

Crompton Controls Catalogue

CC RANGE

Standard Starters and
Panel Components
to Fully Customised Solutions.



SERIES 3000



YASKAWA



Your Specialist in
Control Solutions

Tel: +44 (0)1924 368251
sales@cromptoncontrols.co.uk
www.cromptoncontrols.co.uk

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This is Crompton Controls

Welcome to a heritage spanning over 130 years supplying outstanding control solutions.

Crompton Controls can trace its roots right back to the late 19th Century and Rookes Evelyn Bell Crompton, a pioneer in electrical engineering who was responsible for one of the World's first public electricity supplies. He also introduced lighting networks to both Australia and India.

Crompton continues to innovate as an organisation, naturally responding to customer demand. This open approach together with expertise in controls and starters, and a strong flexible in-house technical capability, enables the company to be very inventive.

We are delighted to welcome you to our price updated catalogue complete with the same exciting developments as the previous issue.

Enhanced range of YASKAWA Inverters – page 17

Our partnership with YASKAWA has gone from strength to strength over the last four years. In addition to the outstanding range of panel mounting J1000, V1000 & A1000 inverter modules we are now delighted to offer robust new IP66 and IP54 enclosed drives for use in wet & dusty environments.

This comprehensive range of highly sealed and protected inverter products offers a simple & competitive solution to many retrofit or new



applications where improved process control or energy saving is desired. Plus with Crompton Controls vast experience in total solutions you can be sure that even fully customised drive systems can be tailored to meet your exact requirements in market leading turnaround times.



4-Pole Contactors – page 22

Our CC Range of components is set to expand over the coming months with 4-Pole Contactors leading the way. Building on the success of our established 3-Pole products the 4th Pole is fully rated in a simple design & robust range from 25 to 1000Amps AC-1. Ideal for heating & lighting loads or control of emergency & standby power systems, we can even supply pre-assembled 4-pole contactor pairs for generator sets under one part number. A wide selection of Automatic Mains Failure/ Genset Relay Controllers is also available if required.



**CC
RANGE**

Control Components – page 24

We responded to popular demand and introduced a complete new range of 22.5mm Push Buttons, Indicator Lamps & Switches. These are available as loose components for panel build or assembled into standard control stations. The wide variety available allows any control requirement to be met backed by our renowned flexibility to provide customised enclosed versions on request.



Emotron Soft Starter Modules – page 13

Complementing the very successful Emotron Shaft Power Monitors, we're delighted to introduce a range of Soft Starters. The unique monitor function is built in as standard offering highly effective protection. In addition exceptional pump control and braking features make it ideally suited to all pump, fan, compressor, blower, crusher, mill, mixer and saw applications with fully customised control systems also available on request.



Solar Photovoltaic

Crompton's Solar Division has been supplying components to MCS accredited Installers for some time now. As utility prices rise the focus is increasingly on Commercial buildings where Crompton provides a total turn-key solution, including funding where appropriate. For further information contact Crompton Solar T: 01924 330217 or email info@cromptoncontrols.co.uk.



Standard Starters

Direct-on-Line

- WEATHERPROOF IP55
- Surface Mounting Type: 3DL
- Built in Start/Stop Reset Push buttons
- Single Phase or Three Phase
- Standard Coil Voltages: 50/60Hz
- Hand reset thermal overloads
- Colour RAL7035 Light Grey
- 24V, 48V, 110V, 230V, 400V, 440V others on request
- Provision for remote control

Max FLC (415V 3ph)	Approx.		Without Isolator & Mains Fuses		With Isolator		With Isolator & Fuses	
	kW	(hp)	Type	Price £	Type	Price £	Type	Price £
12	5.5	(7.5)	3DL1 -- S	£66.00	3DL1 -- I	£147.20	3DL1 -- F	£191.50
18	7.5	(10)	3DL2 -- S	£79.50	3DL2 -- I	£158.30	3DL2 -- F	£233.00
25	11	(15)	3DL3 -- S	£85.80	3DL3 -- I	£162.00	3DL3 -- F	£255.00
30	15	(20)	3DL4 -- S	£119.20	3DL4 -- I	£184.50	3DL4 -- F	£287.00
40	18.5	(25)	3DLA5 -- S	£202.00	3DLA5 -- I	£299.00	3DLA5 -- F	£365.00
50	26	(35)	3DL5 -- S	£245.00	3DL5 -- I	£382.00	3DL5 -- F	£518.00
55	30	(40)	3DL6 -- S	£306.00	3DL6 -- I	£424.00	3DL6 -- F	£557.00
80	37	(50)	3DL07 -- S	£382.00	3DL07 -- I	£520.00	3DL07 -- F	£808.00
100	55	(75)	3DL08 -- S	£503.00	3DL08 -- I	£769.00	3DL08 -- F	£1,126.00
140	75	(100)	3DL09 -- S	£650.00	3DL09 -- I	£1,099.00	3DL09 -- F	£1,460.00
180	90	(125)	3DL10 -- S	£919.00	3DL10 -- I	£1,367.00	3DL10 -- F	£1,632.00
200	110	(150)	3DL11 -- S	£975.00	3DL11 -- I	£1,524.00	3DL11 -- F	£1,811.00
220	132	(175)	3DL12 -- S	£1,044.00	3DL12 -- I	£1,647.00	3DL12 -- F	£2,158.00

Where a starter is required without overload, deduct the appropriate overload price as follows:

Up to 18 amps - Deduct: **£29.40**
18 to 25 amps - Deduct: **£32.10**

For Direct-on-Line Starters above 132kW - **P.O.A.**



Note: Highlighted Enclosures are Crompton Controls pressed steel with removable lids. All others have Hinged doors with dimensions available on request

Ref	Pressed Steel Enclosure Dimensions		Fixings 4 x 4.5mm Diameter
	H x W x D (mm)	H x W (mm)	H x W (mm)
Size 1	174 x 104 x 134	130 x 60	
Size 2	184 x 184 x 149	140 x 140	
Size 3	184 x 284 x 149	140 x 240	
Size 4	305 x 285 x 159	260 x 240	

Star-Delta

- WEATHERPROOF IP55 (INTERIORS ONLY: IP00)
- Surface Mounting Type: 3SD
- Built in Start/Stop Reset Push buttons
- Three Phase
- Standard Coil Voltages: 50/60Hz
- Hand reset thermal overloads
- Wye-Delta Connected
- 24V, 48V, 110V, 230V, 400V, 440V others on request
- Provision for remote control

Max FLC 415V 3ph	Approx.		Without Isolator & Mains Fuses			With Isolator			With Isolator & Fuses		
	kW	(hp)	Type	Price £	Price £ (Interior Only)	Type	Price £	Price £ (Interior Only)	Type	Price £	Price £ (Interior Only)
21	11	(15)	3SD1 -- S	£257	(£223)	3SD1 -- I	£307	(£274)	3SD1 -- F	£345	(£313)
30	15	(20)	3SD2 -- S	£265	(£231)	3SD2 -- I	£313	(£283)	3SD2 -- F	£365	(£320)
43	22	(30)	3SD3 -- S	£309	(£274)	3SD3 -- I	£427	(£387)	3SD3 -- F	£578	(£555)
55	30	(40)	3SD4 -- S	£400	(£365)	3SD4 -- I	£576	(£540)	3SD4 -- F	£674	(£633)
69	37	(50)	3SDA5 -- S	£510	(£475)	3SDA5 -- I	£682	(£646)	3SDA5 -- F	£862	(£822)
85	45	(60)	3SD05 -- S	£533	(£494)	3SD05 -- I	£705	(£666)	3SD05 -- F	£886	(£846)
98	55	(75)	3SD06 -- S	£703	(£660)	3SD06 -- I	£1,021	(£990)	3SD06 -- F	£1,208	(£1,175)
138	75	(100)	3SD07 -- S	£858		3SD07 -- I	£1,204		3SD07 -- F	£1,563	
160	90	(125)	3SD08 -- S	£941		3SD08 -- I	£1,466		3SD08 -- F	£1,823	
208	110	(150)	3SD09 -- S	£1,135		3SD09 -- I	£1,681		3SD09 -- F	£2,025	
250	150	(175)	3SD10 -- S	£1,744		3SD10 -- I	£3,002		3SD10 -- F	£3,680	
310	185	(250)	3SD10 -- S	£1,744		3SD10 -- I	£3,002		3SD10 -- F	£3,680	
346	200	(287)	3SD11 -- S	£1,811		3SD11 -- I	£3,103		3SD11 -- F	£3,845	
380	220	(300)	3SD12 -- S	£1,922		3SD12 -- I	£3,157		3SD12 -- F	£4,011	

Where a starter is required without overload, deduct the appropriate overload price as follows:

Up to 30 amps - Deduct: **£29.40**
31 to 43 amps - Deduct: **£32.10**

For Star Delta Starters above 220kW and Interiors only above 55kW - **P.O.A.**

For high inertia/long run up times please refer to our design engineers.

Refer to Page 27 for a Complete List of Standard Starter Codes & Optional Extras

Standard Starters

Direct-on-Line Reversing

- WEATHERPROOF IP55
- Surface Mounting Type: 3DR
- Sheet steel enclosure
- Hand reset thermal overloads
- Single Phase or Three Phase
- Standard Coil Voltages: 50/60Hz
- Built in Forward/Stop Reset/Reverse push buttons
- Provision for remote control
- Colour RAL7035 Light Grey
- 24V, 48V, 110V, 230V, 400V, 440V others on request

Max FLC (415V 3ph)	Approx. kW (hp)	Without Isolator		With Isolator		With Isolator & Fuses	
		Type	Price £	Type	Price £	Type	Price £
12	5.5 (7.5)	3DR1 -- S	£131.20	3DR1 -- I	£196.90	3DR1 -- F	£268
18	7.5 (10)	3DR2 -- S	£134.70	3DR2 -- I	£201.00	3DR2 -- F	£272
25	11 (15)	3DR3 -- S	£202.00	3DR3 -- I	£264.00	3DR3 -- F	£427
30	15 (20)	3DR4 -- S	£291.00	3DR4 -- I	£328.00	3DR4 -- F	£490

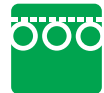
Not available as 480/1/50
For Reversing Starters above 15kW – **P.O.A.**

Available as Up/Stop/Down
plus other text combinations on request

SERIES 3000



Conveyors



Roller Doors

Two speed dual wound

- WEATHERPROOF IP55
- Surface Mounting Type: 3DW
- Sheet steel enclosure with built in High/Stop Reset/Low push buttons
- Three Phase
- Standard Coil Voltages: 50/60Hz
- Colour RAL7035 Light Grey
- 24V, 48V, 110V, 230V, 400V, 440V others on request
- Hand reset thermal overloads
- Provision for remote control

Max FLC (415V 3ph)	Approx. kW (hp)	Without Isolator		With Isolator	
		Type	Price £	Type	Price £
12	5.5 (7.5)	3DW1 --- S	£183.80	3DW1 --- I	£234
18	7.5 (10)	3DW2 --- S	£197.60	3DW2 --- I	£247

For Two Speed Dual Wound Starters above
7.5kW – **P.O.A.**

FLC required for high & low speeds.



