

Totally Integrated Automation Portal

Program blocks

Main [OB1]

Main Properties

General

Name	Main	Number	1	Type	OB
Language	LAD				

Information

Title	OB1 (hlavní program)	Author	xmaly6	Comment	Toto je hlavní řídicí program, který jen volá námi vytvořené funkční bloky.
Family		Version	0.1	User-defined ID	

Name	Data type	Offset	Comment
▼ Temp			
OB1_EV_CLASS	Byte		Bits 0-3 = 1 (Coming event), Bits 4-7 = 1 (Event class 1)
OB1_SCAN_1	Byte		1 (Cold restart scan 1 of OB 1), 3 (Scan 2-n of OB 1)
OB1_PRIORITY	Byte		Priority of OB Execution
OB1_OB_NUMBR	Byte		1 (Organization block 1, OB1)
OB1_RESERVED_1	Byte		Reserved for system
OB1_RESERVED_2	Byte		Reserved for system
OB1_PREV_CYCLE	Int		Cycle time of previous OB1 scan (milliseconds)
OB1_MIN_CYCLE	Int		Minimum cycle time of OB1 (milliseconds)
OB1_MAX_CYCLE	Int		Maximum cycle time of OB1 (milliseconds)
OB1_DATE_TIME	Date_And_Time		Date and time OB1 started

Network 1: Zavolá se funkce Feed

%FC1

"Feed"

EN

ENO

Symbol	Address	Type	Comment
"Feed"	%FC1	Block_FC	

Network 2: Zavolá se funkce Move

%FC2

"Move"

EN

ENO

Symbol	Address	Type	Comment
"Move"	%FC2	Block_FC	

# Program blocks

## Feed [FC1]

### Feed Properties

#### General

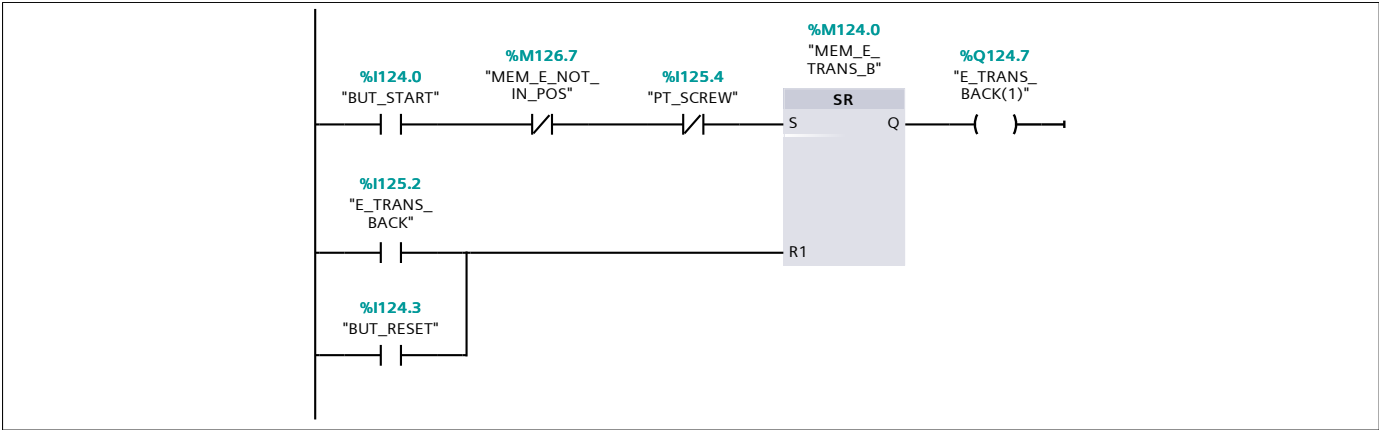
Name	Feed	Number	1	Type	FC
Language	LAD				

#### Information

Title	Funkční blok Feed	Author	xmaly6	Comment	Tento blok má za úkol obstarat podání šroubku ze zásobníku, případně nahlásit prázdnotu zásobníku, a dopravit podaný šroubek k přenašeči pro doručení a vložení do tělesa.
Family		Version	0.1	User-defined ID	

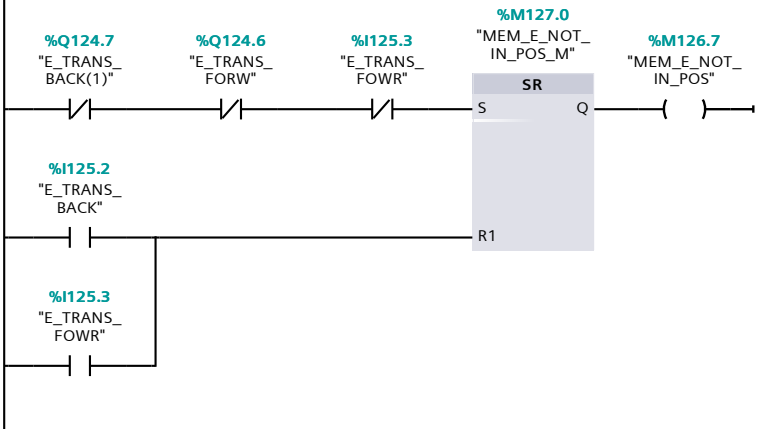
Name	Data type	Offset	Comment
Input			
Output			
InOut			
Temp			
▼ Return			
Ret_Val	Void		

