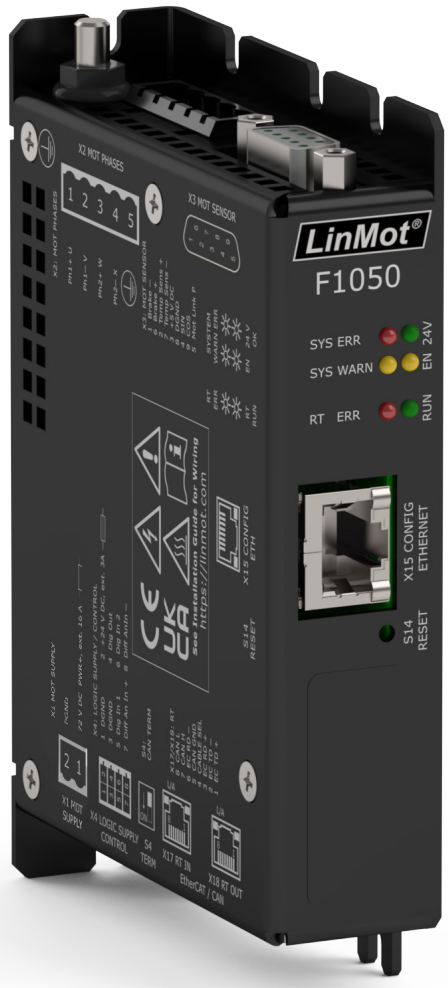
SERVO DRIVE F1050-DS-UC-0S



- Mini drive with EtherCAT and CANopen interface
- Optimized for LinMot linear motors and LinMot EC02 motors
- Configuration via Ethernet (X15) or EtherCAT (EoE)
- 32 A power stage
- Plug and Play (PnP) motor configuration

Servo Drive F1050-DS-UC-0S

F1050 series drives are axis controllers with 32-bit position resolution and an integrated power stage for linear motors and EC02 motors. They are suited for standard and high-end positioning tasks with NC synchronization.

In single- and multi-axis applications with linear motors and other actuators, the drives provide a consistent solution for a flexible drive concept.

They have separate supplies for the logic and the power section. The advantage: when the machine power is restarted, the drive and the linear motor do not have to be reinitialized, because 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 ensures perfect motor control in demanding positioning tasks, including interpolated moves, curve tracking, positioning with motion profiles and position streaming. The drives can be configured directly by the higher-level controller; the Ethernet interface ensures fast parameter transfer.

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

The intuitive PC software LinMot-Talk makes configuration easy. In addition to the online documentation, extensive debugging tools such as an oscilloscope and the error log ensure fast commissioning of the axes. Motors with Plug and Play function are detected and configured automatically.

