

631 1 to 6A

TECHNICAL SPECIFICATION

Power Supply – 220-240Vac (±10%)

Single Phase

Ambient – 0-40°C (derate 2%/°C >40°C to 50°C max.)

1000m ASL (derate 1%/100m to 4000m max.)

Type	Output Current Continuous (A)	Output Current Peak (A)
631-001-230-F-0	1.0	2.0
631-002-230-F-0	2.0	4.0
631-004-230-F-0	4.0	8.0
631-006-230-F-0	6.0	12.0

Inputs/Outputs

4 - Configurable Digital Inputs (24V)

2 - Configurable Digital Outputs (24V)

1 - Analogue Input

Optional I/O Expander Module

8 - Configurable Digital Inputs/Outputs
(max. 4 outputs)

CANbus Input and Output

Resolver Feedback Input

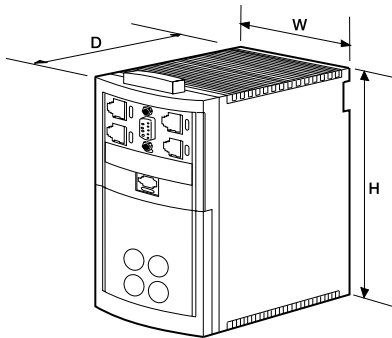
Pulse Train Input and Output

Dimensions

H	W	D*
183	72.0	175

Fixings: Mounting holes 5.5mm – use MS fixings.

*45mm must be allowed for connectors.



The 631 is much more than a basic brushless servo drive. With built-in motion controller, emc compliant filter, PLC functionality and even extended I/O option, it's a complete positioning system in a single module. The 631 is designed for direct connection to a 230Vac single phase supply without the need for any interposing transformer.



STANDARDS

CE marked

EN61800-3 (EMC compliance) with integral filter

EN60178 (safety, low voltage)

UL listed to US and UL listed to Canadian safety standards

- 1500 STEP INTEGRAL MOTION CONTROLLER**
- INTEGRAL EMC COMPLIANT FILTERS**
- INTEGRAL BRAKE SWITCH**
- DIRECT 230V AC SUPPLY CONNECTION**
- SIMULATED ENCODER OUTPUT**
- DIN RAIL OR DIRECT PANEL MOUNT**

635/637+

1 to 30A

635/637

Torque, speed, position or motion control are all standard operations of the 635/637+ series ac brushless servo drive – without the need for external controllers. Each has its own internal power supply for direct connection to either 230V or 400V ac supplies and is available as part of a total servo package including motors, servo gearboxes and interconnecting cables.

The 635/637+ is available as either individual compact modules or as rack mounted assemblies with up to 9 drives in a single rack.



1500 STEP INTERNAL MOTION CONTROLLER

DIRECT CONNECTION TO 230V OR 400V AC SUPPLIES

MODULE OR RACK MOUNTED

SIMPLE COMMISSIONING AND PROGRAMMING SOFTWARE

COMPLETE PACKAGE OF MOTORS, SERVO GEARBOXES AND INTERCONNECTING CABLES

FIELDBUS COMMUNICATION OPTIONS

TECHNICAL SPECIFICATION

635 Series

Power Supply – 220 - 230V ($\pm 10\%$ single or three phase up to 7A, three phase only 10A) 50 - 60 Hz $\pm 5\%$

Type	Output Current Continuous (A)	Output Current Peak (A)
635-K DER 01	1.0	5.0
635-K DER 03	2.5	5.0
635-K DER 05	5.0	10
635-K DER 07	6.5	10
635-K DER 10	10	20

637 Series

Power Supply – 380 - 460V ($\pm 10\%$ three phase)

Type	Output Current Continuous (A)	Output Current Peak (A)
637+K D6R 01-7	1.0	4.0
637+K D6R 02-7	2.0	4.0
637+K D6R 04-7	4.0	8.0
637+K D6R 06-7	6.0	12
637+K D6R 10-7	10	20
637+K D6R 16-7	16	32
637+K D6R 22-7	22	44
637+K D6R 30-7	30	60

