

Servodrives

637f series

2 to 30 A



Description

637F series servodrives with integrated motion controller have been designed for the most demanding servo systems. Ultra-fast control loops and process bus make them adapted to single or multi axis applications.

Optional EN954-1 category 3 safety input and second application bus simplify their integration into machine.

637f Series Servodrives integrate advanced PLC functions which can be built-up with various input/output options.

Features and Benefits

- 1500 steps integrated motion controller
- 400 VAC direct power supply
- Ultra-fast current, speed and position loops (105us)
- Embedded PLC functions
- Programmable electronic cam
- 3 configurable trajectory generators
- Multi-axis synchronisation through process bus
- EN954-1 category 3 safety input option
- Standard fieldbuses options
- Hiperface and SSI encoder inputs options
- Simple commissioning and programming Software

General technical characteristics

Power Supply	380/460 VAC three-phase (+/-10%) 50/60 Hz
Control Supply	24 VDC
Overload	200% during 5 sec
Operating temperature	0-40°C (2% derating per °C between up to 50°C)
Humidity	< 85% relative humidity non-condensing
Altitude	1000 m (1% derating per 100m up to 4000 m)
Ingress Protection	IP20

Product codes	Permanent current [Arms]	Peak current [Arms]	Drive size
637FKD6R027...	2.0	4.0	A
637FKD6R047...	4.0	8.0	
637FKD6R067...	6.0	12	
637FKD6R107...	10	20	
637FKD6R167...	16	32	B
637FKD6R227...	22	44	
637FKD6R307...	30	60	

