SERIES E1200

- Absolute / relative positioning commands

- Limited jerk motion commands

- Time Curves

- Real Time (Streaming)

- Synchronous control (Drive profiles)

- Master Encoder Synchronization (In/Out)

- PLC or Stand-Alone Solutions

- Industrial Ethernet Configuration / Remote Access Ethernet

- Digital and Analog IO's

- Interface for optional incremental and absolute sensor

- Position Encoder Simulation (RS 422)

- Master / Slave Solutions

- ± 10 VDC Force / Speed Control

- Supports Plug and Play

- CE

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Servo Drive E1200

Series E1200 Servo Drives are modular axis drives, with 32-bit position resolution and an integrated power stage, for linear and rotary motors.

The drives are suitable for simplest, standard, and high-end positioning tasks, across the entire force range of the LinMot product range.

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CONNECTION TO MACHINE DRIVE

The Series E1200 Servo Drives can be actuated by machine controls from many manufacturers or brands, via digital inputs and outputs, RS232 or RS485 serial interface, CanBus CANopen and DeviceNet interfaces, Profibus DP, or industrial ETHERNET.

PROCESS AND SAFETY INTERFACES

Fast process interfaces for direct processing of sensor signals are available as freely programmable analog and digital inputs, a fast trigger input, and a capture input.

The safe pulse inhibitor on Servo Drive with fieldbus interfaces or industrial ETHERNET allows safe stop of the drives via control signals, per EN 954-1, without interrupting the power supply.

LOGIC AND POWER SUPPLY

The Servo Drives have two separate power supply inputs for the logic and power elements.

In an E-stop and safe stop of the drive, only the power element supply is cut off from the drive. The logic supply and the drive continue to run.

This has the advantage that the drive and linear motor do not need to be reinitialized when the machine is restarted, since all process data, including the current position of the linear motor, are still up to date.

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System Integration

Flexible hardware enables control of many 1/2/3- phase motors. Thus, low-power rotary servomotors, such as brushless DC motors, can be integrated in the same controls concept.

Additionally, the drives can be equipped with optional peripherals, such as reference and end stop switches, high-precision external position sensors, or a mechanical holding brake.

Series E1200 Servo Drives have analog and digital inputs and outputs, serial interfaces, fieldbusses, and ETHERNET connections. The user is therefore not dependent on the selection of the overlaid drive. An appropriate interface is available, with associated protocols, for any PLC or IPC solution.

With flexibility and a compact form factor, LinMot Series E1200 Servo Drives provide a complete solution for a flexible drive concept in single and multiple axes applications, with linear motors and other actuators.

Fieldbusses and interfaces to the overlaid control

| Digital I/O´s | RS232 RS485 | CAN open | Device-Net | Profibus DP | ProfiNet | Sercos III | Power Link | Ethernet IP | Ether CAT |

Supply and Safety
- Logic Supply
- Motor Supply
- SVE
- Regeneration Resistor

Linmot Servo Drive Series E1200

Position Drive:
- 32 Bit Position Value
- Resolution 0.1μm

Run Modes:
- VA Interpolated Moves
- Analog Position
- Run Curves
- Two Point Trigger Moves
- Master Encoder Synchronisation
- Streaming P, PV
- Step, Direction

Internal stored Curves:
- Max. 99 Curves
- Up to 15´000 set points

Command Table:
- Up to 255 Commands

Optional Limit and Home Switches
- Limit - Switch
- Home Switch
- Limit + Switch

LinMot Linear Motor or other 1/2/3 phase motor (Brushless DC, Voice Coil,...)

External Position Sensor

Optional Brake

Optional external Position Sensor

Fast Process Inputs
- Trigger Inputs
- Capture
- Analog Inputs

Config.
- ETHERNET (RS232)
- ETHERNET

Synch.
- Master Encoder In
- Master Encoder Out

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MASTER ENCODER

For synchronization to a mechanical master shaft, or a rotating main drive, the Axis (linear motors and rotary motors) can be coupled to an electronic main shaft via the Master Encoder Interface.

The encoder signal from the main shaft can be passed through by the Master Encoder Interface, so that any number of linear motors can be synchronized to the main shaft.

MOTOR INTERFACES

E1200 Servo Drives provide all necessary interfaces to operate linear or rotary motors with optional external peripherals, such as end position and reference switches, a mechanical brake, or a high-resolution external position sensor.

In special applications, two drives can be synchronized with each other using the synchronization interface in master booster mode.

CONFIGURATION

Parameterization and configuration of the Servo Drive is done via the Ethernet interface on the front side for simultaneous configuration of several drives.

LinMot Talk user-friendly PC software is available for configuration. In addition to online documentation, LinMot Talk provides extensive debugging tools, such as an oscilloscope and an error inspector, for simple and rapid start-up of the Axis.

Fieldbus and ETHERNET drives can also be configured directly by the overlaid control.

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INTERPOLATED MOVES

Stroke [mm]

Goto 100 mm
v_{max} = 2,5 m/s
a_{max} = 3,0 m/s²

Time [ms]
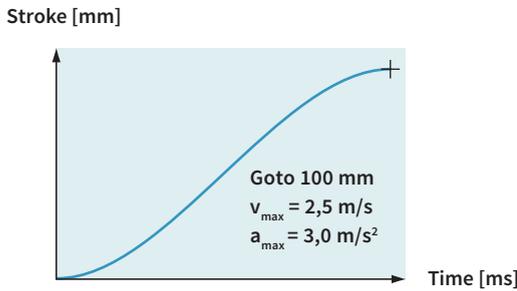
For direct position targets, using absolute or relative positioning, the desired position is reached using acceleration and velocity-limited motion profiles or jerk optimized profiles (jerk limited and Bestehorn). Positioning commands can be invoked via the serial interfaces, CANopen, DeviceNet, Profibus, Ethernet or a trigger input.