### Network 1: Najetí přenašeče E do pozice pod zásobník



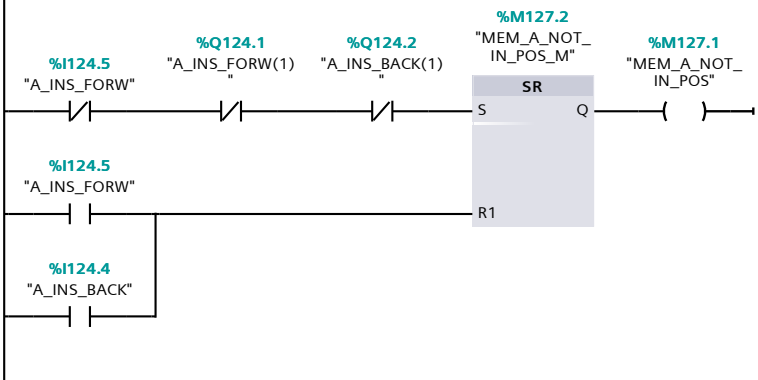
Symbol	Address	Type	Comment
"BUT_START"	%I124.0	Bool	
"PT_SCREW"	%I125.4	Bool	
"E_TRANS_BACK"	%I125.2	Bool	
"BUT_RESET"	%I124.3	Bool	
"MEM_E_TRANS_B"	%M124.0	Bool	
"E_TRANS_BACK(1)"	%Q124.7	Bool	
"MEM_E_NOT_IN_POS"	%M126.7	Bool	

### Network 2: Kontrola zdali je přenašec E ve výchozí pozici



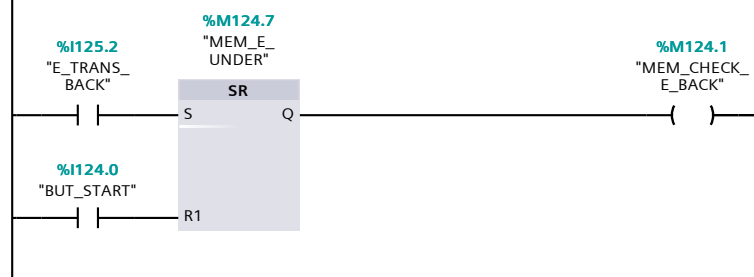
Symbol	Address	Type	Comment
"E_TRANS_BACK"	%I125.2	Bool	
"E_TRANS_BACK(1)"	%Q124.7	Bool	
"MEM_E_NOT_IN_POS_M"	%M127.0	Bool	
"MEM_E_NOT_IN_POS"	%M126.7	Bool	
"E_TRANS_FOWR"	%I125.3	Bool	
"E_TRANS_FORW"	%Q124.6	Bool	

Network 3: Kontrola zdali je přenašeč A ve výchozí pozici



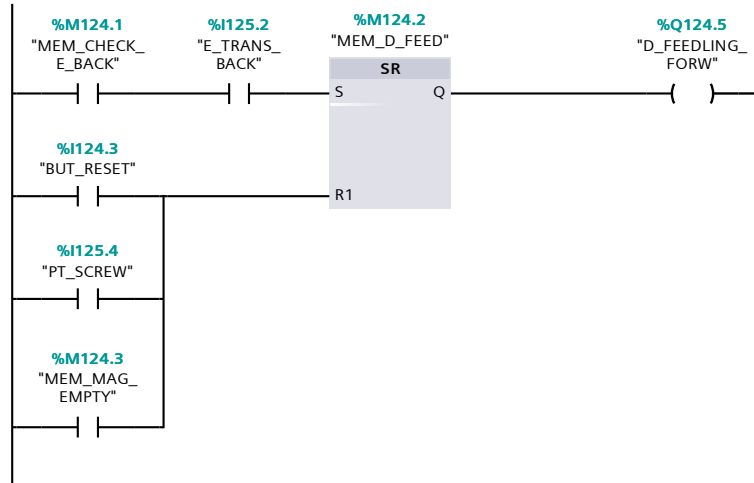
Symbol	Address	Type	Comment
"MEM_A_NOT_IN_POS"	%M127.1	Bool	
"MEM_A_NOT_IN_POS_M"	%M127.2	Bool	
"A_INS_FORW"	%I124.5	Bool	
"A_INS_FORW(1)"	%Q124.1	Bool	
"A_INS_BACK(1)"	%Q124.2	Bool	
"A_INS_BACK"	%I124.4	Bool	

