

Servodrives

638 series
1 to 15 A



Description

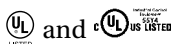
638 series servodrives are suitable for all servo applications, from simple speed or current control to most complex positioning applications. The new processor of 638 Series Servodrives allows to have time to answer the control circuits in 105µs. Numerous expansion slots allow 638 Series Servodrives to reach a high degree of versatility, opening access to a wide variety of fieldbus communication and feedback sensors options.

Features and Benefits

- Integrated motion controller**
- 230 or 400 VAC direct power supply**
- EN954-1 category 3 safety input in standard**
- Ultra-fast control loops (105us)**
- Embedded PLC functions**
- Programmable electronic cam**
- 3 configurable trajectory generators**
- Multi-axis synchronisation through process bus**
- Numerous fieldbuses options**
- Hiperface and SSI encoder inputs options**
- Optional flash memory chip for data storage**
- Simple commissioning and programming Software**

Standards

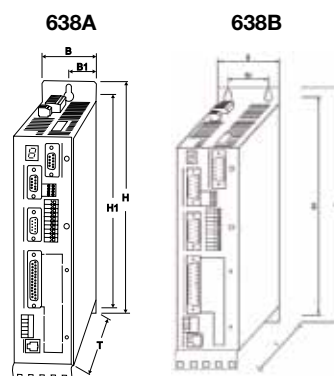
CE marked
EN61800-3 (EMC compliance) with integral filter
EN50178 (safety, low voltage)



General technical characteristics	
Power supply	- 230 VAC Single/Three-phase (+/-10%) - 50/60 Hz - 400/480 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

Drives ratings			
Product codes	Permanent current [Arms]	Peak current [Arms]	Drive size
230 VAC Power Supply			
638A013F0STO...	1	2	A
638A023F0STO...	2	4	
638A043F0STO...	4	8	
638A063F0STO...	6	12	
400 VAC Power Supply*			
638B036F0STO...	2.5	5	B
638B056F0STO...	5	10	
638B086F0STO...	7.5	15	
638B106F0STO...	10	20	
638B156F0STO...	15	30	
*Also available with 230 and 480 VAC Power Supply			

Dimensions (mm) and Weight (kg)							
Model	Current Ratings	B	H	T	B1	H1	Weight
6 3 8 A	1 to 6A	56	250		28	211	1.6
6 3 8 B	2,5 to 5 A	66	318.6	232	44	281.25	2.7
	7,5 to 15 A	86			64		4.4