Stroke range:	±100 m
Position Resolution:	0.1 µm (32Bit)
Velocity Resolution:	1.0 µm/s (32Bit)
Acceleration Resol.:	10.0 µm/s² (32Bit)

TIME CURVES

Stroke [mm]

Start Curve 1

Curve 1

Time [ms]
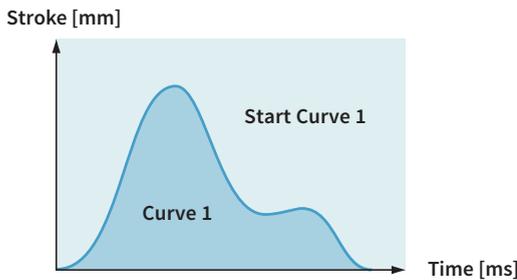
Up to 100 different time curves can be stored Series E1200 drives, with up to 16,000 individual waypoints. The motor can thus travel along time curves of any complexity, such as those generated by CAD programs and stored in the drive (Excel CSV format). The time curves can be invoked via the serial interface, fieldbusses, ETHERNET, or the trigger input.

Stroke range:	±100m
Position Resolution:	0.1 µm (32Bit)
Motion profiles:	Max. 100 Time Curves
Curve points:	Max. 16'000 points

PROFILED MOVES

Stroke [mm]

Goto Pos 125 mm
with Profil 1

Curve 1

Time [ms]
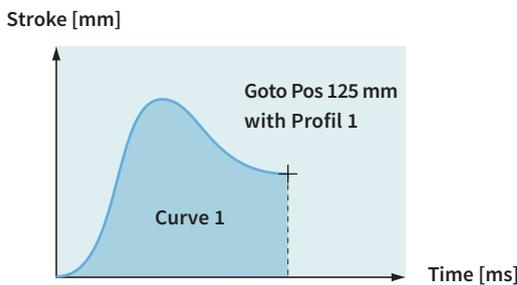
For travel to an absolute position, or shifting by a relative position, any desired motion rules can be stored besides the VA interpolator. They are stored in the drive as motion profiles (Excel CSV format). The positions can be approached, for example, with a sinusoidal motion to optimize power loss, or special reverse optimized motion profiles.

Stroke range:	±100m
Position Resolution:	0.1 µm (32Bit)
Motion profiles:	Max. 100 Time Curves
Curve points:	Max. 16'000 points

SETPOINT STREAMING

Stroke [mm]

Time [ms]
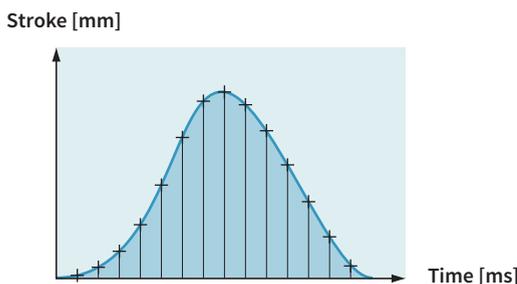
Overlaid NC drives with fieldbus or ETHERNET interfaces communicate with the Servo Drives via "Position Streaming". The position and velocity calculated in the overlaid control is transmitted to the Servo Drive cyclically. The P, PV, or PVT mode is available for this transmission.

Position Resolution:	32 Bit
Velocity Resolution:	32 Bit
Interpolator:	10 kHz
Cycle times:	0.4 - 5 ms

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EASY STEPS

Input 1	Pos 125 mm
Input 2	Pos 250 mm
Input 3	Curve 1
Input 4	Pos -30 mm
Input 5	Pos +12,5 mm
Input 6	Curve 2
Input 7	Pos 2 mm
Input 8	Pos -12,5 mm

With the Easy Steps function, up to 8 positions or independent travel commands can be stored on the drive, and addressed via 8 digital inputs or fieldbus interfaces/ETHERNET.

Digital inputs:	max. 8
Interface:	X4
Scanning rate:	200 μsec

COMMAND TABLE

```
      Start
        │
   Wait Input
        │
    Pos 12mm
        │
     Rule 1 ──────→ Terminate A
        │
      Stop
```
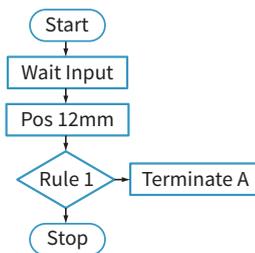
Entire motion sequences with up to 255 individual motion commands can be stored in the Command Table. This is primarily advantageous if complete motion sequences need to be executed very quickly, without dead time from the overlaid drive. In the Command Table, the programmer has access to all motion commands, internal parameters, and digital inputs and outputs.

Commands:	max. 255
Cycle time:	100 μsec

MASTER ENCODER SYNCHRONIZATION (MT)

Stroke [mm]

Curve 1

0   90°   180°   270°   360°   **Time [ms]**
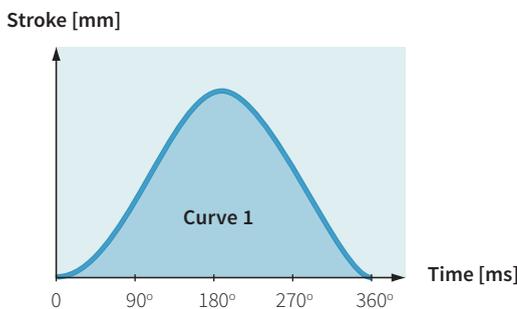
For synchronization to an external main or master shaft, the linear motor travels along the motion profiles stored in the drive, at the machine speed (machine angle 0…360°). Using this function, mechanical cam discs can be replaced with highly dynamic linear motors. The motion profiles can be freely defined, and the correct motion profile can be invoked during product changeover with no changeover time.

