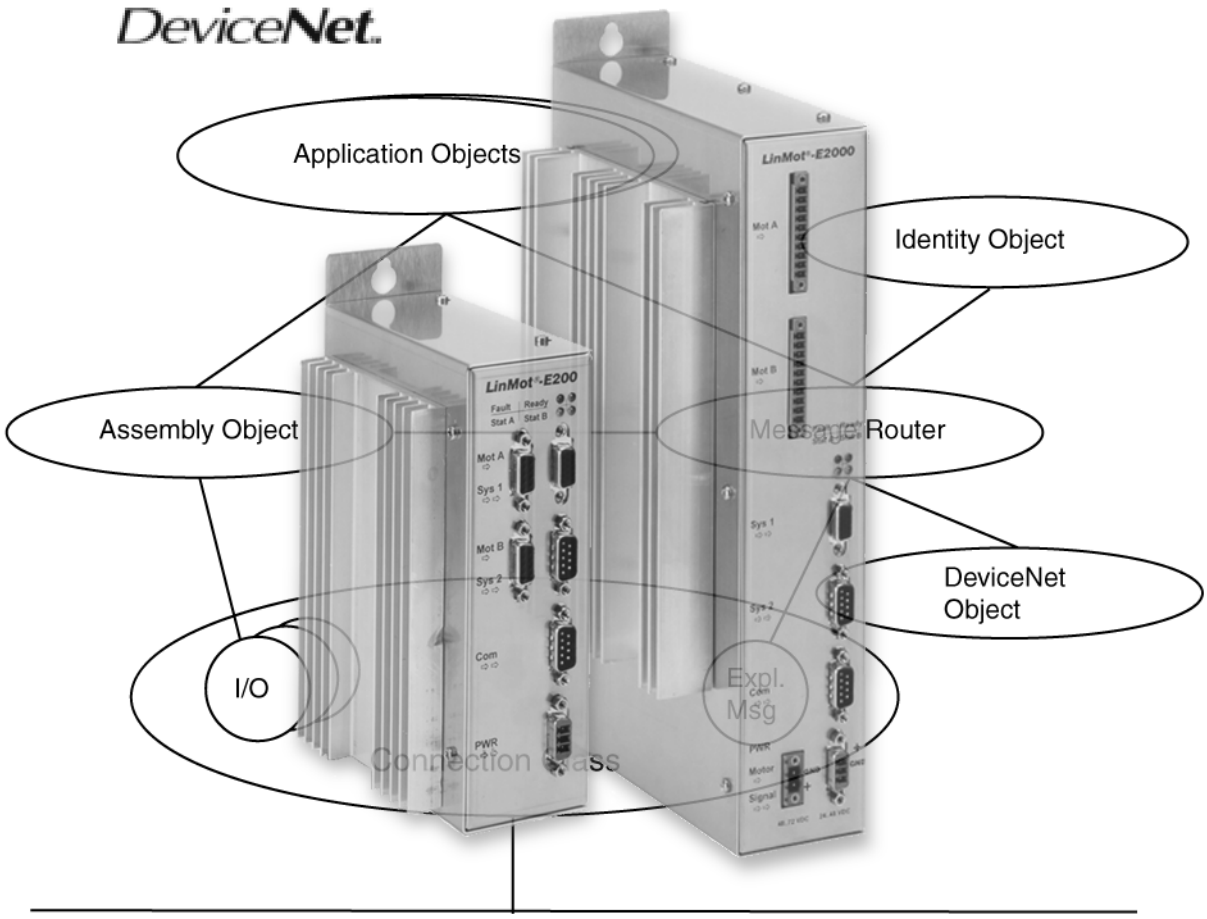
LinMot®



DeviceNet Release 1.3

Supplement to V1.0 and V1.3 User Handbook
V1.0.2 / 24.10.2002

NTI AG
LinMot
Technoparkstrasse 1
CH-8005 Zürich

Tel.: +41 (0)1 445 22 82
Fax: +41 (0)1 445 22 81
Email: office@LinMot.com
Homepage: www.LinMot.com

Note
The information in this documentation reflects the stage of development at the time of press and is therefore without obligation.
NTI AG reserves itself the right to make changes at any time and without notice to reflect further technical advance or product improvement. Please refer to the latest edition of our "General business terms"

Version 1.0.2 / October 24th 2002

1. Overview

From release 1.3.5 on a DeviceNet compatible *LinMot*® servo controller is supported. These servo controllers act as UCMM 3 capable DeviceNet slave.

The DeviceNet description is divided into the following subsections:

1.1 Introduction

Open field bus

DeviceNet is an open field bus standard based on the CAN bus. Within DeviceNet different communication channels are supported.

A DeviceNet participator is identified via an adjustable MACID (**M**edia **AC**cess **ID**) in the range of 0-63.

Master-Slave

The *LinMot*® servo controllers acts in a DeviceNet environment as a slave. A DeviceNet Master (Scanner) could run and monitor the *LinMot*® servo controllers. Like the other *LinMot*® servo controllers, the configuration of the *LinMot*® DeviceNet servo controllers is done with the *LinTalk*® PC Software.

www.odva.org

In the description that follows, it is assumed that the user already has basic knowledge of DeviceNet. One very good information source for DeviceNet topics is the internet address **http://www.odva.org**, where various descriptions and further-reaching literature references can be found.

The basic knowledge about *LinMot*® servo controllers is described in the *LinMot*® Manual and its addendum to release 1.3. In this document only the DeviceNet concerning parts are specified.

LinMot and DeviceNet

Over the DeviceNet connection the *LinMot*® servo controller could be monitored and controlled.

The configuration of the controller has to be done with the delivered *LinTalk*® SW.

In the *LinMot*® implementation of the DeviceNet the servo controller can still be used as a normal *LinMot*® AT servo controller with extended features, like diagnostics and runtime configurations.

Direct position control of a motor (drive) is only possible, if the ‘Run Mode’ of the specified motor is configured as “Serial”.

All live parameters of a motor could be accessed and changed at run time.

2. DeviceNet Structure

The *LinMot*® DeviceNet servo controller possesses a DeviceNet structure as shown in Figure 2-1. The device type is generic.

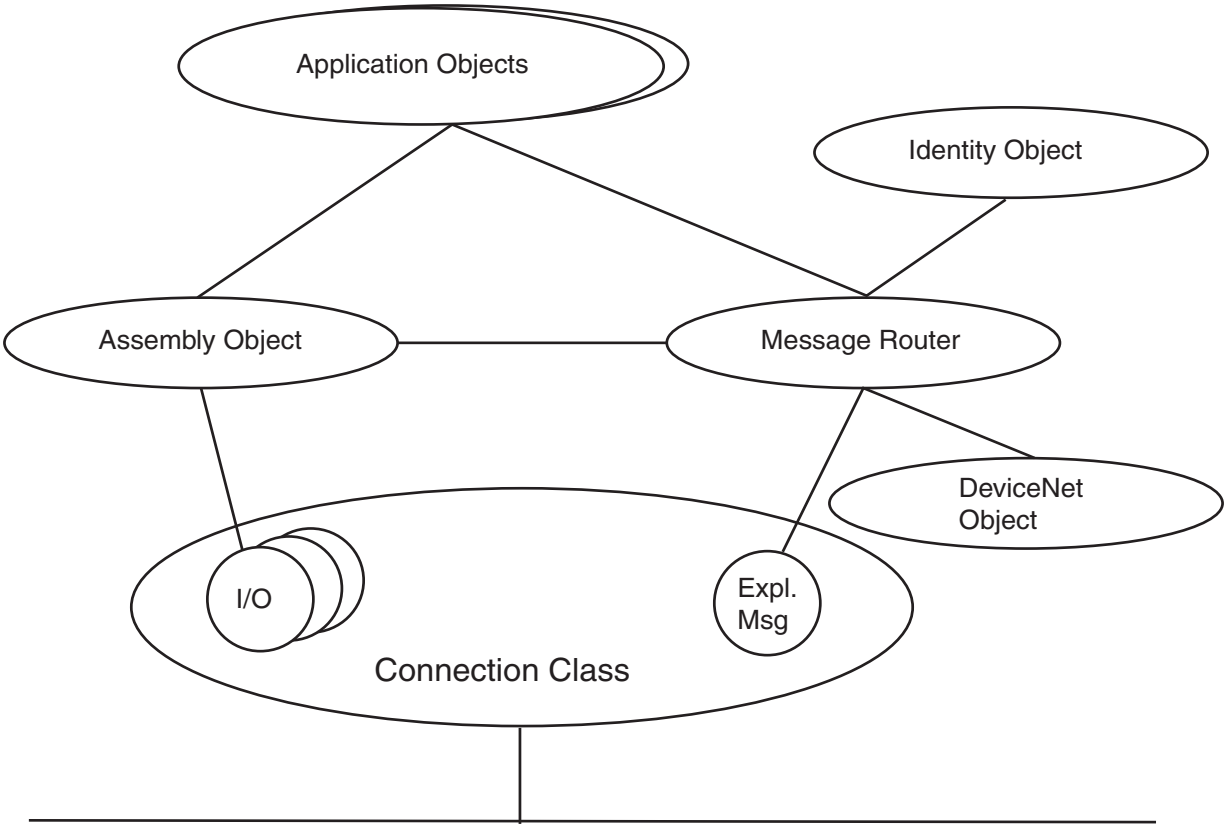


Figure 2-1: Generic DeviceNet Object Model

2.1 Identity Object

The identity object handles the different *LinMot*® servo controller identities.

2.2 DeviceNet Object

The DeviceNet Object possesses basic information about the connection (MACID Baudrate) and handles the allocation/release of the different communication channels.

2.3 Message Router

The message Router Object passes the different explicit Messages to the respective object. No attributes can be accessed over DeviceNet.

2.4 Assembly Object

No attributes of the assembly object are supported.

2.5 Application Objects

The application objects build the interface from the DeviceNet data to *LinMot*® servo controller and vice versa. There are no attributes of these objects supported.

2.6 Connection Class

Through the connection class the communication takes place. Different channels are supported.

Explicit Messaging

The explicit message connection is used to setup the DeviceNet IO-connections. The *LinMot*® DeviceNet servo controller offers one explicit message connection for one master. If two masters want to use this connection on the same time, the second Master has to wait until the first Master releases this connection.

Polled IO Connection

The polled IO connection is used to exchange data between a master and a slave. The master starts the data exchange with a Poll Command Message which is responded by the slave with the Poll Response Message.

Though the master uses the same identification for the polled and CoS/Cyclic IO connections but only one can be active at the same time, so if both IO connections (Polled and CoS/Cyclic) are selected the master transmits data over the polled IO connection.

Change of State/Cyclic IO Connection

The change of state (CoS) and the cyclic IO-connections use the same resources of a slave, so only one ban be active at the same time.

Change of State IO connection

The change of state IO connection is used to exchange data between a master and its slave. Data is transmitted if the master/slave has changed the state. The receiver of the data may acknowledge the reception.

In addition data is transmitted after a specified heartbeat time.

To avoid bus overload an inhibit time could be configured. This time has to be waited before new data is transmitted even if the state has changed.

Cyclic IO connection

Instead of the change of state IO connection a cyclic IO connection can be configured. Data is transmitted strictly cyclic. The data receiver may acknowledge the reception.

3. DeviceNet Parameters

3.1 Parameters

The DeviceNet *LinMot*® servo controller has an additional parameter tree branch, which can be configured with the distributed *LinTalk*®-SW. With these parameters the DeviceNet behavior could be defined.

Dis/Enable

With the **Dis-/Enable** parameter the *LinMot*® servo controller can be set as normal AT servo-controller. So the system can be run without the DeviceNet going online. So in a first step the system can be configured and run without any bus connection.

DeviceNet\Dis-/Enable	
Disable	Servo controller behaves as an AT servo controller without DeviceNet.
Enable	Servo controller runs only with a DeviceNet connection.

Baud Rate

The **Baud Rate** parameter defines the CAN bus baudrate for the DeviceNet connection.

DeviceNet\Baudrate	
125 kHz	CAN bus baud rate = 125 kHz
250 kHz	CAN bus baud rate = 250 kHz
500 kHz	CAN bus baud rate = 500 kHz

MACID

The **MACID** parameter defines the source of the MACID.

DeviceNet\MACID	
Switches	MACID is determined by HW switches
Parameter	MACID is determined by the Parameter value

MACID Value

The **MACID Value** parameter defines the MACID, but is only relevant if the MACID parameter is set to “Parameter”.

DeviceNet\MACID\MACID Value	
0 to 63	MACID determined by Parameter

IO Setup

The **IO Setup** parameter selects the IO connections, over which data is exchanged between the master and the *LinMot*® servo controller.

Both selection items can be run at the same time. Since the master possesses only one channel for both IO data transmission formats, only the polled IO channel is active for Master ➟Slave communication. But the slave, which can transmit its IO data over two different channels, may transmit IO data over both channels.

DeviceNet\IO Setup	
Polled IO	Setup polled IO connection
CoS/Cyclic IO	Setup Cos/Cyclic IO connection

Polled IO Selection

The **Polled IO Selection** parameter defines the Polled IO data modules, which are exchanged between the Master and its *LinMot®* servo controller slave.

DeviceNet\IO Setup\Polled IO Selection	
Control In	Control word which controls the main state machine and the servo controller trigger inputs.
Addressed In	Addressed (motors) general purpose IO command module.
Direct In	Direct command module for each defined master drive.
Status Out	Two status words which define the main state of the servo controller and each drive
Addressed Out	Response module of the Addressed In Module
Direct Out 1	First direct response module which responds the value of one variable for each defined Master drive.
Direct Out 2	Second direct response module which responds the value of one variable for each defined Master drive.
Direct Out 1 Sel	Default setting of the variable of the Direct Out 1 module.
Direct Out 2 Sel	Default setting of the variable of the Direct Out 2 module.
Poll PrdCnSze	Poll Produced Connection Size: Parameter which defines the data size which is transmitted from the slave to the master. Because this parameter is calculated in the servo controller it is updated only after the servo controller has started. And the PC updates this value only, if you select (click) on the parameter 'Polled IO Selection' again.
Poll CsdCnSze	Poll Consumed Connection Size: Parameter which defines the data size which is transmitted from the master to the slave. Because this Parameter is calculated in the servo controller it is updated only after a the servo controller has started. And the PC updates this value only, if you select (click) on the parameter 'Polled IO Selection' again.

