



**Quick Start Help for the Drives:** 

B1100-PP (-HC, -XC)



# **Quick Start Guide B1100-PP**



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Note

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### System Overview

This manual gives a short step by step introduction to the functionality of the B1100-PP(-HC/-XC) drive family.

#### References

Ref	Name	Source
1	Installation_Guide_B1100.pdf	www.linmot.com
2	Usermanual_LinMot-Talk.pdf	www.linmot.com
3	Usermanual_EasySteps_Appl.pdf	www.linmot.com
4	Usermanual_MotionCtrlSW.pdf	www.linmot.com

The documentation is distributed with the LinMot-Talk configuration SW, which can be downloaded from the LinMot homepage for free.

For more detailed information about the functionality of the SW please refer to the manuals above:

- Installation\_Guide\_B1100.pdf: data sheet, wiring and connections
- Usermanual\_LinMot-Talk.pdf: how to use the configuration software
- Usermanual\_EasySteps\_Appl.pdf : EasySteps application software description (smart control word behavior, analog parameter scaling and IO motions)
- Usermanual\_MotionCtrlSW.pdf: motion controller software description (State machine, motion interface)

# <u>Wiring</u>

	B1100-XX	(-HC/XC)	)		
	X1		X2		
SUPPLY 3x400VAC 230VAC 115VAC	9 nom. 72VDC 9 (2485VDC)		PH1+ 0 PH1- 0 PH2+ 0 PH2- 0		
MOTOR SUPPLY	8A/15A/25A PHASE CURRENT		Х3		
			PH1+ PH1- PH2+ SIN COS TEMP +SV GND		BRUSHLESS DC MOTOR
	X14		X13		
MACHINE CONTROLLER PLC, IPC	STEP/DIR/ZERO 910V 1.NPUTS 1-6 1.10V 2.0UTPUTS 1-6 1.01/200		A+ SIN+ A- SIN- B+ COS+ B- COS- Z+ ZERO+ Z- ZERO- U+ U- V+ V- W+		OPTIONAL EXTERNAL POSITION SENSOR
	GND		ENC ALARM +5VDC GND	n n n n 	
RS232/485: Interface Configuration CAN: CANopen DeviceNet	X5 RS232 RS485 CAN				
	X7	X8			
RS485 COMMUNICATION INTERFACE CANOPEN DEVICENET	RS485 CAN	CAN			RS485 COMMUNICATION INTERFACE CANOPEN DEVICENET

Typical servo system B1100-XX-YY: Drive, motor and power supply.

### **Getting Started**

Connect the motor to the drive, wire at least the motor power supply on X1 and the 24VDC logic supply on X14.

Connect your configuration PC using a 1:1 serial RS232 cable (female/female) with the drive's X5.

Switch on the 24V logic supply.

Start the LinMot-Talk configuration software.

Login the drive.

Import the B1100\_PP\_QuickStrt\_Cfg.Imc configuration file:





Start the motor wizard to configure your motor type, follow steps 1 to 9:

📉 Motor Wizard								
Step 1/9: Actuator Selec	tion							
Actuator Data File:	P\$01,37v120.4P adf	Change Actuator						
Stator:	PS01-37x120-HP-C20							
Slider:	PL01-20x600/540-HP	01-20x600/540-HP						
	The slider can be identified by its length the type engraved on the surface.	. Newer sliders have						
Slider Mounting Direction:	Regular	<u> </u>						
The sliders are not symmetric. The value of ZP (Zero Position) depends on the mounting direction relative to the stator. Therefore the available stroke range changes with the mounting direction.								
Derived Settings	Value	Comment						
STATOR	PS01-37x120-HP-C20							
Article Number	0150-1252							
Stator Length	227 mm							
Stator Mass	740 g							
SLIDER	PL01-20x600/540-HP							
Article Number	0150-1510							
Slider Length	600 mm							
Slider Mass	1327 g							
MOTOR	P01-37x120-HP/400x480-C20							
Maximal Stroke (S)	480 mm							
Shortened Stroke (SS)	400 mm							
Electromagnetic Zero Position	1 (ZP) 230 mm							
Force Constant	20.4 N/A							
Edge Force (Fb)	67 %							
Help < Back	Next > Finish Car	incel						

Switch on the motor power supply.

