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

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
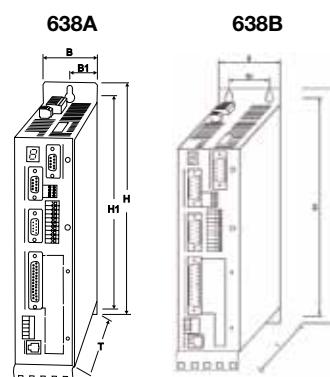
Drives ratings

Product codes	Permanent current [Arms]	Peak current [Arms]	Drive size
230 VAC Power Supply			
638A013F0STO...	1	2	
638A023F0STO...	2	4	A
638A043F0STO...	4	8	
638A063F0STO...	6	12	
400 VAC Power Supply*			
638B036F0STO...	2.5	5	
638B056F0STO...	5	10	
638B086F0STO...	7.5	15	B
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

638A　　**638B**

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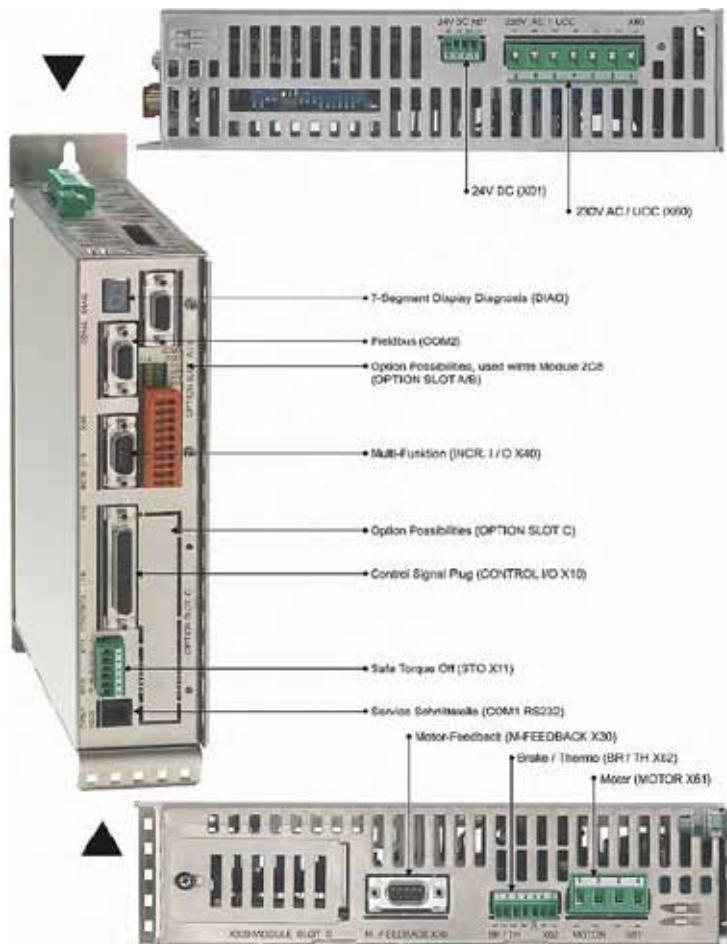
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General view

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   - SUCOnet K
- DeviceNet   - RS232
- CANopen DS402   - RS422
- Interbus S   - 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	S T O	x x x	x x x	x x x		x x x

SIZE

Size A	A
Size B	B
Size C (being prepared)	C

RATED CURRENT

1 Amp		0 1
2 Amps	Size A	0 2
4 Amps		0 4
6 Amps		0 6
2.5 Amps		0 3
5 Amps		0 5
7.5 Amps	Size B	0 8
10 Amps		1 0
15 Amps		1 5

INTERMEDIATE VOLTAGE

325 VDC / 230 VAC	Size A and B	3
565 VDC / 400 VAC	Size B	6
678 VDC / 480 VAC		7

FILTER

With integrated filter (standard)	**F**
Less leakage current (AC side Y capacitors desactivated, JP600 open	A

Without EMC - clip (standard)	**O**

SAFETY PERFORMANCE

Safe Torque Off (standard)	**S T O**

ADDITIONAL OPTION MODULE RP xxx VIA COM2

No option	Slot A (A, B)	0 0 0
RS 232 interface	Slot 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 B (A) / [C*]	C A N
2 x CAN (without I/O's)	Slot B (A) / [C*]	2 C A
2 x CAN + 4 inputs and 4 outputs	Slot B (A)	2 C 8
2 x CAN + RS 485	Slot B (A)	C C A
2 x CAN + 4 inputs et 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 + outputs and 4 inputs + RS 485	Slot B (A)	P C 8
Profibus DP + CAN2 + RS 485	Slot B (A)	P C A
I/O Interface (5 inputs, 2 outputs)		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

