

LinMot[®]



A1100 Servo Drives Installation Guide

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1 Important Safety Instructions



For your personal safety

Disregarding the following safety measures can lead to severe injury to persons and damage to material:

- Only use the product as directed.
- Never commission the product in the event of visible damage.
- Never commission the product before assembly has been completed.
- Do not carry out any technical changes on the product.
- Only use the accessories approved for the product.
- Only use original spare parts from LinMot.
- Observe all regulations for the prevention of accidents, directives and laws applicable on site.
- Transport, installation, commissioning and maintenance work must only be carried out by qualified personnel.
 - Observe IEC 364 and CENELEC HD 384 or DIN VDE 0100 and IEC report 664 or DIN VDE 0110 and all national regulations for the prevention of accidents.
 - According to the basic safety information, qualified, skilled personnel are persons who are familiar with the assembly, installation, commissioning, and operation of the product and who have the qualifications necessary for their occupation.
- Observe all specifications in this documentation.
 - This is the condition for safe and trouble-free operation and the achievement of the specified product features.
 - The procedural notes and circuit details described in this documentation are only proposals. It is up to the user to check whether they can be transferred to the particular applications. NTI AG / LinMot does not accept any liability for the suitability of the procedures and circuit proposals described.
- LinMot servo drives and the accessory components can include live and moving parts (depending on their type of protection) during operation. Surfaces can be hot.
 - Non-authorized removal of the required cover, inappropriate use, incorrect installation or operation create the risk of severe injury to persons or damage to material assets.
 - For more information, please see the documentation.
- High amounts of energy are produced in the drive. Therefore it is required to wear personal protective equipment (body protection, headgear, eye protection, hand guard).

Application as directed

- Drives are components which are designed for installation in electrical systems or machines. They are not to be used as domestic appliances, but only for industrial purposes according to EN 61000-3-2.
- When drives are installed into machines, commissioning (i.e. starting of the operation as directed) is prohibited until it is proven that the machine complies with the regulations of the EC Directive 98/37/EC (Machinery Directive); EN 60204 must be observed.
- Commissioning (i.e. starting of the operation as directed) is only allowed when there is compliance with the EMC Directive (2004/108/EC).
- The technical data and supply conditions can be obtained from the nameplate and the documentation. They must be strictly observed.

Transport, storage

- Please observe the notes on transport, storage, and appropriate handling.
- Observe the climatic conditions according to the technical data.

Installation

- The drives must be installed and cooled according to the instructions given in the corresponding documentation.
- The ambient air must not exceed degree of pollution 2 according to EN 61800-5-1.
- Ensure proper handling and avoid excessive mechanical stress. Do not bend any components and do not change any insulation distances during transport or handling. Do not touch any electronic components and contacts.
- Drives contain electrostatic sensitive devices which can easily be damaged by inappropriate handling. Do not damage or destroy any electrical components since this might endanger your health!

Electrical connection



- When working on live drives, observe the applicable national regulations for the prevention of accidents.
- The electrical installation must be carried out according to the appropriate regulations (e.g. cable cross-sections, fuses, PE connection). Additional information can be obtained from the documentation.
- This product can cause high-frequency interferences in non industrial environments which can require measures for interference suppression.

Operation

- If necessary, systems including drives must be equipped with additional monitoring and protection devices according to the valid safety regulations (e.g. law on technical equipment, regulations for the prevention of accidents). The drives can be adapted to your application. Please observe the corresponding information given in the documentation.
- After the drive has been disconnected from the supply voltage, all live components and power connections must not be touched immediately because capacitors can still be charged. Please observe the corresponding stickers on the drive. All protection covers and doors must be shut during operation.

