PRECISE AUTOMATION

DOBOT

DELTA

DRV70L

DRV90L

DRS40L Series

DRS50L Series

DRS60L Series

DRS70L Series

Delta SCARA Robot DRS40L

- Dosah ramene: 400 mm
- Maximální nosnost 3 Kg
- Standardní čas cyklu 0.42 (při zatížení 1 Kg)
- Opakovatelnost ±0.01
- Hmotnost 16 Kg

Delta SCARA Robot DRS60L

- Dosah ramene: 600 mm
- Maximální nosnost 6 Kg
- Standardní čas cyklu 0.39 sec (při zatížení 1 Kg)
- Opakovatelnost ±0.015 mm
- Hmotnost 20 Kg

Delta Vertical Articulated Robot DRV70L/DRV90L

- Dosah ramene 700 a 900 mm
- Maximální nosnost 7 Kg
- Standardní čas cyklu 0.31 sec. (při zatížení 1 Kg)
- Opakovatelnost ±0.02 a ±0.03 mm

ASDA-MS
Řídící jednotka

Human Machine Interface
HMI

Handheld Teach Pendant
DTS

PAD

PC

Machine Vision System
DMV

Robot Controller
DCS

+ Extensions: up to 6 axes of control

Servo Drive ASDA-A2
Servo Motor ECMA

SCARA Robot

DRS40L

DRS60L

DELTA

Ethernet

Flexible Expansion: Expanded to eight stations maximum

DMCNET (4-axis + 4 station DI/O maximum for servo drive A2 series)

PC

Servo drive

ASDA-A2

Servo motor

ECMA

DI/DO expansion module

Lamp

Button switch

Robot controller

DCV

Expansion shaft

Encoder

RS-232/485

Mechanical Visual System

DMV 2000

Lamp Button switch

Handheld teaching pendant

DTV

Delta vertical articulated robot

DRV70L / DRV90L

Emergency Stop button

+

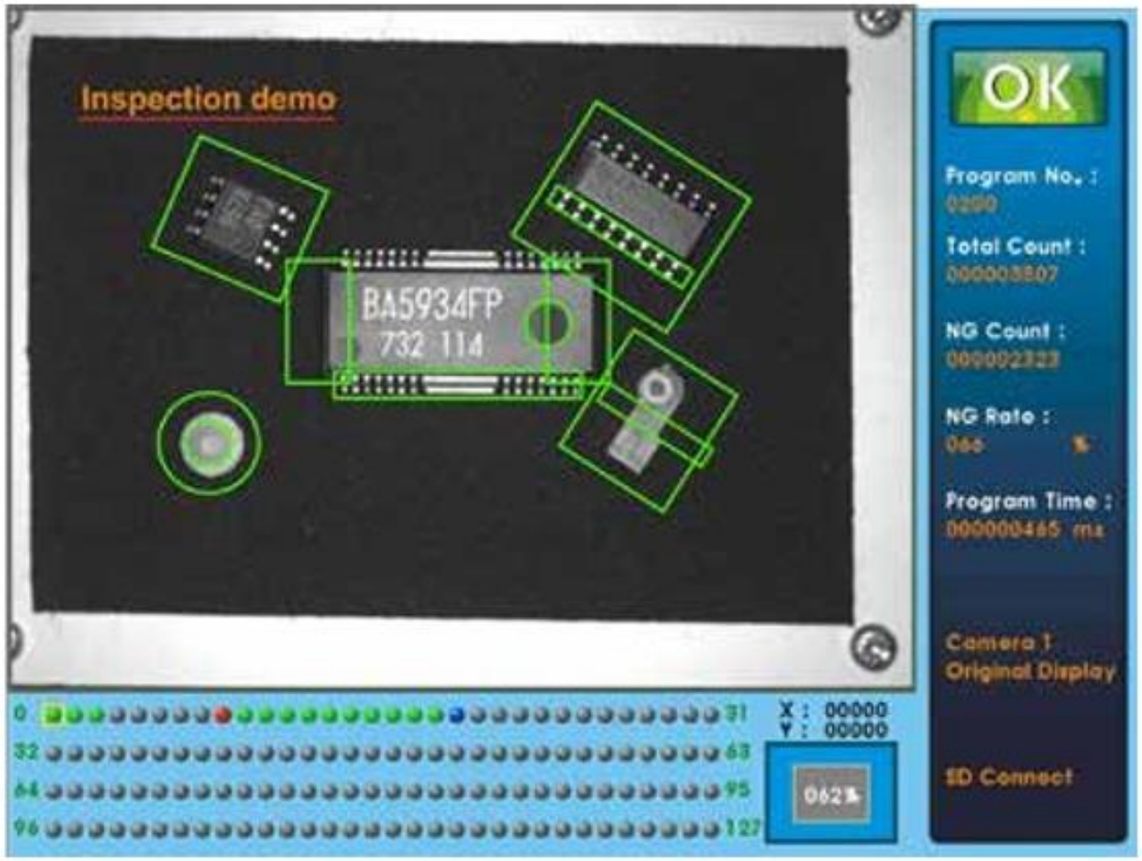
Fence

Grating

AS

DELTA

DELTA



MACHINE VISION SYSTEM

Controller and Optional Accessories

Controller	Keypad	Camera	Cable
			
DMV1000-80GXC	DMV1000-KEY	DMV-CDA80GS (Grey scale, standard) DMV-CDA30GS (Grey scale, standard)	DMV-CA45 (4.5m standard)