Direct Out 1 Sel

The **Direct Out 1 Sel** parameter determines the default drive variable which the *LinMot*® servo controller responds each time if selected. The variable type can be changed at runtime. For each defined master the variable is responded

DeviceNet\IO Setup\Polled IO Selection\Direct Out 1 Sel	
Actual Pos	Actual position of drive
Demand Pos	Demand Position of drive after Filter
Position Error	Position Error = Demand Pos - Actual Pos
Dem Pos unfiltered	Demand Pos before Filter
Actual Speed	Actual speed of drive
Demand Speed	Demand speed of drive
Demand Acc	Demand acceleration of drive
Current	Current Setpoint of analog current controller

Direct Out 2 Sel

The **Direct Out 2 Sel** parameter determines a second default drive variable which the *LinMot*® servo controller responds each time if selected. The variable type could be changed during runtime. For each defined master the variable is responded

DeviceNet\IO Setup\Polled IO Selection\Direct Out 1 Sel	
Actual Pos	Actual position of drive
Demand Pos	Demand Position of drive after Filter
Position Error	Position Error = Demand Pos - Actual Pos
Dem Pos unfiltered	Demand Pos before Filter
Actual Speed	Actual speed of drive
Demand Speed	Demand speed of drive
Demand Acc	Demand acceleration of drive
Current	Current Setpoint of analog current controller

i

CoS/Cyclic IO Sel

The **CoS/Cyclic IO Sel** parameter defines the state change or the cyclic IO data which is exchanged between the Master and its *LinMot*® servo controller slave.

DeviceNet\IO Setup\CoS/Cyclic IO Sel	
Control In	Control word which controls the main state machine and the servo controller trigger inputs. This Parameter is accessible only if the polled IO is not selected.
Addressed In	Addressed (motors) general purpose IO command module. This parameter is accessible only, if the polled IO is not selected.
Direct In	Direct command module for each defined master drive. This parameter is accessible only, if the polled IO is not selected.
Status Out	Two status words which defines the main states of the servo controller and each drive
Addressed Out	Response module of the Addressed In Module
Direct Out 1	First direct response module which response the value of one variable for each defined Master drive.
Direct Out 2	Second direct response module which responds the value of one variable for each defined Master drive.
Direct Out 1 Sel	Default setting of the variable of the Direct Out 1 module.
Direct Out 2 Sel	Default setting of the variable of the Direct Out 2 module.
CoS PrdCnSze	Change of State or Cyclic Produced Connection Size: Parameter which defines the data size which is transmitted from the slave to the master. Because this parameter is calculated in the servo controller it is updated only after the servo controller has started. And the PC updates this value only, if you select (click) on the parameter 'CoS/Cyclic IO Sel' again.
CoS CsdCnSze	Change of State or Cyclic Consumed Connection Size: parameter which defines the data size which is transmitted from the master to the slave. Because this parameter is calculated in the servo controller it is updated only after the servo controller has started. And the PC updates this value only, if you select (click) on the parameter 'CoS/Cyclic IO Sel' again.

Direct Out 1 Sel

The **Direct Out 1 Sel** parameter determines the default drive variable which the *LinMot*® servo controller responds each time if selected. The variable type can be changed at runtime. For each defined master the variable is responded

DeviceNet\IO Setup\Polled IO Selection\Direct Out 1 Sel	
Actual Pos	Actual position of drive
Demand Pos	Demand Position of drive after Filter
Position Error	Position Error = Demand Pos - Actual Pos
Dem Pos unfiltered	Demand Pos before Filter
Actual Speed	Actual speed of drive
Demand Speed	Demand speed of drive
Demand Acc	Demand acceleration of drive
Current	Current Setpoint of analog current controller

Direct Out 2 Sel

The **Direct Out 2 Sel** parameter determines the second default drive variable which the *LinMot*® servo controller responds each time if selected. The variable type can be changed at runtime. For each defined master the variable is responded

DeviceNet\IO Setup\Polled IO Selection\Direct Out 2 Sel	
Actual Pos	Actual position of drive
Demand Pos	Demand Position of drive after Filter
Position Error	Position Error = Demand Pos - Actual Pos
Dem Pos unfiltered	Demand Pos before Filter
Actual Speed	Actual speed of drive
Demand Speed	Demand speed of drive
Demand Acc	Demand acceleration of drive
Current	Current Setpoint of analog current controller

4. Integration in superior Controller (PLC)

4.1 Introduction

DeviceNet slave projects are performed mostly using PC setup software. All leading PLC makers, like Allen Bradley etc. provide such project environments.

The following example describes an integration in an AB SLC. But similar steps in a similar way have do be done in the different environments.

Bus Configuration

In a first step the basic bus configuration can be done with the *LinMot*® configuration SW *LinTalk*®. The **baud rate** parameter and the MACID parameter switches have to be set. The IO setup in a first step can be left at the default value. This configuration corresponds with the delivered EDS (**E**lectronic **D**ata **S**heet).

If now connected the Devicenet and powered up again, the *LinMot*® servo controller should be recognized in the DeviceNet-Configuration tool, if it is the first time, it would be an unknown Device. Now the device can be registered with the delivered EDS-file.

Integration in superior DeviceNet scanner

With the configuration tool, the *LinMot*® servo controller device can be put to the scanlist of the master scanner. In a further step the exchanged IO have to be located in the IO area of the scanner (6 bytes polled output and 8 bytes polled input data in the default IO setup). When started the scanner again, the data exchange runs.

Change of IO setup

If changes in the IO setup are made with the *LinTalk*® configuration SW the new size of the exchanged IO data has to be tracked in the scanner too. If this is not supported by the configuration tool directly the delivered EDS file has to be modified, with a normal text editor (e.g. ‘notepad.exe’ or similar).

5. IO Communication

5.1 IO Data Modules

In the following sections the different modules for the IO data exchange are described. With the help of these modules it can be defined which data is exchanged between the DeviceNet master and its *LinMot*® servo controller. This data modules are selected and configured with the *LinTalk*® SW. The location of the modules is given by implementation, see also chapter “Example IO Data Exchange” on page 16.

Control In

The **Control** data module transmits one control word to the *LinMot*® servo controller. With the control word the can be generated over the bus. One word of input space is allocated, if this module is selected.

IO Module: Control In	
Direction	Master ➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Freeze Motor D	Freeze Motor C	Freeze Motor B	Freeze Motor A	Trig In Motor D (4)	Trig In Motor C (3)	Trig In Motor B (2)	Trig In Motor A (1)	Reserved	Reserved	Reserved	FREEZE Request	INIT Request	STOP Request	RUN Request	Reserved

The control word determines the state into which the servo controller has to go and is sent from the master to the slave. The individual bits have the following meaning:

RUN Request	Requests change to **RUN** state
STOP Request	Requests change to **STOP** state
INIT Request	Requests change to **INIT** state
FREEZE Request	Requests change to **FREEZE** state

From Release 1R3R10 for each motor a separate freeze flag is available.

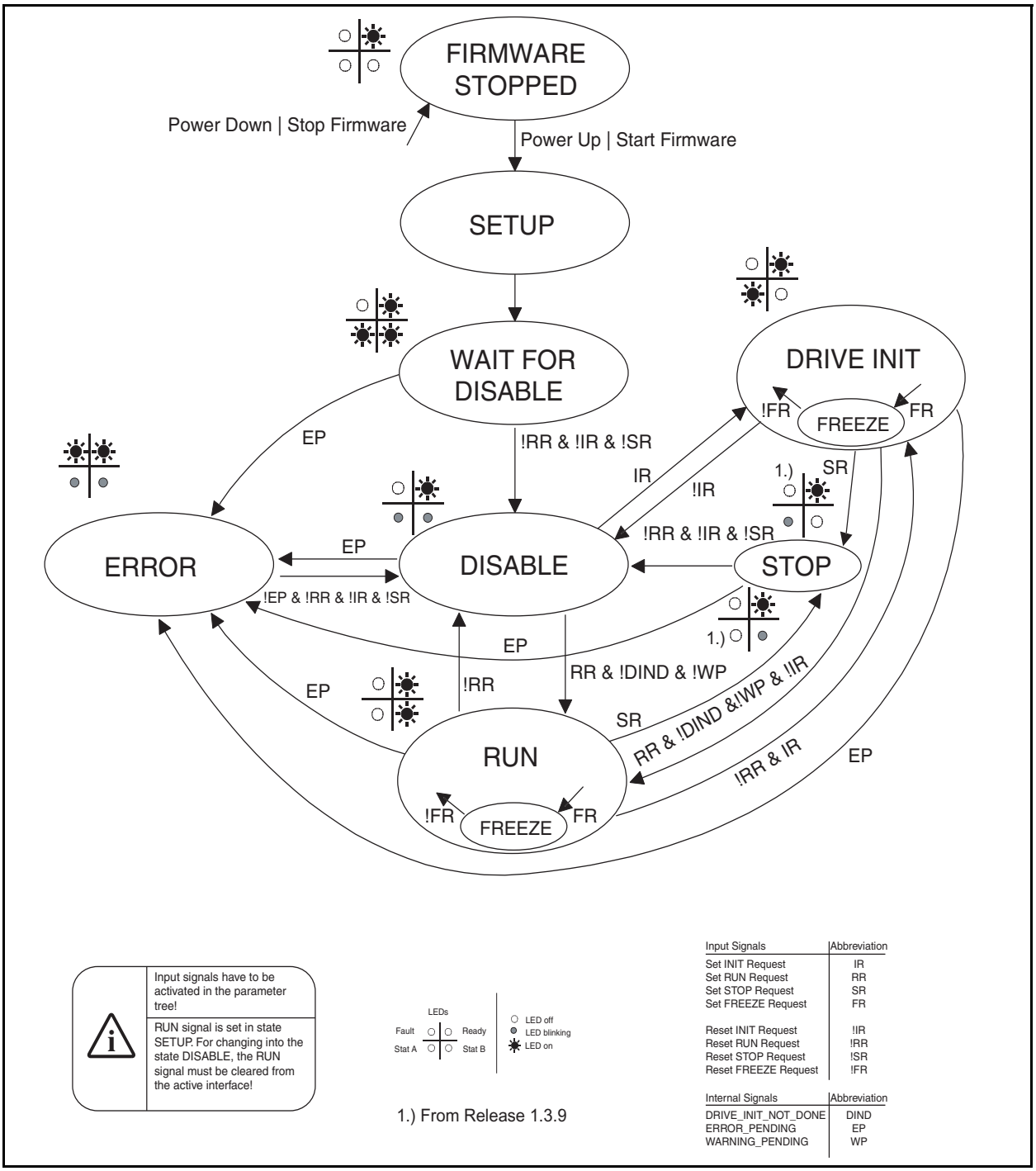


Figure 5-1: Operational states

The signals **Trig In 1** to **Trig In 4** serve to Trigger the motors A through D.

Trig In 1 (motor A)	Trigger signal for motor A
Trig In 2 (motor B)	Trigger signal for motor B
Trig In 3 (motor C)	Trigger signal for motor C
Trig In 4 (motor D)	Trigger signal for motor D

Addressed In

The **Addressed In** is a general purpose data exchange module for getting and setting system and motor variables. Two words of input space is allocated, if this module is selected.

IO Module: Addressed In																
Command ID																
Direction	Master ➟Slave															
Structure	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 1	Motor D	Motor C	Motor B	Motor A	reserved	reserved	reserved	reserved	Start Command (Toggle)	Bit 6 of Command ID	Bit 5 of Command ID	Bit 4 of Command ID	Bit 3 of Command ID	Bit 2 of Command ID	Bit 1 of Command ID	Bit 0 of Command ID (R/W)
	Word 2	Command Value															

Direct In

The **Direct Command Module** is a general purpose data exchange module to set **motor** (and system) variables. For **each** configured master drive 2 words input space is allocated, if selected.

Module: Direct In																
Command ID																
Direction	Master ➟Slave															
Structure	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 1	reserved	reserved	reserved	reserved	reserved	reserved	reserved	reserved	Start Command (Toggle)	Bit 6 of Command ID	Bit 5 of Command ID	Bit 4 of Command ID	Bit 3 of Command ID	Bit 2 of Command ID	Bit 1 of Command ID	Bit 0 of Command ID (R/W)
	Word 2	Command Value															

Status Out

The **Status Out** response of the *LinMot®* servo controller gives back the most important informations about the servo controller state and the motor states. Two words of output space is allocated, if selected.

Module: Status Out	
Direction	Slave ➟Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	In Position Motor D	In Position Motor C	In Position Motor B	In Position Motor A	Curve Done D (Toggle)	Curve Done C (Toggle)	Curve Done B (Toggle)	Curve Done A (Toggle)	WARNING Pending	ERROR Pending	Emergency Stop	DISABLE State	INIT State	ERROR State	RUN State	INIT Done
Word 2	Motor D Command Toggle	Motor D Over temperature	Motor D Position Range	Motor D Following Error	Motor C Command Toggle	Motor C Over temperature	Motor C Position Range	Motor C Following Error	Motor B Command Toggle	Motor B Over temperature	Motor B Position Range	Motor B Following Error	Motor A Command Toggle	Motor A Over temperature	Motor A Position Range	Motor A Following Error

The actual controller state is signalled back in the first status word. The individual bits have the following significance:

INIT Done	All motors have been initialized
RUN State	Servo controller in **RUN** state
ERROR State	Servo controller in **ERROR** state
INIT State	Servo controller in **INIT**state
DISABLE State	Servo controller in **DISABLE** state
Emergency Stop	Servo Controller in Emergency Stop state

The two signals **ERROR Pending** and **WARNING Pending** indicate if there is an error or a warning present.

ERROR Pending	There is an error.
WARNING Pending	There is an warning.

After a completion of a curve its specified bit **Curve Done A..D** toggles.

Curve Done A	Motion profile ended on motor A
Curve Done B	Motion profile ended on motor B
Curve Done C	Motion profile ended on motor C
Curve Done D	Motion profile ended on motor D

The four bits **In Position A..D** indicate whether the motor, after a new position has been set or a motion profile has been executed, has reached a defined range around the target point. The limits of this range can be set with the parameters **In Position +** and **In Position -** in the directory **\Drives\Drive X\Position Monitoring**.

In Position Drive A	Motor A has reached the target point
In Position Drive B	Motor B has reached the target point
In Position Drive C	Motor C has reached the target point
In Position Drive D	Motor D has reached the target point

The second status word contains information of the motors.

Motor X Following Error	Set if following error of motor X is active
Motor X Position Range	Set if motor X is in the fix position range
Motor X Over temperature	Set if motor X is too hot
Motor X Command Toggle	Actual state of the command toggle bit

Addressed Out

The **Addressed Out** is the response module of the Addressed In command module. Two words of Output space is allocated, if this module is selected.