Network 4: Kontrolní bod I. pro najetí přenašeče E pod zásobník



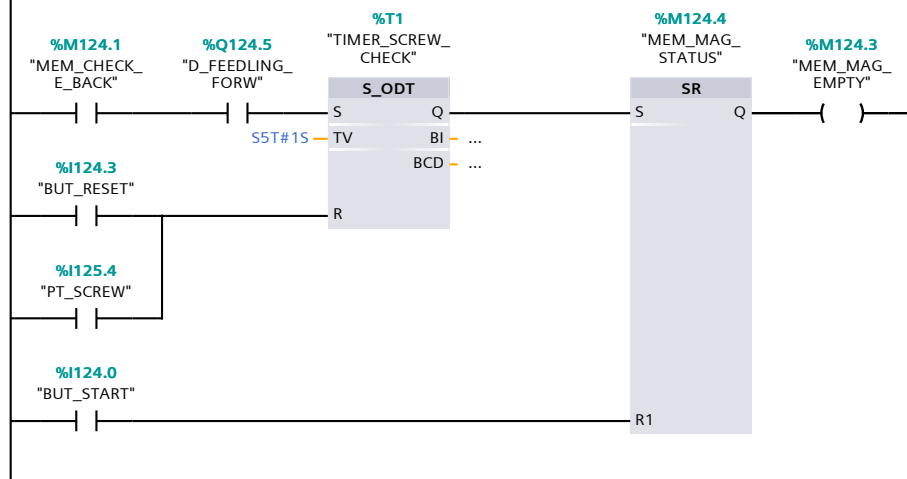
Symbol	Address	Type	Comment
"BUT_START"	%I124.0	Bool	
"E_TRANS_BACK"	%I125.2	Bool	
"MEM_CHECK_E_BACK"	%M124.1	Bool	
"MEM_E_UNDER"	%M124.7	Bool	

### Network 5: Podání šroubku ze zásobníku



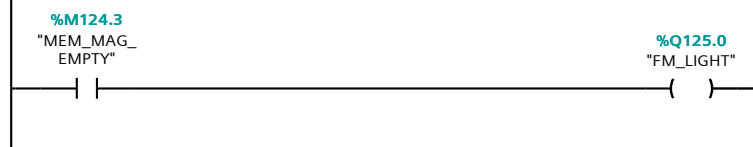
Symbol	Address	Type	Comment
"PT_SCREW"	%I125.4	Bool	
"E_TRANS_BACK"	%I125.2	Bool	
"BUT_RESET"	%I124.3	Bool	
"MEM_CHECK_E_BACK"	%M124.1	Bool	
"MEM_D_FEED"	%M124.2	Bool	
"D_FEEDLING_FORW"	%Q124.5	Bool	
"MEM_MAG_EMPTY"	%M124.3	Bool	

### Network 6: Detekce zdali není zásobník prázdný



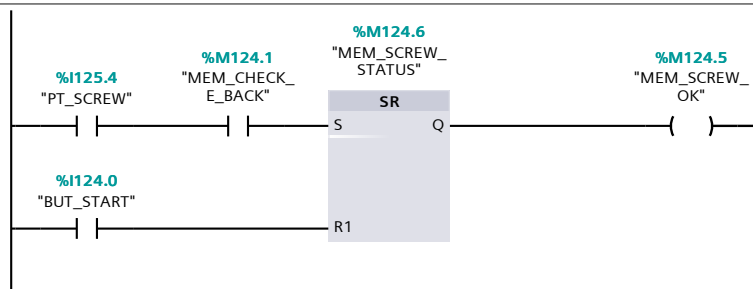
Symbol	Address	Type	Comment
"BUT_START"	%I124.0	Bool	
"PT_SCREW"	%I124.4	Bool	
"BUT_RESET"	%I124.3	Bool	
"MEM_CHECK_E_BACK"	%M124.1	Bool	
"D_FEEDLING_FORW"	%Q124.5	Bool	
"MEM_MAG_EMPTY"	%M124.3	Bool	
"TIMER_SCREW_CHECK"	%T1	Timer	
S5T#1S	S5T#1S	S5Time	
"MEM_MAG_STATUS"	%M124.4	Bool	

## Network 7: Signalizace pomocí FM světla, že zásobník je prázdný



Symbol	Address	Type	Comment
"MEM_MAG_EMPTY"	%M124.3	Bool	
"FM_LIGHT"	%Q125.0	Bool	

**Network 8: Kontrolní bod II. signalizující úspěšné podání šroubku ze zásobníku do podavače E**



Symbol	Address	Type	Comment
"BUT_START"	%1124.0	Bool	
"PT_SCREW"	%1125.4	Bool	

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Symbol	Address	Type	Comment
"MEM_CHECK_E_BACK"	%M124.1	Bool	
"MEM_SCREW_OK"	%M124.5	Bool	
"MEM_SCREW_STATUS"	%M124.6	Bool	

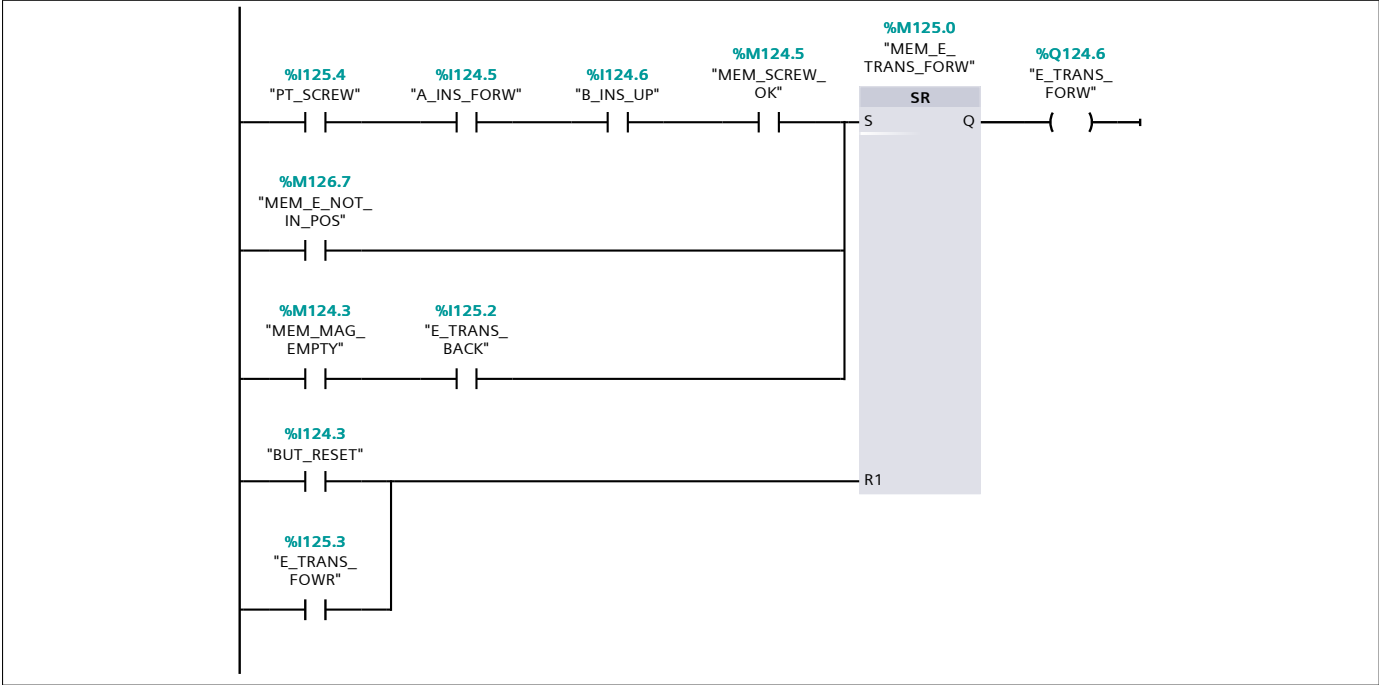
# Program blocks

## Move [FC2]

Move Properties					
General					
Name	Move	Number	2	Type	FC
Language	LAD				
Information					
Title	Funkční blok Move	Author	xmaly6	Comment	Tento blok má za úkol obstarat vyzvednutí doručeného šroubku a jeho následné vložení do připraveného tělesa. Na konci procesu zahlásí, že doručil šroubek do tělesa.
Family		Version	0.1	User-defined ID	