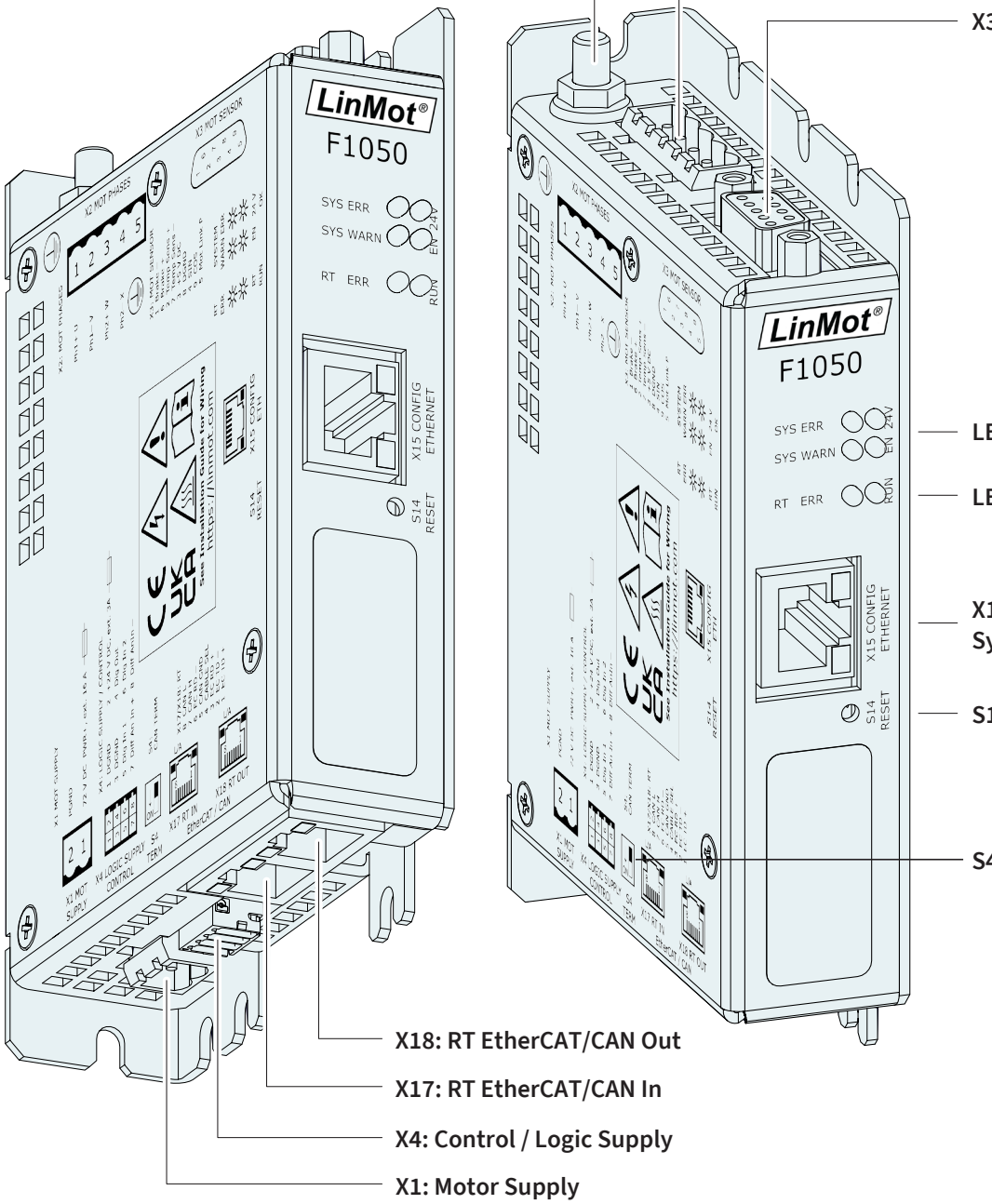
The F1050 servo drives provide all interfaces needed to equip linear motors or EC02 motors with optional peripherals such as home and limit switches.



