



EMERSON[™]
Industrial Automation

Unidrive

Free Standing
Fully Engineered Cabinet Drives

90kW to 675kW (150hp to 1000hp)
380 to 690V 3 phase



**CONTROL
TECHNIQUES**

www.controltechniques.com

Unidrive SP Free Standing

Unidrive SP Free Standing is a range of compact AC drives for high power motors in the range 90kW to 675kW. They inherit their reliability, performance and flexibility from the Unidrive SP modular range.

The hard work has been done

Unidrive SP Free Standing drives are fully engineered and tested drive cabinets for AC input AC motor output configurations. The whole enclosure is certified to comply with international standards such as CE and UL. Proven design and international approvals release your engineering resources to focus on your application.

Ideal for fans, pumps, extruders

Unidrive SP Free Standing drives are suitable for higher power applications, both commercial and industrial. Typical applications include:

- Energy saving with higher power fans and pumps
- Gas and refrigeration compressors
- Metal production and processing
- Conveying and handling of bulk materials
- Pulp and paper processing
- Marine applications

Much more compact

Unidrive SP Free Standing drives are up to 50% smaller and are significantly lighter than competitors' 'compact' drive cabinets. For example, a 355kW drive is only 400mm wide and a 675kW drive is only 800mm wide. This makes Unidrive SP Free Standing the obvious choice where space is a problem such as for new or retrofit energy saving applications.



Proven reliability

Unidrive SP Free Standing utilises mass produced modules of proven design and reliability. The modules and cabinets are assembled using a sequential build process that eliminates build variation and provides consistently high quality. Excellent thermal and electrical design and computer modelling has ensured the drives have a long and productive life with trouble free operation.

Easy to maintain

Compact size and innovative design enables the drive modules to be easily accessed and removed for servicing or replacement. Standard modules ensure ready availability of components.

Global service

We understand your needs. Control Techniques 89 subsidiary Drive Centres and resellers in 65 countries ensure that service, support and expertise are just around the corner, all around the world.

A tradition of performance solutions

Unidrive SP Free Standing continues the Control Techniques tradition of high performance solutions, able to control virtually any type of AC motor including synchronous machines.



Complete solutions

A complete engineered drive, Unidrive SP Free Standing eliminates the need for drive panel building, saving you time and money therefore allowing you to focus on your application. For applications where line-side equipment such as main switches, contactors or EMC filters are required there are two possible approaches.

Drive Centre engineered Incomer

Our Drive Centre network can design and build an incoming power section for your Free Standing drive to include all the line-side equipment the application requires. This means the drive is delivered ready to be connected directly to your supply, reducing your engineering effort and installation time.



User engineered Incomer

For users wishing to design and build their own incoming power section a range of accessories are available, including empty 400mm cabinets allowing you to install your own line-side equipment along with any application specific equipment you have. Alternatively standard cabinet colour and dimensions mean that Free Standing drives can be bayed to other manufacturer's cabinets.



Users designing incomers for size 8 and 9 Free Standing drives should order empty cabinet SP Incomer Shell 40-EXX. This cabinet is supplied along with interconnection busbars.

Users designing incomers for size 6 and 7 Free Standing drives should order empty cabinet SP Systems Shell 40-EXX. This cabinet is supplied without interconnection busbars as cables are used to make the connection^[4].

Item	Description
SP Incomer Shell 40-EXX	Empty cabinet with 6 pulse interconnection busbar
SP Incomer Shell 40-P12-EXX	Empty cabinet with 12 pulse interconnection busbar
SP Systems Shell 40-EXX	Empty cabinet

Power quality

For applications requiring harmonic attenuation beyond that achieved by the internal filter choke we offer 12 pulse input versions of the size 8 and 9 Free Standing drives. The 12 pulse input option is simply specified as part of the drive order code. For 12 pulse drives the power connections are made within a separate incomer cabinet (SP-Incomer Shell 40- P12-EXX)^[2].

Engineered solutions to further reduce supply harmonics such as passive in-line filters and active input modules are available through your Control Techniques drives supplier. These aid compliance with harmonics standards IEEE 519-1992, IEC 61000-2-2, IEC 61000-2-12 and G5/4-1.

