

Total number of rungs in routine: 8

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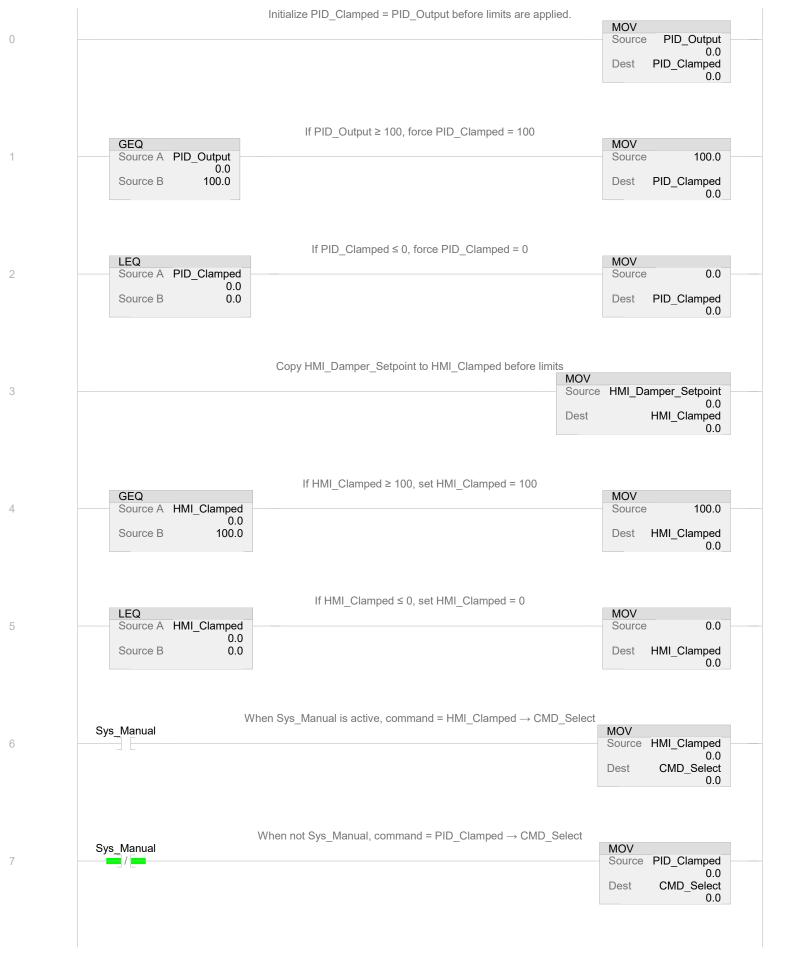
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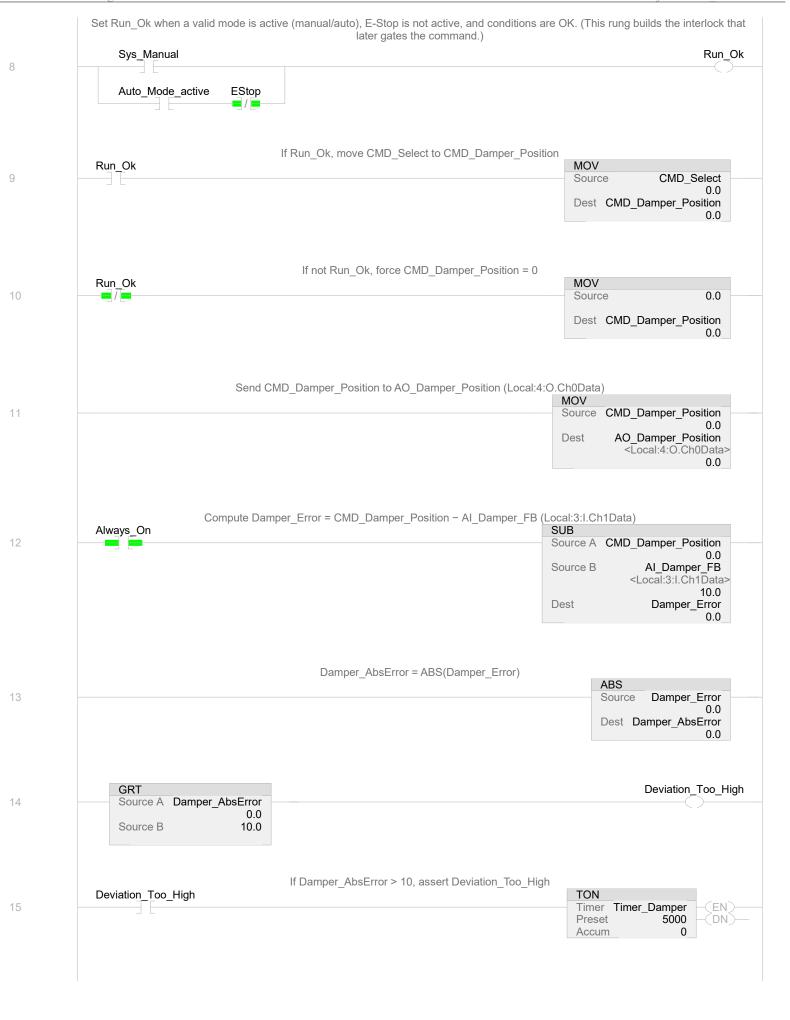
Starts Timer_EstopAlarm (3 s TON) when EStop is true (debounce before alarm) **EStop** (EN) 0 Timer_EstopAlarm Timer Preset 3000 (DN)-Accum Starts Timer DamperAlarm (3 s TON) on Damper Fault Damper_Fault TON EN) Timer_DamperAlarm Timer Preset 3000 -(DN)--Accum Starts Timer_FanAlarm (3 s TON) on Fan_Fault_Summary TON Fan_Fault_Summary Timer_FanAlarm EN) Preset 3000 (DN)-0 Accum Timer EstopAlarm.DN sets Alarm EStop Timer_EstopAlarm.DN Alarm_EStop Timer_DamperAlarm.DN sets DamperAlarm Timer_DamperAlarm.DN DamperAlarm Timer_FanAlarm.DN sets FanAlarm Timer_FanAlarm.DN FanAlarm Any of Alarm_EStop/DamperAlarm/FanAlarm \rightarrow Alarm_Active Alarm_EStop Alarm_Active 6 DamperAlarm FanAlarm Alarm_Active drives Alarm_Buzzer; Alarm_Reset silences. Alarm_Active Alarm_Buzzer Alarm_Buzzer Alarm_Reset (End)

