AMETEK ROTRON®

Burgess

Crouzet

EUROTHERM DRIVES

maxon motor

OMRON

SANYO DENKI

Contents

25

Motors, Drives & Pneumatics

Light Duty DC Motors

Low Cost dc

- Three dc motors with different operating characteristics.

Left = High Speed, Middle = Medium Torque, Right = High Torque

Order Code	599-104	599-116	599-128
Operating voltage range (Vdc)	1.5 to 3	1.5 to 4.5	2.4 to 4.5
Nominal voltage (Vdc)	1.5/3	1.5/3	3
No load speed (RPM)	8700/16300	3000/6300	9600
Direction of Rotation*	Anti-clockwise	Clockwise	Clockwise
Current (A)	0.3/0.38	0.08/0.11	0.22
At maximum efficiency			
Speed (RPM)	6500/12000	2300/4900	7850
Current (A)	0.81/1.15	0.26/0.41	0.99
Torque (g/cm)	6.2/10.0	5.2/9.0	20.1
Efficiency %	33.9/35.6	38.3/46.0	55.2
Output (W)	0.41/1.23	0.14/0.51	1.64
Stall torque (g/cm)	24/44	21/44	112
Length inc. shaft	38	38	45
Diameter	20.1	23.8	24.2
Shaft length/dia	7.7/2	6.9/2	10.4/2
Weight (g)	17g	28g	42g

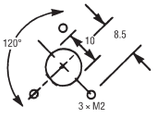
204306

	Order Code	Price Each 1+	25+	100+	250+	+
High Speed	599-104	3.31	2.34	2.01	1.67	– –
Medium torque	599-116	4.05	2.85	2.44	2.08	– –
High torque	599-128	5.99	4.18	3.62	3.08	– –

Medium Duty DC Motors

12 Volt dc Servo

PREMOTEC
PRECISION MOTOR TECHNOLOGY BV



Panel cut-out

Body: L=39.5, Dia.=29.
Shaft=7.5x3.0 dia.

- Designed for low noise, smooth running and accurate speed applications
- Ironless rotor, low inertia and high starting torque
- Suitable gearboxes also avaliable

Current @ no load	56mA	Starting torque	30mNm
Current @ nominal torque	164 to 238mA	Nominal torque	5mNm
Nominal operating voltage	12V dc	Direction or rotation	Reversible
Maximum voltage	15V dc	Operating temperature	-10°C to +60°C

Shaft Speed (RPM)	Mftrs. List No.	Order Code
3000	9904-120-18105	147-875

220487

Order Code	Price Each 1+	5+	10+	25+	+
147-875	128.54	116.29	107.35	95.32	– –

A-Max™ Program

maxon motor

A range of high quality, state of the art dc motors offering major advantages over traditional ironless dc motors including:-

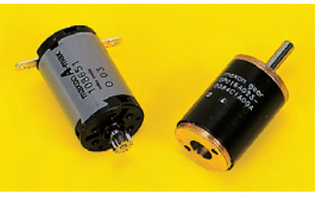
- Reduced diameter commutator employing more segments for longer life
- Precision made rolled steel motor housing for high strength
- Matching planetary or spur gearheads
- Roll action spring on graphite brush version and 3 fingered wiper design on precious metal brush versions result in consistent pressure over entire lifetime
- Elimination of C-Clip groove on shaft results in higher torsional stability and greater cross-sectional strength
- Impact resistant glass fibre - reinforced plastic end caps resist temperatures up to +125°C and dampens noise
- **CE** approved

213840

6 and 12 V dc, 16mm Diameter

maxon motor

With Planetary Gearheads



Motor without Gearbox Fitted
Body: L=25.4, Dia=16
Shaft: L=6.1, Dia=1.5

Planetary Gearhead
Body: Dia=16
Shaft: L=8, Dia=3

Motor

Voltage	Speed(RPM)	Power	Stall Torque(mNm)	Mftrs. List No.	Order Code
6V	7533	2W	3.6	110044	909-579
12V	7200	2W	3.12	110048	909-580

Planetary Gearhead (Plastic Gears)

Motor Speed with Gearhead fitted (RPM) 6V	12V	Gearhead Reduction Radio	Torque(Nm) Constant/Peak		Length with Motor Fitted	Mftrs. List No.	Order Code
392	379	19:1	0.15	0.225	44.5	110322	909-592
89	85	84:1	0.2	0.3	48.1	110323	909-609
20	19	370:1	0.25	0.375	51.7	110324	909-610
4.6	4.4	1621:1	0.3	0.45	55.3	110325	909-622

204328

	Order Code	Price Each 1+	5+	10+	25+	+	+
Motor Without Gearbox							
6V	909-579	84.53	80.96	77.81	73.94	– –	– –
12V	909-580	95.58	91.55	87.95	80.11	– –	– –
Planetary Gearhead							
19:1	909-592	96.92	92.89	89.25	81.58	– –	– –
84:1	909-609	93.18	89.28	85.77	81.42	– –	– –
370:1	909-610	106.21	101.21	97.21	88.69	– –	– –
1621:1	909-622	117.91	112.94	108.52	94.84	– –	– –

6, 12 and 24 V dc, 22mm Diameter

maxon motor

With Spur and Planetary Gearheads

Spur Gearhead
Body : Dia =24
Shaft : L = 6.2, Dia = 3

Planetary Gearhead
Body : Dia = 22
Shaft : L = 9.1, Dia = 3

Motor

Voltage	Speed (RPM)	Power	Stall Torque(Nm)	Mftrs. List No.	Order Code
9V	6646	5W	0.0154	110119	909-634
18V	6646	5W	0.01506	110124	909-646
36V	6533	5W	0.0143	110127	909-658

Spur Gearhead

Motor Speed with Gearhead Fitted (RPM) 6V	12V	24V	Gearhead Reduction Ratio	Torque (mNm) Constant/Peak		Length with Motor Fitted	Mftrs. List No.	Order Code
923	923	907	7:1	100	150	45.6	110480	909-701
335	335	330	20:1	100	150	49.3	110481	909-713
205	205	202	32:1	100	150	49.3	110482	909-725
103	103	101	64:1	100	150	49.3	110483	909-737
51	51	50	130:1	100	150	49.3	110484	909-749
20	20	20	325:1	100	150	53.1	110486	909-762
Planetary Gearhead (High Torque)								
364	364	340	19:1	500	800	64.1	110338	909-660
79	79	77	84:1	800	1200	70.9	110339	909-671
18	18	17	370:1	1000	1600	77.7	110340	909-683
4.1	4.1	4	1621:1	1000	1600	84.5	110341	909-695

229309

	Order Code	Price Each 1+	5+	10+	25+	+	+
Motor Without Gearbox							
9V	909-634	88.92	85.15	81.84	75.73	– –	– –
18V	909-646	88.92	85.15	81.84	75.73	– –	– –
36V	909-658	84.50	76.05	71.83	66.95	– –	– –
Spur Gearhead							
7:1	909-701	78.16	75.14	69.71	59.73	– –	– –
20:1	909-713	84.30	76.63	70.23	64.84	– –	– –
32:1	909-725	84.30	76.63	70.23	64.84	– –	– –

Prices are in Singapore Dollars and exclusive of GST.
Due to the volatile nature of certain products, prices are subject to change without notice.

	Order Code	Price Each 1+	5+	10+	25+	+	+
Spur Gearhead							
64:1	**909-737**	101.01	96.40	92.92	82.23	– –	– –
130:1	**909-749**	101.01	96.40	92.92	82.23	– –	– –
325:1	**909-762**	135.58	129.55	124.35	108.88	– –	– –
Planetary Gearhead (High Torque)							
19:1	**909-660**	134.29	127.56	120.87	112.32	– –	– –
84:1	**909-671**	169.30	163.35	157.07	144.04	– –	– –
370:1	**909-683**	180.63	171.83	164.55	148.49	– –	– –
1621:1	**909-695**	186.63	180.73	173.91	151.39	– –	– –

12 and 24 V dc, 32mm Diameter

maxon motor

With Planetary Gearheads

Motor without Gearhead fitted Body: L = 60, Dia = 32. Shaft: L = 9.5, Dia = 4w

Planetary Gearhead (Metal Gears) Body: Dia = 32 Shaft: L = 17, Dia = 6

Motor

Voltage	Speed (RPM)	Power	Stall Torque(mNm)	Mftrs. List No.	Order Code
12V	4450	15W	90.4	242467	909-774
24V	5780	15W	120	242472	909-786

Planetary Gearhaed (Metal Gears)

Motor Speed with Gearhead Fitted (RPM) 12V	24V	Gearhead Reduction Ratio	Torque (Nm) Constant/Peak		Length with Motor Fitted	Mftrs. List No.	Order Code
927	1204	4.8:1	0.75	1.13	86.5	166156	909-853
249	324	18:1	2.25	3.38	96.4	166159	909-865
67	87	66:1	4.5	6.75	103.1	166165	909-877
40	52	25:1	4.5	6.75	103.1	166169	909-889
18	23	246:1	4.5	6.75	109.8	166174	909-890

204327

	Order Code	Price Each 1+	5+	10+	25+	+	+
Motor Without Gearbox							
12V	**909-774**	254.57	244.04	234.81	203.13	– –	– –
24V	**909-786**	254.57	244.04	234.81	203.13	– –	– –
Planetary Gearhead (Metal Gears)							
4.8:1	**909-853**	322.05	305.53	294.58	269.23	– –	– –
18:1	**909-865**	389.98	370.99	356.75	325.33	– –	– –
66:1	**909-877**	451.77	429.85	411.13	376.51	– –	– –
111:1	**909-889**	531.88	506.87	486.33	444.02	– –	– –
246:1	**909-890**	531.88	505.80	482.17	434.23	– –	– –

12 and 24 V dc, 40mm Diameter

maxon motor

With Through Shaft

- Dual shaft allows gearhead and encoder to be fitted
- Motors can be used with 42mm gearboxes using adapter kit

Body: L = 71 Diameter = 40 Shaft: L = 20.3 Diameter = 6 Rear Shaft: L = 15.6 Diameter = 4

Motor

Voltage	Speed(RPM)	Power	Stall Torque(mNm)	Mftrs. List No.	Order Code
12Vdc	6920	150W	1690	148866	415-8751
24Vdc	7580	150W	2290	148867	415-8763

242096

Motor	Order Code	Price Each 1+	5+	10+
12V dc	**415-8751**	601.25	571.19	514.09
24V dc	**415-8763**	621.19	– –	– –
Adaptor Kit For 42mm Gearheads	**415-8787**	55.12	52.36	47.13

12 and 24V dc, 32mm Diameter

Crouzet

With Ovoid Gearheads

Motor without Gearhead L=44.6, ∅=32 Axe L=12, ∅=2

Motor with Gearhead L=61.3, W=54.2, H=65.9, Shaft L=3.2, dia =8 fixing centers 47.6, ∅ 3.2

- Motor or Motor with fitted Gearbox options available
- Sintered bronze bearings lubricated for life
- High performance plastic gears
- Fitted with interference suppresion

Voltage	Motor Speed without Gearhead RPM	Torque (Nm)	Mftrs. List No.	Order Code
12V	5000	0.0077	82860003	599-803
24V	5000	0.0077	82860004	599-815

Motor Speed without Gearhead RPM	Torque (mNm)	Mftrs. List No. 12V	24V	Order Code 12V	24V
430	500	82861006.	82861015.	311-5525	311-5616
215	500				
143	500	82861008.	82861017.	311-5549	311-5630
108	500	82861009.	82861018.	311-5550	311-5641
54	500	82861010.		311-5562	
22	500	82861011.	82861020.	311-5574	311-5665
11	500	82861012.	82861021.	311-5586	311-5677
8.6	500	82861013.	82861022.		311-5689
3.6	500	82861014.	82861023.	311-5604	311-5690