IO Module: Addressed Out	
Command ID	
Direction	Slave ➟Master
Structure	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Motor D	Motor C	Motor B	Motor A	reserved	reserved	reserved	reserved	Start Command (Toggle)	Bit 6 of Command ID	Bit 5 of Command ID	Bit 4 of Command ID	Bit 3 of Command ID	Bit 2 of Command ID	Bit 1 of Command ID	Bit 0 of Command ID (R/W)
Word 2	Command Response Value															

Direct Out 1

The **Direct Out 1** can be used to monitor one drive (motor) variable. For each master drive one word of data is transmitted. For **each** configured master drive one word of output space is allocated, if selected.

IO Module: Direct Out 1	
Command ID	
Direction	Slave ➟Master
Structure	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Direct Out 1 Variable Value															

Direct Out 2

The **Direct Out 2** can be used to monitor another drive (motor) variable. For each master drive one word of data is transmitted. For **each** configured master drive one word of output space is allocated, if selected.

IO Module: Direct Out 2	
Command ID	
Direction	Slave ➟Master
Structure	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Direct Out 2 Variable Value															

Example IO Data Exchange

The following example shows, which data and which position are exchanged for a four axis controller with all IO data modules selected in polled data exchange.

Polled Data In	
Direction	Master ➟Slave
Structure	

Word 1	Control Word
Word 2	Addressed Command ID
Word 3	Addressed Command Value
Word 4	Direct Command ID Motor A
Word 5	Direct Command Value Motor A
Word 6	Direct Command ID Motor B
Word 7	Direct Command Value Motor B
Word 8	Direct Command ID Motor C
Word 9	Direct Command Value Motor C
Word 10	Direct Command ID Motor D
Word 11	Direct Command Value Motor D

Polled Data Out	
Direction	Slave ➟Master
Structure	

Word 1	Status Low Word
Word 2	Status High Word
Word 3	Echo Addressed Command ID
Word 4	Addressed Command Value Response
Word 5	Direct Out 1 Response Motor A
Word 6	Direct Out 2 Response Motor A
Word 7	Direct Out 1 Response Motor B
Word 8	Direct Out 2 Response Motor B
Word 9	Direct Out 1 Response Motor C
Word 10	Direct Out 2 Response Motor C
Word 11	Direct Out 1 Response Motor D
Word 12	Direct Out 2 Response Motor D

In the second example only the motors A and C are master drives and only the modules: Control In, Direct In and Status Out, Direct Out 1 are selected.

Polled Data In	
Direction	Master ➟Slave
Structure	

Word 1	Control Word
Word 2	Direct Command ID Motor A
Word 3	Direct Command Value Motor A
Word 4	Direct Command ID Motor C
Word 5	Direct Command Value Motor C

Polled Data Out	
Direction	Slave ➟Master
Structure	

Word 1	Status Low Word
Word 2	Status High Word
Word 3	Direct Out 1 Response Motor A
Word 4	Direct Out 1 Response Motor C

5.2 General Purpose Command/Response Modules

Command Overview

In the following table an overview of all possible commands for the addressed and direct IO-Modules is given.I

ID HEX	Description	Value from ... to	Unit (only *LinMot*® units)	*Addressed*	Direct
0x00	No Command	-	-	✘	✘
0x02	Get Status Low Word	-	Bit definitions	✘	
0x03	Get Status High Word	-	Bit definitions	✘	
0x04	Get CTRL Word	-	Bit definitions	✘	
0x05	Set CTRL Word	-	Bit definitions	✘	✘
0x06	Get Warn State	-	Bit definitions	✘	
0x07	Reset Warn State	-	-	✘	✘
0x08	Get Error State	-	Bit definitions	✘	
0x09	Reset Error State	-	-	✘	✘
0x0A	Get Coded Error	-	Bit definitions	✘	
0x0B	Reset Coded Error	-	-	✘	✘
0x0C	Get Controller IO	-	Bit definitions	✘	
0x0D	Set/Get Controller IO	-	Bit definitions	✘	✘
0x0F	Reset Controller	-	-	✘	✘
0x10	Get Position Setpoint	-32256 to +32256	0.01953 mm	✘	
0x11	Set Position Setpoint	-32256 to +32256	0.01953 mm	✘	✘
0x12	Set Position Setpoint Waiting for Trigger	-32256 to +32256	0.01953 mm	✘	✘
0x13	Increment Position Setpoint	-32256 to +32256	0.01953 mm	✘	✘
0x14	Inc. Position Setpoint Waiting for Trigger	-32256 to +32256	0.01953 mm	✘	✘
0x15	Move Home Position	-32256 to +32256	0.01953 mm	✘	✘
0x18	Get Actual Position	-32768 to +32767	0.01953 mm	✘	
0x19	Set Actual Position	-32256 to +32256	0.01953 mm	✘	✘
0x20	Start Curve	0 to 63	-	✘	✘
0x21	Start Curve Waiting for Trigger	0 to 63	-	✘	✘
0x22	Start Curve Incremental	0 to 63	-	✘	✘
0x23	Start Curve Inc. Waiting for Trigger	0 to 63	-	✘	✘
0x24	Get (Rise) Curve Number	0 to 63	-	✘	
0x25	Set (Rise) Curve Number	0to 63	-	✘	✘
0x26	Get Fall Curve Number	0 to 63	-	✘	
0x27	Set Fall Curve Number	0 to 63	-	✘	✘
0x28	Get Curve Offset	-32256 to +32256	-	✘	
0x29	Set Curve Offset	-32256 to +32256	-	✘	✘

Table 5-1: Overview of command module commands

ID HEX	Description	Value from ... to	Unit (only *LinMot*® units)	*Addressed*	Direct
0x2A	Get Curve Amplitude	0 to 4096	0.0244140625%	✘	
0x2B	Set Curve Amplitude	0 to 4096	0.0244140625%	✘	✘
0x2C	Get Curve Speed	0 to 4096	0.0244140625%	✘	
0x2D	Set Curve Speed	0 to 4096	0.0244140625%	✘	✘
0x30	Get Controller Maximal Current	variable	0.0234 A	✘	
0x31	Set Controller Maximal Current	variable	0.0234 A	✘	✘
0x32	Get Controller Current Offset	variable	0.0234 A	✘	
0x33	Set Controller Current Offset	variable	0.0234 A	✘	✘
0x34	Get Controller P	0 to 32640	0.00234 A/mm	✘	
0x35	Set Controller P	0 to 32640	0.00234 A/mm	✘	✘
0x36	Get Controller D	0 to 32640	0.015 A*s/m	✘	
0x37	Set Controller D	0 to 32640	0.015 A*s/m	✘	✘
0x38	Get Controller I	0 to 32640	0.0457A/(mm*s)	✘	
0x39	Set Controller I	0 to 32640	0.0457A/(mm*s)	✘	✘
0x3A	Get Controller FF Friction	0 to 255	0.0234 A	✘	
0x3B	Set Controller FF Friction	0 to 255	0.0234 A	✘	✘
0x3C	Get Controller FF Acceleration	0 to 32640	0.00175 mA/(FS/s^2)	✘	
0x3D	Set Controller FF Acceleration	0 to 32640	0.00175 mA/(FS/s^2)	✘	✘
0x3E	Get Controller FF Deceleration	0 to 32640	0.00175 mA/(FS/s^2)	✘	
0x3F	Set Controller FF Deceleration	0 to 32640	0.00175 mA/(FS/s^2)	✘	✘
0x40	Get Minimal Position	-32256 to +32256	0.01953 mm	✘	
0x41	Set Minimal Position	-32256 to +32256	0.01953 mm	✘	✘
0x42	Get Maximal Position	-32256 to +32256	0.01953 mm	✘	
0x43	Set Maximal Position	-32256 to +32256	0.01953 mm	✘	✘
0x44	Get Pos Range Min	-32256 to +32256	0.01953 mm	✘	
0x45	Set Pos Range Min	-32256 to +32256	0.01953 mm	✘	✘
0x46	Get Pos Range Max	-32256 to +32256	0.01953 mm	✘	
0x47	Set Pos Range Max	-32256 to +32256	0.01953 mm	✘	✘
0x48	Get In Position -	2 to 511	0.01953 mm	✘	
0x49	Set In Position -	2 to 511	0.01953 mm	✘	✘
0x4A	Get In Position +	2 to 511	0.01953 mm	✘	
0x4B	Set In Position +	2 to 511	0.01953 mm	✘	✘
0x4C	Get Following Error -	4 to 511	0.01953 mm	✘	
0x4D	Set Following Error -	4 to 511	0.01953 mm	✘	✘
0x4E	Get Following Error +	4 to 511	0.01953 mm	✘	
0x4F	Set Following Error +	4 to 511	0.01953 mm	✘	✘
0x50	Get Filter Max Speed	6 to 24576	0.190735 mm/s	✘	
0x51	Set Filter Max Speed	6 to 24576	0.190735 mm/s	✘	✘

Table 5-1: Overview of command module commands

ID HEX	Description	Value from … to	Unit (only *LinMot*® units)	*Addressed*	Direct
0x52	Get Filter Max Acceleration	6 to 1536	0.238419 m/s^2	✘	
0x53	Set Filter Max Acceleration	6 to 1536	0.238419 m/s^2	✘	✘
0x56	Get 0 V Position	-32256 to +32256	0.01953 mm	✘	
0x57	Set 0 V Position	-32256 to +32256	0.01953 mm	✘	✘
0x58	Get 10 V Position	-32256 to +32256	0.01953 mm	✘	
0x59	Set 10 V Position	-32256 to +32256	0.01953 mm	✘	✘
0x5A	Get ‘0’ Position	-32256 to +32256	0.01953 mm	✘	
0x5B	Set ‘0’ Position	-32256 to +32256	0.01953 mm	✘	✘
0x5C	Get ‘1’ Position	-32256 to +32256	0.01953 mm	✘	
0x5D	Set ‘1’ Position	-32256 to +32256	0.01953 mm	✘	✘
0x60	Get Encoder 1 Position	0..MAX_COUNT	COUNTS	✘	
0x61	Set Encoder 1 Position	0..MAX_COUNT	COUNTS	✘	✘
0x62	Get CAM Length	0..MAX_COUNT	COUNTS	✘	
0x63	Set CAM Length	0..MAX_COUNT	COUNTS	✘	✘
0x64	Get Extended IO	-	-	✘	
0x65	Set Extended IO	-	-	✘	✘
0x66	Get Encoder 1 Offset	0..MAX_COUNT	COUNTS	✘	
0x67	Set Encoder 1 Offset	0..MAX_COUNT	COUNTS	✘	✘
0x68	Start CAM at Counts	0..MAX_COUNT	COUNTS	✘	✘
0x6A	Get CAM Delay	0..MAX_COUNT	COUNTS	✘	
0x6B	Set CAM Delay	0..MAX_COUNT	COUNTS	✘	✘
0x6D	Set Continuous Curve Mode	-	-	✘	✘
0x6E	Set Serial Run Mode	-	-	✘	✘
0x6F	Set Master Encoder Run Mode	-	-	✘	✘
0x70	Get Direct Out 1 Variable	0 to 7	-	✘	
0x71	Set Direct Out 2 Variable	0 to 7	-	✘	✘
0x72	Get Direct Out 2 Variable	0 to 7	-	✘	
0x73	Set Direct Out 2 Variable	0 to 7	-	✘	✘
0x74	Get Direct Out 1 Address	0 to 7	-	✘	
0x75	Set Direct Out 2 Address	0 to 7	-	✘	✘
0x76	Get Direct Out 2 Address	0 to 7	-	✘	
0x77	Set Direct Out 2 Address	0 to 7	-	✘	✘

Table 5-1: Overview of command module commands

Command Descriptions

Command: No Command

The command **No Command** can be used, if nothing has to be transmitted from the master to the *LinMot*® servo controller.

Command: No Command (00h)	
Direction	Master ➟ Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	0	0	0	0	0	0	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: No Command

In the response the *LinMot*® servo controller simply echoes the command ID. The responded data word has no meaning.

Response: No Command (00h)	
Direction	Slave ➟ Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	0	0	0	0	0	0	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Command: Get Status Low Word

With the command Get Status Low Word the first word of the status is requested from the *LinMot*® servo controller.

Command: Get Status Low Word (02h)																	
Direction	Master➟Slave																
Bit Definitions																	
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	0	0	0	0	0	1	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Status Low Word

In the response the *LinMot*® servo controller transmits the first word of its status.

Response: Get Status Low Word (02h)																
Direction	Slave ➟Master															
Bit Definitions																
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	0	0	0	0	0	1	0
Word 2	In Position Motor D	In Position Motor C	In Position Motor B	In Position Motor A	Curve Done D (Toggle)	Curve Done C (Toggle)	Curve Done B (Toggle)	Curve Done A (Toggle)	WARNING Pending	ERROR Pending	Emergency Stop	DISABLE State	INIT State	ERROR State	RUN State	INIT Done

Command: Get Status High Word

With the command Get Status High Word the second word of the status is requested from the *LinMot*® servo controller.

Command: Get Status High Word (03h)	
Direction	Master ➟ Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
1. Word	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	0	0	0	0	0	1	1
2. Word	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Status High Word

To the request Get Status High Word the *LinMot*® servo controller responds with the second word of its status.

Response: Get Status High Word (03h)	
Direction	Slave ➟ Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
1. Word	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	0	0	0	0	0	1	1
2. Word	Motor D Command Toggle	Motor D Over temperature	Motor D Position Range	Motor D Following Error	Motor C Command Toggle	Motor C Over temperature	Motor C Position Range	Motor C Following Error	Motor B Command Toggle	Motor B Over temperature	Motor B Position Range	Motor B Following Error	Motor A Command Toggle	Motor A Over temperature	Motor A Position Range	Motor A Following Error

Command: Get Control Word

The command Get Control Word requests the control word from the *LinMot*® servo controller.

Command: Get Control Word (04h)																
Direction	Master➟Slave															
Bit Definitions																
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	0	0	0	0	1	0	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Control Word

To the request Get Control Word the *LinMot*® servo controller responds the control bits of the control word.

Response: Get Control Word (04h)																
Direction	Slave ➟Master															
Bit Definitions																
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	0	0	0	0	1	0	0
Word 2	Freeze Motor D	Freeze Motor C	Freeze Motor B	Freeze Motor A	Trig In Motor D (4)	Trig In Motor C (3)	Trig In Motor B (2)	Trig In Motor A (1)	Reserved	Reserved	Reserved	FREEZE Request	INIT Request	STOP Request	RUN Request	Reserved

Command: Set Control Word

With the command Set control word the basic state machine of the *LinMot*® servo controller and the trigger bits of each drive are controlled.