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The EasySteps software can be used to control the motor over digital inputs and outputs. For testing purposes, you can wire these inputs and outputs to your control panel or simply force the values from the IO panel section in the control panel of the LinMot-Talk software:





Set the input X14.14 high in order to get the motor controlled. It will automatically move for homing:

LinMot-Talk1100 - V3.7 Build 20071206	
Eile Search Controller Services Options Window Tools Manuals Help	
🛅 🏂 🚅 🛃 🎒 🛛 Unnamed on COM3 🔄 🕨 📕 🖑 🔢 🖄 🖼 🕼 🕼	
Project Control	Status K Monitoring
Image of oncome of oncome of the second	0: Operation Enabled.       1       0: Motor Hot Sensor
IO Panel	Motion Command Interface
	Enable Manual Override: 10 mm 1 mm +1 mm +10 mm Command Category: Most Commonly Used Command Type: No Operation (000kh) Count Nibble (Toggle Bits): 0h  Auto Increment Count Nibble
X14.17 - Output X14.5 - Output X14.5 - Output X14.6 - Output X14.5 - Output X14.7 - Output X14.7 - Output	Name         Offs.         Description         Scaled Value         Int. Value (Dec)         Int. Value (Hex)           Header         0         0000hr         0         0000h

After the homing sequence, the output on X14.5 goes high indicating the motor is in target position. Also the range indicator 1 output goes high (position range between –10mm and 5mm).

The range indicator 1 is configured as shown:

LinMot-Talk1100 - V3.7 Build 20071206	5									<u>- 🗆 ×</u>
Eile Search Controller Services Options	<u>W</u> indow <u>T</u> ools <u>M</u> anuals <u>H</u> elp									
🛅 🏅 😂 🔚 🎒 🐉 🛛 Unnamed on C	сомз 🔄 🕨 📕 🔆 🔢 🌂	👒 🗄 🕵 🖾 I	焰 🔺 🍠 🔟 🗌	2)						
Project	di la contra con		🗸 🗙	C						
E III Unnamed on COM3	Name	Mahua	Row Data		Tuno	Saala	Offeet	Min	Mau	Default
	INAILE	Value		OFID	Туре	Judie	Uliset	MILL	Max	Deiduit
😑 🛅 Parameters	Range Indicator 1 Minuend UPID	F4D9h (Actual Po	62681	625Ah	UInt16	1	0	0000h	FFFFh	F4D9h
🕀 🚍 OS	Range Indicator 1 Subtrahend UPID	3041h (Zero 32 Bit)	12353	625Bh	UInt16	1	0	0000h	FFFFh	3041h
😑 🖃 Motion Control SW	Range Indicator 1 Low Limit Raw D	-100000 (= -10 mm)	-100000	F139h	SInt32	0.0001 mm	0 mm	-2147483648	2147483647	-100000
🕀 🖃 Controller Configuration	*Range Indicator 1 High Limit Raw	50000 (= 5 mm)	50000	F13Ah	SInt32	0.0001 mm	0 mm	-2147483648	2147483647	50000
🕀 🖃 Motor Configuration										
😑 🚍 State Machine Setup										
🕀 🖃 Control Word										
😥 🔚 Homing										
😟 🖃 Quick Stop										
🔤 Go To Position										
😟 🚍 Jogging										
🕀 🚍 Phase Search										
😟 📃 Special Mode										
E StatusWord										
- 🚍 Range Indicator 1										
E Range Indicator 2										
Here Motion Interface	1									
IIII - Eessen										

This output is high, if the term (Actual Position -0) is in the range -10 mm. 5 mm.

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Set the input X14.15 high, so the motor moves to 20mm. This absolute motion command is configured in the EasySteps parameter section.

LinMot-Talk1100 - V3.7 Build 2007	1206			_ D ×
File Search Controller Services Option	ons Window Tools Manuals Help	a 🗛 🛦 🛲 🖂 🙆		
Project	Control	Ba 🛃 📥 ⊠P 🔝   🗳   <<   Statu	>> 21	Monitoring
Unnamed on CDM3     Unnamed on CDM3     Parameters     P = 0     Parameters     P = 0     Motor Control SW     P = Controller Configuration     P = 0     Motor Control set     Motor Controller     P = 0     Motor Controller     P = 0     Motor Controller     P = 0     Parameters     P = 0     P = 0     Parameters     P = 0     P	O. Switch On	0: Operation E nabled         1           1: Switch On Active         1           2: Enable Operation         1           3: Error.         0           4: Voltage Enable.         1           5: Warking Enable.         1           5: Warking Enable.         1           6: Warking Enable.         1           7: Warking         0           7: Warking         0           9: Special Motion Active.         0           10: In Target Position Active.         0           11: Homed         1           12: Fatal Error.         0           13: Motion Active.         0           14: Range Indicator 2         0           15: Range Indicator 1         0           15: Range Indicator 2         0           Status Word:         0C37h           Op, Main State         0Bh           Op, Sub State         CDh	D: Motor Hot Sensor.         .0           1: Motor Short Time Overload.         .0           2: Motor Supply Voltage Ledw.         .0           3: Motor Supply Voltage High.         .0           4: Position Lag Always.         .0           5: Position Lag Standing.         .0           6: Controller Hot.         .0           7: Motor Not Homed         .0           8: PTC Sensor 1 Hot.         .0           9: PTC Sensor 1 Hot.         .0           10: RR Hot Calculated         .0           11: Reserved.         .0           12: Reserved.         .0           13: Application Warn Flag.         .0           14: Interface Warn Flag.         .0           15: Application Warn Vord:         .0000h           Logged Error Code:         .0000h	Connection Status: Online Firmware Status: Rurning Motor Status: Switched On Dp. State: Operation Enabled Actual Position: 19.65 mm Denand Position: 20.00 mm Froce Factor: 100.00 % Motor Current: 1.05 A Logis Supply Volt: 23.42 V Motor Supply Volt: 75.39 V
	ID Panel          Enable Marual Override          Enable Marual Override          Enable Marual Override	Enable Manual Override:	Motion Command Inter- 10 mm 1 mm 1 Most Common ion (000xh) Oh  Ch Scaled Value 0 Deration 0 Read	ace  I mm +10 mm  I/Used  I m Vibble  Int. Value (Dec) Int. Value (Hex)  0 0 0000h  Send Command Send Command