Motion profiles:	Max. 100 curve profiles
Curve points:	Max. 16'000 points
Encoder Counter:	32 Bit
Encoder Input:	A/B/Z (RS422)
Max. counting frequency	Max. 4.5 MHz

BELT SYNCHRONIZATION

v [m/s]

V_{Belt} counts/sec

Time [ms]
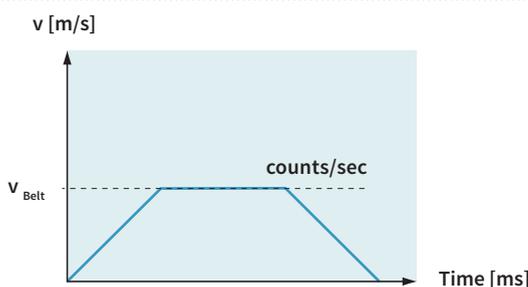
Synchronization to a belt speed can be done using the Master Encoder Interface or Step/Direction/ Zero interface. Applications such as the "flying saw", synchronous loading or unloading, synchronous filling or labeling of bottles or containers on a conveyor belt, and many other applications can be implemented in this way.

|	
Encoder Counter:	32 Bit
Encoder Input:	A/B/Z (RS422), max. 5 MHz STEP/DIR/ZERO
Max. counting frequency	Max. 4.5 MHz

LinMot®
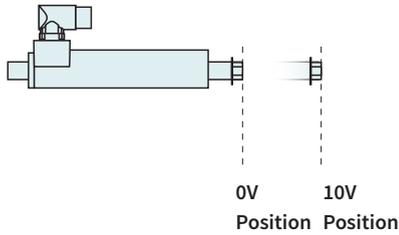
ANALOG POSITION

For an analog position target, the linear motor travels to a position proportional to the input voltage. The position is either scanned continuously, or only after a rising edge of the trigger signal. In order to prevent uncontrolled jumps in position, the motor travels to the positions with a programmable maximum acceleration and velocity (VA interpolator).

0V Position **10V Position**

Inputs:	Analog Input X4 or X20
Voltage range:	0-10VDC or ±10V
Resolution:	12 Bit
Scanning rate:	>=100 μsec (adjustable)

EASY STEPS PARAMETER SCALE

Maximum Force [0...10V => 0...100%]

100%

$\Rightarrow$ Force$_{Max}$

0%   Time [ms]
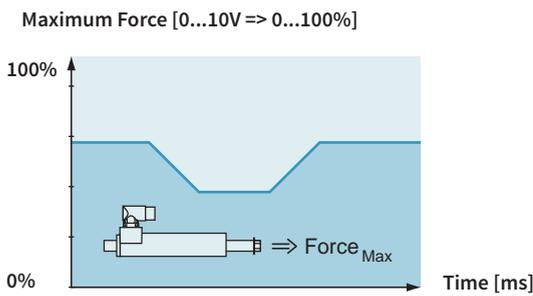
Easy Steps provide the ability to parameterize internal parameters using two analog inputs. If, for example, the maximum motor current is read at an analog input, then the maximum motor force can be provided as analog for freely programmable joining processes.

Inputs:	2 x Analog (X4.4, X4.7)
Voltage range:	0-10VDC
Resolution:	12 Bit
Scanning rate:	200 μsec

CLOSED LOOP FORCE CONTROL

F_{Mot}= 0,1...580N

Load Cell

0...10V F_{one}
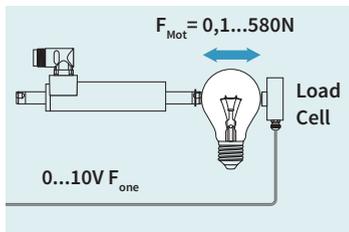
Using the force control technology function, precise joining processes can be implemented reliably and reproducibly with high-precision force control. For force control, the current motor force is measured with a load cell and controlled in the drive. Joining process or quality checks with high requirements for applied force can be implemented.