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DAMPER_CONTROL - Ladder Diagram
New_HVAC:MainTask:MainProgram
Total number of rungs in routine: 17 C:\Users\Admin\Documents\Studio 5000\Projects\New_HVAC.ACD

	When Timer_Damper.DN is true, set Damper_Fault				
16	Timer_Damper.DN	Damper_Fault			
(End)					

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FAN_CONTROL - Ladder DiagramPage 2New_HVAC:MainTask:MainProgram08/09/2025 19:32:10Total number of rungs in routine: 8C:\Users\Admin\Documents\Studio 5000\Projects\New_HVAC.ACD

otal number of rungs in routine: 8 C:\Users\Admin\Documents\Studio 5000\Projects\New HVAC.A

Total number of rungs in routine: 5

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If EStop is true, assert Sys_Estop_Fault (system-level emergency stop fault). **EStop** Sys_Estop_Fault If Damper_Fault is true, assert Sys_Damper_Fault. Damper_Fault Sys_Damper_Fault If either HVAC_Main.SupplyFan.Fault or HVAC_Main.ReturnFan.Fault is true, assert Fan_Fault_Summary. Fan fault status HVAC_Main.SupplyFan.Fault Fan_Fault_Summary Fan fault status HVAC_Main.ReturnFan.Fault If any of Sys_Estop_Fault, Sys_Damper_Fault, or Fan_Fault_Summary is true, set Sys_Fault_Active. Sys_Estop_Fault Sys_Fault_Active 3 Sys_Damper_Fault Fan_Fault_Summary Drive Fan_StatusLED when Sys_Fault_Active is true (panel/annunciator indication). Sys_Fault_Active Fan_StatusLED (End)

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MODE_HANDLING - Ladder Diagram
New_HVAC:MainTask:MainProgram
Total number of rungs in routine: 2

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	If Sys_Auto is true and EStop is false, assert Auto_Mode_active. Used in damper control to enable PID/automatic logic.					
0	Sys_Auto	EStop	Auto_Mode_active			
1	Sys_Manual	If Sys_Manual is true, assert Manual_Mode_Active. Used in damper and fan routines for manual o	Manual_Mode_Active			
(End)						

TEMP_PID - Ladder Diagram
New_HVAC:MainTask:MainProgram
Total number of rungs in routine: 2