Peak Output Current – Stated peak output currents are for a minimum 5 seconds

Ambient – 0 - 40°C (Derate 2%/°C up to 50°C max) Up to 1000m ASL (Derate 1%/100m up to 4000m max)

Inputs/Outputs

- 8 - Digital Inputs (inc 2 interrupts)
- 5 - Digital Outputs (3 x Opto-coupled, 2 x Relay)
- 2 - Analogue Inputs (-10V / 0 / +10V)
- 1 - Analogue Output (0 - 10V)

Motor Resolver Input

Encoder (Configurable Input or Output)

Serial Communication Options

- RS232
- RS422
- RS485
- CANbus
- PROFIBUSDP
- INTERBUS S
- SUCOnet K

Sin/Cos Encoder Option

Input/Output Expansion Options

635 – Additional 5 Digital Inputs/2 Digital Outputs

637+ – Additional 14 Digital Inputs/10 Digital Outputs

Dimensions

		A	B	C
635	1 to 6.5 Amps	91	249	216.5
635	10 Amps	106.3	249	216.5
637	1 to 10 Amps	61.5	400	280
637	16 to 30 Amps	104	400	280

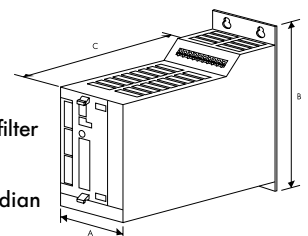
Allow extra 70mm in front of unit for plugs/cables.

STANDARDS

CE marked

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

UL listed to US and cUL listed to Canadian safety standards



631 and 635/637+ Ancillary Equipment

Part Number Description

CABLES / CONNECTORS

Complete cable sets with connectors ready fitted at motor and drive end

CM469021Uxx0	Drive to ACG/ACM2n motor POWER. Non repetitive flexing, no brake core
CM469023Uxx0	Drive to ACG/ACM2n motor POWER. Repetitive flexing, with brake core
CM469095Uxx0	Drive to ACR(L) size 4 motor POWER. Repetitive flexing, with brake core
CM469025Uxx0	Drive to ACG/ACM2n/ACR(L) RESOLVER. Non repetitive flexing
CM469027Uxx0	Drive to ACG/ACM2n/ACR(L) RESOLVER. Repetitive flexing

xx = Complete cable set length; Standard lengths 2, 5, 10m. eg CM469021U050 = 5m length

Loose Cable (no connectors)

CM469020	Drive to ACG/ACM2n motor POWER. Non repetitive flexing, no brake core
CM469022	Drive to ACG/ACM2n motor POWER. Repetitive flexing, with brake core
CM469094	Drive to ACR(L) size 4 motor POWER. Repetitive flexing with brake core
CM469024	Drive to ACG/ACM2n/ACR(L) RESOLVER. Non repetitive flexing
CM469026	Drive to ACG/ACM2n/ACR(L) RESOLVER. Repetitive flexing

Loose Connectors

CI469039	Motor POWER CONNECTOR for ACG/ACM2n (size 0-3) Motor POWER CONNECTOR for ACR(L)
CI467068	Motor RESOLVER CONNECTOR for ACG/ACM2n/ACR(L) X10 I/O Drive Connector for 635/7 X30 Resolver Drive Connector for 635/7 X40 Encoder Drive Connector for 635/7 COM 2 Communications Drive Connector for 635/7
LA467063	Package X10,X30,X40 and COM 2 Drives Connectors for 635/7
LA467064	X10 Test adaptor connector for 635/7

631 Interconnection Cables/Connectors

CM469036U001	631 X20-X20 or X40-X40 100mm interconnecting cable with connectors both ends
CM469029U010	631 X20 1m cable (4 core) with drive connector one end
CM469033U010	631 X40 1m cable (8 core) with drive connector one end
CM469031U003	631 X20 to 635/637/IBT MMI 300mm interconnecting cable with connectors both ends
CI469030	631 X20 CANbus terminator plug
CM469034U003	631 X40 to 635/7 X40 300mm interconnecting cable with connectors both ends