Unidrive SP Free Standing ratings

	Order Code	Normal Duty ^[5]			Heavy Duty ^[5]		
		Max Continuous Current (A)	Typical Motor Output @ 400V (kW)	Typical Motor Output @ 460V (hp)	Max Continuous Current (A)	Typical Motor Output @ 400V (kW)	Typical Motor Output @ 460V (hp)
380-480Vac +/-10-%	SP64x1	205	110	150	180	90	150
	SP64x2	236	132	200	210	110	150
	SP74x1	290	160	250	238	132	200
	SP74x2 ^[6]	350	200	300	290	160	250
	SP84x1	389	225	300	335	185	280
	SP84x2	450	250	400	389	225	300
	SP84x3	545	315	450	450	250	400
	SP84x4	620	355	500	545	315	450
	SP94x1	690	400	600	620	355	500
	SP94x3	900	500	800	790	450	700
	SP94x4	1010	560	900	900	500	800
	SP94x5	1164	675	1000	1010	560	900

	Order Code	Normal Duty ^[5]			Heavy Duty ^[5]		
		Max Continuous Current (A)	Typical Motor Output @ 690V (kW)	Typical Motor Output @ 525V (hp)	Max Continuous Current (A)	Typical Motor Output @ 690V (kW)	Typical Motor Output @ 525V (hp)
500-690Vac +/-10-%	SP66x1	125	110	125	100	90	100
	SP66x2	144	132	150	125	110	125
	SP76x1	168	160	150	144	132	150
	SP76x2	192	185	200	168	160	150
	SP86x1	231	200	250	186	185	200
	SP86x2	266	225	300	231	200	250
	SP86x3	311	315	350	266	250	300
	SP86x4	355	355	400	311	315	350
	SP96x1	400	400	500	347	355	400
	SP96x3	533	500	600	466	450	500
	SP96x4	616	560	700	533	500	600
	SP96x5	711	670	800	622	560	700

Normal Duty

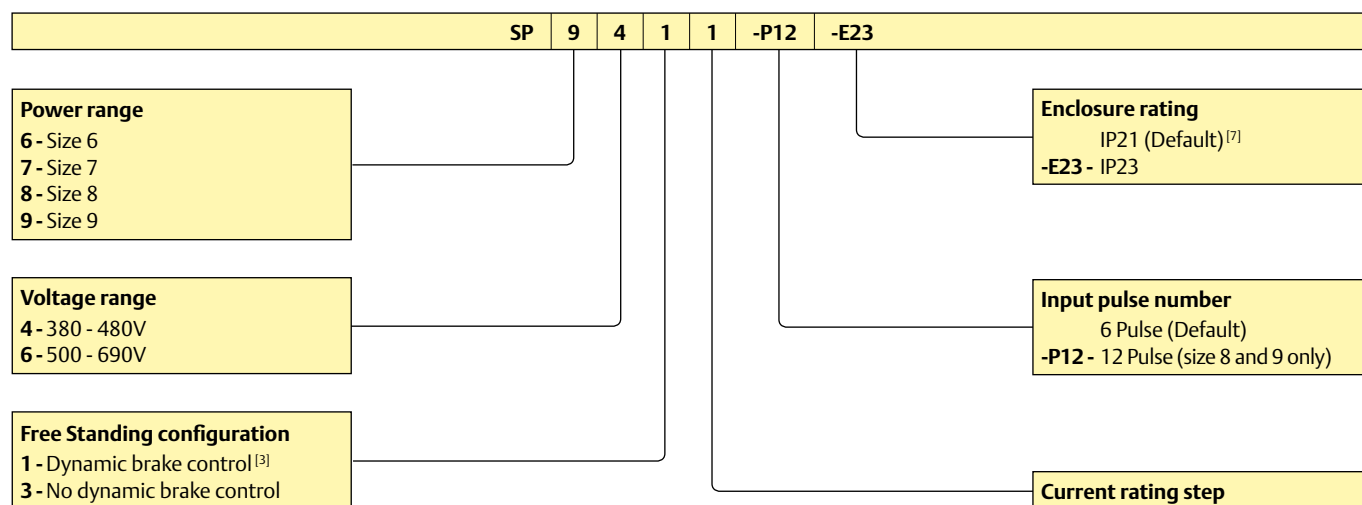
Suitable for most applications, current overload of 110% for 165 seconds is available. Where motor rated current is less than the drive rated continuous current, higher overloads are achieved.

