

SERVO DRIVE C1251-MI-XC-2S

With integrated Safety Functions

EtherCAT®**PROFI**
INDUSTRIAL ETHERNET
NET**EtherNet/IP™**ETHERNET
POWERLINK**LinUDP****CC-Link****sercos**
the automation bus

- ✓ Integrated safety functions e.g. Safe Limited Speed (SLS)
- ✓ PROFIsafe and safe digital IO's
- ✓ Configurable multibus-interface
- ✓ A wide range of technology functions and integrated prozess monitoring
- ✓ Various interfaces for external devices such as position sensor etc.
- ✓ Exchangeable SD memory card

Servo Drive C1251-MI-XC-2S

Series C1200 servo drives are axis controllers, with 32-bit position resolution and an integrated power stage, for linear and rotary motors. The controllers are suitable for standard and high-end positioning tasks with NC Synchronisation.

This flexible hardware in compact design enables the control of any 2/3-phase motors. This means that low-power rotary servo motors such as brushless DC motors can also be integrated into the same control concept. The LinMot servo drives of the C1200 series offer a universal solution for a flexible drive concept in single and multi-axis applications with linear motors and other actuators.

The servo drives have two separate power supplies for the logic and power sections. This has the advantage that the drive and the linear motor do not have to be reinitialised when the machine power is restarted, as all process data, including the actual position of the linear motor, are still up-to-date.

The ultra-fast control cycle together with the high resolution of the A/D converter of the C1200 series servo drives guarantee perfect motor control in demanding positioning tasks. Possible functions include interpolated movements, traversing of path curves, positioning with movement profiles and position streaming. C1251 drives with -2S option contain an integrated and certified safety module under the same housing, which together with -2S motors enables the implementation of safety functions, such as safe reduced speed (SLS). The safety functions are conveniently controlled via safety protocols such as PROFIsafe or alternatively via digital safety IO's.

Freely programmable analogue and digital inputs and fast trigger inputs are available as fast process interfaces or for direct evaluation of sensor signals.

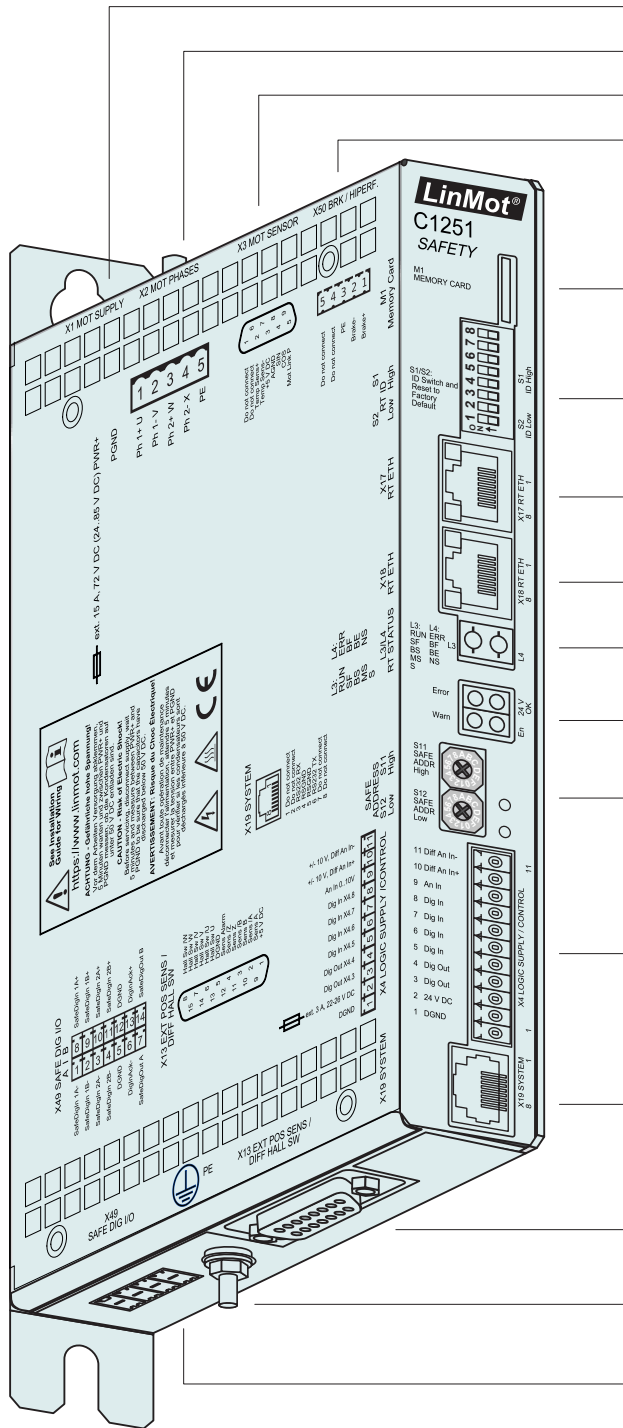
Simple configuration is ensured by the intuitive LinMot Talk PC software. In addition to online documentation, comprehensive debugging tools such as an oscilloscope or the error memory ensure fast commissioning of the axes. Motors with plug-and-play function are automatically recognised and configured.