The output of range indicator 1 (mapped to X14.19) has been cleared. The output in target position (X14.5) may be cleared for a short time and will be set again.



Set the input X14.3 high, so motor moves to 50mm. This absolute motion command is configured in the EasySteps parameter section.

Project     P	LinMot-Talk1100 - V3.7 Build 2007 Ele Search Controller Services Opti	11206 ions Window Iools Manuals Help		
Image of DOM3       0: Switch On       1       Digital Input X14.14       0: Operation Enabled       1       0: Motor Hot Sensor       0       Firmware Status:       Running         Image Description       0: Switch On       1: Voltage Enable       1       0: Operation Enabled       1       0: Motor Hot Sensor       0       Firmware Status:       Running         Image Description       0: Switch On       1       Forced by Parameter       2: Enable Operation       1       0: Motor Supply Voltage Hip. 0       Firmware Status:       Switched On         Image Description       0: Switch On       1       Forced by Parameter       2: Enable       1       4: Position Lag Always:       0: Operation Enabled       0: Motor Supply Voltage Hip. 0       Motor Supply Voltage Finable       0: Switched On         Image Description       0: Switch On       1: Forced by Parameter       4: Voltage Enable       0: Switched On       Switched On         Image Description       0: Site Correctly Parameter       5: Fortion Lag Standing       0: Switched On       0: Forced by Parameter       5: Voltage Enable       0: Switched On       0: Switched On         Image Description       0: Site Correctly Parameter       5: Switch On Lockedow       0: Switched On       0: Switched On       0: Switched On         Image Destater       0: Switched On	Project	d on LUM3 Control	Status	Monitoring
Image: DeviceNet Interface       11: Home.       0       Interface       11: Homed.       11: Homed.       11: Reserved.       0         Image: DeviceNet Interface       12: Clearance Check0       0       12: Fatal Einc.       0       12: Fatal Einc.       0       12: Fatal Einc.       0       13: Homed.       11: Homed.       11: Homed.       11: Homed.       11: Reserved.       0       12: Fatal Einc.       0       12: Fatal Einc.       0       13: Moin Active.       0       13: Reserved.       0       13: Reserved.       0       14: Interface       11: Homed.       0       12: Reserved.       0       0       Actual Position:       43: 48 mm       11: Homed.       12: Reserved.       0       11: Homed.       11: Homed.<	Guraned on CDM3     Guraned on CDM3     Guraned on CDM3     Guranets     Gura	0: Switch Dn	0. Operation Enabled.         0. Motor Hot Sensor.         0.           1: Switch On Active.         1.         1. Motor Short Time Overfoad.           2: Enable Operation.         1.         2. Motor Supply Vokage Low0           3: Enor         0.         3. Motor Supply Vokage High0           4: Votage Enable.         1.         4. Position Lag Always           5: Outick Stop.         5. Position Lag Always         5.           6: Switch On Locked.         0.         6. Controller Hot.         0.           7: Warning.         0.         Notor Not Homed0         0.           9: Special Motion Active.         0.         9. PTC Sensor 1 Hot0         0.           9: Special Motion Active.         0.         9. PTC Sensor 1 Hot0         0.           10: In Flaget Position.         1.         10. RB Harde Calculated0         0.           11: Homed.         11.         11. Reserved0         0.         12. Feaserved0         0.           12: Flaget Front         0.         14. Interface Warn Flag0         14. Interface Warn Flag0         0.           13: Angle Indicator 2	Connection Status: Online Firmware Status: Burning Motor Status: Switched On Emposition: 49.48 mm Demand Position: 50.00 mm Force Factos: 100.00 % Motor Current: 1.57 A Logic Supply Volk: 23.42 V Motor Supply Volk: 75.39 V
ID Panel     Motion Command Interface       r Enable Manual Override		IO Panel Enable Manual Override Override Value Actual Value 	Motion Command Interf           Enable Manual Override:	41 mm +10 mm
X     X14.12 - Input     Command Category:     Most Commonly Used       X     X14.15 - Input     Command Category:     Most Commonly Used       X     X14.15 - Input     Command Type:     No Operation (000xh)       X     X14.16 - Input     Count Nibble (Toggle Bits)     Oh		XI 4.2 - Input           XI 4.15 - Input           X           XI A.3 - Input           X           XI A.3 - Input           X           XI A.4 - Input	Command Category: Most Commo Command Type: No Operation (000xh) Count Nibble (Toggle Bits): Oh 💌 🗌 Auto Increment C	nly Used
X14.17 - Output         X14.5 - Output         X14.6 - Output         X14.7 - Output		X14.17 - Output       X14.5 - Output       X14.8 - Output       X14.8 - Output       X14.6 - Output       X14.7 - Output	Name         Offs.         Description         Scaled Value           Header         0         000xhr. No Operation         0	Int. Value (Dec) Int. Value (Hex) 0 0000h Int. Value (Hex) Int. Value (Hex