Command: Set Control Word (05h)

Direction: Master ➟ Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	0	0	0	0	1	0	1
Word 2	Freeze Motor D	Freeze Motor C	Freeze Motor B	Freeze Motor A	Trig In Motor D (4)	Trig In Motor C (3)	Trig In Motor B (2)	Trig In Motor A (1)	Reserved	Reserved	Reserved	FREEZE Request	INIT Request	STOP Request	RUN Request	Reserved

Response: Set Control Word

In the response the *LinMot*® servo controller simply echoes the command.

Response: Set Control Word (05h)

Direction: Slave ➟ Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved/	Reserved/	Reserved	Reserved	Reserved	Reserved	X	0	0	0	0	1	0	1
Word 2	Freeze Motor D	Freeze Motor C	Freeze Motor B	Freeze Motor A	Trig In Motor D (4)	Trig In Motor C (3)	Trig In Motor B (2)	Trig In Motor A (1)	Reserved	Reserved	Reserved	FREEZE Request	INIT Request	STOP Request	RUN Request	Reserved

Command: Get Warn State

With the command Get Warn State the warn state is from the *LinMot*® servo controller.

Command: Get Warn State (06h)																	
Direction	Master➟Slave																
Bit Definitions	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	0	0	0	1	1	0
	Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Warn State

To the request Get Warn State the *LinMot*® servo controller responds with its warn state, only the first occurred warning is locked. If no drive is specified the command ID the System Warn State is returned, else the specified Motor Warn State.

Response: Get Warn State (06h)																	
Direction	Slave ➟Master																
Bit Definitions	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	0	0	0	1	1	0
	Word 2	System Warn State/Motor X Warn State															
Bit Definitions System Warn State	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 2	Warn Motor D	Warn Motor C	Warn Motor B	Warn Motor A	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Controller Hot	DCLV SIG High	DCLV SIG Low	DCLV PWR High	DCLV PWR Low	Low Capacity
Bit Definitions Motor Warn State	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 2	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Not In Position	Not In Position Range	Reserved	Init Position Not Done	Reserved	Reserved	Slider Missing	Following Error	Motor Too Hot Sensor	Motor Too Hot Calc

Command: Reset Warn State

This command resets the warn state of the *LinMot*® servo controller.

Command: Reset Warn State (07h)																
Direction	Master➟Slave															
Bit Definitions																
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	0	0	0	0	1	1	1
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Reset Warn State

In the response the *LinMot*® servo controller simply echoes the command.

Response: Reset Warn State (07h)																
Direction	Slave ➟Master															
Bit Definitions																
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	0	0	0	0	1	1	1
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Command: Get Error State

This command requests the error state from the *LinMot*® servo controller.

Command: Get Error State (08h)																	
Direction	Master➟Slave																
Bit Definitions	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	0	0	1	0	0	0
	Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Error State

To the request Get Error State the *LinMot*® servo controller responds with its error state, only the first occurred error is locked. If the bit Coded Error is set a coded error occurred which can be read with the command Get Coded Error. If no drive is specified in the Command ID the System Error State is returned, else the error state of the specified drive.

Response: Get Error State (08h)	
Direction	Slave ➟Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	0	0	1	0	0	0
Word 2	System Warn State/Motor X Warn State															

Bit Definitions System Error State

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 2	Error Motor D	Error Motor C	Error Motor B	Error Motor A	Reserved	Reserved	Reserved	Reserved	Coded error	MSG error	Controller too hot	DCLV SIG too high	DCLV SIG too low	DCLV PWR too high	DCLV PWR too low	Low free capacity

Bit Definitions Motor Error State

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 2	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Curve missing	Wrong motor type	Init Failed	Reserved	Slider Missing	Following Error	Motor Too Hot Sensor	Motor Too Hot Calc

Command: Reset Error State

This command resets the error state of the *LinMot*® servo controller. To get in the Run State again, the run request bit has to be released and set again!

Command: Reset Error State (09h)																	
Direction	Master➟Slave																
Bit Definitions	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	0	0	1	0	0	1
	Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Reset Error State

In the response the *LinMot*® servo controller simply echoes the command.

Response: Reset Error State (09h)																	
Direction	Slave ➟Master																
Bit Definitions	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	0	0	0	1	0	0	1
	Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Command: Get Coded Error

This command requests the coded error from the *LinMot*® servo controller.

Command: Get Error State (0Ah)																
Direction	Master➟Slave															
Bit Definitions	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	0	0	0	1	0	1	0
	Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Coded Error

To the request Get Warn State the *LinMot*® servo controller responds the coded errors state. In the table below only the application errors are listed. For the other error codes refer to the basic *LinMot*® manuals.

Response: Get Error State (0Ah)																	
Direction	Slave ➟Master																
Bit Definitions	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	0	0	0	1	0	1	0
	Word 2	Error Codes: 8100 Application needs DN servo controller 8101 DeviceNet MACID already in use 8104 Processor speed not supported 8108 Unknown command 8110 Drive not specified 8111 Drive not master 8112 Drive not in serial mode 8118 Range error 8120 Encoder not exists 8121 Encoder in SSI mode 8130 Curve doesn't exists 8131 Curve type mismatch 8132 Curve processing 8140 CAN no error 8141 CAN stuff error 8142 CAN form error 8143 CAN acknowledge error 8144 CAN bit 1 error 8145 CAN CRC error 8148 CAN BOFF error																

Command: Reset Coded Error

The command Reset Coded Error resets all the Coded Errors of the *LinMot*® servo controller. To get in the Run State again, the run request bit has to be released and set again!

Command: Reset Coded Error (0Bh)																	
Direction	Master ➟ Slave																
Bit Definitions	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	0	0	0	1	0	1	1
	Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Reset Coded Error

In the response the *LinMot*® servo controller simply echoes the command.

Response: Reset Coded Error (0Bh)																	
Direction	Slave ➟ Master																
Bit Definitions	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	0	0	0	1	0	1	1
	Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Command: Get Controller IO

With the command Get Servo Controller IO the digital inputs/outputs are read from the *LinMot*® servo controller.

Command: Get Controller IO (0Ch)	
Direction	Master ➟ Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	0	0	0	1	1	0	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Controller IO

To the request Get Servo Controller IO the *LinMot*® servo controller responds the state of its digital inputs/outputs.

Response: Get Controller IO (0Ch)	
Direction	Slave ➟ Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	0	0	0	1	1	0	0
Word 2	Dig out 6	Dig out 5	Dig out 4	Pos error out	Error out	Warn out	Dig In 6	Dig In 5	Analog/Trigger 4	Analog/Trigger 3	Analog/Trigger 2	Analog/Trigger 1	Stop request	Freeze request	Init request	Run request

Command: Set Controller IO

With the command Set Servo Controller IO the outputs of the *LinMot*® servo controller are set. The output is only set if the output is not configured to a SW functionality.

Command: Set Controller IO (0Dh)	
Direction	Master ➟ Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	0	0	0	1	1	0	1
Word 2	Dig out 6	Dig out 5	Dig out 4	Pos error out	Error out	Warn out	X	X	X	X	X	X	X	X	X	X

Response: Set Controller IO

To the request Set Servo Controller IO the *LinMot*® servo controller responds the state of its digital In/Outputs.

Response: Set Controller IO (0Dh)	
Direction	Slave ➟ Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	0	0	0	1	1	0	1
Word 2	Dig out 6	Dig out 5	Dig out 4	Pos error out	Error out	Warn out	Dig In 6	Dig In 5	Analog/Trigger 4	Analog/Trigger 3	Analog/Trigger 2	Analog/Trigger 1	Stop request	Freeze request	Init request	Run request

Command: Reset Controller

The command Reset Servo Controller resets the micro controller of the *LinMot®* servo controller.

Command: Reset Controller (0Fh)	
Direction	Master➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	0	0	0	1	1	1	1
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Reset Controller

The Reset Servo Controller command is not responded by the *LinMot®* servo controller because it is reset first.

Command: Get Position Setpoint

The command Get Position Setpoint requests the wanted position of one drive from the *LinMot®* servo controller.

Command: Get Position Setpoint (10h)	
Direction	Master➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	0	1	0	0	0	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Position Setpoint

To the request Get Position Setpoint the *LinMot®* servo controller responds the wanted position of the specified drive.

Response: Get Position Setpoint (10h)

Direction

Slave ➟Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	0	1	0	0	0	0
Word 2	Position Setpoint															

Range

-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Command: Set Position Setpoint

The command Set Position Setpoint sets the wanted position of one drive from the *LinMot*® servo controller. In this way a easy and flexible positioning is possible. To use this command the specified drive has to be in the serial run mode!

Command: Set Position Setpoint (11h)

Direction

Master ➟ Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	0	1	0	0	0	1
Word 2	New Position Setpoint															

Range

-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125 µm
Stepper	1/8 Step
Solenoid	23.438 mA

Response: Set Position Setpoint

In the response the *LinMot*® servo controller simply echoes the command.

Response: Set Position Setpoint (11h)

Direction

Slave ➟ Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	0	1	0	0	0	1
Word 2	New Position Setpoint															

Range

-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125 µm
Stepper	1/8 Step
Solenoid	23.438 mA

Command: Set Position Setpoint Waiting For Trigger

The command Set Position Setpoint Waiting For Trigger sets the wanted position of one drive from the *LinMot*® servo controller, the new wanted position is not activated until the trigger of the specified drive occurs! To use this command the specified drive has to be in the serial run mode!

Command: Set Position Setpoint Waiting For Trigger (12h)	
Direction	Master➟Slave
Bit Definitions	
Range	-32256 to +32256
Unit	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	0	1	0	0	1	0
Word 2	New Position Setpoint															

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Response: Set Position Setpoint Waiting For trigger

In the response the *LinMot*® servo controller simply echoes the command.

Response: Set Position Setpoint Waiting For Trigger (12h)	
Direction	Slave ➟Master
Bit Definitions	
Range	-32256 to +32256
Unit	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	0	1	0	0	1	0
Word 2	New Position Setpoint															

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Command: Increment Position Setpoint

The command Increment Position Setpoint increments the wanted position of one drive from the *LinMot*® servo controller. To use this command the specified drive has to be in the serial run mode!

Command: Set Position Setpoint Waiting For Trigger (13h)	
Direction	Master➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	Toggle	0	0	1	0	0	1	1
Word 2	Position Setpoint Increment															

Range	-32256 to +32256
Unit	

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8Step
Solenoid	23.438mA

Response: Increment Position Setpoint

In the response the *LinMot*® servo controller simply echoes the command.

Response: Set Position Setpoint Waiting For Trigger (13h)	
Direction	Slave ➟Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	Toggle	0	0	1	0	0	1	1
Word 2	Position Setpoint Increment															

Range	-32256 to +32256
Unit	

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8Step
Solenoid	23.438mA

Command: Increment Position Setpoint Waiting For trigger

The command Increment Position Setpoint Waiting For Trigger increments the wanted position of one drive from the *LinMot*® servo controller. The new wanted position is not activated until the trigger of the specified drive occurs! To use this command the specified drive has to be in the serial run mode!

Command: Increment Position Setpoint Waiting For Trigger (14h)

Direction

Master ➟ Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	0	1	0	1	0	0
Word 2	Position Setpoint Increment															

Range

-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Response: Increment Position Setpoint Waiting For trigger

In the response the *LinMot*® servo controller simply echoes the command.

Response: Increment Position Setpoint Waiting For Trigger (14h)

Direction

Slave ➟ Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	0	1	0	1	0	0
Word 2	Position Setpoint Increment															

Range

-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Command: Move Home Position

The command Move Home Position updates the Home (zero) position, of one drive from the *LinMot*® servo controller.This command causes no movement of the drive. Use this command only if the drive is not moving. For the execution of this command the Toggle bit T in the command ID has to be the inverse to the Motor x Command Toggle bit of the specified drive in the status High word.

Command: Move Home Position (15h)

Direction

Master ➟ Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	T	0	0	1	0	1	0	1
Word 2	New Home Position															

Range

-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8Step
Solenoid	23.438mA

Response: Move Home Position

In the response the *LinMot*® servo controller simply echoes the command.

Response: Move Home Position (15h)

Direction

Slave ➟ Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	0	1	0	1	0	1
Word 2	New Home Position															

Range

-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8Step
Solenoid	23.438mA

Command: Get Actual Position

The command Get Actual Position requests the actual position of one drive from the *LinMot®* servo controller.

Command: Get Actual Position (18h)	
Direction	Master ➟ Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	0	1	1	0	0	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Actual Position

To the request Get Actual Position the *LinMot®* servo controller responds the actual position of the specified drive.

Response: Get Actual Position (18h)	
Direction	Slave ➟ Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	0	1	1	0	0	0
Word 2	Actual Position															

Range	-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Command: Set Actual Position

The command Set Actual Position updates the Actual position, of one drive from the *LinMot*® servo controller.This command causes no movement of the drive. Use this command only if the drive is not moving. For the execution of this command the toggle bit T in the command ID has to be the inverse to the Motor x Command Toggle bit of the specified drive in the status high word.

Command: Set Actual Position (19h)

Direction: Master ➡ Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	T	0	0	1	1	0	0	1
Word 2	New Actual Position															

Range: -32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8Step
Solenoid	23.438mA

Response: Set Actual Position

In the response the *LinMot*® servo controller simply echoes the command.

Response: Set Actual Position (19h)

Direction: Slave ➡ Master

Size: 2 words

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	0	1	1	0	0	1
Word 2	New Actual Position															

Range: -32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8Step
Solenoid	23.438mA

Command: Start Curve

The command Start Curve starts immediately the specified curve on one drive of the *LinMot*® servo controller. For the execution of this command the toggle bit T in the command ID has to be the inverse to the Motor x Command Toggle bit of the specified drive in the status High word. To use this command the specified drive has to be in the serial run mode!

Command: Start Curve (20h)	
Direction	Master➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	T	0	1	0	0	0	0	0
Word 2	Curve Number															

Range	0 to 63

Response: Start Curve

In the response the *LinMot*® servo controller simply echoes the command.

Response: Start Curve (20h)	
Direction	Slave ➟Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	T	0	1	0	0	0	0	0
Word 2	Curve Number															

Range	0 to 63

Command: Start Curve Waiting For Trigger

The command Start Curve Waiting For Trigger specifies the curve on one drive of the *LinMot*® servo controller. The curve is not activated until the trigger of the specified drive occurs! On each trigger the curve is restarted. To use this command the specified drive has to be in the serial run mode!