Analog Input:	0-10V or ±10V
Resolution:	12 Bit
Min. Force Resolution:	0.1N

WINDING APPLICATION
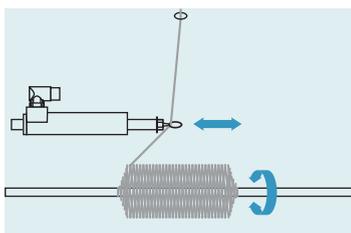
For winding textile yarns, glass fiber optics, or wires, a complete functional block is available that controls the entire sequence of a complete winding process.
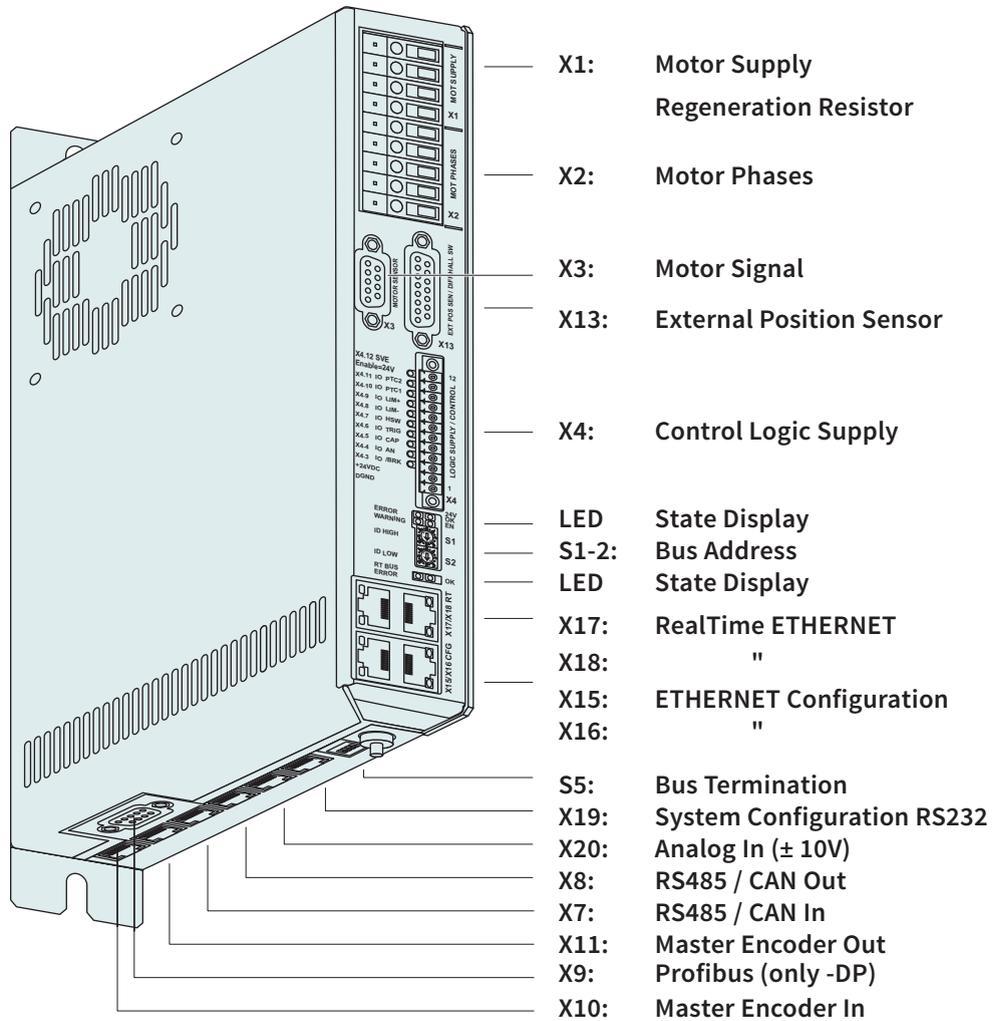
|	
X1:	Motor Supply
	Regeneration Resistor
X2:	Motor Phases
X3:	Motor Signal
X13:	External Position Sensor
X4:	Control Logic Supply
LED	State Display
S1-2:	Bus Address
LED	State Display
X17:	RealTime ETHERNET
X18:	"
X15:	ETHERNET Configuration
X16:	"
S5:	Bus Termination
X19:	System Configuration RS232
X20:	Analog In (± 10V)
X8:	RS485 / CAN Out
X7:	RS485 / CAN In
X11:	Master Encoder Out
X9:	Profibus (only -DP)
X10:	Master Encoder In

Interfaces	E1250-PL-UC	E1250-PN-UC	E1250-SC-UC	E1250-IP-UC	E1250-LU-UC	E1250-EC-UC	E1250-SE-UC	E1250-DS-UC	E1230-DP-UC	E1200-GP-UC
CANopen										•
LinRS										•
POWERLINK	•									
PROFINET		•								
sercos			•							
sercos over EtherCAT							•			
ETHERNET IP				•						
LinUDP					•					
EtherCAT						•				
ETHERCAT CiA402								•		
PROFIBUS-DP									•	

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LinMot®

E1250-PL-UC
E1250-PN-UC
E1250-PD-UC
E1250-SC-UC
E1250-IP-UC
E1250-LU-UC
E1250-EC-UC
E1250-SE-UC
E1250-DS-UC
E1200-GP-UC

PROFINET INDUSTRIAL ETHERNET

EtherNet/IP

ETHERNET POWERLINK

PROFIBUS PROCESS FIELD BUS

EtherCAT®

SERCOS interface

- » Absolute & Relative Positioning
- » Travel Along Time Curves
- » Positioning using Motion Profiles
- » Internally stored Motion Commands
- » Internally stored Motion Sequences
- » Master Encoder Synchronization
- » Synchronization to Belt Speed
- » Position Streaming
- » Analog Position Target
- » Analog Parameter Scaling
- » Winding Function Block
- » Force Control Technology Function
- » Customer-Specific Functions
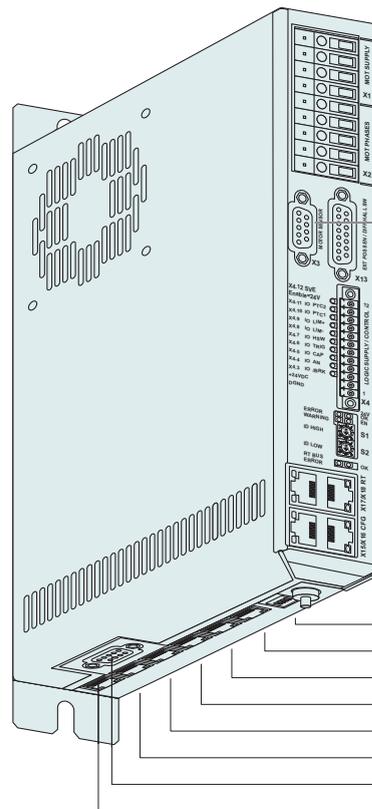
X1:	Motor Supply
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X3:	Motor Signal
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X18:	"
X15:	ETHERNET Configuration
X16:	"
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X20:	Analog In (± 10V)
X8:	RS485 / CAN Out
X7:	RS485 / CAN In
X11:	Master Encoder Out
X9:	Profibus (only -DP)
X10:	Master Encoder In

INDUSTRIAL ETHERNET

Series E1200 drives allow integration of LinMot linear motors in controls concepts with industrial ETHERNET interfaces. The user can integrate Series E1200 drives regardless of the provider of the overlaid control.