The output of range indicator 2 (mapped to X14.7) has been cleared. The output in target position (X14.5) may be cleared for a short time and will be set again.

The range indicator 2 is configured as shown:

LinMot-Talk1100 - V3.7 Build 20071206										
Ele Search Controller Services Options	<u>W</u> indow <u>T</u> ools <u>M</u> anuals <u>H</u> elp									
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Project	ü		🗸 🗡	<b>®</b>						
E-Be Unnamed on COM3	Nama	Mahua	Revu Data		Turne	Casta	0.00	L Min	Mari	Default
🗠 😵 Control Panel	INdille	Value	naw Data	I UFID	Гуре	1 Scale	1 Oliser		Max	Derault
🖻 🔁 Parameters	Range Indicator 2 Minuend UPID	F4D9h (Actual Po	62681	625Ch	UInt16	1	0	0000h	FFFFh	F4D9h
🕀 🚍 OS	Range Indicator 2 Subtrahend UPID	3041h (Zero 32 Bit)	12353	625Dh	UInt16	1	0	0000h	FFFFh	3041h
😑 🚍 Motion Control SW	*Range Indicator 2 Low Limit Raw D	450000 (= 45 mm)	450000	F13Bh	SInt32	0.0001 mm	0 mm	-2147483648	2147483647	450000
😟 🚍 Controller Configuration	Range Indicator 2 High Limit Raw	510000 (= 51 mm)	510000	F13Ch	SInt32	0.0001 mm	0 mm	-2147483648	2147483647	510000
😟 🖃 Motor Configuration										
😑 🖃 State Machine Setup										
E Control Word										
😟 🖃 Homing										
🕀 🖃 Quick Stop										
🔚 🗐 Go To Position										
🕀 🚍 Jogging										
🕀 🖃 Phase Search										
😟 🚍 Special Mode										
E StatusWord										
🔤 Range Indicator 1										
Range Indicator 2										
⊕										
Basilian Controllar	1									

This output is high, if the term (Actual Position -0) is in the range from 45mm to 51mm.



Set the input X14.2 high, the motor moves to 0mm. This absolute motion command is configured in the EasySteps parameter section:

X LinMot-Talk1100 - V3.7 Build 2007	1206					_ <b>_ _ _</b> ×
Ele Search Controller Services Option	ons <u>W</u> indow <u>T</u> ools <u>M</u> anuals <u>H</u> elp					
🛅 🎝 🖙 🖬 🚳 🛃   Unnamed	d on COM3 🔄 🕨 📕 ඊ 💵 🌂 😫 💐 🗉	3 👍 .	🔺 🗇 🔟   🖾			
Project	Control	<<	Status		Mon	itoring
Guraned on CDM3     Gordine Zerol     Gord	O. Switch On     Digital Input X14.14     Force dy Parameter     Zoluck Stop     Force dy Parameter     Soft Oresition     Interface     Soft Oresition     No Source Specified     Control Word: 0005Fh     Override Value     Enable Marual Ovenide		0: Operation Enabled         1           1: Switch On Active	0. Motor Hot Sensor	Connection Status: Onl Firmware Status: Ru Motor Status: Sw Dp. State: Operation Op. State: Operation Demand Position: 0.0 Force Factor: 92 Motor Current: -1. Logic Supply Volt: 23 Motor Supply Volt: 75	ine nning itched On Finabled 55 mm 13 % 64 A 42 V 39 V
	ID Panel			Motion Command Interf	200	
	Enable Manual Override Enable Manual Override 		Enable Manual Override:	-10 mm -1 mm +	+1 mm +10 mm	
	X14.2 - Input		Command Category:	Most Commo	nly Used	<b>•</b>
	XI 4.3 - Input           X 14.3 - Input           X 14.16 - Input           X 14.4 - Input		Command Type: No Operati Count Nibble (Toggle Bits):	on (000xh) Oh 💌 🗌 Auto Increment Co	punt Nibble	<u> </u>
	🗌 🔲 X14.17 - Output 🛛		Name Offs. Description	n Scaled Value	Int. Value (Dec) Int.	Value (Hex)
	X14.5 - Output       X14.6 - Output       X14.6 - Output       X14.6 - Output       X14.7 - Output		Header 0 000kh: No	Operation 0	0 000	d Command

Set the input X14.16 high, the motor moves to 5mm. This incremental motion command is configured in the EasySteps parameter section as well.

Bit Start       Control III Service       Densities       Image: Index of the service       Control III Service       Image: Index of the service       Control III Service       Image: Index of the service       Control III Service       Image: Index of the	LinMot-Talk1100 - V3.7 Build 20071	206			
Image: Control       Image	File Search Controller Services Option	ns <u>W</u> indow <u>T</u> ools <u>M</u> anuals <u>H</u> elp			
Consider       Consider <td< td=""><td>🛅 5 🖙 🖬 🍏 🥵 Unnamed</td><td>on COM3 🔄 🕨 📕 😍 🌆 📉 😵 🖼 🕼</td><td>🔺 🗗 🗊 🖾</td><td></td><td></td></td<>	🛅 5 🖙 🖬 🍏 🥵 Unnamed	on COM3 🔄 🕨 📕 😍 🌆 📉 😵 🖼 🕼	🔺 🗗 🗊 🖾		
<ul> <li>Unramed on CDM3</li> <li>Prametes</li> <li>2. Quick Stop</li> <li>1. Decide Conjugation</li> <li>5. Ge 10 Peakin</li> <li>5. Ge 10 Peakin</li> <li>5. Ge 10 Peakin</li> <li>5. Ge 10 Peakin</li> <li>6. Ge 10 Peakin</li> <li>6. Ge 10 Peakin</li> <li>6. Ge 10 Peakin</li> <li>7. Motor Mathewall</li> <li>8. Processor Mature State</li> <li>9. Jog Moves</li> &lt;</ul>	Project	Control	Status	<<	Monitoring
ID Panel     Motion Command Interace       r     For Wordde Value     Command Interace       r     Override Value     Command Interace       r     Command Category:     Command Category:       r     Nt415 - Input     Command Category:       r     Nt416 - Input     Command Category:       r     Nt418 - Input     Command Category:       r     Nt418 - Output       r     Nt418 - Output       r     Nt419: Output       r	Gunamed on CDM3     Gunamed on CDM3	O: Switch On	0: Operation Enabled         1         0: Mit           1: Switch On Active         1         1: Mit           2: Enable Operation         2: Mit         2: Mit           3: Error         0: 3: Mit         3: Error         3: Mit           4: Voltage Enable         1         4: Pc         4: Pc           5: Quick Stop         1: 5: Pt         5: Quick Stop         5: C           6: Switch On Locked         0: CC         7: Warring         7: Mit           8: Event Handler Active         0: Pt         9: Ppecial Motion Active         9: Pt           10: In Target Position         1: D: F         1: D: F         1: D: F           11: Homed         1: 1: F         1: At Range Indicator         1: At Range Indicator         1: At Range Indicator           14: Range Indicator         0: 1: 5: A         5: Ataus Word:         4C37h         V           Qp. Main State         0: Dh         CDh         L         D	later Hot Sensor	Inection Status: Online Invace Status: Running for Status: Switched On Status: Operation Enabled State: Operation Enabled Used Position: 4.68 mm mand Position: 5.00 mm ce Factor: 95.57 % for Current: 0.97 A for Supply Volt: 75.39 V
Image: Command Example     Image: Command Example       Image: Command Example		ID Basel		Mation Command Interface	
Image: Second Command Category:       Most Commonly Used         Image: Command Type:       No Operation (000xh)         Image: Command Type:       No Operation (000xh)         Image: Command Category:       Image: Command Category:         Image: Command Type:       No Operation (000xh)         Image: Command Type:       No Operation (000xh)         Image: Command Category:       Image: Command Category:         Image: Command Type:       No Operation (000xh)         Image: Command Type:       Image: Command Category:         Image: Command Type:       No Operation (000xh)         Image: Command Type:       Image: Command Type:         Image: Command Type:       Image: Command Category:         Image: Command Type:       Image: Command		Enable Manual Override Coverride Value 	Enable Manual Override:	-10 mm -1 mm +1 mm	1 +10.mm
Xi4.3 - Input       Command Type:       No Operation (000/h)       ▼ (2)         Xi4.4 - Input       Command Type:       No Operation (000/h)       ▼ (2)         Xi4.4 - Input       Command Type:       No Operation (000/h)       ▼ (2)         Xi4.4 - Input       Manne       Auto Increment Count Nibble       No Operation         Xi4.5 - Output       Manne       Offs       Description       O       0000/h         Xi4.19 - Output       Manne       Offs       Description       O       0000/h       0         Xi4.7 - Output       Manne       Manne       Offs       Description       O       0       0000/h         Xi4.7 - Output       Manne       Manne       Offs       Description       O       0       0000/h         Xi4.7 - Output       Manne		X A 14.14-input	Command Category:	Most Commonly Us	sed 🔽
Image: Strate input       Image: Strate input<		X14.3 - Input	Command Type: No Operation (000)	ixh)	- C
Name       Offs.       Description       Scaled Value       Int. Value (Hex)         X14.5       Output       Int. Value (New Offs.       Occupation       0       0000h         X14.6       Output       Int. Value (New Offs.       Occupation       0       0       0000h         X14.5       Output       Int. Value (New Offs.       Occupation       0       0       0000h         X14.9       Output       Int. Value (New Offs.       Int. Value (New Offs.       Int. Value (New Offs.       Int. Value (New Offs.         X14.9       Output       Int. Value (New Offs.       Int. Value (New Offs.       Int. Value (New Offs.       Int. Value (New Offs.         X14.9       Output       Int. Value (New Offs.       Int. Value (New Offs.       Int. Value (New Offs.       Int. Value (New Offs.         X14.9       Output       Int. Value (New Offs.       Int. Value (New Offs.       Int. Value (New Offs.       Int. Value (New Offs.         X14.9       Output       Int. Value (New Offs.       Int. Value (New Offs.       Int. Value (New Offs.       Int. Value (New Offs.         X14.7       Output       Int. Value (New Offs.       Int. Value (New Offs.       Int. Value (New Offs.       Int. Value (New Offs.         X14.7       Output       Int. Value (New Offs.       Int.		X X14.16 - Input	Count Nibble (Toggle Bits): Oh	Auto Increment Count N	libble
Image: Name of the second s		T X14.17 - Output 👅	Name Offs. Description	Scaled Value In	t. Value (Dec)   Int. Value (Hex)
Read Command Send Command		X14.5 - Output           X14.18 - Output           X14.18 - Output           X14.19 - Dutput           X14.17 - Output	Header 0 000xh: No Operati	tion 0 0	0000h
				Read Com	mand Send Command