Command: Start Curve Waiting For Trigger (21h)	
Direction	Master ➡ Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	0	0	0	1
Word 2	Curve Number															

Range	0 to 63

Response: Start Curve Waiting For Trigger

In the response the *LinMot*® servo controller simply echoes the command.

Response: Start Curve Waiting For Trigger (21h)	
Direction	Slave ➡ Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	0	0	0	1
Word 2	Curve Number															

Range	0 to 63

Command: Start Curve Incremental

The command Start Curve incremental starts immediately the specified curve on the actual demand position on one drive of the *LinMot*® servo controller. The start point of the curve has to be zero. The command is started from the actual demand position. For execution of this command the Toggle bit T in the command ID has to be the inverse to the Motor x Command Toggle bit of the specified drive in the status High word. To use this command the specified drive has to be in the serial run mode!

Command: Start Curve Incremental (22h)	
Direction	Master➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	T	0	1	0	0	0	1	0
Word 2	Curve Number															

Range	0 to 63

Response: Start Curve Incremental

To the request Start Curve Incremental *LinMot*® servo controller simply echoes the command.

Response: Start Curve Incremental (22h)	
Direction	Slave ➟Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	T	0	1	0	0	0	1	0
Word 2	Curve Number															

Range	0 to 63

Command: Start Curve Incremental Waiting For Trigger

The command Start Curve incremental Waiting for trigger specifies the curve on one drive of the *LinMot*® servo controller. The curve is not activated until the trigger of the specified drive occurs! On each trigger the curve is restarted. The curve is started from the actual demand position. The start point of the curve has to be zero. To use this command the specified drive has to be in the serial run mode!

Command: Start Curve (23h)	
Direction	Master ➡ Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	0	0	1	1
Word 2	Curve Number															

Range	0 to 63

Response: Start Curve Incremental Waiting For Trigger

In the response the *LinMot*® servo controller simply echoes the command.

Response: Start Curve (23h)	
Direction	Slave ➡ Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	0	0	1	1
Word 2	Curve Number															

Range	0 to 63

Command: Get (Rise) Curve Number

The command Get (Rise) Curve Number requests the actual (Rise) curve number of one drive from the *LinMot*® servo controller.

Command: Get (Rise) Curve Number (24h)	
Direction	Master➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	0	1	0	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get (Rise) Curve Number

To the request Get (Rise) Curve Number the *LinMot*® servo controller responds the actual value of the (Rise) Curve Number parameter of the specified drive.

Response: Get (Rise) Curve Number (24h)	
Direction	Slave ➟Master
Bit Definitions	
Range	0 to 63

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	0	1	0	0
Word 2	Actual (Rise) Curve Number															

Command: Set (Rise) Curve Number

The command Set (Rise) Curve Number sets the actual (Rise) Curve Number of one drive from the *LinMot*® servo controller.

Command: Set (Rise) Curve Number (25h)	
Direction	Master➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	0	1	0	1
Word 2	New (Rise) Curve Number															

Range	0 to 63

Response: Set (Rise) Curve Number

In the response the *LinMot*® servo controller simply echoes the command.

Response: Set (Rise) Curve Number (25h)	
Direction	Slave ➟Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	0	1	0	1
Word 2	New (Rise) Curve Number															

Range	0 to 63

Command: Get Fall Curve Number

The command Get Fall Curve Number requests the actual fall curve number of one drive from the *LinMot®* servo controller.

Command: Get Fall Curve Number (26h)																	
Direction	Master➟Slave																
Bit Definitions																	
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	0	1	1	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Fall Curve Number

To the request Get Fall Curve Number the *LinMot®* servo controller responds the actual value of the Fall Curve Number parameter of the specified drive.

Response: Get Fall Curve Number (26h)																
Direction	Slave ➟Master															
Bit Definitions																
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	0	1	1	0
Word 2	Actual Fall Curve Number															
Range	0 to 63															

Command: Set Fall Curve Number

The command Set Fall Curve Number sets the actual fall curve number of one drive from the *LinMot®* servo controller.

Command: Set Fall Curve Number (27h)	
Direction	Master➟Slave
Bit Definitions	
Range	0 to 63

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	0	1	1	1
Word 2	New Fall Curve Number															

Response: Set Fall Curve Number

In the response the *LinMot®* servo controller simply echoes the command.

Response: Set Fall Curve Number (27h)	
Direction	Slave ➟Master
Bit Definitions	
Range	0 to 63

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	0	1	1	1
Word 2	New Fall Curve Number															

Command: Get Curve Offset

The command Get Curve Offset requests the actual curve offset of one drive from the *LinMot*® servo controller.

Command: Get Curve Offset (28h)	
Direction	Master➟Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	1	0	0	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Curve Offset

To the request Get Curve Offset the *LinMot*® servo controller responds the actual value of the curve offset parameter of the specified drive.

Response: Get Curve Offset (28h)	
Direction	Slave ➟Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	1	0	0	0
Word 2	Curve Offset															

Range	-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8Step
Solenoid	23.438mA

Command: Set Curve Offset

The command Set Curve Offset sets the actual curve offset of one drive from the *LinMot*® servo controller.

Command: Set Curve Offset (29h)

Direction

Master➟Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	1	0	0	1
Word 2	New Curve Offset															

Range

-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Response: Set Curve Offset

In the response the *LinMot*® servo controller simply echoes the command.

Response: Set Curve Offset (29h)

Direction

Slave ➟Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	1	0	0	1
Word 2	New Curve Offset															

Range

-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Command: Get Curve Amplitude

The command Get Curve Amplitude requests the actual curve amplitude of one drive from the *LinMot*® servo controller.

Command: Get Curve Amplitude (2Ah)	
Direction	Master➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	1	0	1	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Curve Amplitude

To the request Get Curve Amplitude the *LinMot*® servo controller responds the actual value of the curve amplitude parameter of the specified drive.

Response: Get Curve Amplitude (2Ah)	
Direction	Slave ➟Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	1	0	1	0
Word 2	Curve Amplitude															

Range	0 to 4096
Unit	0.0244% of maximum amplitude

Command: Set Curve Amplitude

The command Set Curve Amplitude sets the actual curve amplitude of one drive from the *LinMot®* servo controller.

Command: Set Curve Amplitude (2Bh)	
Direction	Master➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	1	0	1	1
Word 2	New Curve Amplitude															

Range	0 to 4096
Unit	0.0244% of maximum amplitude

Response: Set Curve Amplitude

In the response the *LinMot®* servo controller simply echoes the command.

Response: Set Curve Amplitude (2Bh)	
Direction	Slave ➟Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	1	0	1	1
Word 2	New Curve Amplitude															

Range	0 to 4096
Unit	0.0244% of maximum amplitude

Command: Get Curve Speed

The command Get Curve Speed requests the actual curve speed of one drive from the *LinMot*® servo controller.

Command: Get Curve Speed (2Ch)																	
Direction	Master➟Slave																
Bit Definitions																	
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	1	1	0	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Curve Speed

To the request Get Curve Speed the *LinMot*® servo controller responds the actual value of the curve speed parameter of the specified drive.

Response: Get Curve Speed (2Ch)																
Direction	Slave ➟Master															
Bit Definitions																
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	1	1	0	0
Word 2	Curve Speed															
Range	0 to 4096															
Unit	0.0244% of maximum speed															

Command: Set Curve Speed

The command Set Curve Speed sets the actual curve speed of one drive from the *LinMot®* servo controller.

Command: Set Curve Offset (2Dh)	
Direction	Master➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	1	1	0	1
Word 2	New Curve Speed															

Range	0 to 4096
Unit	0.0244% of maximum speed

Response: Set Curve Speed

In the response the *LinMot®* servo controller simply echo the command.

Response: Set Curve Speed (2Dh)	
Direction	Slave ➟Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	0	1	1	0	1
Word 2	New Curve Speed															

Range	0 to 4096
Unit	0.0244% of maximum speed

Command: Get Controller Maximal Current

The command Get Controller Maximal Current requests the actual value of the Maximal Current in the controller settings of one drive from the *LinMot*® servo controller.

Command: Get Controller Maximal Current (30h)	
Direction	Master ➡ Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	0	0	0	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Controller Maximal Current

To the request Get Controller Maximal Current the *LinMot*® servo controller responds the actual value of the Maximal Current parameter in the controller settings of the specified drive.

Response: Get Controller Maximal Current (30h)	
Direction	Slave ➡ Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	0	0	0	0
Word 2	Controller: Maximal Current															

Range	0 to 128 for 100 Series (3A) 0 to 256 for 1000 Series (6A)
Unit	23.438 mA

Command: Set Controller Maximal Current

The command Set Controller Maximal Current sets the actual value of the Maximal Current in the controller settings of one drive from the *LinMot®* servo controller.

Command: Set Controller Maximal Current (31h)	
Direction	Master➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	0	0	0	1
Word 2	Controller: New Maximal Current															

Range	0 to 128 for 100 Series (3A) 0 to 256 for 1000 Series (6A)
Unit	23.438 mA

Response: Set Controller Maximal Current

To the request Get Controller Maximal Current the *LinMot®* servo controller responds the actual value of the Maximal Current parameter in the controller settings of the specified drive.

Response: Set Controller Maximal Current (31h)	
Direction	Slave ➟Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	0	0	0	1
Word 2	Controller: New Maximal Current															

Range	0 to 128 for 100 Series (3A) 0 to 256 for 1000 Series (6A)
Unit	23.438 mA

Command: Get Controller Current Offset

The command Get Controller Current Offset requests the actual value of the current offset in the controller settings of one drive from the *LinMot*® servo controller.

Command: Get Controller Current Offset (32h)																	
Direction	Master ➡ Slave																
Bit Definitions	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	0	0	1	0
	Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Controller Current Offset

To the request Get Controller Current Offset the *LinMot*® servo controller responds the actual value of the Current Offset parameter in the controller settings of the specified drive.

Response: Get Controller Current Offset (32h)																	
Direction	Slave ➡ Master																
Bit Definitions	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	0	0	1	0
	Word 2	Controller: Current Offset															
Range	-64 to +64 for 100 Series -127 to +128 for 1000 Series																
Unit	23.438 mA																

Command: Set Controller Current Offset

The command Set Controller Current Offset sets the actual value of the current offset in the controller settings of one drive from the *LinMot*® servo controller.

Command: Set Controller Current Offset (33h)	
Direction	Master➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	0	0	1	1
Word 2	Controller: New Current Offset															

Range	-64 to +64 for 100 Series -127 to +128 for 1000 Series
Unit	23.438 mA

Response: Set Controller Current Offset

In the response the *LinMot*® servo controller simply echoes the command.

Response: Set Controller Current Offset (33h)	
Direction	Slave ➟Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	0	0	1	1
Word 2	Controller: New Current Offset															

Range	-64 to +64 for 100 Series -127 to +128 for 1000 Series
Unit	23.438 mA

Command: Get Controller P

The command Get Controller P requests the actual value of the P gain in the controller settings of one drive from the *LinMot*® servo controller.

Command: Get Controller P (34h)																	
Direction	Master➟Slave																
Bit Definitions																	
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	0	1	0	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Controller P

To the request Get Controller P the *LinMot*® servo controller responds the actual value of the P parameter in the controller settings of the specified drive.

Response: Get Controller P (34h)																
Direction	Slave ➟Master															
Bit Definitions																
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	0	1	0	0
Word 2	Controller: P Gain															
Range	0 to 32640															
Unit	2.3438 mA/mm															

Command: Set Controller P

The command Set Controller P sets the actual value of the P gain in the controller settings of one drive from the *LinMot*® servo controller.

Command: Set Controller P(35h)	
Direction	Master ➟ Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	0	1	0	1
Word 2	Controller: New P Gain															

Range	0 to 32640
Unit	2.3438 mA/mm

Response: Set Controller P

In the response the *LinMot*® servo controller simply echoes the command.

Response: Set Controller P (35h)	
Direction	Slave ➟ Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	0	1	0	1
Word 2	Controller: New P Gain															

Range	0 to 32640
Unit	2.3438 mA/mm

Command: Get Controller D

The command Get Controller D requests the actual value of the D gain in the controller settings of one drive from the *LinMot*® servo controller.

Command: Get Controller D (36h)																	
Direction	Master➟Slave																
Bit Definitions																	
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	0	1	1	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Controller D

To the request Get Controller D the *LinMot*® servo controller responds the actual value of the D parameter in the controller settings of the specified drive.

Response: Get Controller D (36h)																
Direction	Slave ➟Master															
Bit Definitions																
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	0	1	1	0
Word 2	Controller: D Gain															
Range	0 to 32640															
Unit	15 mA*s/m															

Command: Set Controller D

The command Set Controller D sets the actual value of the D gain in the controller settings of one drive from the *LinMot*® servo controller.

Command: Set Controller D (37h)	
Direction	Master ➟ Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	0	1	1	1
Word 2	Controller: D Gain															

Range	0 to 32640
Unit	15 mA*s/m

Response: Set Controller D

In the response the *LinMot*® servo controller simply echoes the command.

Response: Set Controller D (37h)	
Direction	Slave ➟ Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	0	1	1	1
Word 2	Controller: D Gain															

Range	0 to 32640
Unit	15 mA*s/m

Command: Get Controller I

The command Get Controller I requests the actual value of the I gain in the controller settings of one drive from the *LinMot*® servo controller.

Command: Get Controller I (38h)																	
Direction	Master➟Slave																
Bit Definitions																	
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	1	0	0	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Controller I

To the request Get Controller I the *LinMot*® servo controller responds the actual value of the I parameter in the controller settings of the specified drive.

Response: Get Controller I (38h)																
Direction	Slave ➟Master															
Bit Definitions																
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	1	0	0	0
Word 2	Controller: I Gain															
Range	0 to 32640															
Unit	45.7 mA/(m*s)m															

Command: Set Controller I

The command Set Controller I sets the actual value of the I gain in the controller settings of one drive from the *LinMot®* servo controller.

Command: Set Controller I (39h)	
Direction	Master➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	1	0	0	1
Word 2	Controller: New I Gain															

Range	0 to 32640
Unit	45.7 mA/(m*s)m

Response: Set Controller I

In the response the *LinMot®* servo controller simply echoes the command.

Response: Set Controller I (39h)	
Direction	Slave ➟Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	1	0	0	1
Word 2	Controller: New I Gain															

Range	0 to 32640
Unit	45.7 mA/(m*s)m

Command: Get Controller FF Friction

The command Get Controller FF Friction requests the actual value of the feed forward friction in the controller settings of one drive from the *LinMot®* servo controller.