Fans



Pumps



Machine Tools

Two speed pole change

- WEATHERPROOF IP55
- Surface Mounting Type: 3PC
- Sheet steel enclosure with built in High/Stop Reset/ Low push buttons
- Three Phase
- Standard Coil Voltages: 50/60Hz
- Colour RAL7035 Light Grey
- 24V, 48V, 110V, 230V, 400V, 440V others on request
- Hand reset thermal overloads
- Provision for remote control

Max FLC (415V 3ph)	Approx. kW (hp)	Without Isolator		With Isolator	
		Type	Price £	Type	Price £
12	5.5 (7.5)	3PC1 --- S	£316	3PC1 --- I	£383
18	7.5 (10)	3PC2 --- S	£328	3PC2 --- I	£404
25	11 (15)	3PC3 --- S	£358	3PC3 --- I	£461

Please Note: Overload setting range. High speed
overload rated half full load current of motor.

For Two Speed Pole Change Starters above 11kW – **P.O.A.**
Motor Connection details required.

Single Phase Series Parallel

- WEATHERPROOF IP55
- Surface Mounting Type: 3SP
- Built in Start/Stop Reset push buttons
- Single Phase
- Coil Voltages: (50/60Hz)
- Hand reset thermal overloads
- Capacitor start/capacitor run or Induction run
- 100/110V, 220/230V, 480V
- Provision for remote control

Max FLC (240V 1ph)	Approx. kW (hp)	Without Isolator		With Isolator		With Isolator & Fuses	
		Type	Price £	Type	Price £	Type	Price £
24	3.7 (5)	3SP1 -- S	£270	3SP1 -- I	£380	3SP1 -- F	£425
30	5.5 (7.5)	3SP2 -- S	£278	3SP2 -- I	£395	3SP2 -- F	£463

Please Note: Overload setting range. Overload rated
half full load current of motor.

For Single Phase Series Parallel Starters above
5.5kW – **P.O.A.**

For motor frame sizes D160/180 & Electrodrives
motors – **P.O.A.**



Grain Drying Fans



Irrigation Pumps

Refer to Page 27 for a Complete List of Standard Starter Codes & Optional Extras

Standard Starters

Duty Standby

- WEATHERPROOF IP55
- Surface Mounting Type: 3DS
- Sheet steel enclosure
- Two Motor D-O-L
- Single Phase or Three Phase
- Standard Coil Voltages: 50/60Hz
- Hand reset thermal overloads
- Duty Selector, Run Lamps & Reset push buttons
- Colour RAL7035 Light Grey
- 24V, 48V, 110V, 230V, 400V, 440V others on request
- Provision for remote control

Max FLC (415V 3ph)	Approx.		Without Isolator		With Isolator	
	kW	(hp)	Type	Price £	Type	Price £
12	5.5	(7.5)	3DS1 -- S	£212	3DS1 -- I	£260
18	7.5	(10)	3DS2 -- S	£219	3DS2 -- I	£270

For Duty Standby Starters above 7.5kW – **P.O.A.**

Duty Standby Starters are a dedicated starter for standard Dual Pump Control systems. Operates the manually selected Duty pump and automatically switches over to the standby pump in the event of the duty pump tripping out on overload. This is the most basic pump control product available, specially customised or branded products are available incorporating duty assist, timed duty rotation, level switch control, status indication, signalling, soft start/stop, variable speed pressure/flow control, sleep function and advanced pump protection from dry running, blockage and cavitation on request. Please contact us to discuss your specific requirements.



Fans

Pumps

Direct-on-Line Fan Shaker

- WEATHERPROOF IP55
- Surface Mounting Type: 3FS
- Overload current ranges: 0.16 to 25 amps
- Timer Single Unit - Run Down Time Adjustable to 2 Minutes – Shake Time Adjustable to 1 Minute
- Single Phase or Three Phase
- Standard Coil Voltages: 50/60Hz
- Colour RAL7035 Light Grey
- 24V, 48V, 110V, 230V, 400V, 440V others on request
- Two Motor D-O-L

Max FLC (415V 3ph)	Approx.		Without Isolator		With Isolator		With Isolator & Fuses	
	kW	(hp)	Type	Price £	Type	Price £	Type	Price £
12	5.5	(7.5)	3FS1 -- S	£213	3FS1 -- I	£289	3FS1 -- F	£334
18	7.5	(10)	3FS2 -- S	£217	3FS2 -- I	£296	3FS2 -- F	£371
25	11	(15)	3FS3 -- S	£249	3FS3 -- I	£329	3FS3 -- F	£403

*Standard Offer includes:
Fan Contactor and Overload
Shaker Contactor and Timer
For low voltage Fan Shaker Starters please consult our Design Engineers.

Shaker overload up to 1.6 amps add **£29.40**
Neon Lamp – Shaker Tripped – **£16.70**
Emergency Stop - **P.O.A.**
Any combination available on request.

OPTIONS:
Timer only Ref. FS2M,
TI129 400V - **£92.40**
TI128 230V - **£92.40**
TI127 110V - **£92.40**

Timer only – Ref. FS2M



Fans

Direct-on-line Fan Shakers are a dedicated starter for Dust Extraction applications. Operates main extraction fan motors and the collection bag shaker or filter clean motors at the end of fan run down periods. Fully automatic unit with independently adjustable fan run down and shake/clean times. Specially customised or branded products available.

Direct-on-Line Flush mounted

- WEATHERPROOF IP55
- Single Phase or Three Phase
- Standard Coil Voltages: 50/60Hz
- Pressed steel lid, formed sheet steel base
- Flush Mounting Type: 3DF
- 24V, 48V, 110V, 230V, 400V, 440V others on request
- Overload current ranges 0.14 - 18 amps

Max FLC (415V 3ph)	Approx.		All steel enclosure	
	kW	(hp)	Type	Price £
11	5.5	(7.5)	3DF1 -- S	£88.80
18	7.5	(10)	3DF2 -- S	£105.00

Flush Mounting Starters are designed to fit into small machine frameworks and castings to provide a neat outer operator control station with all fixing and cabling components hidden away inside



Machine Tools



Refer to Page 27 for a Complete List of Standard Starter Codes & Optional Extras

Hazardous Area Equipment

ATEX Approved Control Equipment

Suitable for Zone 1 and 21 Applications
 EEx d II 2GD IP65 T6 up to 50°C

SERIES EX

Direct-on-Line Surface Mounting Types: DLF

Max FLC (415V 3ph)	Approx.		Without Isolator		With Isolator	
	kW	(hp)	Type	Price £	Type	Price £
12	5.5	(7.5)	3DLF1 -- S	£494	3DLF1 -- I	£905
18	7.5	(10)	3DLF2 -- S	£526	3DLF2 -- I	£948
25	11	(15)	3DLF3 -- S	£743	3DLF3 -- I	£982
30	15	(20)	3DLF4 -- S	£1,104	3DLF4 -- I	£1,967
50	26	(35)	3DLF5 -- S	£1,461	3DLF5 -- I	£2,239
55	30	(40)	3DLF6 -- S	£1,615	3DLF6 -- I	£2,543
80	37	(50)	3DLF07-CCS	£1,933	3DLF07-CCI	£2,804
100	55	(75)	3DLF08-CES	£2,035	3DLF08-CEI	£3,216
140	75	(100)	3DLF09-CFS	£5,432	3DLF09-CFI	£7,266
180	90	(125)	3DLF10-CGS	P.O.A.	3DLF10-CGI	P.O.A.
200	110	(150)	3DLF11-CGS	P.O.A.	3DLF11-CGI	P.O.A.
220	132	(175)	3DLF12-CHS	P.O.A.	3DLF12-CHI	P.O.A.

Star-Delta Surface Mounting Types: SDF

Max FLC (415V 3ph)	Approx.		Without Isolator		With Isolator	
	kW	(hp)	Type	Price £	Type	Price £
21	11	(15)	3SDF1 -- S	£1,580	3SDF1 -- I	£2,478
30	15	(20)	3SDF2 -- S	£1,634	3SDF2 -- I	£2,543
43	22	(30)	3SDF3 -- S	£1,780	3SDF3 -- I	£2,815
55	30	(40)	3SDF4 -- S	£2,121	3SDF4 -- I	£3,156
69	37	(50)	3SDF05-LSS	£4,468	3SDF05-LSI	£6,111
85	45	(60)	3SDF05-LTS	£4,468	3SDF05-LTI	£6,452
98	55	(70)	3SDF06-CBS	£5,081	3SDF06-CBI	£6,609
138	75	(100)	3SDF07-CDS	£5,462	3SDF07-CDI	£7,028
160	90	(125)	3SDF08-CDS	P.O.A.	3SDF08-CDI	P.O.A.
208	110	(150)	3SDF09-CFS	P.O.A.	3SDF09-CFI	P.O.A.
250	150	(175)	3SDF10-CFS	P.O.A.	3SDF10-CFSI	P.O.A.
310	185	(250)	3SDF10-CGS	P.O.A.	3SDF10-CGI	P.O.A.

Control Stations - Thermoplastic

Type	Reference	Cable Entries/Contacts	Price £
Emergency Stop	FPPBS1ES	1 x M20 Bottom/1NO+1NC	P.O.A.
Stop/Start	FPPBS2SS	1 x M20 Bottom/1NO+1NC	P.O.A.
Stop/Start/Lamp	FPPBS3SSL	1 x M20 Bottom/1NO+1NC+Lamp	P.O.A.
Isolator Switch	FPI1S	1 x M20 Bottom	P.O.A.
		4 pole 16A max Pad-lockable	



Suitable for:

- II 2G EEx edm IIC T6
- II 2D IP66 T80 Deg C
- A Ex edm IIC/Ex edm IIC
- Class I Zone 1
- Class I, Div.2 Groups A,B,C,D
- Cert: PTB 00 ATEX 1068
- Amb. Temp: -55 to +60 Deg C
 (-20 to +60 Deg C for Zone 21 & 22)
- Custom built equipment available on request.



Your Specialist in
 Control Solutions

Tel: +44 (0)1924 368251
 sales@cromptoncontrols.co.uk
 www.cromptoncontrols.co.uk

Market Leading Standard & Customised DC

Crompton Controls have manufactured DC Injection Brakes for over 50 years and are now a recognised market leader. All our products have been designed and developed in house and provide rapid controlled braking of AC electric motors driving rotating industrial machines.

Braking Systems have been provided to thousands of Woodworking Machine suppliers and users for Controlled Safety Stopping in accordance with the requirement of PUWER 98. As a result we have many customised control solutions available.



