triedenie [FC5]

triedenie Properties					
General					
Name	triedenie	**Number**	5	**Type**	FC
Language	LAD	**Numbering**	Automatic		
Information					
Title		**Author**		**Comment**	
Family		**Version**	0.1	**User-defined ID**	

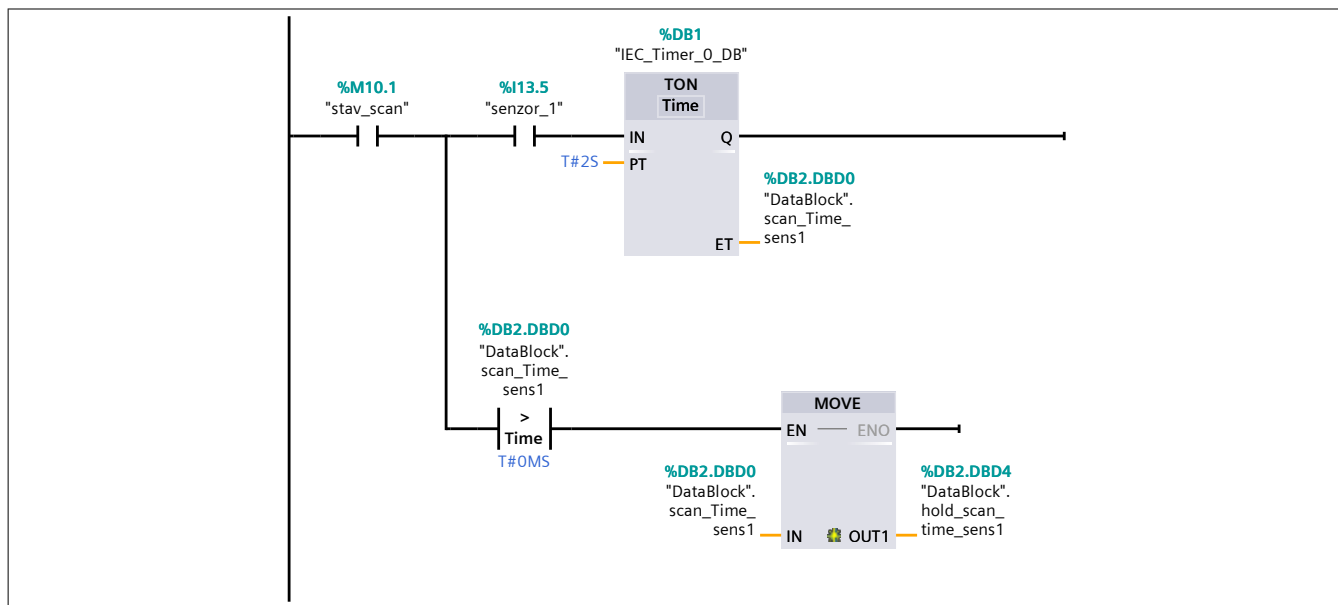| Name	Data type	Default value	Supervision	Comment
Input				
Output				
InOut				
Temp				
Constant				
▼ Return				
triedenie	Void			

Network 1: Ak sú všetky stavy v 0 setni stav INIT
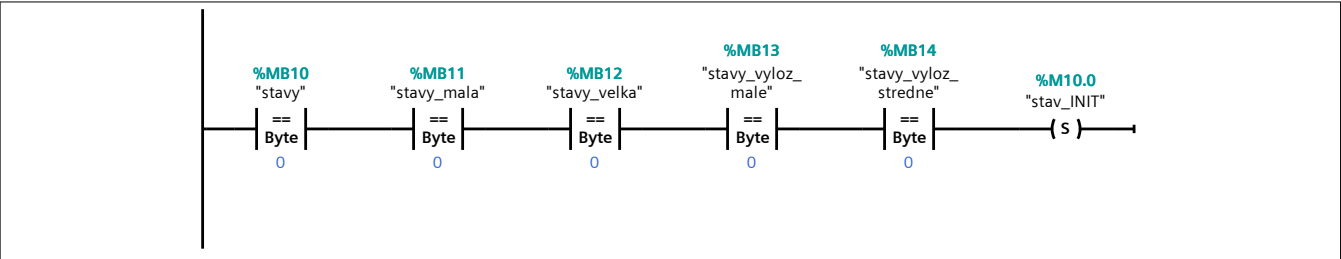
Network 2: Po stlačení tlačítka štart sa rozbehne pás
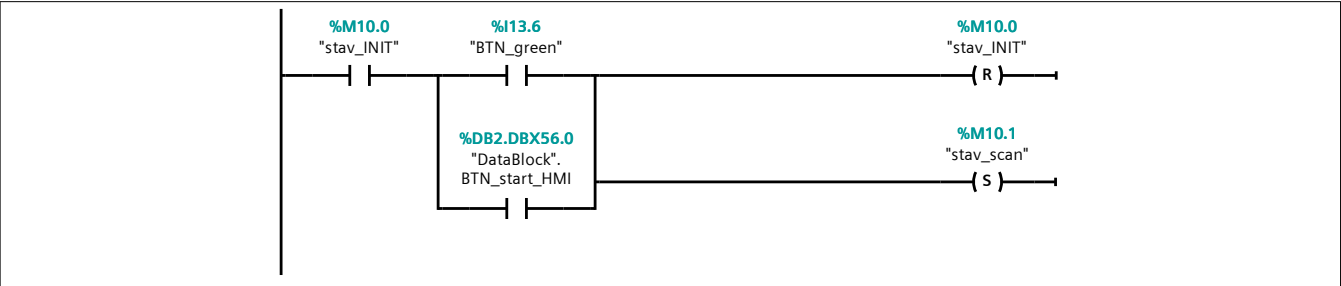
Network 3: Stav scan: v tomto stave scanujú oba snímače