LinMot drives are available with common industrial ETHERNET protocols. Since all ETHERNET drives have the same motion command interface, and the control and status word are identical, software blocks that have been implemented once can be transferred to other drives without a problem.

TECHNICAL DATA

Series E1200 Servo Drives support the following industrial ETHERNET protocols:

- » Profinet
- » ETHERNET IP
- » PowerLink
- » EtherCat
- » Sercos III

The appropriate drive is available for each protocol.

TECHNICAL DATA

Type:	Realtime ETHERNET
Switch/Hub:	Integrated 2-Port Hub/Switch
Transfer rate:	10/100MBit/sec

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E12x0-Series

X1

1,2,3-PHASE POWERSTAGE

24...80V DC
8A/15A/25A PHASECURRENT

REGENERATION RESISTOR

SUPPLY
3x400VAC
230VAC
115VAC

MOTOR SUPPLY

X2

PH1+
PH1-
PH2+
PH2-

LINEAR MOTOR

BRUSHLESS DC MOTOR

X3

SIN
COS
TEMP.
+5V
GND

X9 (only on -DP)

PROFIBUS DP

PROFIBUS DP

5

X13

A+	SIN+
A-	SIN-
B+	COS+
B-	COS-
Z+	ZERO+
Z-	ZERO-
U+	
U-	
V+	
V-	
W+	
W-	
ENC ALARM	
+5VDC	
GND	

OPTIONAL EXTERNAL POSITIONS SENSOR

S1-S2

ETHERNET

ID HIGH (S1)

ID LOW (S2)

X17 / X18

10/100 MBaud INDUSTRIAL ETHERNET

10/100 MBaud INDUSTRIAL ETHERNET

6

6

X4

LIMIT SWITCH+
LIMIT SWITCH-
HOME SWITCH
BRAKE OUTPUT

PTC1
PTC2

TRIGGER INPUT
CAPTURE INPUT
ANALOG INPUT

SVE

+24VDC
GND

BRAKE

ROTARY MOTOR & SUPPLY PROTECTION

FAST PROCESS INPUTS

POWERSTAGE ENABLE

LOGIC SUPPLY

X15 / X16

10/100 MBaud Configuration ETHERNET

10/100 MBaud Configuration ETHERNET

6

6

X19

RS232

SYSTEM INTERFACE: RS232

3

X7

RS485

CAN

COMMUNICATION INTERFACE RS485 CANOPEN DEVICENET

4

2

X8

RS485

CAN

COMMUNICATION INTERFACE RS485 CANOPEN DEVICENET

4

2

X10

A+	STEP+
A-	STEP-
B+	DIRECTION+
Z+	ZERO+
Z-	ZERO-
B-	DIRECTION-
CAN_H	
CAN_L	

MASTER ENCODER

X11

| A+ | STEP+ |
A-	STEP-
B+	DIRECTION+
Z+	ZERO+
Z-	ZERO-
B-	DIRECTION-
CAN_H	
CAN_L	

MASTER ENCODER

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## X1 — MOTOR SUPPLY / REGENERATION RESISTOR

Screw Terminals:

External Regeneration Resistor (RR01-10/60, Art. Nr. 0150-3088)
External Fuse: max. 20AT
Supply nominal 72VDC (24...85VDC)
(See chapter Power Supply Requirements for compatible power supplies.)
Absolute max. Rating 72VDC +20%.

If motor supply voltage is exceeds 90VDC, the drive will go into error state.
» Tightening torque: 0.5 - 0.6 Nm (4.4 – 5.3 lbin)
» Screw thread: M2.5
» Use 60/75°C copper conductors only
» Conductor cross-section: use only 2.5 mm^2 / AWG 14
» Stripping length: 13-15 mm
» Max. length: 4 m

X2 — MOTOR PHASES
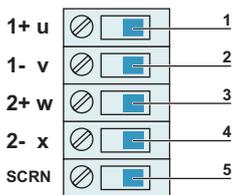
Nr	Designation	LinMot Linear Motor	Color	3-Phase-Motor
1	PH1+ /U	Motor Phase 1+	red	Motor Phase U
2	PH1- /V	Motor Phase 1-	pink	Motor Phase V
3	PH2+ /W	Motor Phase 2+	blue	Motor Phase W
4	PH2- /X	Motor Phase 2-	grey	Motor Phase X
5	SCRN	Shield		

Screw Terminals:
» Tightening torque: 0.5 - 0.6 Nm (4.4 – 5.3 lbin)
» Screw thread: M2.5
» Use 60/75°C copper conductors only
» Conductor cross-section: 0.5 – 2.5 mm^2 (depends on Motor current) / AWG 21 -14
» Stripping length 13-15 mm

X3 — MOTOR ENCODER

DSUB-9 (f)
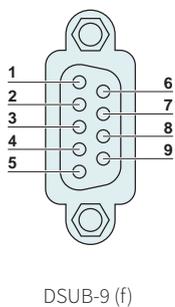
| Nr	LinMot Linear Motor	3-Phase-Motor
1		
2		
3	+5VDC	+5VDC (Hall Supply)
4	Sensor Sine	Hall 1
5	Temperature In	Hall 3
6		
7		
8	AGND	AGND (Hall Supply)
9	Sensor Cosine	Hall 2
Case	Shield	

⚠️ Use +5VDC (X3.3) and AGND (X3.8) only for motor internal hall sensor supply (max. 100mA).
Caution :
Do NOT connect AGND (X3.8) to ground or earth!

