

2026-03-17 X30 Compressor Bench / Compressor Bench PLC [CPU 1214C DC/DC/DC] / Program blocks

Main [OB1]

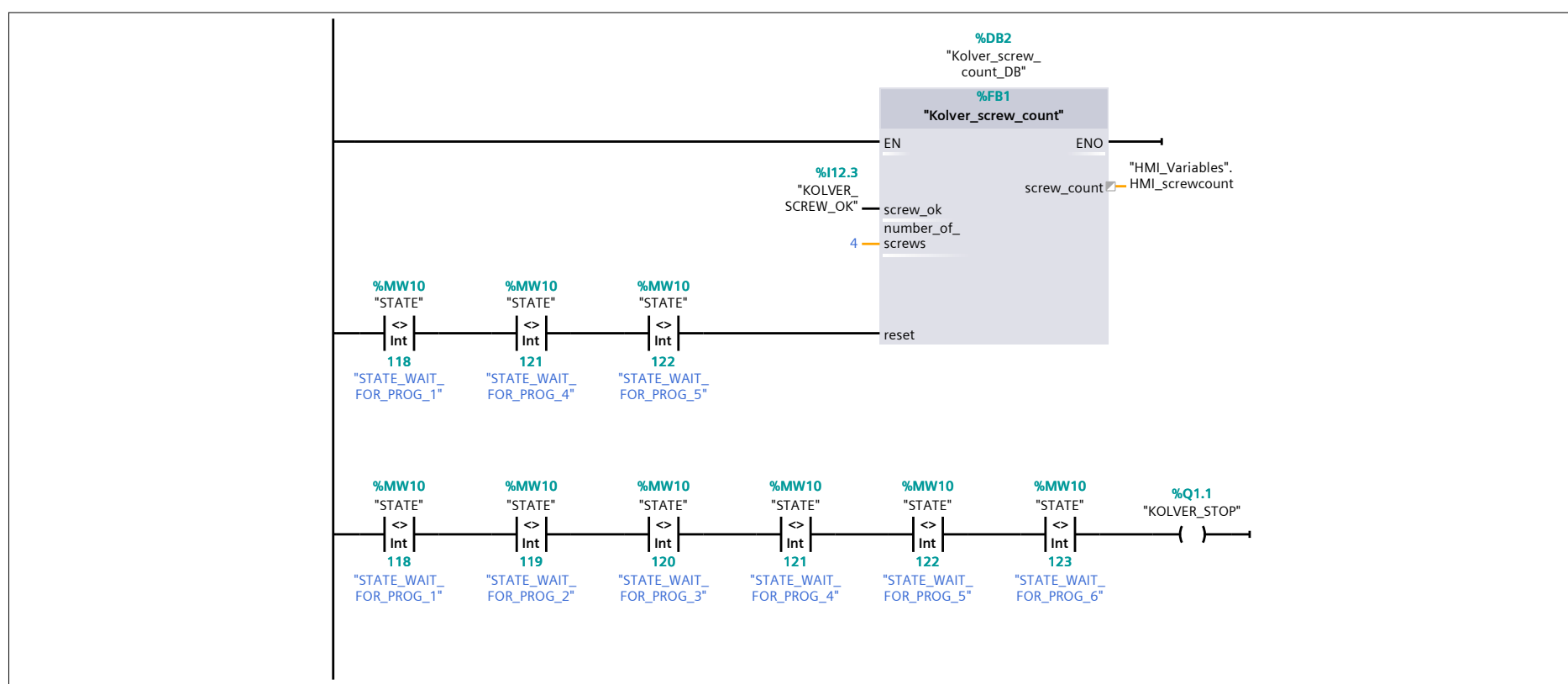
Main Properties

General							
Name	Main	Number	1	Type	OB	Language	LAD
Numbering	automatic						
Information							
Title	"Main Program Sweep (Cycle)"	Author		Comment		Family	
Version	0.1	User-defined ID					

Main

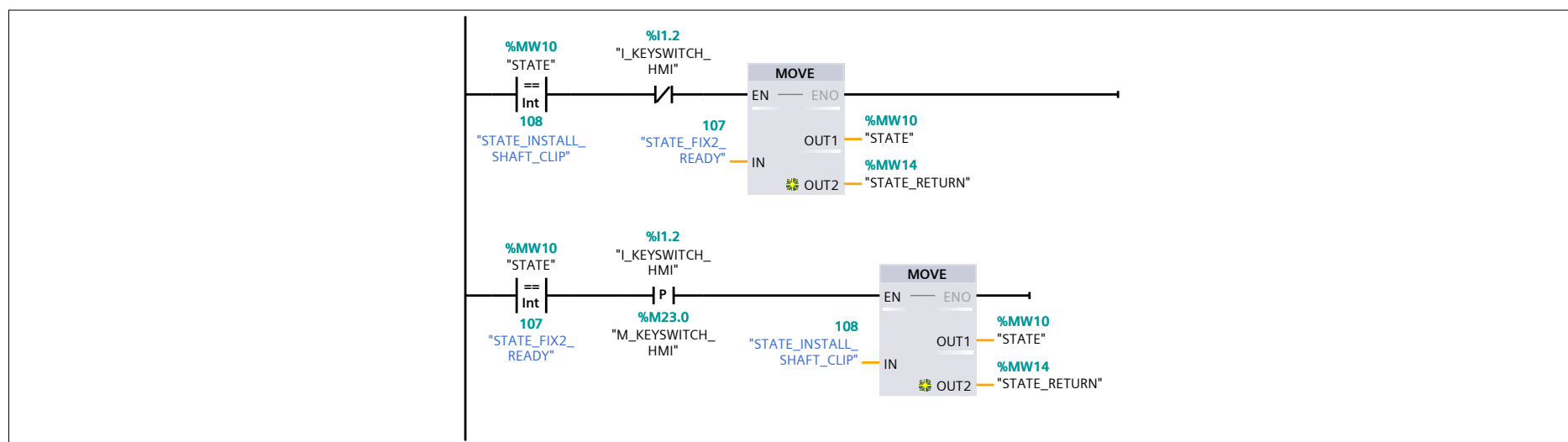
Name	Data type	Default value	Comment
▼ Input			
Initial_Call	Bool		Initial call of this OB
Remanence	Bool		=True, if remanent data are available
▼ Temp			
Intermediate_State	Bool		
Constant			

Network 1: Kolver Controller



Symbol	Address	Type	Comment
"HMI_Variables".HMI_screwcount		UInt	
"KOLVER_SCREW_OK"	%I12.3	Bool	Kolver Screw OK signal
"KOLVER_STOP"	%Q1.1	Bool	
"STATE"	%MW10	Int	Current State
"STATE_WAIT_FOR_PROG_1"	118	Int	KOLVER Program for setting 4X Motor and Housing Fasteners.
"STATE_WAIT_FOR_PROG_2"	119	Int	
"STATE_WAIT_FOR_PROG_3"	120	Int	
"STATE_WAIT_FOR_PROG_4"	121	Int	
"STATE_WAIT_FOR_PROG_5"	122	Int	
"STATE_WAIT_FOR_PROG_6"	123	Int	