%M10.1
"stav_scan"

%I13.5
"senzor_1"

%DB1
"IEC_Timer_0_DB"

TON
Time

IN — Q

T#2S — PT

%DB2.DBD0
"DataBlock".
scan_Time_
sens1

ET

%DB2.DBD0
"DataBlock".
scan_Time_
sens1

>
Time

T#0MS

MOVE

EN — ENO

%DB2.DBD0
"DataBlock".
scan_Time_
sens1

IN

%DB2.DBD4
"DataBlock".
hold_scan_
time_sens1

OUT1

Network 4: scan - malá bednička

%M10.1
"stav_scan"

%DB2.DBD4
"DataBlock".
hold_scan_
time_sens1

<
Time

T#200MS

%DB2.DBD4
"DataBlock".
hold_scan_
time_sens1

>
Time

T#10MS

%I13.5
"senzor_1"

%DB2.DBX24.0
"DataBlock".
paleta_male_
full

%M10.1
"stav_scan"

(R)

%M11.0
"stav_mala_1"

(S)

%DB2.DBX25.5
"DataBlock".mala

(S)

%DB2.DBX24.0
"DataBlock".
paleta_male_
full

%M10.1
"stav_scan"

(R)

%M11.2
"stav_mala_3"

(S)

%DB4
"IEC_Counter_
0_DB"

CTU
Int

CU — Q

%DB2.DBX24.0
"DataBlock".
paleta_male_
full

(S)

%M13.0
"stav_vyloz_male"

R — CV

%DB2.DBW8
"DataBlock".
pocet_malych

4 — PV

%DB2.DBX25.4
"DataBlock".
reset_citace

Network 5: scan - stredná bednička

```
%M10.1              %DB2.DBD4        %DB2.DBD4                        %DB2.DBX24.1              %M10.1
"stav_scan"         "DataBlock".     "DataBlock".      %I13.5         "DataBlock".             "stav_scan"
                    hold_scan_       hold_scan_        "senzor_1"     paleta_stred_
                    time_sens1       time_sens1                       full
   ┤├                  <              >                ─┤/├─          ─┤/├─                      ─( R )─
                     Time           Time
                    T#350MS         T#210MS                                                     %M12.0
                                                                                               "stav_velka_1"
                                                                                               ─( S )─

                                                                     %DB2.DBX24.1
                                                                     "DataBlock".             %M10.1
                                                                     paleta_stred_            "stav_scan"
                                                                     full
                                                                      ─┤├─                     ─( R )─

                                                                                               %M12.3
                                                                                               "stav_velka_4"
                                                                                               ─( S )─

                                                                      %DB5
                                                                     "IEC_Counter_            %DB2.DBX24.1
                                                                     0_DB_1"                  "DataBlock".
                                                                                              paleta_stred_
                                                                      ┌──────────┐            full
                                                                      │  CTU     │             ─( S )─
                                                                      │  Int     │
                                                                      │CU      Q │
   %M14.0                                                             │          │            %DB2.DBW14
   "stav_vyloz_stred"                                                 │          │            "DataBlock".
                                                                      │R      CV │────────    pocet_strednych
   ─┤├──────────────────────────────────────────────────────────────│          │
                                                                    2─│PV        │
   %DB2.DBX25.4                                                       └──────────┘
   "DataBlock".
   reset_citace
   ─┤├─
```