Lighting			
			
DMV-PS12C1 DMV-PS12C2 DMV-CA30P	DMV-BL60R	DMV-CX40W	DMV-DR6736R DMV-DR6736W DMV-DR6736D

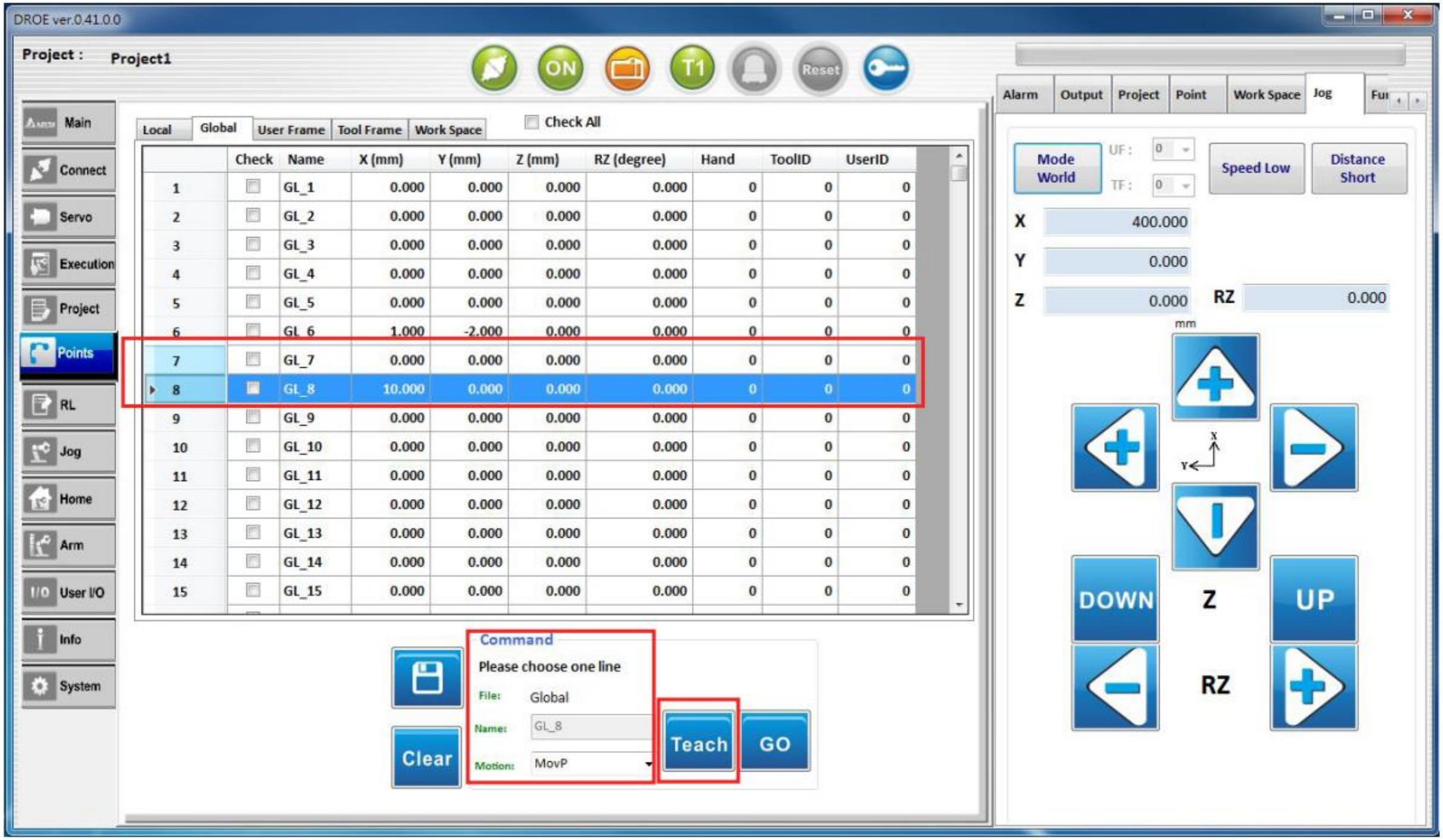
Specific Lenses for Industrial Cameras					
					
DMV-LN08M (focal length: 8mm, Mega-pixel)	DMV-LN12M (focal length: 12mm, Mega-pixel)	DMV-LN16M (focal length: 16mm, Mega-pixel)	DMV-LN25M (focal length: 25mm, Mega-pixel)	DMV-LN35M (focal length: 35mm, Mega-pixel)	DMV-LN50M (focal length: 50mm, Mega-pixel)

TEACH PENDANT

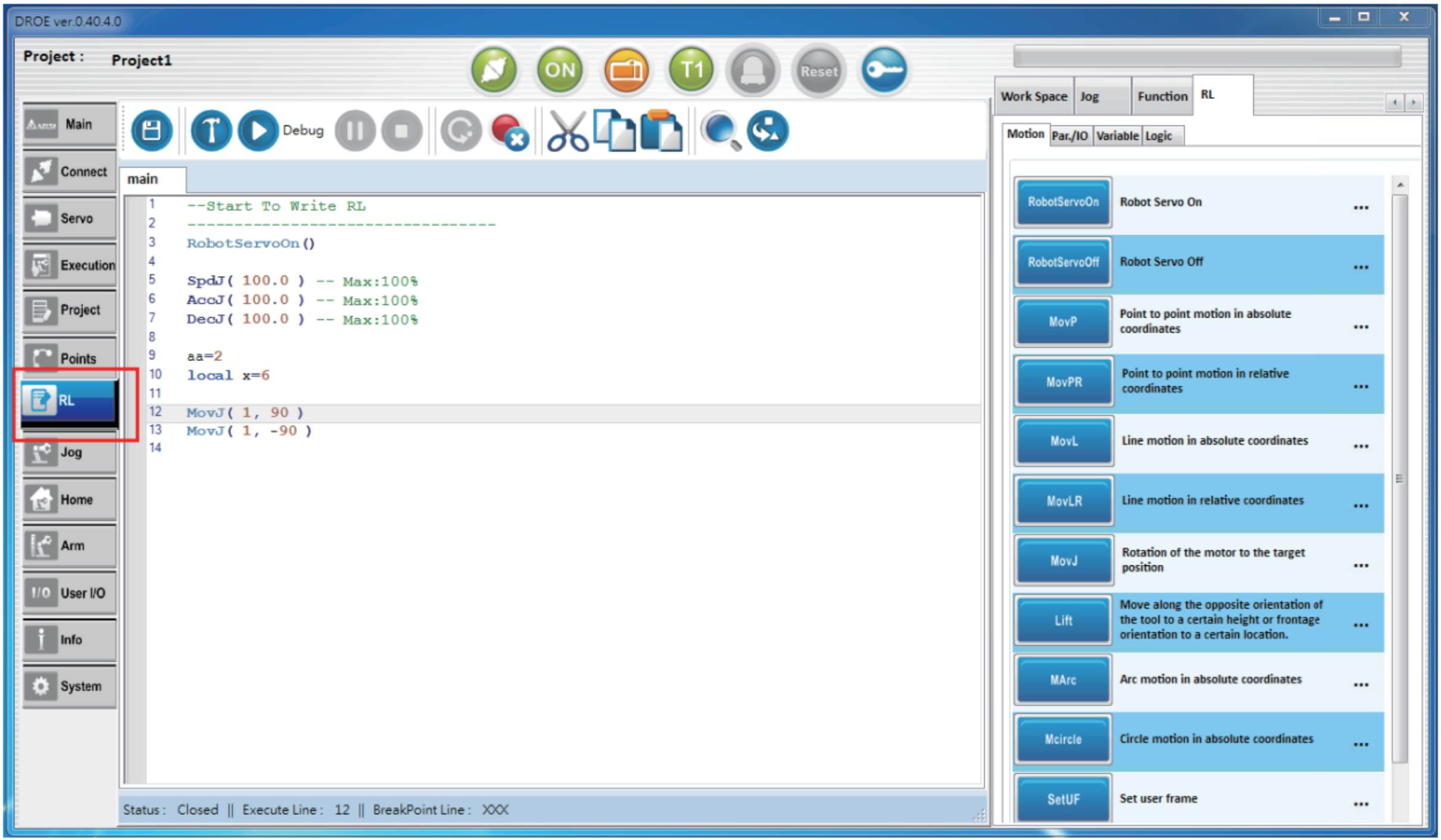
7“ display
Integrované stop-tlačítko
Kabel 5m a 10m

Programování robotů
DROE software

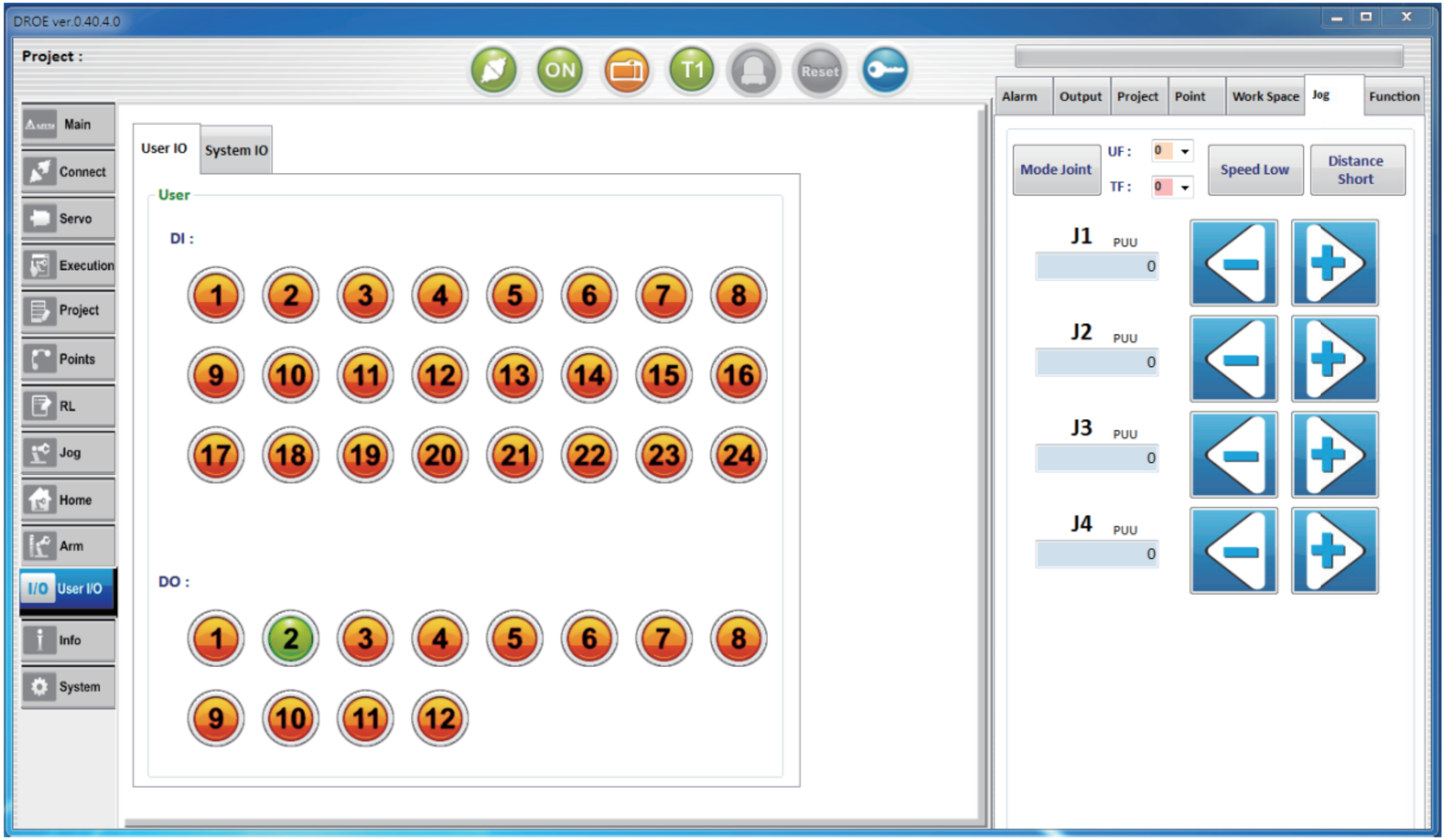
Programování robotů
DROE software



Programování robotů
DROE software



Programování robotů
DROE software



KOLABORATIVNÍ ROBOTY

PRECISE
AUTOMATION

KOLABORATIVNÍ ROBOTY

KARTÉZSKÝ

- **2 kg** užitečné zatížení
- 3 kg bez gripperu
- **1.5 m/s** max rychlost
- **229** mm Z trasa
- **350** mm Y trasa
- **500 nebo 1085 mm** X trasa
- ±**100** µm přesnost opakování

KOLABORATIVNÍ ROBOTY

KARTÉZSKÝ

Precise Servo Gripper

0-23 N síla stisku

57 mm trasa

Spring-loaded

pružina zabraňující

vypadávání dílů

PrecisePlace XYZ

bez gripperu

500mm X
300mm Y
225mm Z

1000mm X
300mm Y
225mm Z

Theta Axis Removed with End-of-Arm Facilities for Customer Tooling (ex. Pneumatic, Vacuum, Dispense)

KOLABORATIVNÍ ROBOTY

KARTÉZSKÝ

Digitální I/O

- **Na koncovém uzávěru**
  4 vstupy
  4 výstupy
- **Dalších 12 vstupů a 8 výstupů**
  s GIO na zadním krytu

Interní vzduchový rozvod od koncového uzávěru k pneumatickému gripperu.

SCARA ROBOT
PreciseFlex 3400

Kompaktní stolní robot

První kolaborativní SCARA robot na trhu

Schopný pracovat v úzkém a omezeném prostoru

SCARA ROBOT PreciseFlex 3400

- 3 kg užitečné zatížení
- 1 m/s max. rychlost
- Dosah 731 mm
- „Easy to teach“ jednoduché učení
- Snadno přemístitelný

SCARA ROBOT
PreciseFlex 3400

Linear Rail – 1 m, 1,5 m a 2 m délky

ŠESTI-OSÝ ROBOT PAVP6 a PAVS

ŠESTI-OSÝ ROBOT PAVP6

Denso VP-6242 robot s vestavěnou řídící jednotkou PreciseAutomation

- 2 kg užitečné zatížení
- 470 mm radius dosahu
- 800 mm/s max. rychlost

ŠESTI-OSÝ ROBOT
PAVS serie

Denso VS-G robot (6556 a 6577)
s externím řídícím boxem
PreciseAutomation

- **4-5 kg užitečné zatížení**
- **650 mm radius PAVS 650**
- **650 mm radius PAVS 850**
- **750 mm/s max. rychlost**

KOLABORATIVNÍ ROBOTY

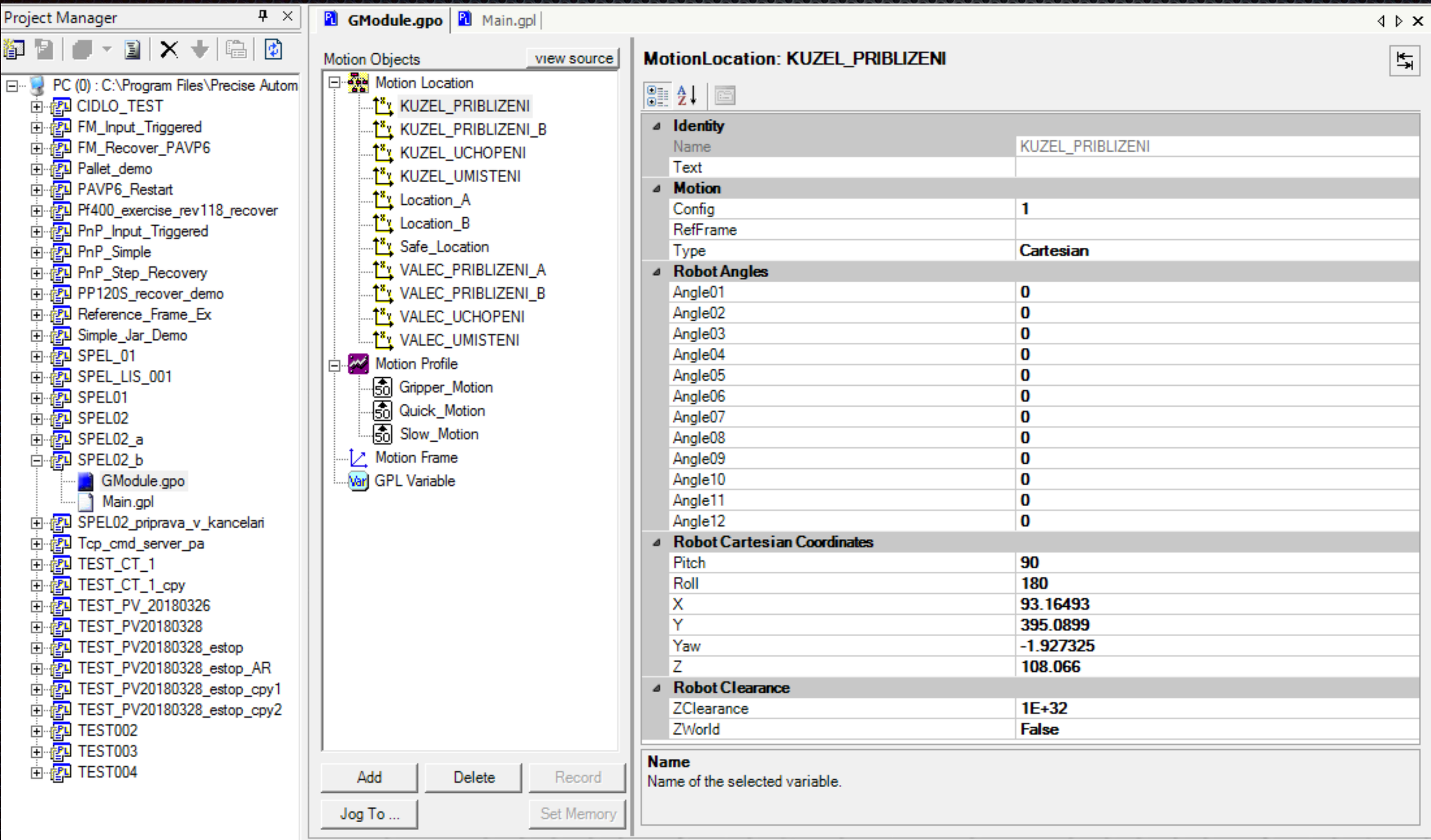
- **Programování**

  - Guidance Motion

  - Guidance Development Enviroment

  - TCP/IP Command Server

PROGRAMOVÁNÍ ROBOTA



PROGRAMOVÁNÍ ROBOTA

GModule.gpo | Main.gpl

GPL | PC | MAIN

```
1   'Created: 3/26/2018 6:46:24 PM
2   Module GPL
3
4       Dim SIGNAL_A As Integer = 20001
5       Dim SIGNAL_B As Integer = 20002
6       Dim SIGNAL_C As Integer = 20003
7
8       Public Sub MAIN
9           Dim opakovani As Integer
10          Dim signal_state As Boolean
11          Dim err As New Exception
12          Dim Caught As Boolean = True
13          Dim state As String = "01"
14          Dim ukon As Integer
15
16  '       zacatek:
17
18          Controller.PowerEnabled = 1
19          Robot.Attached = 1
20          Robot.Home()
21
22          Move.Loc(Safe_Location, Slow_Motion)
23
24          opakovani = 1
25          Signal.DIO(800015) = False
26
27          While (Not Signal.DIO(810002))
28              Controller.SleepTick(1)
29          End While
30          Signal.DIO(800015) = True
31
32          Do
33              Try
```

GPL Object Browser

- Controller
- Exception
- File
- Function
- IPEndPoint
- Latch
- Location
- Math
- Modbus
- Move
  - Approach(location_l,profile_l)
  - Arc(location_1, location_2, profile_1)
  - Circle(location_1, location_2, profile_
  - Delay(seconds)
  - Extra(axis_position)
  - ForceOverlap(mode,criterion)
  - Loc(location_l,profile_l)
  - OneAxis(axis, position, rel, profile)
  - Rel(location, profile)
  - SetJogCommand(jog_mode,jog_axis,
  - SetRealTimeMod(changes_array)
  - SetSpeeds (speed_array, profile_1)
  - SetTorques(torques_array)
  - StartJogMode()
  - StartRealTimeMod(coordinates, char
  - StartSpeedDAC(scale_factor, dac_o
  - StartTorqueCntrl(motor_mask, adc_m
  - StartVelocityCntrl (mode, adc_mask,
  - StopSpecialModes
  - Trigger (mode, trigger_pt, channel)
  - WaitForEOM

Robot Control

Approach(location_l,profile_l)

Member Of: Move — Click for help.

Description: Moves to the clearance position for a specified Location.