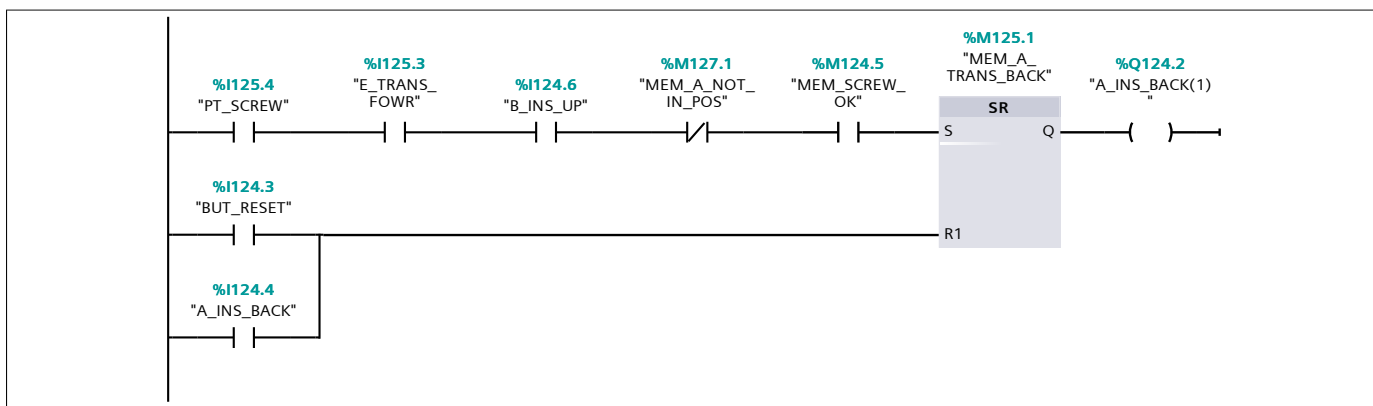
Name	Data type	Offset	Comment
Input			
Output			
InOut			
Temp			
▼ Return			
Ret_Val	Void		

### Network 1: Najetí přenašeče E (pohyb dopředu) pod přenašeč A

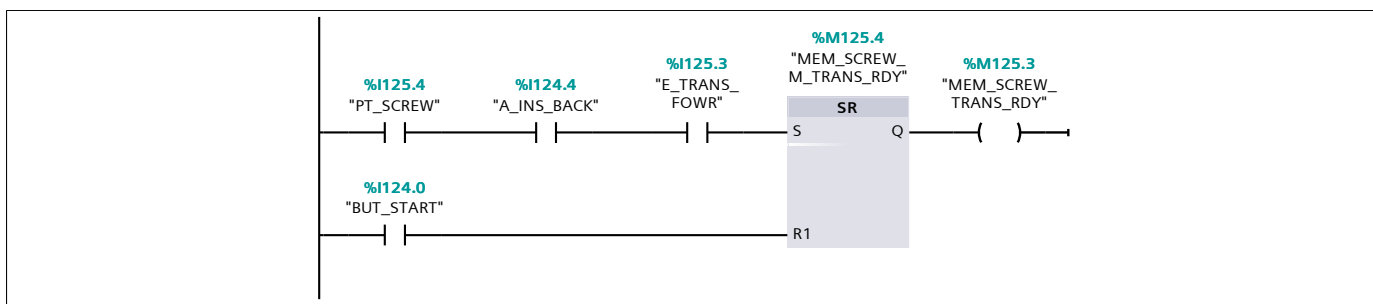


Symbol	Address	Type	Comment
"PT_SCREW"	%I125.4	Bool	
"A_INS_FORW"	%I124.5	Bool	
"B_INS_UP"	%I124.6	Bool	

Symbol	Address	Type	Comment
"MEM_SCREW_OK"	%M124.5	Bool	
"BUT_RESET"	%I124.3	Bool	
"MEM_MAG_EMPTY"	%M124.3	Bool	
"E_TRANS_BACK"	%I125.2	Bool	
"MEM_E_TRANS_FORW"	%M125.0	Bool	
"E_TRANS_FORW"	%Q124.6	Bool	
"E_TRANS_FOWR"	%I125.3	Bool	
"MEM_E_NOT_IN_POS"	%M126.7	Bool	

**Network 2: Přesun přenašeče A k přenašeči E**

Symbol	Address	Type	Comment
"PT_SCREW"	%I125.4	Bool	
"B_INS_UP"	%I124.6	Bool	
"MEM_SCREW_OK"	%M124.5	Bool	
"BUT_RESET"	%I124.3	Bool	
"MEM_A_TRANS_BACK"	%M125.1	Bool	
"A_INS_BACK(1)"	%Q124.2	Bool	
"A_INS_BACK"	%I124.4	Bool	
"E_TRANS_FOWR"	%I125.3	Bool	
"MEM_A_NOT_IN_POS"	%M127.1	Bool	

