave				
25	VAR_GLOBAL	intern_aktiver_magventil_2	Bit		M5	%MX0.5	Lokalt for slave				
26	VAR_GLOBAL	intern_aktiver_magventil_3	Bit		M6	%MX0.6	Lokalt for slave				
27											
28											
29	VAR_GLOBAL	tanknivaa_til_scada	Word[Signed]		D0	%MW0.0					
30	VAR_GLOBAL	lest_tanknivaa	Word[Signed]		D1	%MW0.1		LAGRING AV WORDS			
31	VAR_GLOBAL	status_brytere	Word[Signed]		D2	%MW0.2	Start,stopp,ACK og AutoModus				
32	VAR_GLOBAL	paadrag_til_scada	Word[Signed]		D4	%MW0.4	Start,stopp,ACK og AutoModus				
33	VAR_GLOBAL	referanse	Word[Signed]		D5	%MW0.5					
34	VAR_GLOBAL	Td	Word[Signed]		D6	%MW0.6					
35	VAR_GLOBAL	Ti	Word[Signed]		D7	%MW0.7					
36	VAR_GLOBAL	Kp	Word[Signed]		D8	%MW0.8					
37	VAR_GLOBAL	reg_modus	Word[Signed]		D9	%MW0.9	4bit				
38	VAR_GLOBAL	u0_nompaadrag_fra_scada	Word[Signed]		D10	%MW0.10					
39	VAR_GLOBAL	samplingstid	Word[Signed]		D12	%MW0.12					
40	VAR_GLOBAL	tau_lead	Word[Signed]		D13	%MW0.13					
41	VAR_GLOBAL	tau_lag	Word[Signed]		D14	%MW0.14					
42	VAR_GLOBAL	d_filter	Word[Signed]		D15	%MW0.15					
43	VAR_GLOBAL	rate_limit	Word[Signed]		D16	%MW0.16					
44	VAR_GLOBAL	tt	Word[Signed]		D17	%MW0.17					
45	VAR_GLOBAL	kfk	Word[Signed]		D18	%MW0.18	Foroverkoblingsparameter				
46											
47	VAR_GLOBAL	utstroom_filtrert	Word[Signed]		D20	%MW0.20					
48	VAR_GLOBAL	lest_utstroom	Word[Signed]		D21	%MW0.21					
49											
50	VAR_GLOBAL	ref_skalert_som_tankmaaling	Word[Signed]		D22	%MW0.22					
51	VAR_GLOBAL	aapning_reg_ventil	Word[Signed]		D23	%MW0.23					
52	VAR_GLOBAL	tanknivaa_filtrert	Word[Signed]		D24	%MW0.24					
53	VAR_GLOBAL	stasjonært_avvik_verdi	Word[Signed]		D25	%MW0.25					
54	VAR_GLOBAL	paadrag_regulator	Word[Signed]		D26	%MW0.26	RegulatorParmarametere				
55											
56	VAR_GLOBAL	control_word	Word[Signed]		D32	%MW0.32					
57	VAR_GLOBAL	frekvenspaadrag_til_omformer	Word[Signed]		D33	%MW0.33					
58	VAR_GLOBAL	paadrag_manuelt	Word[Signed]		D34	%MW0.34					
59	VAR_GLOBAL	frekvens_skalert	Word[Signed]		D35	%MW0.35					
60	VAR_GLOBAL	ventil_paadrag	Word[Signed]		D36	%MW0.36					
61	VAR_GLOBAL	ventil_skalert	Word[Signed]		D37	%MW0.37					
62	VAR_GLOBAL	glatt_referanse_til_scada	Word[Signed]		D38	%MW0.38					

	Class	Label Name	Data Type	Constant	Device	Address	Comment	Remark	Relation with System Label	System Label Name	Attribute
63	VAR_GLOBAL	utstroom_til_scada	Word[Signed]		D39	%MW0.39					
64											
65	VAR_GLOBAL	tanknivaa_til_regulator	FLOAT (Single Precision)		D40	%MD0.40					
66	VAR_GLOBAL	referanse_til_PID	FLOAT (Single Precision)		D42	%MD0.42					
67	VAR_GLOBAL	glatt_referanse	FLOAT (Single Precision)		D44	%MD0.44					
68	VAR_GLOBAL	u0_nompaadrag_til_regulator	FLOAT (Single Precision)		D46	%MD0.46					
69	VAR_GLOBAL	paadrag_fra_regulator	FLOAT (Single Precision)		D48	%MD0.48					
70	VAR_GLOBAL	manuelt_paadrag_til_regulator	FLOAT (Single Precision)		D50	%MD0.50					
71	VAR_GLOBAL	forrige_paadrag_regulator	FLOAT (Single Precision)		D52	%MD0.52					
72	VAR_GLOBAL	utstroom_til_regulator	FLOAT (Single Precision)		D54	%MD0.54					
73											
74	VAR_GLOBAL	ubrukt_2	Word[Signed]		D100	%MW0.100					
75	VAR_GLOBAL	ubrukt_3	Word[Signed]		D101	%MW0.101					
76	VAR_GLOBAL	ubrukt_4	Word[Signed]		D102	%MW0.102					
77	VAR_GLOBAL	ubrukt_15	Word[Signed]		D103	%MW0.103					
78											
79	VAR_GLOBAL_CONSTANT	start_omformer	Word[Signed]	1151				KONSTANTER			
80	VAR_GLOBAL_CONSTANT	stopp_omformer	Word[Signed]	1087							
81	VAR_GLOBAL_CONSTANT	quickstop_omformer	Word[Signed]	1135							
82	VAR_GLOBAL_CONSTANT	fult_aapen_regventil	Word[Signed]	4000							
83	VAR_GLOBAL_CONSTANT	fult_lukket_regventil	Word[Signed]	500							
84	VAR_GLOBAL_CONSTANT	fult_paadrag_pumpe	Word[Signed]	16310			16310 før skalering				
85	VAR_GLOBAL_CONSTANT	null_paadrag_pumpe	Word[Signed]	0			16310 før skalering				
86	VAR_GLOBAL_CONSTANT	hysterese_alarmgrense	Word[Signed]	20							
87	VAR_GLOBAL_CONSTANT	blinkrate	Word[Signed]	1							
88											
89											
90	VAR_GLOBAL	fysisk_start_frekomformer	Bit		Y000	%QX0	K4	UTGANGER			
91	VAR_GLOBAL	alarm_lampe	Bit		Y001	%QX1	Alarmlampe				
92	VAR_GLOBAL	magnetventil_1	Bit		Y004	%QX4	K1				
93	VAR_GLOBAL	magnetventil_2	Bit		Y005	%QX5	K2				
94	VAR_GLOBAL	magnetventil_3	Bit		Y006	%QX6	K3				
95											
96											
97	VAR_GLOBAL	strømbrudd	Bit		M500	%MX0.500					
98											
99	VAR_GLOBAL	start	Bit		M200	%MX0.200		INTERNT I SLAVE			
100	VAR_GLOBAL	stopp	Bit		M201	%MX0.201					
101	VAR_GLOBAL	kritisk_refnivaa_opnaad_slave	Bit		M202	%MX0.202					
102	VAR_GLOBAL	kritiaskalarm_aapne_ventiler	Bit		M203	%MX0.203					
103	VAR_GLOBAL	kritiskalarm_nedre_stengventiler	Bit		M206	%MX0.206					
104	VAR_GLOBAL	fortsatt_kritisk_nedre	Bit		M207	%MX0.207					
105	VAR_GLOBAL	fortsatt_kritisk_oovre	Bit		M208	%MX0.208					
106	VAR_GLOBAL	fortsatt_alarm	Bit		M209	%MX0.209					
107	VAR_GLOBAL	kritisk_lav_eller_hooy	Bit		M210	%MX0.210					
108	VAR_GLOBAL	oppstart	Bit		M211	%MX0.211					
109	VAR_GLOBAL	auto_ACK	Bit		M212	%MX0.212					
110	VAR_GLOBAL	under_refnivaa	Bit		M213	%MX0.213	M213 til M215				
111	VAR_GLOBAL	innenfor_refomraade	Bit		M214	%MX0.214	M213 til M215				
112	VAR_GLOBAL	over_refnivaa	Bit		M215	%MX0.215	M213 til M215				
113											
114	VAR_GLOBAL	auto_ACK_lav_hooy	Bit		M216	%MX0.216					
115	VAR_GLOBAL	under_60_nivaa	Bit		M217	%MX0.217					
116											
117	VAR_GLOBAL	alarm_oovre	Bit		M300	%MX0.300		M300 til M399 beholdes FRA SLAVE			
118	VAR_GLOBAL	kritiskalarm_oovre	Bit		M301	%MX0.301					
119	VAR_GLOBAL	ACK_slave	Bit		M302	%MX0.302					
120	VAR_GLOBAL	stasjonært_avvik	Bit		M303	%MX0.303					
121	VAR_GLOBAL	strømbrudd_slave	Bit		M304	%MX0.304					
122	VAR_GLOBAL	alarm_nedre	Bit		M305	%MX0.305		M300 til M399 beholdes FRA SLAVE			
123	VAR_GLOBAL	kritiskalarm_nedre	Bit		M306	%MX0.306					
124	VAR_GLOBAL	stopp_slave	Bit		M307	%MX0.307					