Command: Get Controller FF Friction (3Ah)	
Direction	Master ➟ Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	1	0	1	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Controller FF Friction

To the request Get Controller FF Friction the *LinMot®* servo controller responds the actual value of the FF Friction parameter in the controller settings of the specified drive.

Response: Get Controller FF Friction (3Ah)	
Direction	Slave ➟ Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	1	0	1	0
Word 2	Controller: FF Friction															

Range	0 to 255
Unit	23.438 mA

Command: Set Controller FF Friction

The command Set Controller FF Friction sets the actual value of the feed forward friction in the controller settings of one drive from the *LinMot*® servo controller.

Command: Set Controller FF Friction (3Bh)	
Direction	Master➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	1	0	1	1
Word 2	Controller: New FF Friction															

Range	0 to 255
Unit	23.438 mA

Response: Set Controller FF Friction

In the response the *LinMot*® servo controller simply echoes the command.

Response: Set Controller FF Friction (3Bh)	
Direction	Slave ➟Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	1	0	1	1
Word 2	Controller: New FF Friction															

Range	0 to 255
Unit	23.438 mA

Command: Get Controller FF Acceleration

The command Get FF Acceleration requests the actual value of the feed forward acceleration in the controller settings of one drive from the *LinMot®* servo controller.

Command: Get Controller FF Acceleration (3Ch)	
Direction	Master ➡ Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	1	1	0	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Controller FF Acceleration

To the request Get Controller FF Acceleration the *LinMot®* servo controller responds the actual value of the FF Acceleration parameter in the controller settings of the specified drive.

Response: Get Controller FF Acceleration (3Ch)	
Direction	Slave ➡ Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	1	1	0	0
Word 2	Controller: FF Acceleration															

Range	0 to 32640
Unit	100 mA/(m/s^2)

Command: Set Controller FF Acceleration

The command Set FF Acceleration sets the actual value of the feed forward acceleration in the controller settings of one drive from the *LinMot*® servo controller.

Command: Set Controller FF Acceleration (3Dh)	
Direction	Master➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	1	1	0	1
Word 2	Controller: New FF Acceleration															

Range	0 to 32640
Unit	100 mA/(m/s^2)

Response: Set Controller FF Acceleration

In the response the *LinMot*® servo controller simply echoes the command.

Response: Set Controller FF Acceleration (3Dh)	
Direction	Slave ➟Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	1	1	0	1
Word 2	Controller: New FF Acceleration															

Range	0 to 32640
Unit	100 mA/(m/s^2)

Command: Get Controller FF Deceleration

The command Get Controller FF Deceleration requests the actual value of the feed forward deceleration in the controller settings of one drive from the *LinMot®* servo controller.

Command: Get Controller FF Deceleration (3Eh)	
Direction	Master ➡ Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	1	1	1	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Controller FF Deceleration

To the request Get Controller FF Deceleration the *LinMot®* servo controller responds the actual value of the FF Deceleration parameter in the controller settings of the specified drive.

Response: Get Controller FF Deceleration (3Eh)	
Direction	Slave ➡ Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	1	1	1	0
Word 2	Controller: FF Deceleration															

Range	0 to 32640
Unit	100 mA/(m/s^2)

Command: Set Controller FF Deceleration

The command Set Controller FF Deceleration sets the actual value of the feed forward deceleration in the controller settings of one drive from the *LinMot*® servo controller.

Command: Set Controller FF Deceleration (3Fh)	
Direction	Master➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	1	1	1	1
Word 2	Controller: FF Deceleration															

Range	0 to 32640
Unit	100 mA/(m/s^2)

Response: Set Controller FF Deceleration

TIn the response the *LinMot*® servo controller simply echoes the command.

Response: Set Controller FF Deceleration (3Fh)	
Direction	Slave ➟Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	0	1	1	1	1	1	1
Word 2	Controller: FF Deceleration															

Range	0 to 32640
Unit	100 mA/(m/s^2)

Command: Get Minimal Position

The command Get Minimal Position requests the actual value of the Minimal Position parameter in the Set Value Configuration settings of one drive from the *LinMot*® servo controller.

Command: Get Minimal Position (40h)	
Direction	Master ➟ Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	0	0	0	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Minimal Position

To the request Get Minimal Position the *LinMot*® servo controller responds the actual value of the Minimal Position parameter in the Set Value Configuration settings of the specified drive.

Response: Get Minimal Position (40h)	
Direction	Slave ➟ Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	0	0	0	0
Word 2	Minimal Position															

Range	-32256 to +32256
Unit	

Motor type	Unit
LinMot®	19.53125 µm
Stepper	1/8 Step
Solenoid	23.438 mA

Command: Set Minimal Position

The command Set Minimal Position sets the actual value of the Minimal Position parameter in the Set Value Configuration settings of one drive from the *LinMot®* servo controller.

Command: Set Minimal Position (41h)

Direction

Master➟Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	0	0	0	1
Word 2	New Minimal Position															

Range

-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Response: Set Minimal Position

In the response the *LinMot®* servo controller simply echoes the command.

Response: Set Minimal Position (41h)

Direction

Slave ➟Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	0	0	0	1
Word 2	New Minimal Position															

Range

-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Command: Get Maximal Position

The command Get Maximal Position requests the actual value of the Maximal Position parameter in the Set Value Configuration settings of one drive from the *LinMot*® servo controller.

Command: Get Maximal Position (42h)																	
Direction	Master ➡ Slave																
Bit Definitions	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	0	0	1	0
	Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Maximal Position

To the request Get Maximal Position the *LinMot*® servo controller responds the actual value of the Maximal Position parameter in the Set Value Configuration settings of the specified drive.

Response: Get Maximal Position (42h)																	
Direction	Slave ➡ Master																
Bit Definitions	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	0	0	1	0
	Word 2	Maximal Position															
Range	-32256 to +32256																
Unit	Motor type	Unit															
	LinMot®	19.53125 µm															
	Stepper	1/8 Step															
	Solenoid	23.438 mA															

Command: Set Maximal Position

The command Set Maximal Position sets the actual value of the Maximal Position parameter in the Set Value Configuration settings of one drive from the *LinMot*® servo controller.

Command: Set Maximal Position (43h)

Direction

Master ➡ Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	0	0	1	1
Word 2	New Maximal Position															

Range

-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125 µm
Stepper	1/8 Step
Solenoid	23.438 mA

Response: Set Maximal Position

In the response the *LinMot*® servo controller simply echoes the command.

Response: Set Maximal Position (43h)

Direction

Slave ➡ Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	0	0	1	1
Word 2	New Maximal Position															

Range

-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125 µm
Stepper	1/8 Step
Solenoid	23.438 mA

Command: Get Position Range Low Limit

The command Get Position Range Low Limit requests the actual value of the Pos Range Min parameter in the position monitoring settings of one drive from the *LinMot®* servo controller.

Command: Get Position Range Low Limit (44h)																	
Direction	Master ➡ Slave																
Bit Definitions	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	0	1	0	0
	Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Position Range Low Limit

To the request Get Position Range Low Limit the *LinMot®* servo controller responds the actual value of the Pos Range Min parameter in the position monitoring settings of the specified drive.

Response: Get Position Range Low Limit (44h)																	
Direction	Slave ➡ Master																
Bit Definitions	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	0	1	0	0
	Word 2	Pos Range Min															
Range	-32256 to +32256																
Unit																	

Motor type	Unit
LinMot®	19.53125 µm
Stepper	1/8 Step
Solenoid	23.438 mA

Command: Set Position Range Low Limit

The command Set Position Range Low Limit sets the actual value of the Pos Range Min parameter in the Position Monitoring settings of one drive from the *LinMot*® servo controller.

Command: Set Position Range Low Limit (45h)

Direction

Master➟Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	0	1	0	1
Word 2	New Pos Range Min															

Range

-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Response: Set Position Range Low Limit

In the response the *LinMot*® servo controller simply echoes the command.

Response: Set Position Range Low Limit (45h)

Direction

Slave ➟Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	0	1	0	1
Word 2	New Pos Range Min															

Range

-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Command: Get Position Range High Limit

The command Get Position Range High Limit requests the actual value of the Pos Range Max parameter in the Position Monitoring settings of one drive from the *LinMot®* servo controller.

Command: Get Position Range High Limit (46h)																	
Direction	Master ➡ Slave																
Bit Definitions																	
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	0	1	1	0	
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Response: Get Position Range High Limit

To the request Get Position Range High Limit the *LinMot®* servo controller responds the actual value of the Pos Range Max parameter in the Position Monitoring settings of the specified drive.

Response: Get Position Range High Limit (46h)																	
Direction	Slave ➡ Master																
Bit Definitions																	
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	0	1	1	0	
Word 2	Pos Range Max																
Range	-32256 to +32256																
Unit																	

Motor type	Unit
LinMot®	19.53125 µm
Stepper	1/8 Step
Solenoid	23.438 mA

Command: Set Position Range High Limit

The command Set Position Range High Limit sets the actual value of the Pos Range Max parameter in the Position Monitoring settings of one drive from the *LinMot*® servo controller.

Command: Set Position Range High Limit (47h)

Direction

Master➟Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	0	1	1	1
Word 2	New Pos Range Max															

Range

-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Response: Set Position Range High Limit

In the response the *LinMot*® servo controller simply echoes the command.

Response: Set Position Range High Limit (47h)

Direction

Slave ➟Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	0	1	1	1
Word 2	New Pos Range Max															

Range

-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Command: Get In Position Low Limit

The command Get In Position Low Limit requests the actual value of the **In Position -** parameter in the Position Monitoring settings of one drive from the *LinMot*® servo controller.

Command: Get In Position Low Limit (48h)																	
Direction	Master ➡ Slave																
Bit Definitions																	
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	1	0	0	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get In Position Low Limit

To the request Get In Position Low Limit the *LinMot*® servo controller responds the actual value of the **In Position -** parameter in the Position Monitoring settings of the specified drive.

Response: Get In Position Low Limit (48h)																
Direction	Slave ➡ Master															
Bit Definitions																
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	1	0	0	0
Word 2	In Position -															
Range	2 to 511															
Unit																

Motor type	Unit
LinMot®	19.53125 µm
Stepper	1/8 Step
Solenoid	23.438 mA

Command: Set In Position Low Limit

The command Set In Position Low Limit sets the actual value of the **In Position -** parameter in the Position Monitoring settings of one drive from the *LinMot®* servo controller.

Command: Set In Position Low Limit (49h)

Direction

Master➟Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	1	0	0	1
Word 2	New In Position -															

Range

2 to 511

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Response: Set In Position Low Limit

In the response the *LinMot®* servo controller simply echoes the command.

Response: Set In Position Low Limit (49h)

Direction

Slave ➟Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	1	0	0	1
Word 2	New In Position -															

Range

2 to 511

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Command: Get In Position High Limit

The command Get In Position High Limit requests the actual value of the **In Position +** parameter in the Position Monitoring settings of one drive from the *LinMot*® servo controller.

Command: Get In Position High Limit (4Ah)																	
Direction	Master ➡ Slave																
Bit Definitions																	
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	1	0	1	0	
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Response: Get In Position High Limit

To the request Get In Position High Limit the *LinMot*® servo controller responds the actual value of the **In Position +** parameter in the Position Monitoring settings of the specified drive.

Response: Get In Position High Limit (4Ah)																	
Direction	Slave ➡ Master																
Bit Definitions																	
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	1	0	1	0	
Word 2	In Position +																
Range	2 to 511																
Unit																	

Motor type	Unit
LinMot®	19.53125 µm
Stepper	1/8 Step
Solenoid	23.438 mA

Command: Set In Position High Limit

The command Set In Position High Limit sets the actual value of the **In Position +** parameter in the Position Monitoring settings of one drive from the *LinMot®* servo controller.

Command: Set In Position High Limit (4Bh)

Direction

Master➟Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	1	0	1	1
Word 2	New In Position +															

Range

2 to 511

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Response: Set In Position High Limit

In the response the *LinMot®* servo controller simply echoes the command.

Response: Set In Position High Limit (4Bh)

Direction

Slave ➟Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	1	0	1	1
Word 2	New In Position +															

Range

2 to 511

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Command: Get Following Error Low Limit

The command Get Following Error Low Limit requests the actual value of the **Following Error -** parameter in the Position Monitoring settings of one drive from the *LinMot®* servo controller.

Command: Get Following Error Low Limit (4Ch)	
Direction	Master ➡ Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	1	1	0	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Following Error Low Limit

To the request Get Following Error Low Limit the *LinMot®* servo controller responds the actual value of the **Following Error -** parameter in the Position Monitoring settings of the specified drive.

Response: Get In Position Low Limit (4Ch)	
Direction	Slave ➡ Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	1	1	0	0
Word 2	Following Error -															

Range	4 to 511
Unit	

Motor type	Unit
LinMot®	19.53125 µm
Stepper	1/8 Step
Solenoid	23.438 mA

Command: Set Following Error Low Limit

The command Set Following Error Low Limit sets the actual value of the **Following Error -** parameter in the Position Monitoring settings of one drive from the *LinMot®* servo controller.

Command: Set Following Error Low Limit (4Dh)

Direction

Master➟Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	1	1	0	1
Word 2	New Following Error -															

Range

4 to 511

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Response: Set Following Error Low Limit

In the response the *LinMot®* servo controller simply echoes the command.

Response: Set Following Error Low Limit (4Dh)

Direction

Slave ➟Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	1	1	0	1
Word 2	New Following Error -															

Range

4 to 511

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Command: Get Following Error High Limit

The command Get Following Error High Limit requests the actual value of the **Following Error +** parameter in the Position Monitoring settings of one drive from the *LinMot®* servo controller.

Command: Get Following Error High Limit (4Eh)	
Direction	Master ➡ Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	1	1	1	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Following Error High Limit

To the request Get Following Error High Limit the *LinMot®* servo controller responds the actual value of the **Following Error +** parameter in the Position Monitoring settings of the specified drive.

Response: Get Following Error High Limit (4Eh)	
Direction	Slave ➡ Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	1	1	1	0
Word 2	Following Error +															

Range	4 to 511
Unit	

Motor type	Unit
LinMot®	19.53125 µm
Stepper	1/8 Step
Solenoid	23.438 mA

Command: Set Following Error High Limit

The command Set Following Error High Limit sets the actual value of the **Following Error +** parameter in the Position Monitoring settings of one drive from the *LinMot*® servo controller.

Command: Set Following Error High Limit (4Fh)

Direction

Master➟Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	1	1	1	1
Word 2	New Following Error +															

Range

4 to 511

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Response: Set Following Error High Limit

In the response the *LinMot*® servo controller simply echoes the command.