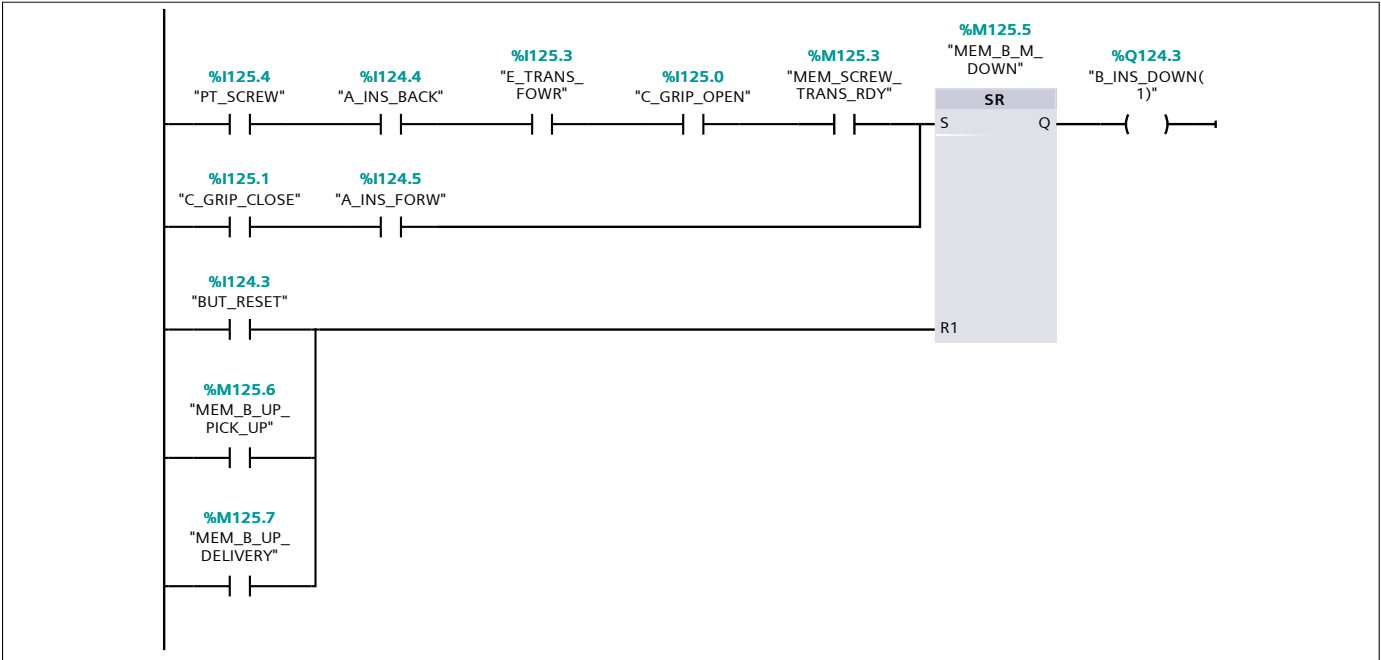
**Network 3: Kontrolní bod III. signalizující připravení šroubku pro zahájení přenosu šroubku do tělesa**

Symbol	Address	Type	Comment
"PT_SCREW"	%I125.4	Bool	
"A_INS_BACK"	%I124.4	Bool	
"E_TRANS_FOWR"	%I125.3	Bool	
"BUT_START"	%I124.0	Bool	



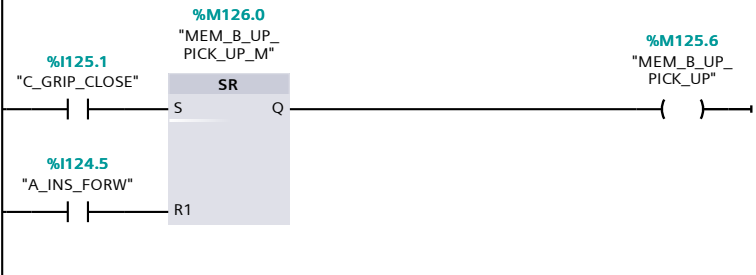
Symbol	Address	Type	Comment
"MEM_SCREW_M_TRANS_RDY"	%M125.4	Bool	
"MEM_SCREW_TRANS_RDY"	%M125.3	Bool	

Network 4: Ovládání vyjetí/sjetí podavače B, na kterém jsou umístěny cvakadla C



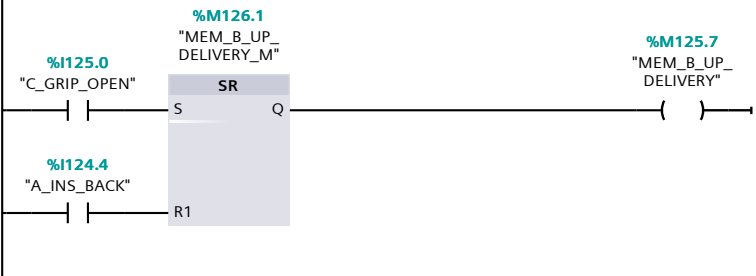
Symbol	Address	Type	Comment
"PT_SCREW"	%I125.4	Bool	
"A_INS_FORW"	%I124.5	Bool	
"BUT_RESET"	%I124.3	Bool	
"A_INS_BACK"	%I124.4	Bool	
"E_TRANS_FOWR"	%I125.3	Bool	
"MEM_SCREW_TRANS_RDY"	%M125.3	Bool	
"MEM_B_M_DOWN"	%M125.5	Bool	
"B_INS_DOWN(1)"	%Q124.3	Bool	
"MEM_B_UP_PICK_UP"	%M125.6	Bool	
"MEM_B_UP_DELIVERY"	%M125.7	Bool	
"C_GRIP_OPEN"	%I125.0	Bool	
"C_GRIP_CLOSE"	%I125.1	Bool	

Network 5: Signalizace pro vyjetí podavače B nahoru I.