	Class	Label Name	Data Type	Constant	Device	Address	Comment	Remark	Relation with System Label	System Label Name	Attribute
125	VAR_GLOBAL	magnetventil_1_ACK	Bit		M308	%MX0.308					
126	VAR_GLOBAL	magnetventil_2_ACK	Bit		M309	%MX0.309					
127	VAR_GLOBAL	magnetventil_3_ACK	Bit		M310	%MX0.310					
128	VAR_GLOBAL	magnetventil_aapen_igjen	Bit		M311	%MX0.311					
129	VAR_GLOBAL	pumpe_regulering	Bit		M312	%MX0.312					
130	VAR_GLOBAL	ventil_regulering	Bit		M313	%MX0.313					
131	VAR_GLOBAL	Profibus_ok	Bit		M314	%MX0.314					
132	VAR_GLOBAL	kritiskalarm_refnivaa_oppnaad	Bit		M315	%MX0.315					
133	VAR_GLOBAL	testmode_ACK	Bit		M316	%MX0.316					
134	VAR_GLOBAL	reg_modus_ACK	Bit		M317	%MX0.317	M317 til og med M320				
135											
136											
137											
138	VAR_GLOBAL	frk_control	Bit		M400	%MX0.400	Høy = klar, Lav = ikke klar	Statusmeldinger fra frekvensomformeren			
139	VAR_GLOBAL	frk_VLT	Bit		M401	%MX0.401					
140	VAR_GLOBAL	frk_motor_coasting	Bit		M402	%MX0.402					
141	VAR_GLOBAL	frk_trip	Bit		M403	%MX0.403					
142	VAR_GLOBAL	frk_on_2	Bit		M404	%MX0.404					
143	VAR_GLOBAL	frk_on_3	Bit		M405	%MX0.405					
144	VAR_GLOBAL	frk_stop_enable	Bit		M406	%MX0.406					
145	VAR_GLOBAL	frk_warning	Bit		M407	%MX0.407					
146	VAR_GLOBAL	frk_speed_ref	Bit		M408	%MX0.408					
147	VAR_GLOBAL	frk_local_operation	Bit		M409	%MX0.409					
148	VAR_GLOBAL	frk_frequency_ok	Bit		M410	%MX0.410					
149	VAR_GLOBAL	frk_running	Bit		M411	%MX0.411					
150	VAR_GLOBAL	frk_spenning_ok	Bit		M413	%MX0.413					
151	VAR_GLOBAL	frk_moment_ok	Bit		M414	%MX0.414					
152	VAR_GLOBAL	frk_termisk_varsel	Bit		M415	%MX0.415					

	Class	Label Name	Data Type	Constant	Device	Address	Comment
1	VAR	lavpass_filter_1	lavpass_filter_tanknivaa				
2	VAR	lavpass_filter_2	lavpass_filter_utstrøm				
3	VAR	DEROUND_1	DEROUND				
4	VAR	DEROUND_2	DEROUND				
5	VAR	Lampe_Alarm_1	Lampe_Alarm				
6	VAR	DEROUND_5	DEROUND				
7	VAR	DEROUND_6	DEROUND				
8	VAR	DEROUND_7	DEROUND				
9	VAR	DEROUND_3	DEROUND				
10	VAR	DEROUND_4	DEROUND				
11	VAR	skalering_tanknivaa_1	skalering_tanknivaa				
12	VAR	skalering_ventil_1	skalering_ventil				
13	VAR	skalering_paadrag_1	skalering_paadrag				
14	VAR	skalering_referanse_1	skalering_referanse				
15	VAR	utregning_stasjonært_avvik_1	utregning_stasjonært_avvik				
16	VAR	skalering_til_bruker_ven_og_omf1	skalering_til_bruker_ven_og_omf				
17	VAR	skalering_utstroom_1	skalering_utstroom				
18	VAR	mottak_av_data_fra_master_1	mottak_av_data_fra_master				
19	VAR	sending_av_data_til_master_1	sending_av_data_til_master				
20	VAR	kvittering_av_alarmer_1	kvittering_av_alarmer				
21	VAR	utganger_1	utganger				
22	VAR	kritisk_refnivaa_oppnaad_1	kritisk_refnivaa_oppnaad				
23	VAR	reguleringsmodus_1	reguleringsmodus				
24	VAR	handling_ved_kritisk_alarm_1	handling_ved_kritisk_alarm				
25	VAR	alarmgrenser_1	alarmgrenser				

	Class	Label Name	Data Type	Constant	Device	Address	Comment
1	VAR	Lead_lag_1	Lead_lag				
2	VAR	Tracking_1	Tracking				
3	VAR	PID_regulator_1	PID_regulator				
4	VAR	Referanseglatter_1	Referanseglatter				
5	VAR	resettverdier	Bit				
6	VAR	integralledd	FLOAT (Single Precision)				
7	VAR	uit	FLOAT (Single Precision)				
8	VAR	ut	FLOAT (Single Precision)				