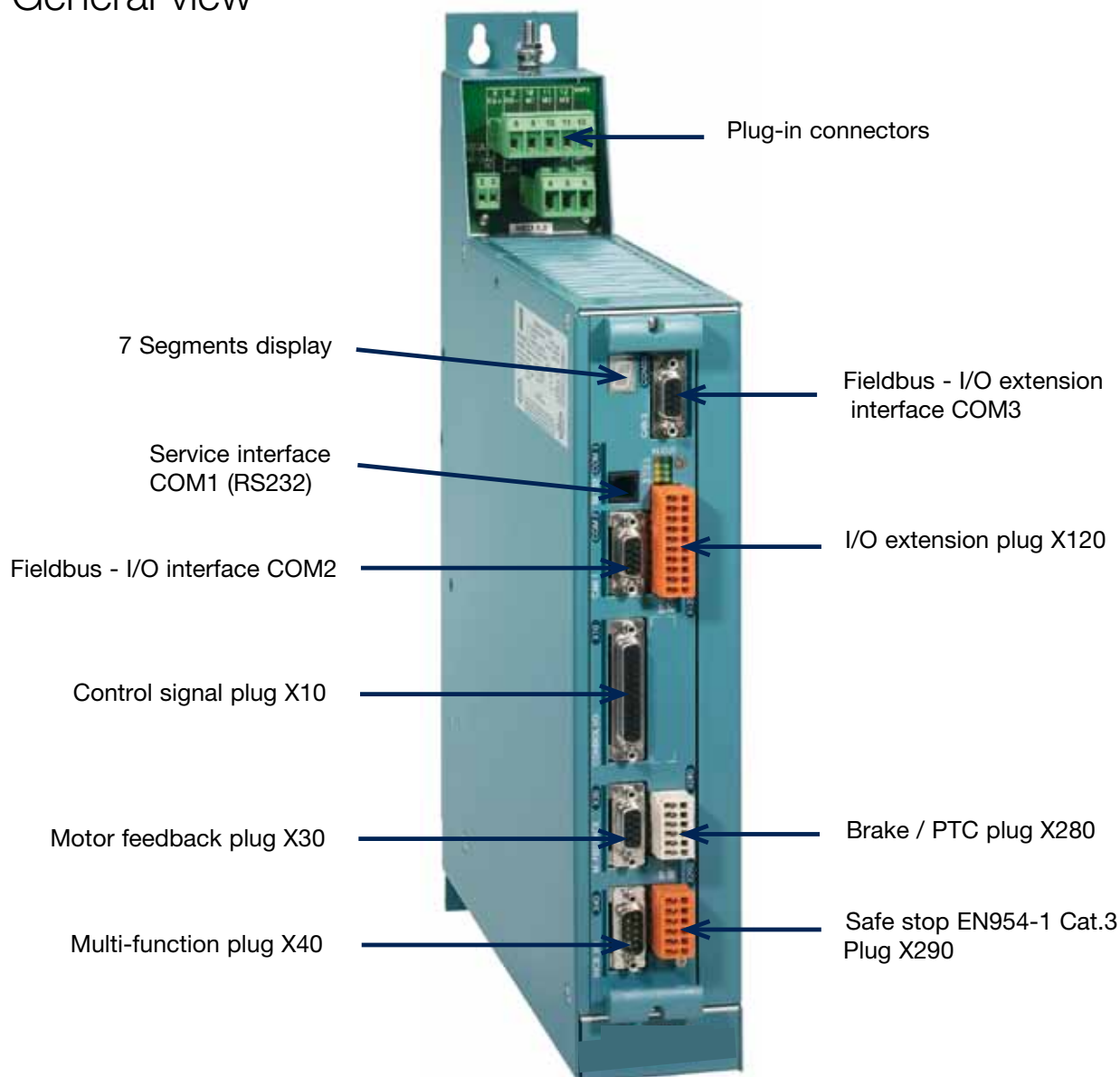
Input / outputs (X10 Plug)	- 8 Digital Inputs (24V) including 2 interrupts - 5 Digital Outputs (24V) including 3 opto-coupled (configurable) and 2 relays (1 configurable, 1 for drive ready) - 2 Analog Inputs (0-10V, +/-10 V) - 2 Analog Outputs (+/-10V)	
Configurable feedback interface (X30 Plug)	- Resolver input (standard) - Hiperface encoder input (option) - Sinus / Cosinus encoder input (option)	
Configurable multi-function interface (X40 Plug)	- Incremental encoder input - Incremental encoder output - Stepper-motor input - Absolute single or multi-turn SSI encoder input	
Serial communication (COM1 Interface)	- RS232	
Application communication (COM2 Interface)	- Profibus-DP - DeviceNet - CANopen DS402 - Interbus S	- SUCOnet K - RS232 - RS422 - RS485
Inter axis communication (COM3 Interface)	- CANopen - CANopen / RS485 - Interbus S	
I/O expansion	- 5 Digital Inputs / 2 Digital Outputs (COM2 Interface) - 14 Digital Inputs / 10 Digital Outputs (X200 Plug) - 4 Digital Inputs / 4 Digital Outputs (X120 Plug)	
Safety board	- Safe Stop Input EN954-1 Category 3 (X290 Plug) - Brake control output (X280 Plug) - PTC sensor output (X280 Plug)	

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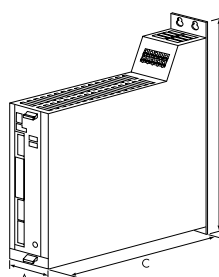
General view



Dimensions

Drive	Current	A	B	C*
6 3 7 f	1 to 10 A	61.5	400	280
6 3 7 f	16 to 30 A	104	400	280

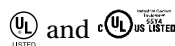
*Allow extra 70mm in front of unit for plugs/cables



Standards

CE marked

EN61800-3 (EMC compliance) with integral filter
EN50178 (safety, low voltage)