Network 2: Pre/Post CCM Selection

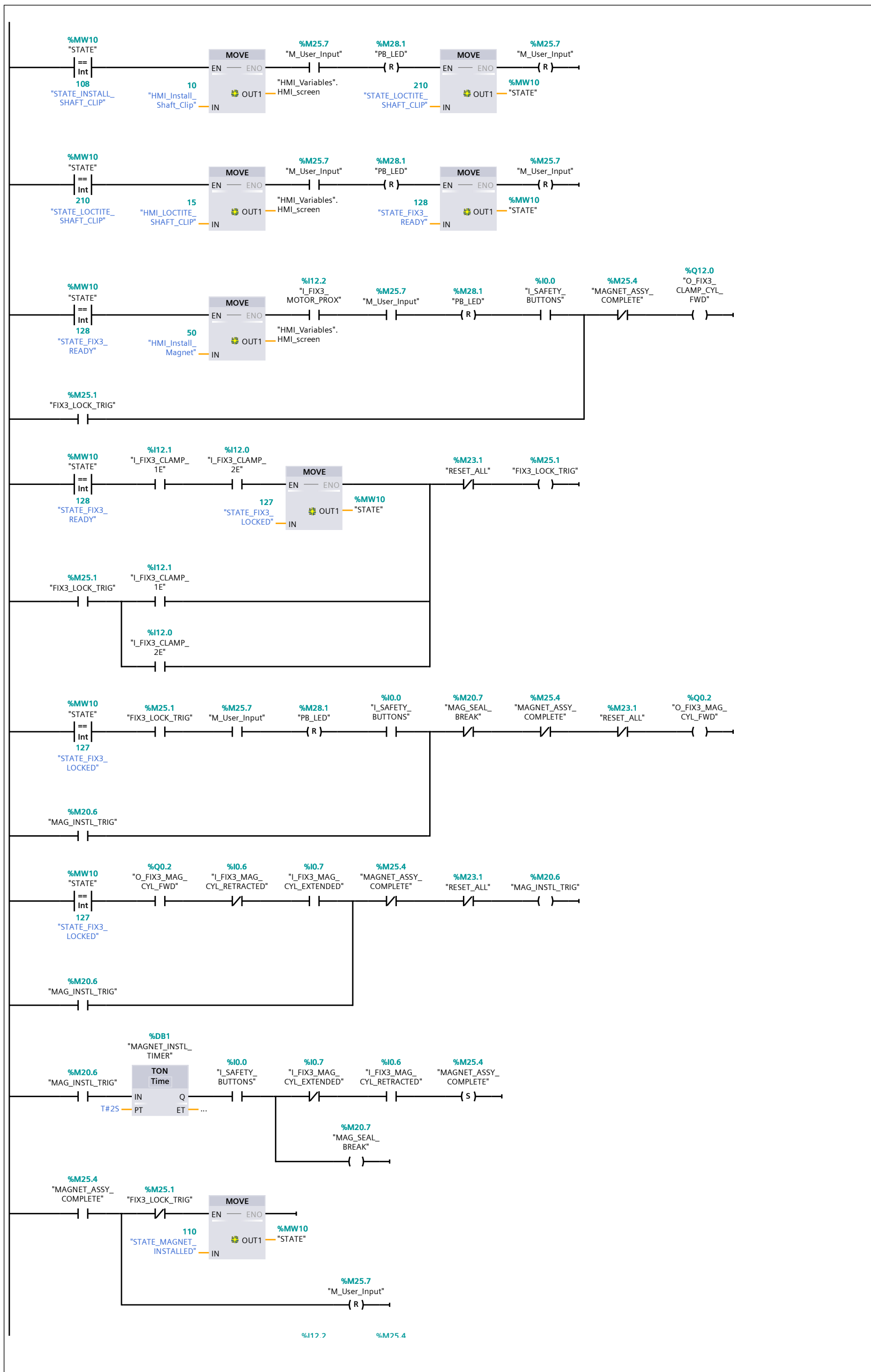


Symbol	Address	Type	Comment
"I_KEYSWITCH_HMI"	%I1.2	Bool	HMI selction keyswitch for pre and post CMM.
"M_KEYSWITCH_HMI"	%M23.0	Bool	
"STATE"	%MW10	Int	Current State

Symbol	Address	Type	Comment
"STATE_FIX2_READY"	107	Int	
"STATE_INSTALL_SHAFT_CLIP"	108	Int	
"STATE_RETURN"	%MW14	Int	

Network 3: Fixture 3 - Magnet Installation

Network 3: Fixture 3 - Magnet Installation (1.1 / 2.1)



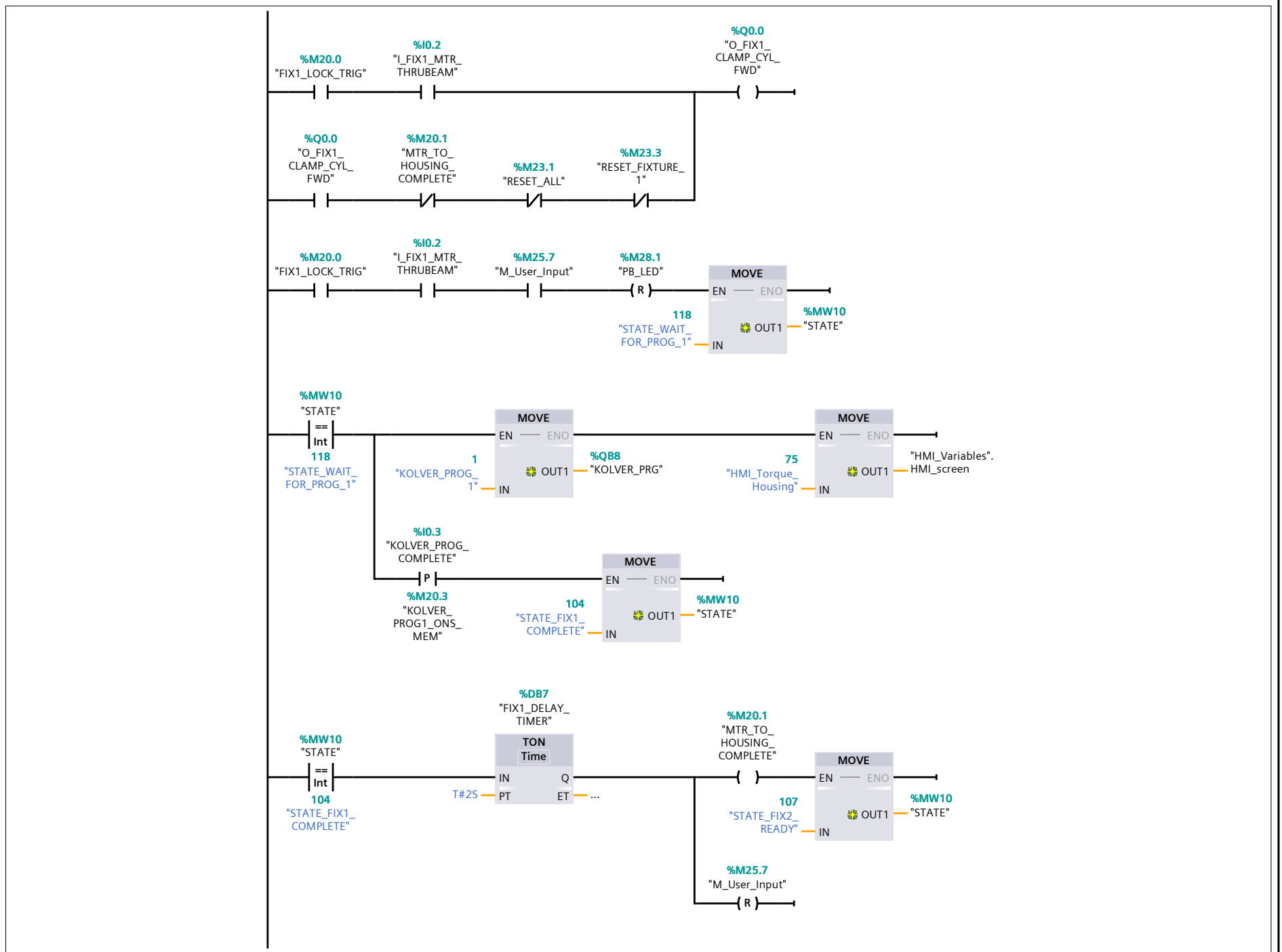
Network 3: Fixture 3 - Magnet Installation (2.1 / 2.1)