	Class	Label Name	Data Type	Constant	Device	Address	Comment

	Class	Label Name	Data Type	Constant	Comment
1	VAR_INPUT	start_0	Bit		
2	VAR_INPUT	ACK_bit_1	Bit		
3	VAR_INPUT	tanknivaa_filtrert_2	Word[Signed]		
4					
5	VAR_OUTPUT	kritiskalarm_oovre_0	Bit		
6	VAR_OUTPUT	kritiskalarm_nedre_1	Bit		
7	VAR_OUTPUT	kritisk_lav_eller_hooy_2	Bit		
8	VAR_OUTPUT	alarm_oovre_3	Bit		
9	VAR_OUTPUT	alarm_nedre_4	Bit		
10	VAR_OUTPUT	fortsatt_alarm_5	Bit		

	Class	Label Name	Data Type	Constant	Comment
1	VAR_INPUT	real_to_round	FLOAT (Single Precision)		
2	VAR_INPUT	gjelende_siffer_input	Word[Signed]		
3	VAR	gjelende_siffer_real	FLOAT (Single Precision)		
4	VAR	ti_til_gjellende_siffer	FLOAT (Single Precision)		
5	VAR	int_round	Double Word[Signed]		
6	VAR_OUTPUT	real_rounded	FLOAT (Single Precision)		

Data Name : handling_ved_kritisk_alarm
Function/FB Label Setting

	Class	Label Name	Data Type	Constant	Comment
1	VAR_INPUT	kritiskalarm_oovre_0	Bit		
2	VAR_INPUT	kritiskalarm_nedre_1	Bit		
3	VAR_INPUT	tanknivaa_filtrert_2	Word[Signed]		
4					
5	VAR_OUTPUT	referanse_0	Word[Signed]		
6	VAR_OUTPUT	reg_modus_1	Word[Signed]		
7	VAR_OUTPUT	u0_nompaadrag_fra_scada_2	Word[Signed]		
8	VAR_OUTPUT	under_60_nivaa_3	Bit		

	Class	Label Name	Data Type	Constant	Comment
1	VAR_INPUT	innenfor_refomraade_0	Bit		
2	VAR_INPUT	kritisk_lav_eller_hooy_1	Bit		
3					
4	VAR_OUTPUT	kritisk_refnivaa_opnaad_slave_	Bit		
5	VAR_OUTPUT	kritiskalarm_refnivaa_oppnaad_	Bit		
6	VAR_OUTPUT	frekvenspaadrag_til_omformer_	Word[Signed]		
7	VAR_OUTPUT	control_word_3	Word[Signed]		
8	VAR_OUTPUT	aapning_reg_ventil_4	Word[Signed]		

Data Name : kvittering_av_alarmer
Function/FB Label Setting

	Class	Label Name	Data Type	Constant	Comment
1	VAR_INPUT	ACK_bit_0	Bit		
2	VAR_INPUT	kritisk_lav_eller_hooy_1	Bit		
3					
4	VAR_OUTPUT	alarm_oovre_0	Bit		
5	VAR_OUTPUT	alarm_nedre_1	Bit		
6	VAR_OUTPUT	kritiskalarm_oovre_2	Bit		
7	VAR_OUTPUT	kritiskalarm_nedre_3	Bit		
8	VAR_OUTPUT	strømbrudd_4	Bit		
9	VAR_OUTPUT	stasjonært_avvik_5	Bit		
10	VAR_OUTPUT	kritiskalarm_refnivaa_oppnaad_	Bit		
11	VAR_OUTPUT	auto_ACK_7	Bit		
12	VAR_OUTPUT	auto_ACK_lav_hooy_8	Bit		
13	VAR_OUTPUT	ACK_slave_9	Bit		
14	VAR_OUTPUT	fortsatt_alarm_10	Bit		
15	VAR_OUTPUT	kritisk_refnivaa_opnaad_slave_11	Bit		

Data Name : Lampe_Alarm
Function/FB Label Setting

	Class	Label Name	Data Type	Constant	Comment
1	VAR_INPUT	kritisk_lav_eller_hooy_0	Bit		
2	VAR_INPUT	alarm_lampe_1	Bit		
3	VAR_INPUT	alarm_oovre_2	Bit		
4	VAR_INPUT	alarm_nedre_3	Bit		
5	VAR_INPUT	stasjonært_avvik_4	Bit		
6	VAR_INPUT	fortsatt_alarm_5	Bit		
7	VAR_INPUT	blinkrate_6	Word[Signed]		
8	VAR_OUTPUT	alarm_lampe_0	Bit		
9	VAR_INPUT	strømbrudd_7	Bit		
10	VAR_INPUT	auto_ACK_lav_hooy_8	Bit		
11					
12	VAR	lampe_5HZ	Bit		
13	VAR	lampe_1HZ	Bit		
14	VAR	lampe_konstant	Bit		

Data Name : lavpass_filter_tanknivaa
Function/FB Label Setting

	Class	Label Name	Data Type	Constant	Comment
1	VAR_CONSTANT	omega_0	FLOAT (Single Precision)	0.2	cutoff frekvens. 16.4: 0.25 mye støy?? gamle:0.0384
2	VAR_CONSTANT	two_pi	FLOAT (Single Precision)	6.28	2*pi
3	VAR_INPUT	samplingstid_0	Word[Signed]		
4	VAR	input_float	FLOAT (Single Precision)		
5	VAR	avg_maaling	FLOAT (Single Precision)		
6	VAR	avg_maaling_k_minus_1	FLOAT (Single Precision)		
7	VAR	filter_faktor	FLOAT (Single Precision)		
8	VAR	eksponent	FLOAT (Single Precision)		
9	VAR	tastetid_float	FLOAT (Single Precision)		
10	VAR_INPUT	lest_tanknivaa_1	Word[Signed]		
11	VAR_OUTPUT	tanknivaa_filtrert_0	Word[Signed]		
12	VAR	DEROUND_1	DEROUND		

Data Name : lavpass_filter_utstrøm
Function/FB Label Setting

	Class	Label Name	Data Type	Constant	Comment
1	VAR_CONSTANT	omega_0	FLOAT (Single Precision)	0.2	cutoff frekvens. 16.4: 0.25 mye støy?? gamle:0.0384
2	VAR_CONSTANT	two_pi	FLOAT (Single Precision)	6.28	2*pi
3	VAR_INPUT	samplingstid_0	Word[Signed]		
4	VAR_INPUT	utstroom_analogt_1	Word[Signed]		
5	VAR_OUTPUT	utstroom_filtrert_0	Word[Signed]		
6	VAR	input_float	FLOAT (Single Precision)		
7	VAR	avg_maaling	FLOAT (Single Precision)		
8	VAR	avg_maaling_k_minus_1	FLOAT (Single Precision)		
9	VAR	filter_faktor	FLOAT (Single Precision)		
10	VAR	eksponent	FLOAT (Single Precision)		
11	VAR	tastetid_float	FLOAT (Single Precision)		
12	VAR	DEROUND_1	DEROUND		