204340

Output Speed (RPM)	Voltage	Order Code	Price Each 1+	10+	25+	50+	+
Motor Without Gearhead							
5000	12	**599-803**	76.21	71.11	66.69	58.18	– –
5000	24	**599-815**	76.21	71.11	66.69	58.18	– –

12V Motor with Fitted Gearhead

Output Speed (RPM)	Order Code	Price Each 1+	3+	10+
430	**311-5525**	106.43	98.31	79.63
143	**311-5549**	106.43	98.31	79.63
108	**311-5550**	106.43	98.31	79.63
54	**311-5562**	106.43	98.31	79.63
22	**311-5574**	106.43	98.31	79.63
11	**311-5586**	106.43	98.31	79.63
3.6	**311-5604**	106.43	98.31	79.63
24V Motor with Fitted Gearhead				
430	**311-5616**	106.43	98.31	79.63
143	**311-5630**	106.43	98.31	79.63
108	**311-5641**	106.43	98.31	79.63
22	**311-5665**	106.43	98.31	79.63
11	**311-5677**	106.43	98.31	79.63
8.6	**311-5689**	106.43	98.31	79.63
3.6	**311-5690**	106.43	98.31	79.63

DC Motors Geared

Geared DC Instrument Motors 1271 Series

Mclennan

- Suitable to a wide range of applications
- Small sized unit
- The integral iron core motor provides smooth operation
- Has bi-directional variable speed capability
- Gearhead utilises a multi-stage metal spur gear train
- Working torque rated up to 0.2Nm
- Suitable for mounting in any attitude
- Reliable over a wide ambient temperature range
- Equipped with integral VDR electrical suppression

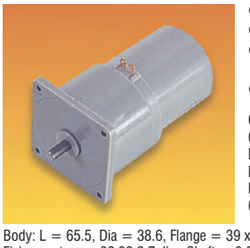
Overall Length	Gear Ratio	Nominal Voltage	No-load Speed	Rated Speed	Rated Torque (Ncm)	Rated Current (mA)	Mass (grams)	Order Code
51.5	21:1	12	125	80	2.5	50	55	399-9919
56.5	43:1	12	60	40	3.8	50	57	399-9920
56.5	90:1	12	30	18	8.0	50	58	399-9932
61.5	188:1	12	14	9	14	50	59	400-0961

Body diameter 27 mm
Max. No load current 20 mA
Max. Radial shaft load 10 N
Max. Axial shaft load 5 N
Ambient temperature range -20°C to +60°C

250201

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
1271-12-21	**399-9919**	46.31	42.51	38.61
1271-12-43	**399-9920**	46.31	42.51	38.61
1271-12-90	**399-9932**	48.20	44.66	40.59
1271-12-188	**400-0961**	48.20	44.66	40.59

12 Volt dc Geared



- High quality, long life 12Vdc motors
- Integrated gearboxes
- Permanent magnet stator, flat commutator and built-in spark suppressor
- Chemical resistant polyacetal housing

Current @ no load	45mA
Current @ nominal torque	185mA
Nominal operating voltage	12V dc
Maximum voltage	18V dc
Direction of rotation	Reversible
Operating temperature	-20°C to +60°C

Body: L = 65.5, Dia = 38.6, Flange = 39 x 39
Fixing centres = 32 32 2.7 dia., Shaft = 8.5 4.0 dia.

RoHS ● Compliant ◀ Non-compliant ++ Limited stock - RoHS replacement available

(Shaft Speed RPM)	Reduction Ratio	Torque (Nm)	Mftrs. List No.	Order Code
60	50:1	0.125	9904-120-52605	147-873
330	9:1	0.025	9904-120-52602	147-874

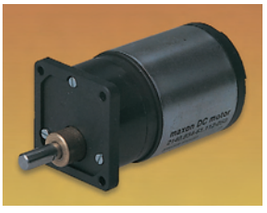
204358

	Price Each				
Order Code	1+	5+	25+	100+	+
147-873	69.96	63.47	61.10	49.43	– –
147-874	69.96	63.47	61.10	49.43	– –

12 and 24V dc 40mm Diameter

maxon motor

Spur Gearheads



Motor with Gearhead fitted
Body: L = 68 (18:1 and 30:1 gearbox fitted), 70 (60:1 and 100:1), 73 (200:1), 75 (500:1 and 900:1)
Dia. = 40, Flange = 38 38,
Fixing centres = 30.5 30.5 2.6
Shaft Dia. = 15 6 dia.

- High quality reversible motor
- Ironless rotor gives excellent linear speed-torque performance
- Precious metal brush commutation guarantees low contact resistance, low starting voltage, low electrical interference and high efficiency
- Matching spur gearheads have steel gears on bronze shafts
- Flat on output drive shaft for easy load coupling

Motor Speed without Gearhead RPM		Torque(Nm)	Mftrs.	
Voltage	RPM	Constant/Peak	List No.	Order Code
12V	4090	0.01366/0.0319	2140.934-61.112-050	650-304
24V	4110	0.013/0.03	2140.937-61.112-050	650-316

Motor Speed with Gearhead Fitted (RPM)		Gearhead	Torque(Nm)	Mftrs.	
12V	24V	Reduction Ratio	Constant/Peak	List No.	Order Code
220	230	18:1	0.2/0.6	110453	650-328
135	140	30:1	0.2/0.6	110454	650-330
65	70	60:1	0.3/0.9	110455	650-341
40	42	100:1	0.6/1.8	110456	650-353
20	21	200:1	0.6/1.8	110457	650-365
8	8	500:1	0.6/1.8	110458	650-377
4	4	900:1	0.6/1.8	110459	650-389

204317

Motor without Gearhead	Order Code	Price Each 1+	10+	20+	50+	+
12V	**650-304**	97.14	87.43	80.60	75.66	– –
24V	**650-316**	98.15	88.34	81.45	76.54	– –
Gearhead						
18:1	**650-328**	79.72	71.76	66.17	62.17	– –
30:1	**650-330**	92.76	83.46	76.96	72.31	– –
60:1	**650-341**	92.76	83.46	76.96	72.31	– –
100:1	**650-353**	100.33	90.29	83.27	78.23	– –
200:1	**650-365**	100.33	90.29	83.27	78.23	– –
500:1	**650-377**	100.33	90.29	83.27	78.23	– –
900:1	**650-389**	100.33	90.29	83.27	78.23	– –

12 or 24V dc Geared Motor

Crouzet

- Speed range from 1.5 to 441 rpm
- Mechanical resistance gearhead : 0.5Nm, sintered metal gears
- Fitted with interference suppression
- Output Power = 3.9 watt

231250

	Speed (RPM)		Price Each		
12 V		Order Code	1+	3+	10+
	441	**307-9521**	161.88	129.45	105.62
	141	**307-9533**	161.88	129.45	105.62
	45	**307-9545**	161.88	129.45	105.62
	5	**307-9594**	177.58	142.06	116.07
	1.5	**307-9600**	177.58	142.06	116.07
24 V					
	441	**307-9557**	161.88	129.45	105.62
	141	**307-9569**	161.88	129.45	105.62
	45	**307-9570**	161.88	129.45	105.62
	14	**307-9612**	177.58	142.06	116.07
	5	**308-7323**	177.58	142.06	116.06
	1.5	**308-7335**	177.58	142.06	110.48

12V and 24V dc geared motor

Crouzet

- Speed range from 5.2 to 208 rpm
- Mechanical resistance of the gearhead : 0.5Nm
- Motor maximum power : 17W

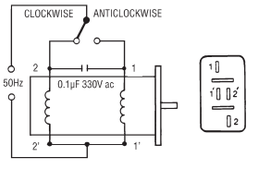
227051

SPAN ER-ROR	Order Code	Price Each 1+	3+	10+
12 Vdc				
208	**308-9526**	357.17	283.08	217.16
104	**308-9538**	357.17	283.08	217.20
42	**308-9691**	357.17	283.08	212.06
21	**308-9708**	357.17	283.08	217.20
5.2	**308-9710**	357.17	283.08	217.20
24 Vdc				
104	**308-9733**	357.17	283.08	217.20
62	**308-9745**	357.17	283.08	217.20
21	**308-9514**	357.17	283.08	217.20

Medium Duty AC Motors

240V ac Synchronous

PREMOTEC



Body: L=25, Dia.=51. Shaft=8.2x3.0 dia. Fix. Cent.=60.2x3.5 dia. (if mounting ears fitted)

- Suitable for ac servo systems where instant start/stop and reverse is required
- Requires 0.1µF 350V ac capacitor for operation (not supplied)
- Available with or without mounting ears
- Gearboxes also available

Current	16mA	Torque	20mNm
Power consumption	3.5W	Required phasing capacitor	0.1µF @ 330V ac
Operating voltage	240V ac -15%+10%	Operating temperature	-20°C to +60°C

Shaft Speed (RPM)	Mftrs. List No.	Order Code
250	9904-111-31104	147-876 or 147-877

220488

	Order Code	Price Each 1+	5+	25+	100+	+
With mounting ears	**147-876**	84.53	75.40	65.36	50.70	– –
Without mounting ears	**147-877**	87.65	77.35	67.05	52.03	– –

Gearboxes

Body: H = 63, W = 50, D = 16.5,
Shaft = 10 4 dia

When used in synchronous and stepper motors, 147-878, 147-879, the motors must be ordered without mounting ears fitted. Supplied with full instructions. The motor pinion may be fitted to the motor using Loctite Grade 601 (Order Code 146-317), see **Page «146317».**

- Suitable for use with the dc servo, ac synchronous and four phase stepper motors, 147-878, 147-879
- Based on the international ovoid standard
- Internal components provide hig efficiency and reliable operation in applications demanding long life

Ratio	dc Servo Speed RPM	Sync Motor Speed	Stepper Motor Step Angle	Order Code
25:3	360	30rpm	0.9	147-880
25:2	250	20rpm	0.6	147-881
25:1	120	10rpm	0.3	147-882
50:1	60	5rpm	0.15	147-883
125:1	25	2rpm	0.06	147-884
250:1	12	1rpm	0.03	147-885
1250:1	2.5	0.2revs/hr.	0.36	147-886
15000:1	0.2	0.016rev/hr.	0.03	147-887

Prices are in Singapore Dollars and exclusive of GST.
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/220490

Ratio	Order Code	Price Each 1+	10+	25+	50+
25:3	**147-880**	58.01	51.35	45.96	40.82
25:2	**147-881**	55.06	49.43	46.90	44.98
25:1	**147-882**	55.06	49.43	46.90	44.98
50:1	**147-883**	55.06	49.43	46.90	44.98
125:1	**147-884**	60.26	54.44	51.35	49.50
250:1	**147-885**	60.26	54.44	51.35	49.50
1250:1	**147-886**	77.87	69.26	61.59	55.89
15000:1	**147-887**	86.06	78.68	74.13	71.21

Multi-role Instrument Gearhead MRIG Series

Mclennan

- Robust design
- Precision die-cast housing
- Hardened metal spur gear train
- Ideal for heavy duty instrumentation drives or light duty industrial drives
- Max. peak torque output 7 Nm

H = 66, W = 66, L.body = 41, L.shaft = 25, Dia.shaft = 8

Gear ratio	Number of stages	Direction of rotation	Efficiency	Max.continuous output torque (Nm)	Order Code
5:1	3	opposite	72%	1.5	399-9968
25:2	3	opposite	72%	2.5	399-9970
100:1	5	opposite	58%	4	410-1777

Max. peak output torque	7 Nm	Max. recommended continuous input speed	1600 rpm
Max. motor input shaft dia.	6.35 mm	Bearings	Sleeved
Suitable motors	ac synchronous stepper dc servo brushless dc	Max. axial load	80 N
		Max. radial load (at shaft centre)	80 N

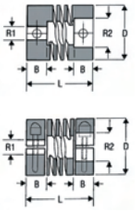
250221

Mftrs List No.	Order Code	Price Each 1+	5+	10+
MRIG02S	**399-9968**	146.19	138.87	131.66
MRIG06S	**399-9970**	146.19	138.87	131.66
MRIG22S	**410-1777**	185.22	175.96	169.98

Motor Couplings

Panamech Multi-Beam Couplings

HUCO



- One piece construction
- Zero backlash
- Torsionally rigid
- No lubrication needed
- Constant velocity
- High flexible
- For use with high or low speeds
- Can be reversed
- Allowable misalignment 5°/ 0.13mm
- Available with clamp or set screw fixings

A range of multi-beam flexible couplings designed to perform where higher speeds, greater misalignment and limited lubrication would exceed the capabilities of other couplings. Both styles are manufactured from aluminium and are of one piece construction. Typical applications would include stepper motors, rotary encoders, robotics, pumps, measuring instruments, valves etc.