Network 6: scan - dlhá bednička

%M10.1 "stav_scan"	%DB2.DBD4 "DataBlock". hold_scan_ time_sens1 > Time T#400MS	%I13.5 "senzor_1"	%M10.2 "stav_dlha" (S)

MOVE
EN — ENO
T#0MS — IN
%DB2.DBD4
"DataBlock".
hold_scan_
time_sens1
OUT1

%DB23
"IEC_Counter_
0_DB_6"
CTU
Int
CU   Q
%DB2.DBW20
"DataBlock".
pocet_dlhych
CV

%DB2.DBX25.4
"DataBlock".
reset_citace
R
20 — PV
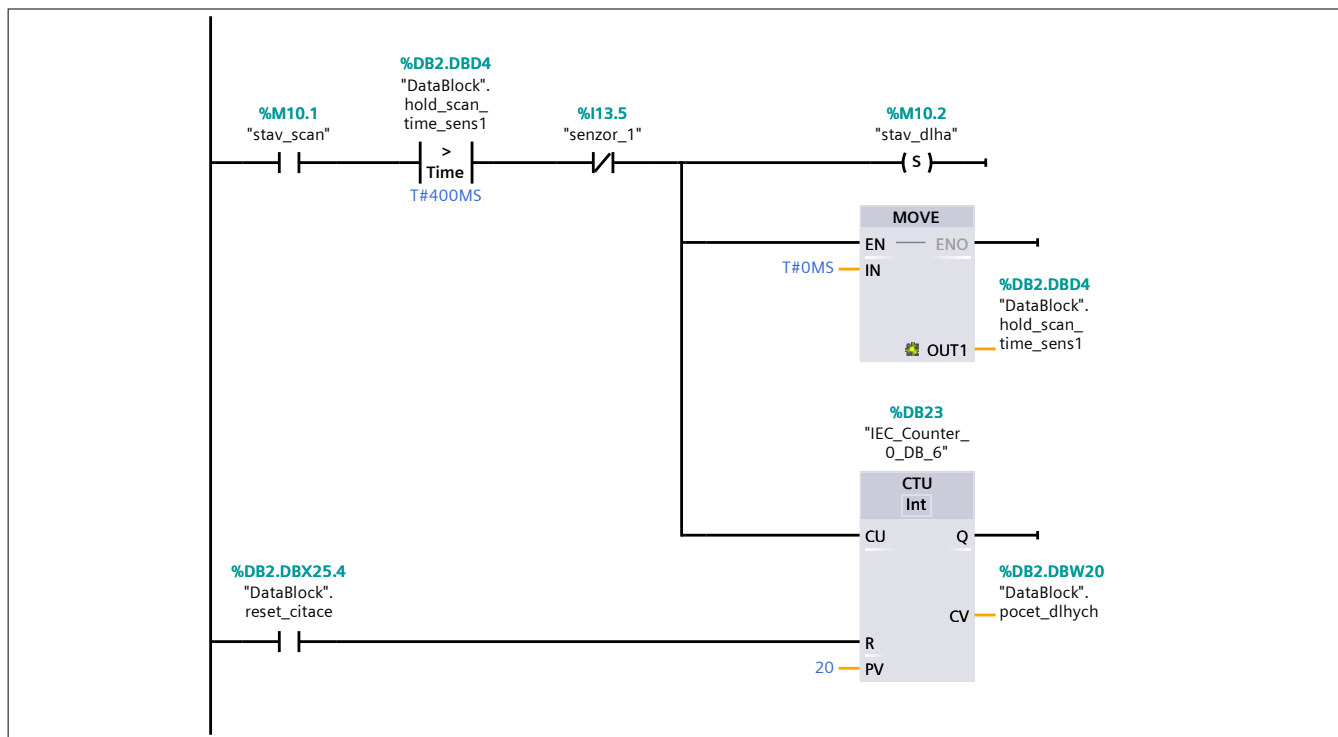
Network 7: Stavy pre malú bedničku - počká 300MS pokial príde malá bednička pri solenoid

%DB6
"IEC_Timer_0_
DB_1"
TON
Time
%M11.0
"stav_mala_1"
IN   Q
T#300MS — PT   ET — ...