	Class	Label Name	Data Type	Constant	Comment
1	VAR_OUTPUT	u_fk	FLOAT (Single Precision)		
2	VAR_INPUT	Kf	Word[Signed]		random konstant per nå
3	VAR	forstyrr	FLOAT (Single Precision)		forstyrrelse
4	VAR_INPUT	Tlead	Word[Signed]		random konstant per nå
5	VAR_INPUT	Tlag	Word[Signed]		random konstant per nå
6	VAR	last_v	FLOAT (Single Precision)		
7	VAR_INPUT	Ts	Word[Signed]		
8	VAR	last_u_fk	FLOAT (Single Precision)		
9	VAR_INPUT	leadlag	Bit		
10	VAR	Kf_ny	FLOAT (Single Precision)		
11	VAR	Tlead_ny	FLOAT (Single Precision)		
12	VAR	Tlag_ny	FLOAT (Single Precision)		
13	VAR	forstyrr_ny	FLOAT (Single Precision)		
14	VAR	Ts_ut	FLOAT (Single Precision)		
15	VAR_INPUT	reset	Bit		
16	VAR_INPUT	y_1	FLOAT (Single Precision)		
17	VAR_INPUT	outflow	FLOAT (Single Precision)		

	Class	Label Name	Data Type	Constant	Comment
1	VAR_INPUT	profibusadresse_0	Word[Signed]		
2	VAR_INPUT	profibusadresse_1	Word[Signed]		
3	VAR_INPUT	profibusadresse_2	Word[Signed]		
4	VAR_INPUT	profibusadresse_3	Word[Signed]		
5	VAR_INPUT	profibusadresse_4	Word[Signed]		
6	VAR_INPUT	profibusadresse_5	Word[Signed]		
7	VAR_INPUT	profibusadresse_6	Word[Signed]		
8	VAR_INPUT	profibusadresse_7	Word[Signed]		
9	VAR_INPUT	profibusadresse_8	Word[Signed]		
10	VAR_INPUT	profibusadresse_9	Word[Signed]		
11	VAR_INPUT	profibusadresse_10	Word[Signed]		
12	VAR_INPUT	profibusadresse_11	Word[Signed]		
13	VAR_INPUT	profibusadresse_12	Word[Signed]		
14	VAR_INPUT	profibusadresse_13	Word[Signed]		
15	VAR_INPUT	profibusadresse_14	Word[Signed]		
16	VAR_INPUT	profibusadresse_15	Word[Signed]		
17					
18	VAR_OUTPUT	mottak_fra_kanal_0	Word[Signed]		
19	VAR_OUTPUT	mottak_fra_kanal_1	Word[Signed]		
20	VAR_OUTPUT	mottak_fra_kanal_2	Word[Signed]		
21	VAR_OUTPUT	mottak_fra_kanal_3	Word[Signed]		
22	VAR_OUTPUT	mottak_fra_kanal_4	Word[Signed]		
23	VAR_OUTPUT	mottak_fra_kanal_5	Word[Signed]		
24	VAR_OUTPUT	mottak_fra_kanal_6	Word[Signed]		
25	VAR_OUTPUT	mottak_fra_kanal_7	Word[Signed]		
26	VAR_OUTPUT	mottak_fra_kanal_8	Word[Signed]		
27	VAR_OUTPUT	mottak_fra_kanal_9	Word[Signed]		
28	VAR_OUTPUT	mottak_fra_kanal_10	Word[Signed]		
29	VAR_OUTPUT	mottak_fra_kanal_11	Word[Signed]		
30	VAR_OUTPUT	mottak_fra_kanal_12	Word[Signed]		
31	VAR_OUTPUT	mottak_fra_kanal_13	Word[Signed]		
32	VAR_OUTPUT	mottak_fra_kanal_14	Word[Signed]		
33	VAR_OUTPUT	mottak_fra_kanal_15	Word[Signed]		

	Class	Label Name	Data Type	Constant	Comment
1	VAR	last_y	FLOAT (Single Precision)		
2	VAR_INPUT	Ts	Word[Signed]		0.04
3	VAR	up	FLOAT (Single Precision)		
4	VAR	ud	FLOAT (Single Precision)		
5	VAR_OUTPUT	ui	FLOAT (Single Precision)		
6	VAR	e_reg	FLOAT (Single Precision)		
7	VAR	alpha	FLOAT (Single Precision)		
8	VAR	beta	FLOAT (Single Precision)		
9	VAR	last_ui	FLOAT (Single Precision)		
10	VAR	last_ud	FLOAT (Single Precision)		
11	VAR	last_up	FLOAT (Single Precision)		
12	VAR_INPUT	ni	Word[Signed]		mulig dette skal være input fra intouch idk.
13	VAR_INPUT	Kp_reg	Word[Signed]		
14	VAR_INPUT	Ti_reg	Word[Signed]		
15	VAR_INPUT	Td_reg	Word[Signed]		
16	VAR_INPUT	r_1	FLOAT (Single Precision)		
17	VAR_OUTPUT	u_ut	FLOAT (Single Precision)		endre til word
18	VAR_INPUT	y_1	FLOAT (Single Precision)		
19	VAR_INPUT	manual_input	FLOAT (Single Precision)		endre til word
20	VAR_INPUT	Regulator_type	Word[Signed]		
21	VAR_INPUT	u_fk	FLOAT (Single Precision)		
22	VAR	u_nom	FLOAT (Single Precision)		
23	VAR_INPUT	u_antiwindup	FLOAT (Single Precision)		
24	VAR	Kp_ut	FLOAT (Single Precision)		
25	VAR	Ti_ut	FLOAT (Single Precision)		
26	VAR	Td_ut	FLOAT (Single Precision)		
27	VAR_OUTPUT	last_u	FLOAT (Single Precision)		
28	VAR_INPUT	ratebegrensing	Word[Signed]		initial value = 2
29	VAR	Ts_ut	FLOAT (Single Precision)		
30	VAR	d_filt	FLOAT (Single Precision)		
31	VAR	u_reg	FLOAT (Single Precision)		
32	VAR_INPUT	reset	Bit		
33	VAR_INPUT	u_it	FLOAT (Single Precision)		

	Class	Label Name	Data Type	Constant	Comment
34	VAR_OUTPUT	u_t	FLOAT (Single Precision)		
35	VAR_INPUT	u_rykkfri	FLOAT (Single Precision)		
36	VAR	last_u_nom	FLOAT (Single Precision)		
37	VAR_INPUT	u_nominel	FLOAT (Single Precision)		
38	VAR	konstant	FLOAT (Single Precision)		

	Class	Label Name	Data Type	Constant	Comment
1	VAR_OUTPUT	referanse_ut	FLOAT (Single Precision)		
2	VAR_INPUT	r_inn	FLOAT (Single Precision)		
3	VAR_CONSTANT	a_rglatt	FLOAT (Single Precision)	5	
4	VAR_CONSTANT	b	FLOAT (Single Precision)	4.47	
5	VAR_INPUT	Ts	Word[Signed]		
6	VAR	Ts_ut	FLOAT (Single Precision)		
7	VAR	r_glatting	FLOAT (Single Precision)		
8	VAR	last_rut	FLOAT (Single Precision)		
9	VAR	lastlast_rut	FLOAT (Single Precision)		

	Class	Label Name	Data Type	Constant	Comment
1	VAR_INPUT	pumpe_regulering_bit_0	Bit		
2	VAR_INPUT	ventil_regulering_bit_1	Bit		
3	VAR_INPUT	ventil_paadrag_2	Word[Signed]		
4	VAR_INPUT	start_3	Bit		
5					
6	VAR_OUTPUT	pumpe_regulering_0	Bit		
7	VAR_OUTPUT	ventil_regulering_1	Bit		
8	VAR_OUTPUT	aapning_reg_ventil_2	Word[Signed]		
9	VAR_OUTPUT	frekvenspaadrag_til_omformer_	Word[Signed]		