Clamp Screw Fixing

Model	Bore 'R1' & 'R2'	D	L	B	Cap Screw	Angular Offset	Parallel Offset	Working Torque Nm	Order Code
DBCR3	3x3	12.7	19.05	6,0	M2	5°	0,127	1,46	721-4704
DBCR3	4x4	12.7	19.05	6,0	M2	5°	0,127	1,4	721-4716
DBCR3	4x5	12.7	19.05	6,0	M2	5°	0,127	0,9	721-4728
DBCR4	4x4	19.05	22.86	7,0	M2.5	5°	0,127	4,06	721-4730
DBCR4	5x5	19.05	22.86	7,0	M2.5	5°	0,127	4,06	721-4741
DBCR4	6x6	19.05	22.86	7,0	M2.5	5°	0,127	4,0	721-4753
DBCR4	0.25x0.25	19.05	22.86	7,0	M2.5	5°	0,127	3,2	721-4765
DBCR5	6x6	25.4	31.75	10,0	M3	5°	0,127	6,5	721-4777
DBCR5	8x8	25.4	31.75	10,0	M3	5°	0,127	5,9	721-4789
DBCR5	10x10	25.4	31.75	10,0	M3	5°	0,127	4,3	721-4807
DBCR6	10x10	31.75	44.45	12,0	M4	5°	0,127	9,7	721-4819
DBCR6	12x12	31.75	44.45	12,0	M4	5°	0,127	7,2	721-4820

Set Screw Fixing

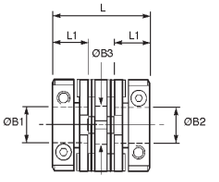
Model	Bore 'R1' & 'R2'	D	L	B	Cap Screw	Angular Offset	Parallel Offset	Working Torque Nm	Order Code
DBSR2	3x3	9.52	14.2	2,8	M2.5	3°	0,1	0,65	721-4832
DBSR3	3x3	12.7	19.05	6,0	M3	5°	0,127	1,46	721-4844
DBSR3	4x4	12.7	19.05	6,0	M3	5°	0,127	1,4	721-4856
DBSR3	5x5	12.7	19.05	6,0	M3	5°	0,127	0,9	721-4868
Set Screw Fixing									
DBSR4	4x4	19.05	22.86	7,0	M4	5°	0,127	4,06	721-4870
DBSR4	5x5	19.05	22.86	7,0	M4	5°	0,127	4,06	721-4881
DBSR4	6x6	19.05	22.86	7,0	M4	5°	0,127	4,0	721-4893
DBSR4	0.25x0.25	19.05	22.86	7,0	M4	5°	0,127	3,2	721-4900
DBSR5	6x6	25.4	31.75	10,0	M5	5°	0,127	6,5	721-4911
DBSR5	8x8	25.4	31.75	10,0	M5	5°	0,127	5,9	721-4923
DBSR5	0.375x0.375	25.4	31.75	10,0	M5	5°	0,127	4,52	721-4935
DBSR5	10x10	25.4	31.75	10,0	M5	5°	0,127	4,3	721-4947
DBSR6	10x10	31.75	44.45	12,0	M6	5°	0,127	9,75	721-4959

221344

	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
Clamp Fixing						
3x3	725.13.1414	**721-4704**	33.24	30.75	28.59	26.70
4x4	725.13.1818	**721-4716**	33.24	30.75	28.59	26.70
4x5	725.13.1820	**721-4728**	33.24	30.75	28.59	26.70
4x4	725.19.1818	**721-4730**	39.60	36.63	34.05	31.83
5x5	725.19.2020	**721-4741**	39.60	36.63	34.05	31.83
6x6	725.19.2222	**721-4753**	39.60	36.63	34.05	31.83
0.25x0.25	725.19.2424	**721-4765**	39.60	36.63	34.05	31.83
6x6	725.25.2222	**721-4777**	47.70	44.10	41.01	38.31
8x8	725.25.2828	**721-4789**	47.70	44.10	41.01	38.31
10x10	725.25.3232	**721-4807**	47.70	44.10	41.01	38.31
10x10	725.32.3232	**721-4819**	76.59	70.80	65.85	61.53
12x12	725.32.3535	**721-4820**	76.59	70.80	65.85	61.53
Set Screw Fixing						
3x3	724.09.1414	**721-4832**	27.81	25.71	23.88	22.32
3x3	724.13.1414	**721-4844**	26.07	24.12	22.41	20.94
4x4	724.13.1818	**721-4856**	26.07	24.12	22.41	20.94
5x5	724.13.2020	**721-4868**	26.07	24.12	22.41	20.94
4x4	724.19.1818	**721-4870**	29.40	27.18	25.26	23.61
5x5	724.19.2020	**721-4881**	29.40	27.18	25.26	23.61
6x6	724.19.2222	**721-4893**	29.40	27.18	25.26	23.61
0.25x0.25	724.19.2424	**721-4900**	29.40	27.18	25.26	23.61
6x6	724.25.2222	**721-4911**	35.13	32.49	30.21	28.23
8x8	724.25.2828	**721-4923**	35.13	32.49	30.21	28.23
0.375x0.375	724.25.3131	**721-4935**	35.13	32.49	30.21	28.23
10x10	724.25.3232	**721-4947**	35.13	32.49	30.21	28.23
10x10	724.32.3232	**721-4959**	59.28	54.78	50.94	47.61

Huco-Flex M, Short Spacer

HUCO



∅D	L	[1]L1	∅B1 & B2	Screw Size	Moment of Inertia kgm^2 - 10^5	Order Code
25.6	28.4	10.0	6x6	M2.5	16	707-2715
33.5	40.1	14.0	0.375x0.375	M3	73	707-2740
33.5	40.1	14.0	10x10	M3	73	707-2764
41.5	48.5	17.0	16x16	M4	222	707-2776

1. Length of supported through bore. Shafts can near-butt.

Peak Torque Nm	Max. Compliance Angular	Max. Compliance Radial mm	Max. Compliance Axial ±mm	Torsional Nm/rad	Order Code
0.9	4	0.2	0.2	150	707-2685
2.3	4	0.2	0.2	385	707-2715
2.3	4	0.2	0.2	385	707-2727
2.3	4	0.2	0.2	385	707-2739
5.6	3	0.2	0.2	935	707-2740
5.6	3	0.2	0.2	935	707-2764
11.3	2	0.2	0.2	1980	707-2776

/229791

Size	Bore	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
26	6mm x 6mm	466P26.2222.F	**707-2715**	47.30	45.60	44.04	42.58
33	0.375" x 0.375"	466P33.3131.F	**707-2740**	52.54	47.23	44.82	43.52
33	10mm x 10mm	466P33.3232.F	**707-2764**	52.54	47.23	44.82	43.52
41	16mm x 16mm	466P41.4242.F	**707-2776**	67.70	60.87	57.74	56.08

Oldham Couplings

HUCO

Standard set screw, X-Y through series

- Backlash-free
- Flex-free mechanical action - low bearing loads
- High radial misalignment capability
- Torsionally stiff with alternative shock absorbing wear element
- Electrically isolating
- Low inertia
- Mix & Match hubs for a range of shaft combinations
- Max. speed: 3000rpm

● Compliant
● ◀ ++ Non-compliant
Limited stock - RoHS replacement available

RoHS

A robust three-part coupler rated for intermittent operation, the Huco Oldham has zero backlash, high torsional stiffness and offers easy connection of drives in blind or difficult installations. The Oldham is widely used for motion control, typically in positioning tables, fluid delivery, optical systems and similar applications.

Components

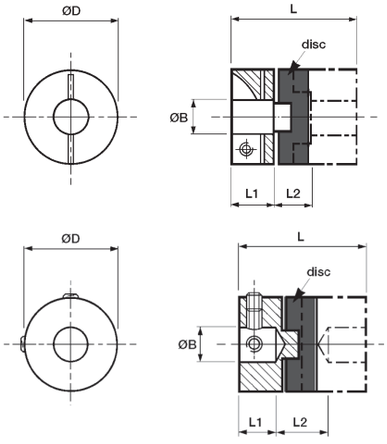
The Huco Oldham coupler consists of two hubs + one torque disc. The hubs determine the method of installation and shaft attachment, the discs determine the quality of motion. The two hub styles and two disc materials that comprise the range are fully interchangeable within each of the several sizes available. To take advantage of this flexibility, hubs and discs are specified and supplied separately. Through-bored hubs are recommended when backlash-free life is a primary consideration. The protective coating applied to these hubs has a lower abrasion factor, giving between two-three times more freedom from backlash than blind hubs.

mot16/221356

Oldham Coupling, Through-Bore X-Y Series

Clamp Style

Set Screw Style



∅D	L	[1]L1	[2]L1	∅B Max. Bores	Screw Size	[3]Moment of Inertia kgm^{2}x10^5	Order Code
19.1	26	9.4	7.2	4	4-40	59	707-5923
19.1	26	9.4	7.2	5	4-40	59	707-5935
19.1	26	9.4	7.2	6	4-40	59	707-5947
19.1	26	9.4	7.2	6.35	4-40	59	707-5959
25.4	32.4	11.6	9.2	6	M3	252	707-5856
25.4	32.4	11.6	9.2	6.35	M3	252	707-5868
25.4	32.4	11.6	9.2	8	M3	252	707-5870
33.3	48.0	15.0	18.0	8	M3	1133	707-5960
33.3	48.0	15.0	18.0	10	M3	1133	707-5984
41.3	50.8	17.8	15.3	12	M4	3177	707-5900

1. Max. permissible shaft penetration with standard disc.
2. Min. distance between shafts with standard disc.
3. Values apply to complete couplers with Max. bores

Static Break Torque Nm	[1]Peak Torque Nm	Max. Offsets Angular °	Max. Offset Radial MM	Max. Offsets Axial MM	Mftrs. List No.	Order Code
10	1.6	1	2.0	0.20	453P19.18.F	707-5923
10	1.6	1	2.0	0.20	453P19.20.F	707-5935
10	1.6	1	2.0	0.20	453P19.22.F	707-5947
10	1.6	1	2.0	0.20	453P19.24.F	707-5959
13	3.4	1	2.8	0.20	452P25.22.F	707-5856
13	3.4	1	2.8	0.20	452P25.24.F	707-5868
13	3.4	1	2.8	0.20	452P25.28.F	707-5870
53	9	1	3.6	0.25	453P33.28.F	707-5960
53	9	1	3.6	0.25	452P33.32.F	707-5984
57	18	1	4.5	0.25	452P41.35.F	707-5900

Maximum offset values are mutually exclusive
1. Couplers can sustain 10^6 minimum reversal cycles at these values

Mot17/221367

∅	Bore	Order Code	Price Each 1+	5+	10+	15+	+
19.1	4mm	**707-5923**	11.88	11.26	10.79	– –	– –
19.1	5mm	**707-5935**	11.88	11.26	10.71	9.90	– –
19.1	6mm	**707-5947**	11.88	11.26	10.71	9.90	– –
19.1	6.35mm	**707-5959**	11.88	11.26	10.71	9.90	– –
25.4	6mm	**707-5856**	16.54	15.56	14.78	13.64	– –
25.4	6.35mm	**707-5868**	16.54	15.56	14.78	13.64	– –
25.4	8mm	**707-5870**	16.54	15.56	14.78	13.64	– –
33.3	8mm	**707-5960**	18.52	17.54	16.67	15.40	– –
33.3	10mm	**707-5984**	25.11	23.79	22.59	19.38	– –
41.3	12mm	**707-5900**	19.90	– –	– –	– –	– –