Winders

Rotating
Wheels

Conveyors

Machine
Tools

Mixers

Automatic D.C. Injection Brake Controllers Start, protect and safely stop standard Rotating Machines

- Controlled stopping for compliance to PUWER 98
- IP55 Dust proof
- Compact surface mounting enclosures for easy retrofitting
- Complete with integral Start and Stop push buttons
- Simple braking time and torque setting
- Suitable for up to 12 stops per hour



Direct-on-Line Three Phase

400V/3ph/50Hz

Motor FLC	Motor Rating kW	Starter Type	Price £	Enclosure dimensions (mm)		
				H	x W	x D
4.5	2.2	3DCM1EHS	£398	184	184	149
6	3	3DCM1EJS	£405	184	184	149
10	4	3DCM1EKS	£408	184	184	149
12	5.5	3DCM1ELS	£433	184	184	149
18	7.5	3DCM2EMS	£490	184	184	149
25	11	3DC3ENS	£550	305	285	159
32	15	3DC4ECS	£622	305	285	159
40	22	3DC5ESS	£854	400	400	200



Typical applications - Dimension and Circular saws

Direct-on-Line Single Phase

230V/1ph/50Hz

Motor FLC	Motor Rating kW	Starter Type	Price £	Enclosure dimensions (mm)		
				H	x W	x D
5	0.5	3DPM1CHS/10	£392	184	184	149
12	1.5	3DPM1CLS/10	£405	184	184	149
16	2.2	3DPM2CMS/10	£408	184	184	149



Typical applications - Circular saws and Tenon machines

Star Delta Three Phase

400V/3ph/50Hz

Motor FLC	Motor Rating kW	Starter Type	Price £	Enclosure dimensions (mm)		
				H	x W	x D
13	5.5	3DYM1EJS	£553	305	285	159
17	7.5	3DYM1EKS	£587	305	285	159
21	11	3DY1ELS	£667	500	400	200
30	15	3DY2EMS	£722	500	400	200
43	22	3DY3ENS	£1,112	600	500	200
55	30	3DY4ECS	£2,399	700	500	200

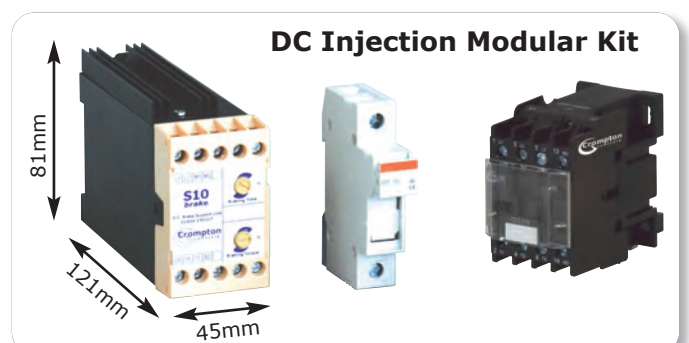
Typical applications - Panel and Rip saws

In 3DCM, 3DPM & 3DYM Type Controllers the M signifies S10 Brake Module fitted. For Crosscut Saws please omit the "M" from the code to signify open Power & Control cards required to meet the increased stopping rates required.

DC Injection Modular Kits & Spares

- Retrofit parts to integrate into existing controls
- For single motor machines up to 7.5kW 3ph & 2.2kW 1ph

Item	Part No.	Price £
S10 Brake Module 400V	BR011	£202.00
S10 Brake Module 230V	BR016	£202.00
Brake Contactor 400V Coil	CC1201-400V	£27.90
Brake Contactor 230V Coil	CC1201-230V	£27.90
Control Fuse Holder	FL014	£5.80
Control Fuse - 4A	FL071	£1.60



DC Injection Modular Kit

Injection Braking Systems for Rotating Machines

In addition to Safety Braking, our technology is also widely used to provide Controlled Braking to a wide range of Rotating Industrial Machines to improve production efficiencies by reducing process or tool changeover times in applications such as Grinding & Polishing Machines, Mixers, Conveyors, Centrifuges, Lathes and many other Machine Tools.

Smooth-BRAKE Control Systems

Smoothest possible braking eliminates shocks, vibration and noise



Developed to be mechanically kind to Band Resaw type machines

- Unique 3 stage automatic voltage ramp down to zero
- Soft application of high initial DC injection
- Low level final DC stage with surge reduction
- Automatic cut off at zero speed
- Simple adjustment – shut off timer and torque level potentiometers

Standard Specification

Mains Supply: 400V/3ph/50Hz

Crompton Controls developed **Smooth-BRAKE** module

Extremely compact IP55 Dustproof enclosures with top & bottom access

Star Delta main motor starter with Stop/Start push buttons

Direct On Line Feeder motor starter with Stop/Start push buttons

Track/Run selector switch – press and hold Start to track

110V AC control circuit via integral fused transformer

Provision for control from external Stop/Start pushbuttons

Braking times up to approx 50 seconds



Your Specialist in DC Injection Braking

Tel: +44 (0)1924 368 251
 sales@cromptoncontrols.co.uk
 www.cromptoncontrols.co.uk

Star Delta Smooth-BRAKE control panels, Assemblies & Modules 400V/3ph/50Hz

Max Current FLC	(DC)	Motor Power kW	(HP)	Type	Price £	Approximate Dimensions (mm) H x W x D		
21	(35)	11	(15)	SmoothBRAKE11	£939	400	300	240
30	(45)	15	(20)	SmoothBRAKE15	£978	400	300	240
90		11/22	(15/30)	BR026 Brake Assembly	£424	100	160	125
... All Ratings ... BR024 Spare Control Module Only					£189	74	45	121

- Notes:
- Control panels are pre-engineered and complete with **Standard Specification** above.
 - Brake Assemblies require additional Contactors and Fusing components for retro-fit into customer control systems in accordance with Crompton Controls ref **LT011 Installation & Maintenance Instructions**
 - BR024 is a spare Control Module for the current BR026 & previous BR025 Brake Assemblies

D.C. Injection brake units 'SPINGUARD' including Trip Arm and Reset Button EMERGENCY STOPPING OF SPINDLE DRIVES

Motor Rating	Ref	Price £	Motor Rating	Ref	Price £	Motor Rating	Ref	Price £
4kW (5.5HP)	3SG1 -- S	660	7.5kW (10HP)	3SG2 -- S	£890	11kW (15HP)	3SG3 -- S	£1,113

DC injection braking is an approved method of stopping AC electric motors and requires the mains supply to be present to operate correctly.

PUWER 98 DC Injection Brakes

DC Injection brake control panels

Designed to safely stop HEAVY DUTY Woodworking Machines

- Controlled stopping for PUWER 98 compliance
- Heavy duty rated for high inertias & longer stopping times
- Star Delta Main Motor starter, Start/Stop push buttons
- Easy supply and motor cable connections
- Terminals to link in external stop controls
- Main Motor Running contact to link to existing feeder control
- Optional Track/Run selector switch, hold to Track push button
- Optional feeder motor DOL starter with stop & start push buttons
- Standard options and customised solutions available

S35
brake



Standard Specification

Mains Supply:	400V/3ph/50Hz
Control Circuit:	110V AC via integral fused transformer
DC brake supply:	11 – 22kW - Internally powered from incoming mains supply 30 – 37kW - Can be wired as above or separately supplied dependant on the rating of the incoming mains supply cables and the level of DC current required to safely brake
Protection:	Super fast semiconductor fuses for protection of power electronics Thermal overload for protection of main motor
Braking Times:	Up to 35 seconds 11 – 22kW, Up to 1 Minute 30 – 37kW
Braking Voltage:	Up to 160V DC maximum
Duty Cycle:	Suitable for up to 12 stops per hour

Star Delta IP55 Dust proof control panels

Max Current FLC	(DC)	Motor Power		Type	Price £	Approximate Dimensions (mm)		
		kW	(HP)			H	x W (option)	x D
21	(55)	11	(15)	RESAW 11	£1,109	600	500 (600)	200 *
30	(72)	15	(20)	RESAW 15	£1,234	600	500 (600)	200 *
35	(87)	18.5	(25)	RESAW 18	£1,283	600	500 (600)	200 *
43	(107)	22	(30)	RESAW 22	£1,336	600	500 (600)	200 *
55	(137)	30	(40)	RESAW 30	£2,601	1000	800	300
69	(180)	37	(50)	RESAW 37	£2,768	1000	800	300

Standard Options	Price £ (Extra)
• A Track/Run selector switch complete with hold to Track push button	£70.00
• *B Feeder Motor DOL starter up to 5.5kW (11 - 22kW) Complete with Stop/Start Push Buttons (30 - 55kW)	£143.00 (600mm wide enclosure) £124.70
C Main Motor Thermistor Protection Relay	£56.10
D Main Motor Fuse Protection: (11-22kW) (30-37kW)	£80.70 (600mm wide enclosure) £124.60

An Example from Crompton's comprehensive range of specialist control panels ... Your Specialist in DC Injection Braking.

From simple Saws, Tenoning and Planing machines to Band Resaws, High Speed Routers and Multi-Headed Moulding machines Crompton Controls can offer a competitive solution.

Please contact us for free advice and further details

Specially customised heavy
duty Star Delta solution



Enclosed Contactors/Boxes/Isolators

Enclosed Contactors for Heating & Lighting load Control -IP55

- Supplied with 220/240V 50Hz coils as standard.
- All units are designed for two wire control i.e. Time Switch, Thermostat, Sensor or other remote controls
- Optional On/Off switch, Local/Remote Switch, Indicator Lamps and Control Fuses

Single Pole & Neutral				Triple Pole & Neutral			
Order Reference	Current AC1 Rating	Approximate (kW at 240V)	Price £	Order Reference	Current AC1 Rating	Approximate (kW at 240V)	Price £
3HS1S	60A	14	£60.40	3HT1S	25A	6	£53.30
3HS3S	100A	24	£117.40	3HT3S	40A	9	£72.90
3HS5S	180A	43	£248.00	3HT5S	72A	17	£182.70
3HS6S	275A	66	£324.00	3HT6S	110A	26	£295.00
				3TEH13	135A	32.4	£406.00
				3TEH15	150A	36	£473.00
				3TEH18	180A	43.2	£506.00
				3TEH22	220A	52.8	£699.00



Extras (Types 3HS & 3HT only) 2 pole aux' contact block **£7.66**
4 pole aux' contact block **£12.52**

Enclosed 4-Pole Contactors available on request.

SERIES 3000 Enclosures

Plain lid Epoxy Paint Finish. Colour RAL 7035

Reference	Dimensions (mm)			Description	Price £
	H	x W	x D		
3EBS21 IP55	174	104	134	Size 1 enclosure DIN Rail fitted accepting CC09/CC12/CC18 or CC25 contactor	£24.00
3EBS22 IP55	184	184	149	Size 2 enclosure chassis fitted accepting 2 x CC25	£35.10
3EBS23 IP55	184	284	149	Size 3 enclosure chassis fitted accepting component combinations	£37.60
3EBS24 IP55	305	285	159	Size 4 enclosure chassis fitted accepting component combinations	£43.20

IP55 enclosure: Sheet steel.



3-Pole AC Enclosed Isolators

AC-23A Rated, IP65 Plastic approx. 125H x 100W x 85D (mm)

Type Ref	Operational Current AC-21A	Operational Power AC-23A 380-440V	Price £
S3AC20	20A	5.5kW	£24.10
S3AC25	25A	7.5kW	£25.70
S3AC32	32A	11kW	£26.50



2-Pole True DC Enclosed Switches for single string Solar PV application

DC-21B Rated, IP65 Plastic approx. 180H x 98W x 107D (mm)

Type Ref	Operational Current DC21B	Price £
2DC12	12A @ 700VDC	£41.20
2DC16	16A @ 700VDC	£51.20
2DC25	25A @ 600VDC	£55.10
2DC32	32A @ 600VDC	£72.40

4-pole double string plus other current & voltage ratings available on request

Shaft Power Monitors

Pro-active high specification measurement for machine & process protection

- Prevents dry running, cavitation and jamming in pumps
- For rated motor currents up to 999A
- Uses the motor as a sensor through a matched current transformer
- Automatic setting of alarm levels
- Modular DIN rail mounting for simple installation
- IP20 Protection class
- Typical applications include Pumps, Mixers, Agitators, Blenders, Scrapers, Conveyors, Machine tools, Automatic Gates and Doors



Model	Supply	Inputs	Outputs	Part No.	Dimensions (mm) H x W x D	Price £
EL-FI	Voltage					
M10	1ph 100-240V	Up to 50 Amps	1 x C/O relay	SS077	90 45 115	£293
	3ph 100-600V	External Reset	Alarm			
M20	1ph 100-240V	Up to 999 Amps	2 x N/O relay	SS070	90 45 115	£397
	3ph 100-240V	Auto Set & Reset	Alarm & Pre-alarm 1 x analogue			
M20	3ph 380-500V	Up to 999 Amps	2 x N/O relay	SS074	90 45 115	£397
		Auto Set & Reset	Alarm & Pre-alarm 1 x analogue			

- The above prices include the relevant Current Transformer for up to 100A
- Please specify the motor FLC or which CT is required as shown in the spares options below.
- Above 100 Amps FLC an additional CT is required – Price on application



EL-FI Shaft Power Monitor Options

Option	Part No.	Price £
FPK 1 - Front panel mounting kit including terminal covers Spare Current Transformers	SS076	£72.50
CTM10 - 0.4 to 10.0A FLC	SS071	£27.80
CTM25 - 10.1 to 25.0A FLC	SS073	£27.80
CTM50 - 26 to 50.0A FLC	SS072	£27.80
CTM100 - 51.0 to 100.0A FLC	SS075	£56.30
Terminal Covers - 2 off	SS080	£4.80

Please note:

For motors above 100A FLC an additional CT is required – Price on application

For up to 690V Supply voltages - price on application

New for Old!