Data Name : sending_av_data_til_master
Function/FB Label Setting

	Class	Label Name	Data Type	Constant	Comment
1	VAR_INPUT	sende_til_kanal_0	Word[Signed]		
2	VAR_INPUT	sende_til_kanal_1	Word[Signed]		
3	VAR_INPUT	sende_til_kanal_2	Word[Signed]		
4	VAR_INPUT	sende_til_kanal_3	Word[Signed]		
5	VAR_INPUT	sende_til_kanal_4	Word[Signed]		
6	VAR_INPUT	sende_til_kanal_5	Word[Signed]		
7	VAR_INPUT	sende_til_kanal_6	Word[Signed]		
8	VAR_INPUT	sende_til_kanal_7	Word[Signed]		
9	VAR_INPUT	sende_til_kanal_8	Word[Signed]		
10	VAR_INPUT	sende_til_kanal_9	Word[Signed]		
11	VAR_INPUT	sende_til_kanal_10	Word[Signed]		
12	VAR_INPUT	sende_til_kanal_11	Word[Signed]		
13	VAR_INPUT	sende_til_kanal_12	Word[Signed]		
14	VAR_INPUT	sende_til_kanal_13	Word[Signed]		
15	VAR_INPUT	sende_til_kanal_14	Word[Signed]		
16	VAR_INPUT	sende_til_kanal_15	Word[Signed]		

Data Name : skalering_paadrag
Function/FB Label Setting

	Class	Label Name	Data Type	Constant	Comment
1	VAR_INPUT	paadrag_fra_regulator_0	FLOAT (Single Precision)		
2	VAR_INPUT	paadrag_manuelt_1	Word[Signed]		
3	VAR_INPUT	u0_nompaadrag_fra_scada_2	Word[Signed]		
4	VAR_OUTPUT	paadrag_til_scada_0	Word[Signed]		
5	VAR_OUTPUT	frekvenspaadrag_til_omformer_1	Word[Signed]		
6	VAR_OUTPUT	ventil_paadrag_2	Word[Signed]		
7	VAR_OUTPUT	manuelt_paadrag_til_regulator_3	FLOAT (Single Precision)		
8	VAR_OUTPUT	u0_nompaadrag_til_regulator_4	FLOAT (Single Precision)		
9	VAR	DEROUND_1	DEROUND		
10	VAR	DEROUND_2	DEROUND		
11	VAR	DEROUND_3	DEROUND		

Data Name : skalering_referanse
Function/FB Label Setting

	Class	Label Name	Data Type	Constant	Comment
1	VAR_INPUT	referanse_0	Word[Signed]		
2	VAR_INPUT	glatt_referanse_1	FLOAT (Single Precision)		
3	VAR_OUTPUT	referanse_til_PID_0	FLOAT (Single Precision)		
4	VAR_OUTPUT	ref_skalert_som_tankmaaling_1	Word[Signed]		
5	VAR_OUTPUT	glatt_referanse_til_scada_2	Word[Signed]		
6	VAR	DEROUND_1	DEROUND		
7	VAR	DEROUND_2	DEROUND		

	Class	Label Name	Data Type	Constant	Comment
1	VAR_INPUT	tanknivaa_filtrert_0	Word[Signed]		
2	VAR_OUTPUT	tanknivaa_skalert_til_scada_0	Word[Signed]		
3	VAR_OUTPUT	tanknivaa_til_regulator_1	FLOAT (Single Precision)		
4	VAR	DEROUND_1	DEROUND		

	Class	Label Name	Data Type	Constant	Comment
1	VAR_INPUT	frekvenspaadrag_til_omformer_	Word[Signed]		
2	VAR_INPUT	aapning_reg_ventil_1	Word[Signed]		
3	VAR_OUTPUT	frekvens_skalert_0	Word[Signed]		
4	VAR_OUTPUT	ventil_skalert_1	Word[Signed]		
5	VAR	DEROUND_1	DEROUND		
6	VAR	DEROUND_2	DEROUND		

	Class	Label Name	Data Type	Constant	Comment
1	VAR_INPUT	utstroom_filtrert_0	Word[Signed]		
2	VAR_OUTPUT	utstroom_til_regulator_0	FLOAT (Single Precision)		
3	VAR_OUTPUT	utstroom_til_scada_1	Word[Signed]		
4	VAR	DEROUND_1	DEROUND		
5	VAR	DEROUND_2	DEROUND		

	Class	Label Name	Data Type	Constant	Comment
1	VAR_INPUT	ventil_input	Word[Signed]		
2	VAR_OUTPUT	ventil_regulator	FLOAT (Single Precision)		
3	VAR_OUTPUT	ventil_scada	Word[Signed]		
4	VAR	DEROUND_1	DEROUND		

	Class	Label Name	Data Type	Constant	Comment
1	VAR_INPUT	u_t	FLOAT (Single Precision)		
2	VAR_CONSTANT	u_metning	FLOAT (Single Precision)	100.00	random konstant per nå
3	VAR	u_aw	FLOAT (Single Precision)		
4	VAR	last_u_antiwindup	FLOAT (Single Precision)		
5	VAR_OUTPUT	u_antiwindup	FLOAT (Single Precision)		
6	VAR_INPUT	Ts	Word[Signed]		
7	VAR_INPUT	T_tracking	Word[Signed]		default: 0.87
8	VAR_INPUT	last_u	FLOAT (Single Precision)		
9	VAR	u_rf	FLOAT (Single Precision)		
10	VAR_INPUT	aw_på	Bit		
11	VAR	last_u_rykkfri	FLOAT (Single Precision)		
12	VAR	Ts_ut	FLOAT (Single Precision)		
13	VAR	T_tut	FLOAT (Single Precision)		
14	VAR_INPUT	reset	Bit		
15	VAR_INPUT	ui	FLOAT (Single Precision)		
16	VAR_OUTPUT	u_it	FLOAT (Single Precision)		
17	VAR	last_u_it	FLOAT (Single Precision)		
18	VAR_OUTPUT	u_rykkfri	FLOAT (Single Precision)		

	Class	Label Name	Data Type	Constant	Comment
1	VAR_INPUT	tvangstyr_startsignal_frekv_0	Bit		
2	VAR_INPUT	aktiver_magv_1_bit_1	Bit		
3	VAR_INPUT	aktiver_magv_2_bit_2	Bit		
4	VAR_INPUT	aktiver_magv_3_bit_3	Bit		
5	VAR_INPUT	kritiaskalarm_aapne_ventiler_4	Bit		
6	VAR_INPUT	kritisk_refnivaa_opnaad_slave_5	Bit		
7	VAR_INPUT	kritiskalarm_nedre_stengventil_6	Bit		
8	VAR_INPUT	under_60_nivaa_7	Bit		
9					
10	VAR_OUTPUT	fysisk_start_frekomformer_0	Bit		
11	VAR_OUTPUT	magnetventil_1_1	Bit		
12	VAR_OUTPUT	magnetventil_2_2	Bit		
13	VAR_OUTPUT	magnetventil_3_3	Bit		
14	VAR_OUTPUT	magnetventil_1_ACK_4	Bit		
15	VAR_OUTPUT	magnetventil_2_ACK_5	Bit		
16	VAR_OUTPUT	magnetventil_3_ACK_6	Bit		