Stepper Motors

Size 16 Hybrid Stepper Motor 1.8°

Mclennan

- High dynamic performance
- Ideal for instrumentation drives
- Compact dimensions
- Provides 200 steps/revolution
- Holding torque 5 Ncm
- Uni-polar operation

H = 39, W = 39, L.body = 20.5, L.shaft = 24

Holding Torque (Ncm)	Resistance per phase (ohms)	Current per phase amps)	Inductance per phase(mH)	Number of leads	Order Code
5	24	0.26	12.5	6	410-1789

250217

Mftrs List No.	Order Code	Price Each 1+	5+	10+
16HS006	**410-1789**	79.24	75.27	71.05

Precision Geared Stepper Motors

Mclennan

- High performance
- Precision ovoid gearhead
- Metal gears for optimum torque transmission
- Range of 5 standard gear ratio options
- Holding torque up to 80 Ncm
- 4 phase operation

Body: L = 53
Diameter = 36
Shaft: L = 12.8
Diameter = 3.7

Ratio	Holding Torque (Ncm)	Max working Torque (Ncm)	Typical working Torque (Ncm)	Mftrs. List No	Order Code
25:3	16.2	10.2	6.0	P535L482U-G04L82	415-8490
25:2	21.9	13.8	8.1	P535L482U-G06L82	415-8507
25:1	43.9	27.6	16.3	P535L482U-G11L82	415-8519
50:1	80.0	55.3	32.5	P535L482U-G17L82	415-8520
250:3	80.0	80.0	48.3	P535L482U-G21L82	415-8532

Rated Voltage (LR Drive)	12 V
Current Per Phase	180 mA
Resistance Per Phase	64 Ω

242869

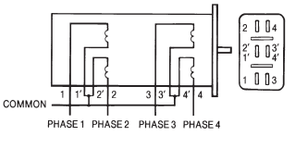
Steps Per Revolution	Order Code	Price Each 1+	5+	10+
400	**415-8490**	111.28	105.72	95.16
600	**415-8507**	112.84	107.19	96.46
1200	**415-8519**	116.03	110.24	99.22
2400	**415-8520**	116.03	110.24	99.22
4000	**415-8532**	119.41	113.43	102.08

A range of 7.5° and 1.8° bi-directional stepper motors suitable for any application that requires accurate positioning and accurate repeatability of that position. Applications include: Gaming machines, vending machines, peristaltic pumps, printers, photocopiers, plotters, welding machines, N.C machines, computer peripherals etc.

213837

Four Phase Unipolar, 7.5°

PREMOTEC



Body: L=25, Dia.=51, Shaft=8.2x3.0 dia. Fix. Cent.=60.2x3.5 dia (if mounting ears fitted)

- Designed for operation within the pull-in area giving optimum torque and speed
- Bifilar wound coils
- Connections arranged to permit only one RC Network to improve current rise time when used with the SAA1027 driver IC
- Available with or without mounting ears
- Gearboxes available

Step Angle	7°30'	Maximum pull-in rate	240 Steps/s
Resistance per Phase	65Ω	Power consumption	3.8W
Holding Torque	28mNm	Current Per Coil	175mA
Maximum Working Torque	20mNm		

Shaft dia.	Mftrs. List No.	Order Code
3mm	9904-112-31004	147-878
3mm	9904-112-31004-2108	147-879

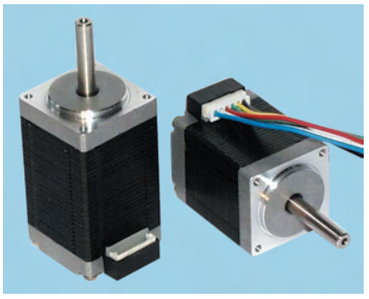
220489

	Order Code	Price Each 1+	5+	25+	100+	+
With mounting ears	**147-878**	70.88	63.31	54.89	42.58	– –
Without mounting ears	**147-879**	73.91	65.88	57.20	44.33	– –

Mini Hybrid Stepper Motors

ASTROSYN

NEW



Size 11

Size 14

- High torque in compact size
- Unipolar and bipolar operation
- Light weight
- Low noise
- Low inertia rotor
- High accuracy 1.8° step angle
- Frame size 11 (28x28mm) or 14 (35x35mm)

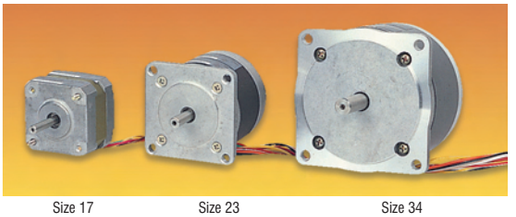
Frame Size	Weight	Shaft Length	Body Length	Order Code
11	140g	24mm	40mm	842-5868
11	200g	24mm	50mm	842-5876
14	180g	24mm	34mm	842-5884
14	150g	24mm	26mm	842-5892
14	150g	24mm	26mm	842-5906
14	90g	20mm	20mm	842-5914

Step Angle	Holding Torque	No. of Leads	Phase Current	Phase Resistance	Phase Inductance	Order Code
1.8°	7N cm	6	0.95A	3.4R	1.6mH	842-5868
1.8°	9N cm	6	0.95A	4.6R	2.3mH	842-5876
1.8°	11N cm	4	0.75A	5.7R	7mH	842-5884
1.8°	7N cm	4	0.75A	4.3R	4mH	842-5892
1.8°	8N cm	6	0.76A	10.5R	4.8mH	842-5906
1.8°	5N cm	6	0.4A	22R	10mH	842-5914

380873

Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
MY3002	**842-5868** ●	74.02	66.66	60.60	53.40
MY5002	**842-5876** ●	74.02	66.66	60.60	53.40
MY4001	**842-5884** ●	74.02	66.66	60.60	53.40
MY5401	**842-5892** ●	74.02	66.66	60.60	53.40
MY5602	**842-5906** ●	74.02	66.66	60.60	53.40
MY7001	**842-5914** ●	74.02	66.66	60.60	53.40

Hybrid 1.8° Step Angle



Size 17
Body: H=42,
W=42, D=33
Shaft: 24x5.0 dia

Size 23
Body: H=57.2,
W=57.2, D=51
Shaft: 20.6x6.35 dia

Size 34
Body: H=82, W=82,
D=61 (93, 586-419)
Shaft: 30.5x9.52 dia

- 4 phase hybrid construction gives a much higher working torque than permanent magnet types
- Very high resolution 1.8° step angle
- 6 and 8 leads - can be bipolar or unipolar driven
- Model 713-4423 manufactured with rear shaft

Rated Voltage (V)	Current Rated (A)	Resistance Per Phase (Ω)	Inductance Per Phase (mH)	Detent Torque (mNm)	Holding Torque (mNm)	Step Angle	Body Size	Order Code
12	0.16	75	60	6	54	1.8°	17	959-8642
5	1	5	9.5	60	500	1.8°	23	959-8650
						°		959-8693
3	1.7	1.8	10	100	1200	1.8°	34	959-8669
2.5	4.6	0.55	16	160	2300	1.8°	34	959-8677

220494

Body Size	Holding Torque (mNm)	Order Code	Price Each 1+	5+	10+	25+
17	54	**959-8642**	67.50	57.36	50.60	45.57
23	500	**959-8650**	101.78	86.48	76.30	64.31
		959-8693	97.50	85.80	78.65	69.52
34	1200	**959-8669**	188.08	166.17	155.77	135.43
34	2300	**959-8677**	240.66	216.78	204.65	180.60

Hybrid, High Torque 1.8° Step Angle

SANYO DENKI

Size 17
Body: H=42
W=42, D=32
(39, 800-1839)
(41, 720-460)
(48, 800-1847)
Shaft: 24x5 dia

Size 23
Body: H=56
W=56, D=53.8
(75.8, 800-1855)
Shaft: 21x6.35 dia

Size 24
Body: H=82, W=60
D=53.8 (85.8, 635-236)

Size 34
Body: H=82, W=82
D=62,(92.2, 635-248, 25.9 635-250)
Shaft: 30x12 dia.
Keyway L=25,
W=4, D=2.5

- 2 phase hybrid rare earth magnet technology offering 15% to 20% more torque than standard hybrid types
- New size 17 motors achieving 10-37% more torque from improved construction and materials
- New length size 23 motor for improved torque performance
- Improved high speed operation, low noise and low vibration
- Very high positional accuracy, designed for micro-stepping
- Can be unipolar or bipolar driven (bipolar only size 34)
- Integrated JST connector supplied with new size 17 and 24 frame size (mating connectors and contacts supplied)
- Suitable for use with Farnell In One drives, codes: 388-737 and 388-749

220496

Body Size	Holding Torque (Nm)	Order Code	Price Each 1+	5+	10+
17	0.147	**994-8252**	83.23	77.34	70.40
17	0.265	**994-8260**	88.78	82.49	75.09
17	0.3	NEW **800-1839**	114.67	110.52	97.90
17	0.37	NEW **800-1847**	133.82	127.63	116.04
23	0.83	**994-8279**	147.15	141.49	128.80
23	1.27	NEW **800-1855**	206.47	194.15	171.65
24	1.17	**994-8120** ●	157.25	146.11	133.01
24	2.1	**994-8139** ●	202.82	188.46	171.56
34	2.75	**994-8287**	326.45	303.32	276.12
34	5.09	**994-8147** ●	396.00	367.95	334.95
34	7.44	**994-8155** ●	732.96	681.04	619.96

Hybrid, High Torque with Rear Shaft

Size 23
Body: H=57.2
W=57.2, D=55 391-2681, D=78.5 391-2693
Shaft: 20.6x6.35 dia 391-2681
20.6x8 dia 391-2693
Rear shaft: L=19

Size 34
Body: H=86, W=86
D=67 391-2700,D=94 391-2711, D=125 3912723
Shaft: L=30.2x9.525 dia.
Rear shaft:L=28.5

- High quality NEMA 23 & 34 frame size motors
- High energy magnet technology provides typically 50% more torque than standard hybrid types
- Rear shaft for fitting encoders, handwheels, parking brakes etc.
- High resolution (1.8 degree step size) also suitable for half stepping and microstepping
- 8 lead connection suitable for 4 phase Uni-polar drives and Bi-polar drives with series or parallel connected coils

Uni-polar Uni Polar	Rated Current Bi Polar Coils in Series	Rated Coils in Parallel	Resistance Per Phase (Ω)	Inductance Per Phase (mH)	Holding Torque (Nm)	Step Angle	Body Size	Order Code
1.0	0.7	1.4	6.2	8.8	0.98	1.8°	23	391-2681
3.0	2.1	4.2	1.1	1.7	1.63	1.8°	23	391-2693
4.3	3.0	6.0	0.55	2.1	2.8	1.8°	34	391-2700
4.3	3.0	6.0	0.75	3.5	4.8	1.8°	34	391-2711
6.4	4.0	8.5	0.5	2.5	7.6	1.8°	34	391-2723

233665

Body Size	Holding Torque (Nm)	Order Code	Price Each 1+	5+	10+
23	0.98	**391-2681**	197.34	187.46	177.58
23	1.63	**391-2693**	265.20	251.94	238.68
34	4.8	**391-2711**	403.00	382.85	362.70
34	7.6	**391-2723**	581.75	552.66	523.58

● Compliant
◀ Non-compliant
++ Limited stock - RoHS replacement available

RoHS

Stepper Motor Drivers

Bi-polar Stepper Motor Drive

Mclennan

- High performance
- Increased efficiency
- No heatsink required
- Single rail supply for both logic and motor
- Standard thermal protection and condition monitoring
- Designed for mounting in 3U high Euro-racks