Please note the above EL-FI Shaft Power Monitors now replace previous models as follows

M10 for basic functions - replaces EL-FI models LM, PM, FM, V5, V6.

M20 for advanced monitoring & analogue output - replaces EL-FI models LM, DLM, G3, V3, V5, V6

Please quote the old model voltage input, Part & Serial Numbers when enquiring.



EL-FI Drainage Control Monitor

Prevents Dry Running in Submersible Pumps, cuts running cost & extends lifetime

- Continuously adjusts the pump operation to suit the sump/pit filling rate, without sensors
- Minimised running reduces wear & tear and overall energy consumption
- Typical applications include Water treatment plants, Lifting pump stations, Booster stations and General drainage of construction sites, Quarries and Mines

Model	Supply	Inputs	Outputs	Part No.	Dimensions (mm) H x W x D	Price £
EL-FI	Voltage					
DCM	3ph 380-500V	up to 999 Amps Auto Set/Reset High Level Motor Thermal	2 x N/O relay Alarm & Pump	SS079	90 45 115	£536



FDU & VFX Inverters

Also available on request, high performance FDU & VFX frequency inverters with special application features built into robust panel or direct wall mounting modules as standard. Please contact us to discuss your requirements

NEW Soft Starters

MSF Soft Starters with Braking & Shaft Power Monitor Features

- Simplified Setting, New Functionality and More Flexible I/O
- Menu format coordinated with the new Emotron FDU and VFX drives
- New Front Panel - Emotron family look and improved keypad design
- High Specification features built in as standard for more applications and reduced cost.

Standard 200-525V AC Supply/Motor Voltage
Option 690 AC Supply/Motor Voltage on request
100-240v or 380-500 AC Control Voltage options

IP20 protection class, (NEMA 1) up to MSF835 / IP00 (NEMA 0) MSF1000 & 1400

Model	Dimensions (mm)			100-240V	380-500V	Price £
	A	kW*	H x W x D	Control Part No.	Control Part No.	
MSF 17	17	7.5	320 126 260	SS051	SS051A	£720
MSF 30	30	15	320 126 260	SS052	SS052A	£823
MSF 45	45	22	320 126 260	SS053	SS053A	£929
MSF 60	60	30	320 126 260	SS054	SS054A	£1,030
MSF 75	75	37	320 126 260	SS055	SS055A	£1,108
MSF 85	85	45	320 126 260	SS056	SS056A	£1,346
MSF 110	110	55	400 176 260	SS057	SS057A	£1,633
MSF 145	145	75	400 176 260	SS058	SS058A	£1,846
MSF 170	170	90	500 260 260	SS059	SS059A	£2,160
MSF 210	210	110	500 260 260	SS060	SS060A	£2,322
MSF 250	250	132	500 260 260	SS061	SS061A	£2,587
MSF 310	310	160	532 547 278	SS062	SS062A	£3,376
MSF 370	370	200	532 547 278	SS063	SS063A	£4,119
MSF 450	450	250	532 547 278	SS064	SS064A	£4,382
MSF 570	570	315	687 640 302	SS065	SS065A	£4,757
MSF 710	710	400	687 640 302	SS066	SS066A	£7,282
MSF 835	835	450	687 640 302	SS067	SS067A	£7,914
MSF 1000	1000	560	900 875 345	SS068	SS068A	£7,173
MSF 1400	1400	800	900 875 345	SS069	SS069A	£14,665

*Approximate kW @ 400V 3ph a.c. supply/motor voltage

MSF Soft Starter Options

Option	Part No.	Price £
Cable kit for external mounting CT's in bypass	XG825	£28
Factory fitted remote keypad mounting kit	XG826	£209
Retrofit remote keypad mounting kit	XG994	£263
Cable entry box (MSF 017 - 085 only)	XH002	£50

Please note:

- Complete control panels available on request.
- For up to 690V Supply/motor voltage price on application

Communication Software Options

Option	Price £
RS238 / RS485	£121
PROFIBUS DP	£506
DEVICENET	£438

General Electrical Data

Voltage Tolerances:	Control Voltage $\pm 10\%$ Motor Voltage 200 - 525 $\pm 10\%$
Recommended fuse for Control Card:	10 Amp max
Frequency:	50/60Hz $\pm 10\%$
Relay Outputs:	3 x 8 Amp, 250 AC
Operating Temp:	0 to 40°C + 10°C derate by 20% power reduction
Protection Degree:	IP20 <90kW IP20 >90kW
Overload:	Torque control 700% boost for 2 seconds, 250% during Ramp Voltage control 250% during Ramp



- Reduces water hammer
- Protects pumps from damage
- Special pump control feature



Up to 800kW

Diagnostics Capability

- 3ph Current
- 3ph Voltage
- Power kW
- Energy consumption kWh
- Elapsed time

Standards

EMC Emissions: EN50081-2 with by pass
EMC Immunity: EN50082-2

Low Cost Variable Speed Drives

Cost Effective Speed Control for Standard AC Induction Motor Applications including Pumps, Fans and Conveyors

J1000 Inverter – Single Phase 200–240V AC 50/60Hz – IP20 Module + RFI Filter

Inverter Module	Normal Duty Amp	Normal Duty kW	Heavy Duty Amp	Heavy Duty kW	Part No.	Price £	RFI Filter	Part No.	Price £
CIMR-JCBA0001BAA	1.2	0.2	0.8	0.1	YNE014	£153.20	FS23638-10-07	YNE019	£21.70
CIMR-JCBA0002BAA	1.9	0.4	1.6	0.2	YNE015	£160.40	FS23638-10-07	YNE019	£21.70
CIMR-JCBA0003BAA	3.5	0.75	3.0	0.4	YNE016	£169.70	FS23638-10-07	YNE019	£21.70
CIMR-JCBA0006BAA	6.0	1.1	5.0	0.75	YNE017	£202.00	FS23638-20-07	YNE022	£30.00
CIMR-JCBA0010BAA	9.6	2.2	8.0	1.5	YNE018	£268.00	FS23638-20-07	YNE022	£30.00

Note:

Normal Duty = 120% Overload for 60 seconds
Heavy Duty = 150% Overload for 60 seconds

The footprint mounting RFI Filter is required for full EMC compliance.



J1000 Inverter

- @ 0.1 - 5.5kW Power Ratings
- @ 200VAC & 400VAC
- @ 5 Digital Input
- @ 1 Analogue Input
- 1 Analogue Output
- 1 Relay output
- @ V/f control

J1000 Inverter – Three Phase 380–480V AC 50/60Hz – IP20 Module + RFI Filter

Inverter Module	Normal Duty Amp	Normal Duty kW	Heavy Duty Amp	Heavy Duty kW	Part No.	Price £	RFI Filter	Part No.	Price £
CIMR-JC4A0001BAA	1.2	0.4	1.2	0.2	YNE000	£252	FS23639-5-07	YNE007	£39.20
CIMR-JC4A0002BAA	2.1	0.75	1.8	0.4	YNE001	£278	FS23639-5-07	YNE007	£39.20
CIMR-JC4A0004BAA	4.1	1.5	3.4	0.75	YNE002	£315	FS23639-5-07	YNE007	£39.20
CIMR-JC4A0005BAA	5.4	2.2	4.8	1.5	YNE003	£353	FS23639-10-07	YNE010	£50.00
CIMR-JC4A0007BAA	6.9	3	5.5	2.2	YNE004	£423	FS23639-10-07	YNE010	£50.00
CIMR-JC4A0009BAA	8.8	3.7	7.2	3.0	YNE005	£463	FS23639-10-07	YNE010	£50.00
CIMR-JC4A0011BAA	11.1	5.5	9.2	4.0	YNE006	£515	FS23639-15-07	YNE013	£59.70

Note:

Normal Duty = 120% Overload for 60 seconds Heavy Duty = 150% Overload for 60 seconds

The footprint mounting RFI Filter is required for full EMC compliance.

Features

- Heavy Duty rating for Constant Torque Applications - for example Conveyors & Screw Feeders
- Normal Duty rating for Variable Torque Applications - for example Centrifugal Fans & Pumps
- Compact design and side by side mounting reduces installation and space costs
- Simple Digital Operator Keypad / Display with 8 keys & 5 digit LED display
- Easy Set-Up Functions for quick installation & operation
- Optional Remote LED Keypad / Display
- Serial Communication Option compatible with RS-422/485 Interface for MEMOBUS communication



Fans



Pumps



Conveyors

Options	Description	Part No.	Price £
JVOP-182	LED Operator Panel *	YNE027	£60.90
EUOP-V11001	Keypad IP65 Door Mounting Frame ***	YNE020	£43.00
RJ45 Plug Lead	Keypad Cable 1.5 meter	YNE021	£9.80
SI-485/J	Ser. Comm. Interf. RS 485	YNE023	£53.20
SI-232/J	Ser. Comm. Interf. RS 232-C	YNE024	£55.40
SI-232/JC	ditto RS232-C (removable)	YNE025	£63.00
AI-V3/J	Potentiometer	YNE026	£41.30
JVOP-181	Copy Unit w\USB converter **	YNE028	£201.00
EZZ08122A	DIN Rail Attachment 1	YNE029	£13.00
EZZ08122B	DIN Rail Attachment 2	YNE030	£15.20
EZZ08122C	DIN Rail Attachment 3	YNE154	£17.40

* Requires SI-232/J (YNE024)

** Requires SI-232/JC (YNE025)

*** Requires Keypad Cable (YNE021)

Your Specialist in
Variable Speed Drives

Tel: +44 (0)1924 368251
sales@cromptoncontrols.co.uk
www.cromptoncontrols.co.uk

Next Generation Variable Speed Drives

The "One For All" Inverter for Multiple Applications including all types of Pumps, Fans, Conveyors, Compressors, Mixers and more....