Symbol	Address	Type	Comment
"FIX1_LOCK_TRIG"	%M20.0	Bool	
"FIX3_LOCK_TRIG"	%M25.1	Bool	
"HMI_Install_Housing"	70	Int	
"HMI_Install_Magnet"	50	Int	
"HMI_Install_Shaft_Clip"	10	Int	
"HMI_LOCTITE_SHAFT_CLIP"	15	Int	
"HMI_Variables".HMI_screen		UInt	
"I_FIX3_CLAMP_1E"	%I12.1	Bool	Fixture 3 Clamp Right Cylinder Extended
"I_FIX3_CLAMP_2E"	%I12.0	Bool	Fixture 3 Clamp Left Cylinder Extended
"I_FIX3_MAG_CYL_EXTENDED"	%I0.7	Bool	
"I_FIX3_MAG_CYL_RETRACTED"	%I0.6	Bool	
"I_FIX3_MOTOR_PROX"	%I12.2	Bool	
"I_SAFETY_BUTTONS"	%I0.0	Bool	
"M_User_Input"	%M25.7	Bool	
"MAG_INSTL_TRIG"	%M20.6	Bool	
"MAG_SEAL_BREAK"	%M20.7	Bool	
"MAGNET_ASSY_COMPLETE"	%M25.4	Bool	
"O_FIX3_CLAMP_CYL_FWD"	%Q12.0	Bool	Motor Clamp is activated.
"O_FIX3_MAG_CYL_FWD"	%Q0.2	Bool	
"PB_LED"	%M28.1	Bool	
"RESET_ALL"	%M23.1	Bool	
"STATE"	%MW10	Int	Current State
"STATE_FIX3_LOCKED"	127	Int	
"STATE_FIX3_READY"	128	Int	
"STATE_INSTALL_SHAFT_CLIP"	108	Int	
"STATE_LOCTITE_SHAFT_CLIP"	210	Int	
"STATE_MAGNET_INSTALLED"	110	Int	

Network 4: Fixture 1 - Motor to Housing Assembly

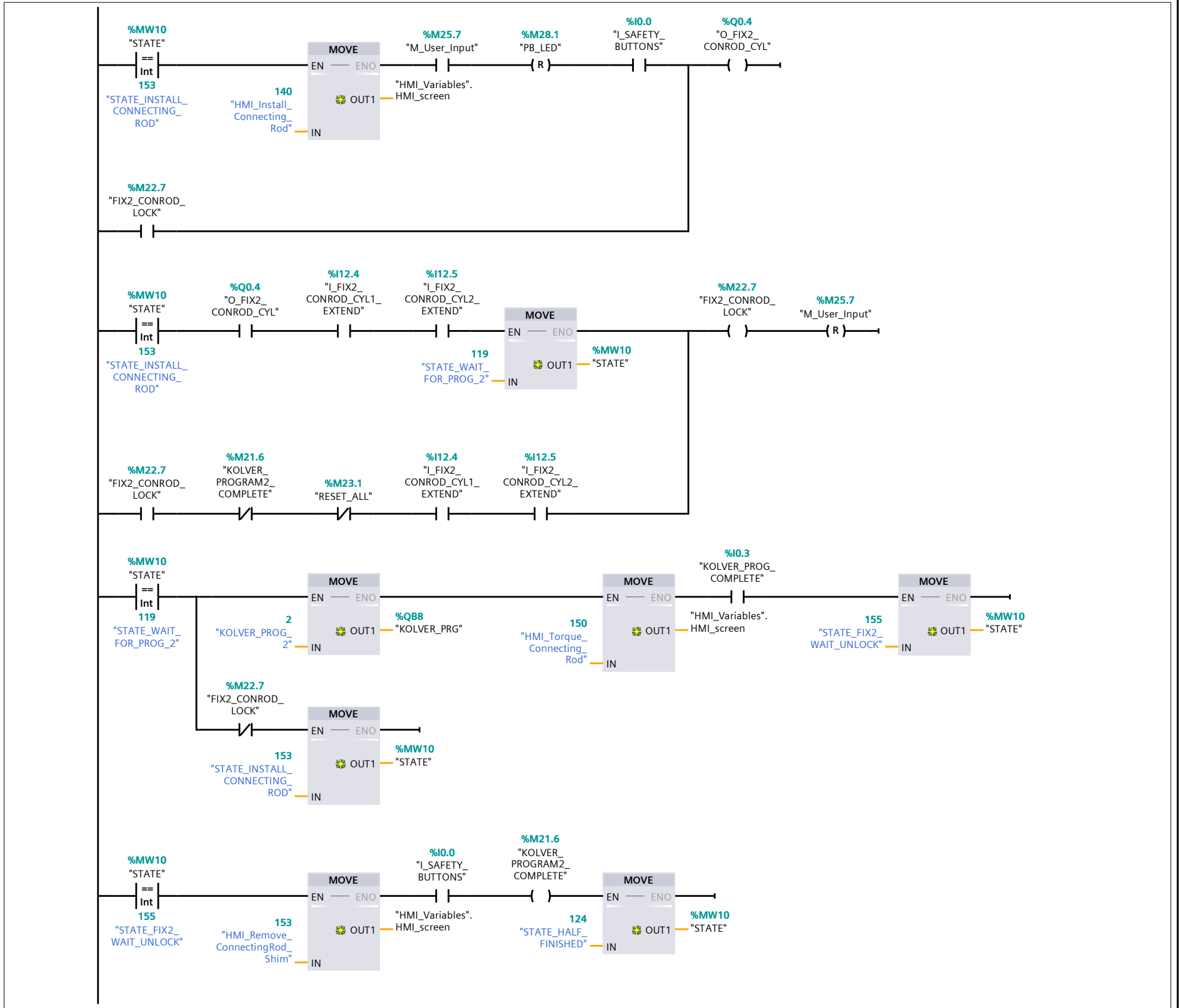
Lock fixture when I_FIX1_MTR_THRUBEAM detects motor and Magnet has been installed



Symbol	Address	Type	Comment
"FIX1_LOCK_TRIG"	%M20.0	Bool	
"HMI_Torque_Housing"	75	Int	
"HMI_Variables".HMI_screen		UInt	
"I_FIX1_MTR_THRUBEAM"	%I0.2	Bool	
"KOLVER_PRG"	%QB8	Byte	
"KOLVER_PROG1_ONS_MEM"	%M20.3	Bool	
"KOLVER_PROG_1"	1	SInt	KOLVER Program for setting 4X Motor and Housing Fasteners.
"KOLVER_PROG_COMPLETE"	%I0.3	Bool	
"M_User_Input"	%M25.7	Bool	
"MTR_TO_HOUSING_COMPLETE"	%M20.1	Bool	
"O_FIX1_CLAMP_CYL_FWD"	%Q0.0	Bool	
"PB_LED"	%M28.1	Bool	