Protection of persons

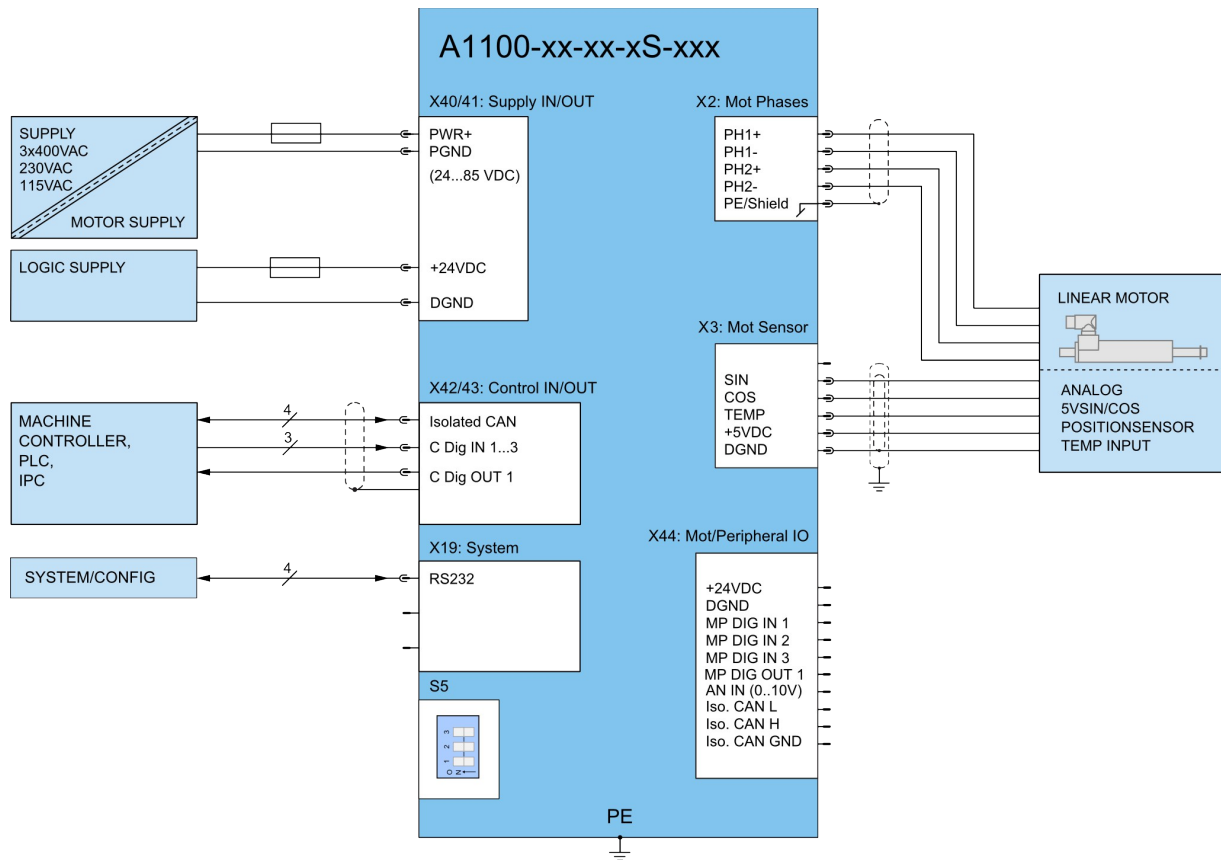


- The power terminals Ph1+, Ph1-, Ph2+, Ph2- and PWR+ remain live for at least 5 minutes after disconnecting from the power supplies.
- Before servicing, disconnect supply, wait 5 minutes and measure between PWR+ and PGND to be sure that the capacitors have discharged below 42VDC



- The heat sink of the drive can have an operating temperature of > 80 °C: Contact with the heat sink results in burns.