%M11.0
"stav_mala_1"
(R)
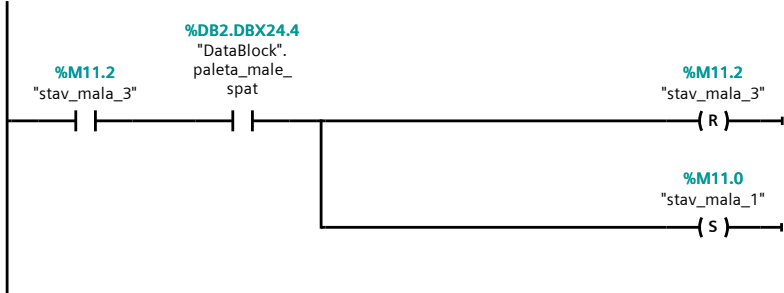
%M11.1
"stav_mala_2"
(S)
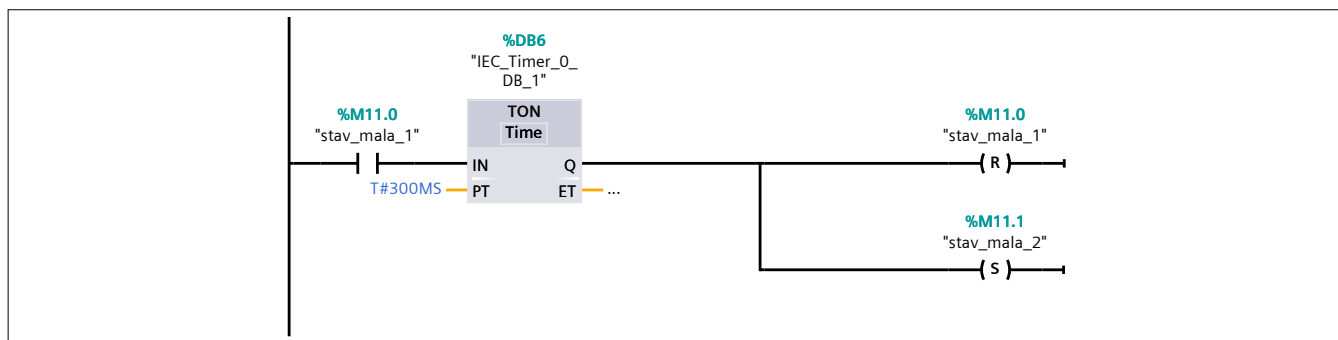
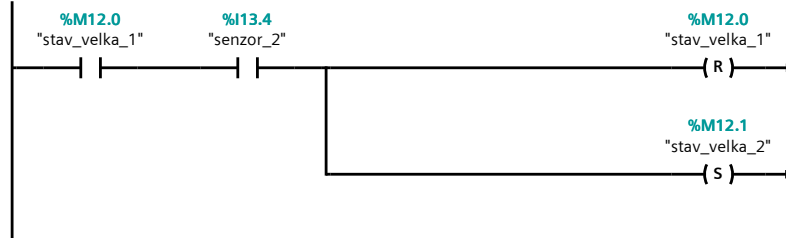**Network 8: Spustenie solenoidu 1 na 500MS a návrat do stavu SCAN**