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X2: Screw Terminals

1+ u	1
1- v	2
2+ w	3
2- x	4
SCRN	5
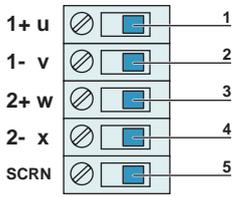
X2: Screw Terminals

X3: DSUB-9 (f)

OUTER SHIELD
GREY — PHASE 2-
BLUE — PHASE 2+
PINK — PHASE 1-
RED — PHASE 1+
WHITE
INNER SHIELD
YELLOW — Caution: do not connect X3.1 / 2 / 6 / 7
GREEN — +5VDC
BLACK — AGND

SINE
COSINE
TEMP

X2
5	
4	PHASE 2-
3	PHASE 2+
2	PHASE 1-
1	PHASE 1+

X3
1	
6	
2	
7	
3	+5VDC
8	AGND
4	SINE
9	COSINE
5	TEMP
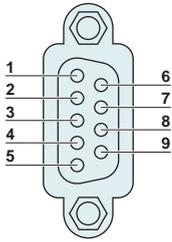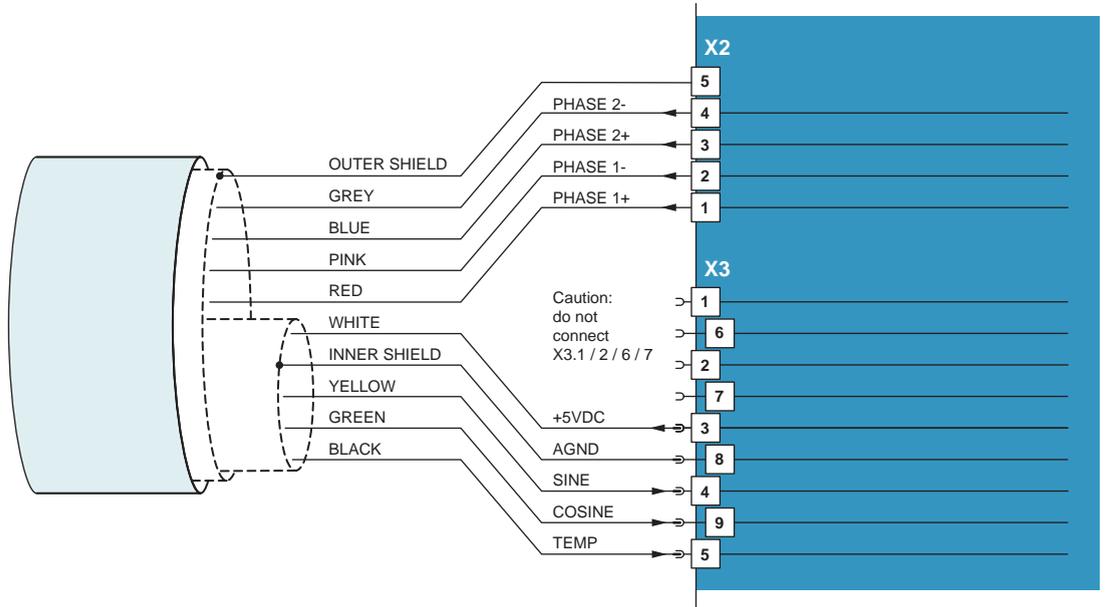
X4: 12PIN   LOGIC CONTROL / SUPPLY

X4.12 SVE Enable=24V	12	
X4.11		
X4.10		
X4.9		
X4.8		
X4.7	LOGIC SUPPLY / CONTROL	
X4.6		
X4.5		
X4.4		
X4.3 /Brk		
+24VDC		
DGND	1	
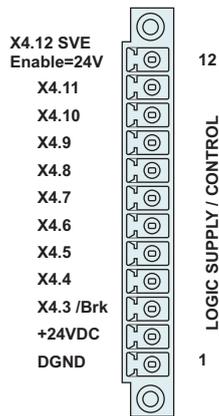
Phoenix MC1,5/12-STF-3,5
(delivered with drive)

POWER STAGE ENABLE (HW ENABLE)	12	4,7k	
CONFIGURABLE IO, PTC 2 INPUT	11	*	MAX. 100mA
CONFIGURABLE IO, PTC 1 INPUT	10	*	MAX. 100mA
CONFIGURABLE IO	9	*	MAX. 100mA
CONFIGURABLE IO	8	*	MAX. 100mA
CONFIGURABLE IO, ANALOG INPUT	7	*	MAX. 100mA
CONFIGURABLE IO, TRIGGER INPUT	6	*	MAX. 100mA
CONFIGURABLE IO	5	*	MAX. 100mA
CONFIGURABLE IO, ANALOG INPUT	4	*	MAX. 100mA
CONFIGURABLE IO, BRAKE DRIVER 1A	3	*	MAX. 1.0A
LOGIC SUPPLY 22-26 VDC	2	Internal Fuse 3AT	
GND	1		

* ALL OUTPUTS WITH INTERNAL PULL DOWN RESISTOR 4K7 TO GND

Inputs (X4.3 .. X4.12): 24V / 5mA (Low Level: −0.5 to 5VDC, High Level: 15 to 30VDC)
Outputs (X4.4 .. X4.11): 24V / max.100mA, Peak 370mA (will shut down if exceeded)
Brake Output (X4.3): 24V / max.1.0A

Input X4.12: SVE (PowerStage Enable) must be high for enabling the power stage). If it goes low for more than 0.5ms the PWM generation of the power stage is disabled by hardware.