637f codification

637F Product code		Standard				Option			Special
		6 3 7 f K D 6 R	x x	x	x	x x x	x x x	x x x	x x x
RATED CURRENT									
2 A		0 2							
4 A		0 4							
6 A		0 6							
10 A		1 0							
16 A		1 6							
22 A		2 2							
30 A		3 0							
INTERMEDIATE VOLTAGE									
650V (460V AC)				7					
FILTER									
Without EMC filter (standard)									
With integrated EMC filter				0					
ADDITIONAL OPTION MODULE RP XXX VIA COM2									
No option						0 0 0			
RS 232 interface	Slot A (A, B)					2 3 2			
RS 422 interface	Slot A (B)					4 2 2			
RS 485 interface	Slot A (B)					4 8 5			
CAN-Bus interface	Slot A (B)					C A N			
2 x CAN (without I/O)	Slot B (A) / [C*]					2 C A			
2 x CAN + 4 Inputs and 4 Outputs	Slot B (A) / [C*]					2 C 8			
2 x CAN + RS 485	Slot B (A)					C C A			
2 x CAN + 4 Inputs and 4 Outputs + RS 485	Slot B (A)					C C 8			
CAN - Bus / DeviceNet	Slot B (A)					D E V			
SUCOnet K	Slot B (A)					S U C			
Profibus DP	Slot B (A)					P D P			
Interbus S	Slot B (A)					I B S			
Profibus DP + CAN2 + 4 entrées et 4 sorties + RS 485	Slot B (A)					P C 8			
Profibus DP + CAN2 + RS 485	Slot B (A)					P C A			
Interface E/S (5 Inputs, 2 Outputs)	Slot B (A)					E A 5			
ADDITIONAL OPTIONS MODULE ON THE DRIVE VIA X200									
No option						0 0 0			
I/O Interface (14 inputs, 10 outputs)	Slot C					E A E			
Safety Module	Slot C					S B T			
X300 FUNCTIONS MODULE									
Standard resolver X30 – Module 2nd version	Slot D							R D 2	
HIPERFACE – Module 2nd version	Slot D							H F 2	
Sinus / Cosinus - Module 2nd version	Slot D							S C 2	
ENTER ONLY WHEN USED									
Special - brake resistor - setting / 7500; ED 40%									S 0 1
Special - brake resistor - setting / 9900; ED 50%									S 0 2
Broad-band contact X10.7 - X10.8									X 7 x
Protection moisture condensation									B S x
Protection moisture condensation + Broad-band contact X10.7 - X10.8									B 7 x
Jumper 209 / 2 - 3 closed , by SBT - Option Thermo - Contact X30 (PTC / NTC)									9 2 3
Custom-specific software + Jumper 209 / 2 - 3 closed , by SBT - Option, Thermo - Contact X30 (PTC / NTC)									Z 2 3
Without front panel (blue)									0 B F