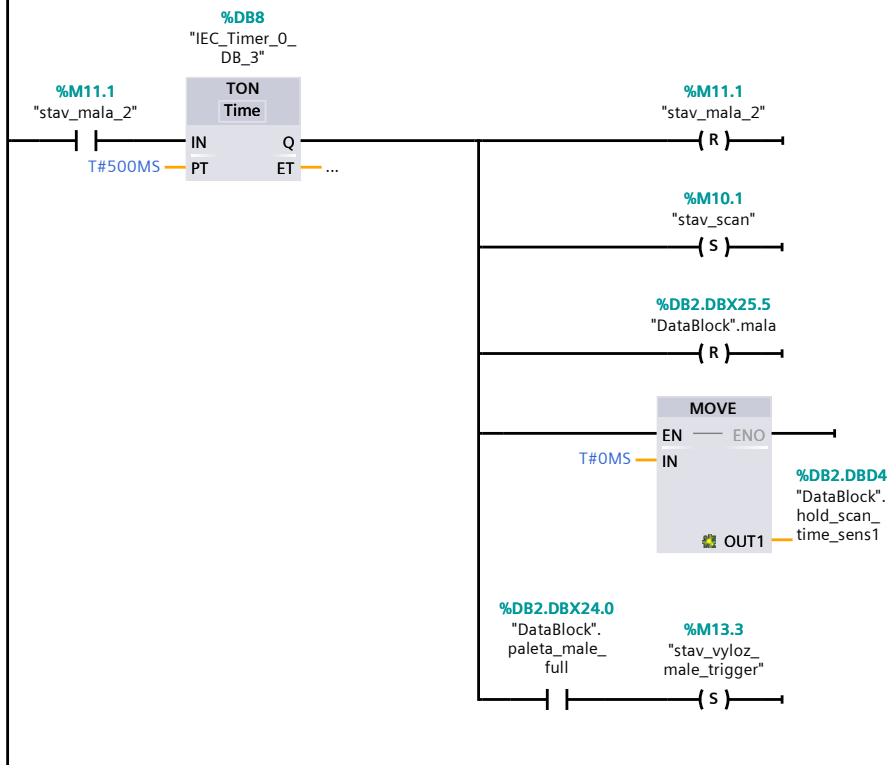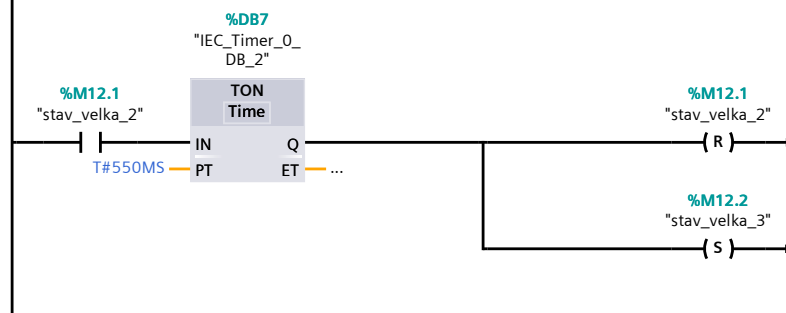
Network 9: Spustenie funkcie pre vykladanie malej palety
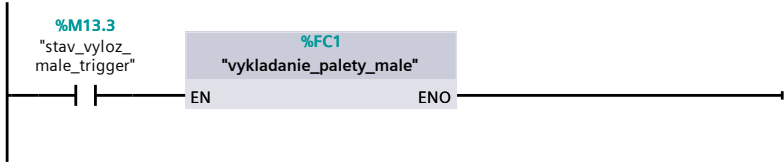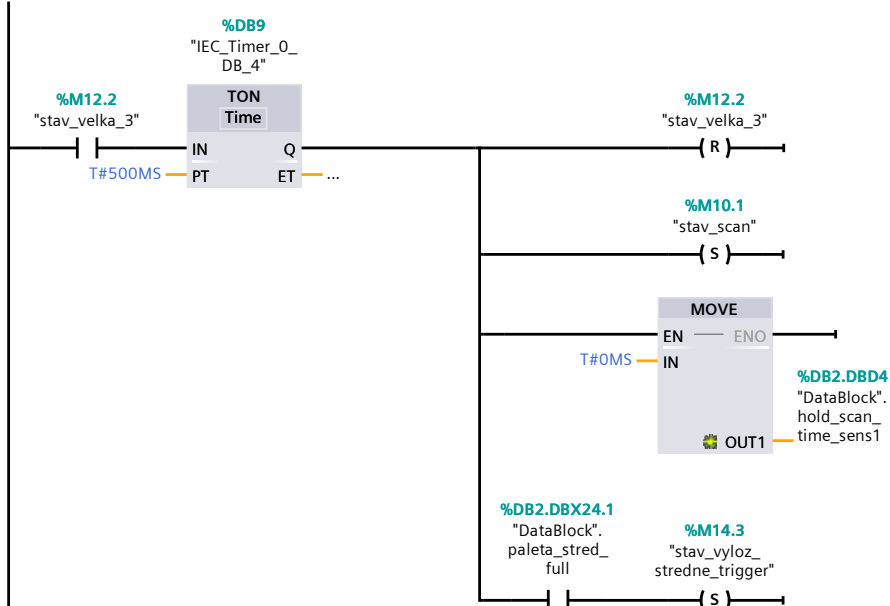