The C1200 Servo Drives offer all the necessary interfaces to equip linear or rotary motors with optional peripherals such as reference and limit switches, high-precision external position sensors or a mechanical holding brake.



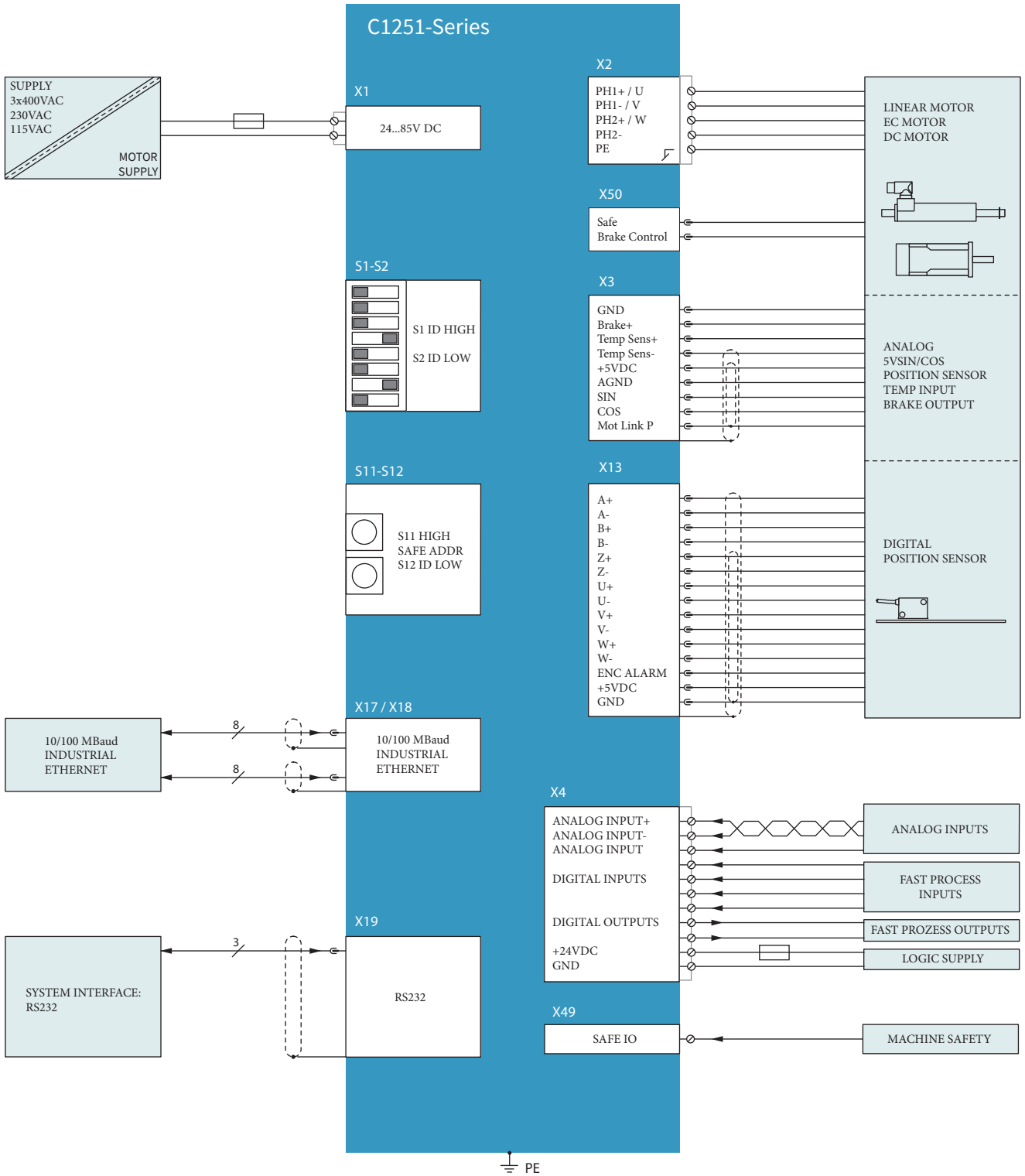
	C1251-MI-XC-2S-0E-000	C1251-MI-XC-2S-0E-C00
Power Supply		
	72 VDC (24 to 85 VDC)	
Maximum Supported Motor Current		
	25 A _{pk} (0 to 599 Hz)	
Logic Supply		
	24 VDC (22 to 26 VDC)	
Control of		
LinMot Motors P0x-... / PR0x-...	•	•
3rd Party Motors (please contact Support)	•	•
Technology Functions		
	Point-to-Point Entries (VAI)	
	Limited Jerk Motion Commands (VAIJ)	
	Force and Torque Control	
	Process Monitoring	
	Command Table with up to 255 Entries	
	Plug and Play (PnP) Auto Configuration	
	Time Curves up to 100 Motion Profiles / Up to 16302 Curve Points	
	Real Time Streaming	
	Drive Profiles	
Fieldbuses (Protocols)		
	PROFINet (LinMot I/O, PROFIdrive, PROFIsafe)	
	Powerlink (LinMot I/O, DS402)	
	Sercos III (FSP Drive)	
	EtherNet/IP (LinMot I/O, CIP Sync Motion)	
	LinUDP	
	CC-Link IE Field Basic (LinMot I/O)	
Interfaces		
Analog Inputs 0..10V / +10V	1 / 1	
Digital Inputs / Outputs 24 V	4 / 2	
Brake Output 24 V / 0.8 A	1	
Safe Digital Inputs / Outputs	2 (+1 non-safe acknowledge input) / 1	
Incremental Encoder (RS422 up to 25 Mcounts/s)	•	•
Absolute Encoder (SSI, BiSS-B, BiSS-C, EnDat 2.1, EnDat 2.2)	•	•
RS232 Config	•	•
ETHERNET Config (EoE, etc... depending on Interface)	•	•
Timings		
Min. Bus Cycle Time	250 µs	
PWM Frequency	16 kHz	
Trigger Commands	≥ 125 µs	
Position Drive	125 µs	
Integrated Safety Functions		
Safe Torque Off (STO)	•	•
Safe Stop 1 (SS1)	•	•
Safe Stop 2 (SS2)	•	•
Safe Operating Stop (SOS)	•	•
Safe Limited Speed (SLS)	•	•
Safe Brake Control (SBC)	•	•
Safe Brake Test (SBT)	•	•
Calibrated Measuring Functions (-Cxx Option)		
Calibrated analogue measuring Inputs		•