Data Name : utregning_stasjonært_avvik
Function/FB Label Setting

	Class	Label Name	Data Type	Constant	Comment
1	VAR_INPUT	ref_skalert_til_tankmaaling_0	Word[Signed]		
2	VAR_INPUT	tanknivaa_filtrert_1	Word[Signed]		
3	VAR_INPUT	start_2	Bit		
4	VAR_INPUT	ack_3	Bit		
5	VAR_OUTPUT	stasjonært_avvik_verdi_0	Word[Signed]		
6	VAR_OUTPUT	stasjonært_avvik_1	Bit		
7	VAR	myTimer	TON		

Data Name : Device List

Find In:(Entire project)
Find What:Used Device (Contact & Coil)
Print Range:Whole Range

*:in use, (counts): the number of coil uses

Device	Contact	Coil (counts)	Parameter	Comment
M100	*	*(1)		
M101	*	*(1)		
M102	*	*(1)		
M103	*	*(1)		
M104	*	*(1)		
M105	*	*(1)		
M106	*	*(1)		
M107	*	*(1)		
M108	*	*(1)		
M109	*	*(1)		
M110	*	*(1)		
M200	*	*(2)		
M201	*	*(2)		
M202	*	*(3)		
M203	*	*(1)		
M206	*	*(1)		
M209	*	*(2)		
M210	*	*(1)		
M211	*	*(2)		
M212	*	*(2)		
M214	*	*(1)		
M216	*	*(2)		
M217	*	*(1)		
M300	*	*(3)		
M301	*	*(3)		
M302	*	*(1)		
M303	*	*(2)		

Data Name : Device List

Find In:(Entire project)
Find What:Used Device (Contact & Coil)
Print Range:Whole Range

*:in use, (counts): the number of coil uses

Device	Contact	Coil (counts)	Parameter	Comment
M304	*	*(1)		
M305	*	*(3)		
M306	*	*(3)		
M307	*	*(1)		
M308	*	*(1)		
M309	*	*(1)		
M310	*	*(1)		
M312	*	*(2)		
M313	*	*(2)		
M314	*	*(1)		
M315	*	*(2)		
M316	*	*(1)		
M403	*	*(1)		
M500	*	*(2)		
M7660	*	*(17)		
M7662	*	*(17)		
M7663	*	*(1)		
M7666	*	*(1)		
M7667	*	*(1)		
M7668	*	*(2)		
M7669	*	*(1)		
M7670	*	*(1)		
M7671	*	*(11)		
M7674	*	*(3)		
M7677	*	*(1)		
M7678	*	*(1)		
M7679	*	*(1)		

Data Name : Device List

Find In:(Entire project)
Find What:Used Device (Contact & Coil)
Print Range:Whole Range

*:in use, (counts): the number of coil uses

Device	Contact	Coil (counts)	Parameter	Comment
Y004	*	*(1)		
Y005	*	*(1)		
Y006	*	*(1)		
D0	*	*(2)		
D1	*	*(1)		
D2	*	*(1)		
D4	*	*(1)		
D5	*	*(4)		
D6	*	*(1)		
D7	*	*(1)		
D8	*	*(1)		
D9	*	*(4)		
D10	*	*(3)		
D12	*	*(1)		
D13	*	*(1)		
D14	*	*(1)		
D15	*	*(1)		
D16	*	*(1)		
D17	*	*(1)		
D18	*	*(1)		
D20	*	*(1)		
D22	*	*(1)		
D23	*	*(5)		
D24	*	*(1)		
D25	*	*(2)		
D32	*	*(3)		
D33	*	*(3)		

Find In:(Entire project)
Find What:Used Device (Contact & Coil)
Print Range:Whole Range

*:in use, (counts): the number of coil uses

Device	Contact	Coil (counts)	Parameter	Comment
D34	*	*(1)		
D35	*	*(2)		
D36	*	*(1)		
D37	*	*(1)		
D38	*	*(1)		
D39	*	*(2)		
D40	*	*(2)		
D41	*	*(2)		
D42	*	*(1)		
D43	*	*(1)		
D44	*	*(1)		
D45	*	*(1)		
D46	*	*(1)		
D47	*	*(1)		
D48	*	*(1)		
D49	*	*(1)		
D50	*	*(1)		
D51	*	*(1)		
D52	*	*(1)		
D53	*	*(1)		
D54	*	*(2)		
D55	*	*(2)		
D706	*	*(5)		
D707	*	*(3)		
D708	*	*(3)		
D709	*	*(5)		
D710	*	*(5)		

Data Name : Device List

Find In:(Entire project)
Find What:Used Device (Contact & Coil)
Print Range:Whole Range

*:in use, (counts): the number of coil uses

Device	Contact	Coil (counts)	Parameter	Comment
D711	*	*(2)		
D712	*	*(2)		
D713	*	*(2)		
D714	*	*(2)		
D715	*	*(11)		
D716	*	*(11)		
D717	*	*(33)		
D718	*	*(33)		
D719	*	*(66)		
D720	*	*(66)		
D721	*	*(1)		
D722	*	*(1)		
D725	*	*(6)		
D726	*	*(6)		
D727	*	*(2)		
D728	*	*(2)		
D729	*	*(2)		
D730	*	*(2)		
D731	*	*(1)		
D732	*	*(1)		
D733	*	*(1)		
D734	*	*(1)		
D735	*	*(2)		
D736	*	*(2)		
D737	*	*(2)		
D738	*	*(2)		
D739	*	*(8)		

Find In:(Entire project)
Find What:Used Device (Contact & Coil)
Print Range:Whole Range

*:in use, (counts): the number of coil uses

Device	Contact	Coil (counts)	Parameter	Comment
D740	*	*(8)		
D741	*	*(1)		
D742	*	*(1)		
D743	*	*(1)		
D744	*	*(1)		
D745	*	*(1)		
D746	*	*(1)		
D747	*	*(1)		
D748	*	*(1)		
D749	*	*(1)		
D750	*	*(1)		
D751	*	*(3)		
D752	*	*(3)		
D753	*	*(2)		
D754	*	*(2)		
D755	*	*(2)		
D756	*	*(2)		
D757	*	*(2)		
D758	*	*(2)		
D759	*	*(1)		
D760	*	*(1)		
D761	*	*(1)		
D762	*	*(1)		
D763	*	*(1)		
D764	*	*(1)		
D765	*	*(3)		
D766	*	*(3)		

Find In:(Entire project)
Find What:Used Device (Contact & Coil)
Print Range:Whole Range

*:in use, (counts): the number of coil uses

Device	Contact	Coil (counts)	Parameter	Comment
D767	*	*(3)		
D768	*	*(3)		
D769	*	*(2)		
D770	*	*(2)		
D773	*	*(1)		
D774	*	*(1)		
D775	*	*(1)		
D776	*	*(1)		
D777	*	*(2)		
D778	*	*(2)		
D779	*	*(1)		
D780	*	*(1)		
D781	*	*(2)		
D782	*	*(2)		
D783	*	*(1)		
D784	*	*(1)		
D785	*	*(1)		
D786	*	*(1)		
D787	*	*(2)		
D788	*	*(2)		
D789	*	*(1)		
D790	*	*(1)		
D791	*	*(1)		
D792	*	*(1)		
D793	*	*(1)		
D794	*	*(1)		
D795	*	*(3)		