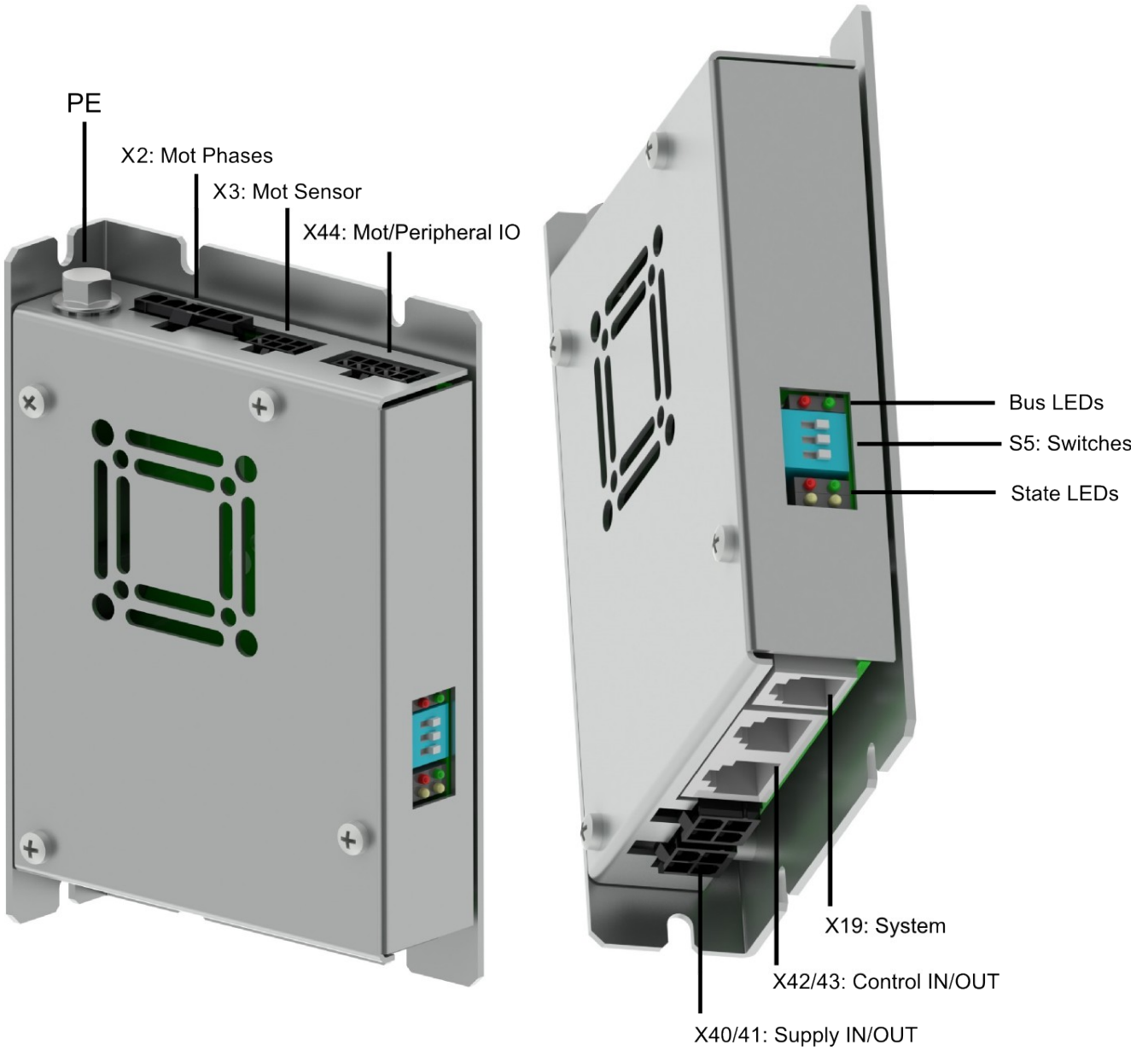
2 System Overview



Typical servo system A1100: Servo drive, motor and power supply

3 Interfaces

A1100-xx-xx-xS-xxx



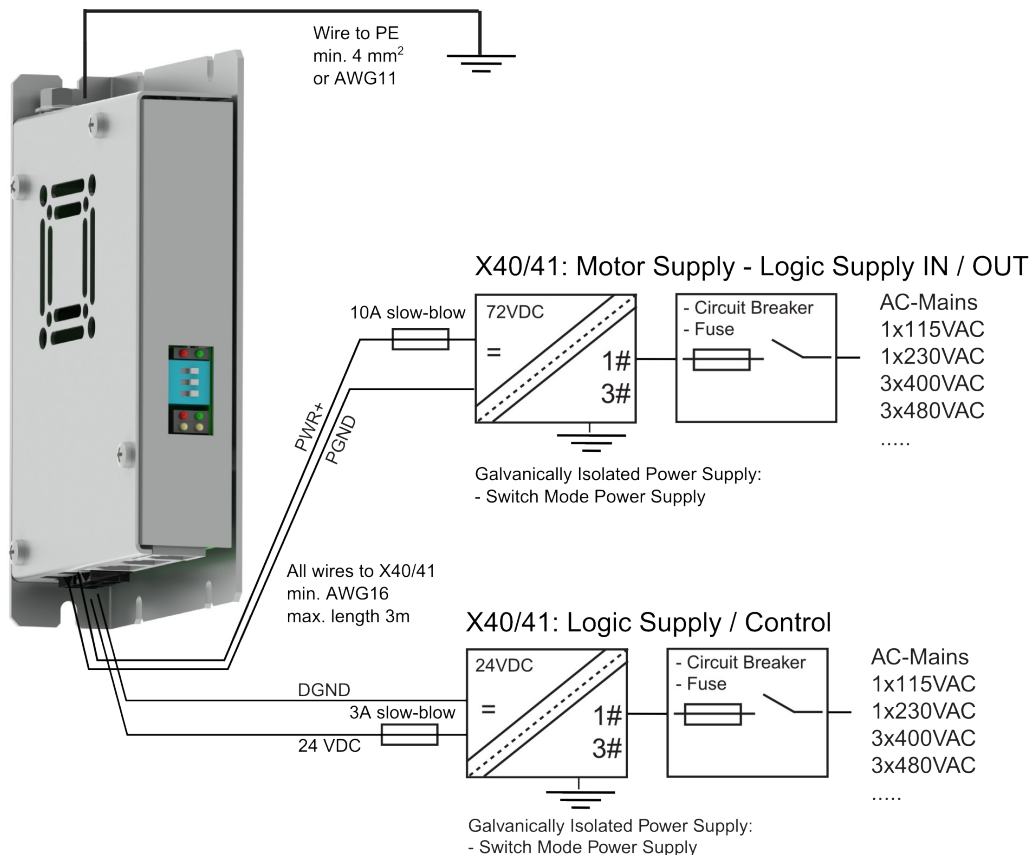
4 Functionality

		A1100-GP-LC-0S-xxx
Supply Voltage		
Motor Supply 72VDC	(24...85 VDC) (30...72 VDC for UL)	•
Logic Supply 24VDC	(22...26 VDC)	•
Motor Phase Current		
8A _{peak} / 6A _{rms} (0-599Hz)		•
Controllable Motors		
LinMot P01-23x...		•
P01-37x...		•
P01-48x...		•
Command Interface		
Easy Steps Application Layer		
Sinoide Application Layer		•
Cmd Tab IO Interface		
RS232	(up to 115.2 kBaud)	
RS485	(up to 115.2 kBaud)	
CANOpen	(up to 1MBaud)	•
DeviceNet	(125, 250, 500 kBaud)	
Programmable Motion Profiles (Curves)		
Up to 49 Motion Profiles, up to 8110 Curve Points		•
Programmable Command Table		
Command Table with up to 255 entries		•
Configuration		
RS232 Configuration		•
CAN Multi Axes Configuration		

5 Software

The configuration software LinMot-Talk is free of charge and can be downloaded from the *LinMot* homepage.

6 Power Supply and Grounding



In order to assure a safe and error free operation and to avoid severe damage to system components, all system components¹ must be well grounded to either a single earth or utility ground. This includes both LinMot and all other control system components to the same ground bus.



Each system component¹ should be tied directly to the ground bus (**star pattern**), rather than daisy chaining from component to component. (LinMot motors are properly grounded through their power cables when connected to LinMot drives.)



Power supply connectors must not be connected or disconnected while DC voltage is present. Do not disconnect system components until all LinMot drive LEDs have turned off. (Capacitors in the power supply may not fully discharge for several minutes after input voltage has been disconnected). Failure to observe these precautions may result in severe damage to electronic components in LinMot motors and/or drives.



Do not switch Power Supply DC Voltage. All power supply switching and E-Stop breaks should be done to the AC supply voltage of the power supply. Failure to observe these precautions may result in severe damage to drive.


¹ Inside of the A1100 drive the power motor ground *PGND* and signal ground *DGND* are connected together and also to the GND of the drive housing. It is recommended that the *PWR motor GND* is NOT grounded at another place than inside of the drive to avoid circular currents.