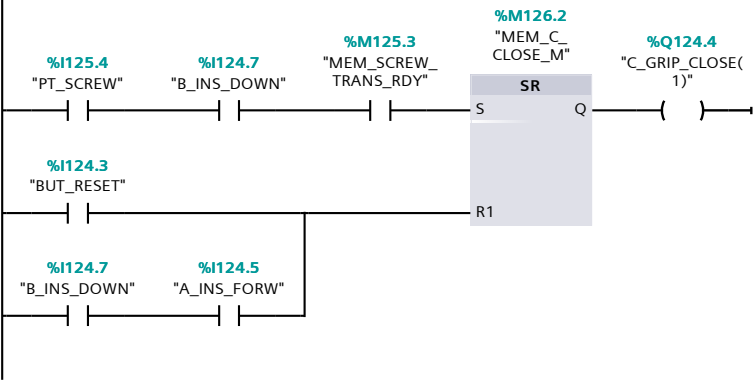
Symbol	Address	Type	Comment
"A_INS_FORW"	%I124.5	Bool	
"MEM_B_UP_PICK_UP"	%M125.6	Bool	
"C_GRIP_CLOSE"	%I125.1	Bool	
"MEM_B_UP_PICK_UP_M"	%M126.0	Bool	

**Network 6: Signalizace pro vyjetí podavače B nahoru II.**



Symbol	Address	Type	Comment
"A_INS_BACK"	%I124.4	Bool	
"MEM_B_UP_DELIVERY"	%M125.7	Bool	
"C_GRIP_OPEN"	%I125.0	Bool	
"MEM_B_UP_DELIVERY_M"	%M126.1	Bool	