* At assignment [C] Interface you can used CAN2

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Combination possibilities																							
Slots →				A				B												C			
Option modules →				2 3 2	4 2 2	4 8 5	C A N	2 C A	2 C 8	C C A	C C 8	D E V	S U C	P D P	I B S	E A 5	P C 8	P C A	E A E	S B T	*2 C A	*2 C 8	
Type code ↓																							
637FKD6Rxxxx	232	000	xxx	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
637FKD6Rxxxx	232	EAE	xxx	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-
637FKD6Rxxxx	232	SBT	xxx	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-
637FKD6Rxxxx	232	2CA	xxx	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-
637FKD6Rxxxx	232	2C8	xxx	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●
637FKD6Rxxxx	422	000	xxx	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
637FKD6Rxxxx	422	EAE	xxx	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-
637FKD6Rxxxx	422	SBT	xxx	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-
637FKD6Rxxxx	422	2CA	xxx	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-
637FKD6Rxxxx	422	2C8	xxx	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●
637FKD6Rxxxx	485	000	xxx	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
637FKD6Rxxxx	485	EAE	xxx	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-
637FKD6Rxxxx	485	SBT	xxx	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-
637FKD6Rxxxx	485	2CA	xxx	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-
637FKD6Rxxxx	485	2C8	xxx	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●
637FKD6Rxxxx	CAN	000	xxx	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
637FKD6Rxxxx	CAN	EAE	xxx	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-
637FKD6Rxxxx	CAN	SBT	xxx	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-
637FKD6Rxxxx	2CA	000	xxx	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
637FKD6Rxxxx	2CA	EAE	xxx	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-
637FKD6Rxxxx	2CA	SBT	xxx	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-
637FKD6Rxxxx	2C8	000	xxx	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-
637FKD6Rxxxx	2C8	EAE	xxx	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	●	-	-	-
637FKD6Rxxxx	2C8	SBT	xxx	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	●	-	-
637FKD6Rxxxx	CCA	000	xxx	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-
637FKD6Rxxxx	CCA	EAE	xxx	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	●	-	-	-
637FKD6Rxxxx	CCA	SBT	xxx	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	●	-	-
637FKD6Rxxxx	CC8	000	xxx	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-
637FKD6Rxxxx	CC8	EAE	xxx	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	●	-	-	-
637FKD6Rxxxx	CC8	SBT	xxx	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-
637FKD6Rxxxx	DEV	000	xxx	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-
637FKD6Rxxxx	DEV	EAE	xxx	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	●	-	-	-
637FKD6Rxxxx	DEV	SBT	xxx	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-
637FKD6Rxxxx	SUC	000	xxx	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-
637FKD6Rxxxx	SUC	EAE	xxx	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	●	-	-	-
637FKD6Rxxxx	SUC	SBT	xxx	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-
637FKD6Rxxxx	PDP	000	xxx	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-
637FKD6Rxxxx	PDP	EAE	xxx	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	●	-	-	-
637FKD6Rxxxx	PDP	SBT	xxx	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-
637FKD6Rxxxx	PDP	2CA	xxx	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	●	-
637FKD6Rxxxx	PDP	2C8	xxx	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	●
637FKD6Rxxxx	IBS	000	xxx	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-
637FKD6Rxxxx	IBS	EAE	xxx	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	-	-	-
637FKD6Rxxxx	IBS	SBT	xxx	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-
637FKD6Rxxxx	EA5	000	xxx	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	●	-	-	-
637FKD6Rxxxx	EA5	EAE	xxx	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	●	-	-	-
637FKD6Rxxxx	EA5	SBT	xxx	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-
637FKD6Rxxxx	PC8	000	xxx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-
637FKD6Rxxxx	PC8	EAE	xxx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	●	-	-	-
637FKD6Rxxxx	PC8	SBT	xxx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-
637FKD6Rxxxx	PCA	000	xxx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
637FKD6Rxxxx	PCA	EAE	xxx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-
637FKD6Rxxxx	PCA	SBT	xxx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-
637FKD6Rxxxx	000	EAE	xxx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-
637FKD6Rxxxx	000	SBT	xxx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-