7 Description of the connectors / Interfaces

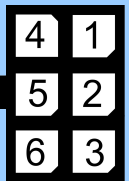
7.1 PE

PE	Protective Earth
PE	<ul style="list-style-type: none"> Use min. 4mm² (AWG11) Tightening torque: 2Nm (18 lbin)

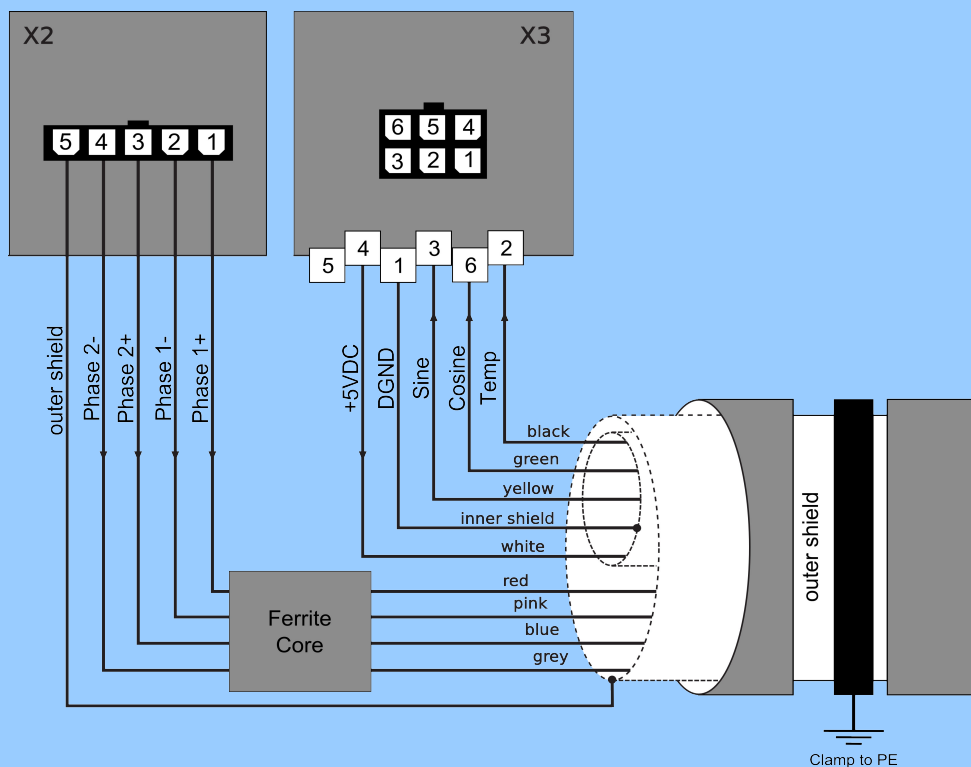
7.2 X2

X2	Motor Phases																									
	<table border="1"> <tr> <td>1</td> <td>PH1+</td> <td>U</td> <td>Motor Phase 1+</td> <td>red</td> </tr> <tr> <td>2</td> <td>PH1-</td> <td>V</td> <td>Motor Phase 1-</td> <td>pink</td> </tr> <tr> <td>3</td> <td>PH2+</td> <td>W</td> <td>Motor Phase 2+</td> <td>blue</td> </tr> <tr> <td>4</td> <td>PH2-</td> <td>X</td> <td>Motor Phase 2-</td> <td>grey</td> </tr> <tr> <td>5</td> <td>SCRN</td> <td></td> <td>Shield</td> <td></td> </tr> </table>	1	PH1+	U	Motor Phase 1+	red	2	PH1-	V	Motor Phase 1-	pink	3	PH2+	W	Motor Phase 2+	blue	4	PH2-	X	Motor Phase 2-	grey	5	SCRN		Shield	
1	PH1+	U	Motor Phase 1+	red																						
2	PH1-	V	Motor Phase 1-	pink																						
3	PH2+	W	Motor Phase 2+	blue																						
4	PH2-	X	Motor Phase 2-	grey																						
5	SCRN		Shield																							
<p>Molex Mini-Fit Jr.™ Molex Art.Nr.: 50-36-1747</p>	<ul style="list-style-type: none"> Use 60/75°C copper conductors only Cable length < 30m 13A max. current per circuit when header is mated to a receptacle loaded with a 45750 Mini-Fit® Plus HCS Crimp Terminal crimped to a 16 AWG wire 																									

7.3 X3

X3	Motor Sensor														
	<table border="1"> <tr> <td colspan="2">LinMot Motor:</td> </tr> <tr> <td>1</td> <td>DGND</td> </tr> <tr> <td>2</td> <td>Temp</td> </tr> <tr> <td>3</td> <td>Sensor Sine</td> </tr> <tr> <td>4</td> <td>+5VDC</td> </tr> <tr> <td>5</td> <td>(Do not connect)</td> </tr> <tr> <td>6</td> <td>Sensor Cosine</td> </tr> </table>	LinMot Motor:		1	DGND	2	Temp	3	Sensor Sine	4	+5VDC	5	(Do not connect)	6	Sensor Cosine
LinMot Motor:															
1	DGND														
2	Temp														
3	Sensor Sine														
4	+5VDC														
5	(Do not connect)														
6	Sensor Cosine														
<p>Molex Micro-Fit 3.0™ Molex Art.Nr.: 43045-0600</p>	<ul style="list-style-type: none"> Use +5V (X3.4) and DGND (X3.1) only for motor internal hall sensor supply (max. 100mA) Cable length < 30m Caution: Do NOT connect DGND (X3.1) to ground or earth! 														

Recommended general wiring with LinMot Motor cable (K-, KS- and KR-types):

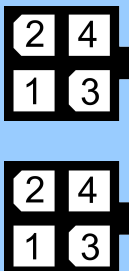
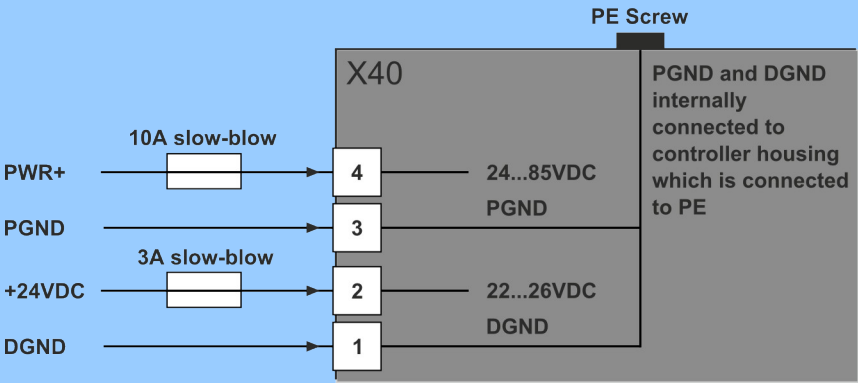