635/637+ COMMUNICATION AND EXTENDED I/O OPTION BOARDS

AH467059U001	Profibus DP (Factory fit only)
AH467059U002	CANbus RP
AH467059U003	Devicenet (Factory fit only)
AH467059U004	Suconet K (Factory fit only)
AH467059U005	RS232
AH467059U006	RS485
AH467059U007	RS422
AH467059U008	Interbus S (Factory fit only)
	635 5 Inputs / 2 Outputs Expansion board
	637 14 Inputs / 10 Output Expansion board

CANBUS ANCILLARY EQUIPMENT

LA469119	8 Channel I/O Expansion Module
LA469118	BCD Switch Module - 6 Digit BCD Switch Module - 5 Digit plus sign
LA469121	BCD Switch Module - 6 Digit with 6 digit LED readout BCD Switch Module - 5 Digit plus sign with 6 digit LED readout

635/637+ EMC EQUIPMENT (NB 631 Series has internal RFI filters)

CO467071	12A 230V 1 phase RFI filter
CO467072	8A 480V 3 phase RFI filter
CO467557	18A 480V 3 phase RFI filter
CO467580	34A 480V 3 phase RFI filter
LA467069	635 (KDER03...07) Cable clamp kit 635 (KDER10) Cable clamp kit
LA467070	637 (KD6R02...10) Cable clamp kit 635 (KD6R16...30) Cable clamp kit

SOFTWARE AND ASSOCIATED HARDWARE

LA469099U002	631 EASYRIDER 'Windows' Software Development Kit including
LA387599	- PC to 631 Programming cable
RD467061U006	- EASYRIDER Software disc
HA467060	- BIAS Programming manual
LA469102U002	635/637 EASYRIDER Software Development Kit including
CM467062	- PC to 635/7 Programming cable
RD467061U006	- EASYRIDER Software disc
HA467060	- BIAS Programming manual
LA467064	- X10 Test adaptor plug

MMI (MAN MACHINE INTERFACE)

	4 x 20 Character IBT MMI
	MMI to 635/7 2m Interconnecting cable with connectors
	MMI to PC 2m Programming Cable
	MMI Programming Software

631 and 635/637+

1 to 6A

SERVO DRIVES



AC Brushless Servo Motors

0.3 to 88Nm

A complete range of high performance, low inertia, ac brushless servo motors. These are compatible with the 631/635 series (230Vac) and 637+ series (400Vac) servo drives – details on pages 9-10. The ACG range offers tremendous value while the ACM2n/ACR range can accommodate a wide variety of options to suit virtually any application at a cost effective price.



Technical Specification								
Motors for use with 631/635 (nominal 230V AC supplies)								
Motor Type	Motor Size	Stall Torque M_0 Cont. (Nm)	Stall Current I_0 Cont. (A)	Rated Torque M_N (Nm)	Rated Current I_N (A)	Maximum Mechanical Speed (rpm)	Inertia J_M (Kgcm ²)	Mass (Kg)
ACG								
ACG0060-4/01-3	01.1	0.7	1.25	0.6	1.15	4000	0.33	1.8
ACG0090-4/01-3	01.2	1.1	2.0	0.9	1.75	4000	0.51	2.0
ACG0170-4/01-3	01.3	2.1	3.8	1.7	3.28	4000	1.0	3.0
ACG0190-4/01-3	01.4	2.6	4.9	1.9	3.70	4000	1.5	3.9
ACM2n								
ACM2n 0012-6/Y-3	Y	0.16	0.46	0.12	0.40	6000	0.06	0.63
ACM2n 0010-4/0-3	0	0.13	0.25	0.10	0.20	4000	0.05	0.83
ACM2n 0030-4/0-3	0	0.30	0.90	0.30	0.80	4000	0.10	1.3
ACM2n 0045-4/0-3	0	0.50	1.20	0.45	1.08	4000	0.15	1.4
ACM2n 0070-4/0-3	0	0.8	1.6	0.7	1.46	4000	0.20	1.7
ACM2n 0130-4/0-3	0	1.5	3.3	1.3	2.80	4000	0.33	2.8
ACM2n 0055-4/1-3	1	0.8	2.1	0.55	1.40	4000	0.3	2.0
ACM2n 0090-4/1-3	1	1.5	3.0	0.9	1.80	4000	0.68	2.7
ACM2n 0150-4/1-3	1	2.5	5.0	1.5	3.30	4000	1.0	3.5
ACM2n 0220-4/1-3	1	3.0	6.4	2.2	4.70	4000	1.4	4.1
ACM2n 0320-4/2-3	2	4.0	8.2	3.2	6.40	4000	2.4	6.7
ACM2n 0480-4/2-3	2	7.0	14.3	4.8	9.80	4000	3.2	8.2