000 = none Option

● possible combination

* at assignment [C] Interface you can used CAN2

Accessories

637f servodrives series



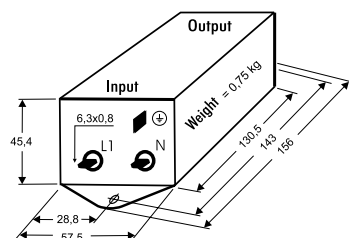
Description	Type
FERRITES	
Ferrite for cable length > 15m (l<10A)	FR3
Ferrite for cable length > 15m (l>10A)	FR6
COM2 COMMUNICATION OPTION	
RS232 Communication board	RP232
RS422 Communication board	RP422
RS485 Communication board	RP485
CAN / CANopen Communication board	RPCAN
PROFIBUS DP Communication board	RPPDP
DeviceNet Communication board	RPDEV
SUCOnet-K Communication board	RPSUC
INTERBUS-S Communication board	RPIBS
COM3 COMMUNICATION OPTION FOR 637f	
RPM2CA/637f-8 CANopen for 637f 02A to 10A	RP 2CA-8
RPM2CA/637f-16 CANopen for 637f 16A to 30A	RP 2CA-16
RPM2C8/637f-8 CANopen for 637f 02A to 10A	RP 2C8-8
RPM2C8/637f-16 CANopen for 637f 16A to 30A	RP 2C8-16
EXTENDED I/O OPTION BOARD	
14 I/ 10 O digital for 637f	RPEAE
External plug 26 pins for RPEAE	SUB D-HD 26 S/M
SAFETY MODULE OPTION FOR 637f	
EN954-1 Cat.3 Safety module	RP SBT
EMC FILTERS FOR 637f	
230V 12A 1 phase RFI filter	LNFE1-230/012
230 ou 400V 8A 3 phases RFI filter	LNFB3-480/008
230 ou 400V 18A 3 phases RFI filter	LNFB3-480/018
400V 33A 3 phases RFI filter	LNFB3-480/033
400V 46A 3 phases RFI filter	LNFB3-480/046
400V 60A 3 phases RFI filter	LNFB3-480/060
400V 82A 3 phases RFI filter	LNFB3-480/082
400V 142A 3 phases RFI filter	LNFB3-480/142
EMC KITS	
02A to 10A Kit for 637f	EMVBU-D6K08V1
16A to 30A Kit for 637f	EMVBU-D6K16V1
OUTPUT CHOKE (POWER CABLE LENGTH > 50m)	
Remark: Ferrite has also to be mounted	
Output choke In£8A	E32-0011
Output choke In£24A	E32-0031
Output choke In£35A	E32-0046
BRAKE RESISTOR	
Resistor 100W 100W	B100/100-6
Resistor 300W 33W	B300/33-6
Resistor 560W 26W	B560/26-6
SOFTWARE	
EASYRIDER / TESIWIN / PROGRAMMING EXAMPLES	CD SERVO
PC to 631 and 637f drive cable	Kn PC/631-03.0
MMI (MAN MACHINE INTERFACE)	

Accessories

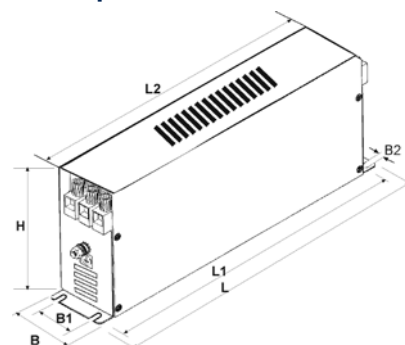
635 / 637f series

EMC filters and inductances

Single phase filter : LNF E 1 *230/012



Three phase filter : LNF B 3480/xxx



EMC filters - dimensions and weight

Type	Dimensions				Entre-axe			Weight (kg)	Earth connection	Terminal connection (mm²)
	B (mm)	L (mm)	L2 (mm)	H (mm)	B1 (mm)	L1 (mm)	B2 (mm)			
LNF B 3*480/008	40	190	160	70	20	180	4.5	0.5	M5	6
LNF B 3*480/018	45	250	220	70	25	235	5.4	0.8	M5	6
LNF B 3*480/033	50	270	240	85	30	255	5.4	1.2	M5	16
LNF B 3*480/060	85	250	220	90	60	235	5.4	1.8	M6	25
LNF B 3*480/082	80	270	240	135	60	255	6.5	3.2	M6	25

EMC Filters selector

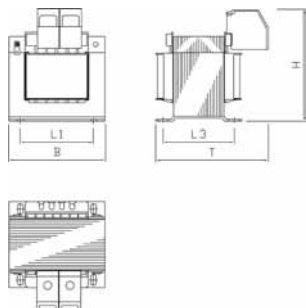
Single phase servo drives 16 to 230 VAC		EMC Filters characteristics				
Type	Current (A)	Type	Current (A)	Power (W)	Current (mA)	Max Voltage. (V)
635	2.5 - 6	LNF E 1*230/012	12.0	5.0	9.4	250
Three phase servo drives 16 to 460VAC		EMC Filters characteristics				
Type	Current (A)	Type	Current (A)	Power (W)	Current (mA)	Max Voltage. (V)
635 / 637f	2.5 - 6.5 / 2 -16	LNF B 3*480/008	8.0	4.0	33.0	480
635 / 637f	10 /10 -16	LNF B 3*480/018	18.0	6.0	33.0	480
637f	22 - 30	LNF B 3*480/033	33.0	12.0	33.0	480
Power supply Module (Rack version)	40	LNF B 3*480/060	60.0	26.0	33.0	480
	75	LNF B 3*480/082	82.0	32.0	33.0	480