- For the connection between the linear motor and servo drive, only the specially shielded LinMot cables of type K, KS or KR should be used.
- The length of the cable can be up to 30 m between the linear motor and the servo drive.
- Motor cables fabricated by the customer are to be tested with a test voltage of 1500VDC.
- An improperly fabricated motor cable can damage both the linear motor and the servo drive.
- The minimum bend radius is to be observed for stationary cables as well as for moving motor cables.
- The motor cable must not be plugged in or unplugged while voltage is still applied.
- The outer shield of the motor cable has to be clamped to PE as close as possible to the drive.
- A ferrite core (5mm, 144Ohm @ 100MHz, e.g. Würth Elektronik, Art.Nr.: 7427114) has to be mounted around the motor phases as close to the drive as possible.

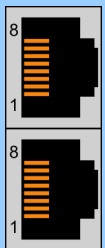
7.4 X19

X19	System
	<ol style="list-style-type: none"> 1 RS232 Tx 2 GND 3 GND 4 RS232 Rx 5 (Do not connect) 6 (Do not connect)
RJ12 6P6C unshielded	

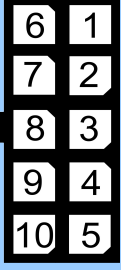
7.5 X40 / X41

X40 / X41		Supply IN / OUT	
			
<p>Molex Mini-Fit Jr.™ Molex Art.Nr.: 50-36-2306</p>	<ul style="list-style-type: none"> • Motor Supply: 72VDC nominal, 24...85VDC • Absolute max. Rating: 72VDC +20% • External Fuses: Motor Supply = 10A slow-blow / min. 100VDC • Logic Supply = 3A slow-blow / min. 100VDC • If motor supply voltage exceeds 90VDC, the drive will go into error state • Use 60/75°C copper conductors only • 13A max. current per circuit when header is mated to a receptacle loaded with a 45750 Mini-Fit® Plus HCS Crimp Terminal crimped to a 16 AWG wire 		


7.6 X42 / X43

X42 - X43		Control IN / OUT			
	<table border="0"> <tr> <td style="vertical-align: top;"> <ol style="list-style-type: none"> 1 C Dig IN 1 2 C Dig IN 2 3 C Dig IN 3 4 CAN GND 5 CAN GND 6 C Dig OUT 1 7 Isolated CAN H 8 Isolated CAN L </td> <td style="vertical-align: top;"> <p>Shield</p> </td> </tr> </table>	<ol style="list-style-type: none"> 1 C Dig IN 1 2 C Dig IN 2 3 C Dig IN 3 4 CAN GND 5 CAN GND 6 C Dig OUT 1 7 Isolated CAN H 8 Isolated CAN L 	<p>Shield</p>	<p>Input high voltage: $V_{in} > 16VDC$, Input low voltage: $V_{in} < 8VDC$ Input high voltage: $V_{in} > 16VDC$, Input low voltage: $V_{in} < 8VDC$ Input high voltage: $V_{in} > 16VDC$, Input low voltage: $V_{in} < 8VDC$</p> <p>Open Collector Output, 100k Pull-Up to +24VDC</p>	
<ol style="list-style-type: none"> 1 C Dig IN 1 2 C Dig IN 2 3 C Dig IN 3 4 CAN GND 5 CAN GND 6 C Dig OUT 1 7 Isolated CAN H 8 Isolated CAN L 	<p>Shield</p>				
<p>RJ-45 shielded</p>	<ul style="list-style-type: none"> • Use twisted pair (1-2, 3-6, 4-5, 7-8) cable for wiring • X42 is internally connected to X43 (1:1 connection) • Cable length < 30m • Galvanically isolated CAN transceiver meets the specifications of the ISO11898-2 standard <p><u>Note:</u> A termination resistor of 120 Ohm can be connected drive internally with the switch S5.1.</p>				


7.7 X44

X44		Motor Peripheral I/O	
	1 DGND 2 MP Dig IN 1 3 MP Dig IN 2 4 CANGND 5 Isolated CAN H 6 +24VDC OUT 7 MP Dig OUT 1 8 MP Dig IN 3 9 AN IN (0..10V) 10 Isolated CAN L	Input high voltage: Vin > 16VDC, Input low voltage: Vin < 8VDC Input high voltage: Vin > 16VDC, Input low voltage: Vin < 8VDC Use a separate shielded twisted pair cable for the CAN connection Use a separate shielded twisted pair cable for the CAN connection Max. Current: 2.5A Open Collector Output, No Pull-Up, Max. Current: 1.4A Input high voltage: Vin > 16VDC, Input low voltage: Vin < 8VDC Analog Input 0V..10V Use a separate shielded twisted pair cable for the CAN connection	
	Molex Micro-Fit 3.0™ Molex Art.Nr.: 43045-1000	<ul style="list-style-type: none"> Galvanically isolated CAN transceiver meets the specifications of the ISO11898-2 standard The CAN bus on X44 is the same one as on X42/43 Use a separate shielded cable with a twisted pair for CAN L and CAN H when connecting the CAN bus to X44. Clamp the shielding of the cable as close as possible to the drive to PE. Cable length < 30m <p><u>Note:</u> A termination resistor of 120 Ohm can be connected drive internally with the switch S5.1.</p>	

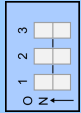
7.8 LEDs

LEDs		State Display	
	Signal: 24VOK EN Warn Error	Color: Green Yellow Yellow Red	Description: 24V Logic Supply OK Motor Enabled / Error Code Low Nibble Warning / Error Code High Nibble Error





7.9 BUS LEDs

RT Bus LEDs		RT Bus State Display	
	Signal: BUS OK BUS ERROR	Color: Green Red	Description: OK Error
The use of these LEDs depends on the type of fieldbus which is used. Please see the corresponding manual for further information.			