V1000 Inverter – Single Phase 200–240V AC 50/60Hz – IP20 Module + RFI Filter

Inverter Module	Normal Duty		Heavy Duty		Part No.	Price £	RFI Filter	Part No.	Price £
	Amp	kW	Amp	kW					
CIMR-VCBA0001BAA	1.2	0.2	0.8	0.1	YNE053	£202	FS23638-10-07	YNE019	£21.70
CIMR-VCBA0002BAA	1.9	0.4	1.6	0.2	YNE054	£208	FS23638-10-07	YNE019	£21.70
CIMR-VCBA0003BAA	3.3	0.75	3.0	0.4	YNE055	£218	FS23638-10-07	YNE019	£21.70
CIMR-VCBA0006BAA	6.0	1.1	5.0	0.75	YNE056	£256	FS23638-20-07	YNE022	£30.00
CIMR-VCBA0010BAA	9.6	2.2	8.0	1.5	YNE057	£303	FS23638-20-07	YNE022	£30.00
CIMR-VCBA0012BAA	12.0	3.0	11.0	2.2	YNE058	£354	FS23638-30-07	YNE065	£39.30
CIMR-VCBA0018BAA	-	-	17.5	4.0	YNE059	£402	FS23638-40-07	YNE066	£53.80

Note:

Normal Duty = 120% Overload for 60 seconds
 Heavy Duty = 150% Overload for 60 seconds

The footprint mounting RFI Filter is required for full EMC compliance.



V1000 Inverter

- @ 0.1 - 15kW Power Ratings
- @ 200VAC & 400VAC
- @ 6 Digital Input
 - 1 Pulse Input
 - 2 Analogue Input
- @ 1 Pulse Output
 - 1 Analogue Output
 - 1 Relay Output
- @ Safety EN 954-1 cat 3

V1000 Inverter – Three Phase 380-480V AC 50/60Hz – IP20 Module + RFI Filter

Inverter Module	Normal Duty		Heavy Duty		Part No.	Price £	RFI Filter	Part No.	Price £
	Amp	kW	Amp	kW					
CIMR-VC4A0001BAA	1.2	0.4	1.2	0.2	YNE031	£292	FS23639-5-07	YNE007	£39.20
CIMR-VC4A0002BAA	2.1	0.75	1.8	0.4	YNE032	£312	FS23639-5-07	YNE007	£39.20
CIMR-VC4A0004BAA	4.1	1.5	3.4	0.75	YNE033	£362	FS23639-5-07	YNE007	£39.20
CIMR-VC4A0005BAA	5.4	2.2	4.8	1.5	YNE034	£387	FS23639-10-07	YNE010	£50.00
CIMR-VC4A0007BAA	6.9	3	5.5	2.2	YNE035	£434	FS23639-10-07	YNE010	£50.00
CIMR-VC4A0009BAA	8.8	3.7	7.2	3.0	YNE036	£504	FS23639-10-07	YNE010	£50.00
CIMR-VC4A0011BAA	11.1	5.5	9.2	4.0	YNE037	£551	FS23639-15-07	YNE013	£59.70
CIMR-VC4A0018FAA	17.5	7.5	14.8	5.5	YNE038	£643	FS23639-30-07	YNE049	£67.40
CIMR-VC4A0023FAA	23.0	11.0	18.0	7.5	YNE039	£744	FS23639-30-07	YNE049	£67.40
CIMR-VC4A0031FAA	31.0	15.0	24.0	11.0	YNE040	£923	FS23639-50-07	YNE051	£123.90
CIMR-VC4A0038FAA	38.0	18.5	31.0	15.0	YNE041	£1,201	FS23639-50-07	YNE051	£123.90

Note:

Normal Duty = 120% Overload for 60 seconds Heavy Duty = 150% Overload for 60 seconds

The footprint mounting RFI Filter is required for full EMC compliance.

Features

- Heavy Duty rating for Constant Torque Applications - for example Conveyors & Screw Feeders
- Normal Duty rating for Variable Torque Applications - for example Centrifugal Fans & Pumps

All the features of the J1000 plus more including,

- Selectable Control Method: Open-Loop Current Vector or simple V/f
- Standard AC Induction Motor or Energy Saving Permanent Magnet Motor Control
- Application parameter pre-settings shorten set-up time
- Energy Saving Mode, PID control, Sleep Function, Auto-tuning,
- Dual Safety Input: safety category 3 (EN954-1), stop category) and IEC-61508 SIL2



Machine Tools



Compressors



Conveyors



Fans



Pumps

Options	Description	Part No.	Price £
JVOP-180	Separate LCD Operator Panel	YNE087	£104.40
JVOP-182	Separate LED Operator Panel	YNE027	£60.90
EUOP-V11001	Keypad IP65 Door Mounting Frame ***	YNE020	£43.00
RJ45 Plug Lead	Keypad Cable 1.5 meter	YNE021	£9.80
PS-V10S	ext.24V power supply upto 4kW	YNE080	£130.40
PS-V10M	ext.24V power supply 5,5-15kW	YNE081	£141.30
SI-C3/V	Comm.Interface CC Link	YNE082	£227.00
SI-N3/V	Comm.Interface DeviceNet	YNE083	£156.50
SI-P3/V	Comm.Interface Profibus DP	YNE084	£239.00
SI-S3/V	Comm.Interface CANopen	YNE085	£171.70
SI-T3/V	Comm.Interface Mechatrolink II	YNE086	£433.00
JVOP-181	Copy Unit RS232/USB	YNE028	£201.00
EZZ08122A	DIN Rail Attachment 1	YNE029	£13.00
EZZ08122B	DIN Rail Attachment 2	YNE030	£15.20
EZZ08122C	DIN Rail Attachment 3	YNE154	£17.40
EZZ08122D	DIN Rail Attachment 4	YNE155	£19.50

*** Requires Keypad Cable (YNE021)



IP66 Three Phase V1000 Inverter Modules c/w RFI Filter also available - see page 17

Next Generation Variable Speed Drives

The High Performance Inverter offering the widest range of control possibilities from simple to Advanced Vector Control Applications



A1000 Inverter

- @ 0.4 - 630kW Power Ratings
- @ 200VAC & 400VAC
- @ 8 Digital Input
 - 1 Pulse Input
 - 3 Analogue Input
- @ 1 Pulse Output
 - 2 Analogue Output
 - 3 Relay Output
- @ Advanced Open Loop Vector
 - Closed Loop Vector
- @ PM-, SPM-, & IPM Motor Control
- @ Safety EN 954-1 cat 3, EN 61508 SIL2

A1000 Inverter – Three Phase 380-480V AC 50/60Hz – Module + RFI Filter

Inverter Module	Normal Duty		Heavy Duty		Part No.	Price £	IP20 Kit*		RFI Filter	Part No.	Price £
	Amp	kW	Amp	kW			Part No.	Price £			
CIMR-AC4A0002FAA	2.1	0.75	1.8	0.55	YNE089	£463	IP20 Standard		FB-40008A	YNE110	£56.50
CIMR-AC4A0004FAA	4.1	1.5	3.4	0.75	YNE090	£480	IP20 Standard		FB-40008A	YNE110	£56.50
CIMR-AC4A0005FAA	5.4	2.2	4.8	1.5	YNE091	£497	IP20 Standard		FB-40008A	YNE110	£56.50
CIMR-AC4A0007FAA	6.9	3	5.5	2.2	YNE092	£550	IP20 Standard		FB-40008A	YNE110	£56.50
CIMR-AC4A0009FAA	8.8	4	7.2	3.0	YNE093	£587	IP20 Standard		FB-40014A	YNE114	£71.70
CIMR-AC4A0011FAA	11.1	5.5	9.2	4.0	YNE094	£637	IP20 Standard		FB-40014A	YNE114	£71.70
CIMR-AC4A0018FAA	17.5	7.5	14.8	5.5	YNE095	£755	IP20 Standard		FB-40025A	YNE116	£91.20
CIMR-AC4A0023FAA	23.0	11.0	18.0	7.5	YNE096	£886	IP20 Standard		FB-40025A	YNE116	£91.20
CIMR-AC4A0031FAA	31.0	15.0	24.0	11.0	YNE097	£1,027	IP20 Standard		FB-40044A	YNE118	£123.90
CIMR-AC4A0038FAA	38.0	18.5	31.0	15.0	YNE098	£1,338	IP20 Standard		FB-40044A	YNE118	£123.90
CIMR-AC4A0044FAA	44.0	22.0	39.0	18.5	YNE099	£1,614	IP20 Standard		FB-40060A	YNE120	£152.30
CIMR-AC4A0058AAA	58.0	30.0	45.0	22.0	YNE100	£1,937	YNE121	£225	FB-40060A	YNE120	£152.30
CIMR-AC4A0072AAA	72.0	37.0	60.0	30.0	YNE101	£2,309	YNE123	£237	FB-40072A	YNE119	£234.00
CIMR-AC4A0088AAA	88.0	45.0	75.0	37.0	YNE102	£2,865	YNE124	£254	FB-40105A	YNE122	£274.00
CIMR-AC4A0103AAA	103.0	55.0	91.0	45.0	YNE103	£2,982	YNE124	£254	FB-40105A	YNE122	£274.00
CIMR-AC4A0139AAA	139.0	75.0	112.0	55.0	YNE104	£3,542	YNE126	£276	FB-40170A	YNE125	£552.00
CIMR-AC4A0165AAA	165.0	90.0	150.0	75.0	YNE105	£4,711	YNE126	£276	FB-40170A	YNE125	£552.00
CIMR-AC4A0208AAA	208.0	110.0	180.0	90.0	YNE106	£5,182	YNE128	£438	FB-40250A	YNE127	£575.00
CIMR-AC4A0250AAA	250.0	132.0	216.0	110.0	YNE107	£6,145	YNE130	£537	FB-40250A	YNE127	£575.00
CIMR-AC4A0296AAA	296.0	160.0	260.0	132.0	YNE108	£7,034	YNE130	£537	FB-40350A	YNE129	£813.00
CIMR-AC4A0362AAA	362.0	185.0	304.0	160.0	YNE109	£8,527	YNE130	£537	FB-40350A	YNE129	£813.00

* IP20 Standard Protection up to CIMR-AC4A0044FAA, IP00 Standard from CIMR-AC4A0058AAA or IP20 with Option Kit above

Note: Normal Duty = 120% Overload for 60 seconds Heavy Duty = 150% Overload for 60 seconds

The footprint mounting RFI Filter is required for full EMC compliance.