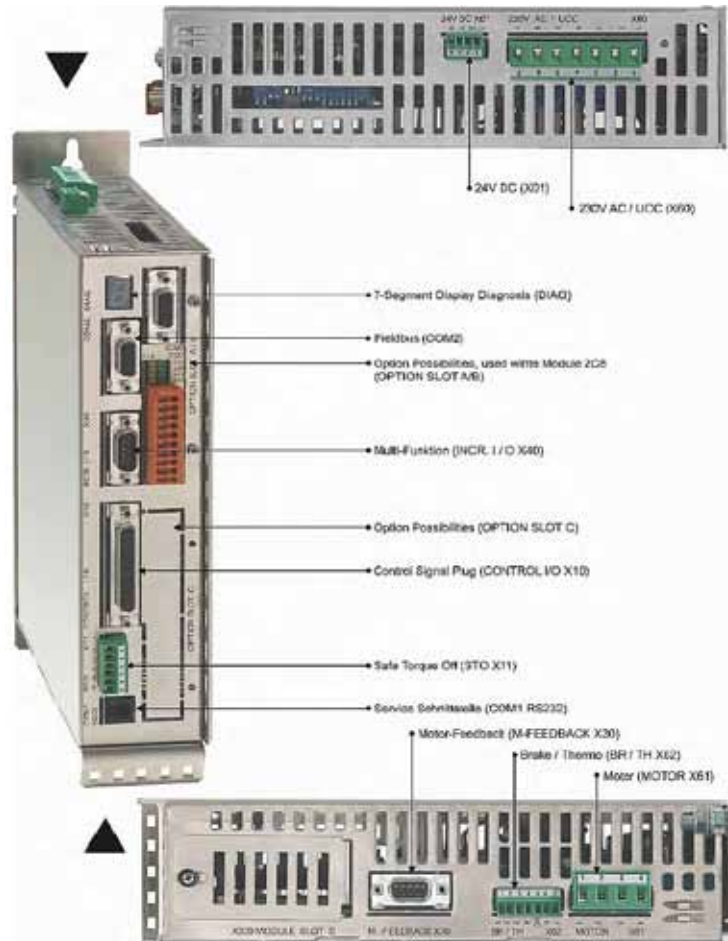


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General view



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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)

Optional Flash memory vhip (X300 - module)

- Storage of complete drive data (firmware, function code, parameters, applications programme)

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

- Safe Stop Input EN954-1 Category 3 (STO X11 Plug)
- Brake / PTC output (BR/TH X62 Plug)

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Codification



638 Product code	Standard											Special	
	6	3	8	x	xx	x	F	O	STO	xxx	xxx	xxx	xxx
SIZE													
Size A				A									
Size B				B									
Size C (being prepared)				C									
RATED CURRENT													
1 Amp													01
2 Amps					Size A								02
4 Amps													04
6 Amps													06
2.5 Amps													03
5 Amps													05
7.5 Amps					Size B								08
10 Amps													10
15 Amps													15
INTERMEDIATE VOLTAGE													
325 VDC / 230 VAC					Size A and B								3
565 VDC / 400 VAC													6
678 VDC / 480 VAC					Size B								7
FILTER													
With integrated filter (standard)													
Less leakage current (AC side Y capacitors desactivated, JP600 open)													
							F						
							A						
Without EMC - clip (standard)													
								O					
SAFETY PERFORMANCE													
Safe Torque Off (standard)													
									STO				
ADDITIONAL OPTION MODULE RP xxx VIA COM2													
No option					Slot A (A, B)								000
RS 232 interface					Slot A (B)								232
RS 422 interface					Slot A (B)								422
RS 485 interface					Slot A (B)								485
CAN-Bus interface					Slot B (A) / [C*]								CAN
2 x CAN (without I/O's)					Slot B (A) / [C*]								2CA
2 x CAN + 4 inputs and 4 outputs					Slot B (A)								2C8
2 x CAN + RS 485					Slot B (A)								CCA
2 x CAN + 4 inputs et 4 outputs + RS 485					Slot B (A)								CC8
CAN - Bus / DeviceNet					Slot B (A)								DEV
SUCOnet K					Slot B (A)								SUC
Profibus DP					Slot B (A)								PDP
Interbus S					Slot B (A)								IBS
Profibus DP + CAN2 + outputs and 4 inputs + RS 485					Slot B (A)								PC8
Profibus DP + CAN2 + RS 485					Slot B (A)								PCA
I/O Interface (5 inputs, 2 outputs)													EA5
ADDITIONAL OPTIONS MODULE ON THE DRIVE VIA X200													
No option													000
I/O Interface (14 inputs, 10 outputs)					Slot C								EAE
X300 FUNCTIONS MODULE													
Standard X30 resolver – Module 2nd version													
HIPERFACE – Module 2nd version					Slot D								RD2
Sine / Cosine - Module 2nd version					Slot D								HF2
					Slot D								SC2
With Memorychip as of firmware V8.35													
Resolver + Memory - Module 2nd version					Slot D								RM1
HIPERFACE + Memory - Module 2nd version					Slot D								HM1
Sine / Cosine + Memory - Module 2nd version					Slot D								SM1
ENTER ONLY WHEN USED													
Broad-band contacts X10.7 - X10.8													
Moisture / condensation protection													

* Only CAN2 can be employed when utilizing the option module located at slot C (internal BUS / COM3 B)