H = 100, W = 60, L = 160

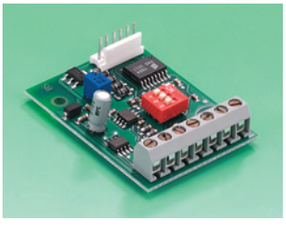
Supply Voltage	15 - 42 Vdc
Logic Supply Voltage	No seperate supply required, use motor supply
Current consumption range	1 - 3 Amps
Output stage	2 Phase Bi-polar, chopped constant current set by on-board DIP switch
Step logic	Full step / half step
Output current per phase	0.5 - 3.5 Amps
Control signals	CMOS Schmitt trigger inputs operating at +12V with 10KΩ pull up resistors and diode isolation Logic 0 (low) 0V to +2V Logic 1 (high) +9V to +30V max.
Mftrs.List No	MSE570 EVO 2

242870

Order Code	Price Each 1+	5+	10+
415-8544	372.03	353.44	318.11

Stepper Motor Driver, Unipolar 0.5A

saia-burgess



- Simple to use Unipolar (4 Phase) stepper drive
- Compact size only 80mm by 40mm
- Full step and half step modes
- On board internal clock, external LS, TTL frequency can also be used
- Rated at 350mA per phase at 24V
- Fitted wit a MTA100 6 way header

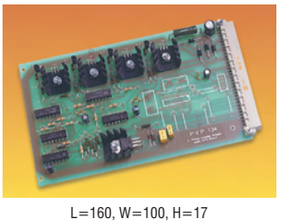
L=55, W=40, H=15

Supply Voltage	7-24V dc	Step Frequency	40 to 300Hz adjustable
Motor output	350mA per phase (typ), 500mA(max)	Ambient Operating Temperature	0°C to 40°C

231230

Order Code	Price Each 1+	5+	10+	25+	+
318-7585	73.89	65.75	63.08	62.66	– –

Stepper Motor Driver - Unipolar, 2A



L=160, W=100, H=17

- Designed to match a wide range of permanent magnet and hybrid stepper motors having 6 or 8 lead configurations
- Full logic translation providing full step and half step modes
- Simple control interface requiring only a pulse and direction input
- Single rail operation - can drive motors up to 2 Amps per phase at 30V dc
- Standard single Eurocard with 32 way DIN 41612 style B connection
- Supplied with comprehensive instructions

Supply Voltage	15-30V dc (+10% max)
Current Consumption:	
Board Only	60mA
Motor Output	2A per phase max (current sinking)
Aux output	+12V dc, 50mA max
Max input frequency (clock)	30kHz(minimum pulse width 5µs)
Control Inputs	CMOS schmitt trigger inputs operating at +12V with 10 KΩ pull ups Logic 0 (Low) 0V to +2V Logic 1 (High) +9V to +15V

231231

Order Code	Price Each 1+	5+	10+	25+	+
959-8685	86.20	78.72	77.85	73.01	– –

High Performance Microstepping Driver

ASTROSYN

NEW

- High performance microstepping driver suitable for 2 and 4 phase hybrid steppers
- Advanced bipolar constant-current chopper circuit with current control technology
- Suited to motion control applications requiring low noise, low vibration, high speed and high precision
- Supply voltage to 40V dc, current to 3.5A
- Inaudible 20kHz chopping frequency
- TTL compatible and optically isolated input signals
- Automatic idle current reduction
- Mixed-decay current control for reduced motor heating
- 14 selectable step resolutions in decimal and binary
- Microstepping to 51200 steps/revolution
- Suitable for 4, 6 or 8 lead wire motors
- Overcurrent, overvoltage and short circuit protected
- Compact size

Electrical	
Drive Current	Adjustable from 1.3 to 3.5A
Supply Voltage	Input voltage from 24 to 40V dc
Step Control	Half step or microstepping
Control Inputs	Connections for pulse, direction and enable signals
Pulse Signal	Speed control to maximum frequency 300kHz
Direction Signal	Clockwise or counter-clockwise rotation
Enable Signal	Driver enable or disable
Logic Signals	Current from 6 to 30mA
Mechanical	
Material	Black coated aluminium with integral heatsink
Mounting	Free standing or via mounting holes
Dimensions	45x132x76mm
Weight	0.355kg

380874

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
P403	842-5922	463.54	427.64	395.25

High Performance Microstepping Driver

ASTROSYN

NEW

- High performance microstepping driver suitable for 2 and 4 phase hybrid steppers
- Advanced bipolar constant-current chopper circuit with current control technology
- Suited to motion control applications requiring low noise, low vibration, high speed and high precision
- Supply voltage to 90V dc, current to 7.7A
- Inaudible 20kHz chopping frequency
- TTL compatible and optically isolated input signals
- Automatic idle current reduction
- Mixed-decay current control for reduced motor heating
- 14 selectable step resolutions in decimal and binary
- Microstepping to 51200 steps/revolution
- Suitable for 4, 6 or 8 lead wire motors
- Overcurrent, overvoltage and short circuit protected
- Compact size

Electrical	
Drive Current	Adjustable from 2.8 to 7.7A
Supply Voltage	Input voltage from 24 to 90V dc
Step Control	Half step or microstepping
Control Inputs	Connections for pulse, direction and enable signals
Pulse Signal	Speed control to maximum frequency 300kHz
Direction Signal	Clockwise or counter-clockwise rotation
Enable Signal	Driver enable or disable
Logic Signals	Current from 6 to 30mA
Mechanical	
Material	Black coated aluminium with integral heatsink
Mounting	Free standing or via mounting holes
Dimensions	50x120x102mm
Weight	0.45kg

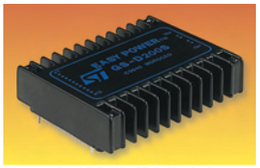
Prices are in Singapore Dollars and exclusive of GST.
Due to the volatile nature of certain products, prices are subject to change without notice.

380875

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
P808	**842-5930**	519.04	476.60	443.95

Stepper Motor Controllers

Stepper Motor Drive Modules and Boards



L=85.5, W=67.0, H=21.3

The **GS-D200** and the **GS D200S** are drive modules that directly interface a microprocessor to a two phase, bipolar, permanent magnet stepper motor. The phase current is chopper controlled and the internal phase sequence generation reduces the burden of the controller and it simplifies software development.

The **GS-D200** uses bipolar power outputs while the **GS-D200S** has powermos outputs to significantly reduce both commutation and conduction losses. A further benefit offered by the **GS-D200S** is the complete protection of the outputs against any type of shorts.

- Wide supply voltage range
- Full/half step drive capability
- Logic signals TTL/CMOS compatible
- Programmable motor phase current and chopper frequency
- Selectable slow/fast current decay
- Synchronisation for multimotor applications
- Remote shut-down
- Home position indication

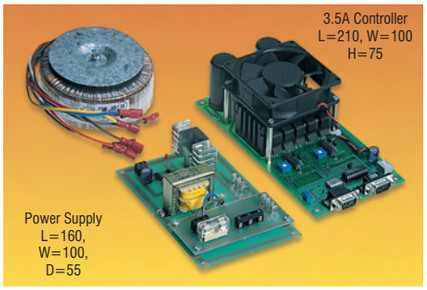
Type Ordering Number	Phase Current (A)	Voltage Drop (V)	Supply Voltage (V)	Order Code
GSD200.	1.0 nom. (0.5-2.0)	4.1 max.	10 to 46 5.0 ±5%	407-501
GSD200S.	2.0 nom. (0.5-2.5)	2.5 max.	12 to 40 5.0 ±5%	407-513

204292

Order Code	Price Each 1+	25+	100+	+	+
407-501	112.33	95.48	84.25	– –	– –
407-513	144.72	123.01	108.54	– –	– –

Intelligent Stepper Motor Controllers

Bipolar, 1.5A and 5A



Power Supply
L=150,
W=100
H=45

1.5 Controller
L=150,
W=100,
H=35

- Up to 4 controllers can be daisy chained allowing individual control of four motors simultaneously
- Direction, speed, number of steps, boost ramp rate, full and half step and limit switching may be controlled via any simple communication software
- A menu driven software front end is included to enable fast access of software commands and includes a self teaching facility (supplied on 3½" disk)
- Supplied complete with power supply and comprehensive instruction manual

Two intelligent controllers providing comprehensive control of 4, 6 or 8 wire bipolar driven stepper motors via an RS232 serial port from a personal computer or other suitable device

Controller

Motor supply voltage	650-109 12-40V dc 650-110 12-80V dc
Motor supply current	650-109 1.5A per phase max 650-110 5A per phase max
Interface	RS232C 900 baud, DTE via 9 pin 'D' connector TX, RX and GND active (Null modem) daisy chained from card to card.
Address	On board access selection 0,1,2,3 Software commands include card address
Terminations	650-109 12 way 0.2" header 650-110 4 way 0.2" header (motor) 8 way logic & PSU Logic

Power Supply

Supply voltage	250Vac
Output	250mA @ 12Vdc (logic and fan) 650-109 800mA @ 34Vdc (motor) 650-110 3.2A @ 70Vdc (motor)

220495

	Order Code	Price Each 1+	5+	10+
1.5A Controller + PSU	**650-109**	635.04	603.30	560.94
3.5A Controller + PSU	**650-110**	1,053.00	1,000.35	930.15

Vibratory Motors

Single-Phase

- Adjustable eccentric weights for varying centrifugal force
- Enclosure protection to **IP65**
- Bearings specially selected to withstand high radial loads and speeds
- Terminal box has two cable entry points permitting wiring from either side

Electric external vibrators are typically used for feeding, screening, compacting, hopper evacuation, etc. Typical industries include: concrete, chemical, food, packaging and mechanical handling.

Max. CF kg	Power watts	Current Amps	Dimensions H	W	D	Weight kg	Mftrs. List No.	Order Code
4	20	0.13	69mm	90mm	104mm	0.85	M4	703-5111
21	22	0.1	73mm	110mm	148mm	1.7	M20	703-5123
62	120	0.27	120mm	127mm	193mm	4.1	M3/65	703-5135
100	165	0.75	141mm	125mm	210mm	4.3	MVS1/100	703-5147
193	165	0.75	151mm	125mm	220mm	4.95	MVS13/200	703-5159
503	500	2.3	198mm	167mm	277mm	12.45	MVS13/500	703-5172

221415

Mftrs. List No.	Order Code	Price Each 1+	3+	5+	10+	+
M4	**703-5111**	289.25	262.96	241.05	217.29	– –
M20	**703-5123**	412.75	375.21	343.95	310.06	– –
M3/65	**703-5135**	578.50	525.92	482.07	429.89	– –
MVS13/200	**703-5159**	721.50	655.92	601.25	516.15	– –
MVS13/500	**703-5172**	912.77	829.80	802.59	– –	– –

AC Motor Speed Control

AC Drives

0.25 to 2.2kW

NEW

This series is a family of 200 - 240V AC drives that provide a no-fuss, cost effective solution for the simplest to most complex open-loop AC motor control applications. The series has single key selectable pre-programmed applications so set-up is quick and easy without unnecessary complications.