Features

- Heavy Duty rating for Constant Torque Applications
- Normal Duty rating for Variable Torque Applications
- Integral Detachable LCD Operator Keypad/Display
- Closed-Loop Current Vector, Open-loop Vector & V/f Control modes
- Powerful Torque at 0 Hz without sensors or feedback devices
- Application Presets, Advanced Energy Saving, Power Loss Ride Through & Recovery, "Safe Torque Off" functional safety
- Multiple options available for comprehensive application performance & complex control



Options	Description	Part No.	Price £
JVOP-180	Separate LCD Operator Panel	YNE087	£104.40
JVOP-182	Separate LED Operator Panel	YNE027	£60.90
EUOP-V11001	Keypad IP65 Door Mounting Frame ***	YNE020	£43.00
RJ45 Plug Lead	Keypad Cable 1.5 meter	YNE021	£9.80
AI-A3	Analogue Input	YNE131	£165.20
AO-A3	Analogue Output	YNE132	£123.90
DI-A3	Digital Input	YNE133	£100.00
DO-A3	Digital Output	YNE134	£100.00
PG-B3	TTL Interface 30kHz	YNE135	£100.00
PG-X3	Line Driver Interface 300kHz	YNE136	£100.00
SI-C3	Comm. Interface CCLink	YNE137	£235.00
SI-N3	Comm. Interface DeviceNET	YNE138	£152.30
SI-P3	Comm. Interface ProfibusDP	YNE139	£399.00
SI-S3	Comm. Interface CANopen	YNE140	£169.10
SI-T3	Comm. Interface Mechatrolink II	YNE141	£217.00
PS-A10H	Power Supply Unit 24VDC (400V)	YNE142	£169.10
PS-A10L	Power Supply Unit 24VDC (200V)	YNE143	£169.10
CDBR-4030B	400V Braking Transistor Unit 30kW	YNE148	£547.00
CDBR-4045B	400V Braking Transistor Unit 45kW	YNE149	£594.00
CDBR-4090B	400V Braking Transistor Unit 90kW	YNE150	£1,633.00
CDBR-4220B	400V Braking Transistor Unit 220kW	YNE151	£2,084.00



Conveyors



Compressors



Punching Presses



Machine Tools

*** Requires Keypad Cable (YNE021)

NEW Wall Mounting Enclosed Inverters

Compact V1000 based Drive Units with IP66 protection for wet and dusty environments



- All the functions and benefits of the standard V1000 inverter plus
- Robust, highly sealed and protected enclosure for arduous decentralised locations
- Built in oversize LED Operator Keypad/Display for easy reading and handling
- Integrated Class C1 EMC filter



V1000 IP66 Enclosed Inverter – Three Phase 380-480V AC 50/60Hz with integral RFI Filter

Enclosed Inverter Model	Normal Duty		Heavy Duty		Dimensions (mm)			Part No.	Price £
	Amp	kW	Amp	kW	H	W	D		
CIMR-VC4A0001HAA-0080	1.2	0.4	1.2	0.2	340	262	173.5	YNE067	£601
CIMR-VC4A0002HAA-0080	2.1	0.75	1.8	0.4	340	262	173.5	YNE068	£636
CIMR-VC4A0004HAA-0080	4.1	1.5	3.4	0.75	340	262	173.5	YNE069	£708
CIMR-VC4A0005HAA-0080	5.4	2.2	4.8	1.5	340	262	173.5	YNE070	£796
CIMR-VC4A0007HAA-0080	6.9	3	5.5	2.2	340	262	173.5	YNE071	£856
CIMR-VC4A0009HAA-0080	8.8	3.7	7.2	3	340	262	173.5	YNE072	£982
CIMR-VC4A0011HAA-0080	11.1	5.5	9.2	4	340	262	173.5	YNE073	£1,215
CIMR-VC4A0018HAA-0080	17.1	7.5	14.8	5.5	500	345	273.5	YNE008	£1,439
CIMR-VC4A0023HAA-0080	23	11	18	7.5	500	345	273.5	YNE009	£1,672
CIMR-VC4A0031HAA-0080	31	15	24	11	500	345	273.5	YNE011	£1,996
CIMR-VC4A0038HAA-0080	38	18.5	31	15	500	345	273.5	YNE012	£2,400

High Performance A1000 based Drive Panels with IP54 protection for harsh environments

- All the functions and benefits of the standard A1000 inverter plus
- Compact IP54 protected enclosure for demanding decentralised installations
- Integral clear text LCD Operator Keypad/Display in 8 languages
- Integrated Class C1 EMC filter
- Lockable Mains Switch option



A1000 IP54 Enclosed Inverter – Three Phase 380-480V AC 50/60Hz with integral RFI Filter

Inverter Model	Normal Duty		Heavy Duty		Dimensions (mm) **			Part No.	Price £	Part No.	Price £
	Amp	kW	Amp	kW	H	W	D1 (D2)				
CIMR-AC4A0044TAA*	44	22	39	18.5	700	400	260 (292)	YNE042	£2,447	YNE050	£2,949
CIMR-AC4A0058TAA*	58	30	45	22	750	465	300 (331)	YNE043	£3,059	YNE052	£3,598
CIMR-AC4A0072TAA*	72	37	60	30	750	465	300 (331)	YNE044	£3,607	YNE060	£4,191
CIMR-AC4A0088TAA*	88	45	75	37	950	555	325 (375)	YNE045	£4,127	YNE061	£4,753
CIMR-AC4A0103TAA*	103	55	91	45	950	555	325 (375)	YNE046	£4,785	YNE062	£5,451
CIMR-AC4A0139TAA*	139	75	112	55	950	555	325 (375)	YNE047	£5,423	YNE063	£6,167
CIMR-AC4A0165TAA*	165	90	150	75	950	555	325 (375)	YNE048	£6,592	YNE064	£7,522

* Note: For Mains Switch version "-0095" completes model code and the YNE Part No. specifies type

** Note: "D2" Dimensions in brackets relate to with Mains Switch version

Floor Standing Enclosed A1000 Inverters

- Higher power cabinet build on request
- Free standing 90 – 315kW modular design
- IP23 or IP54 cubicle protection options
- Customisation panel extra for special requirements
- Product configured & Price available on request



IP54 Standard Inverter Panels

A Standard range of inverter drive cubicles pre-engineered for immediate installation
Complete with the **NEW** Yaskawa V1000 & A1000 inverter modules



For standard speed control of Pumps, Fans, Compressors, Mixers, Screw Conveyors and more

- Single or three phase versions.
- Standard control features.
- Supplied ready to install.
- Tailored solutions available on request.



V1000 Single Phase IP54 Standard Drive Panel

Single Phase 230V 50/60Hz Supply to Three Phase 230V Output

Model	Normal Duty		Heavy Duty		Approx Panel Size (mm)			Part No	Price £
	Amp	kW	Amp	kW	H	W	D		
VCBA0001	1.2	0.2	0.18	0.1	500	400	200*	YNE200	£741
VCBA0002	1.9	0.4	1.6	0.2	500	400	200*	YNE201	£753
VCBA0003	3.3	0.75	3	0.4	600	400	300*	YNE202	£805
VCBA0006	6	1.5	5	0.75	600	400	300*	YNE203	£867
VCBA0010	9.6	2.2	8	1.5	600	400	300*	YNE204	£1,057
VCBA0012	12	3	11	2.2	600	400	300*	YNE205	£1,179
VCBA0018			17.5	4.0	600	400	300*	YNE206	£1,266

* Wall Mounting

NOTE:-Normal Duty = 120% Overload for 60 seconds, Heavy Duty = 150% Overload for 60 seconds

V1000 Three Phase IP54 Standard Drive Panel

Three Phase 400V 50/60Hz Supply to Three Phase 400V Output

Model	Normal Duty		Heavy Duty		Approx Panel Size (mm)			Part No	Price £
	Amp	kW	Amp	kW	H	W	D		
VC4A0001	1.2	0.4	1.2	0.2	500	400	200*	YNE207	£1,012
VC4A0002	2.1	0.75	1.8	0.4	500	400	200*	YNE208	£1,072
VC4A0004	4.1	1.5	3.4	0.75	600	400	300*	YNE209	£1,098
VC4A0005	5.4	2.2	4.8	1.5	600	400	300*	YNE210	£1,398
VC4A0007	6.9	3	5.5	2.2	600	400	300*	YNE211	£1,443
VC4A0009	8.8	4	7.2	3.0	600	400	300*	YNE212	£1,533
VC4A0011	11.1	5.5	9.2	4.0	600	600	300*	YNE213	£1,633
VC4A0018	17.5	7.5	14.8	5.5	800	600	300*	YNE214	£2,082
VC4A0023	23	11	18	7.5	800	600	300*	YNE215	£2,242
VC4A0031	31	15	24	11	800	600	300*	YNE216	£2,780
VC4A0038	38	18.5	31	15	800	600	300*	YNE217	£3,148

* Wall Mounting

NOTE:-Normal Duty = 120% Overload for 60 seconds, Heavy Duty = 150% Overload for 60 seconds

A1000 Three Phase IP54 Standard Drive Panel

Three Phase 400V 50/60Hz Supply to Three Phase 400V Output

Model	Normal Duty		Heavy Duty		Approx Panel Size (mm)			Part No	Price £
	Amp	kW	Amp	kW	H	W	D		
AC4A0044	44	22	39	18.5	1000	800	300*	YNE218	£3,508
AC4A0058	58	30	45	22	1200	800	400*	YNE219	£4,202
AC4A0072	72	37	60	30	1200	800	400*	YNE220	£4,899
AC4A0088	88	45	75	37	1600	800	400**	YNE221	£5,856
AC4A0103	103	55	91	45	1600	800	400**	YNE222	£6,787
AC4A0139	139	75	112	55	1800	600	400**	YNE223	£7,700
AC4A0165	165	90	150	75	1800	1000	400**	YNE224	£9,143
AC4A0208	208	110	180	90	1800	1200	500**	YNE225	£10,808
AC4A0250	250	132	216	110	1800	1200	500**	YNE226	£12,122
AC4A0296	296	160	260	132	1800	1600	500**	YNE227	£14,696

* Wall Mounting

** Floor Mounting

NOTE:-Normal Duty = 120% Overload for 60 seconds, Heavy Duty = 150% Overload for 60 seconds

Technical Specifications

- Robust IP54 sheet steel enclosure.
- Inverter Module with emc filtering
- Ventilation cooling fans and filters where rating requires.
- Door interlocked mains isolator.
- Supply Contactor with power On/Off push buttons.
- Inverter Start/Stop push buttons.
- Speed potentiometer.
- Mains on lamp.
- Emergency stop (Category 1) - via mains contactor.
- Door mounted operator display.

Available on request

- Additional control functionality.
- Dynamic Braking.
- Serial Communications.
- Stainless Steel or preferred paint finish.
- Larger enclosures.
- Fully customised drive systems.



Fans



Pumps



Conveyors



Compressors



Machine Tools

Please refer to pages 15 & 16 for the complete drives specification and range of common and application options available.

All cubicle dimensions are approximate only and may be affected where further options or tailored solutions are required, please consult us with your exact requirements.

Customised LV Control Panels

Designed to Customer Specifications

Crompton Controls provide a complete design and manufacturing service for control panels built to individual customer requirements:

- **Oil and Petro-Chemical** Mixing, Cooling and Process control
- **Industry** Machine and Factory equipment controls
- **Water Sector** Handling, Treatment and Pumping systems
- **Building Services** Fan, Pump and Compressor controls
- **Aggregates** Crusher drives and Conveying systems



Crompton Controls improve product quality and reduce waste

Hanson Aggregates at Ashton, choose Crompton Controls to improve product quality and reduce waste.

The Ashton operation, provide materials for producing a wide variety of road surfaces.

Recipes for the various mixes are dialled up from the control room.

It became evident that the recipes were not being delivered correctly or consistently.

This used up more material and in turn lead to a massive waste and rework problem.

Crompton Controls were called in to look at the problem and recommended the installation of a complete new drive system.

Crompton Controls successfully commissioned the control panel over the course of a weekend.

Hanson were only really expecting marginal benefits but have been completely overwhelmed by the improvements the new system has given. There is now little or no waste.



NEW Energy Saving Drive?

