SNAT 7520 IOE

20 Interlocks

If this parameter is set to ON and one of the interlocking signals disappears while in run status, the SAMI GS stops and all output relays (RO1 to RO4*) are released.

If other motors are available, the PFC connects one of those instead and starts the SAMI GS again. If this parameter is set to OFF, the interlocking function is disabled and DI2, DI3 and DI4 (DI7*) can be programmed for other purposes.

*) available only with I/O Extension card SNAT 7520 IOE

21 Error Value Inv

The parameter determines whether or not the PI-Controller error signal is inverted.

22 Actual 1 Input

The parameter determines which of the analogue inputs is actual value 1 (ACT1). AI3 and AI4 can be set if the I/O extension card is in use. STD COMMU = control via RS 485 serial link. The Parameter value can be changed only in stop status.

23 Actual 2 Input

The parameter determines which of the analogue inputs is actual value 2 (ACT2). AI3 and AI4 can be set if the I/O extension card is in use. The parameter value can be changed only SAMI GS is stopped.

24 Actual Value Sel

The following mathematical operations can be performed with the actual signals:

ACT1	ACT1 without any operations
ACT1-ACT2	Difference of ACT1 and ACT2
ACT1+ACT2	Sum of ACT1 and ACT2
ACT1 * ACT2	Product of ACT1 and ACT2
MIN(A1,A2)	Min. value of ACT 1 and ACT2
MAX(A1,A2)	Max. value of ACT1 and ACT2
sqrt(ACT1)	Square root of ACT1
sqA1+sqA2	Sum of sq. roots of ACT1 and ACT2

All operations are performed to the scaled values. Square root signals can be used for example for flow control where the measured actual value is pressure.

25 ACT1 Min Scale,

27 ACT2 Min Scale

Scaling factor to match ACT1 (ACT2) to a minimum value of the reference signal.

26 ACT1 Max Scale

28 ACT2 Max Scale

Scaling factor to match ACT1 (ACT2) to a maximum value of the reference signal.

29 Regul Bypass Ctrl

Bypass selection of the PI-Controller. If bypassed, the actual value acts as a direct speed reference for the regulated motor. Automatic start and stop of constant speed motors also refers to the actual value signal instead of the output of the PI-Controller. See

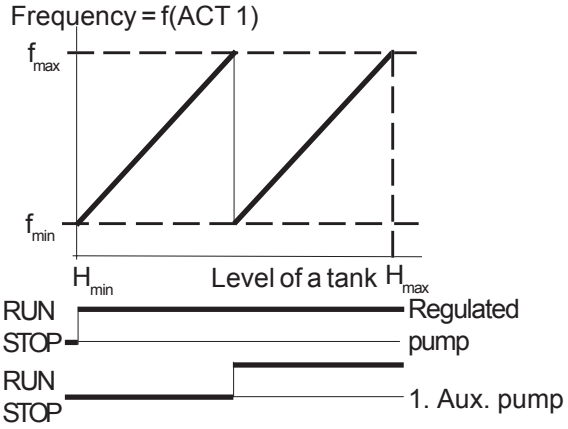

Figure: 9-20. Example of flow control of precipitation tanks using PI-Controller by-pass function.

Figure below.

30 Display Unit

Unit of ACT 1 and ACT 2 shown on the display. Units: bar, %, m/s, C (= °C), kPa, l/min, m3/min.

31 Displ Unit Scale

Scaling factor for display unit.

32 NBR of Decimals

Number of decimal digits of the displayed actual values.

9.3 Main 30 - Protection

9.3.1 Group 31 - Supervision

These values can be altered with the SAMI GS running.

Parameter	Range/Unit	Description
1 Output Freq1 Func	No/Lowlimit/Highlimit	Output Frequency 1 supervision
2 Output Freq1 Lim	0...120/150 Hz*)	Output Frequency 1 supervision limit
3 Output Freq2 Func	No/Lowlimit/Highlimit	Output Frequency 2 supervision
4 Output Freq2 Lim	0...120/150 Hz*)	Output Frequency 2 supervision limit
5 Current Func	No/Lowlimit/Highlimit	Motor Current supervision
6 Current Lim	0...2 * I_N [A]	Motor Current supervision limit
7 Ref1 Func	No/Lowlimit/Highlimit	Reference 1 supervision
8 Ref1 Lim	0...120/150 Hz*)	Reference 1 supervision limit
9 Ref2 Func	No/Lowlimit/Highlimit	Reference 2 supervision
10 Ref2 Lim	0...100 %	Reference 2 supervision limit
11Supervis Messages	On/Off	Supervision messages on the display

*) Max. value is set automatically according to the setting of parameter 22.4.

```
*   SAMI SUPERVISION   *
2 ACT FREQ 1   R1[ -->  I ]
```

Figure 9-21. Example of supervision display.

1 Output Freq1 Func

3 Output Freq2 Func

These parameters allow you to activate an Output Frequency supervision function. A Relay Output (para. 14.3 - 14.5) and the display are used to indicate that the Output Frequency has dropped below (LOWLIMIT) or exceeded (HIGHLIMIT) the supervision limit.

5 Current Func

Motor Current supervision. Operation as in parameter 1 OUTPUT FREQ1 FUNC.

7 Ref1 Func, 9 Ref2 Func

Reference supervision. Operation as parameter 1 OUTPUT FREQ1 FUNC.

11 Supervis Messages

ON = Supervision messages will be shown on the display.

OFF = Supervision messages will not be shown on the display. Relays operate if programmed for supervision signals.

9.3.2 Group 32 - Fault Function

These values can be altered with the SAMI running.

Parameter	Range/Unit	Description
1 Serial Fault Func	Stop/Const Freq	Operation following Serial Comm. fault
2 AI < 2 V/4 mA Func	No/Warning/Fault/ Const Freq	Operation following AI<2 V/4 mA fault
3 Mot Temp Flt Func	No/Warning/Fault	Operation in case of motor overtemp.
4 Motor Therm Time	300...10000 s	Time for 63% motor temperature rise
5 Motor Load Curve	50...150 %	Motor current maximum limit
6 External Fan	No/Yes	Motor equipped with external cooling fan
7 Stall Func	No/Warning/Fault	Operation following motor stall
8 Stall Current	0...1.5 * I_N [A]	Current limit for Stall Protection logic
9 Stall Time/Freq	10s/15Hz or 20s/25Hz or 30 s/35 Hz	Time/Freq. limit for Stall Protection logic
10 Underload Func	No/Warning/Fault	Operation following Underload fault
11 Underload Time	0...600 s	Time limit for Underload logic
12 Underload Curve	1...5	Torque limit for Underload logic

1 Serial Fault Func

This parameter allows you to select the preferred operation following a malfunction in the serial communication between the Control Interface and Motor Control Card.

STOP

The SAMI GS stops according to the setting of parameter 26.3, STOP FUNCTION.

CONST FREQ

The SAMI drives the motor at the constant frequency selected by parameter 24.7.

Note! If the selected control place is KEYPAD, the SAMI GS stops when a serial communication fault occurs.

2 AI < 2V/4mA Func

This parameter allows you to select the preferred operation when the Analogue Input (1 or 2) signal drops below 2V/4mA and the minimum is set to 2V/4mA ("living zero").

NO

No activity required.

WARNING

Warning indication on display.

FAULT

Fault indication on display and the drive has stopped according to the setting of parameter 26.3 STOP FUNCTION.

CONST FREQ

The SAMI GS drives the motor with the constant frequency selected by parameter 24.7.