Symbol	Address	Type	Comment
"STATE_INSTALL_CONNECTING_ROD"	153	Int	
"STATE_WAIT_FOR_PROG_3"	120	Int	

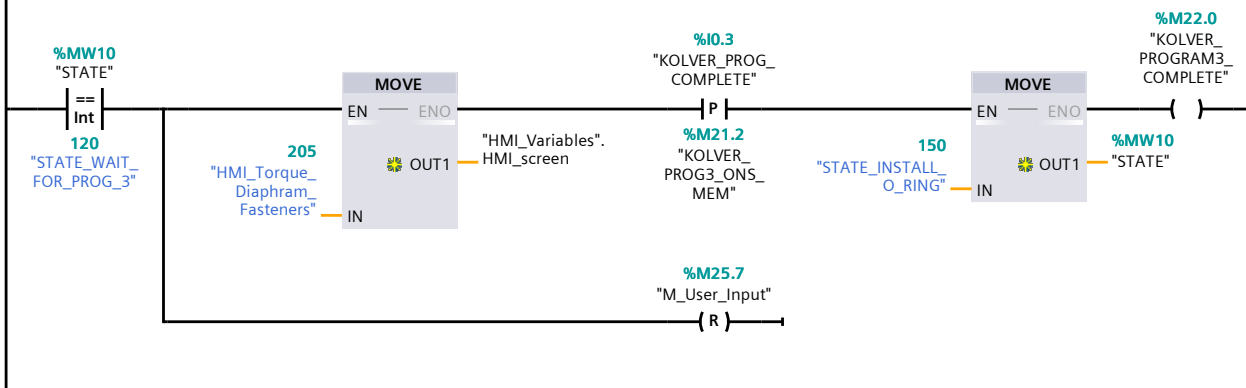
Network 7: Attach Connecting Rod



Symbol	Address	Type	Comment
"FIX2_CONROD_LOCK"	%M22.7	Bool	
"HMI_Install_Connecting_Rod"	140	Int	
"HMI_Remove_Connecting-Rod_Shim"	153	Int	
"HMI_Torque_Connecting_Rod"	150	Int	
"HMI_Variables".HMI_screen		UInt	
"I_FIX2_CONROD_CYL1_EXTEND"	%I12.4	Bool	Detect Use of Connecting Rod Clamp
"I_FIX2_CONROD_CYL2_EXTEND"	%I12.5	Bool	Detect Use of Connecting Rod Clamp
"I_SAFETY_BUTTONS"	%I0.0	Bool	
"KOLVER_PRG"	%QB8	Byte	
"KOLVER_PROG_2"	2	SInt	
"KOLVER_PROG_COMPLETE"	%I0.3	Bool	
"KOLVER_PROGRAM2_COMPLETE"	%M21.6	Bool	
"M_User_Input"	%M25.7	Bool	
"O_FIX2_CONROD_CYL"	%Q0.4	Bool	
"PB_LED"	%M28.1	Bool	
"RESET_ALL"	%M23.1	Bool	
"STATE"	%MW10	Int	Current State
"STATE_FIX2_WAIT_UNLOCK"	155	Int	
"STATE_HALF_FINISHED"	124	Int	
"STATE_INSTALL_CONNECTING_ROD"	153	Int	
"STATE_WAIT_FOR_PROG_2"	119	Int	

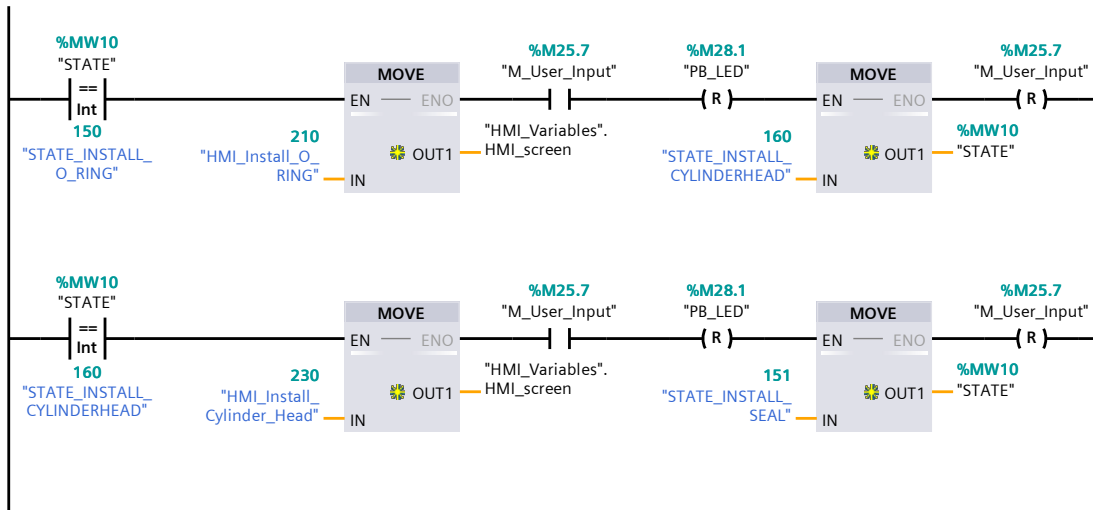
Network 8: Compression disk screw fastening

Sets Kolver to program 3 (compression disk screw) and waits for completion signal



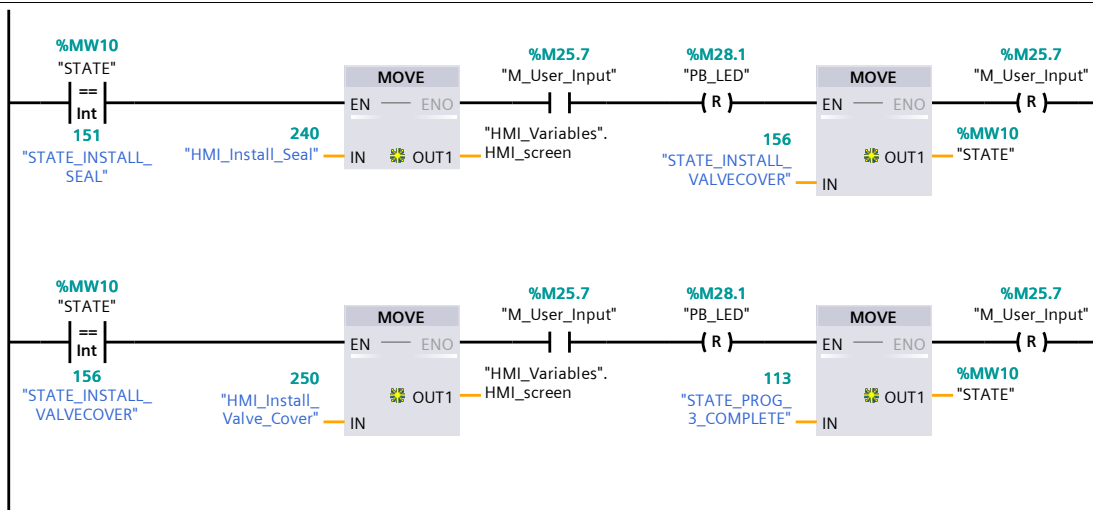
Symbol	Address	Type	Comment
"HMI_Torque_Diaphragm_Fasteners"	205	Int	
"HMI_Variables".HMI_screen		UInt	
"KOLVER_PROG3_ONS_MEM"	%M21.2	Bool	
"KOLVER_PROG_COMPLETE"	%I0.3	Bool	
"KOLVER_PROGRAM3_COMPLETE"	%M22.0	Bool	
"M_User_Input"	%M25.7	Bool	
"STATE"	%MW10	Int	Current State
"STATE_INSTALL_O_RING"	150	Int	
"STATE_WAIT_FOR_PROG_3"	120	Int	