Motors for use with 637 (nominal 400V AC supplies)								
Motor Type	Motor Size	Stall Torque M_0 Cont. (Nm)	Stall Current I_0 Cont. (A)	Rated Torque M_N (Nm)	Rated Current I_N (A)	Maximum Mechanical Speed (rpm)	Inertia J_M (Kgcm ²)	Mass (Kg)
ACM2n 0045-4/0-6	0	0.5	0.65	0.45	0.60	4000	0.15	1.4
ACM2n 0070-4/0-6	0	0.8	0.9	0.7	0.82	4000	0.20	1.7
ACM2n 0130-4/0-6	0	1.5	1.65	1.3	1.4	4000	0.33	2.8
ACM2n 0055-4/1-6	1	0.8	1.2	0.55	0.85	4000	0.30	2.0
ACM2n 0090-4/1-6	1	1.5	1.8	0.9	1.1	4000	0.68	2.7
ACM2n 0150-4/1-6	1	2.5	2.7	1.5	1.9	4000	1.0	3.5
ACM2n 0220-4/1-6	1	3.0	3.8	2.2	2.8	4000	1.4	4.1
ACM2n 0320-4/2-6	2	4.0	4.5	3.2	3.6	4000	2.4	6.7
ACM2n 0480-4/2-6	2	7.0	7.2	4.8	4.9	4000	3.2	8.2
ACM2n 0650-4/2-6	2	9.0	9.2	6.5	6.6	4000	3.6	10.5
ACM2n 0960-4/3-6	3	16	18.4	9.6	11	4000	5.3	19.5
ACM2n 1200-4/3-6	3	21	28	12	16	4000	6.7	23
AC R 1500-2/4-6	4.1	25	11.5	15	6.9	2000	100	26
AC R 2400-2/4-6	4.2	40	18.4	24	11.1	2000	150	32
AC R 3800-2/4-6	4.3	63	29.0	38	17.4	2000	230	44
AC RL 5300-2/4-6	4.3	88	38.9	53	23.1	2000	230	46
AC RL 5300-1/4-6	4.3	88	19.8	62	13.5	1000	230	46

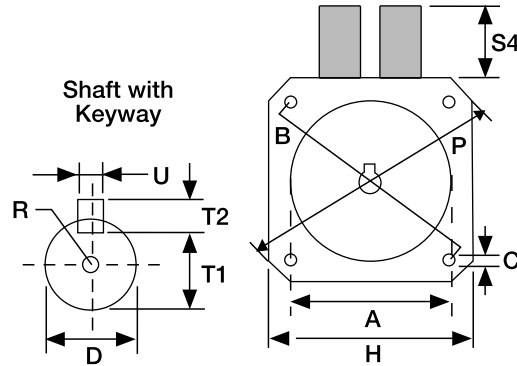
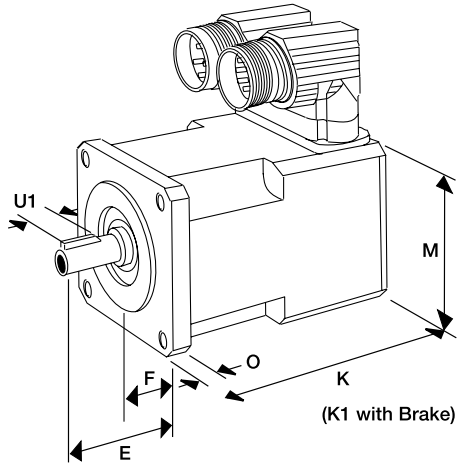
NEODYMIUM IRON BORON MAGNETS