Heavy Duty

Suitable for demanding applications, current overload of up to 150% for 60 seconds

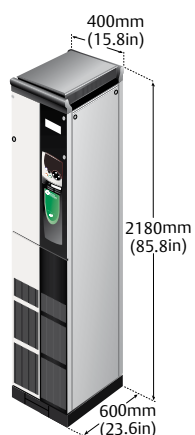
Unidrive SP Free Standing order codes, dimensions and specifications

Order Codes

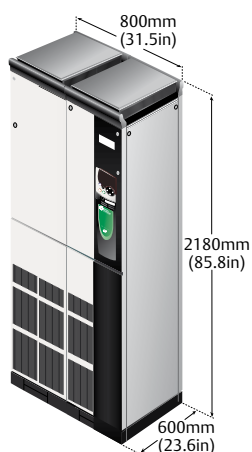


Dimensions

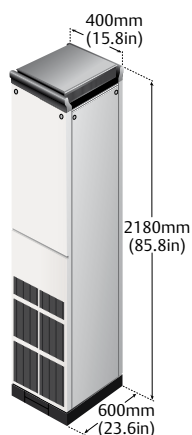
SP6/7/8



SP9



SP Incomer Shell 40/
SP Systems Shell 40



Maximum weight

SP6: 225kg (496lb)
SP7: 240kg (529lb)

SP8: 266kg (586lb)
SP9: 532kg (1173lb)

**SP Incomer Shell 40/
SP Systems Shell 40:**
 55kg (121lb)

Specifications

Environmental Safety and Electrical Conformance

- Humidity 95% maximum (non condensing) at 40°C
- Altitude: 0 to 3000m, derate 1% per 100m between 1000m and 3000m
- Vibration: Drive Modules tested in accordance with IEC 60068-2-34
- Mechanical Shock Tested: Drive Modules in accordance with IEC 60068-2-27
- Storage temperature: -40°C to 50°C
- Electromagnetic Immunity complies with EN 61800-3 and EN 61000-6-2
- With on board EMC filter, complies with EN 61800-3 (2nd environment)
- EN61000-6-4 with optional EMC filter (contact the supplier of your drive)
- IEC 60146-1-1 General requirements
- IEC 61800-5-1 Safety of Power Drive Systems
- IEC 61131-2 I/O
- EN 60529 Ingress protection
- Safe Torque Off (Secure Disable) meets EN 954-1-cat3
- UL508C
- CSA C22.2 no 14-05
- IP21 cabinet design, optional IP23

Unidrive SP Free Standing accessories and fuse order codes

Seperate Free Standing accessories

Order Code	Description
SM-Keypad	LED display for configuration and monitoring
SM-Keypad Plus	Enhanced multi-language LCD display for configuration and monitoring
SP Incomer Shell 40	Empty cabinet (400mm wide) with 6 pulse interconnection busbar
SP-Incomer Shell 40-E23	Empty cabinet (400mm wide, IP23 rated) with 6 pulse interconnection busbar
SP-Incomer Shell 40-P12	Empty cabinet (400mm wide) with 12 pulse interconnection busbar
SP-Incomer Shell 40-P12-E23	Empty cabinet (400mm wide, IP23 rated) with 12 pulse interconnection busbar
SP Systems Shell 40	Empty cabinet (400mm wide)
SP Systems Shell 40-E23	Empty cabinet (400mm wide) - IP23 rated
6711-0001-00	Mounting Rail (x2 required) – Enables user to mount their own incomer equipment when used in conjunction with mounting brackets
6541-0047-00	Left hand side mounting bracket - To attach equipment to the mounting rail on left side
6541-0048-00	Right hand side mounting bracket - To attach equipment to the mounting rail on right side
6541-0051-01	Baying bracket (x4 required) - To bay the drive with Rittal cabinets

Fuse order codes

Internal AC Fuse Selection (Semi Conductor IEC class aR)									
380-480V					500-690V				
Drive	(A)	Quantity required	Order Code	Manufacturer Part No. (Ferraz) ^[1]	Drive	(A)	Quantity required	Order Code	Manufacturer Part No. (Ferraz) ^[1]
SP64x1/2	400A	3	4300-0400	E300177	SP66x1/2	400A	3	4300-0400	E300177
SP74x1/2					SP76x1/2				
SP84x1					SP86x1				
SP84x2/3/4	800A	3	4300-0800	L300183	SP86x2/3/4	800A	3	4300-0800	L300183
SP84x1/2-P12	400A	6	4300-0400	E300177	SP86x1/2/3/4-P12	400A	6	4300-0400	E300177
SP84x3/4-P12	800A	6	4300-0800	L300183					
SP94x1	400A	6	4300-0400	E300177	SP96x1/3/4/5	800A	6	4300-0800	L300183
SP94x3/4/5	800A	6	4300-0800	L300183	SP96x1/3-P12	400A	12	4300-0400	E300177
SP94x1/3-P12	400A	12	4300-0400	E300177	SP96x4/5-P12	800A	12	4300-0800	L300183
SP94x4/5-P12	800A	12	4300-0800	L300183					

