Totally Integrated Automation Portal	

# Calculate Robot [FC8]

Calculate Robot Properties									
General									
Name	Calculate Robot	Number	8	Туре	FC				
Language	LAD	Numbering	Automatic						
Information									
Title		Author		Comment					
Family		Version	0.1	User-defined					
				ID					

Name	Data type	Default value	Comment	
Input				
Output				
InOut				
Temp				
Constant				
▼ Return				
Calculate Robot	Void			

# Network 1:

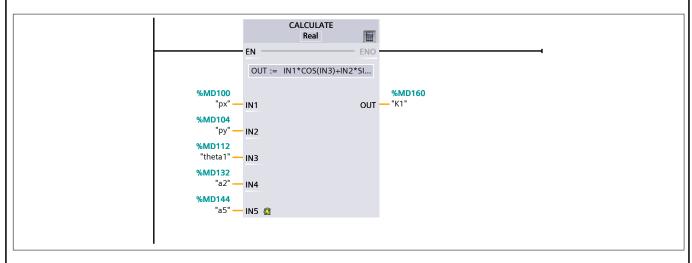
#### Network 2:

```
%MD100
                                         CALCULATE
 "px"
<
                                            Real
Real
  0.0
                                OUT := ATAN(IN2/IN1)+ASIN(I...
                     %MD100
                                                               %MD112
                         "px" -
                               - IN1
                                                        OUT
                     %MD104
                         "py" -
                               IN2
                     %MD148
                         "a6" — IN3
                     3.14159 — IN4 😃
```

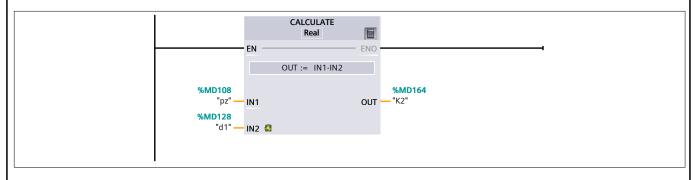
#### Network 3:

#### Totally Integrated **Automation Portal** %MD100 CALCULATE "px" Real Real OUT := ASIN(IN3/SQRT(SQR(I... %MD112 OUT — "theta1" %MD100 "px" — IN1 %MD104 "py" <u> </u> -IN2 %MD148 "a6" — IN3 1.5708 — IN4 😃

# Network 4:



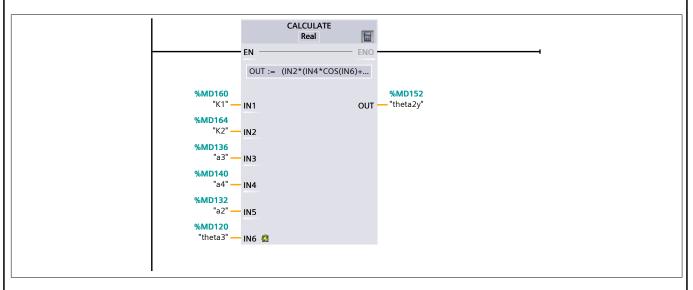
#### Network 5:



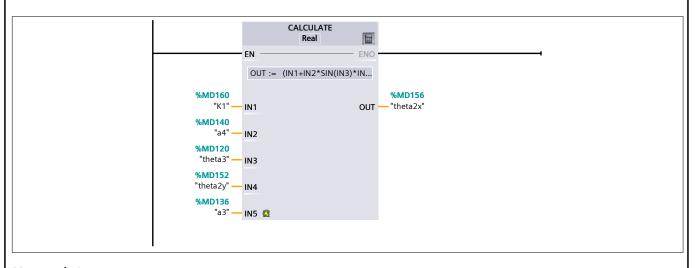
# Network 6:

#### **Totally Integrated Automation Portal** CALCULATE Real **=** EN ENO OUT := IN5-ACOS((IN1\*IN1+I... %MD120 %MD160 "K1" — IN1 OUT — "theta3" %MD164 "K2" — IN2 %MD136 "a3" — IN3 %MD140 "a4" — IN4 0.0 — IN5 2.0 — IN6 😃

#### Network 7:



#### Network 8:

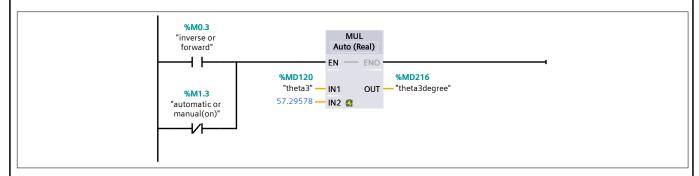


# Network 9:

#### Totally Integrated **Automation Portal** %MD156 CALCULATE "theta2x" Real ΕN ENO Real 0.0 OUT := ATAN(IN2/IN1) **%MD156** "theta2x" — **%MD116** — "theta2" - IN1 OUT %MD152 "theta2y" — IN2 🚜 Network 10: %MD156 CALCULATE "theta2x" Real EN Real 0.0 OUT := ATAN(IN2/IN1)+IN3 **%MD116** - "theta2" **%MD156** "theta2x" -- IN1 OUT %MD152 "theta2y" — IN2 3.14159 — IN3 🎎 Network 11: %MD156 "theta2x" MOVE - EN -- ENO Real 1.5708 — IN %MD116 0.0 OUT1 — "theta2" Network 12: %M0.3 "inverse or forward" MUL Real 4 F EN - ENO %MD112 %MD208