Network 9: Install Cylinder Head



Symbol	Address	Type	Comment
"HMI_Install_Cylinder_Head"	230	Int	
"HMI_Install_O_RING"	210	Int	
"HMI_Variables".HMI_screen		UInt	
"M_User_Input"	%M25.7	Bool	
"PB_LED"	%M28.1	Bool	
"STATE"	%MW10	Int	Current State
"STATE_INSTALL_CYLINDERHEAD"	160	Int	
"STATE_INSTALL_O_RING"	150	Int	
"STATE_INSTALL_SEAL"	151	Int	

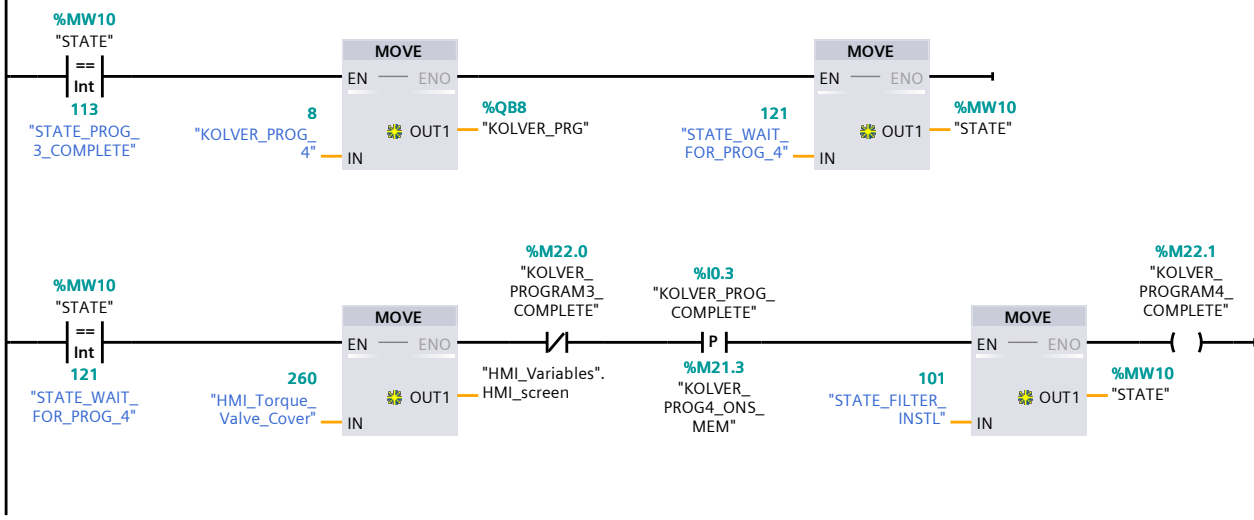
Network 10: Install Valve Cover



Symbol	Address	Type	Comment
"HMI_Install_Seal"	240	Int	
"HMI_Install_Valve_Cover"	250	Int	
"HMI_Variables".HMI_screen		UInt	
"M_User_Input"	%M25.7	Bool	
"PB_LED"	%M28.1	Bool	
"STATE"	%MW10	Int	Current State
"STATE_INSTALL_SEAL"	151	Int	
"STATE_INSTALL_VALVECOVER"	156	Int	
"STATE_PROG_3_COMPLETE"	113	Int	

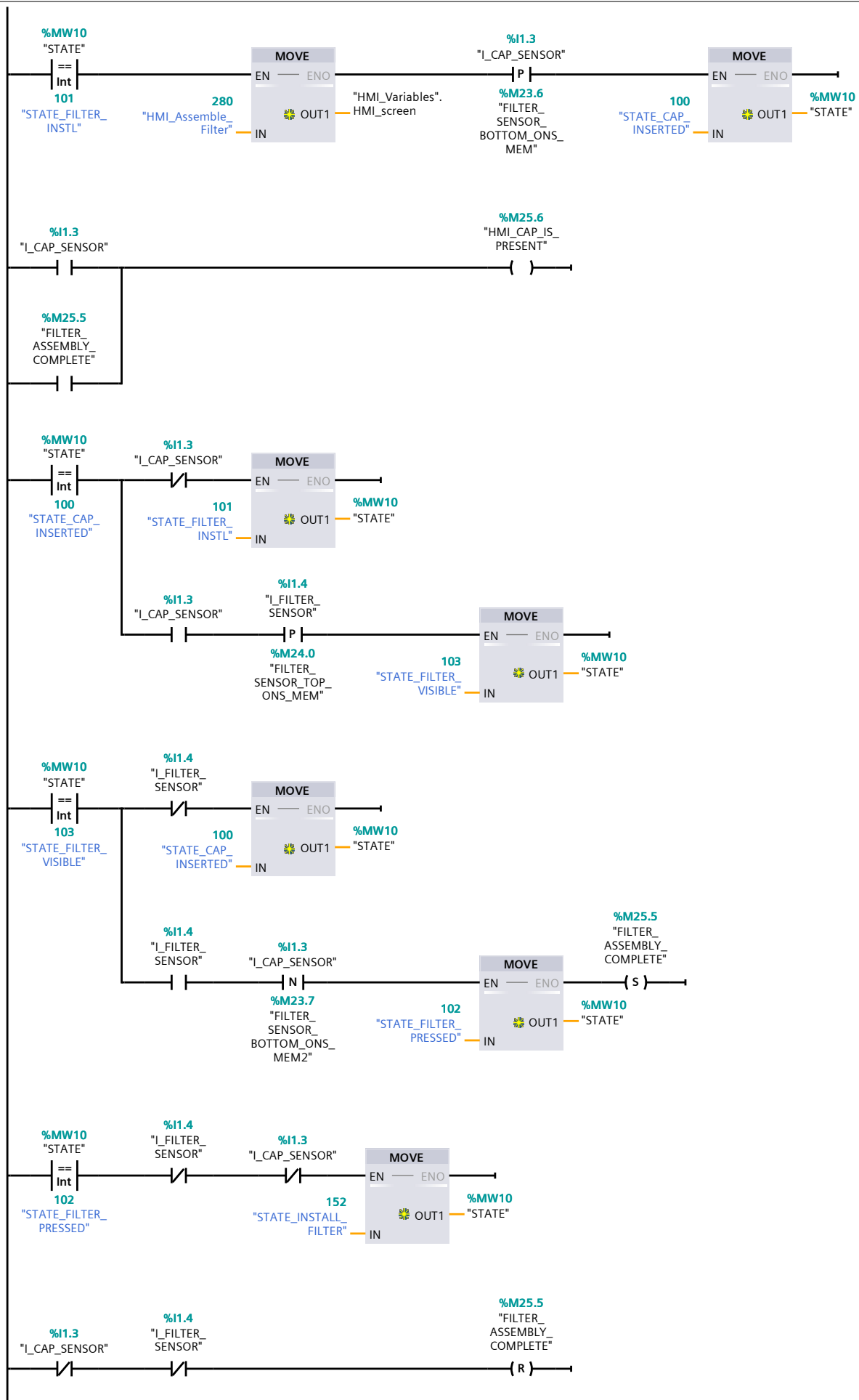
Network 11: Fastening cylinder head and valve cover to compressor housing

Sets Kolver to program 4 and waits for completion signal



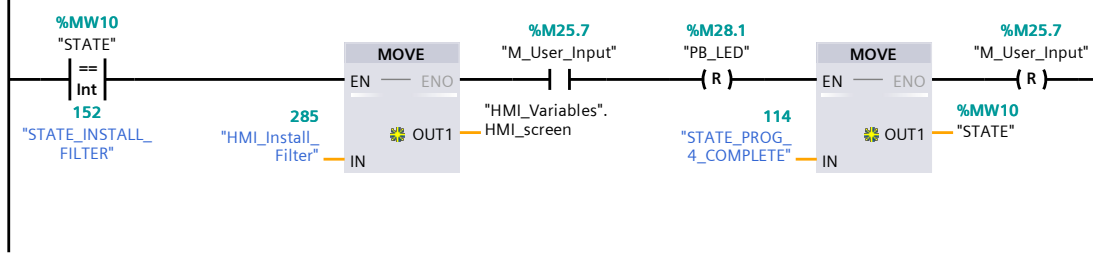
Symbol	Address	Type	Comment
"HMI_Torque_Valve_Cover"	260	Int	
"HMI_Variables".HMI_screen		UInt	
"KOLVER_PRG"	%QB8	Byte	
"KOLVER_PROG4_ONS_MEM"	%M21.3	Bool	
"KOLVER_PROG_4"	8	SInt	
"KOLVER_PROG_COMPLETE"	%I0.3	Bool	
"KOLVER_PROGRAM3_COMPLETE"	%M22.0	Bool	
"KOLVER_PROGRAM4_COMPLETE"	%M22.1	Bool	
"STATE"	%MW10	Int	Current State
"STATE_FILTER_INSTL"	101	Int	
"STATE_PROG_3_COMPLETE"	113	Int	
"STATE_WAIT_FOR_PROG_4"	121	Int	

Network 12: Filter error proofing



Symbol	Address	Type	Comment
"FILTER_ASSEMBLY_COMPLETE"	%M25.5	Bool	
"FILTER_SENSOR_BOT-TOM_ONS_MEM2"	%M23.7	Bool	
"FILTER_SENSOR_BOT-TOM_ONS_MEM"	%M23.6	Bool	
"FILTER_SENSOR_TOP_ONS_MEM"	%M24.0	Bool	
"HMI_Assemble_Filter"	280	Int	
"HMI_CAP_IS_PRESENT"	%M25.6	Bool	
"HMI_Variables".HMI_screen		UInt	
"I_CAP_SENSOR"	%I1.3	Bool	
"I_FILTER_SENSOR"	%I1.4	Bool	
"STATE"	%MW10	Int	Current State
"STATE_CAP_INSERTED"	100	Int	
"STATE_FILTER_INSTL"	101	Int	
"STATE_FILTER_PRESSED"	102	Int	
"STATE_FILTER_VISIBLE"	103	Int	
"STATE_INSTALL_FILTER"	152	Int	

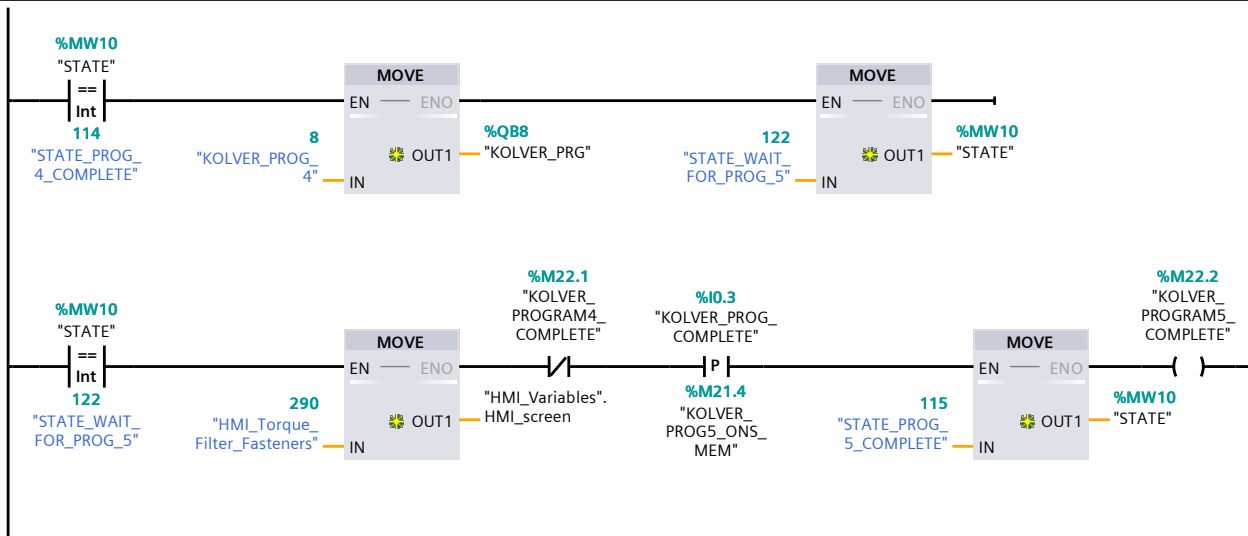
Network 13: Install Filter



Symbol	Address	Type	Comment
"HMI_Install_Filter"	285	Int	
"HMI_Variables".HMI_screen		UInt	
"M_User_Input"	%M25.7	Bool	
"PB_LED"	%M28.1	Bool	
"STATE"	%MW10	Int	Current State
"STATE_INSTALL_FILTER"	152	Int	
"STATE_PROG_4_COMPLETE"	114	Int	