Supply 24V / typ. 1.1A / max. 2.1A (if all outputs "on" with max. load and brake.)

» Tightening torque: min 0.22Nm
» Screw thread: M2
» Use 60/75°C copper conductors only
» Conductor cross-section: max. 1.5mm2
» Internal Fuse (F2):3AT (slow blow, Schurter OMT125, 3404.0118.xx, UL File Number: E41599)

⚠ CAUTION: For continued protection against risk of fire, replace only with same type and rating of fuse.

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X7 - X8   RS485/CAN
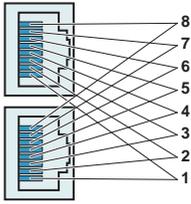
Nr		
1	RS485_Rx+	A
2	RS485_Rx-	B
3	RS485_Tx+	Y
4	GND	
5	GND	
6	RS485_Tx-	Z
7	CAN_H	
8	CAN_L	
Case	Shield	

RJ-45

»   Use twisted pair (1-2, 3-6, 4-5, 7-8) cable for wiring.
»   The built in CAN and RS485 terminations can be activated by S5.2 and S5.3.
»   X7 is internally connected to X8 (1:1 connection)

X9   PROFIBUS DP (ONLY AVAILABLE ON E1230-DP-UC)
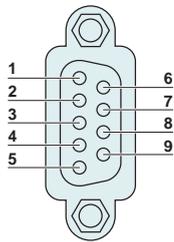
Nr		
1	-	
2	-	
3	RxD/TxD-P	
4	CNTR-P	
5	GND	(isolated)
6	+5V	(isolated)
7	-	
8	RxD/TxD-N	
9	-	
Case	Shield	

DSUB-9 (f)

Max. Baud rate: 12 Mbaud

X10-X11   MASTER ENCODER IN (X10) / MASTER ENCODER OUT (X11)
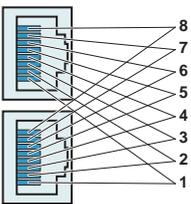
Nr	Incremental	Step/Direction	EIA/TIA 568A colors
1	A+	Step+	Green/White
2	A-	Step-	Green
3	B+	Direction+	Orange/White
4	Z+	Zero+	Blue
5	Z-	Zero-	Blue/White
6	B-	Direction-	Orange
7	CAN_H	CAN_H	Brown/White
8	CAN_L	CAN_L	Brown
Case	Shield	Shield	

RJ-45

Use twisted pair (1-2, 3-6, 4-5, 7-8) cable for wiring.
Master Encoder Inputs: Diff. RS422, max. counting frequency 25 Mcounts/s, quadrature evaluation, 40ns edge separation

Master Encoder Outputs: Amplified RS422 differential signals from Master Encoder IN (X10)
The CAN bus can be terminated with S5.4.
All devices, which are connected to X10/X11 must be referenced to the same ground.

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X13   EXTERNAL POSITION SENSOR DIFFERENTIAL HALL SWITCHES / SSI
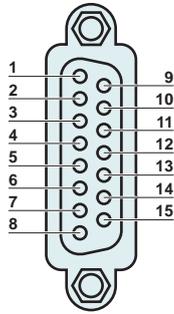
DSUB-15 (f)

Nr		ABZ with Hall Switches	Sin / Cos 1 Vpp	SSI (only postion recovery)
1		+5V DC	+5V DC	+5VDC
	9	A+	Sin+	
2		A-	Sin-	
	10	B+	Cos+	
3		B-	Cos-	
	11	Z+		Data+
4		Z-		Data-
	12	Encoder Alarm	Encoder Alarm	
5		GND	GND	GND
	13	U+		
6		U-		
	14	V+		
7		V-		
	15	W+		Clock+
8		W-		Clock-
Case		Shield	Shield	Shield

Position Encoder Inputs (RS422):   Max. counting frequency: 25 Mcounts/s with quadrature decoding, 40ns edge separation

Encoder Simulation Outputs (RS422):   Max Output Frequency: 2.5MHz, 5 M counts/s with quadrature decoding, 200ns edge separation

Differential Hall Switch Inputs (RS422):   Input Frequency: <1kHz
Enc. Alarm In: 5V / 1mA
Sensor Supply: 5VDC max 100mA

X15-X16   ETHERNET CONFIGURATION 10/100MBIT/S
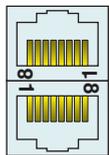
RJ-45

X15	Internal 2-Port 10BASE-T and 100BASE-TX Ethernet Switch with Auto MDIX. LEDs on the lower side of the device indicate "Link/Activity" per port, the upper ones are not used.
X16	

X17-X18   REALTIME ETHERNET 10/100 MBIT/S
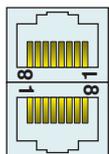
RJ-45

X17 RT ETH In	Specification depends on RT-Bus Type. Please refer to according documentation.
X18 RT ETH Out	

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X19   RS232 CONFIGURATION

RJ-45
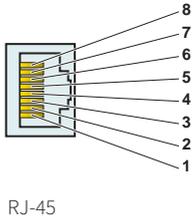
Nr	Description
1	Do not connect
2	Do not connect
3	RS232 RX
4	GND
5	GND
6	RS232 TX
7	Do not connect
8	Do not connect
case	Shield

Use isolated USB-RS232 converter (Art.-No. 0150-2473) for configuration over RS232.