Data Name : Device List

Find In:(Entire project)
Find What:Used Device (Contact & Coil)
Print Range:Whole Range

*:in use, (counts): the number of coil uses

Device	Contact	Coil (counts)	Parameter	Comment
D796	*	*(3)		
D797	*	*(2)		
D798	*	*(2)		
D799	*	*(1)		
D800	*	*(1)		
D801	*	*(2)		
D802	*	*(2)		
D803	*	*(1)		
D804	*	*(1)		
D805	*	*(2)		
D806	*	*(2)		
D807	*	*(1)		
D808	*	*(1)		
D809	*	*(2)		
D810	*	*(2)		
D811	*	*(1)		
D812	*	*(1)		
D813	*	*(2)		
D814	*	*(2)		
D815	*	*(1)		
D816	*	*(1)		
D817	*	*(2)		
D818	*	*(2)		
D819	*	*(1)		
D820	*	*(1)		
D821	*	*(2)		
D822	*	*(2)		

Find In:(Entire project)
Find What:Used Device (Contact & Coil)
Print Range:Whole Range

*:in use, (counts): the number of coil uses

Device	Contact	Coil (counts)	Parameter	Comment
D823	*	*(2)		
D824	*	*(2)		
D825	*	*(1)		
D826	*	*(1)		
D827	*	*(1)		
D828	*	*(1)		
D829	*	*(2)		
D830	*	*(2)		
D831	*	*(1)		
D832	*	*(1)		
D833	*	*(2)		
D834	*	*(2)		
D835	*	*(1)		
D836	*	*(1)		
D837	*	*(2)		
D838	*	*(2)		
D839	*	*(16)		
D840	*	*(2)		
D841	*	*(2)		
D842	*	*(13)		
D843	*	*(13)		
D844	*	*(51)		
D845	*	*(51)		
D846	*	*(98)		
D847	*	*(98)		
D848	*	*(2)		
D849	*	*(2)		

Data Name : Device List

Find In:(Entire project)
Find What:Used Device (Contact & Coil)
Print Range:Whole Range

*:in use, (counts): the number of coil uses

Device	Contact	Coil (counts)	Parameter	Comment
D850	*	*(1)		
D851	*	*(1)		
D852	*	*(1)		
D853	*	*(1)		
D860	*	*(2)		
D861	*	*(2)		
D862	*	*(1)		
D863	*	*(1)		
D864	*	*(1)		
D865	*	*(1)		
D866	*	*(2)		
D867	*	*(2)		
D868	*	*(1)		
D869	*	*(1)		
D870	*	*(1)		
D871	*	*(1)		
D880	*	*(2)		
D881	*	*(2)		
D882	*	*(1)		
D883	*	*(1)		
D884	*	*(1)		
D885	*	*(1)		
D886	*	*(2)		
D887	*	*(2)		
D888	*	*(1)		
D889	*	*(1)		
D890	*	*(1)		

Find In:(Entire project)
Find What:Used Device (Contact & Coil)
Print Range:Whole Range

*:in use, (counts): the number of coil uses

Device	Contact	Coil (counts)	Parameter	Comment
D891	*	*(1)		
D892	*	*(2)		
D893	*	*(2)		
D894	*	*(1)		
D895	*	*(1)		
D896	*	*(1)		
D897	*	*(1)		
D898	*	*(2)		
D899	*	*(2)		
D900	*	*(1)		
D901	*	*(1)		
D902	*	*(1)		
D903	*	*(1)		
D904	*	*(2)		
D905	*	*(2)		
D906	*	*(1)		
D907	*	*(1)		
D908	*	*(1)		
D909	*	*(1)		
D916	*	*(2)		
D917	*	*(2)		
D918	*	*(1)		
D919	*	*(1)		
D920	*	*(1)		
D921	*	*(1)		
D964	*	*(2)		
D965	*	*(2)		

Find In:(Entire project)
Find What:Used Device (Contact & Coil)
Print Range:Whole Range

*:in use, (counts): the number of coil uses

Device	Contact	Coil (counts)	Parameter	Comment
D966	*	*(1)		
D967	*	*(1)		
D968	*	*(1)		
D969	*	*(1)		
D970	*	*(1)		
D971	*	*(1)		
D972	*	*(1)		
D973	*	*(1)		
D974	*	*(1)		
D975	*	*(1)		
D976	*	*(1)		
D977	*	*(1)		
D978	*	*(1)		
D979	*	*(1)		
D980	*	*(1)		
D981	*	*(1)		
D982	*	*(2)		
D983	*	*(2)		
D984	*	*(1)		
D985	*	*(1)		
D986	*	*(1)		
D987	*	*(1)		
D988	*	*(1)		
D989	*	*(1)		
D990	*	*(1)		
D991	*	*(1)		
D992	*	*(1)		

Data Name : Device List

Find In:(Entire project)
Find What:Used Device (Contact & Coil)
Print Range:Whole Range

*:in use, (counts): the number of coil uses

Device	Contact	Coil (counts)	Parameter	Comment
D993	*	*(1)		
D994	*	*(1)		
D995	*	*(1)		
D996	*	*(1)		
D997	*	*(1)		
D998	*	*(1)		
D999	*	*(1)		
T0	*	*(1)		
T1	*	*(1)		
T2	*	*(1)		
T3	*	*(1)		
T5	*	*(1)		
P2049	*	*(1)		
P2050	*	*(1)		
P2051	*	*(1)		
P2052	*	*(1)		
P2053	*	*(1)		
P2054	*	*(1)		
P2055	*	*(1)		
P2056	*	*(1)		
P2057	*	*(1)		
P2058	*	*(1)		
P2059	*	*(1)		
P2060	*	*(1)		
P2061	*	*(1)		
P2062	*	*(1)		
P2063	*	*(1)		

Data Name : Device List

Find In:(Entire project)
Find What:Used Device (Contact & Coil)
Print Range:Whole Range

*:in use, (counts): the number of coil uses

Device	Contact	Coil (counts)	Parameter	Comment
P2064	*	*(1)		
P2065	*	*(2)		
P2066	*	*(1)		
P2067	*	*(1)		
P2068	*	*(1)		
P2069	*	*(1)		
P2070	*	*(1)		
P2071	*	*(1)		
P2072	*	*(1)		
P2073	*	*(1)		
P2074	*	*(1)		
P2075	*	*(1)		
P2076	*	*(1)		
P2077	*	*(1)		
P2078	*	*(1)		
P2079	*	*(1)		
P2080	*	*(1)		
P2081	*	*(1)		
P2082	*	*(1)		
P2083	*	*(1)		
P2084	*	*(1)		
P2085	*	*(1)		
P2087	*	*(1)		
P2088	*	*(1)		
P2089	*	*(1)		
P2090	*	*(1)		
P2091	*	*(1)		

Find In:(Entire project)
Find What:Used Device (Contact & Coil)
Print Range:Whole Range