Notes

- [1] Semi conductor fuses are not included but may be ordered separately for customer fitment. Ferraz fuses must be used for applications requiring UL approval.
- [2] For 12-Pulse installations the supply must be from a double wound star-delta transformer.
- [3] Dynamic braking control does not include the braking resistor or associated components.
- [4] Power connection between size 6 and 7 drives and the incomer should be made using 95mm² cabling.

- [5] All ratings given are for a maximum room temperature of 40°C. However when selecting the E23 protection rating the maximum external temperature is 33°C, except for SP9414 and SP9415 which is 30°C. Alternatively E23 cabinets can be operated at 40°C at reduced current, please see the User Guide for current ratings.
- [6] SP7412 rating is 350A at a room temperature of 35°C, 335A at 40°C.
- [7] IP23 is not UL approved.

Unidrive SP Free Standing - The fully engineered universal drive

More intelligent

Control Techniques is the market leader in intelligent drives. Unidrive SP has three option module slots that accept over 20 different options that supplement the drive's standard features. Fieldbus, Ethernet, I/O, additional feedback devices, and automation controllers allow you to customise the drive to match your needs and integrate with your control system.

The Unidrive SP range

Unidrive SP Free Standing is a part of the Unidrive SP family of high performance drives.

Unidrive SP Solutions Platform Overview & SP Panel Mount 0.37kW - 132kW

Unidrive SP main brochure. Featuring SP Panel Mount, flexible drive modules for integration into cabinets



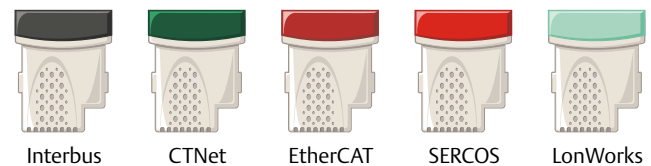
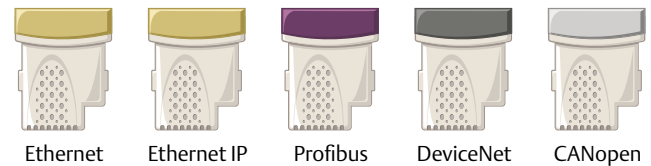
Unidrive SP Modular 45kW – 1.9MW

High Power drive modules for flexible multi-drive power systems, capabilities include active input and DC bus based systems.

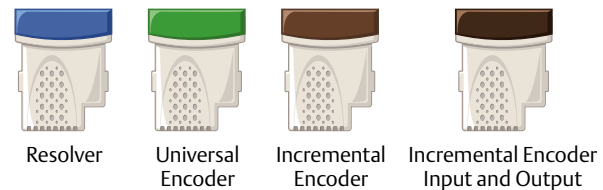


Option modules

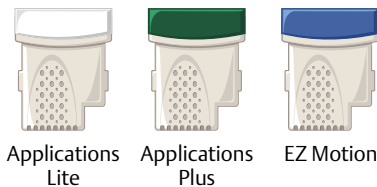
Fieldbus Connectivity



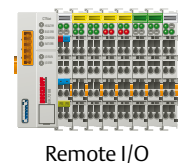
Feedback



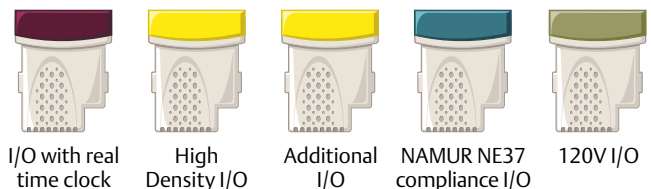
Automation Controllers



Extra I/O (external)



Extra I/O (internal)



Control Techniques Drive & Application Centres

AUSTRALIA

Melbourne Application Centre
T: +613 973 81777
info.au@controltechniques.com

Sydney Drive Centre
T: +61 2 9838 7222
info.au@controltechniques.com

AUSTRIA

Linz Drive Centre
T: +43 7229 789480
info.at@controltechniques.com

BELGIUM

Brussels Drive Centre
T: +32 1574 0700
info.be@controltechniques.com

BRAZIL

Emerson do Brazil Ltda
T: +5511 3618 6569
info.br@controltechniques.com

CANADA

Toronto Drive Centre
T: +1 905 201 4699
info.ca@controltechniques.com

Calgary Drive Centre
T: +1 403 253 8738
info.ca@controltechniques.com

CHINA

Shanghai Drive Centre
T: +86 21 5426 0668
info.cn@controltechniques.com

Beijing Application Centre
T: +86 10 856 31122 ext 820
info.cn@controltechniques.com