Crompton Controls can help you -

- Reduce energy consumption
- Significantly reduce electricity costs
- Obtain rapid paybacks on capital equipment
- Improve process efficiency
- Improve operating cash flow

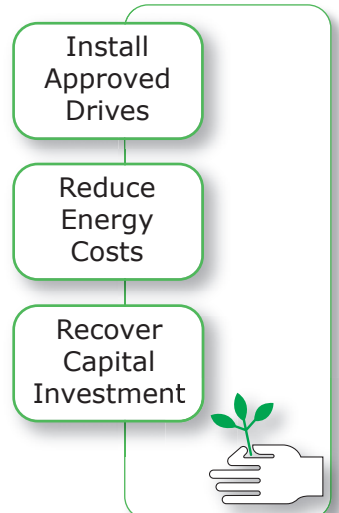


Energy Saving with Inverter Drives

- Variable Speed Inverter Drives Save Energy
- On Variable Torque / Centrifugal type loads the "rules of thumb" are 10% slower = up to 30% less energy, 20% slower = up to 50% less energy
- Many Fans & Pumps run unnecessarily fast and are often oversized
- Reducing speed can significantly lower energy cost
- Controlling temperature, flow or pressure can substantially improve performance & efficiency

Crompton Controls Offer

- Inverters from Internationally recognised Company Yaskawa Electric
- Energy Saving Calculator software
- Full on site Energy Analysis Service if required
- Technical, Cost and Payback Estimations
- Inverter modules to fully integrated cubicle systems
- Complete Commissioning and Service support



AC Contactors & Accessories

CC RANGE



Three Pole AC Contactors (Price includes Coil)

Type	AC3 Rating	kW @ 415V	Aux Contacts	AC-1 Rating	Price £	Type	AC3 Rating	kW @ 415V	Aux Contacts	AC-1 Rating	Price £
CC0910	12A	5.5	1 x N/O	25A	£26.50	CC2501	32A	15	1 x N/C	40A	£54.20
CC0901	12A	5.5	1 x N/C	25A	£26.50	CC3210	40A	18.5	1 x N/O	50A	£70.40
CC1210	18A	7.5	1 x N/O	25A	£27.90	CC3201	40A	18.5	1 x N/C	50A	£70.40
CC1201	18A	7.5	1 x N/C	25A	£27.90	CC4011	50A	22	1 x N/O, 1 x N/C	60A	£96.50
CC1810	25A	11	1 x N/O	32A	£36.60	CC5011	65A	30	1 x N/O, 1 x N/C	80A	£125.90
CC1801	25A	11	1 x N/C	32A	£36.60	CC6511	80A	37	1 x N/O, 1 x N/C	80A	£135.30
CC2510	32A	15	1 x N/O	40A	£54.20	CC8011	105A	55	1 x N/O, 1 x N/C	125A	£162.90

Add required AC Voltage & Frequency to Contactor Type to complete the reference eg **CC1210-400-50/60**

CC Range AC Coils	Voltages Available
Standard Dual 50/60Hz	24V, 48V, 110V, 230V, 400V, 440V
Special Dual 50/60Hz	120V, 220V, 240V, 380V, 415V, 480V, 500V,
Special 60Hz Only	208V, 277V, 600V



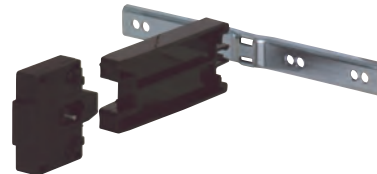
Spare Contactor Coils

Type*	Price £
CX09-18 Fit 09 to 18 Contactors	£11.70
CX25-32 Fit 25 to 32 Contactors	£14.90
CX40-80 Fit 40 to 80 Contactors	£23.20

* Add required AC Voltage and Frequency to Contactor and Coil Type

Mechanical Interlocks

Type	Price £
CML09-32 Fit 09 to 32 Contactors	£5.70
CML40-65 Fit 40 to 65 Contactors	£8.60
CML80 Fit 80 Contactors	£8.60



Add-On Auxiliary Contact Blocks

Front Mounting - N/O Contacts first digit, N/C second digit

Type	Price £	Type	Price £
CBF20 Fit 09 to 80 Contactors	£7.66	CBF31 Fit 09 to 80 Contactors	£12.52
CBF02 Fit 09 to 80 Contactors	£7.66	CBF40 Fit 09 to 80 Contactors	£12.52
CBF11 Fit 09 to 80 Contactors	£7.66	CBF04 Fit 09 to 80 Contactors	£12.52
CBF13 Fit 09 to 80 Contactors	£12.52	CBF10 Fit 40 to 80 Contactors	£7.00
CBF22 Fit 09 to 80 Contactors	£12.52	CBF01 Fit 40 to 80 Contactors	£7.00



Add-On Auxiliary Contact Blocks

Side Mounting - N/O Contacts first digit, N/C second digit

Type	Price £	Type	Price £
CBS20 Fit 09 to 80 Contactors	£9.80	CBS11 Fit 09 to 80 Contactors	£9.80

Add-On Auxiliary Contact Blocks

Pneumatic Timer Block - Front Mounting

Type	Price £	Type	Price £
CDT3 3 sec delay off	£44.80	CTE3 3 sec delay on	£44.80
CTD30 30 sec delay off	£44.80	CTE30 30 sec delay on	£44.80
CTD180 180 sec delay off	£44.80	CTE180 180 sec delay on	£44.80



Higher rated Contactors also available on request

Thermal Overload Relays & Accessories

RANGE

Manual Overload Reset



Manual/Automatic Reset



Used in Series 3000 Starters

Thermal Overload Relays - Manual Reset Type CR

Type	Amps Range		Price £	Type	Amps Range		Price £
CR09/0.25	0.16-0.25	Fit 09 to 32 Contactors	£29.40	CR16/18	13-18	Fit 09 to 32 Contactors	£29.40
CR09/0.4	0.25-0.4	Fit 09 to 32 Contactors	£29.40	CR25/25	18-25	Fit 09 to 32 Contactors	£32.10
CR09/0.63	0.4-0.63	Fit 09 to 32 Contactors	£29.40	CR32/32	23-32	Fit 25 to 32 Contactors	£54.10
CR09/1	0.63-1	Fit 09 to 32 Contactors	£29.40	CR32/40	28-40	Fit 25 to 32 Contactors	£54.10
CR09/1.6	1.0-1.6	Fit 09 to 32 Contactors	£29.40	CR40/32	23-32	Fit 40 to 65 Contactors	£74.50
CR09/2.5	1.6-2.5	Fit 09 to 32 Contactors	£29.40	CR40/40	30-40	Fit 40 to 65 Contactors	£74.50
CR09/4	2.5-4	Fit 09 to 32 Contactors	£29.40	CR63/50	38-50	Fit 40 to 65 Contactors	£77.60
CR09/6	4.0-6	Fit 09 to 32 Contactors	£29.40	CR63/57	48-57	Fit 40 to 65 Contactors	£77.60
CR09/8	5.5-8	Fit 09 to 32 Contactors	£29.40	CR63/66	57-66	Fit 40 to 65 Contactors	£79.60
CR09/10	7.0-10	Fit 09 to 32 Contactors	£29.40	CR80/80	66-80	Fit to CC65 Contactor	£80.60
CR12/13	10-13	Fit 09 to 32 Contactors	£29.40				

Type CMB Mounting Bracket req'd for use with CC80 Contactor

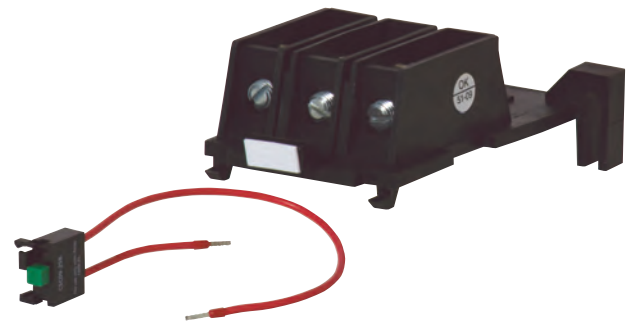
Manual Relay Mounting Brackets Type CMB

Type		Price £
CMB09-25	for relays CR09-25	£6.50
CMB32	for relays CR32	£10.60
CMB40-80	for relays CR40-80	£24.30

Manual Overload Relay Mounting Start Contacts

Type		Price £
CSC09-25B	fits relays CR09-25	3.70
CSC32B	fits relays CR32 Only	3.70

Start Contacts for Manual Overload Relays only and used in Series 3000 Starters



Thermal Overload Relays - Manual/Automatic Reset Type CRA

Type	Amps Range		Price £	Type	Amps Range		Price £
CRA09/0.25	0.16-0.25	Fit 09 to 32 Contactors	£35.60	CRA16/18	12-18	Fit 09 to 32 Contactors	£35.60
CRA09/0.4	0.25-0.4	Fit 09 to 32 Contactors	£35.60	CRA25/25	18-25	Fit 09 to 32 Contactors	£38.40
CRA09/0.63	0.4-0.63	Fit 09 to 32 Contactors	£35.60	CRA32/32	23-32	Fit 25 to 32 Contactors	£60.40
CRA09/1	0.63-1	Fit 09 to 32 Contactors	£35.60	CRA32/36	28-36	Fit 25 to 32 Contactors	£60.40
CRA09/1.6	1.0-1.6	Fit 09 to 32 Contactors	£35.60	CRA40/32	23-32	Fit 40 to 95 Contactors	£80.80
CRA09/2.5	1.6-2.5	Fit 09 to 32 Contactors	£35.60	CRA40/40	30-40	Fit 40 to 95 Contactors	£80.80
CRA09/4	2.5-4	Fit 09 to 32 Contactors	£35.60	CRA65/50	37-50	Fit 40 to 95 Contactors	£83.90
CRA09/6	4.0-6	Fit 09 to 32 Contactors	£35.60	CRA65/65	48-65	Fit 40 to 95 Contactors	£83.90
CRA09/8	5.5-8	Fit 09 to 32 Contactors	£35.60	CRA65/70	55-77	Fit 40 to 95 Contactors	£85.90
CRA09/10	7.0-10	Fit 09 to 32 Contactors	£35.60	CRA80/80	63-80	Fit 40 to 95 Contactors	£86.90
CRA12/13	9-13	Fit 09 to 32 Contactors	£35.60	CRA80/93	80-93	Fit 40 to 95 Contactors	£94.20

Automatic Relay Mounting Brackets Type CMBA

Type		Price £
CMBA09-25	for relays CRA09-25	£6.50
CMBA32	for relays CRA32	£10.60
CMBA40-80	for relays CRA40-80	£24.30

Four Pole Contactor Style Control Relays

Type*	Contacts	Price £
CCR22	2 x N/O & 2 x N/C	£27.80
CCR31	3 x N/O & 1 x N/C	£27.80
CCR40	4 x N/O Only	£27.80

*Add required AC voltage and Frequency to Relay Coil Type

CBF/CBS Type Contactor Auxiliary Contact Blocks and CX Type Contactors Coils can be fitted



Higher rated Thermal Overload Relays also available on request

NEW 4-Pole AC Contactors, Accessories & Built Up Sets

CC RANGE

4-Pole Contactors & Accessories

- Fully rated 4th pole
- Simple & robust construction
- High mechanical & electrical life
- Full range of add on accessories
- Interlocked pair under one part number available



Pre-assembled Contactor Sets

- Ideal for generator changeover
- 2 x 4-Pole Contactors
- 230V 50/60Hz Coils Standard *
- 2 x CBF11 Contact Blocks
- 1 x Mechanical Interlock & rail
- 1 x Mounting Base plate if required

Four Pole AC Contactors - (price includes 230V coil)

Contactor	AC-1 Rating (A)	AC-3 Rating (A)	Stock Part No. 230V 50/60Hz Coil	Price £
CC09004	25	9	CO445	£32.60
CC12004	25	12	CO446	£36.90
CC25004	40	25	CO448	£57.90
CC40004	60	40	CO449	£112.10
CC50004	80	50	CO450	£124.70
CC65004	80	65	CO451	£149.10
CC80004	125	80	CO452	£211.00
CC95004	125	95	CO453	£234.00
CC1154A	200	115	CO454	£363.00
CC1504A	250	150	CO455	£391.00
CC1854A	275	185	CO456	£491.00
CC2254A	315	225	CO457	£498.00
CC2654A	350	265	CO458	£710.00
CC3304A	400	330	CO459	£890.00
CC4004A	500	400	CO460	£1,055.00
CC5004A	700	500	CO461	£1,720.00
CC6304A	1000	630	CO462	£2,180.00