Set the input X14.16 high, the motor moves to 10mm. This incremental motion command is configured in the EasySteps parameter section.

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Ele Search Controller Services Option	ions Window Tools Manuals Help	 					
🛅 🕽 🗁 🖬 😂 🤔   Unnamer	d on CUM3 🔄 📂 📕 😷 🚺 🔌 🖻		2	Chalum	l and		Manitaniaa
Control Errors     Control Errors	Control     Switch On	0: Operation E: 1: Switch On A 2: Enable Open 3: Error. 4: Voltage Ena 5: AQuick Stop 6: Switch On L 5: Switch On L 7: Warning 8: Event Hand 9: Special Mol 10: In Target B 12: Fatal Error. 13: Motion Act 14: Range Ind 5: R	abled ctive ation ocked er Activ on Activ osition sator 1. cator 2. ord: State State	Status           1         0: Motor Hot Se           1         1: Motor Supply           1         1: Motor Supply           1         2: Motor Supply           1         4: Position Lagy           1         5: Position Lagy           0         6: Controller Hol           0         7: Motor Nother           0         6: Controller Hol           0         7: Motor Nother           0         8: PTC Sensor           1         1: Reserved.           0         1: Reserved.           0         1: Reserved.           0         1: Application*           0         1: Lagged Erro           COh         COh	1930	Connection Status: Firmware Status: Motor Status: Op. State: Opere Actual Position: Demand Position: Force Factor: Motor Current: Logic Supply Volt:	Monorong Online Switched On Switched On stion Enabled 9.71 mm 10.00 mm 99.76 % 0.88 A 23.42 V 75.39 V
	I0 Panel           : Enable Manual Override           : Override Value           : Voerride Value           X X14.14 - Input           X X14.15 - Input           X X14.17 - Output           X X14.18 - Output           X X14.19 - Output           X X14.19 - Output           X X14.7 - Output           X X14.7 - Output	Enable Manual Command Count Nib Name Header	Overrid Categoi Type: Ile (Tog Offs.	Motic     :10 mm  V:  No Operation (000xh)  gle Bits):  Description  000xh: No Operation	n Command Interfa	Arm +10 mm hy Used	Int Value (Hex) D000h Send Command