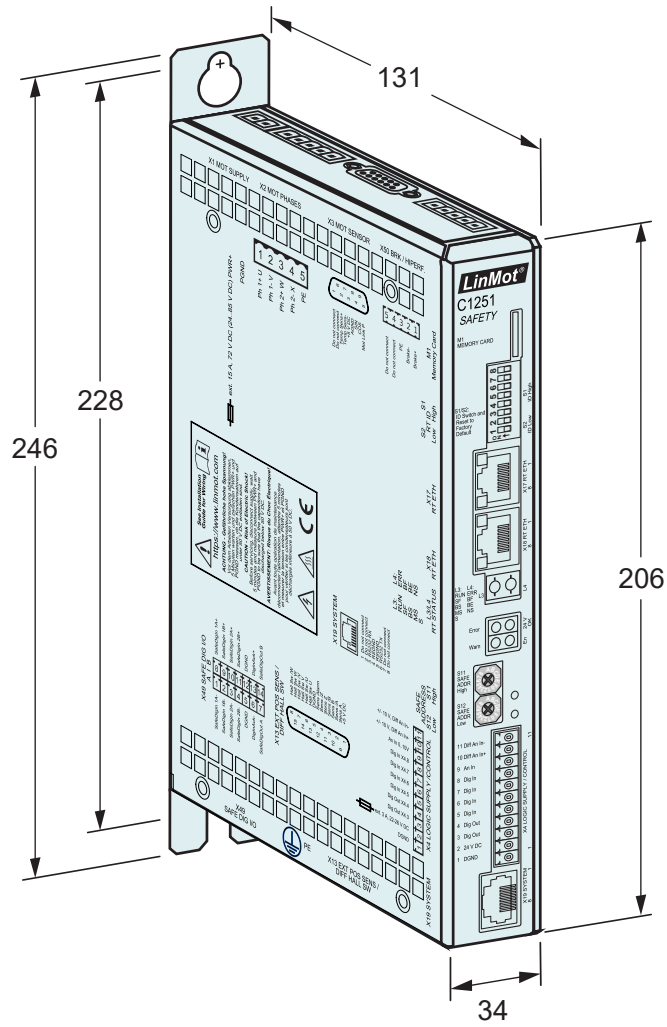
11



- X1: Motor Power Supply
- X2: Motor Phases
- X3: Motor Signal
- X50: Safe Brake Control