Response: Set Following Error High Limit (4Fh)

Direction

Slave ➟Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	0	1	1	1	1
Word 2	New Following Error +															

Range

4 to 511

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Command: Get Filter Maximal Speed

The command Get Filter Maximal Speed requests the actual value of the Max Speed parameter in the Filter Parameter settings of one drive from the *LinMot®* servo controller.

Command: Get Filter Maximal Speed (50h)																	
Direction	Master ➡ Slave																
Bit Definitions																	
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	0	0	0	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Filter Maximal Speed

To the request Get Filter Maximal Speed the *LinMot®* servo controller responds the actual value of the Max Speed parameter in the Filter Parameter settings of the specified drive.

Response: Get Filter Maximal Speed (50h)																
Direction	Slave ➡ Master															
Bit Definitions																
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	0	0	0	0
Word 2	Filter: Max Speed															
Range	6 to 24576															
Unit																

Motortype	Unit
LinMot®	190.735 µm/s
Stepper	0.081469 Steps/s
Solenoid	-

Command: Set Filter Maximal Speed

The command Set Filter Maximal Speed sets the actual value of the Max Speed parameter in the Filter Parameter settings of one drive from the *LinMot®* servo controller.

Command: Set Filter Maximal Speed (51h)

Direction

Master➟Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	0	0	0	1
Word 2	Filter: New Max Speed															

Range

6 to 24576

Unit

Motortype	Unit
LinMot®	190.735 µm/s
Stepper	0.081469 Steps/s
Solenoid	-

Response: Set Filter Maximal Speed

In the response the *LinMot®* servo controller simply echoes the command.

Response: Set Filter Maximal Speed (51h)

Direction

Slave ➟Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	0	0	0	1
Word 2	Filter: New Max Speed															

Range

6 to 24576

Unit

Motortype	Unit
LinMot®	190.735 µm/s
Stepper	0.081469 Steps/s
Solenoid	-

Command: Get Filter Maximal Acceleration

The command Get Filter Maximal Acceleration requests the actual value of the Max Acceleration parameter in the Filter Parameter settings of one drive from the *LinMot®* servo controller.

Command: Get Filter Maximal Acceleration (52h)	
Direction	Master ➟ Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	0	0	1	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Filter Maximal Acceleration

To the request Get Filter Maximal Acceleration the *LinMot®* servo controller responds the actual value of the Max Acceleration parameter in the Filter Parameter settings of the specified drive.

Response: Get Filter Maximal Acceleration (52h)	
Direction	Slave ➟ Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	0	0	0	0
Word 2	Filter: Max Acceleration															

Range	1 to 1536

Unit

Motor type	Unit
LinMot®	238.419 mm/s^2
Stepper	47.6836 Steps/s^2
Solenoid	-

Command: Set Filter Maximal Acceleration

The command Set Filter Maximal Acceleration sets the actual value of the Max Acceleration parameter in the Filter Parameter settings of one drive from the *LinMot®* servo controller.

Command: Set Filter Maximal Acceleration (53h)

Direction

Master➟Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	0	0	1	1
Word 2	Filter: New Max Acceleration															

Range

1 to 1536

Unit

Motor type	Unit
LinMot®	238.419 mm/s^2
Stepper	47.6836 Steps/s^2
Solenoid	-

Response: Set Filter Maximal Acceleration

In the response the *LinMot®* servo controller simply echoes the command.

Response: Set Filter Maximal Acceleration (53h)

Direction

Slave ➟Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	0	0	1	1
Word 2	Filter: New Max Acceleration															

Range

1 to 1536

Unit

Motor type	Unit
LinMot®	238.419 mm/s^2
Stepper	47.6836 Steps/s^2
Solenoid	-

Command: Get Analog 0V Position

The command Get Analog 0V Position requests the actual value of the 0V Position parameter in the Set Value Configuration settings of one drive from the *LinMot®* servo controller.

Command: Get Analog 0V Position (56h)	
Direction	Master ➡ Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	0	1	1	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Analog 0 V Position

To the request Get Analog 0V Position the *LinMot®* servo controller responds the actual value of the 0V Position parameter in the Set Value Configuration settings of the specified drive.

Response: Get Analog 0V Position (56h)	
Direction	Slave ➡ Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	0	1	1	0
Word 2	0V Position															

Range	-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125 µm
Stepper	1/8 Step
Solenoid	23.438 mA

Command: Set Analog 0V Position

The command Set Analog 0V Position sets the actual value of the 0V Position parameter in the Set Value Configuration settings of one drive from the *LinMot®* servo controller.

Command: Set Analog 0V Position (57h)

Direction

Master➟Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	0	1	1	1
Word 2	New 0V Position															

Range

-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Response: Set Analog 0V Position

To the request Get Analog 0V Position the *LinMot®* servo controller responds the actual value of the 0V Position parameter in the Set Value Configuration settings of the specified drive.

Response: Set Analog 0V Position (57h)

Direction

Slave ➟Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	0	1	1	1
Word 2	New 0V Position															

Range

-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Command: Get Analog 10V Position

The command Get Analog 10V Position requests the actual value of the 10V Position parameter in the Set Value Configuration settings of one drive from the *LinMot*® servo controller.

Command: Get Analog 10V Position (58h)	
Direction	Master ➡ Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	1	0	0	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Analog 10 V Position

To the request Get Analog 10V Position the *LinMot*® servo controller responds the actual value of the 10V Position parameter in the Set Value Configuration settings of the specified drive.

Response: Get Analog 10V Position (58h)	
Direction	Slave ➡ Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	1	0	0	0
Word 2	10V Position															

Range	-32256 to +32256
Unit	

Motor type	Unit
LinMot®	19.53125 µm
Stepper	1/8 Step
Solenoid	23.438 mA

Command: Set Analog 10V Position

The command Set Analog 10V Position sets the actual value of the 10V Position parameter in the Set Value Configuration settings of one drive from the *LinMot®* servo controller.

Command: Set Analog 10V Position (59h)

Direction

Master➟Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	1	0	0	1
Word 2	New 10V Position															

Range

-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Response: Set Analog 10V Position

In the response the *LinMot®* servo controller simply echoes the command.

Response: Set Analog 10V Position (59h)

Direction

Slave ➟Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	1	0	0	1
Word 2	New 10V Position															

Range

-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Command: Get Two Point 0 Position

The command Get Two Point 0 Position requests the actual value of the '0' Position parameter in the Set Value Configuration settings of one drive from the *LinMot®* servo controller.

Command: Get Two Point 0 Position (5Ah)	
Direction	Master ➡ Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	1	0	1	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Two Point 0 Position

To the request Get Two Point 0 Position the *LinMot®* servo controller responds the actual value of the '0' Position parameter in the Set Value Configuration settings the specified drive.

Response: Get Two Point 0 Position (5Ah)	
Direction	Slave ➡ Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	1	0	1	0
Word 2	'0' Position															

Range	-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125 µm
Stepper	1/8 Step
Solenoid	23.438 mA

Command: Set Two Point 0 Position

The command Set Two Point 0 Position sets the actual value of the '0' Position parameter in the Set Value Configuration settings of one drive from the *LinMot®* servo controller.

Command: Set Two Point 0 Position (5Bh)

Direction

Master➟Slave

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	1	0	1	1
Word 2	New '0' Position															

Range

-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Response: Set Two Point 0 Position

In the response the *LinMot®* servo controller simply echoes the command.

Response: Set Two Point 0 Position (5Bh)

Direction

Slave ➟Master

Bit Definitions

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	1	0	1	1
Word 2	New '0' Position															

Range

-32256 to +32256

Unit

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Command: Get Two Point 1 Position

The command Get Two Point 1 Position requests the actual value of the '1' Position parameter in the Set Value Configuration settings of one drive from the *LinMot®* servo controller.

Command: Get Two Point 1 Position (5Ch)	
Direction	Master ➡ Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	1	1	0	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Two Point 1 Position

To the request Get Two Point 1 Position the *LinMot®* servo controller responds the actual value of the '1' Position parameter in the Set Value Configuration settings of the specified drive.

Response: Get Two Point 1 Position (5Ch)	
Direction	Slave ➡ Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	1	1	0	0
Word 2	'1' Position															

Range	-32256 to +32256
Unit	

Motor type	Unit
LinMot®	19.53125 µm
Stepper	1/8 Step
Solenoid	23.438 mA

Command: Set Two Point 1 Position

The command Set Two Point 1 Position sets the actual value of the '1' Position parameter in the Set Value Configuration settings of one drive from the *LinMot®* servo controller.

Command: Set Two Point 1 Position (5Dh)

Direction	Master➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	1	1	0	1
Word 2	New '1' Position															

Range	-32256 to +32256
Unit	

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Response: Set Two Point 1 Position

In the response the *LinMot®* servo controller simply echoes the command.

Response: Set Two Point 1 Position (5Dh)

Direction	Slave ➟Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	0	1	1	1	0	1
Word 2	New '1' Position															

Range	-32256 to +32256
Unit	

Motor type	Unit
LinMot®	19.53125µm
Stepper	1/8 Step
Solenoid	23.438mA

Command: Get Encoder 1 Position

The command Get Encoder 1 Position requests the actual value of the Encoder 1 from the *LinMot*® servo controller. This command can only be used if a master encoder module is attached.

Command: Get Encoder 1 Position (60h)	
Direction	Master ➟ Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	1	1	0	0	0	0	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Encoder 1 Position

To the request Get Encoder 1 Position the *LinMot*® servo controller responds the actual value of the Encoder 1 Position.

Response: Get Encoder 1 Position (60h)	
Direction	Slave ➟ Master
Bit Definitions	
Range	-32768 to +32767
Unit	Counts

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	1	1	0	0	0	0	0
Word 2	Encoder 1 Position															

Command: Set Encoder 1 Position

The command Set Encoder 1 Position sets the actual value of the Encoder 1 of the *LinMot®* servo controller. This command can only be used if a master encoder module is attached.

Command: Set Encoder 1 Position (61h)	
Direction	Master➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	1	1	0	0	0	0	1
Word 2	New Encoder 1 Position															

Range	-32768 to +32767
Unit	Counts

Response: Set Encoder 1 Position

In the response the *LinMot®* servo controller simply echoes the command.

Response: Set Encoder 1 Position (61h)	
Direction	Slave ➟Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	1	1	0	0	0	0	1
Word 2	New Encoder 1 Position															

Range	-32768 to +32767
Unit	Counts

Command: Get CAM Length

The command Get CAM Length requests the actual value of the specified motor of the *LinMot*® servo controller. This command can only be used if a master encoder module is attached.

Command: Get CAM Length (62h)	
Direction	Master ➟ Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	1	0	0	0	1	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get CAM Length

To the request Get CAM Length the *LinMot*® servo controller responds the CAM length of the specified motor in counts.

Response: Get CAM Length (62h)	
Direction	Slave ➟ Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	1	0	0	0	1	0
Word 2	CAM length															

Range	16 to +32767
Unit	Counts

Command: Set CAM Length

The command Set CAM Length sets the CAM length of the specified motor of the *LinMot*® servo controller. This command can only be used if a master encoder module is attached. In ABZ encoder mode use this commands only with small increments otherwise the motor could jump to the new position.

Command: Set CAM Length (63h)	
Direction	Master➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	1	0	0	0	1	1
Word 2	New Encoder 1 Position															

Range	16 to +32767
Unit	Counts

Response: Set CAM Length

In the response the *LinMot*® servo controller simply echoes the command.

Response: Set CAM Length (63h)	
Direction	Slave ➟Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	1	0	0	0	1	1
Word 2	New Encoder 1 Position															

Range	16 to +32767
Unit	Counts

Command: Get Extended IO

The command Get Extended IO requests the actual values of the AddOn board IO's from the *LinMot*® servo controller. This command can only be used if a master encoder module or a digital IO module is attached.

Command: Get Extended IO (64h)	
Direction	Master ➟ Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	1	1	0	0	1	0	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Extended IO

To the request Get Extended IO the *LinMot*® servo controller responds the actual values of the AddOn board Inputs.

Response: Get Extended IO (64h)	
Direction	Slave ➟ Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	1	1	0	0	1	0	0
Word 2	X	X	X	X	X	X	X	X	Ext. Dig In 7	Ext. Dig In 6	Ext. Dig In 5	Ext. Dig In 4	Ext. Dig In 3	Ext. Dig In 2	Ext. Dig In 1	Ext. Dig In 0

Command: Set Extended IO

The command Set Extended IO sets the actual values of the AddOn board Outputs from the *LinMot*® servo controller. This command can only be used if a master encoder module or a digital IO module is attached.

Command: Set Extended IO (65h)																
Direction	Master➟Slave															
Bit Definitions	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	1	1	0	0	1	0	1
	Word 2	Ext. Dig In 7	Ext. Dig In 6	Ext. Dig In 5	Ext. Dig In 4	Ext. Dig In 3	Ext. Dig In 2	Ext. Dig In 1	Ext. Dig In 0	X	X	X	X	X	X	X	X

Response: Set Extended IO

In the response the *LinMot*® servo controller simply echoes the outputs in the high byte of the second word and responses the inputs in the low byte.

Response: Set Extended Outputs (65h)																	
Direction	Slave ➟Master																
Bit Definitions	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	1	1	0	0	1	0	1
	Word 2	Ext. Dig In 7	Ext. Dig In 6	Ext. Dig In 5	Ext. Dig In 4	Ext. Dig In 3	Ext. Dig In 2	Ext. Dig In 1	Ext. Dig In 0	Ext. Dig In 7	Ext. Dig In 6	Ext. Dig In 5	Ext. Dig In 4	Ext. Dig In 3	Ext. Dig In 2	Ext. Dig In 1	Ext. Dig In 0

Command: Get Encoder 1 Offset

The command Get Encoder 1 Offset requests the actual value of the Encoder 1 Offset from the *LinMot*® servo controller.This command can only be used if a master encoder module is attached.

Command: Get Encoder 1 Offset (66h)	
Direction	Master ➡ Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	1	1	0	0	1	1	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Encoder 1 Offset

To the request Get Encoder 1 Offset the *LinMot*® servo controller responds the actual value of the Encoder 1 Offset.

Response: Get Encoder 1 Offset (66h)	
Direction	Slave ➡ Master
Bit Definitions	
Range	0 to MAX_COUNT
Unit	Counts

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	1	1	0	0	1	1	0
Word 2	Encoder 1 Offset															

Command: Set Encoder 1 Offset

The command Set Encoder 1 Offset sets the actual value of the Encoder 1 of the *LinMot*® servo controller. This command can only be used if a master encoder module is attached.

Command: Set Encoder 1 Offset (67h)	
Direction	Master➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	1	1	0	0	1	1	1
Word 2	New Encoder 1 Position															

Range	0 to MAX_COUNT
Unit	Counts

Response: Set Encoder 1 Offset

In the response the *LinMot*® servo controller simply echoes the command.

