Communication Protocol

Command	Matlab Message	Rapid Message when Receives the message
Vacuum Pump	'vacuumPumpOn' 'vacuumPumpOff'	'Vacuum pump on' 'Vacuum pump off'
Vacuum Solenoid	'vacuumSolenoidOn' 'vacuumSolenoidOff'	'Vacuum solenoid on' 'Vacuum solenoid off'
Conveyor Run	'conveyorRunOn' 'conveyorRunOff'	'Conveyor enabled' 'Conveyor disabled'
Conveyor Reverse	'conveyorReverseOn' 'conveyorReverseOff'	'Conveyor reverse on' 'Conveyor reverse off'
Joint Angles	'movejas %.3f %.3f %.3f %.3f %.3f %.3f %s', q1,q2,q3,q4,q5,q6,speed	
Move to position rel Table	'moveert %.3f %.3f %.3f %.3f %.3f %.3f %s', eex,eey,eez,roll,pitch,yaw,speed	
Move to position rel Conveyor	'moveerc %.3f %.3f %.3f %.3f %.3f %.3f %s', eex,eey,eez,roll,pitch,yaw,speed	
Reorient end effector	'moveree %.3f %.3f %.3f %s', roll,pitch,yaw,speed	
Resume	'resume'	
Pause	'pause'	
Cancel	'cancel'	
Shutdown	'shutdown'	
Jog ROLL+ (Reorient End Effector)	'jogROLLposSTART %s',j_Speed 'jogROLLposEND %s',j_Speed	
Jog ROLL- (Reorient End effector)	'jogROLLnegSTART %s',j_Speed	

	'jogROLLnegEND %s',j_Speed	
Jog PITCH+ (Reorient End Effector)	'jogPITCHposSTART %s',j_Speed 'jogPITCHposEND %s',j_Speed	
Jog PITCH- (Reorient End effector)	'jogPITCHnegSTART %s',j_Speed 'jogPITCHnegEND %s',j_Speed	
Jog YAW+ (Reorient End Effector)	'jogYAWposSTART %s',j_Speed 'jogYAWposEND %s',j_Speed	
Jog YAW- (Reorient End effector)	'jogYAWnegSTART %s',j_Speed 'jogYAWnegEND %s',j_Speed	
Jog Q1+ (Joint)	'jogQ1posSTART %s',j_Speed 'jogQ1posEND %s',j_Speed	
Jog Q1- (Joint)	'jogQ1negSTART %s',j_Speed 'jogQ1negEND %s',j_Speed	
Jog Q2+ (Joint)	'jogQ2posSTART %s',j_Speed 'jogQ2posEND %s',j_Speed	
Jog Q2- (Joint)	'jogQ2negSTART %s',j_Speed 'jogQ2negEND %s',j_Speed	
Jog Q3+ (Joint)	'jogQ3posSTART %s',j_Speed 'jogQ3posEND %s',j_Speed	
Jog Q3- (Joint)	'jogQ3negSTART %s',j_Speed 'jogQ3negEND %s',j_Speed	
Jog Q4+ (Joint)	'jogQ4posSTART %s',j_Speed	

	'jogQ4posEND %s',j_Speed	
Jog Q4- (Joint)	'jogQ4negSTART %s',j_Speed	
	'jogQ4negEND %s',j_Speed	
Jog Q5+ (Joint)	'jogQ5posSTART %s',j_Speed	
	'jogQ5posEND %s',j_Speed	
Jog Q5- (Joint)	'jogQ5negSTART %s',j_Speed	
	'jogQ5negEND %s',j_Speed	
Jog Q6+ (Joint)	'jogQ6posSTART %s',j_Speed	
	'jogQ6posEND %s',j_Speed	
Jog Q6- (Joint)	'jogQ6negSTART %s',j_Speed	
	'jogQ6negEND %s',j_Speed	
Jog X+ (Base Frame)	'baseFrameXposSTART %s',j_Speed	
	'baseFrameXposEND %s',j_Speed	
Jog Y+ (Base Frame)	'baseFrameYposSTART %s',j_Speed	
	'baseFrameYposEND %s',j_Speed	
Jog Z+ (Base Frame)	'baseFrameZposSTART %s',j_Speed	
	'baseFrameZposEND %s',j_Speed	
Jog X- (Base Frame)	'baseFrameXnegSTART %s',j_Speed	
	'baseFrameXnegEND %s',j_Speed	
Jog Y- (Base Frame)	'baseFrameYnegSTART %s',j_Speed	
	'baseFrameYnegEND %s',j_Speed	
Jog Z- (Base Frame)	'baseFrameZnegSTART %s',j_Speed	
	'baseFrameZnegEND %s',j_Speed	
Jog X+ (End Effector Frame)	'endEffectorXposSTART %s',j_Speed	
	'endEffectorXposEND %s',j_Speed	

Jog Y+ (End Effector Frame)	'endEffectorYposSTART %s',j_Speed 'endEffectorYposEND %s',j_Speed	
Jog Z+ (End Effector Frame)	'endEffectorZposSTART %s',j_Speed 'endEffectorZposEND %s',j_Speed	
Jog X- (End Effector Frame)	'endEffectorXnegSTART %s',j_Speed 'endEffectorXnegEND %s',j_Speed	
Jog Y- (End Effector Frame)	'endEffectorYnegSTART %s',j_Speed 'endEffectorYnegEND %s',j_Speed	
Jog Z- (End Effector Frame)	'endEffectorZnegSTART %s',j_Speed 'endEffectorZnegEND %s',j_Speed	
Click on video feed and move to position	'videocoor %.3f %.3f %.3f',eex,eey,eez	
Joint Angle Status		'jointAngle,%d,%d,%d,%d,%d,%d'
End Effector Status		'endEffector,%d,%d,%d,%d,%d,%d,%d'
DIO Status		'DIO %d %d %d %d %d''
Error Status		'Error %d %d %d %d %d %d'