7.10 S5

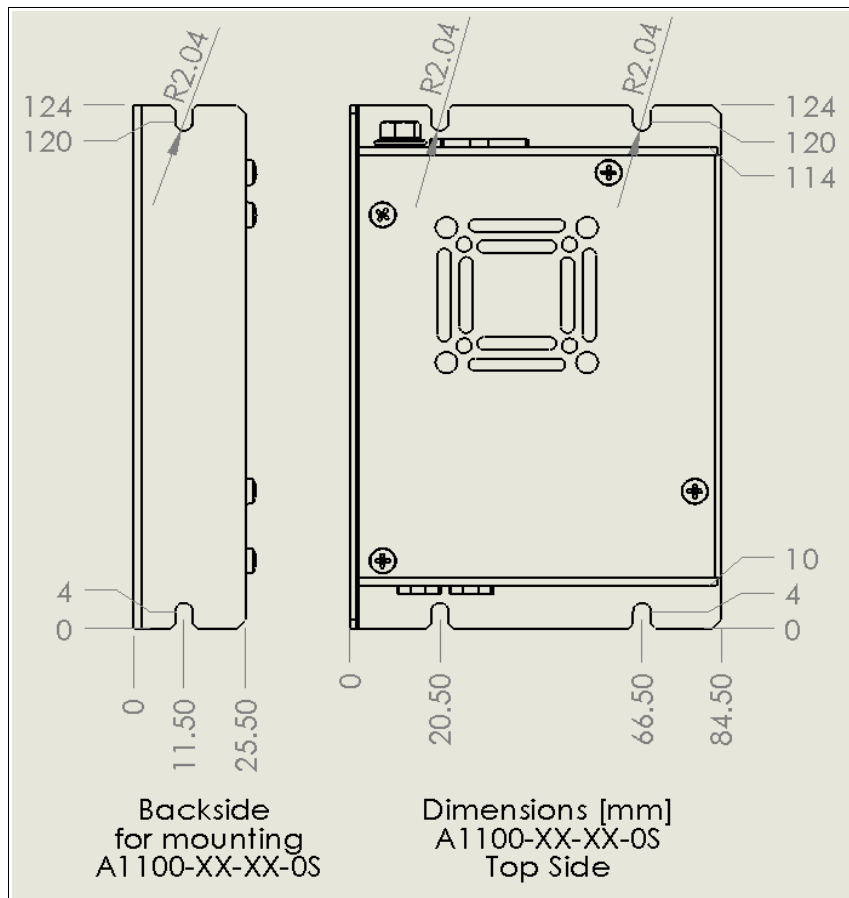
S5	
	S5.3 Bootstrap (Default = off) S5.2 Parameter Default (Default = off) S5.1 CAN Termination (Default = on)
The use of these switches depends on the type of fieldbus which is used. Please see the corresponding manual for further information.	

8 Error Codes

Error Codes			
Error   24VOK Warn   EN			
Error	Warn	EN	Description
Off	Warning	Operation Enabled	Normal Operation: Warnings and operation enabled are displayed.
On	<ul style="list-style-type: none"> • ~2Hz 0..15 x Error Code High Nibble 	<ul style="list-style-type: none"> • ~2Hz 0..15 x Error Code Low Nibble 	Error: The error code is shown by a blink code with "WARN" and "EN". The error byte is divided into low and high nibble (= 4 bit). "WARN" and "EN" are blinking together. The error can be acknowledged. (e.g.: WARN blinks 3x, EN blinks 2x; Error Code = 32h)
<ul style="list-style-type: none"> • ~2Hz 	<ul style="list-style-type: none"> • ~2Hz 0..15 x Error Code High Nibble 	<ul style="list-style-type: none"> • ~2Hz 0..15 x Error Code Low Nibble 	Fatal Error: The error code is shown by a blink code with "WARN" and "EN". The error byte is divided into low and high nibble. "WARN" and "EN" are blinking together. Fatal errors can only be acknowledged by a reset or power cycle. (e.g.: WARN blinks 3x, EN blinks 2x; Error Code = 32h)
<ul style="list-style-type: none"> • ~4Hz 	<ul style="list-style-type: none"> • ~2Hz 0..15 x Error Code High Nibble 	<ul style="list-style-type: none"> • ~2Hz 0..15 x Error Code Low Nibble 	System Error: Please reinstall firmware or contact support.
<ul style="list-style-type: none"> • ~0.5Hz 	<ul style="list-style-type: none"> • ~0.5Hz 	On	Signal Supply 24V too low: The error and warn LEDs blink alternating if the signal supply +24V (X4.2) is less than 18VDC.
Off	*●●●	●*●●	Plug&Play Communication Active This sequence (Warn on, then En on, then both off, complete sequence of the 4 states ca. 1Sec) signalizes the state when the plug and play parameters are being read from the motor.
Off	Off	Off	Bootstrap The drive is in the bootstrap mode if the two RT LEDs are also off. Switch S5.3 off.

The meaning of the error codes can be found in the *Usermanual_MotionCtrl_Software_SG5* and the user manual of the installed interface software. These documents are provided together with LinMot-Talk configuration software and can be downloaded from www.linmot.com.