UP TO 4 TIMES RATED CURRENT

LOW INERTIA - HIGH DYNAMIC RESPONSE

INTEGRAL RESOLVER

PLUG/SOCKET CONNECTORS



Dimensions

	A (j6)	B	C	D (k6)	E	F	H	K	K1	M	O	P	R	S4	T1	T2 (h9)	U (h9)	U1
Type ACG																		
ACG 0060	60	75	5.5	11	23	2.5	70	140	n/a	70	9	92	M3-12	40	8.5	4	4	14
ACG 0090	60	75	5.5	11	23	2.5	70	150	n/a	70	9	92	M3-12	40	8.5	4	4	14
ACG 0170	60	75	5.5	11	23	2.5	70	180	n/a	70	9	92	M3-12	40	8.5	4	4	14
ACG 0190	60	75	5.5	11	23	2.5	70	210	n/a	70	9	92	M3-12	40	8.5	4	4	14
Type ACM2n																		
ACM2n 0010	40	63	5.8	9	24	2.5	55	98	131	55	8	74	M3-10	40	7.2	3	3	14
ACM2n 0030	40	63	5.8	9	24	2.5	55	123	156	55	8	74	M3-10	40	7.2	3	3	14
ACM2n 0045	40	63	5.8	9	24	2.5	55	143	176	55	8	74	M3-10	40	7.2	3	3	14
ACM2n 0070	40	63	5.8	9	24	2.5	55	163	196	55	8	74	M3-10	40	7.2	3	3	14
ACM2n 0130	40	63	5.8	9	24	2.5	55	234	267	55	8	74	M3-10	40	7.2	3	3	14
ACM2n 0055	80	100	7	14	30	3	88	112	153	82	10	115	M4-12	40	7.2	5	5	20
ACM2n 0090	80	100	7	14	30	3	88	132	173	82	10	115	M4-12	40	11.1	5	5	20
ACM2n 0150	80	100	7	14	30	3	88	152	193	82	10	115	M4-12	40	11.1	5	5	20
ACM2n 0220	80	100	7	14	30	3	88	172	213	82	10	115	M4-12	40	11.1	5	5	20
ACM2n 0320	95	115	9	19	40	3	105	178	218	105	12	134	M6-15	40	15.5	6	6	30
ACM2n 0480	95	115	9	19	40	3	105	208	248	105	12	134	M6-15	40	15.5	6	6	30
ACM2n 0650	95	115	9	19	40	3	105	228	268	105	12	134	M6-15	40	15.5	6	6	30
ACM2n 0960	130	165	11	24	50	3.5	145	260	303	145	12	188	M8-25	40	19.9	8	8	40
ACM2n 1200	130	165	11	24	50	3.5	145	300	343	145	12	188	M8-25	40	19.9	8	8	40
Type ACR																		
ACR 1500	180	215	14	32	58	4	185	350	350	187	13	250	M10-25	21*	27.3	8 (h11)	10(h11)	50
ACR 2400	180	215	14	32	58	4	185	395	395	187	13	250	M10-25	21*	27.3	8 (h11)	10(h11)	50
ACR 3800	180	215	14	32	58	4	185	470	470	187	13	250	M10-25	21*	27.3	8 (h11)	10(h11)	50
Type ACRL																		
ACRL 5300	180	215	14	32	58	4	185	583	583	187	13	250	M10-25	21*	27.3	8 (h11)	10(h11)	50

*Motor type ACR(L) has vertical non-rotateable sockets.

Ordering Information

When ordering, please specify the motor type number.
Motor type AC RL has force ventilation unit.