#### Network 13:

#### **Totally Integrated Automation Portal** %M0.3 MUL "inverse or forward" Auto (Real) ┨┞ %MD116 %MD212 "theta2" — IN1 OUT — "theta2degree" %M1.3 57.29578 — IN2 😃 "automatic or manual(on)" Network 14:



# Network 15:

```
ADD
Real

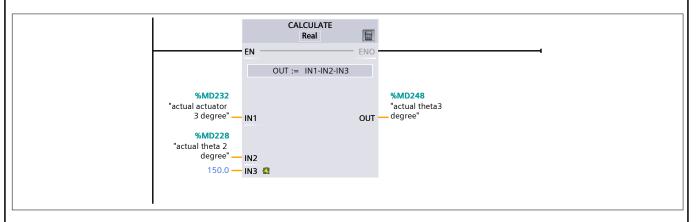
EN ENO

"MD212
"theta2degree" IN1

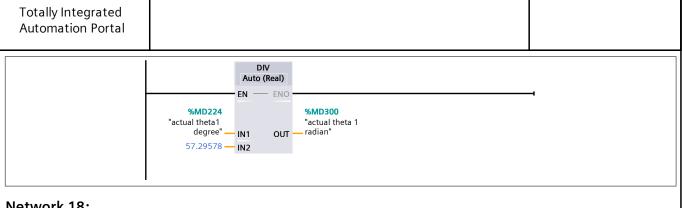
%MD216
"theta3degree" IN2

150.0 IN3
```

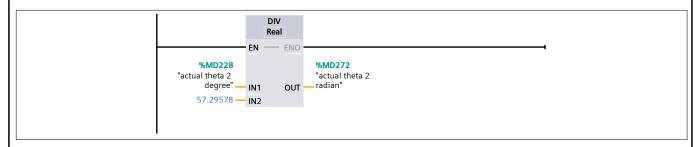
### Network 16:



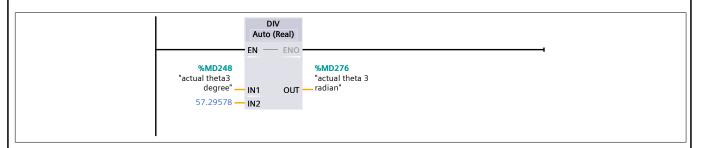
#### Network 17:



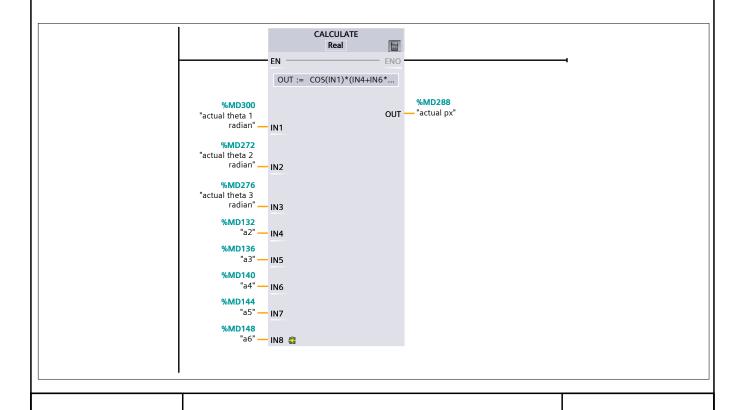
# Network 18:



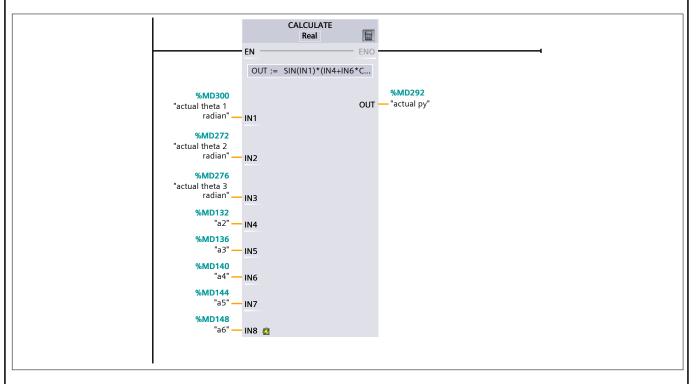
#### Network 19:



#### Network 20:



#### Network 21:



#### Network 22:

