

ThermoFisher CataLyst-5



Manufacturer: ThermoFisher
 Model Number: CRS-CataLyst-5
 Web Address: www.thermofisher.com

CataLyst plate movers provide smooth, fast and reliable motion. The arm is ideal for in-line instrument transfers in either portrait or landscape rotation. The CataLyst-5 articulated wrist joint adds the ability to re-orient plates with 360-degrees of rotation. The CataLyst-5 also offers a linear track option for tending multiple instruments.

Robotic Arm: Commands

▶ **About()** - Retrieves the robotic arm information.

▶ **GripperClose(servoForce)** - Closes the gripper fingers.

servoForce	Float	The percentage of the force applied when using a servo gripper. Range of values: 1 to 100.
------------	-------	--

▶ **GripperOpen(servoForce)** - Opens the gripper fingers.

servoForce	Float	The percentage of the force applied when using a servo gripper. Range of values: 1 to 100.
------------	-------	--

▶ **GripperFinish()** - Waits until the gripper fingers have finished moving.

▶ **GripperStop()** - Stops the gripper finger motion.

▶ **GetGripperDistance()** - Retrieves the servo gripper finger distance.

▶ **SetGripperDistance(distance)** - Sets the servo gripper finger opening distance.

distance	Float	Specifies in configured linear units the gripper fingers opening distance, ranging from 0 (fingers closed) to the maximum distance the fingers can open.
----------	-------	--

▶ **Home()** - Homes all the axes in the numerical order, starting with axis one.

▶ **Ready()** - Moves the robotic arm to the ready position.

▶ **SetBlendMotion(enabled)** - Sets the motion blending mode.

enabled	Boolean	Indicates the motion blending mode. True : enables the motion blending. False: disables the motion blending.
---------	---------	--

▶ **SetLinearBlendRadius(radius)** - Sets the radius for blending segments of straight-line motion.

radius	Float	Specifies the radius for blending segments (default is 50.8mm).
--------	-------	---

▶ **SetRotationalBlendRadius(radius)** - Sets the radius for blending between arcs of joint-interpolated motion.

radius	Float	Specifies the radius for blending between arcs (default is 20.0 degrees).
--------	-------	---

▶ **SetMaxAgeInQueue(time)** - Sets the maximum time the first motion command waits in the motion queue before the motion engine starts planning how to blend it with the other command in the queue.

time	Integer	Specifies the maximum time in milliseconds. Increasing this value may give smoother, better blended motion.
------	---------	---

▶ **Move(location)** - Moves the tool center point (TCP) to the specified location using joint-interpolated motion. This command is asynchronous, i.e. it returns as soon as the command is sent to the robotic arm.

location	String	Target location for the move.
----------	--------	-------------------------------

▶ **MoveStraight(location)** - Moves the tool center point (TCP) to the specified location using straight-line motion. This command is asynchronous, i.e. it returns as soon as the command is sent to the robotic arm.

location	String	Target location for the move.
----------	--------	-------------------------------

▶ **JogWorld(axis, distance)** - Moves the tool center point (TCP) along or around the specified axis in the world coordinate system using joint-interpolated motion. This command is asynchronous, i.e. it returns as soon as the command is sent to the robotic arm.

axis	Integer	Specifies the axis for the move. 1 - along X axis, 2 - along Y axis, 3 - along Z axis, 4 - around X axis, 5 - around Y axis, 6 - around Z axis. Range of values: 1 to 6.
------	---------	--

distance	Float	Distance of motion along the axis (in linear units) or around the axis (in degrees).
----------	-------	--

▶ **JogWorldStraight(axis, distance)** - Moves the tool center point (TCP) along or around the specified axis in the world coordinate system using straight-line motion. This command is asynchronous, i.e. it returns as soon as the command is sent to the robotic arm.

axis	Integer	Specifies the axis for the move. 1 - along X axis, 2 - along Y axis, 3 - along Z axis, 4 - around X axis, 5 - around Y axis, 6 - around Z axis. Range of values: 1 to 6.
------	---------	--

distance	Float	Distance of motion along the axis (in linear units) or around the axis (in degrees).
----------	-------	--

▶ **Joint(joint, distance)** - Moves the specified joint by the specified number of units.

joint	Integer	Specifies the joint for the move. Range of values: 1 to 8.
distance	Float	Extent of motion along the joint (in linear units) or around the joint (in degrees).

▶ **Limp()** - Disengages the servro control of all motors.

▶ **NoLimp()** - Re-engages the servro control of all motors.

▶ **Finish()** - Waits for the arm to finish moving.

▶ **SetSpeed(speed)** - Set the robotic arm speed as percentage.

speed	Integer	Percentage value for the arm speed. Range of values: 1 to 100.
-------	---------	--

▶ **IsHomed()** - Verifies if the robotic arm is homed.

▶ **IsPowered()** - Verifies if the robot is powered.

▶ **Output(outputNumber, outputValue)** - Turns on the specified output on the CRS robotic PLC controller.

outputNumber	Integer	Specifies the PCL output number. Range of values: 1 to 16.
--------------	---------	--

outputValue	Boolean	Specifies the ouput boolean value.
-------------	---------	------------------------------------

▶ **Input(inputNumber)** - Reads the specified input from the CRS PLC controller.

inputNumber	Integer	Specifies the PCL input number. Range of values: 1 to 16.
-------------	---------	---

▶ **OpenFile(filePath)** - Opens the specified V3 file.

filePath	String	Specifies the full path and name of the V3 file.
----------	--------	--

▶ **CloseFile()** - Closes the currently open V3 file.

▶ **Rewind()** - Moves the location or variable access pointer to the beginning of the V3 file.

▶ **GetNextName()** - Retrieves the name of the location or variable at the current pointer position in the V3 file.

▶ **MoveLinear(Path)** - Moves the robot arm between the specified points, in a linear motion (no blending of movements).

Path	String	Set of points to use.
------	--------	-----------------------

▶ **MoveCircular(Path)** - Moves the robot arm between the specified points, in a circular motion (using blending).

Path	String	Set of points to use.
------	--------	-----------------------

▶ **MoveAbsolute(x, y, z, rz)** - Moves the robot arm to an absolute location on the workspace.

x	Float	The absolute x-coordinate
---	-------	---------------------------

y	Float	The absolute y-coordinate
---	-------	---------------------------

z	Float	The absolute z-coordinate
---	-------	---------------------------

rz	Float	The absolute angle along the z-axis
▶ MoveRelative(x, y, z, rz) - Moves the robot arm relative to the current location.		
x	Float	The relative x-coordinate
y	Float	The relative y-coordinate
z	Float	The relative z-coordinate
rz	Float	The relative angle along the z-axis

▶ **GetPoint()** - Returns the current position of the arm in cartesian coordinates.

▶ **GetJoint()** - Returns the current position of the arm in joint coordinates.

▶ **GetError()** - Retrieves the latest asynchronous error from the C500C controller.

▶ **Abort()** - Halts the robot motion and signals the controlling process.

▶ **ClearAbort()** - Clears the errors on the controller enabling the controlling process to issue motion commands.

▶ **ClearError()** - Clears persistent error bits on the C500C controller, including runaways, collisions, overspeeds, encoder faults to re-engage the arm.

Robotic Arm: Errors

🔥 **Error(description)** - Error occurred during command execution.

description	String	Error description.
-------------	--------	--------------------

ReTiSoft Inc.
 366 Revus Avenue, Unit 21
 Mississauga, Ontario, Canada, L5G-4S5
 Main: 647-724-2398 Europe: 33-9-7518-0225
 Web: www.retisoft.ca Email: prodziew@retisoft.ca