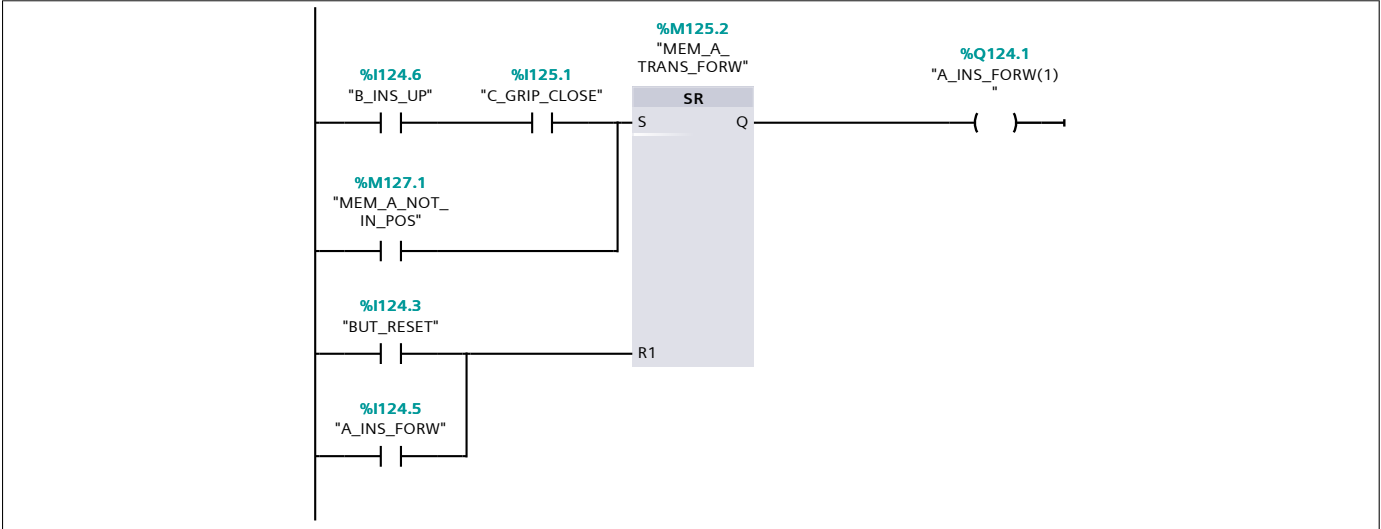
**Network 7: Scvaknutí cvakadel C**



Symbol	Address	Type	Comment
"PT_SCREW"	%I125.4	Bool	
"A_INS_FORW"	%I124.5	Bool	

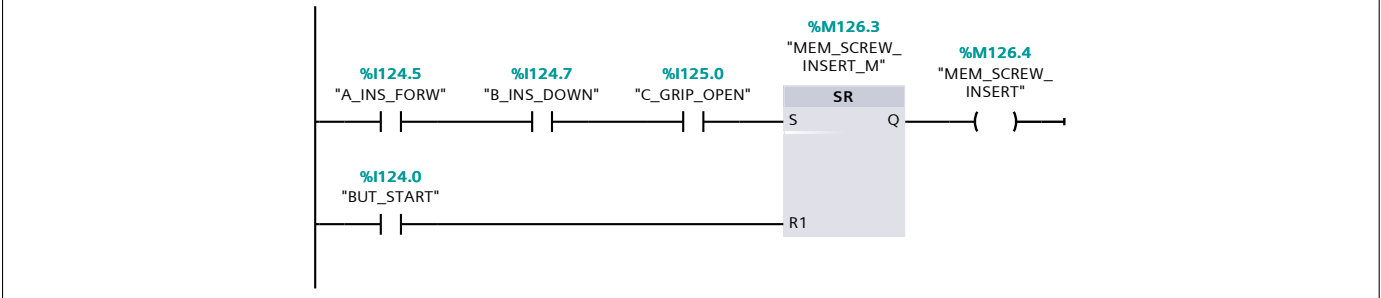
Symbol	Address	Type	Comment
"BUT_RESET"	%I124.3	Bool	
"MEM_SCREW_TRANS_RDY"	%M125.3	Bool	
"B_INS_DOWN"	%I124.7	Bool	
"MEM_C_CLOSE_M"	%M126.2	Bool	
"C_GRIP_CLOSE(1)"	%Q124.4	Bool	

Network 8: Přenesení šroubku nad připravené těleso pomocí přenašeče A



Symbol	Address	Type	Comment
"A_INS_FORW"	%I124.5	Bool	
"B_INS_UP"	%I124.6	Bool	
"BUT_RESET"	%I124.3	Bool	
"C_GRIP_CLOSE"	%I125.1	Bool	
"MEM_A_TRANS_FORW"	%M125.2	Bool	
"A_INS_FORW(1)"	%Q124.1	Bool	
"MEM_A_NOT_IN_POS"	%M127.1	Bool	

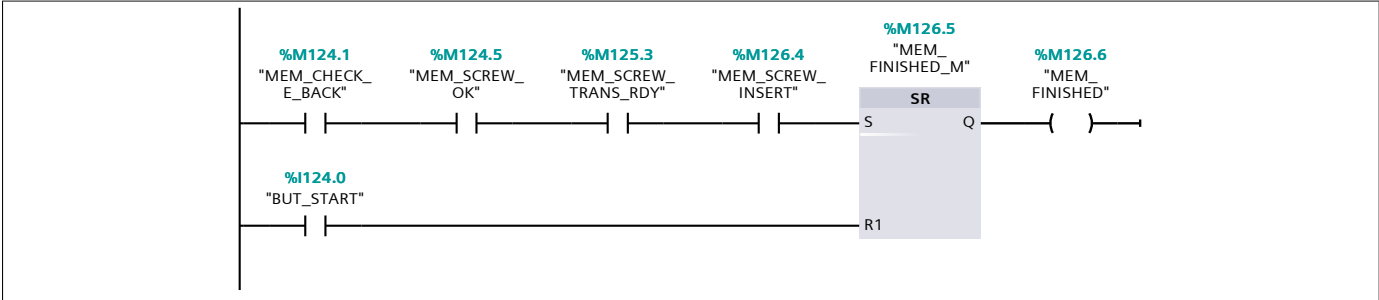
Network 9: Kontrolní bod IV. signalizující vložení šroubku do tělesa



Symbol	Address	Type	Comment
"A_INS_FORW"	%I124.5	Bool	
"BUT_START"	%I124.0	Bool	
"C_GRIP_OPEN"	%I125.0	Bool	
"B_INS_DOWN"	%I124.7	Bool	
"MEM_SCREW_IN- SERT_M"	%M126.3	Bool	

Symbol	Address	Type	Comment
"MEM_SCREW_INSERT"	%M126.4	Bool	

Network 10: Signalizace úspěšného dokončení celé operace



Symbol	Address	Type	Comment
"MEM_SCREW_OK"	%M124.5	Bool	
"BUT_START"	%I124.0	Bool	
"MEM_SCREW_TRANS_R DY"	%M125.3	Bool	
"MEM_SCREW_INSERT"	%M126.4	Bool	
"MEM_FINISHED_M"	%M126.5	Bool	
"MEM_FINISHED"	%M126.6	Bool	
"MEM_CHECK_E_BACK"	%M124.1	Bool	