Response: Set Encoder 1 Offset (67h)	
Direction	Slave ➟Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	1	1	0	0	1	1	1
Word 2	New Encoder 1 Position															

Range	0 to MAX_COUNT
Unit	Counts

Command: Get CAM Delay

The command Get CAM Length requests the actual value of the specified motor of the *LinMot*® servo controller. This command can only be used if a master encoder module is attached.

Command: Get CAM Delay (6Ah)	
Direction	Master ➟ Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	1	0	1	0	1	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get CAM Delay

To the request Get CAM Length the *LinMot*® servo controller responds the CAM delay of the specified motor in counts.

Response: Get CAM Delay (6Ah)	
Direction	Slave ➟ Master
Bit Definitions	
Range	0 to +32767
Unit	Counts

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	1	0	1	0	1	0
Word 2	CAM length															

Command: Set CAM Delay

The command Set CAM Delay sets the CAM delay of the specified motor of the *LinMot*® servo controller. This command can only be used if a master encoder module is attached. In ABZ encoder mode use this commands only with small increments otherwise the motor could jump to the new position.

Command: Set CAM Delay (6Bh)	
Direction	Master➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	1	0	1	0	1	1
Word 2	New CAM Delay															

Range	0 to +32767
Unit	Counts

Response: Set CAM Delay

In the response the *LinMot*® servo controller simply echoes the command.

Response: Set CAM Delay (6Bh)	
Direction	Slave ➟Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	1	0	1	0	1	1
Word 2	New CAM Delay															

Range	0 to +32767
Unit	Counts

Command: Set Serial Run Mode

The command Set Serial Run Mode sets run mode of the drive to serial.

Command: Set Serial Run Mode (6Eh)																
Direction	Master➟Slave															
Bit Definitions	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	1	1	0	1	1	1	0
	Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Set Serial Run Mode

In the response the *LinMot*® servo controller simply echoes the command.

Response: Set Serial Run Mode (6Eh)																
Direction	Slave ➟Master															
Bit Definitions	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	1	1	0	1	1	1	0
	Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Command: Set Master Encoder Run Mode

The command Set Master Encoder Run Mode sets run mode of the drive to Master Encoder.

Command: Set Master Encoder Run Mode (6Fh)																
Direction	Master➟Slave															
Bit Definitions	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	1	1	0	1	1	1	1
	Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Master Encoder Run Mode

In the response the *LinMot*® servo controller simply echoes the command.

Response: Set Master Encoder Run Mode (6Fh)																
Direction	Slave ➟Master															
Bit Definitions	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Word 1	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	X	1	1	0	1	1	1	1
	Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Command: Get Direct Out 1 Variable

The command Get Direct Out 1 Variable requests the actual value of the DeviceNet Direct Out 1 parameter of one drive from the *LinMot*® servo controller.

Command: Get Direct Out 1 Variable (70h)																	
Direction	Master ➡ Slave																
Bit Definitions																	
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	1	1	0	0	0	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Direct Out 1 Variable

To the request Get Direct Out 1 Variable the *LinMot*® servo controller responds the actual values of the DeviceNet Direct Out 1 parameter of the specified drive.

Response: Get Direct Out 1 Variable (70h)																
Direction	Slave ➡ Master															
Bit Definitions																
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	1	0	0	0	0	0
Word 2	Direct Out 1 Variable															
Range	0..7															
Selection																

Value	Description
0	Actual Position
1	Demand Position
2	Position Error
3	Demand Position Unfiltered
4	Actual Speed
5	Demand Speed
6	Demand Acceleration
7	Current

Command: Set Direct Out 1 Variable

The command Set Direct Out 1 Variable sets the actual value of the DeviceNet Direct Out 1 parameter of one drive from the *LinMot®* servo controller.

Command: Set Direct Out 1 Variable (71h)	
Direction	Master➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	1	1	0	0	0	1
Word 2	Direct Out 1 Variable Code															

Range	0 to 7
Selection	

Value	Description
0	Actual Position
1	Demand Position
2	Position Error
3	Demand Position Unfiltered
4	Actual Speed
5	Demand Speed
6	Demand Acceleration
7	Current

Response: Set Direct Out 1 Variable

In the response the *LinMot®* servo controller simply echoes the command.

Response: Set Direct Out 1 Variable(71h)	
Direction	Slave ➟Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	1	1	0	0	0	1
Word 2	Direct Out 1 Variable Code															

Range	0 to 7

Command: Get Direct Out 2 Variable

The command Get Direct Out 2 Variable requests the actual value of the DeviceNet Direct Out 2 parameter of one drive from the *LinMot*® servo controller.

Command: Get Direct Out 2 Variable (72h)																	
Direction	Master ➡ Slave																
Bit Definitions																	
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	1	1	0	0	1	0
Word 2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Response: Get Direct Out 2 Variable

To the request Get Direct Out 2 Variable the *LinMot*® servo controller responds the actual values of the DeviceNet Direct Out 2 parameter of the specified drive.

Response: Get Direct Out 2 Variable (72h)																
Direction	Slave ➡ Master															
Bit Definitions																
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	1	0	0	0	1	0
Word 2	Direct Out 2 Variable															
Range	0..7															
Selection																

Value	Description
0	Actual Position
1	Demand Position
2	Position Error
3	Demand Position Unfiltered
4	Actual Speed
5	Demand Speed
6	Demand Acceleration
7	Current

Command: Set Direct Out 2 Variable

The command Set Direct Out 2 Variable sets the actual value of the DeviceNet Direct Out 2 parameter of one drive from the *LinMot®* servo controller.

Command: Set Direct Out 2 Variable (73h)	
Direction	Master➟Slave
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	1	1	0	0	1	1
Word 2	Direct Out 2 Variable Code															

Range	0 to 7
Selection	

Value	Description
0	Actual Position
1	Demand Position
2	Position Error
3	Demand Position Unfiltered
4	Actual Speed
5	Demand Speed
6	Demand Acceleration
7	Current

Response: Set Direct Out 2 Variable

In the response the *LinMot®* servo controller simply echoes the command.

Response: Set Direct Out 2 Variable (73h)	
Direction	Slave ➟Master
Bit Definitions	

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word 1	Reserved/Motor D sel	Reserved/Motor C sel	Reserved/Motor B sel	Reserved/Motor A sel	Reserved	Reserved	Reserved	Reserved	X	1	1	1	0	0	1	1
Word 2	Direct Out 2 Variable Code															

Range	0 to 7

6. Cabling

It is recommended to manufacture a X/Y style cable to connect the *LinMot*® servo controller to the DeviceNet. The wiring is shown in Figure 6-1.

6.1 Signal supply

The signal supply (PWR signal) can be taken from the DeviceNet, the power consumption for the Ex00 DN servo controllers is 5W and 10W for the Ex000 DN servo controllers. The shield of the bus has to be connected to the housing of the Com connector.

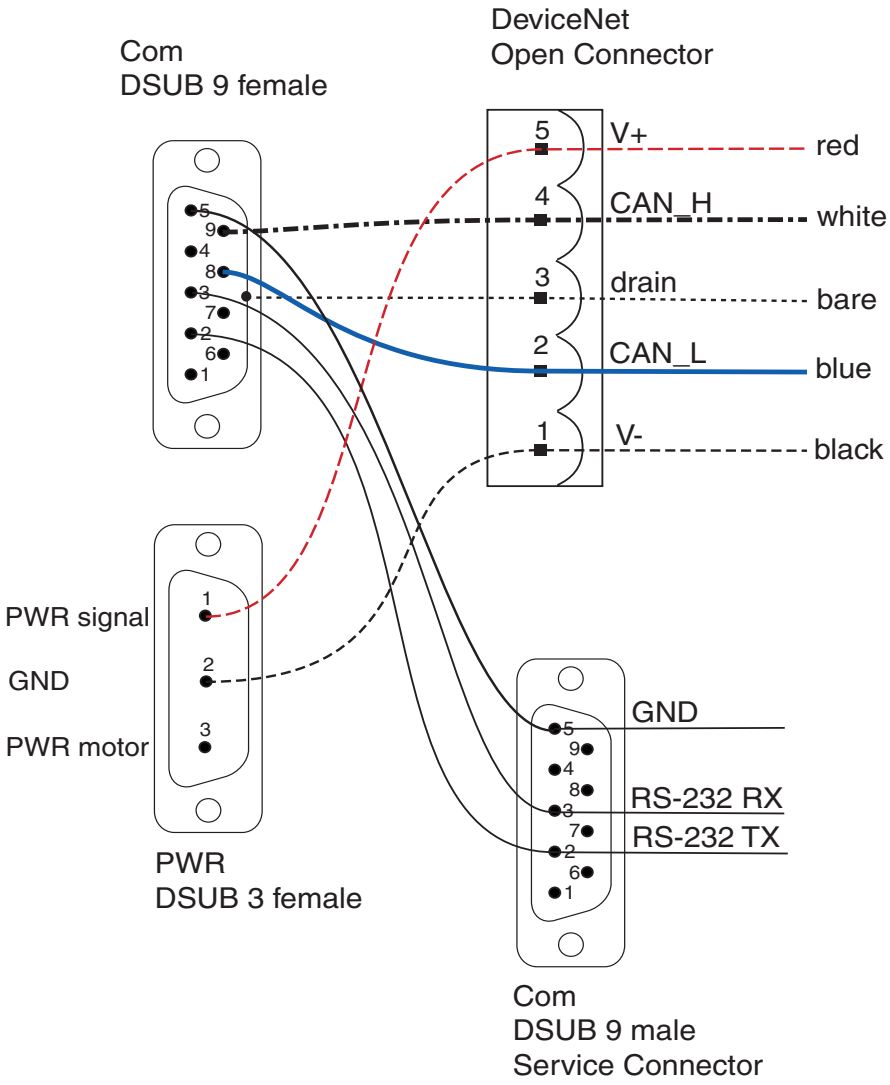


Figure 6-1: X/Y-Cable for DeviceNet connection

6.2 Potential equalization

If the signal supply for the *LinMot*® servo controller is taken from the DeviceNet bus, the potential is correct by default. Otherwise the V- of the bus **must be connected to the GND** of the *LinMot*® servo controller. GND is provided on Pin 5 of the Com connector or on Pin 2 of the PWR connector.

7. Trouble shooting

DeviceNet is a very robust industrial bus. Most commissioning problems are caused by faulty cabling or configuring and not by defective equipment. For communication problems the configuring should be checked first, and then the bus cabling. The following tips have proved to be useful in practice.

7.1 Clearing the PLC

It is advisable to clear the PLC completely every time when altering the configuration or software.

7.2 Servo controller will not go on-line

Check MACID address: It is adjusted either with a parameter or with the two rotary switches on the bottom of the servo controller. Important: The address is entered hexadecimal.

Check the configured baudrate parameter.

Check the cabling: Only the two connectors at the end of the bus may be terminated.

8. Interfaces

8.1 Pinout

The DeviceNet servo controllers have the following interfaces and pinouts.

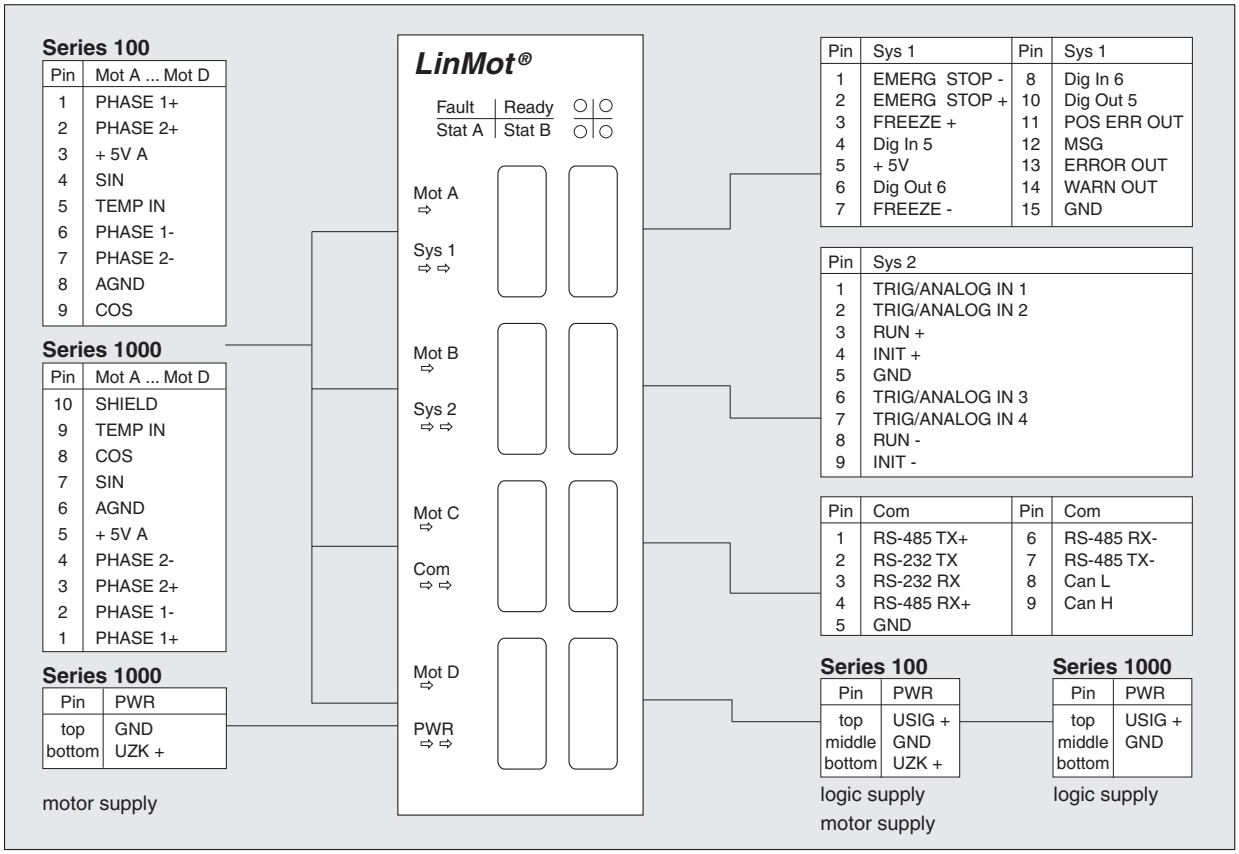


Figure 8-1: Interface of Exy00 DN Servo Controller

Index