- M1: SD Memory Card (Slot)
- S1-2: Bus Address Switch
- X17: RT ETH In
- X18: RT ETH Out
- L3-4: RT Bus LEDs
- LED: State Indicator
- S11-12: Safe Address High/Low
- X4: Logic Supply / Control
- X19: System Configuration RS232
- X13: External Position Sensor / Differential Hall Switch
- PE: Ground
- X49: Safe Digital IO





Dimensions in mm
Mounting points for M5 screws

11

Servo Drive Serie		C1251-MI-XC-2S-0E-000	C1251-MI-XC-2S-0E-C00
Width	mm (in)	34 (1.4)	
Height	mm (in)	206 (8.11)	
Height with fixings	mm (in)	246 (9.69)	
Depth	mm (in)	131 (5.16)	
Weight	g (lb)	1100 (2.42)	
Mounting Screws		2 x M5	
Mounting Distance between screw holes	mm (in)	228 (8.98)	
Case IP Code	IP	20 (mounting in the control cabinet with at least IP54)	
Storage temperature	°C	-25...40	
Transport temperature	°C	-20...70	
Operating temperature	°C	5...40	
Relative humidity	%	10...85 (non-condensing)	
Pollution	IEC/EN 60664-1	Pollution degree 2	
Shock resistance (22 ms)	m/s ²	40	
Vibration resistance (10-150 Hz)	m/s ²	1	
Max. case temperature	°C	70	
Max. power dissipation	W	30	
Mounting place		in the control cabinet (minimum IP54)	
Mounting position		vertical	
Distance between Drives	mm (in)	20 (0.8) horizontal / 50 (2) vertical	

Servo Drives		
Item	Description	Part Number
Drives		
C1251-MI-XC-2S-0E-000	C1251 Drive with Multi Interface (72 V/25 A)	0150-2933
C1251-MI-XC-2S-0E-C00	C1251 Drive with Multi Interface (72 V/25 A), Calibrated Measuring Amplifier	0150-4185

Accessories		
Item	Description	Part Number
Connector Set		
DC01-C1251-2S/X1/X4/X49/X50	Drive Connector Set for C1251-2S	0150-4391
Single Connector		
All included in set 0150-4391		
DC01-C1X00/X1	Drive Connector for PWR 72 VDC Input	0150-3525
DC01-C1X00/X2	Drive Connector Motor Phases	0150-3526
DC01-Signal/X4	Drive Connector 24 VDC & Logic	0150-3447
DC01-Safety/X49	Drive Connector 2S Safety (2 pcs. necessary)	0150-4390
DC01-X50 Safe Brake	Drive Connector Safe Brake	0150-4392
Converter		
USB-RS232 converter	USB-RS232 Converter with cable	0150-2473
Compatible Power Supplies		
S01-72/1000	Power Supply 72 V/1000 W, 3x340-550 VAC	0150-1872
S02-72/1000	Power Supply 72 V/1000 W, 3x400-480 VAC	0150-4535
S01-72/500	Power Supply 72 V/500 W, 1x120/230 VAC	0150-1874
S01-24/500	Power Supply 24 V/500 W, 1x120/230 VAC	0150-2480
S01-48/300	Power Supply 48 V/300 W, 1x120/230 VAC	0150-1941
S01-48/600	Power Supply 48 V/600 W, 1x120/230 VAC	0150-1946
T01-72/420-Multi	T-Supply 72 V / 420 VA, 3x230/400/480 VAC	0150-1869
T01-72/900-Multi	T-Supply 900 VA, 3x230/400/480 VAC	0150-1870
T01-72/1500-Multi	T-Supply 1500 VA, 3x230/400/480 VAC	0150-1871
T01-72/420 -1ph	T-Supply 420 VA, 1x208/220/230/240 VAC	0150-1859
Capacitor		
Capacitor 10.000uF/100V	Capacitor with mounting material	0150-3075
Memory Card		
FC10-000	Memory Card for Safety Drives	0150-2936