- Integral EMC compliant filters
- Extremely simple set-up and operation
- Integral operator controls with optional remote mounting
- Exceptionally compact design
- 150% overload for 30 seconds
- Motor thermistor input
- Back lit LCD display

25

Motors, Drives & Pneumatics

RoHS ● Compliant ◀ Non-compliant ++ Limited stock - RoHS replacement available

Nominal Power	Output Current	Dimensions Width	Length	Depth	Mftrs. List No.	Order Code
Single Phase Controllers (230V nominal)						
0.25kW	1.5A	73	137	142	650-002-230	853-9693
0.37kW	2.2A	73	137	142	650-003-230	853-9707
0.55kW	3.0A	73	137	142	650-005-230	853-9715
0.75kW	4.0A	73	137	142	650-007-230	853-9723
1.1kW	5.5A	73	192	173	650-011-230	853-9731
1.5kW	7.0A	73	192	173	650-015-230	853-9740
Three Phase Controllers (400V nominal)						
0.37kW	1.5A	73	137	142	650-003-400	853-9758
0.55kW	2.0A	73	137	142	650-005-400	853-9766
0.75kW	2.5A	73	137	142	650-007-400	853-9774
1.1kW	3.5A	73	192	173	650-011-400	853-9782
1.5kW	4.5A	73	192	173	650-015-400	853-9790
2.2kW	5.5A	96	257	195	650-022-400	853-9804

381868

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
Single Phase Controllers				
650-002-230	**853-9693**	394.99	364.36	359.91
650-003-230	**853-9707**	425.40	392.81	387.81
650-005-230	**853-9715**	465.17	429.53	424.08
650-007-230	**853-9723**	544.72	503.06	496.62
650-011-230	**853-9731**	734.49	678.24	669.60
650-015-230	**853-9740**	780.39	720.66	711.45
Three Phase Controllers				
650-003-400	**853-9758**	780.39	720.66	711.45
650-005-400	**853-9766**	823.22	760.24	750.51
650-007-400	**853-9774**	869.15	802.55	792.36
650-011-400	**853-9782**	902.81	833.67	823.05
650-015-400	**853-9790**	994.60	918.50	906.75
650-022-400	**853-9804**	1,208.84	1,116.30	1,102.05

AC Inverter Drives

ABB

NEW

- No programming required - easy and descriptive interface
- Power range - 0.18 to 2.2kW
- Supply: 1 phase input 200 - 240V +10 - 15%
- 3 phase output 200 - 240V
- Built-in EMC filter 1st environment
- 150% overload for 60 seconds
- Low motor noise - 5kHz switching frequency adjustable to 16kHz
- Analogue voltage or current input
- Optional potentiometer for easy local drive speed control
- IP20 rated
- Removable mounting clip for DIN or wall mounting from back or side of the drive
- **CE, CSA and C-Tick** approved, **UL, ULc,** recognised
- All drive setup is done using only 3 potentiometers for: Motor nominal current, Acceleration/Deceleration, Motor frequency
- 8 DIP switches for:

NOM FREQ Hz Nominal frequency of the motor
SILENT motor noise level
LOAD Load torque type (U/f curve)
P&F= pump/fan CT=constant torque
JOG Hz Constant frequency for jogging
RELAY can be set to fault or running
AI OFFSET minimum valve for the analogue input
AUTORESET on or off
HI FREQ to allow over-speeding of the motor

- Status and fault indication is by easy to see LED's

383545

Power	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
0.18kW	ACS50-01E-01A4-2	**864-1200**	271.04	265.64	232.34
0.37kW	ACS50-01E-02A2-2	**864-1218**	297.83	291.84	255.29
0.75kW	ACS50-01E-04A3-2	**864-1226**	354.70	347.60	304.02
1.1kW	ACS50-01E-07A6-2	**864-1234**	498.57	488.58	427.35
2.2kW	ACS50-01E-09A8-2	**864-1242**	582.22	570.57	499.06
Accessories					
Potentiometer, ACS50	ACS50-POT	**864-1250**	38.47	35.97	33.46

AC Motor Speed Controller - CIMR-J7Z Series

OMRON

Single and 3 Phase

The CIMR-J7Z inverter is an extremely compact, easy to use general purpose inverter and has versions available in both single phase 240V AC up to 1.5kW, three phase 200V AC to up to 2.2kWand three phase 400V AC to up to 4kW

All models carry advanced features normally associated with higher cost units including configurable inputs and output terminals, DC braking, analogue output, skip built-in operator interface.

The CIMR-J7Z offers the option of OMRON's footprint RFI filter to provide compliance with the latest EMC directives.

Features include:

- Available from 0.1kW to 4kW
- Single and three phase versions available
- In-built operator interface
- Built-in potentiometer
- Optional Footprint RFI filter and output choke
- **UL** and **cUL**Recognised, **CE** approved
- Instantaneous power interruption protection facility
- Supplied with comprehensive, easy to use, instruction manual
- RS485 communication available
- Fully adjustable v/f pattern
- Electronic thermal trip settable
- Configurable multi-function Input and Output terminals
- Programmable Analogue Output
- DC Injection braking
- 2 Skip Frequencies
- Programmable S-curve
- Electronic Potentiometer
- Automatic fault retry
- 8 Pre-set speeds
- Plus many more advanced features

Input voltage (single phase)	200-240V ac, -15% to +10%, 50/60Hz
Input voltage (three phase 200V)	200-230V ac, -10% to +10%, 50/60Hz
Input voltage (three phase 400V)	380-460V ac, -15% to +10%, 50/60Hz
Operating temperature	-10°C to +50°C
Output frequency	0.1Hz to 400Hz
Overload	150% for 60 seconds
Accel/Decel	0.0 to 999 seconds seperately adjustable
Degree of Protection	IP20

Single Phase Dimensions	H	W	D	Three Phase (200V) Dimensions	H	W	D	Three Phase (400V) Dimensions	H	W	D
				0.1kW	128	68	70	0.2kW	128	108	81
				0.2kW	128	68	70	0.4kW	128	108	99
0.4kW	128	68	112	0.4kW	128	68	102	0.75kW	128	108	129
0.75kW	128	108	129	0.75kW	128	68	112	1.5kW	128	108	154
1.5kW	128	108	154	1.5kW	128	108	129				
2.2kW	N/A	N/A	N/A					3.0kW	128	140	161
								4.0kW	128	140	161

202582

Single Phase	Mftrs. List No.	Order Code	Price Each 1+
0.4kW	CIMR-J7AZB0P40	**318-1510**	441.87
0.75kW	CIMR-J7AZB0P70	**318-1522**	528.39
1.5kW	CIMR-J7AZB1P50	**318-1534**	707.61
Three Phase (200V)			
0.1kW	CIMR-J7AZ20P10	**318-1546**	304.34
0.2kW	CIMR-J7AZ20P20	**318-1558**	395.52
0.4kW	CIMR-J7AZ20P40	**318-1560**	441.87
1.5kW	CIMR-J7AZ21P50	**318-1583**	707.61
Three Phase (400V)			
0.2kW	CIMR-J7AZ40P20	**377-4065**	774.00
0.75kW	CIMR-J7AZ40P70	**377-4089**	912.00
1.5kW	CIMR-J7AZ41P50	**377-4090**	1,083.00
2.2kW	CIMR-J7AZ42P20	**377-4107**	1,015.33
3.0kW	CIMR-J7AZ43P00	**377-4119**	1,329.00
4.0kW	CIMR-J7AZ44P00	**377-4120**	1,482.00

AC Motor Speed Controller - 3G3MV Series

OMRON

Single and 3 Phase

The 3G3MV inverter is an extremely compact, easy to use open loop vector control inverter and has versions available in single phase 240V AC, three phase 200V and three phase 400Vac up to 4kW

All models carry advanced features normally associated with higher cost units including configurable inputs and output terminals, full PID, DC braking, analogue output, skip frequencies and motor parameter setup, all of which can be easily accessed via the built-in operator interface, which also doubles as a copy unit.

The 3G3MV offers the option of OMRON's footprint RFI filter to provide compliance with the latest EMC directives.

Prices are in Singapore Dollars and exclusive of GST.
Due to the volatile nature of certain products, prices are subject to change without notice.

Features includes:
- Available from 0.1kW to 7.5kW
- Single and three phase versions available
- In-built operator interface
- Built in potentiometer
- Optional Footprint RFI filter and output choke
- **UL** and **cUL** Recognised, **CE** approved
- Instantaneous power interruption protection facility
- RS485/422 communication available
- PID Control
- Electrical thermal trip settable
- Configurable multi function Input and Output terminals
- Programmable Analogue Output
- DC Injection braking
- 3 Skip Frequencies
- Programmable S-curve
- Electronic Potentiometer
- Automatic fault retry
- 16 Pre-set speeds
- Plus many more advanced features

Input voltage (single phase)	200-240V ac, -15% to +10%, 50/60Hz
Input voltage (three phase)	200-230V ac, -10% to +10%, 50/60Hz
Input voltage (three phase)	380-460V ac, -15% to +10%, 50/60Hz
Operating temperature	-10°C to +50°C
Output frequency	0.1Hz to 400Hz
Overload	150% for 60 seconds
Accel/Decel	0.0 to 999 seconds seperately adjustable
Degree of Protection	IP20

Dimensions	Single Phase H	W	D	Three Phase (200V) H	W	D
0.25kW	128	68	76			
0.55kW	128	68	131			
1.1kW	128	108	140			
1.5kW	128	108	156	128	130	131
4kW	128	170	180	128	140	143

Dimensions	Three Phase (400V) H	W	D
0.37kW	128	108	92
0.55kW	128	108	110
1.1kW	128	108	140
1.5kW	128	108	156
2.2kW	128	108	156
3kW	128	140	143
4kW	128	140	143
5.5kW	260	180	170
7.5kW	260	180	170

221377

Rating	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
Single Phase					
0.55kW	CIMR-V7AZB0P40B	**318-1662**	642.27	607.65	575.67
1.1kW	CIMR-V7AZB0P70B	**318-1674**	757.05	719.19	681.36
1.5kW	CIMR-V7AZB1P50B	**318-1686**	902.28	857.16	812.04
4kW	CIMR-V7AZB4P00	**318-1704**	1,152.57	1,094.94	1,037.31
Three Phase (200V)					
4kW	CIMR-V7AZ24P00B	**318-1777**	1,152.57	1,094.94	1,037.31
Three Phase (400V)					
0.37kW	CIMR-V7AZ40P20	**318-2990**	840.48	798.45	756.42
0.55kW	CIMR-V7AZ40P40	**318-3002**	939.36	892.38	845.43
1.1kW	CIMR-V7AZ40P70	**318-3014**	1,059.87	1,006.89	953.88
1.5kW	CIMR-V7AZ41P50	**318-3026**	1,183.47	1,124.31	1,065.12
2.2kW	3G3MV-A4022	**318-3038**	1,279.26	1,215.30	1,151.34
3kW	3G3MV-A4030	**318-3040**	1,418.31	1,347.39	1,276.47
4kW	CIMR-V7AZ44P00	**318-3051**	1,597.53	1,517.64	1,437.78
5.5kW	CIMR-V7AZ45P51	**377-4132**	1,869.00	1,772.34	1,713.24
7.5kW	CIMR-V7AZ47P51	**377-4144**	2,193.00	2,079.57	2,010.24

DC Motor Speed Control

Programmable 24V dc 70A Permanent Magnet Motor Controller

PG DRIVES TECHNOLOGY

NEW

A four quadrant motor speed controller ideally suited for battery powered vehicle traction and general speed control applications.

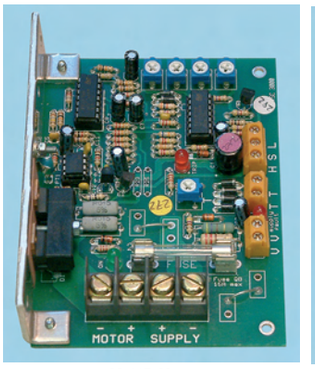
- Programmable IR compensation
- Integral supply isolation contactor
- Programmable current limit
- Potentiometer or 0-5V speed input
- Independently programmable forward and reverse speeds
- Low battery lockout function
- 3 programmable auxiliary outputs
- Hours run timer function
- On-board system log records all trip conditions
- Environmentally protected to **IP65**
- Fully programmable via PGDT software package
- Self-protecting outputs
- Low impedance inputs
- Development kit includes full documentation, connectors and programming software package

Supply Voltage	24V dc	Aux 1 Output	24V 1.25A
Operating Voltage	16 to 28V dc	Aux 2 Output	24V 0.5A
Peak Voltage	35V dc	Aux 3 Output	12 or 24V 0.5A
Reverse Battery Voltage	40V dc	Operating Temperature	-25 to 50°C
Peak Output Current	70A for 30 seconds	Dimensions	131.5 x 72.5 x 41mm
PWM Freqeuncy	20kHz ± 1%		

380864

Description	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
I Drive 70A	D50702	**842-6902**	307.17	255.97	204.77
Development Kit	D50703	**842-6910**	682.61	631.40	580.24

2020 PWM Motor Speed Controller



88x117x39mm

99x132x54mm

- Suitable for PM and Shunt motors
- 12 or 24 volt operation
- Maximum output current 12A dc
- Soft start
- 0 - 100% speed control
- 150% acceleration torque
- Supply fuse
- Thermal protection
- Available in skeleton or boxed versions

NEW

The controller provides a pulse width modulated output for the armature of the dc motor which can be adjusted between 0 - 100%. Fixed acceleration provides a smooth soft start performance whilst regulated speed control is achieved by comparing the back EMF of the motor with the required speed potentiometer setting. High and low speed settings may be preset on the controller. Electronic current limit is adjustable and may be set to limit the motor current (torque) at up to 150% of the continuous rating. Adjustable load compensation may also be set to enhance the speed holding of the motor particularly at low speeds.