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	Compute TempSensor_EU = (AI_TempSensor_Raw * 100.0) / 32767.0. Converts the raw input to a 0–100 scale (°C in this project					
	processing.					
	CPT					
0	Dest			TempSensor_EU		
	- Fyrans	i /Al 7	C	0.0		
	Expre	ession (AI_	empsensor_	Raw*100.0) / 32767.0		
	Everyte DID TEMP DID with DV - Temp Connect EU CV - DID Output CD - (00 0 Tickeel	- 0 0 This :=	made case a O/ acceptance that		
	Execute PID TEMP_PID with PV = TempSensor_EU, CV = PID_Output, SP = 2 downstream logic clamps/uses to command the			roduces a % output that		
	downstream logic damps/uses to command the	PID	imper.			
1		PID		TEMP PID		
1			ess Variable	TempSensor_EU		
		Tieb		0.0		
			trol Variable	PID_Output		
		PID	Master Loop	_ 0		
			ld Bit	0		
		Inho	ld Value	0		
		Setp	oint	22.0		
			ess Variable	0.0		
		Outp	out %	0.0		
(End)						

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Data Context: AOI FanControl <definition>

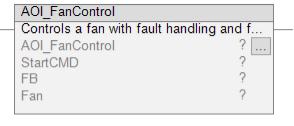
AOI_FanControl v2.0

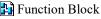
New_HVAC:Add-On Instructions

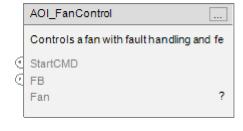
Controls a fan with fault handling and feedback

Available Languages

Relay Ladder







Structured Text AOI_FanControl(Fan);

Parameters

Required	Name	Data Type	Usage	Description
X	AOI_FanControl	AOI_FanControl	InOut	Controls a fan with fault handling and feedback
	EnableIn	BOOL	Input	
	EnableOut	BOOL	Output	
	StartCMD	BOOL	Input	Controls a fan with fault handling and feedback
	FB	BOOL	Input	Feedback from field or sim
X	Fan	UDT_Fan	InOut	Complete fan structure

Extended Description

Execution

Condition **Description**

EnableIn is true

Revision v2.0 Notes

AOI_FanControl Instruction Definition - Parameter Listing

New_HVAC:Add-On Instructions:AOI_FanControl

Data Type Size: 16 byte (s) Data Context: AOI_FanControl <definition> Page 2

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Name	Default	Data Type	Scope
Fan		UDT_Fan	AOI_FanControl
Complete fan structure			
Usage:	InOut Parameter		
Required:	Yes		
Visible:	Yes		
Constant	No		
Fan.CMD_Start	??	BOOL	
Complete fan structure sta	rt command from logic		
Fan.Running	??	BOOL	
Complete fan structure Fe	edback from fan		
	Control/Logic - *0(OTE), 1(XIC)		
Fan.Fault	??	BOOL	
Complete fan structure Fa			
	trol/Logic - *2(OTE), 0(XIO)		
Fan.Feedback	??	BOOL	
Complete fan structure Sta			
Fan.Feedback - AOI_Fan	Control/Logic - *3(OTE)		
	_		
FB	0	BOOL	AOI_FanControl
Feedback from field or sir			
Usage:	Input Parameter		
Required:	No		
Visible:	Yes		
External Access:	Read/Write		
FB - AOI_FanControl/Log	gic - I(XIO), 3(XIC)		
StartCMD	0	BOOL	AOI FanControl
Controls a fan with fault h		BOOL	AOI_FanControl
Usage:	Input Parameter		
e e	1		
Required: Visible:	No Yes		
External Access:	res Read/Write		
StartCMD - AOI_FanCon	urou/Logic - U(XIC)		

AOI_FanControl Instruction Definition - Local Tag Listing
New_HVAC:Add-On Instructions:AOI_FanControl
Data Context: AOI_FanControl <definition>

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Name	Default	Data Type	Scope
TMR_Fault		TIMER	AOI_FanControl
Usage:	Local Tag		
External Access:	None		
TMR_Fault - AOI_Fan	Control/Logic - *1(TON)		
TMR_Fault.DN	0	BOOL	
TMR_Fault.DN - AOI_I	FanControl/Logic - 2(XIC)		

AOI_FanControl Instruction Definition - Logic Routine

New_HVAC:Add-On Instructions:AOI_FanControl:Logic Total number of rungs in routine: 4

Data Context: AOI FanControl <definition>

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