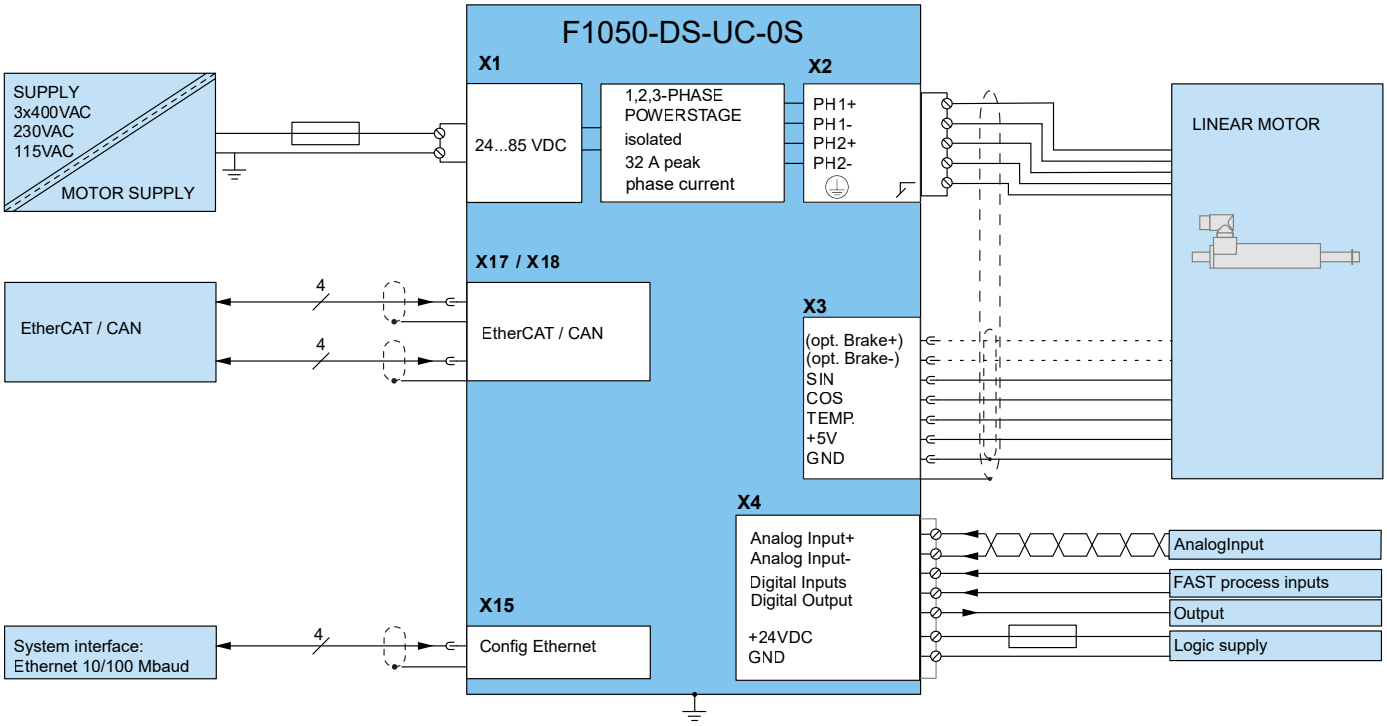
Motor Supply	
	72 VDC (24 to 85 VDC)
	Ext. circuit breaker: 20 A / min. 100 VDC / C-trip / 5 kA SCCR
Max. Motor Current	
	32 A_{pk} (0 to 599 Hz) / 6 A_{rms}
Logic Supply	
	24 VDC (22 to 26 VDC), ext. fuse 3 A slow blow
Motor Control	
LinMot motors P0x-... / PR0x-... / EC02 motors	•
Plug and Play (PnP) Auto Configuration	•
Phase short-circuit on disable and error states*	•
Technology Functions	
	Point-to-point motion commands (VAI)
	Jerk-limited motion commands (VAIJ)
	Command Table with 255 individual motion commands
	Plug and Play (PnP) Auto Configuration
	Curves with up to 50 motion profiles / up to 8110 curve points
	Cyclic setpoint streaming
	Drive profile
Fieldbuses (Protocols)	
EtherCAT CiA402 (preinstalled)	•
CANopen up to 1MBaud (CANopen FW must be installed)	**(•)**
Interfaces	
Analog inputs +-10V	1
Digital inputs / outputs 24 V	2 / 1
Brake output 24 V / 0.5 A (peak 1.4 A), for EC02 with brake option	1
Switchable CAN termination (S4)	•
Configuration Interfaces	
Ethernet (X15), 100BASE-TX, IPV4 and IPV6	•
Ethernet (EoE) (only if EtherCAT is used)	•
Timings	
Min. bus cycle time	250 µs (4 kHz)
PWM frequency	16 kHz
Trigger commands	≥ 4 kHz
Current controller	8 kHz
Position controller	4 kHz
Integrated Safety Functions	
No integrated safety function	–
Certification	
cULus	Listed according to UL 61800-5-1 and CSA C22.2, File E316095 (from hardware V1RB2)
CE / UKCA	EN 61800-3:2022
IECEE CB Scheme	Certificate CH1-00087

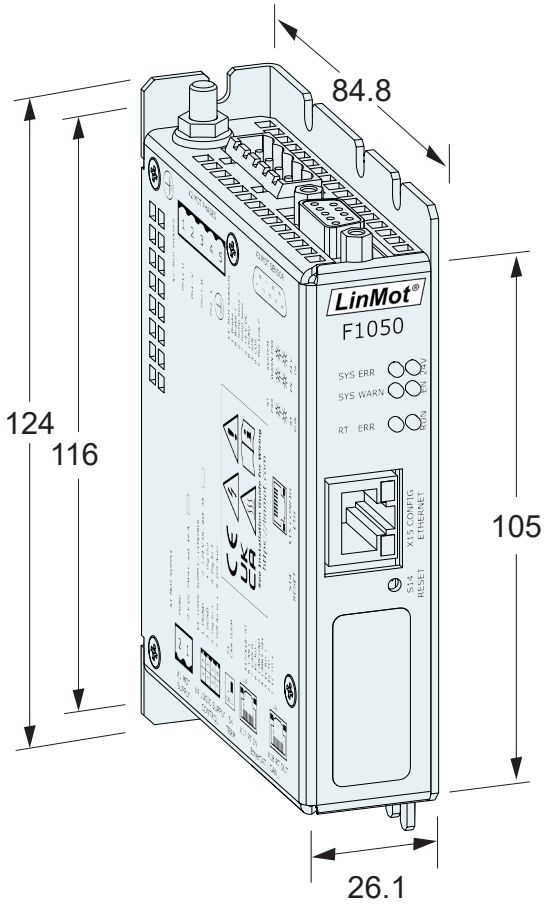
* This feature greatly improves the system behavior on error states, because the motor will be braked by the eddy current.

EtherCAT® CANopen



cULus Listed
According to UL 61800-5-1 and CSA C22.2, File E316095 (from hardware V1RB2).