9 Physical Dimension



A1100 Single axis drive		
Width	mm (in)	25.6 (1.0)
Height	mm (in)	124 (4.9)
Depth	mm (in)	84.5 (3.3)
Weight	g (lb)	340 (0.75)
Case	IP	20
Storage Temperature	°C	-25...40
Transport Temperature	°C	-25...70
Operating Temperature	°C	0...40 at rated data (UL) 40...50 with power derating
Relative humidity	%	95 (non-condensing)
Pollution	IEC/EN 60664-1	Pollution degree 2
Max. Case Temperature	°C	70
Max. Power Dissipation	W	30
Distance between Drives	mm (in)	20 (0.8) horizontal 50 (2) vertical

10 Power Supply Requirement

Motor Power Supply



The calculation of the necessary power for the Motor supply is dependent on the application and the used motor. The nominal supply voltage is 72VDC. The possible range is from 24 to 85VDC.

ATTENTION:

The motor supply can rise up to 95 VDC when braking. This means that everything connected to that power supply needs a voltage rating of 100 VDC. (Additional capacitors, etc...). Due to high braking voltage and sudden load variations of linear motor applications, **only specially designed power supplies shall be used.**

Signal Power Supply

The logic supply needs a regulated power supply of a nominal voltage of 24 VDC. The voltage must be between 22 and 26 VDC.

Current consumption:

- min. 0.5A (no load on the outputs)
- typ. 0.7A (all outputs "on" with 100mA load and Brake with no load)
- max. 1.7A (all outputs "on" with 100mA load and Brake with 1A load)


11 Regeneration of Power

If the power supply rises too high when braking, connect an additional capacitor to the motor power supply. It is recommended to use a capacitor $\geq 10'000 \mu\text{F}$ (install capacitor as close as possible to the drive supply!)

12 Ordering Information

Drive	Description	Art. No.
A1100-GP-LC-0S-000	General Purpose Drive 72VDC / 8A _{peak}	0150-2499
Accessories	Description	Art. No.
USB-RS232 converter (RJ45↔RJ45 cable included)	2.5kV isolated USB-RS232 converter <i>For use with C1100, C1200, C1400, E1200, E1400, MB1150 and MB8050 series drives</i>	0150-2473
AC01-RJ45/RJ12-2.5-RS1	RS232 adapter cable RJ-45 ↔ RJ12 <i>For use with A1100 series drives in combination with 0150-2473</i>	0150-2477
AC01-RJ12/Df-2.5-RS1	RS232 adapter cable D-SUB9 ↔ RJ12 <i>for use with 3rd party RS232-Converters with D-SUB9 connectors</i>	0150-3544
Supply cable for X40	AC01-MiniFit-jr./f 4 circuits, dual row - open end, Length 4m	0150-3545
Daisy Chain Supply cable for X40/41	AC01-MiniFit-jr./f 4 circuits, dual row - MiniFit-jr./f 4 circuits, dual row, Length 15cm	0150-3552
I/O cable for X44	AC01-MicroFit 3.0/f 10circuits, dual row - open end, Length 4m	0150-3553

13 International Certifications

Certifications	
Europe 	See chapter "EU Declaration of Conformity CE-Marking"
UK 	See chapter "UK Declaration of Conformity UKCA-Marking"
IECEE CB SCHEME	Ref. Certif. No. CH-7683
USA / Canada 	All products marked with this symbol are tested and recognized by Underwriters Laboratories and the production facilities are checked quarterly by an UL inspector. This mark is valid for the USA and Canada and eases certification of your machines and systems in these areas. File number E316095 UL 508C Power Conversion Equipment CSA C22.2 Industrial Control Equipment

14 Safety notes for the installation according to UL

Markings:

- **Wiring terminal markings:**
See markings on the enclosure and the corresponding chapters in the installation guide!
- **Cautionary Marking:**
See markings on the enclosure and the corresponding chapters in the installation guide!
- **Motor overload protection must be provided externally in the end-use.** Motor Overload protection can alternatively be provided when the connected motor has a thermal sensor rated 5V DC, max. 100mA which is connected to the drive thermal sensor input (X3).
- The transients have to be limited to max. 0.8kV on the line side of the drive.
- The 24VDC supply for the control circuit must be protected with an external UL Listed 3A DC Fuse.
- **Proposed ratings, to be evaluated in the end-use:**
 - Input Voltage: 72VDC
 - Input current: 5A
 - Output Voltage: 61.5V rms
 - Output Current: 5.7A rms max.
 - Number of Phases: 2 by 1 Phase
 - Frequency range: 0-500Hz
 - Duty cycle rating: 10%
 - Control Power (X40-2, X41-2): 24VDC
protected with an external UL Listed 3A DC Fuse
 - Surrounding Air Temperature: max. 50°C

CERTIFICATE OF COMPLIANCE

Certificate Number 20140317-E316095
Report Reference E316095-20140307
Issue Date 2014-March-17

Issued to: NTI AG
 HAERDLISTRASSE 15,
 8957 SPREITENBACH SWITZERLAND



This is to certify that representative samples of COMPONENT - POWER CONVERSION EQUIPMENT
 SEE ADDENDUM PAGE FOR MODELS

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 508C - Power Conversion Equipment
 CSA C22.2 NO. 14-13- INDUSTRIAL CONTROL EQUIPMENT.

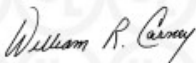
Additional Information: See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Recognized Component Marks for the U.S. and Canada should be considered as being covered by UL's Recognition and Follow-Up Service and meeting the appropriate U.S. and Canadian requirements.

The UL Recognized Component Mark for the U.S. generally consists of the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory. As a supplementary means of identifying products that have been produced under UL's Component Recognition Program, UL's Recognized Component Mark: , may be used in conjunction with the required Recognized Marks. The Recognized Component Mark is required when specified in the UL Directory preceding the recognitions or under "Markings" for the individual recognitions. The UL Recognized Component Mark for Canada consists of the UL Recognized Mark for Canada: , and the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory.

Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for use as components of complete equipment submitted for investigation rather than for direct separate installation in the field. The final acceptance of the component is dependent upon its installation and use in complete equipment submitted to UL LLC.

Look for the UL Recognized Component Mark on the product.