CZECH REPUBLIC

Brno Drive Centre
T: +420 541 192111
info.cz@controltechniques.com

DENMARK

Copenhagen Drive Centre
T: +45 4369 6100
info.dk@controltechniques.com

FRANCE*

Angoulême Drive Centre
T: +33 5 4564 5454
info.fr@controltechniques.com

GERMANY

Bonn Drive Centre
T: +49 2242 8770
info.de@controltechniques.com

Chemnitz Drive Centre
T: +49 3722 52030
info.de@controltechniques.com

Darmstadt Drive Centre
T: +49 6251 17700
info.de@controltechniques.com

GREECE*

Athens Application Centre
T: +0030 210 57 86086/088
info.gr@controltechniques.com

HOLLAND

Rotterdam Drive Centre
T: +31 184 420555
info.nl@controltechniques.com

HONG KONG

Hong Kong Application Centre
T: +852 2979 5271
info.hk@controltechniques.com

INDIA

Chennai Drive Centre
T: +91 44 2496 1123/
2496 1130/2496 1083
info.in@controltechniques.com

Pune Application Centre
T: +91 20 2612 7956/2612 8415
info.in@controltechniques.com

Kolkata Application Centre
T: +91 33 2357 5302/2357 5306
info.in@controltechniques.com

New Delhi Application Centre
T: +91 11 2 576 4782/2 581 3166
info.in@controltechniques.com