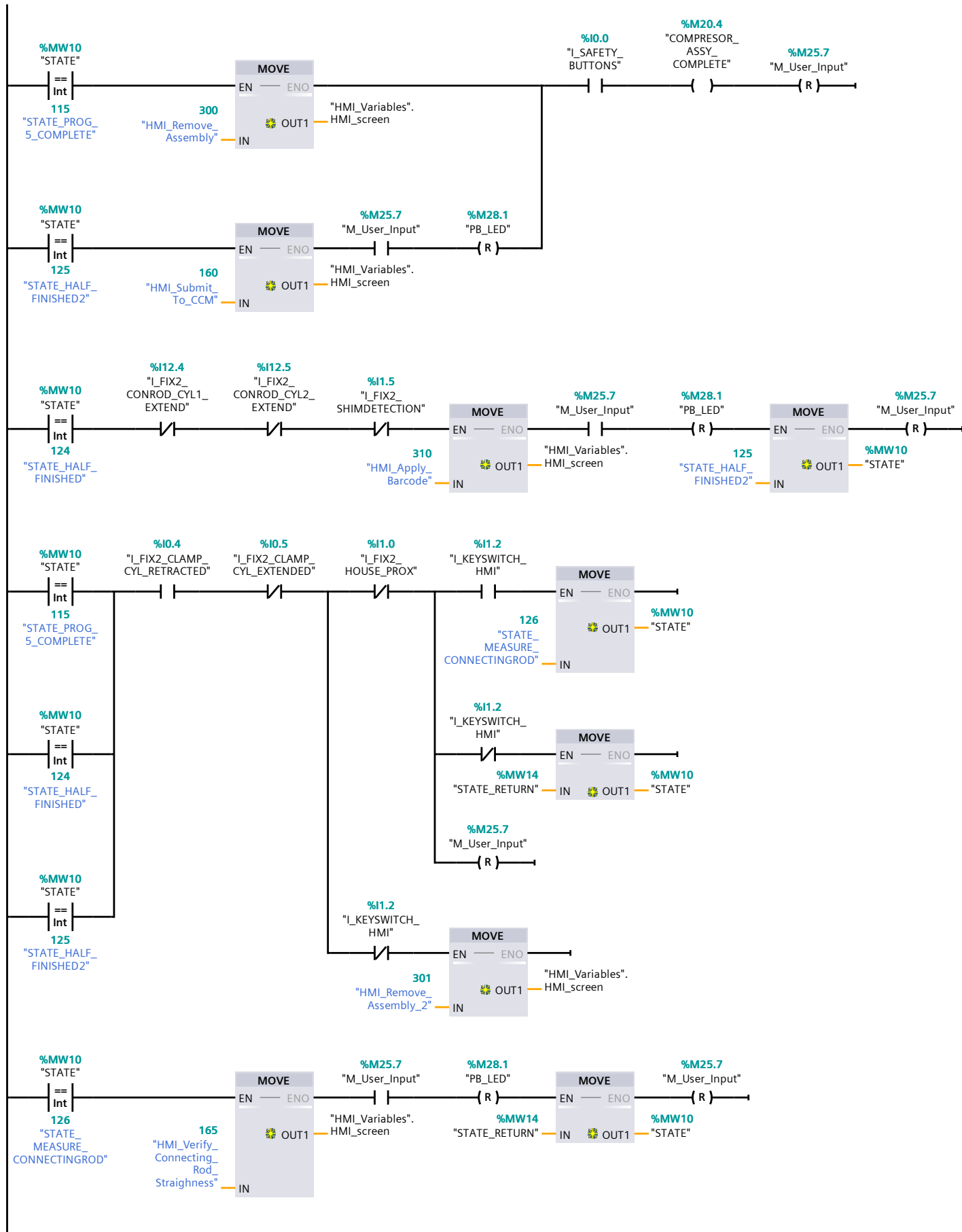
Network 14: Fastening filter to valve cover

Program does not change to #6 because torque & bit are the exact same as 4 previous fasteners



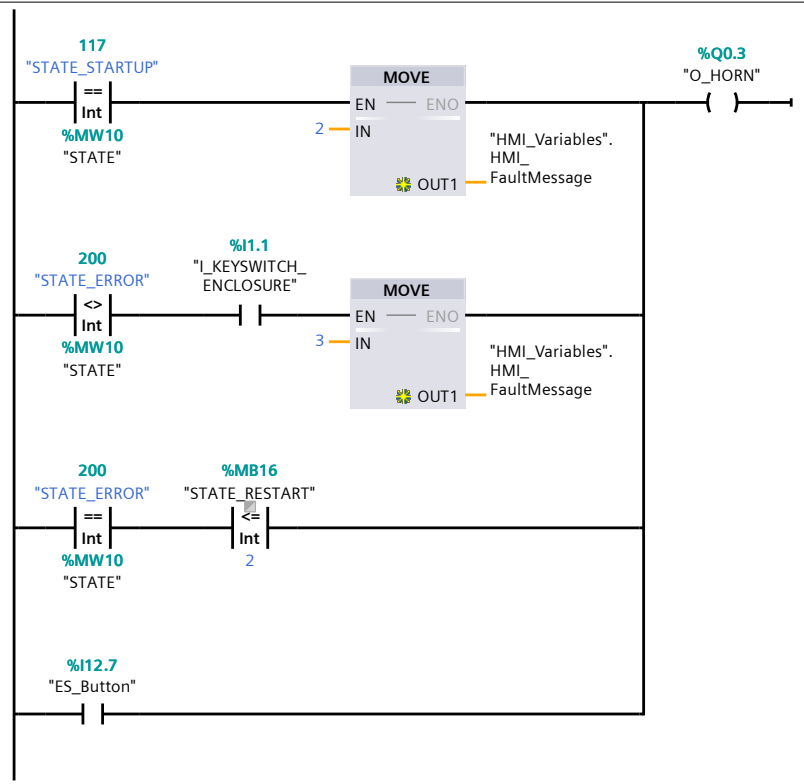
Symbol	Address	Type	Comment
"HMI_Torque_Filter_Fasteners"	290	Int	
"HMI_Variables".HMI_screen		UInt	
"KOLVER_PRG"	%QB8	Byte	
"KOLVER_PROG5_ONS_MEM"	%M21.4	Bool	
"KOLVER_PROG_4"	8	SInt	
"KOLVER_PROG_COMPLETE"	%I0.3	Bool	
"KOLVER_PROGRAM4_COMPLETE"	%M22.1	Bool	
"KOLVER_PROGRAM5_COMPLETE"	%M22.2	Bool	
"STATE"	%MW10	Int	Current State
"STATE_PROG_4_COMPLETE"	114	Int	
"STATE_PROG_5_COMPLETE"	115	Int	
"STATE_WAIT_FOR_PROG_5"	122	Int	