*:in use, (counts): the number of coil uses

Device	Contact	Coil (counts)	Parameter	Comment
P2092	*	*(1)		
P2093	*	*(1)		
P2094	*	*(1)		
P2095	*	*(6)		
P2096	*	*(1)		
P2097	*	*(1)		
P2098	*	*(1)		
P2099	*	*(1)		
P2100	*	*(1)		
P2101	*	*(1)		
P2102	*	*(1)		
P2103	*	*(2)		
P2104	*	*(1)		
P2105	*	*(1)		
P2106	*	*(1)		
P2107	*	*(2)		
P2108	*	*(1)		
P2109	*	*(2)		
P2110	*	*(1)		
P2111	*	*(4)		
P2112	*	*(1)		
P2113	*	*(1)		
P2114	*	*(1)		
P2115	*	*(1)		
P2116	*	*(1)		
P2117	*	*(1)		
P2118	*	*(2)		

Data Name : Device List

Find In:(Entire project)
Find What:Used Device (Contact & Coil)
Print Range:Whole Range

*:in use, (counts): the number of coil uses

Device	Contact	Coil (counts)	Parameter	Comment
P2119	*	*(1)		
P2120	*	*(2)		

Workspace Name :
Project Name : Slave_V37_FERDIG
Title :

Data Name	Last Change	Title
Parameter	3/5/2024 10:23:13 AM	
PLC Parameter	3/5/2024 10:23:13 AM	
Network Parameter	3/5/2024 10:23:13 AM	
CC-Link	3/5/2024 10:23:13 AM	
Special Module(Intelligent Function Module)	3/5/2024 10:23:13 AM	
Global Device Comment	3/5/2024 10:23:19 AM	
Global Label	5/2/2024 12:09:25 AM	
Global1	5/2/2024 12:09:25 AM	
Program Setting		
Execution Program		
MAIN	5/2/2024 12:25:22 AM	
stroombrudd	5/2/2024 12:25:22 AM	
stroombrudd	5/3/2024 9:50:42 AM	
Program	5/3/2024 9:50:42 AM	
Local Label	5/2/2024 12:24:30 AM	
Task_01	4/23/2024 12:29:01 PM	
POU_01	5/6/2024 11:18:53 AM	
Program	5/6/2024 11:18:53 AM	
Local Label	5/1/2024 10:34:40 PM	
task_2	4/23/2024 12:31:54 PM	
Regulator	5/1/2024 6:55:26 PM	
Program	5/1/2024 6:55:26 PM	
Local Label	4/25/2024 2:06:58 PM	
POU		
Program	5/2/2024 12:24:30 AM	
POU_01	5/6/2024 11:18:53 AM	
Program	5/6/2024 11:18:53 AM	
Local Label	5/1/2024 10:34:40 PM	

Workspace Name :
Project Name : Slave_V37_FERDIG
Title :

Data Name	Last Change	Title
Regulator	5/1/2024 6:55:26 PM	
Program	5/1/2024 6:55:26 PM	
Local Label	4/25/2024 2:06:58 PM	
stroombrudd	5/3/2024 9:50:42 AM	
Program	5/3/2024 9:50:42 AM	
Local Label	5/2/2024 12:24:30 AM	
FB/FUN	5/1/2024 10:32:27 PM	
alarmgrenser	5/1/2024 11:40:39 PM	
Program	4/29/2024 3:29:49 AM	
Local Label	5/1/2024 11:40:39 PM	
DEROUND	4/19/2024 6:57:50 PM	
Program	4/19/2024 6:57:50 PM	
Local Label	4/19/2024 6:39:10 PM	
handling_ved_kritisk_alarm	5/6/2024 12:21:27 PM	
Program	5/6/2024 12:21:27 PM	
Local Label	4/30/2024 10:31:52 AM	
kritisk_refnivaa_oppnaad	5/6/2024 12:12:56 PM	
Program	5/6/2024 12:12:56 PM	
Local Label	5/1/2024 11:40:04 PM	
kvittering_av_alarmer	5/6/2024 1:12:40 PM	
Program	5/6/2024 1:12:40 PM	
Local Label	4/30/2024 9:56:37 AM	
Lampe_Alarm	5/2/2024 12:09:40 AM	
Program	5/1/2024 6:55:26 PM	
Local Label	5/2/2024 12:09:40 AM	
lavpass_filter_tanknivaa	5/1/2024 10:34:16 PM	
Program	5/1/2024 10:34:16 PM	
Local Label	5/1/2024 10:33:53 PM	

Workspace Name :
Project Name : Slave_V37_FERDIG
Title :

Data Name	Last Change	Title
lavpass_filter_utstrøm	5/1/2024 10:40:11 PM	
Program	5/1/2024 10:31:59 PM	
Local Label	5/1/2024 10:40:11 PM	
Lead_lag	5/1/2024 2:39:04 PM	
Program	5/1/2024 2:39:04 PM	
Local Label	5/1/2024 1:57:36 PM	
mottak_av_data_fra_master	5/6/2024 12:21:27 PM	
Program	5/6/2024 12:21:27 PM	
Local Label	4/28/2024 9:36:53 PM	
PID_regulator	5/1/2024 4:43:22 PM	
Program	5/1/2024 4:43:22 PM	
Local Label	5/1/2024 4:20:42 PM	
Referanseglatter	4/30/2024 12:12:51 PM	
Program	4/25/2024 9:26:44 PM	
Local Label	4/30/2024 12:12:51 PM	
reguleringsmodus	4/30/2024 9:37:01 AM	
Program	4/30/2024 9:37:01 AM	
Local Label	4/30/2024 9:25:21 AM	
sending_av_data_til_master	4/30/2024 9:46:53 AM	
Program	4/30/2024 9:46:53 AM	
Local Label	4/28/2024 10:39:29 PM	
skalering_paadrag	5/1/2024 6:55:26 PM	
Program	5/1/2024 6:55:26 PM	
Local Label	5/1/2024 6:51:54 PM	
skalering_referanse	5/1/2024 6:55:26 PM	
Program	5/1/2024 6:55:26 PM	
Local Label	5/1/2024 6:41:33 PM	
skalering_tanknivaa	5/1/2024 6:37:21 PM	

Data Name : Project Contents List

Workspace Name :
Project Name : Slave_V37_FERDIG
Title :

Data Name	Last Change	Title
Program	5/1/2024 6:37:21 PM	
Local Label	5/1/2024 6:35:46 PM	
skalering_til_bruker_ven_og_omf	5/1/2024 10:26:25 PM	
Program	5/1/2024 10:26:25 PM	
Local Label	5/1/2024 6:54:58 PM	
skalering_utstroom	5/1/2024 10:38:45 PM	
Program	5/1/2024 10:38:45 PM	
Local Label	5/1/2024 6:39:26 PM	
skalering_ventil	4/24/2024 6:04:07 PM	
Program	4/24/2024 6:04:07 PM	
Local Label	4/24/2024 4:06:54 PM	
Tracking	4/25/2024 6:06:33 PM	
Program	4/25/2024 6:06:33 PM	
Local Label	4/25/2024 6:01:42 PM	
utganger	4/30/2024 10:38:54 AM	
Program	4/30/2024 10:38:54 AM	
Local Label	4/30/2024 10:34:15 AM	
utregning_stasjonært_avvik	5/1/2024 6:34:55 PM	
Program	5/1/2024 6:34:55 PM	
Local Label	5/1/2024 6:24:02 PM	
Structured Data Types	3/5/2024 10:23:13 AM	
Local Device Comment		
Device Memory	3/5/2024 10:23:20 AM	
MAIN	3/5/2024 10:23:20 AM	