IRELAND

Newbridge Drive Centre
T: +353 45 448200
info.ie@controltechniques.com

ITALY

Milan Drive Centre
T: +39 02575 751
info.it@controltechniques.com

Reggio Emilia Application Centre
T: +39 02575 751
info.it@controltechniques.com

Vicenza Drive Centre
T: +39 0444 933400
info.it@controltechniques.com

KOREA

Seoul Application Centre
T: +82 2 3483 1605
info.kr@controltechniques.com

MALAYSIA

Kuala Lumpur Drive Centre
T: +603 5634 9776
info.my@controltechniques.com

REPUBLIC OF SOUTH AFRICA

Johannesburg Drive Centre
T: +27 11 462 1740
info.za@controltechniques.com

Cape Town Application Centre
T: +27 21 556 0245
info.za@controltechniques.com

RUSSIA

Moscow Application Centre
T: +7 495 981 9811
info.ru@controltechniques.com

SINGAPORE

Singapore Drive Centre
T: +65 6468 8979
info.sg@controltechniques.com

SLOVAKIA

EMERSON A.S
T: +421 32 7700 369
info.sk@controltechniques.com

SPAIN

Barcelona Drive Centre
T: +34 93 680 1661
info.es@controltechniques.com

Bilbao Application Centre
T: +34 94 620 3646
info.es@controltechniques.com

Valencia Drive Centre
T: +34 96 154 2900
info.es@controltechniques.com

SWEDEN*

Stockholm Application Centre
T: +468 554 241 00
info.se@controltechniques.com

SWITZERLAND

Lausanne Application Centre
T: +41 21 637 7070
info.ch@controltechniques.com

Zurich Drive Centre
T: +41 56 201 4242
info.ch@controltechniques.com

TAIWAN

Taipei Application Centre
T: +886 22325 9555
info.tw@controltechniques.com

THAILAND

Bangkok Drive Centre
T: +66 2962 2092 99
info.th@controltechniques.com

TURKEY

Istanbul Drive Centre
T: +90 216 4182420
info.tr@controltechniques.com

UAE*

Dubai Application Centre
T: +971 4 883 8650
info.ae@controltechniques.com

UNITED KINGDOM

Telford Drive Centre
T: +44 1952 213700
info.gb@controltechniques.com

USA

California Drive Centre
T: +1 562 943 0300
info.us@controltechniques.com

Charlotte Application Centre
T: +1 704 393 3366
info.us@controltechniques.com

Chicago Application Centre
T: +1 630 752 9090
info.us@controltechniques.com

Cleveland Drive Centre
T: +1 440 717 0123
info.us@controltechniques.com

Florida Drive Centre
T: +1 239 693 7200
info.us@controltechniques.com

Latin America Sales Office
T: +1 305 818 8897
info.us@controltechniques.com

Minneapolis US Headquarters
T: +1 952 995 8000
info.us@controltechniques.com

Oregon Drive Centre
T: +1 503 266 2094
info.us@controltechniques.com

Providence Drive Centre
T: +1 401 541 7277
info.us@controltechniques.com

Utah Drive Centre
T: +1 801 566 5521
info.us@controltechniques.com

Control Techniques Distributors

ARGENTINA

Euro Techniques SA
T: +54 11 4331 7820
eurotech@eurotechsa.com.ar

BAHRAIN

Iftikhar Electrical Est.
T: +973 271 116
ieepower@batelco.com.bh

BULGARIA

BLS - Automation Ltd
T: +359 32 968 007
info@blsaautomation.com

CENTRAL AMERICA

Mercado Industrial Inc.
T: +1 305 854 9515
rsaybe@mercadoindustrialinc.com

CHILE

Ingeniería Y Desarrollo
Tecnológico S.A
T: +56 2741 9624
idt@idt.cl

COLOMBIA

Sistronic LTDA
T: +57 2 555 60 00
sistronic@telesat.com.co

CROATIA

Koncar - MES d.d.
T: +385 1 366 7273
nabava@koncar-mes.hr

CYPRUS

Acme Industrial Electronic
Services Ltd
T: +3572 5 332181
acme@cytanet.com.cy

EGYPT

Samiram
T: +202 7360849/
+202 7603877
samiram2@samiram.com

FINLAND

SKS Control
T: +358 207 6461
control@sksf.fi

HUNGARY

Control-VH Kft
T: +361 431 1160
info@controlvh.hu

ICELAND

Samey ehf
T: +354 510 5200
samey@samey.is

INDONESIA

Pt Apikon Indonesia
T: +65 6468 8979
info.my@controltechniques.com

INDONESIA

Pt Yua Esa Sempurna
Sejahtera
T: +65 6468 8979
info.my@controltechniques.com

ISRAEL

Dor Drives Systems Ltd
T: +972 3900 7595
info@dor1.co.il

KENYA

Kassam & Bros Co. Ltd
T: +254 2 556 418
kassambros@africaonline.co.ke

KUWAIT

Saleh Jamal & Company WLL
T: +965 483 2358
sjceng@almullagroup.com

LATVIA

EMT
T: +371 760 2026
janis@emt.lv

LEBANON

Black Box Automation
& Control
T: +961 1 443773
info@blackboxcontrol.com

LITHUANIA

Elinta UAB
T: +370 37 351 987
sigitas@elinta.lt

MALTA

Mekanika Limited
T: +35621 442 039
mfranca@gasan.com

MEXICO

MELCSA
T: +52 55 5561 1312
melcsamx@iserve.net.mx
SERVITECK, S.A de C.V
T: +52 55 5398 9591
servitek@data.net.mx

MOROCCO

Leroy Somer Maroc
T: +212 22 354948
Ismaroc@wanadoopro.ma

NEW ZEALAND

Advanced Motor Control. Ph.
T: +64 (0) 274 363 067
info.au@controltechniques.com

PHILIPPINES

Control Techniques
Singapore Ltd
T: +65 6468 8979
info.my@controltechniques.com

POLAND

APATOR CONTROL Sp. z o.o
T: +48 56 6191 207
drives@apator.torun.pl

PORTUGAL

Harker Sumner S.A
T: +351 22 947 8090
drives.automation@harker.pt

PUERTO RICO

Powermotion
T: +1 787 843 3648
dennis@powermotionpr.com

SAUDI ARABIA

A. Abunayyan Electric Corp.
T: +9661 477 9111
aec-salesmarketing@
abunayyanguroup.com

SERBIA & MONTENEGRO

Master Inzenjering d.o.o
T: +381 24 551 605
master@eunet.yu

SLOVENIA

PS Logatec
T: +386 1 750 8510
ps-log@ps-log.si

TUNISIA

SIA Ben Djemaa & CIE
T: +216 1 332 923
bendjemaa@planet.tn

URUGUAY

Secoin S.A
T: +5982 2093815
secoin@adinet.com.uy

VENEZUELA

Digimex Sistemas C.A.
T: +58 243 551 1634

VIETNAM

N.Duc Thinh
T: +84 8 9490633
infotech@nducthinh.com.vn