Network 15: Program complete



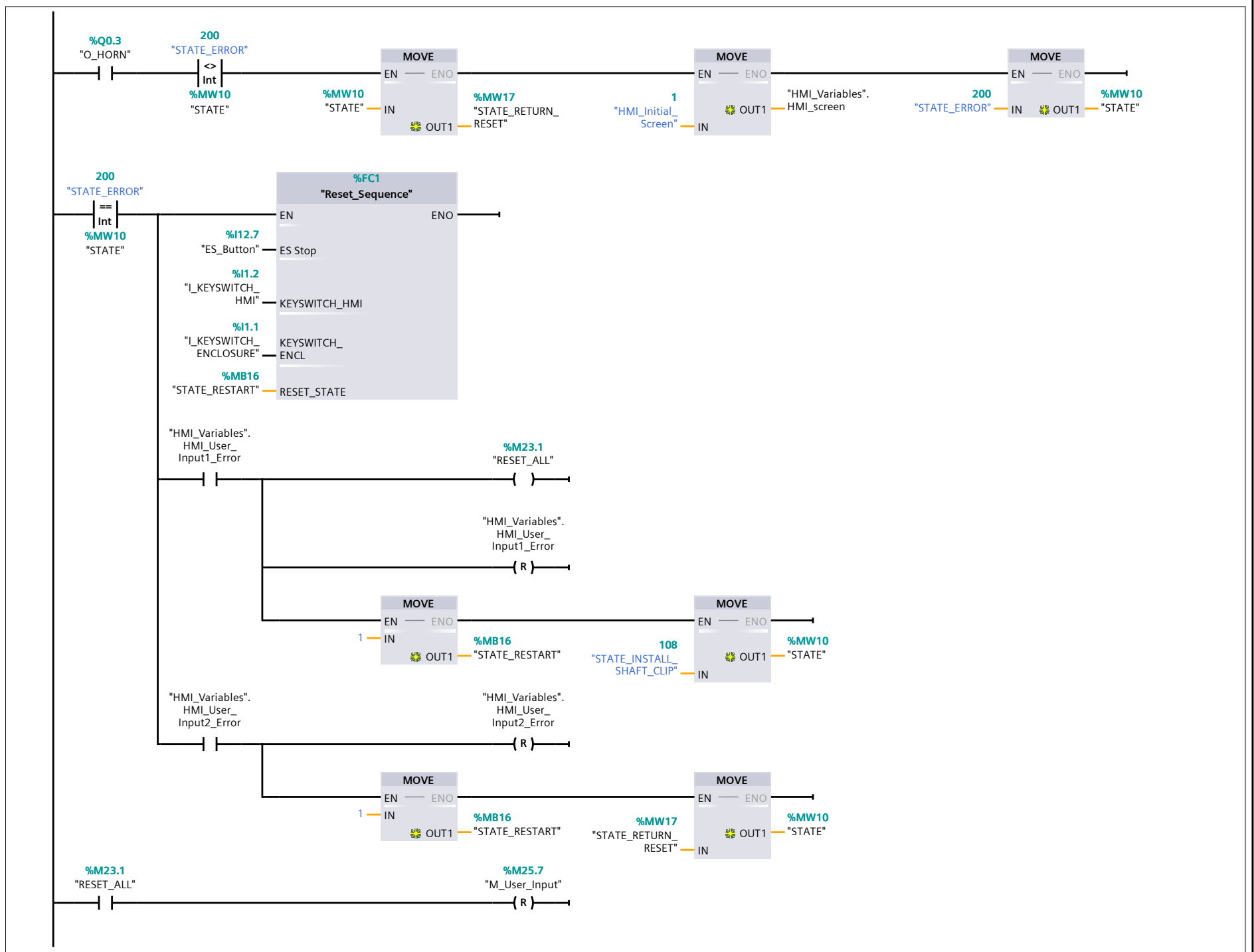
Symbol	Address	Type	Comment
"COMPRESOR_ASSY_COMPLETE"	%M20.4	Bool	
"HMI_Apply_Barcode"	310	Int	
"HMI_Remove_Assembly"	300	Int	
"HMI_Remove_Assembly_2"	301	Int	
"HMI_Submit_To_CCM"	160	Int	
"HMI_Variables".HMI_screen		UInt	
"HMI_Verify_Connecting_Rod_Straighness"	165	Int	
"I_FIX2_CLAMP_CYL_EXTENDED"	%I0.5	Bool	
"I_FIX2_CLAMP_CYL_RETRACTED"	%I0.4	Bool	
"I_FIX2_CONROD_CYL1_EXTEND"	%I12.4	Bool	Detect Use of Connecting Rod Clamp
"I_FIX2_CONROD_CYL2_EXTEND"	%I12.5	Bool	Detect Use of Connecting Rod Clamp
"I_FIX2_HOUSE_PROX"	%I1.0	Bool	
"I_FIX2_SHIMDETECTION"	%I1.5	Bool	Use of Connecting Rod Positioning Shim, inductive
"I_KEYSWITCH_HMI"	%I1.2	Bool	HMI selction keyswitch for pre and post CMM.
"I_SAFETY_BUTTONS"	%I0.0	Bool	
"M_User_Input"	%M25.7	Bool	
"PB_LED"	%M28.1	Bool	
"STATE"	%MW10	Int	Current State
"STATE_HALF_FINISHED2"	125	Int	
"STATE_HALF_FINISHED"	124	Int	
"STATE_MEASURE_CONNECTINGROD"	126	Int	
"STATE_PROG_5_COMPLETE"	115	Int	
"STATE_RETURN"	%MW14	Int	

Network 16: ERRORS



Symbol	Address	Type	Comment
"ES_Button"	%I12.7	Bool	
"HMI_Variables".HMI_FaultMessage		Int	
"I_KEYSWITCH_ENCLOSURE"	%I1.1	Bool	Enclosure Panel keyswitch, used as a re-set switch key.
"O_HORN"	%Q0.3	Bool	
"STATE"	%MW10	Int	Current State
"STATE_ERROR"	200	Int	
"STATE_RESTART"	%MB16	Byte	
"STATE_STARTUP"	117	Int	

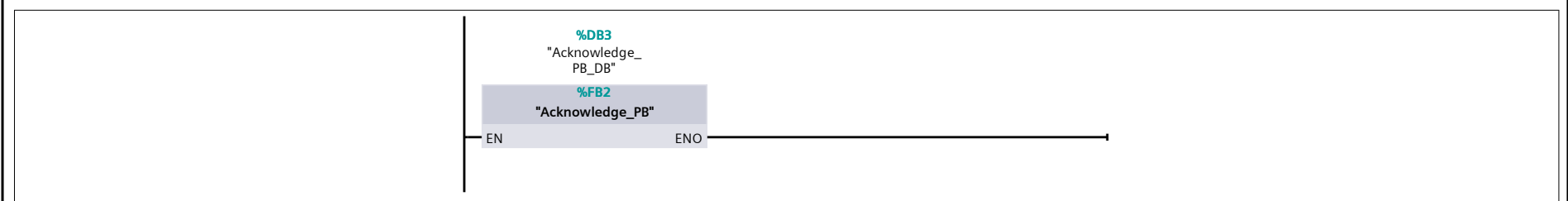
Network 17: RESET SEQUENCE



Symbol	Address	Type	Comment
"ES_Button"	%I12.7	Bool	
"HMI_Initial_Screen"	1	Int	
"HMI_Variables".HMI_screen		UInt	
"HMI_Variables".HMI_User_Input1_Error		Bool	

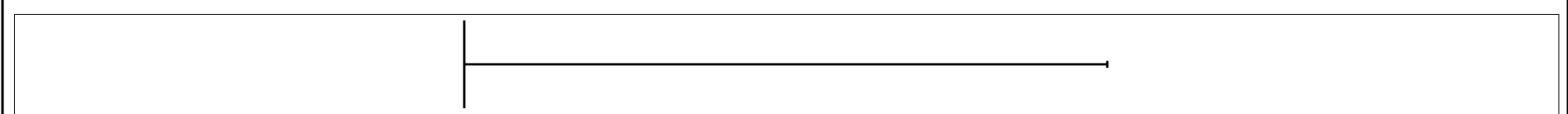
Symbol	Address	Type	Comment
"HMI_Variables".HMI_User_Input2_Error		Bool	
"I_KEYSWITCH_ENCLOSURE"	%I1.1	Bool	Enclosure Panel keyswitch, used as a re-set switch key.
"I_KEYSWITCH_HMI"	%I1.2	Bool	HMI selection keyswitch for pre and post CMM.
"M_User_Input"	%M25.7	Bool	
"O_HORN"	%Q0.3	Bool	
"RESET_ALL"	%M23.1	Bool	
"STATE"	%MW10	Int	Current State
"STATE_ERROR"	200	Int	
"STATE_INSTALL_SHAFT_CLIP"	108	Int	
"STATE_RESTART"	%MB16	Byte	
"STATE_RETURN_RESET"	%MW17	Int	

Network 18: Pushbutton Activation



Symbol	Address	Type	Comment
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Network 19: ES (Emergency Stop)



Symbol	Address	Type	Comment
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