Network 10: V tomto stave čakám na malú paletu

Network 11: Stavy pre strednú bedničku - zdetekovanie velkej bedničky pri senzore 2
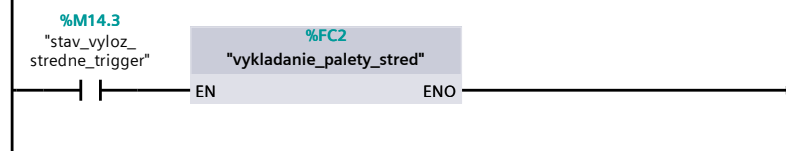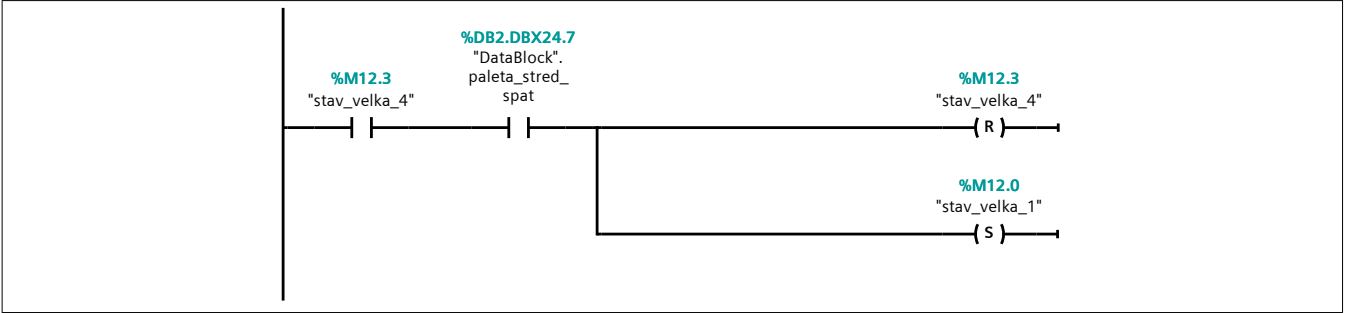
```
        %M12.0          %I13.4                                              %M12.0
     "stav_velka_1"    "senzor_2"                                        "stav_velka_1"
         ┤ ├            ┤ ├                                                 ─( R )─

                                                                           %M12.1
                                                                        "stav_velka_2"
                                                                          ─( S )─
```

Network 12: počká 500MS pokial príde stredná bednička pri solenoid

```
                              %DB7
                          "IEC_Timer_0_
                              DB_2"
        %M12.1             ┌─────────┐                                    %M12.1
     "stav_velka_2"        │   TON   │                                 "stav_velka_2"
         ┤ ├               │  Time   │                                    ─( R )─
                           │ IN    Q │
                  T#550MS ─┤ PT   ET ├─ ...                               %M12.2
                           └─────────┘                                "stav_velka_3"
                                                                         ─( S )─
```

Network 13: Spustenie solenoidu 2 na 500MS a návrat do stavu SCAN

```
                              %DB9
                          "IEC_Timer_0_
                              DB_4"
        %M12.2             ┌─────────┐                                    %M12.2
     "stav_velka_3"        │   TON   │                                 "stav_velka_3"
         ┤ ├               │  Time   │                                    ─( R )─
                           │ IN    Q │
                  T#500MS ─┤ PT   ET ├─ ...                               %M10.1
                           └─────────┘                                  "stav_scan"
                                                                         ─( S )─

                                                 ┌──────────────┐
                                                 │     MOVE     │
                                                 │ EN ─── ENO   │
                                          T#0MS ─┤ IN           │
                                                 │              │   %DB2.DBD4
                                                 │              │   "DataBlock".
                                                 │              │   hold_scan_
                                                 │         OUT1 ├─  time_sens1
                                                 └──────────────┘

                                         %DB2.DBX24.1         %M14.3
                                         "DataBlock".      "stav_vyloz_
                                         paleta_stred_    stredne_trigger"
                                             full
                                             ┤ ├             ─( S )─
```

Network 14: Spustenie funkcie pre vykladanie velkej palety

```
        %M14.3                    %FC2
     "stav_vyloz_          "vykladanie_palety_stred"
    stredne_trigger"
         ┤ ├             ─┤ EN              ENO ├──────────────────────
```

Network 15: V tomto stave čakám na velkú paletu

```
        %M12.3          %DB2.DBX24.7                          %M12.3
     "stav_velka_4"     "DataBlock".                      "stav_velka_4"
                        paleta_stred_
                            spat
        ┤ ├              ┤ ├                                 ─( R )─

                                                             %M12.0
                                                         "stav_velka_1"
                                                             ─( S )─
```

Network 16: prechod dlhej bedničky po páse

```
                         %DB12
                     "IEC_Timer_0_
                         DB_5"
        %M10.2            TON                               %M10.2
      "stav_dlha"         Time                            "stav_dlha"
        ┤ ├          IN         Q                           ─( R )─
               T#3S ─ PT        ET ─ ...
```

Network 17: PAUZA

```
        %M15.3          %I13.6                              %M15.3
     "stav_pauza"     "BTN_green"                        "stav_pauza"
        ┤ ├             ┤ ├                                 ─( R )─

                     %DB2.DBX56.0                           %M10.1
                      "DataBlock".                       "stav_scan"
                     BTN_start_HMI
                        ┤ ├                                 ─( S )─
```

