

## NCmotorLV.dll Documentation

### 1. Properties

Property Name	Type	Description
RxData	String	Serial data received by Labview passed to DLL for parsing
SerialError	String	Message passed to Labview if error "e" is transmitted by controller
FirstScan	Boolean	Sent by Labview on started up of VI run. Used to set the polling of Set Points and software revision one time
SoftVer	String	Controller software revision
M1Array	String Array[10]	Motor 1 set point data
M2Array	String Array[10]	Motor 2 set point data
M3Array	String Array[10]	Motor 3 set point data
Motor1Enabled	Boolean	Motor 1 enabled
Motor2Enabled	Boolean	Motor 2 enabled
Motor3Enabled	Boolean	Motor 3 enabled
PositionM1	String	Motor 1 position read from controller
PositionM2	String	Motor 2 position read from controller
PositionM3	String	Motor 3 position read from controller
VelocityM1	String	Motor 1 velocity read from controller
VelocityM2	String	Motor 2 velocity read from controller
VelocityM3	String	Motor 3 velocity read from controller
AccelerationM1	String	Motor 1 acceleration read from controller
AccelerationM2	String	Motor 2 acceleration read from controller
AccelerationM3	String	Motor 3 acceleration read from controller
ReadyM1	Boolean	M1 "Ready" LED set by "g" command
HomedM1	Boolean	M1 "Homed" LED set by "g" command
InitialisedM1	Boolean	M1 "Initialised" LED set by "g" command
ErrorM1	Boolean	M1 "Error" LED set by "g" command
MovingM1	Boolean	M1 "Motor Moving" LED set by "g" command
ReadyM2	Boolean	M2 "Ready" LED set by "g" command
HomedM2	Boolean	M2 "Homed" LED set by "g" command
InitialisedM2	Boolean	M2 "Initialised" LED set by "g" command
ErrorM2	Boolean	M2 "Error" LED set by "g" command
MovingM2	Boolean	M2 "Motor Moving" LED set by "g" command
ReadyM3	Boolean	M3 "Ready" LED set by "g" command
HomedM3	Boolean	M3 "Homed" LED set by "g" command
InitialisedM3	Boolean	M3 "Initialised" LED set by "g" command
ErrorM3	Boolean	M3 "Error" LED set by "g" command

MovingM3	Boolean	M3 "Motor Moving" LED set by "g" command
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## 2. Methods - DLL Functions

Function Name	Returns	Parameters	Description
Version	String		Returns controller software revision
GetTx	String		Returns string to transmit from Labview VISA Serial. Interval is set by 100ms timer in Serial function. Called by serial function block.
RxParse	1	String	Data received at the Labview VISA serial port Receive is sent to DLL for parsing.

## 3. Methods - DLL Sub Routines

Name	Parameter	Description
GetSetPoints		Read set points from controller if motor is enabled
StopAllMotors		Halts all motors. Sends command: ":0h1"
StopM1		Halts Motor 1
StopM2		Halts Motor 2
StopM3		Halts Motor 3
AddressM1	NewAddress (integer)	Sets the address for Motor 1.
AddressM2	NewAddress (integer)	Sets the address for Motor 2.
AddressM3	NewAddress (integer)	Sets the address for Motor 3.
InitMotors	MotorNum (integer)	Initialises the motor. "i" command MotorNum = motor number to initialise
HomeMotors	MotorNum (integer)  HomeValue (integer)	Homes the motor selected. "c" command MotorNum = motor to home HomeValue = homing method
NewPosM1	MovePos (Int32) MoveVel (U32)	Move Motor 1 Sends new Position, Velocity, Acceleration data to controller to move the motor manually. MovePos = new position to move to (in motor steps)

	MoveAccel (U32)	MoveVel = velocity value to use when motor is moved. MoveAccel = new acceleration value to use when motor moves
NewPosM2	MovePos (Int32) MoveVel (U32) MoveAccel (U32)	Move Motor 2. Sends new Position, Velocity, Acceleration data to controller to move the motor manually. MovePos = new position to move to (in motor steps) MoveVel = velocity value to use when motor is moved. MoveAccel = new acceleration value to use when motor moves
NewPosM3	MovePos (Int32) MoveVel (U32) MoveAccel (U32)	Move Motor 3. Sends new Position, Velocity, Acceleration data to controller to move the motor manually. MovePos = new position to move to (in motor steps) MoveVel = velocity value to use when motor is moved. MoveAccel = new acceleration value to use when motor moves
GoToSetPoint	MotorNumber (integer) SPnumber (integer)	Move to set point 0-9 MotorNumber = motor to move SPnumber = set point (0-9)