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Combination possibilities																								
Slots ⇒					A				B										C					
Option modules ⇒					2 3 2	4 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	*2 C A	*2 C 8		
Type code ↓																								
638xxxxF0STO	232	000	xxx	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
638xxxxF0STO	232	EAE	xxx	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	
638xxxxF0STO	232	2CA	xxx	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	
638xxxxF0STO	232	2C8	xxx	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	
638xxxxF0STO	422	000	xxx	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
638xxxxF0STO	422	EAE	xxx	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	
638xxxxF0STO	422	2CA	xxx	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	
638xxxxF0STO	422	2C8	xxx	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	
638xxxxF0STO	485	000	xxx	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
638xxxxF0STO	485	EAE	xxx	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	
638xxxxF0STO	485	2CA	xxx	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	
638xxxxF0STO	485	2C8	xxx	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	
638xxxxF0STO	CAN	000	xxx	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
638xxxxF0STO	CAN	EAE	xxx	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	
638xxxxF0STO	2CA	000	xxx	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
638xxxxF0STO	2CA	EAE	xxx	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	
638xxxxF0STO	2C8	000	xxx	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
638xxxxF0STO	2C8	EAE	xxx	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	●	-	
638xxxxF0STO	CCA	000	xxx	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
638xxxxF0STO	CCA	EAE	xxx	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	●	-	
638xxxxF0STO	CC8	000	xxx	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	
638xxxxF0STO	CC8	EAE	xxx	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	●	-	
638xxxxF0STO	DEV	000	xxx	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	
638xxxxF0STO	DEV	EAE	xxx	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	●	-	
638xxxxF0STO	SUC	000	xxx	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	
638xxxxF0STO	SUC	EAE	xxx	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	●	-	
638xxxxF0STO	PDP	000	xxx	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	
638xxxxF0STO	PDP	EAE	xxx	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	●	-	
638xxxxF0STO	PDP	2CA	xxx	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	●	-	
638xxxxF0STO	PDP	2C8	xxx	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	●	-	
638xxxxF0STO	IBS	000	xxx	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	
638xxxxF0STO	IBS	EAE	xxx	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	●	-	
638xxxxF0STO	IBS	2CA	xxx	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	●	-	
638xxxxF0STO	IBS	2C8	xxx	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	●	-	
638xxxxF0STO	EA5	000	xxx	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	
638xxxxF0STO	EA5	EAE	xxx	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	●	-	
638xxxxF0STO	PC8	000	xxx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	
638xxxxF0STO	PC8	EAE	xxx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	-	
638xxxxF0STO	PCA	000	xxx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	
638xxxxF0STO	PCA	EAE	xxx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	●	-	
638xxxxF0STO	000	EAE	xxx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	

000 = none Option ● possible combination

* at assignment [C] Interface you can used CAN2

4



Accessories and options

EASYSIDER series

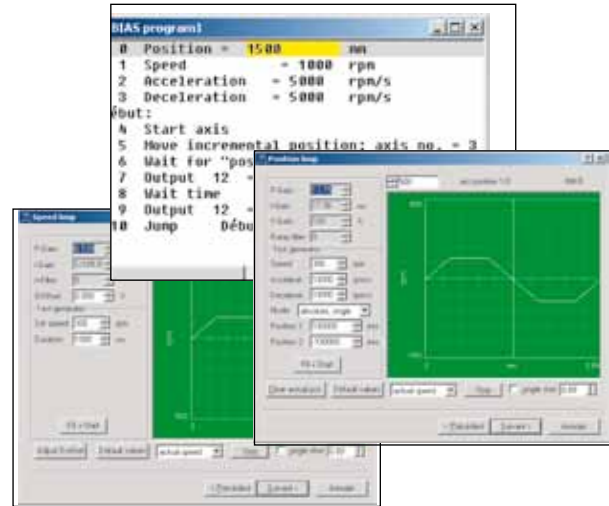
Graphical software

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