383393

Version	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
Skeleton	2020S	**871-7907**	168.64	155.69	144.55
Boxed	2020B	**871-7915**	266.62	246.08	228.50

2562 PWM Motor Speed Controller

102x203x79mm

NEW

The controller provides a pulse width modulated output for the armature of the dc motor that may be adjusted between 0 - 100%. Fixed acceleration provides a smooth soft start performance whilst regulated speed control is achieved by comparing the back EMF of the motor with the required speed potentiometer setting. High and low speed settings may be preset on the controller. Electronic current limit is adjustable and may be set to limit the motor current (torque) at up to 150% of the continuous rating.

- Economic controller for PM motors up to 2.0 amps
- 230 volt operation
- 0-24V dc output
- Maximum output current 2.0A dc
- Soft start
- 0 - 100% speed control
- 150% acceleration torque
- Supply fuse 2A quick blow

383394

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
2562B	**871-7923**	293.80	271.17	251.81

DC Motor Controller - 4 Quadrant 2A

H = 25, W = 130, D = 52

A four quadrant linear output controller ideally suited for small dc motors and gear motors up to 60W

- Linear control minimises electrical noise
- Single polarity supply gives bi-directional control
- Armature feedback provides variable control over a speed range up to 50:1
- Control by potentiometer, dc control voltage or FSR hand control
- Adjustable current limit
- Inbuilt thermal protection

Supply Voltage	10 - 35Vdc	Current limit	100mA to 2A
Max output voltage	±26Vdc	Speed control input resistant	200 kΩ
Max output current	±2A		

204330

Order Code	Price Each 1+	5+	10+	+	+	+
909-907	242.37	230.25	224.60	– –	– –	– –

RoHS Compliant ● Non-compliant ◀ ++ Limited stock - RoHS replacement available

DC Motor Speed Controllers - 507, 508 Series

Non-Isolated

EUROTHERM DRIVES

A compact non-isolated range of speed controllers suitable for shunt wound and permanent magnet dc motors up to 12A rating.

- Suitable for 110/120 or 220/240V single phase AC supplies (switch selectable)
- Fully isolated heatsink
- Adjustable speed ramp up and ramp down times (1-15 secs)
- Adjustable armature current limit (0-100%)
- Adjustable motor maximum and minimum speed limits
- Control signals available for zero speed, drive healthy and speed trim

650-390 H=125, W=96, D=66

650-407 H=125, W=96, D=77

- Switch selectable speed range
- Switch selectable feedback mode
- Adjustable IR compensation (for armature voltage feedback control)
- Torque control of motor
- Stall timer isolates motor current after 15 seconds to prevent motor overheating
- In built high transient suppression and fuseless overcurrent protection above 200% overload
- DIN rail mounting
- Supplied complete with comprehensive instruction manual

Supply voltage	110/120 or 220/240Vac ±10% 45-65 Hz
Armature output voltage	90 or 180Vdc
Armature output current:	
650-390	6A
650-407	12A
Field output voltage	100 or 210Vdc
Field output current	2A
Typical full load speed regulation	0.1% with tacho feedback3% with armature voltage feedback

Note: The ac mains supply to the modules must be fused as this line is not internally protected.

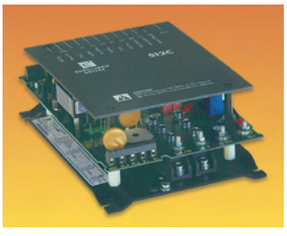
204311

Output Rating	Mftrs. List No.	Order Code	Price Each 1+	+	+
6A	507	**650-390**	312.48	– –	– –
12A	508	**650-407**	345.96	– –	– –

DC Motor Speed Controllers - 512C Series

Isolated

EUROTHERM DRIVES



A compact isolated range of speed controllers suitable for shunt wound and permanent magnet dc motors up to 32A rating.

650-419 H=240, W=160, D=85
650-420 H=240, W=160, D=85
650-432 H=240, W=160, D=123

- Suitable for 110/120 or 220/240 or 380/415V single phase supplies (switch selectable)
- Switch selectable current calibration
- Buffered 0-10V output for speed indication
- Buffered 0-7.5V output for current indication (7.5V=150%)
- Adjustable speed ramp up and down times (0-40 secs)
- Linear current feedback for accurate torque control
- Zero speed or zero setpoint relay driver output - 24V dc
- Drive healthy relay driver output - 24V dc
- Adjustable maximum and minimum speeds
- Adjustable IR compensation (for armature voltage feedback speed control)
- 150% current overload capacity for 60 seconds
- Indication of mains on, stall trip and overcurrent trip
- Supplied with comprehensive instruction manual
- On board auxiliary supply fusing
- Adjustable maximum current levels
- Adjustable speed stability
- Speed trim input
- Total setpoint output
- Stall detection and trip

Supply voltage	110/120, 220/240 or 380/415Vac ±10% 50/60 Hz
Armature output voltage	90, 180 or 320Vdc
Armature output current:	
650-419	8A
650-420	16A
650-432	32A
Field output voltage	100, 210 or 360Vdc
Field output current	2A
Typical full load speed regulation	0.1% with tacho feedback 3% with armature voltage feedback

204312

Output Rating	Mftrs. List No.	Order Code	Price Each 1+	+	+
8A	512C8	**650-419**	569.16	– –	– –
16A	512C16	**650-420**	622.12	– –	– –
32A	512C32	**650-432**	803.52	– –	– –

DC Motor Speed Controllers

S14C, 4 Quad, Isolated

EUROTHERM DRIVES

- Isolated 4 Quadrant speed controllers, suitable for shunt-wound and permanent-magnet dc motors up to 32A
- AC contactor control logic
- Switch selectable current calibration
- Buffered 0-10V output for speed indication
- Buffered 0-10V output for current indication
- Adjustable speed ramp up and down times (0-40 sec.)
- Linear current feedback for accurate torque control
- Zero speed/zero setpoint digital output - 24V dc
- Drive healthy digital output - 24V dc
- 3 speed inputs
- Stall detection, trip and override
- Adjustable maximum and minimum speeds
- Adjustable IR compensation
- Adjustable speed loop P & gains
- 150% FLC capacity for 60 seconds
- Trip indication
- Supplied with comprehensive instruction manual
- Meet the low voltage directive - VDE 0160

O/P Rating (A)	Dimensions H	W	DC Drive D	Suitable RFI Filters	Mftrs. List No.	Order Code
4	240	160	94	676-512	514C/04	715-6297
6	240	160	94	676-512	514C/08	715-6303
16	240	160	94	676-512	514C/16	715-6315
32	240	160	132	676-524	514C/32	715-6376

Supply voltage	110 to 500V
Auxiliary supply voltage	110/230V, 1 ∅ 50/60 Hz
Typical armature voltage	0.8 x supply volts
Field voltage	0.9 x supply volts
Max. field current	3A
Typical full load speed regulation	0.1% with tacho feedback 3% with armature voltage feedback

Configuration Equipment				
Mftrs.	Supply Fuses	Contractor	Field Fuses	Auxilliary Fuses
List No.	Semiconductor	AC3 Rated	Semiconductor	HRC
514C/04	12A	12A	10A	5A
514C/08	16A	16A	10A	5A
514C/16	32A	32A	10A	5A
514C/32	50A	50A	10A	5A

Typical 10KΩ potentiometer, Order Code 351-283. Further ranges of 1 watt, wire wound potentiometers available in our components catalogue

224629

O/P Rating (A)	Order Code	Price Each 1+	2+	5+	10+	+
4	**715-6297**	1,090.89	– –	– –	– –	– –
6	**715-6303**	1,212.00	1,198.68	1,186.32	1,096.89	– –
16	**715-6315**	1,453.59	– –	– –	– –	– –
32	**715-6376**	1,752.12	– –	– –	– –	– –

	Order Code	Price Each 1+	25+	50+	100+
10kΩ Potentiometer	**351-283**	11.94	10.74	10.17	8.22

Peristatic Pump

- Provides accurate pumping of fluids
- No fluid or pump contamination as the fluid is contained within the tube
- Flow rates of 1.5, 5 and 10 litres per hour available, dependent on size of tube, 3 tubes supplied changeable by removal of front cover
- Roller guide provides minimum pressure between the roller and tube therefore no lubrication is required

H=120, W=65, D=124, Fix centres=52.38x73.66

Operating Voltage 230V 50Hz Current 350mA

231297

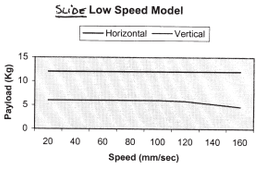
Order Code	Price Each 1+	10+	20+
538-140	164.82	156.57	148.32

Prices are in Singapore Dollars and exclusive of GST.
Due to the volatile nature of certain products, prices are subject to change without notice.

Electronic Positioning and Actuating

Slide Actuator

Robocylinder



The Slider Type is more of a traditional design, with the slider moving smoothly and programmably within the given stroke length.

The features include a ballscrew, slider carriage, guide rails, bearings, motor and coupling. The main difference here being the use of a hybrid stepper motor rather than the DC or AC Servos.

BAS119/231947

Stroke (mm)	Order Code	Price Each 1+	3+	5+
Low Speed				
400	**345-5427▲**	2,356.81	– –	– –
600	**345-5439▲**	2,720.80	2,620.09	2,530.39

Drain Valve

Automatic Drain Valve

AUTOMATION SYSTEMS

- To automatically drain condensate from compressed air systems
- Adjustable/automatic on/off timer
- Manual over-ride
- Simple to install

Failure to carry out routine draining of filter bowls, separators, receivers and other components that collect, can have catastrophic results. Compressed air systems can become grossly contaminated and production schedules can be effected. The Ventomatic automates this manual drain down operation. Once fitted, the Ventomatic can be set to a range of discharge times, to suit the particular application.