Network 18:

```
    %DB2.DBX56.2                                            %M10.1
     "DataBlock".                                        "stav_scan"
    BTN_pauza_HMI
        ┤ ├                                                 ─( R )─

                                                            %M15.3
                                                         "stav_pauza"
                                                            ─( S )─
```
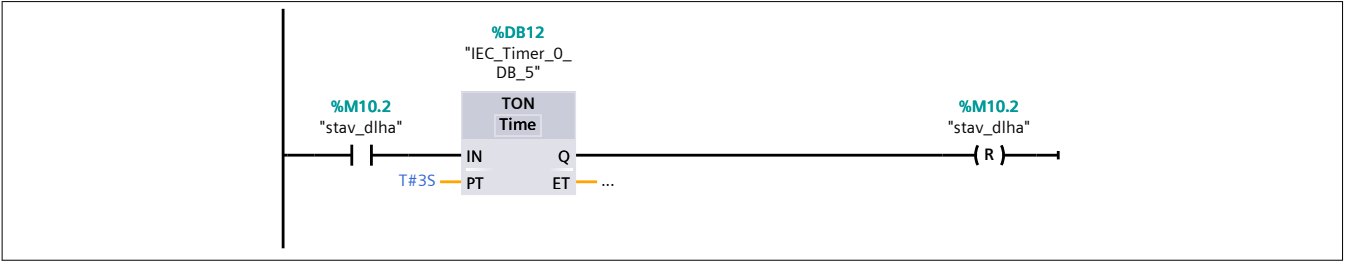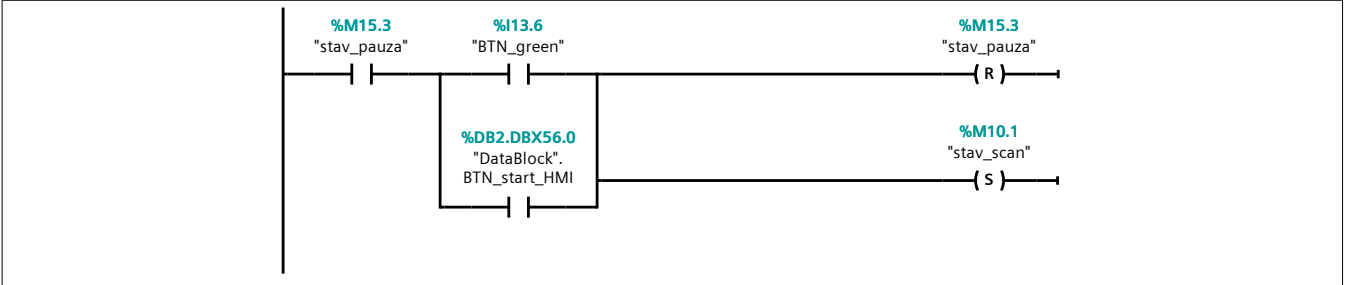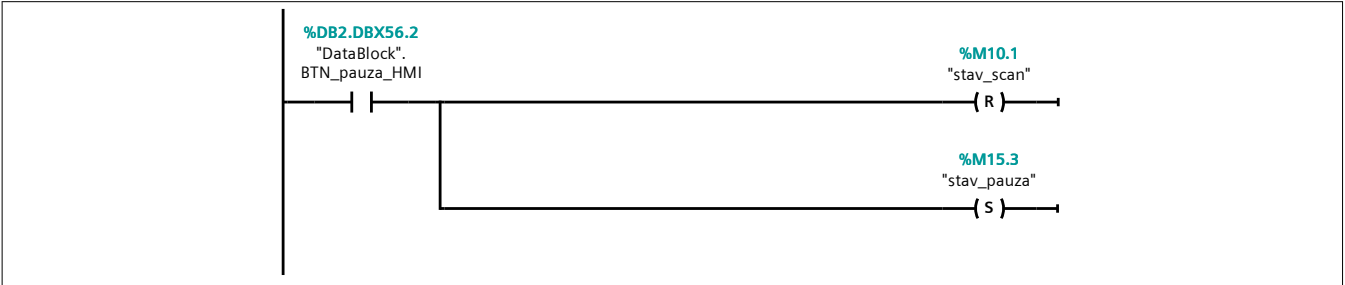
Network 19: Výstupy - Motor 1

```
        %M10.1                                                    %Q7.7
      "stav_scan"                                                "motor_1"
        ┤ ├───────┐                                              ─( )─
                  │
        %M11.0    │
      "stav_mala_1"
        ┤ ├───────┤
                  │