X300 FUNCTIONS MODULE

Standard X30 resolver – Module 2nd version	Slot D	**R D 2**
HIPERFACE – Module 2nd version	Slot D	H F 2
Sine / Cosine - Module 2nd version	Slot D	S C 2
With Memorychip as of firmware V8.35		
Resolver + Memory - Module 2nd version	Slot D	R M 1
HIPERFACE + Memory - Module 2nd version	Slot D	H M 1
Sine / Cosine + Memory - Module 2nd version	Slot D	S M 1

ENTER ONLY WHEN USED

Broad-band contacts X10.7 - X10.8		X 7 x
Moisture / condensation protection		B S x

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14.1

* 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 ⇒				232	422	485	CAN	2CA	2C8	CCA	CC8	DEV	SUC	PDP	IBS	EA5	PC8	PCA	EAE	*2CA	*2C8
Type code ⇓																					
638 x x x x F 0 S T O	232	000	xxx	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
638 x x x x F 0 S T O	232	EAE	xxx	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-
638 x x x x F 0 S T O	232	2CA	xxx	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-
638 x x x x F 0 S T O	232	2C8	xxx	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●
638 x x x x F 0 S T O	422	000	xxx	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
638 x x x x F 0 S T O	422	EAE	xxx	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-
638 x x x x F 0 S T O	422	2CA	xxx	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-
638 x x x x F 0 S T O	422	2C8	xxx	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●
638 x x x x F 0 S T O	485	000	xxx	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
638 x x x x F 0 S T O	485	EAE	xxx	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-
638 x x x x F 0 S T O	485	2CA	xxx	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-
638 x x x x F 0 S T O	485	2C8	xxx	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●
638 x x x x F 0 S T O	CAN	000	xxx	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-
638 x x x x F 0 S T O	CAN	EAE	xxx	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	●	-	-
638 x x x x F 0 S T O	2CA	000	xxx	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-
638 x x x x F 0 S T O	2CA	EAE	xxx	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	●	-	-
638 x x x x F 0 S T O	2C8	000	xxx	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-
638 x x x x F 0 S T O	2C8	EAE	xxx	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	●	-	-
638 x x x x F 0 S T O	CCA	000	xxx	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-
638 x x x x F 0 S T O	CCA	EAE	xxx	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	●	-	-
638 x x x x F 0 S T O	CC8	000	xxx	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-	-
638 x x x x F 0 S T O	CC8	EAE	xxx	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	●	-	-
638 x x x x F 0 S T O	DEV	000	xxx	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-	-
638 x x x x F 0 S T O	DEV	EAE	xxx	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	●	-	-
638 x x x x F 0 S T O	SUC	000	xxx	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-
638 x x x x F 0 S T O	SUC	EAE	xxx	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	●	-	-
638 x x x x F 0 S T O	PDP	000	xxx	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-
638 x x x x F 0 S T O	PDP	EAE	xxx	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	●	-	-
638 x x x x F 0 S T O	PDP	2CA	xxx	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	●	-
638 x x x x F 0 S T O	PDP	2C8	xxx	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	●
638 x x x x F 0 S T O	IBS	000	xxx	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-
638 x x x x F 0 S T O	IBS	EAE	xxx	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	●	-	-
638 x x x x F 0 S T O	IBS	2CA	xxx	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	●	-
638 x x x x F 0 S T O	IBS	2C8	xxx	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	●
638 x x x x F 0 S T O	EA5	000	xxx	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-
638 x x x x F 0 S T O	EA5	EAE	xxx	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	●	-	-
638 x x x x F 0 S T O	PC8	000	xxx	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-
638 x x x x F 0 S T O	PC8	EAE	xxx	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	●	-	-
638 x x x x F 0 S T O	PCA	000	xxx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-
638 x x x x F 0 S T O	PCA	EAE	xxx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	●	-	-
638 x x x x F 0 S T O	000	EAE	xxx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-

000 = none Option   ● possible combination

* at assignment [C] Interface you can used CAN2

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# Accessories and options
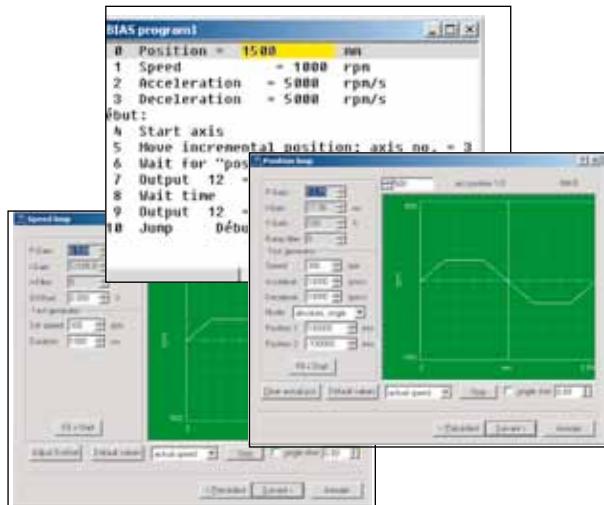
EASYRIDER series
Graphical software

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

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