REFERENCE

EUROIMMUN AG
Publikováno 29. 7. 2016

https://youtu.be/SmOySrNQAXk

TTP Labtech
Publikováno 19. 9. 2016

https://youtu.be/fsG3-Y-xTwE

Biosero
Publikováno 15. 3. 2018

https://youtu.be/ACaPU2dUUbA

CyBiosWorld
Publikováno 1. 3. 2016

https://youtu.be/luTriGj0lrI

HighRes Biosolutions

https://vimeo.com/highresbio/colabflex

https://news.sky.com/story/uk-lab-makes-dna-for-synthetic-biology-10231939

http://money.cnn.com/video/technology/2015/04/17/bayer-technology-automation.cnnmoney/index.html

DOBOT

DOBOT
Share Creating Pleasure

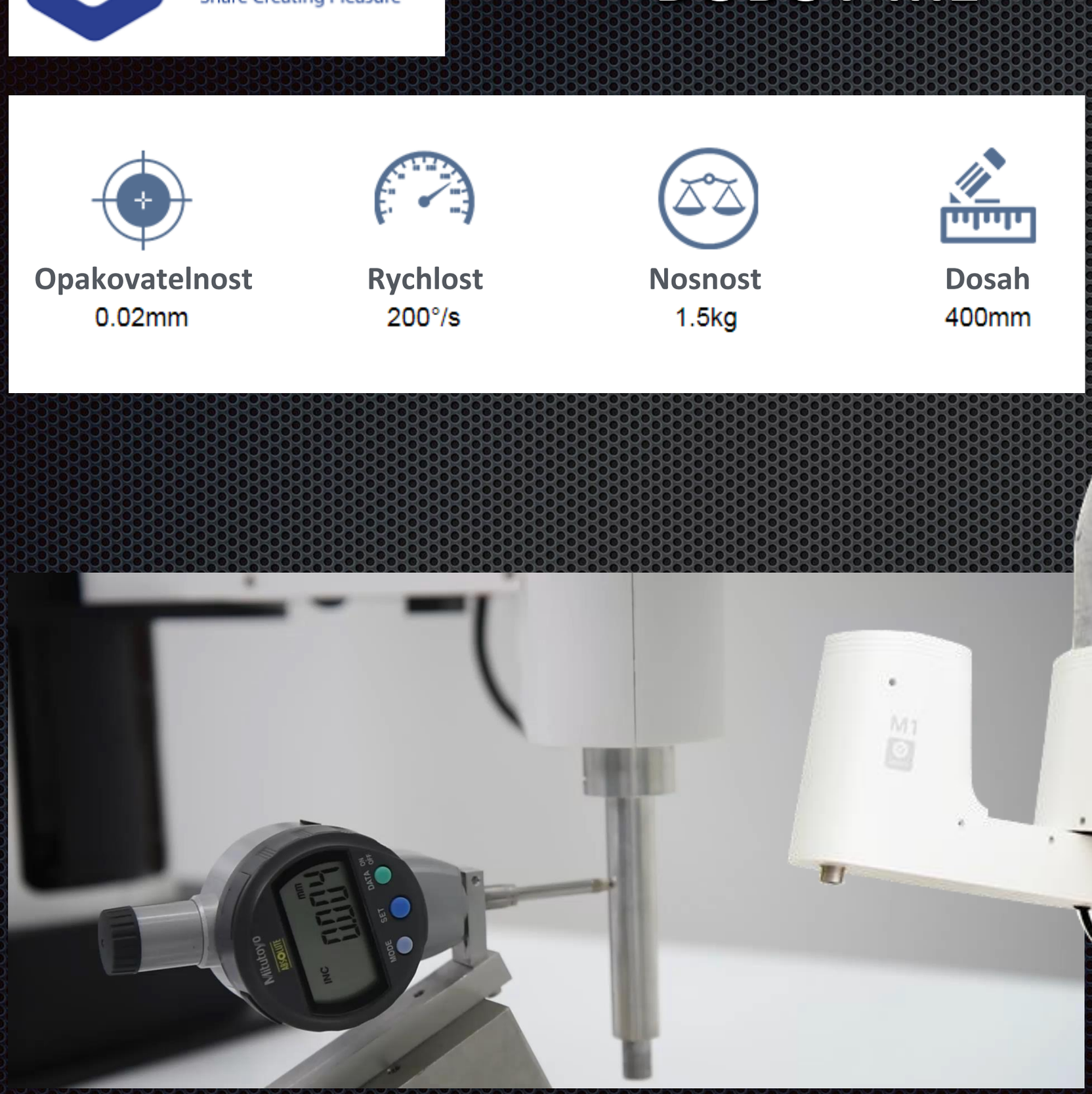
DOBOT-M1

Opakovatelnost
0.02mm

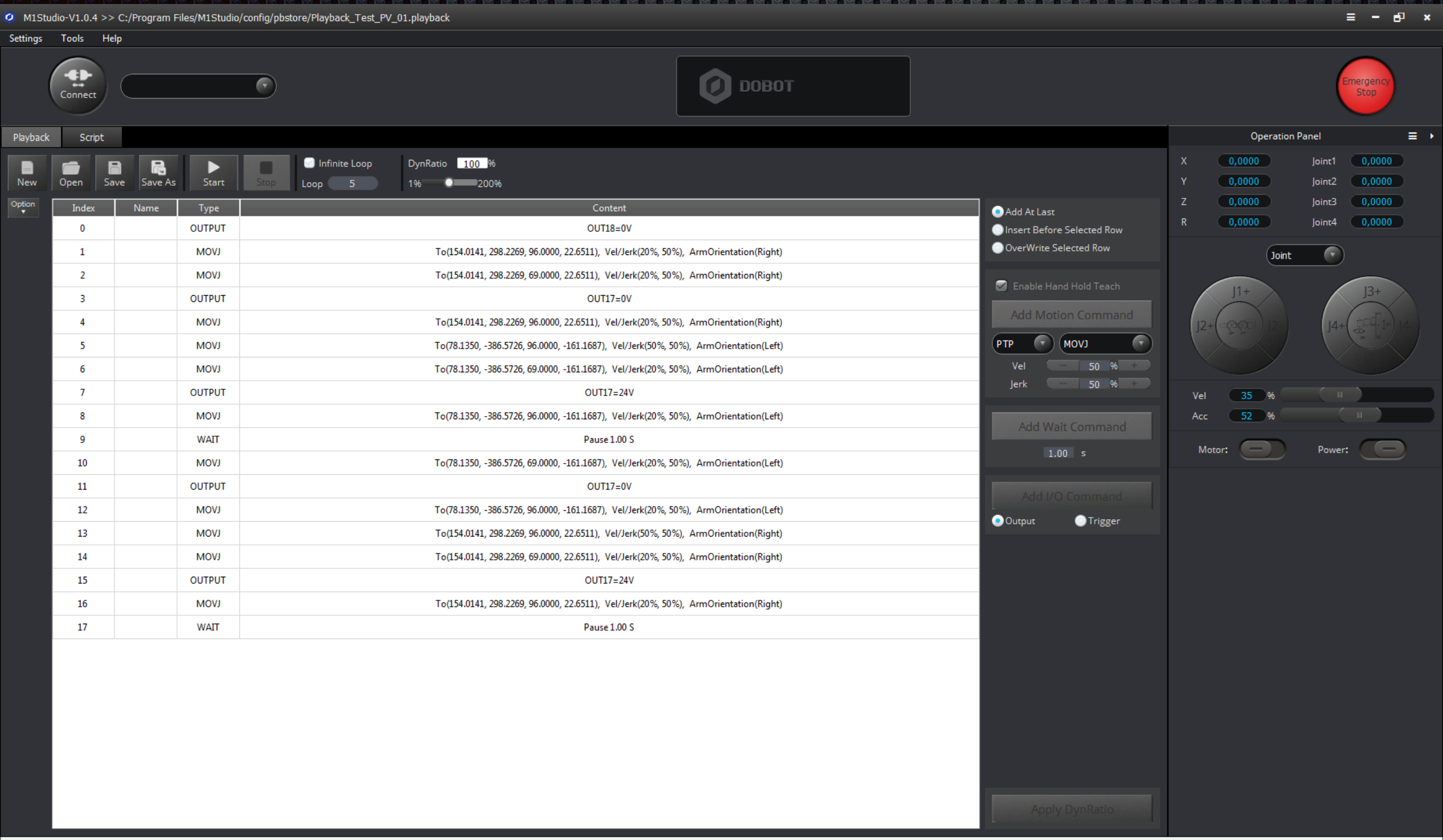
Rychlost
200°/s

Nosnost
1.5kg

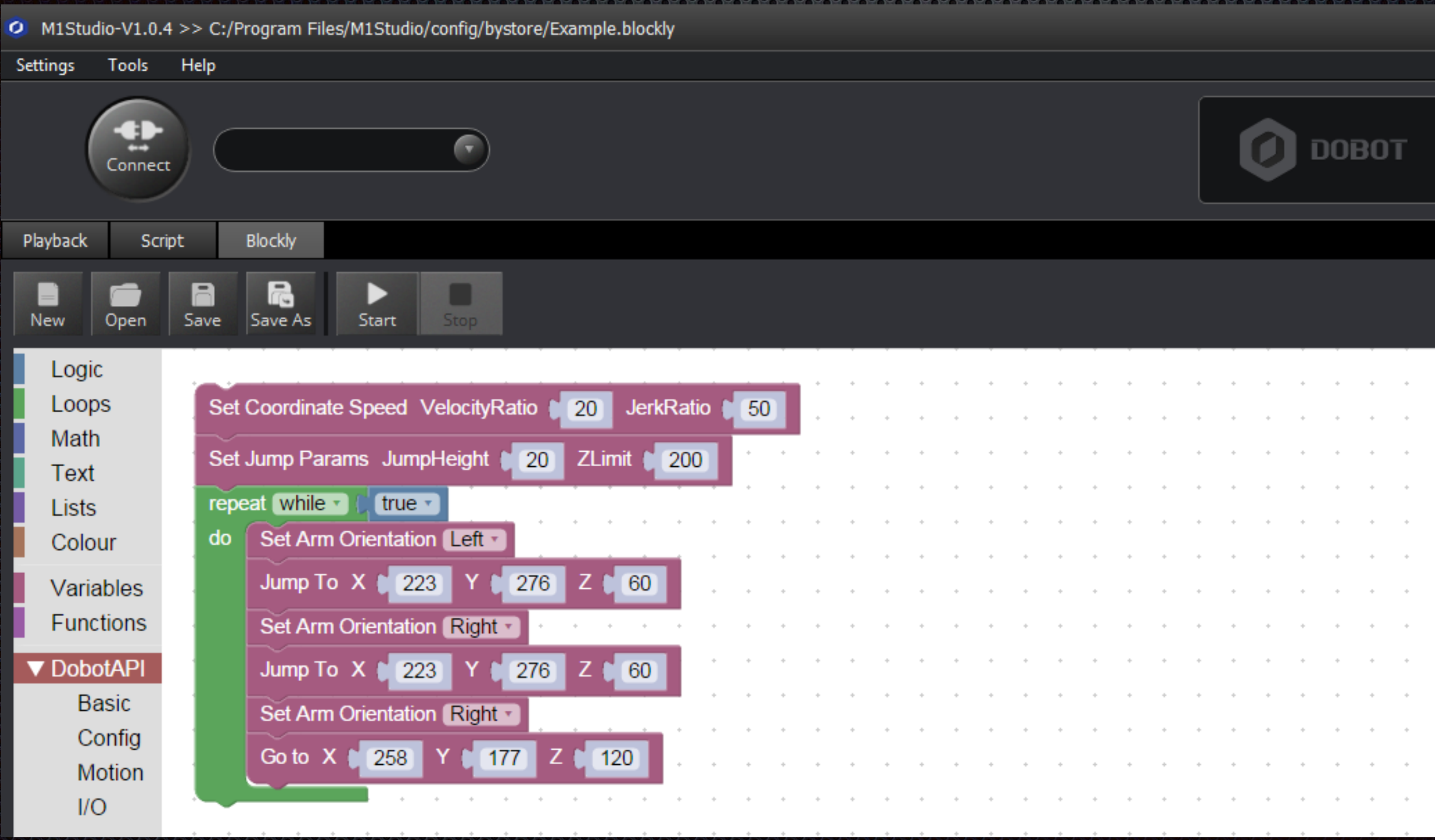
Dosah
400mm



DOBOT-M1


M1Studio-V1.0.4 >> C:/Program Files/M1Studio/config/pbstore/Playback_Test_PV_01.playback
Settings
Tools
Help
Connect
DOBOT
Emergency Stop
Playback
Script
New
Open
Save
Save As
Start
Stop
Infinite Loop
Loop 5
DynRatio 100 %
1% 200%
Option
Index Name Type Content
0 OUTPUT OUT18=0V
1 MOVJ To(154.0141, 298.2269, 96.0000, 22.6511), Vel/Jerk(20%, 50%), ArmOrientation(Right)
2 MOVJ To(154.0141, 298.2269, 69.0000, 22.6511), Vel/Jerk(20%, 50%), ArmOrientation(Right)
3 OUTPUT OUT17=0V