An incremental motion command can be used e.g. for stacking or de-stacking applications.

LinMot®

To change positions without using the LinMot-Talk software, the EasySteps software supports the possibility of teaching positions manually over a single separate input. The following sequence has to be executed for a correct teaching:

First, select the motion, which has to be changed, by setting this output high. The motor moves to the position.

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on COM3 🔄 🕨 📕 💇 🔢 💐 🗟 🕼 .	🔺 🗇 🔟 🛛		
Control	Status	<<	Monitoring
C. Switch On	0: Operation Enabled	Hot Sensor	ection Status: Online are Status: Running Status: Switched On University of the status ate: Operation Enabled Position: 19.64 mm nd Position: 20.00 mm Factor 100.00 % Current: 1.08 A Supply Volt: 23.2 V Supply Volt: 27.5.39 V
IO Panel		Motion Command Interface	
Enable Manual Override 	Enable Manual Override:	mm -1 mm +1 mm Most Commonly Used	si v
🕱 🕅 ×14.4 - Input 🕘		Add inclement count hibe	DIG
∴ X14.17 - Output       ∴ X14.5 - Output       ∴ X14.8 - Output       ∴ X14.8 - Output       ∴ X14.9 - Output       ∴ X14.7 - Output	Name         Offs.         Description           Header         0         000kh No Operation	Scaled Value Int. V 0 0	Value (Dec) Int. Value (Hex) 0000h nd Send Command
	Window Tools Manuals Help      Control     Contro	Sumdow Tools Menuals Help         Control         Control         Status         Control         Status         O Operation Enable.         1. Voltage Enable.         2. Outrol         Status         0. Operation Enable.         1. Voltage Enable.         2. Forced by Parameter         4. Abort.         5. /freeze         7. Force Aby Parameter         6. Go To Position.         0. Interface         8. Jog Move +         1. Interface         9. Jog Move +         1. Interface         13. Go To Interface         13. Go To Interface         13. Go To Interface         14. Linearizing.         15. Protes Search.         11. Hore         12. Clearance Check0         11. Hore         12. Clearance Check0         13. Go To Interface         13. Go To Interface         14. Linearizing0         15. Special Mode0         16. To Interface         17. Orget by Parameter         18. Tool Indel Position Interface         19. Go Mon Active.         111. Hone	Window Tools Manuals Help         NOMA         Window Tools Manuals Help         NOMA         NOMA         Nome         Switch On         1: Voltage Enable.         1: Switch On Active.         1: Switch On Locked.         1: Home Tool Interface         1: Voltage Enable.         1: Switch On Locked.         1: Home Tool.         1: Switch On Locked.         0: Interface         1: Home Tool.         <



Then set the teach in input (X14.4 high), this makes the motor current less, so the motor can be moved manually to the new position (in this example 30.03mm). Note: in vertical applications the slider can drop down due to gravitation.



When the motor is moved to the desired position, set the teach in input low, the motor is now position controlled and powered again, and the new position for the selected IO motion is stored remanently (survives a power cycle).

# **Quick Start Configuration**

#### Input and Output Configuration

The inputs and outputs in the quick start example are configured as:

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Project	ä	•	/ 🗙 🕲		
Unnamed on LUM3	Name	Value	Raw Data	UPID	Туре
	B Dig In X14.14 Function	Ctrl Word: Switch On	16	62E8h	UInt16
	E Dig In X14.2 Function	None	0	62E9h	UInt16
🖶 🚍 Motion Control SW	🔠 Dig In X14.15 Function	None	0	62EAh	UInt16
🚊 🖃 Controller Configuration	🔚 Dig In X14.3 Function	None	0	62EBh	UInt16
Power Bridge	🔚 Dig In X14.16 Function	None	0	62ECh	UInt16
🖻 🚍 🖂 🖂 🖂	🔚 Dig In X14.4 Function	None	0	62EDh	UInt16
Dig In X14.14 Function	🔚 Dig Out X14.17 Function	None	0	62EEh	UInt16
Dig In X14.2 Function	🔚 Dig Out X14.5 Function	Status Word: In Target Position	42	62EFh	UInt16
B Dig In X14.15 Function	🔚 Dig Out X14.18 Function	Status Word: Motion Active	45	62F0h	UInt16
B Dig In X14.3 Function	🔚 Dig Out X14.6 Function	Status Word: Error	35	62F1h	UInt16
Dig In X14, 16 Function	🔚 Dig Out X14.19 Function	Status Word: Range Indicator 1	46	62F2h	UInt16
Dig Int X14.4 Function	🔚 Dig Out X14.7 Function	Status Word: Range Indicator 2	47	62F3h	UInt16
Dig Out X14 5 Function	EX14 I/O Logic Definitions				
1 Dig Out X14.18 Function	E Brake X14.17				
Dig Out X14.6 Function	E Analog In 010V				
Dig Out X14.19 Function	E Diff Analog In -10V10V				
E Dig Out X14.7 Function	E Trigger X14.15				
×14 I/O Logic Definitions	1				
⊕ 🖃 Brake X14.17	1				
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i⊡ · 🚍 Diff Analog In -10V10V	1				
⊡ 🖅 🔁 Trigger X14.15	1				
🕀 😑 Indexing Encoder	1				
	1				
Motor Configuration	1				
E State Machine Setup	1				
Motion Interface	1				
	1				
	1				
E Easy Steps	1				
	1				
	1				
Errors	•				F
Parameters					

The input X14.4 is mapped to the control word bit switch ON. In the EasySteps configuration the additional behavior of this bit is configured as following:

- Auto home
- Error acknowledge to falling edge of the "Switch On" flag

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Project	- iii		🗸 🗶 🕲			
Control Panel	Name	Value	Raw Data	UPID Type		
Parameters	🔚 Intf Switch On Flag Behavior	None	0	4440h Bit		
🕀 🚍 OS	🔚 Intf Home Flag Behavior	Autohome	1	4441h Bit		
🕀 🖃 Motion Control SW	🔚 Intf Error Acknowledge Flag Behavior	/Switch On Flag	1	4442h Bit		
🖻 🚍 Easy Steps	🔚 Intf Go To Initial Pos Flag Behavior	None	0	4443h Bit		
Analog Parameter Scale						
Errors						
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#### **IO Motion Configuration**

The input X14.14 is mapped to the control word bit "Switch On", for this reason no IO motion functionality is configured for this input.

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Control Panel	Name	Value	Raw Data	UPID	Туре
□ 🔄 Parameters □ 🖃 OS	SIX14.14 Rising Edge Function	none	0	6408h	UInt16
Motion Control SW	8 X14.17 Linked Ouput Mode	none	0	6470h	UInt16
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Parameters					

On the input X14.2 no MC SW functionality is mapped, so it's free to use as IO motion input. In the quick start example the motion go to absolute position is configured. The motion parameters (target position = 0mm, max speed = 0.4m/s, acceleration = 1m/s<sup>2</sup> and deceleration = 1m/s<sup>2</sup>) are configured in the section X14.2 IO Motion Config.



On the inputs X14.15 and X14.3 there are also configured "go to absolute position" commands, with target positions 20mm and 50mm.

On the input X14.16 'Increment Target Position' IO motion command is configured. In this case the parameter position = 5mm, means not the absolute position but the target position's increment. So on a rising edge of X14.16 the old target position is incremented by 5mm. A negative position value would decrement the target position. This kind of motion commands can be used for stacking or de-stacking applications.

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Easy Steps	S 🗂		🗸 🗙 🕲						
Analog Parameter Scale	Name	Value	Raw Data	UPID	Туре	Scale	Offset	Min	Max
E E IO Motions	Position	5 mm	50000	F220h	SInt32	0.0001 mm	0 mm	-214748.36	214748.364
🗐 🚍 Input X14.14 Config	Max. Speed	0.4 m/s	400000	F221h	SInt32	1E-6 m/s	0 m/s	0 m/s	2147.48364
8 ×14.14 Rising Edge Function	Acceleration	1 m/s^2	100000	F222h	SInt32	1E-5 m/s^2	0 m/s^2	0 m/s^2	21474.8364
E X14.14 IO Motion Config	Deceleration	1 m/s^2	100000	F223h	SInt32	1E-5 m/s^2	0 m/s^2	0 m/s^2	21474.8364
- 8 X14.17 Linked Ouput Mode									
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S X14.5 Linked Upput Mode									
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8 X14.19 Linked Ouput Mode									
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On the input X14.4 the 'Teach In IO Motion' is configured. This functionality is only available on this input.





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