X20   ANALOG IN (+-10V DIFFERENTIAL ANALOG INPUT)

RJ-45
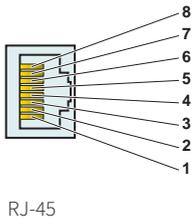
Nr	Description
1	Do not connect
2	Do not connect
3	Analog In-
4	GND
5	GND
6	Analog In+
7	Do not connect
8	Do not connect
case	Shield

S5   BUS TERMINATION / ANIN2 PULL DOWN

S5

Switch	E1200
S5	Switch 1: AnIn2 Pulldown (4k7 Pulldown on X4.4). Set to ON, if X4.4 is used as digital Output.
	Switch 2: Termination Resistor for RS485 on CMD (120R between pin 1 and 2 on X7/X8) on/off
	Switch 3: CAN Termination on CMD (120R between pin 7 and 8 on X7/X8) on/off
	Switch 4: CAN Termination on ME (120R between pin 7 and 8 on X10/X11) on/off
	Factory settings: all switches "off"

LEDS   STATE DISPLAY

Error 24VOK
Warn   EN

240VOK	Green	24V Logic Supply OK
EN	Yellow	Motor Enabled / Error Code Low Nibble
Warn	Yellow	Warning / Error Code High Nibble
Error	Red	Error

RT BUS LEDS

BUS   BUS
Error OK

BUS OK	Green	OK
BUS Error	Red	Error

The use of these LEDs depends on the type of fieldbus which is used.
Please see the corresponding manual for further information.

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S1-2   ADDRESS SELECTORS / BUS TERMINATION

E12x0 V1

S1

S2

Switch	
S1	Bus ID High (0…F). Bit 5 is LSB, bit 8 MSB
S2	Bus ID Low(0…F). Bit 1 is LSB, bit 4 MSB

The use of these switches depends on the type of fieldbus which is used.
Please see the corresponding manual for further information.

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Central
Points
252

270

180

233

40

Dimensions in mm

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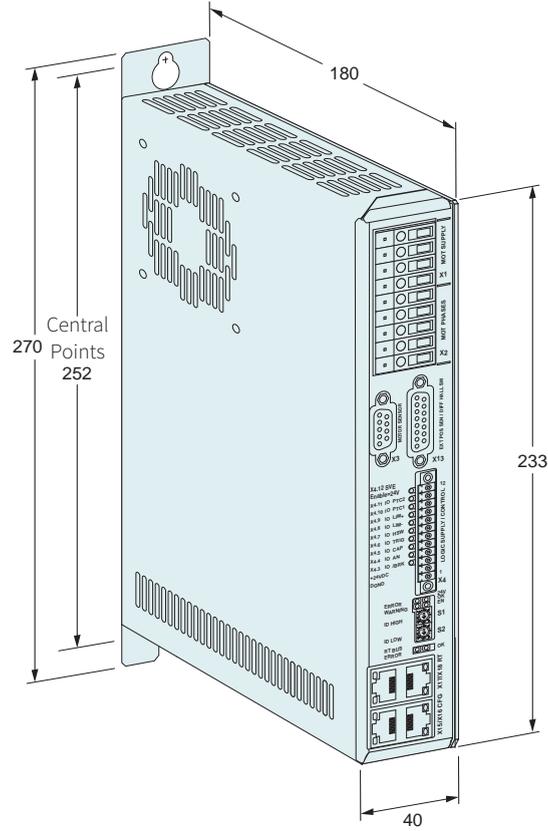
Servo Drive Series		E1200
Width	mm (in)	40 (1.6)
Height	mm (in)	270 (10.6)
Height without fixings	mm (in)	233 (9.2)
Depth	mm (in)	180 (7.1)
Weight	kg (lb)	1.5 (3.3)
Case IP Code	IP	20
Mounting screws	mm (in)	2 x M5
Mounting distance	mm (in)	252 (9.92)
Storage temperature	°C	-25...40
Transport temperature	°C	-25...70
Operating temperature	°C	0...40 at rated date 40...50 with power derating
Relative humidity		95% (non-condensing)
Max. case temperature	°C	65
Max. power dissipation	W	30
Distance between Drives	mm (in)	20 (0.8) left/right 50 (2) top/bottom

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Servo Drives

Item	Description	Part Number
E1250-PL-UC	POWERLINK Servo Drive 72VDC/32A	0150-1760
E1250-PN-UC	PROFINET Servo Drive 72VDC/32A	0150-1762
E1250-PD-UC	ProfiDrive Servo Drive 72VDC/32A	0150-2620
E1250-EC-UC	EtherCAT Servo Drive 72VDC/32A	0150-1763
E1250-SE-UC	sercos over EtherCAT Servo Drive 72VDC/32A	0150-1898
E1250-DS-UC	EtherCAT CoE Servo Drive 72VDC/32A	0150-2410
E1250-SC-UC	sercos Servo Drive 72VDC/32A	0150-1764
E1250-IP-UC	ETHERNET IP Servo Drive 72VDC/32A	0150-1761
E1250-LU-UC	LinUDP Servo Drive 72VDC/32A	0150-2493
E1230-DP-UC	PROFIBUS-DP Servo Drive 72VDC/32A	0150-1766
E1200-GP-UC	GENERAL PURPOSE Servo Drive 72VDC/32A	0150-1771

Accessories

Item	Description	Part Number
Connector for X4	Connector MC 1,5/12-STF-3,5, delivered with drive	0150-3300

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