4 MOVJ To(154.0141, 298.2269, 96.0000, 22.6511), Vel/Jerk(20%, 50%), ArmOrientation(Right)
5 MOVJ To(78.1350, -386.5726, 96.0000, -161.1687), Vel/Jerk(50%, 50%), ArmOrientation(Left)
6 MOVJ To(78.1350, -386.5726, 69.0000, -161.1687), Vel/Jerk(20%, 50%), ArmOrientation(Left)
7 OUTPUT OUT17=24V
8 MOVJ To(78.1350, -386.5726, 96.0000, -161.1687), Vel/Jerk(20%, 50%), ArmOrientation(Left)
9 WAIT Pause 1.00 S
10 MOVJ To(78.1350, -386.5726, 69.0000, -161.1687), Vel/Jerk(20%, 50%), ArmOrientation(Left)
11 OUTPUT OUT17=0V
12 MOVJ To(78.1350, -386.5726, 96.0000, -161.1687), Vel/Jerk(20%, 50%), ArmOrientation(Left)
13 MOVJ To(154.0141, 298.2269, 96.0000, 22.6511), Vel/Jerk(50%, 50%), ArmOrientation(Right)
14 MOVJ To(154.0141, 298.2269, 69.0000, 22.6511), Vel/Jerk(20%, 50%), ArmOrientation(Right)
15 OUTPUT OUT17=24V
16 MOVJ To(154.0141, 298.2269, 96.0000, 22.6511), Vel/Jerk(20%, 50%), ArmOrientation(Right)
17 WAIT Pause 1.00 S
Add At Last
Insert Before Selected Row
OverWrite Selected Row
Enable Hand Hold Teach
Add Motion Command
PTP
MOVJ
Vel 50 %
Jerk 50 %
Add Wait Command
1.00 s
Add I/O Command
Output
Trigger
Apply DynRatio
Operation Panel
X 0,0000
Y 0,0000
Z 0,0000
R 0,0000
Joint1 0,0000
Joint2 0,0000
Joint3 0,0000
Joint4 0,0000
Joint
J1+
J2+
J3+
J4+
Vel 35 %
Acc 52 %
Motor:
Power:

DOBOT-M1


M1Studio-V1.0.4 >> C:/Program Files/M1Studio/config/bystore/Example.blockly
Settings
Tools
Help
Connect
DOBOT
Playback
Script
Blockly
New
Open
Save
Save As
Start
Stop
Logic
Loops
Math
Text
Lists
Colour
Variables
Functions
DobotAPI
Basic
Config
Motion
I/O
Set Coordinate Speed VelocityRatio 20 JerkRatio 50
Set Jump Params JumpHeight 20 ZLimit 200
repeat while true
do
Set Arm Orientation Left
Jump To X 223 Y 276 Z 60
Set Arm Orientation Right
Jump To X 223 Y 276 Z 60
Set Arm Orientation Right
Go to X 258 Y 177 Z 120

DOBOT-M1

New Open Save Save As Close Close All Add Pallet Start Stop

Search:

TEST_PV_PETvicka_barvy1

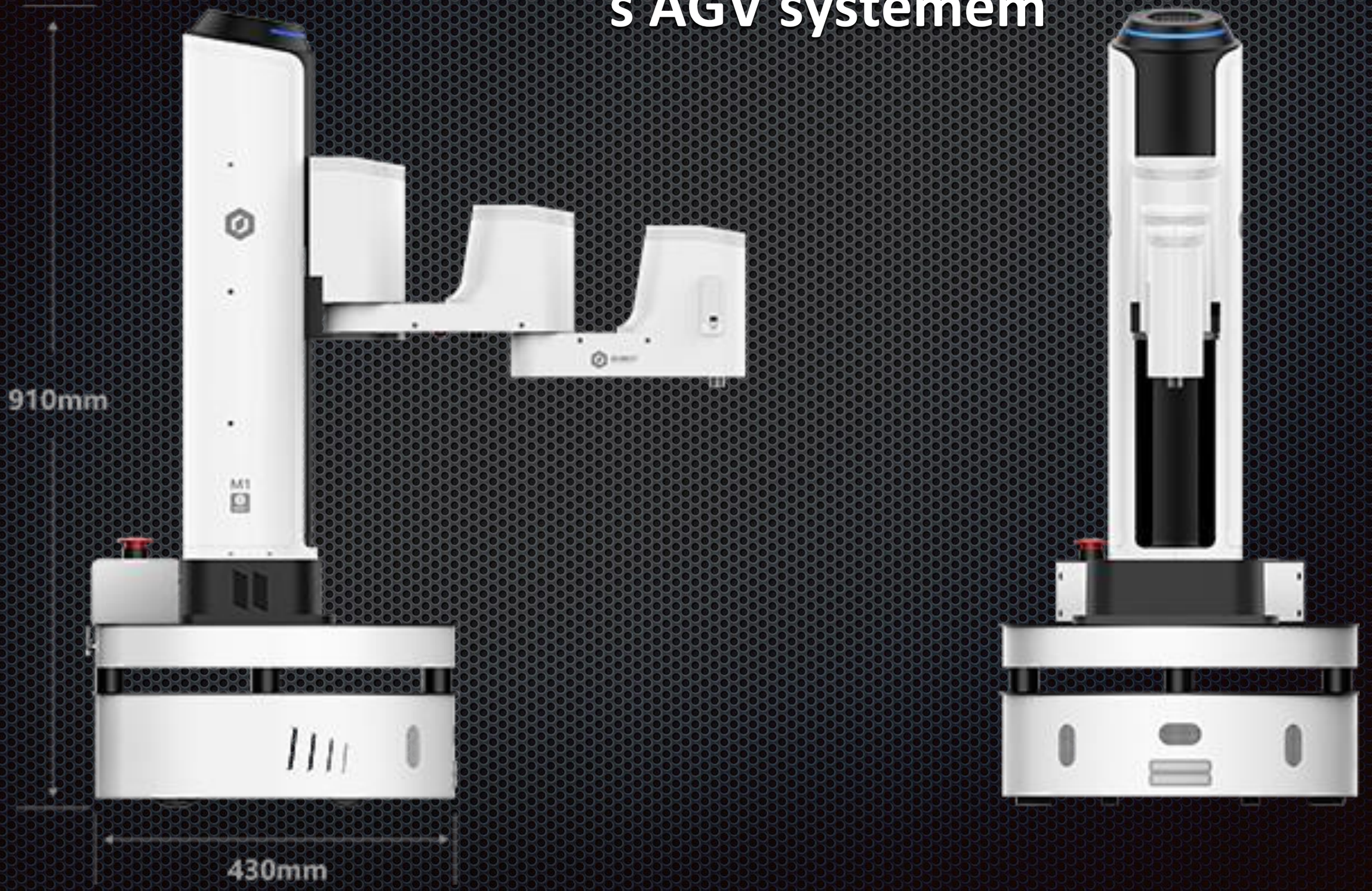
- Other
- QueueCmd
  - dType.GetQueuedCmdCurrentInde
  - dType.SetQueuedCmdStartExec(ap
  - dType.SetQueuedCmdStopExec(ap
  - dType.SetQueuedCmdForceStopEx
  - dType.SetQueuedCmdClear(api)
- Pose
  - dType.GetPose(api)
- Alarms
  - dType.GetAlarmsState(api, maxLe
  - dType.ClearAllAlarmsState(api)
- ArmOrientation
  - dType.SetArmOrientation(api, arm
  - dType.GetArmOrientation(api)
- JOG
  - dType.SetJOGCommonParams(api
  - dType.GetJOGCommonParams(api
  - dType.SetJOGCmd(api, isJoint, cmd
- PTP
  - dType.SetPTPJumpParams(api, jum
  - dType.GetPTPJumpParams(api)
  - dType.SetPTPCommonParams(api
  - dType.GetPTPCommonParams(api
  - dType.SetPTPCmd(api, ptpMode, x
- ARC
- WAIT
- TRIG
- IO

```
25      while not (dType.GetIODI(api, 19)[0]) == 0: # Cekani na stisk tlacitka
26          pass
27      if (dType.GetIODI(api, 20)[0]) == 1:
28          break
29      dType.SetArmOrientation(api,  1, 1)
30      dType.SetPTPCmd(api, 0, 79.55, 189, 27, 331, 1)
31      close_grip()
32      dType.SetArmOrientation(api,  1, 1)
33      dType.SetPTPCmd(api, 0, 162, 314, 89, 331, 1)
34      print(dType.GetIODI(api, 17)[0])
35      print(dType.GetIODI(api, 18)[0])
36      dType.SetWAITCmdEx(api, 1000, 1)
37      while (dType.GetIODI(api, 18)[0]) == 1 and (dType.GetIODI(api, 17)[0]) == 1:
38          pass
39      print(dType.GetIODI(api, 17)[0])
40      print(dType.GetIODI(api, 18)[0])
41      if (dType.GetIODI(api, 18)[0]) == 1 and (dType.GetIODI(api, 17)[0]) == 0:
42          dType.SetArmOrientation(api,  0, 1)
43          dType.SetPTPCmd(api, 0, x1, y, z, r, 1)
44          open_grip()
45          x1=x1-35
46      elif (dType.GetIODI(api, 18)[0]) == 0 and (dType.GetIODI(api, 17)[0]) == 1:
47          dType.SetArmOrientation(api,  0, 1)
48          dType.SetPTPCmd(api, 0, x2, y2, z, r, 1)
49          open_grip()
50          x2=x2-35
51      elif (dType.GetIODI(api, 18)[0]) == 0 and (dType.GetIODI(api, 17)[0]) == 0:
52          dType.SetArmOrientation(api,  0, 1)
53          dType.SetPTPCmd(api, 0, x3, y3, z, r, 1)
54          open_grip()
55          x3=x3-35
```