William R. Carney, Director, North American Certification Programs
 UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at www.ul.com/contactus.



CERTIFICATE OF COMPLIANCE

Certificate Number 20140317-E316095
Report Reference E316095-20140307
Issue Date 2014-March-17

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Open type Power Conversion Equipment Models:

- Model A, may be followed by P, followed by 11, followed by 00, 30 or 50, followed by -, followed by GP, PL, PN, SC, IP, EC, SE, PD, DP, VA, CO, CD, DN, DS, CM, or LU, followed by -, followed by LC, followed by -0S, may be followed by - and any characters.

- Model C, may be followed by P, followed by 11 or 12, followed by 00, 30 or 50, followed by -, followed by GP, PL, PN, SC, IP, EC, SE, PD, DP, VA, CO, CD, DN, DS, CM, or LU, followed by -, followed by XC, followed by -0S or -1S, may be followed by - and any characters.



William R. Carney, Director, North American Certification Programs
UL LLC

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15 EU Declaration of Conformity CE-Marking

NTI AG / LinMot®
Bodenaeckerstrasse 2
CH-8957 Spreitenbach
Switzerland
Tel.: +41 56 419 91 91

declares under sole responsibility the compliance of the products:
- **Drives of the Series A1100-GP-LC-0S-xxx**

with the **EMC Directive 2014/30/EU**.

Applied harmonized standards:

- **EN 61000-6-2: 2005 (Immunity for industrial environments)**
- **EN 61000-6-4: 2007 + A1:2011 (Emission for industrial environments)**

According to the EMC directive, the listed devices are not independently operable products.

Compliance of the directive requires the correct installation of the product, the observance of specific installation guides and product documentation. This was tested on specific system configurations.

The safety instructions of the manuals are to be considered.

These products are intended for installation in machines. Operation is prohibited until it has been determined that the machines in which these products are to be installed, conforms to the above mentioned EC directive.

The product must be mounted and used in strict accordance with the installation instructions contained within the installation guide, a copy of which may be obtained from NTI AG.

Company: NTI AG
Spreitenbach, 11.04.2016



Dr. Ronald Rohner / CEO NTI AG

16 UK Declaration of Conformity UKCA-Marking

NTI AG / LinMot®
Bodenaeckerstrasse 2
CH-8957 Spreitenbach
Switzerland
Tel.: +41 56 419 91 91

declares under sole responsibility the compliance of the products:
- **Drives of the Series A1100-GP-LC-0S-xxx**

with the **EMC Regulation S.I. 2016 No. 1091**.

Applied designated standards:

- **EN 61000-6-2: 2005 (Immunity for industrial environments)**
- **EN 61000-6-4: 2007 +A1:2011 (Emission for industrial environments)**

According to the EMC regulation, the listed devices are not independently operable products.

Compliance of the regulation requires the correct installation of the product, the observance of specific installation guides and product documentation. This was tested on specific system configurations.

The safety instructions of the manuals are to be considered.

These products are intended for installation in machines. Operation is prohibited until it has been determined that the machines in which these products are to be installed, conforms to the above mentioned EC directive.

The product must be mounted and used in strict accordance with the installation instructions contained within the installation guide, a copy of which may be obtained from NTI AG.

Company: NTI AG
Spreitenbach, 24.03.2022



Dr. Ronald Rohner / CEO NTI AG

	Ref. Certif. No.
	CH-7683

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME SYSTEME CEI D'ACCEPTATION MUTUELLE DE CERTIFICATS D'ESSAIS DES EQUIPMENTS ELECTRIQUES (IECEE) METHODE OC


CB TEST CERTIFICATE / CERTIFICAT D'ESSAI OC

Product Produit	Servo drive unit
Name and address of the applicant Nom et adresse du demandeur	NTI AG Linmot Switzerland Haerdlistrasse 15 CH-8957 Spreitenbach
Name and address of the manufacturer Nom et adresse du fabricant	NTI AG Linmot Switzerland Haerdlistrasse 15 CH-8957 Spreitenbach
Name and address of the factory Nom et adresse de l'usine	NTI AG Linmot Switzerland Haerdlistrasse 15 CH-8957 Spreitenbach
Note: When more than one factory, please report on page 2 Note: Lorsque il y a plus d'une usine, veuillez utiliser la 2 ^{ème} page	<input type="checkbox"/> Additional information on page 2
Ratings and principal characteristics Valeurs nominales et caractéristiques principales	Motor supply: 72 VDC (24 – 85 VDC), 8 A Logic supply: 24 VDC (22 – 28 VDC), 3 A Class I
Trade mark (if any) Marque de fabrique (si elle existe)	LinMot
Type of Manufacturer's Testing Laboratories used Type de programme du laboratoire d'essais constructeur	---
Model / Type Ref. Ref. de type	A1100 Servo Drive / AP1100-GP-LC-0S-000
Additional information (if necessary may also be reported on page 2) Les informations complémentaires (si nécessaire, peuvent être indiqués sur la 2 ^{ème} page)	---
A sample of product was tested and found to be in conformity with IEC Un échantillon de ce produit a été essayé et a été considéré conforme à la CEI	<input type="checkbox"/> Additional information on page 2 61000-6-2(ed.2) 61000-6-4(ed.2);am1
National differences / Comments Les différences nationales / Commentaires	EU Group Differences; EU Special National Conditions; EU A-Deviations 14-IK-0141.E01
As shown in the Test Report Ref. No. which forms part of this Certificate Comme indiqué dans le Rapport d'essais numéro de référence qui constitue partie de ce Certificat	

This CB Test Certificate is issued by the National Certification Body
 Ce Certificat d'essai OC est établi par l'Organisme National de Certification

Electrosuisse
 Luppenstrasse 1,
 CH-8320 Fehraltorf

Signed by: Martin Plüss
 2014-12-03




page 1 of 1

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