        %M11.1    │
      "stav_mala_2"
        ┤ ├───────┤
                  │
        %M12.0    │
      "stav_velka_1"
        ┤ ├───────┤
                  │
        %M12.1    │
      "stav_velka_2"
        ┤ ├───────┤
                  │
        %M12.2    │
      "stav_velka_3"
        ┤ ├───────┘
```
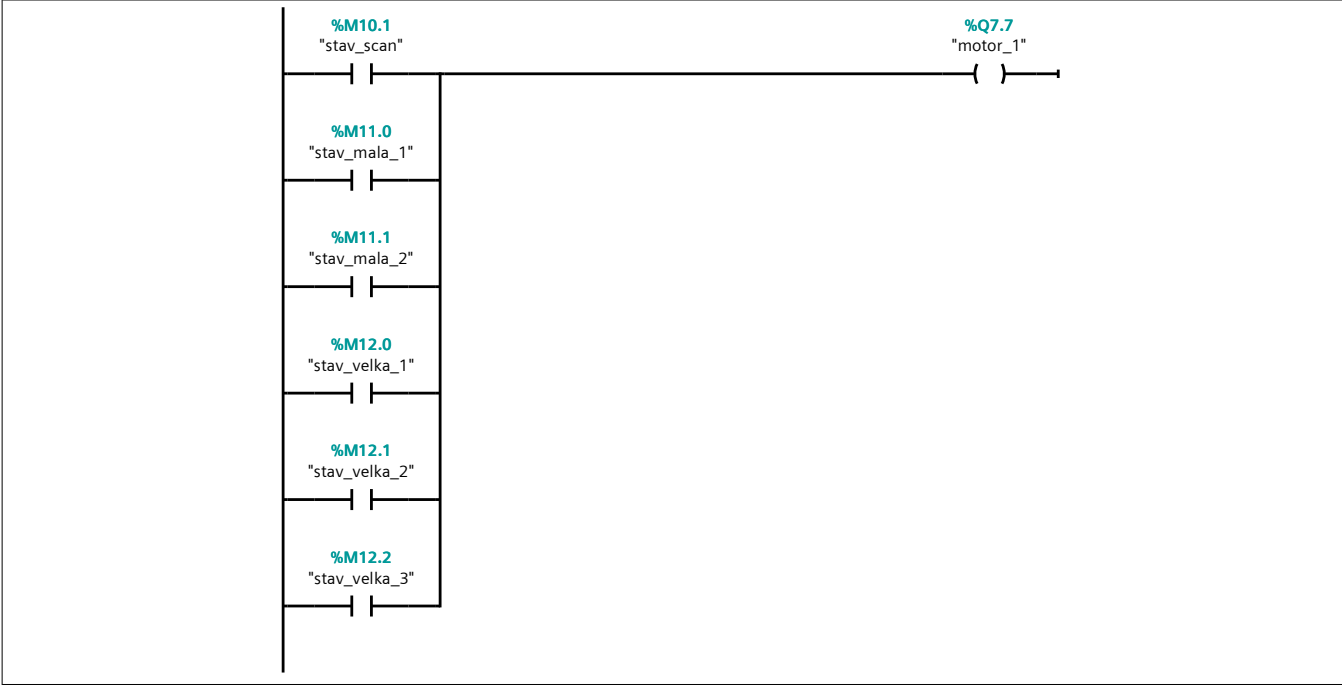
Network 20: Výstupy - Solenoid 1

```
        %M11.1                                                    %Q7.2
      "stav_mala_2"                                             "solenoid_1"
        ┤ ├                                                       ─( )─
```
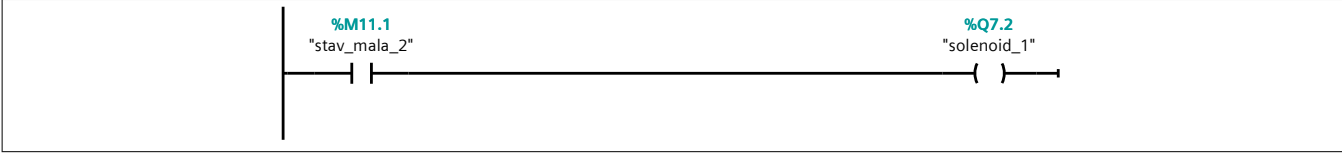
Network 21: Výstupy - Solenoid 2

```
        %M12.2                                                    %Q7.1
      "stav_velka_3"                                            "solenoid_2"
        ┤ ├                                                       ─( )─
```