api : The object of Dobot Library.
cirPoint : List of transition positon
cirPoint[0] : Value of x-axis
cirPoint[1] : Value of y-axis
cirPoint[2] : Value of z-axis
cirPoint[3] : Value of r-axis
toPoint : List of target postion
toPoint[0] : Value of x-axis

DOBOT
Share Creating Pleasure

DOBOT
Připravuje roboty
s AGV systémem



DOBOT
Share Creating Pleasure

DOBOT

DESIGN AWARD 2018

reddot award 2018 winner

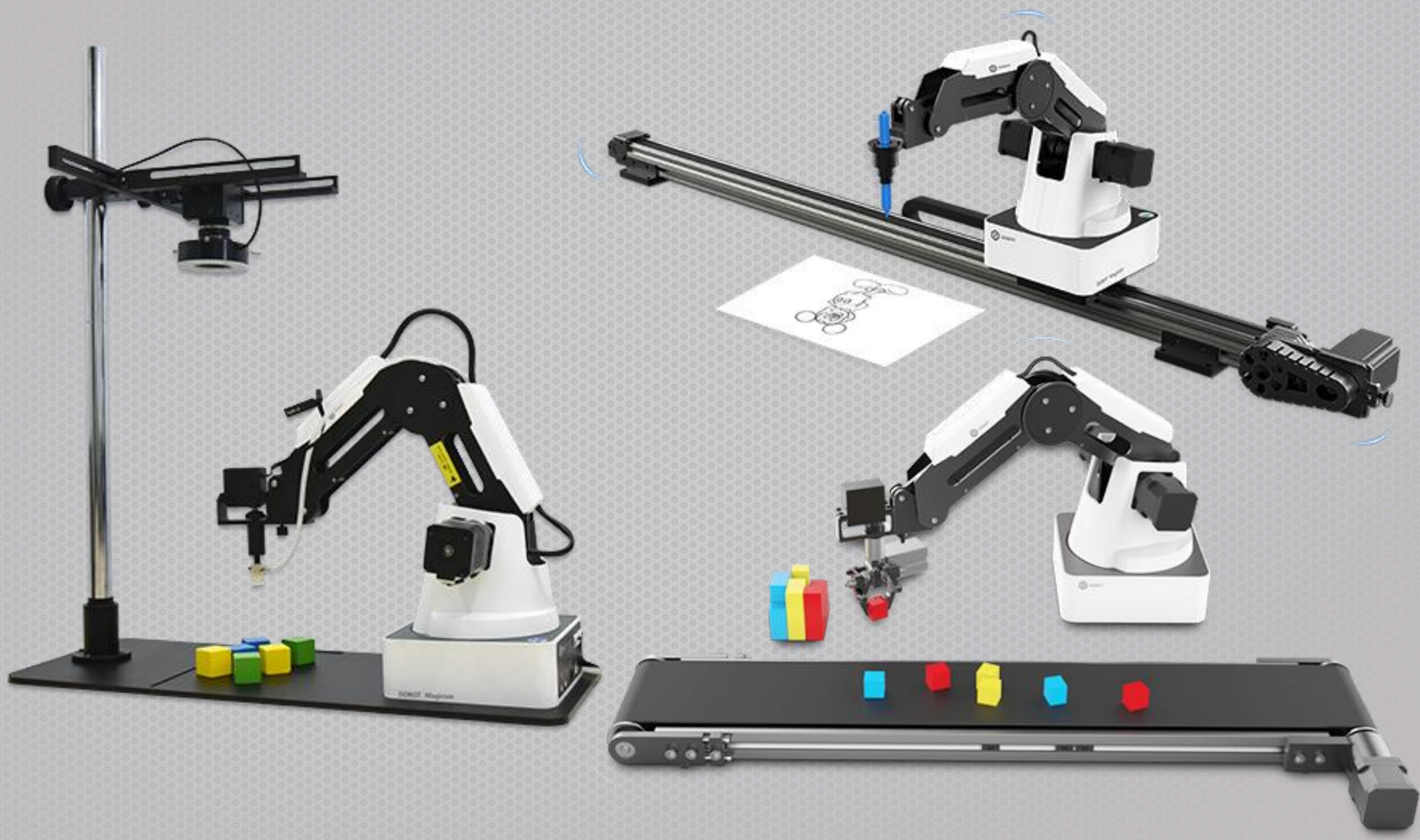
红星奖 Red Star Design Award

DOBOT Magician

All-in-One Robot for Education

DOBOT
Share Creating Pleasure

DOBOT



ÚCHOPNÉ HLAVICE PRO ROBOTY

Pneumatické

Paralelní pohyb



2 čelisti, 3 čelisti, 4 čelisti

Úhlový pohyb



Standardní, 100°, samosvorné

Vakuové

Přísavky



Samostatné, s držákem, bezkontaktní

S vestavěným ejektorem

Servo


2 prsty, 3 prsty

Magnetické