Accessories

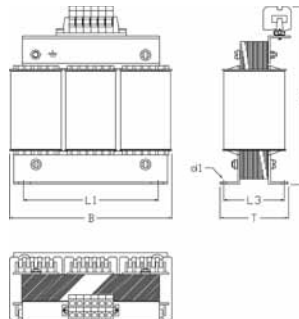
635 / 637f series

EMC filters and inductances

Single phase inductance



Three phase inductance



Inductances - dimensions and weight

Inductances		Dimensions						Terminal connection (mm²)	Weight (kg)	Earth connection
	Type	B (mm)	T (mm)	H (mm)	L1 (mm)	L3 (mm)	d1 (mm)			
Single phase	E 12-0008KL	66	87	70	50	51	4.8x9	2.5	0.9	Faston
	E 12-0018KL	84	96	86	64	62	4.8x9	4.0	1.8	Faston
Three phase	E 32-0011KL	123	75	130	100	55	5x7	2.5	2.5	M6
	E 32-0018KL	155	95	150	130	70	8x12	2.5	5.4	M6
	E 32-0031KL	155	100	150	130	70	8x12	4.0	5.3	M6
	E 32-0060KL	190	145	215	170	78	7x11	10.0	9.7	M6
	E 32-0154KL	230	180	305	180	122	8x12	35.0	18.0	M8

Main inductance selector

Single phase servo drives, 16 to 230 VAC		Inductances “Power supply” characteristics	
Type	Current (A)	Type	Current (A)
631	1 - 2	E 12-0008KL	8
635	1 - 2.5		
631	4 - 6	E 12-0018KL	18
635	5 - 6.5		
Three phase servo drives, 16 to 460V			
Type	Current (A)	Type	Current (A)
635	10	E 32-0011KL	11
Three phase servo drives, 16 to 460V			
Type	Current (A)	Type	Current (A)
637f	1 - 10	E 32-0011KL	11
	16	E 32-0018KL	18
	22 - 30	E 32-0031KL	31
	17 - 30		
Power supply Module (Rack version)	50	E 32-0060KL	60
	75	E 32-0154KL	94

Accessories and options

EASYRIDER series

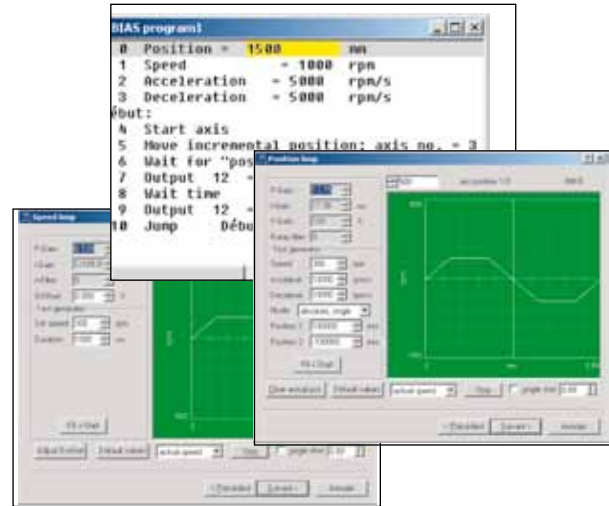
Graphical software

Description

EasyRider is a graphical software for the 630 Series providing a single user interface for accessing all drive parameters, programming motion and calibrating the drive.

This unique assistant offers an autopilot mode helping user in all phases of application set-up : from the choice of the motor in the motor library to the drive auto-adjustment. All set-up steps are extremely simplified.

Easyrider gives also the possibility to develop advanced motion in an intuitive way using its BIAS language.



Intuitive and easy use

Set-up assistant

Integrated motor library

Oscilloscope function

Drive and fieldbus diagnostic

Drive advanced programming