F1050-DS-UC-0S
X1
X2
SUPPLY
3x400VAC
230VAC
115VAC
MOTOR SUPPLY
24...85 VDC
1,2,3-PHASE
POWERSTAGE
isolated
32 A peak
phase current
PH1+
PH1-
PH2+
PH2-
LINEAR MOTOR
X17 / X18
EtherCAT / CAN
4
4
EtherCAT / CAN
X3
(opt. Brake+)
(opt. Brake-)
SIN
COS
TEMP.
+5V
GND
X4
Analog Input+
Analog Input-
Digital Inputs
Digital Output
+24VDC
GND
AnalogInput
FAST process inputs
Output
Logic supply
X15
System interface:
Ethernet 10/100 Mbaud
4
Config Ethernet



Dimensions in mm
Mounting points for M4 screws

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Servo Drive		F1050-DS-UC-0S
Width	mm (in)	26.1 (1.03)
Height	mm (in)	105 (4.13)
Height with fixings	mm (in)	124 (4.88)
Depth	mm (in)	84.8 (3.34)
Weight	g (lb)	400 (0.88)
Mounting screws		2 x M4
Mounting distance	mm (in)	116 (4.57)
Case, degree of protection	IP	20
Storage temperature	°C	-25...40, maximum change 20 K/hour
Transport temperature	°C	-20...70
Operating temperature	°C	5...40 at rated data
Relative humidity		< 85 % (non-condensing)
Air pressure	hPa	700...1060
Exposure to ionizing radiation		Not acceptable
Exposure to corrosive environment		Not acceptable
EMC		IEC 61800-3:2022 / EN IEC 55011:2025 class A EN 55011:2016+A1:2017+A11:2020+A2:2021 class A / EN 55032:2015+A1:2020+A11:2020 class A
Pollution	IEC/EN 60664-1	Pollution degree 2
Shock resistance (30 ms)	g	5
Vibration resistance (10-150 Hz)	g	1
Max. case temperature	°C	70
Max. power dissipation	W	30
Mounting place		In the control cabinet (at least IP54)
Mounting position		Vertical
Distance between drives	mm (in)	Without power derating*: 20 (0.8) horizontal / 50 (2) vertical With power derating*: 5 (0.2) horizontal / 20 (0.8) vertical

* The derating depends on the situation in the cabinet. The temperature of the drive should be checked under full load (the temperature should be stable, which may take an hour or more). This allows you to verify that there is enough margin when the cabinet reaches the maximum allowable temperature of 40 °C. For example, if the drive temperature reaches 45 °C at a cabinet temperature of 30 °C, this results in a drive temperature of about 55 °C at a cabinet temperature of 40 °C. By default, the warning level of the drive is set to 75 °C and the error level to 80 °C. If the drive temperature stays above the warning level for a long time, this may reduce the lifetime of the drive.

Servo Drive		
Item	**Description**	**Art. No.**
F1050-DS-UC-0S-000	EtherCAT DS402 Drive (72V/32A)	0150-6767

Accessories		
Item	**Description**	**Art. No.**
Terminal Kits		
DC01-F1050/X1/X4	Terminal Kit X1/X4, for F1050	0150-7427
DC01-F1050/F1150/F1250/X1	Terminal Kit X1, Motor PWR 72 VDC Input	0150-7426
DC01-F1X50/C1X50/X2	Terminal Kit X2, Motor Phases	0150-3526
DC01-F1050/X4	Terminal Kit X4, 24 VDC & Logic for F1050	0150-7275
Recommended Power Supplies		
S02-72/1000	Power Supply 72 V/1000 W (3000 W Peak), 3x400-480 VAC	0150-4535
S02-72/600	Power Supply 72 V/600 W (1500 W Peak), 120-230 VAC	0150-5700
Compatible Power Supplies		
S01-72/500	Power Supply 72 V/500 W, 1x120/230 VAC	0150-1874
S01-72/1000	Power Supply 72 V/1000 W, 3x340-550 VAC	0150-1872
T01-72/420-Multi	T-Supply 72 V/420 VA, 3x230/400/480 VAC	0150-1869
T01-72/900-Multi	T-Supply 72 V/900 VA, 3x230/400/480 VAC	0150-1870
T01-72/1500-Multi	T-Supply 72 V/1500 VA, 3x230/400/480 VAC	0150-1871

Connectors X1 and X4 are NOT delivered with the drive! A Terminal Kit must be ordered together with the drive.
The X2 plug is included on the motor cable. For UL applications, the Terminal Kits listed above must be used.

DOC-NO. 0185-0229-E / VERSION 1V3
SUBJECT TO CHANGE