Auto Drain Valve

Ambient temperature -10°C to +50°C
Media temperature -10°C to +80°C
Pressure 0 to 16 Bar

Function	Port Size	Orifice	Pressure	Media	Voltage	Body Material
2/2 Normally Closed	⅜ BSP	5mm	0-16 Bar	Air, Gases, Oil, Water	110V/50HZ	Brass
2/2 Normally Closed	⅜ BSP	5mm	0-16 Bar	Air, Gases, Oil, Water	240V/50HZ	Brass

205086

Voltage	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	+
110V	VM 110V 50HX	**706-1079**	251.10	239.13	233.52	– –
240V	VM 240V 50HZ	**706-1080**	251.10	242.50	– –	– –

Valve Accessories

Exhaust Silencer

NORGREN

- Reduces noise levels from pneumatic equipment
- Screws into the exhaust port
- Prevents the ingress of dirt
- Maximum pressure 10 bar

Sintered Bronze Silencers

Size (")	Noise level at 6bar dB(A)
1/8	75
1/4	78
3/8	84
1/2	88
3/4	96
1	100

Noise level measured at 1m

205442

Thread	Mftrs. List No.	Order Code	Price Each 1+	4+	+	+	+
1/8	T40B1800	**701-0564**	8.37	– –	– –	– –	– –
1/4	T40B2800	**701-0576**	10.65	– –	– –	– –	– –
3/8	T40B3800	**701-0588**	14.69	– –	– –	– –	– –
1/2	T40B4800	**701-0590**	18.45	17.81	– –	– –	– –
3/4	T40B6800	**706-9625**	32.28	31.11	– –	– –	– –
1	T40B8800	**706-9637**	45.29	– –	– –	– –	– –

Additional Equipment

Pressure Gauges

Bottom Entry

tecsis

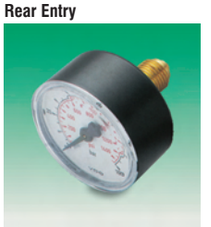
- Low cost ABS housing
- ø 40mm, 1/8" BSP connection
- ø 50mm, 1/4" BSP connection, dual scale (bar and psi)
- Accuracy class 2.5 to **DIN 16005**
- Brass movement and wetted parts

205354

Pressure Range ø **40mm**	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
-1 to 0	1410-016001	**679-100**	16.74	16.05	15.57	15.06
0 to 2.5	1410-072001	**679-112**	16.14	15.48	15.00	14.52
0 to 10	1410-075001	**679-124**	14.94	14.34	13.89	13.44
0 to 25	1410-078001	**679-136**	14.94	14.34	13.89	13.44
ø 50mm						
-1 to 0	1420016025	**721-8345**	27.90	25.35	23.25	21.45
0 to 2.5	1420072024	**721-8357**	26.04	23.67	21.72	20.12
0 to 10	1420075040	**721-8369**	24.03	21.84	20.04	18.68
0 to 100	1420081016	**721-8382**	32.82	29.88	27.33	25.26

Pressure Gauges

Rear Entry



- Low cost ABS housing
- ø 40mm, 1/8" BSP connection
- ø 50mm, 1/4" BSP connection, dual scale (bar and psi)
- Accuracy class **2.5 to DIN 16005**
- Brass movement and wetted parts

205355

Pressure Range ø **40mm**	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
-1 to 0 bar	1415016026	**721-8473**	27.78	25.29	23.16	21.55
0 to 2.5 bar	1415072042	**721-8485**	26.01	23.64	21.66	20.12
0 to 10 bar	1415075127	**721-8497**	24.06	21.87	20.04	18.68
0 to 25 bar	1415078019	**721-8503**	24.06	21.87	20.04	18.68
ø 50mm						
-1 to 0	1425016014	**721-8527**	29.07	26.43	24.24	22.51
0 to 2.5	1425072030	**721-8539**	27.21	24.75	22.71	21.07
0 to 10	1425075092	**721-8540**	24.69	22.44	20.58	19.16
0 to 25	1425078026	**721-8552**	24.69	22.44	20.58	19.05

Pascolo Digital Manometer

KELLER

- Highly accurate microprocessor controlled digital pressure gauge
- Wetted parts of all welded 316L stainless steel
- Precision piezo-resistive silicon sensor is very repeatable, linear and has negligible hysteresis
- "SENSOBRAIN" Keller ASIC maps sensor characteristics, and eliminates non-linearity and temperature errors
- Swivel pressure fitting
- Supplied with a brightly coloured bezel and a sober black one

Fitting	G1/4	Resolution	1 digit
Rating	IP68	Total band error	±0.1% (3 digits)
Display	±3000 digits	Operating temp	0 - 50°C

● Compliant
● ◀ Non-compliant
++ Limited stock - RoHS replacement available

RoHS

205357

Pressure Range	Mftrs. List No.	Order Code	Price Each 1+	10+	+
-1 to 2 bar	DM/80436-1..2	**724-4101**	615.00	609.15	– –
-1 to 30 bar	DM/80436-1..0..+30	**724-4113**	411.00	406.88	– –
0 to 300 bar	DM/80436-300	**724-4125**	411.00	406.88	– –
0 to 700 bar	DM/80436-700	**724-4137**	615.00	609.15	– –

Supply Line Connectors

320 Series Quick-Connect Coupling

Tom Parker Ltd

320 Quick-Connect Couplings

- Coupling shut off on disconnection
- Extremely high flow
- Low pressure drop
- Euro standard nipple profile
- Quality engineered

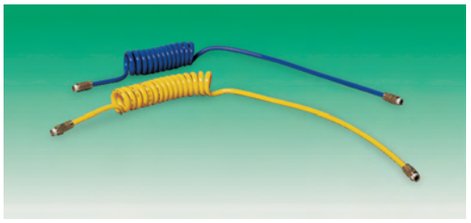
Description	Max. Length (mm)	Max. Dia. (mm)	Max. Bar	Mftrs. List No.	Order Code
1/4"COUPLING BODY,320	63.2	23	35	10 320 1002	712-3905
3/8"COUPLING BODY,320	66.2	23	35	10 320 1004	712-3917
1/2"COUPLING BODY,320	64.2	23	35	10 320 1005	712-3929
1/4"COUPLING BODY,320	59.2	23	35	10 320 1152	712-3930
3/8" 32 T.P.I.COUPLING BODY,320	57.2	23	35	10 320 1154	712-3942
1/2"COUPLING BODY,320	51.7	23	35	10 320 1155	712-3954
1/4"COUPLING BODY,320	56.2	23	35	10 320 1202	712-3966
1/4"NIPPLE INSERT,320	42.5	—	35	10 320 5002	712-3991
3/8"NIPPLE INSERT,320	45	—	35	10 320 5004	712-4004
1/2"NIPPLE INSERT,320	45.5	—	35	10 320 5005	712-4016
1/4"NIPPLE INSERT,320	39	—	35	10 320 5152	712-4028
3/8"NIPPLE,INSERT,320	41.5	—	35	10 320 5154	712-4030
1/4"NIPPLE INSERT,320	36.5	—	35	10 320 5202	712-4053
3/8"NIPPLE,INSERT,320	38	—	35	10 320 5204	712-4065
1/2"NIPPLE,INSERT,320	42.5	—	35	10 320 5205	712-4077

205237

Description	Order Code	Price Each 1+	5+	10+	20+	+
Hose Tail Couplings						
1/4"COUPLING BODY,320	**712-3905**	22.03	20.04	18.36	16.44	– –
3/8"COUPLING BODY,320	**712-3917**	21.84	19.83	18.18	16.29	– –
1/2"COUPLING BODY,320	**712-3929**	22.03	20.04	18.83	– –	– –
BSPT Male Couplings						
1/4"COUPLING BODY,320	**712-3930**	21.84	19.83	18.18	16.29	– –
3/8" 32 T.P.I. COUPLING BODY,320	**712-3942**	21.84	19.83	18.18	16.29	– –
1/2"COUPLING BODY,320	**712-3954**	22.96	20.88	19.14	18.09	– –
BSP Female Couplings						
1/4"COUPLING BODY,320	**712-3966**	22.03	20.04	18.36	16.44	– –
Hose Tail Nipples						
1/4"NIPPLE INSERT,320	**712-3991**	4.99	4.53	4.51	– –	– –
3/8"NIPPLE INSERT,320	**712-4004**	4.99	4.53	4.14	3.72	– –
1/2"NIPPLE INSERT,320	**712-4016**	5.49	4.98	4.88	– –	– –
BSPT Male Nipples						
1/4"NIPPLE INSERT,320	**712-4028**	4.80	4.38	3.99	3.60	– –
3/8"NIPPLE,INSERT,320	**712-4030**	5.93	5.40	4.92	4.44	– –
BSPT Female Nipples						
1/4"NIPPLE INSERT,320	**712-4053**	4.99	4.53	4.14	3.72	– –
3/8"NIPPLE,INSERT,320	**712-4065**	5.93	5.40	4.92	4.44	– –
1/2"NIPPLE,INSERT,320	**712-4077**	12.04	10.95	10.05	9.00	– –

Polyurethane Recoil Assemblies

Tom Parker Ltd



Polyurethene Recoil Assemblies

- End connections swivel 360°
- Better memory than nylon
- 500mm straight tail at tool end
- 100mm straight tail at mains end
- Small overall diameter
- Very flexible
- End connections can be re-used

Tube Size I/D mm	Tube Size O/D mm	Working Length	Colour	BSPT Male End Connection	Outer Dia. of Coils mm	Closed Length of Coils mm	Max. Working Pressure Bar	Mftrs. List No.
5	8	2	Blue	1/4	42	180	10	TPD1650
5	8	2	Yellow	1/4	42	180	10	TPD1651
5	8	4	Yellow	1/4	42	400	10	TPD1653
5	8	6	Blue	1/4	42	630	10	TPS8-20
6.5	10	4	Blue	1/4	52	400	10	TPD1658
6.5	10	6	Blue	1/4	52	635	10	TPD1660
8	12	2	Yellow	3/8	65	180	10	TPD1663
8	12	6	Yellow	3/8	65	590	10	TPD1667

205239

O/D	Length	Order Code	Price Each 1+	5+	10+	20+	+
8	2	**712-5082**	47.00	41.89	37.18	33.90	– –
8	2	**712-5094**	47.00	41.89	37.18	33.90	– –
8	4	**712-5112**	60.06	54.60	48.43	44.17	– –
8	6	**712-5124**	75.53	68.67	60.91	55.54	– –
10	4	**712-5161**	76.70	69.71	61.85	56.39	– –
10	6	**712-5185**	98.80	89.83	79.69	72.64	– –
12	2	**712-5215**	73.39	65.42	58.01	52.91	– –
12	6	**712-5252**	135.72	123.37	109.46	99.81	– –

Accessories

Blow Guns

Tom Parker Ltd

Blow Gun

- Ergonomic design
- Infinitely variable air flow
- Easy grip lever
- Durable light-weight construction
- Good insulation properties

Safety: For non-regulated blow guns, the air supply line should be fitted with a regulator set at **2 Bar (30 PSI).**

Description	Nozzle Length mm	Overall Length mm	Inlet Thread	Max. Working Pressure	Mftrs. List No.
BLOW GUN,STANDARD TIP,	90	240	1/4"	16 Bar	11208100
BLOW GUN,LOW NOISE TIP	90	240	1/4"	16 Psi	11 205 3100

205144

	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
BLOW GUN,STANDARD TIP,	11208100	**706-9170**	43.25	– –	– –
BLOW GUN,LOW NOISE TIP	11 205 3100	**706-9182**	33.84	31.92	28.68

System Monitoring

Hydraulic Pressure Gauges

- Rugged stainless steel housing
- Glycerine-filled to withstand high dynamic loads
- All at ø 63mm
- Bottom mount with ¼" BSP connection
- Accuracy class **1,6 to DIN 16005**
- Brass movement and wetted parts

215059

Pressure Range	Mftrs. List No.	Order Code	Price Each 1+	4+	10+	20+
-1 to 0 Bar	1454016002	**700-0716**	45.84	43.26	41.67	36.96
0 to 2.5 Bar	1454072002	**700-0728**	45.84	43.26	41.67	36.96
0 to 10 Bar	1454075002	**700-0730**	45.84	43.26	41.67	36.96
0 to 25 Bar	1454078002	**700-0741**	45.84	43.26	41.67	36.96
0 to 100 Bar	1454081002	**700-0753**	45.84	43.26	41.67	36.96
0 to 160 Bar	1454082002	**700-0765**	45.96	43.26	41.67	36.96
0 to 250 Bar	1454084002	**700-0777**	45.96	43.26	41.67	36.96
0 to 400 Bar	1454086002	**700-0789**	45.96	43.26	41.67	36.96
0 to 600 Bar	1454087002	**700-0790**	66.78	63.00	60.72	53.85

Prices are in Singapore Dollars and exclusive of GST.
Due to the volatile nature of certain products, prices are subject to change without notice.