*Other coil voltages available on request

Interlocked Pair Part Number	Price £
CO426	£86.20
CO427	£94.80
CO429	£136.80
CO430	£248.00
CO431	£273.00
CO432	£322.00
CO433	£446.00
CO434	£482.00
CO435	£826.00
CO436	£882.00
CO437	£1,092.00
CO438	£1,106.00
CO439	£1,540.00
CO440	£1,900.00
CO441	£2,230.00
CO442	£3,560.00
CO443	£4,500.00

Mechanical Interlocks complete with rail - larger sizes also require Base Plates

Type	Price £
CML09-32	fit CC09 to CC25 contactors £5.70
CML40-65	fit CC40 to CC65 contactors £8.60
CML80	fit CC80 to CC95 contactors £8.60
CML-FF970	fit CC115 to CC150 contactors £20.00
CML-FG970	fit CC185 to CC225 contactors £30.00
CML-FJ970	fit CC265 to CC500 contactors £40.00
CML-FL970	fit CC630 contactors £60.00



Add On Auxiliary Contact Blocks

See 3-pole Contactors & Accessories on page 20

Auto Mains Failure & Generator Set Control Panels available on request

- Control of Emergency & Standby Power Systems
- Wide range of AMF/Genset Relay Controllers
- Complete changeover control panels
- Measure & show volts, amps, power factor, power
- GPRS/GSM & SMS communications connectivity

Base Plates for CC115 to CC630

Contactor	Part No.	Price £
CC115 & CC150	MI020	£65
CC185 & CC225	MI021	£65
CC2654A	MI022	£65
CC3304A	MI023	£65
CC4004A	MI024	£65
CC5004A	MI025	£65
CC6304A	MI026	£65



Electronic Components

Electronic Timers

Standard Timer:	Type TM. Voltages: 110V, 220/240V, 380/440V		
FUNCTION	Delay on energisation.		
OPERATION	On application of the desired supply voltage the relay operates after the set delay period.		
TIME RANGES AVAILABLE	30 secs – TM30S	1 mins – TM1M	2 mins – TM2M
	4 mins – TM4M	8 mins – TM8M	16 mins – TM16M
	20 mins – TM20M		
Price	£52.00		



Star Delta Timer:	Type YD. Voltages: 110V, 220/240V, 380/440V		
FUNCTION	Double relay timer for Star Delta starting.		
OPERATION	On application of the desired voltage supply the Star relay operates and releases after the set delay period. After an additional fixed delay period of 75ms the Delta relay operates until the supply is removed.		
TIME RANGES AVAILABLE	30 secs – YD30S	1 min – YD1M	2 mins – YD2M
Price	£62.90		

Electronic Protection Units

Thermistor Protection Unit:	Type TH		
FUNCTION	Protection against over-temperature damage to motor windings.		
OPERATION	The relay energises immediately on application of the desired supply voltage. If an over-temperature condition occurs it is detected by the thermistor and the relay is de-energised, breaking the control circuit and thus switching off the supply to the motor.		
TYPES AVAILABLE	TH110 – supply voltage 110V, 220/240V TH415 – supply voltage 220/240V, 380/440V		
MANUFACTURED TO BS4999 Part 111:1987	For use in conjunction with PTC Thermistors as specified in the same British Standard		
Price	£52.00		

Electronics Design Service

Crompton Controls have long experience in the design, development and manufacture of a broad range of electronics based motor control products including DC Injection Brakes, Timers, Protection Relays and Variable Voltage Controllers.

Whether you require a variation on one our standard products or have a project that may need a fully customised electronics solution we would welcome the opportunity to discuss and evaluate your requirements - please contact us for further details



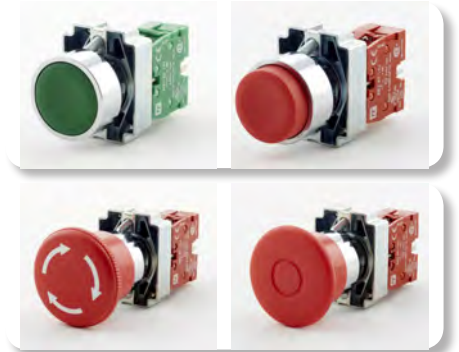
Your Specialist in Control Solutions

■ Tel: +44 (0)1924 368251
■ sales@cromptoncontrols.co.uk
■ www.cromptoncontrols.co.uk

NEW 22.5mm IP65 Control Components

Push Buttons

Part No.	Description	Price £
PB013C	Push Button Green Chrome Collar	£4.30
PB016C	Push Button Reset Actuator Blue	£10.80
PB017C	Push Button Protruding Red Chrome Collar	£5.00
PB018C	Push Button Flush Red Chrome Collar	£4.30
PB019C	Push Button Red Mushroom Head	£7.30
PB020C	Push Button Red Latching Mushroom Head	£11.90
PB021C	Push Button Double (Vertical) with Legend (IP40 only)	£8.00
PB048C	Push Button Red Latching Mushroom Head (Key Release)	£17.30
PB054C	Push Button Black Chrome Collar	£4.30
PB055C	Push Button Blue Chrome Collar	£4.30
PB077C	Illuminated Push Button Flush Green	£4.90
PB078C	Illuminated Push Button Protruding Red	£4.90
PB088C	Push Button Red Emergency Stop	£10.10
PB089C	Push Button Green Chrome Collar with Legend (I)	£5.40
PB090C	Push Button Red Protruding Chrome Collar with Legend (0)	£6.10



Order contact block separately

Indicator Lamps

Part No.	Description	Price £
PB041C	Lamp Holder 130V 1.2W Max no bulb *	£5.00
PB043C	Transformer Lamp 230/130V 1.2W inc bulb	£14.80
PB015C	Resistor Lamp 230/130V 1.2W inc bulb	£6.20
PB014C	Resistor Lamp 110/60V 1.2W inc bulb	£6.20
PB094C	LED Lamp White 110V integral bulb	£6.80
PB095C	LED Lamp Green 110V integral bulb	£6.80
PB096C	LED Lamp Yellow 110V integral bulb	£6.80
PB097C	LED Lamp Red 110V integral bulb	£6.80



Lens and head required extra from lens colour options below

Spare BA9S Bulbs: 24V (BU004) **£2.10** 60V (BU010) **£2.90** 130V (BU009) **£2.10**

Part No.	Description	Price £
PB103C	Lamp Holder for Illuminated Push Button 130V 1.2W max no bulb	£6.00
PB104C	Resistor Lamp for Illuminated Push Button 230/130V 1.2W inc bulb	£7.20

Lens Head with body

Part No.	Description	Price £	Part No.	Description	Price £
PB022C	Pilot Light Lens Green	£3.20	PB025C	Pilot Light Lens White	£3.20
PB023C	Pilot Light Lens Yellow	£3.20	PB026C	Pilot Light Lens Blue	£3.20
PB024C	Pilot Light Lens Red	£3.20			

Order lampholders separately

Key Operated Switches

Part No.	Description	Price £
PB028C	2 Position Switch Non Latching (1x45 deg)	£13.60
PB029C	3 Position Switch Non Latching (2x45 deg)	£13.60
PB030C	2 Position Switch Latching (1x90 deg)	£12.70
PB031C	2 Position Switch Latching (1x90 deg) key removable in Off only	£12.70
PB032C	3 Position Switch Latching (2x90 deg)	£12.70



Order contact block separately

Spare keys £4.20 each (DO021). To suit above switches only.

Selector Switches

Part No.	Description	Price £
PB033C	2 Position Selector Switch Non Latching (1x45 deg)	£5.80
PB034C	3 Position Selector Switch Non Latching (2x45 deg)	£5.80
PB035C	3 Position Selector Switch Latching (2x60 deg)	£4.90
PB036C	2 Position Selector Switch Latching (1x90 deg)	£4.90



Order contact block separately

Contacts

Part No.	Description	Price £	Part No.	Description	Price £
PB039C	N/O Contact Green	£4.10	PB093C	Coupler	£0.70
PB040C	N/C Contact Red	£4.10			

Late break/Early Make contacts available on request.

Plastic Push Button Station Enclosure Coponents

Part No.	Description	Dimensions (mm)			Price £
		H	W	D	
PB046C	Emergency Stop Station 1 Unit Yellow Lid	74	68	51	£14.40
PB049C	Yellow P/B Plate Emergency Stop				£2.60
PB050C	Station for 1 Unit	74	68	51	£15.70
PB051C	Station for 2 Units	104	68	51	£17.90
PB052C	Station for 3 Units	134	68	51	£26.10
PB053C	Station for 4 Units	164	68	51	£29.80
NP007	Blank Legend Plates supplied Loose				£1.40
special	Engraved Legend Plates - Max 24 Characters:				
special	Price per plate for 1 to 10 plates				£4.00
special	Price per plate for 11 or more plates				P.O.A.



Assembled Plastic Push Button Station- Surface Mounting

Add suffix 'M' if you require mushroom stop

1 Station	Price £	2 Station	Price £	3 Station	Price £
Start		Start-Stop		Forward/Stop/Reverse	
PBS1 START-C	£26.80	PBS2 SS-C	£42.20	PBS3 FSR-C	£64.30
Stop		Start/Mushroom Stop		Start/Stop/Inch	
PBS1 STOP-C	£27.30	PBS2 SSM-C	£53.70	PBS3 SSI-C	£64.30
Mushroom Stop		Up-Down		Forward/Mushroom Stop/Reverse	
PBS1 STOPM-C	£30.90	PBS2 UD-C	£41.90	PBS3 FSSIM-C	£66.40
Emergency Stop				Start/Mushroom Stop/Inch	
PBS1 ES-C	£28.50			PBS3 SSIM-C	£64.60
				Start/Stop/Potentiometer	
				PBS3 SSP-C	£94.10

Recommended Stockist Display Packages

Part No.	Description	Recommended Quantity	Price £ Each
DOL Starters - Without Overload			
3DL1EZS	5.5kW DOL	5	£36.60
3DL2EZS	7.5kW DOL	3	£50.10
3DL3EZS	11.0kW DOL	1	£53.70
Star Delta Starters - Without Overload			
3DL1EZS	11kW SD	1	£227.60
3DL2EZS	15kW SD	1	£235.60
DC Brake Starters - With Overload			
3DCM1EJS	3.0kW Max	2	£405.00
3DCM1ELS	5.5kW Max	1	£433.00
BR011	Brake Module	1	£202.00
DOL Reversing Starters - Without Overload			
3DR1EZS	5.5kW	1	£202.00
3DR2EZS	7.5kW	1	£209.00
Note 1: All starters are supplied with 400V coil (other voltages are available)			
Note 2: Larger sizes of all starters, isolators and mains fuses are available upon request			
Heating & Lighting Controls			
3HS1S	60A AC1 Single Pole & Neutral	1	£60.40
3HT1S	25A AC1 Three Pole & Neutral	1	£53.30
Note 3: Larger sizes available.			
Shaft Power Monitors			
SS074	M20 3ph 380-500V. Up to 999A	1	£397.00
Other versions available			
Thermister Protection Unit			
TH415	220/240 - 380/440V (110V also available)	2	£52.00
Timer			
TM30S	Delay on 0-30sec. Other times also available.	2	£52.00
Three Pole AC Contactors and Accessories Also Available in Four Pole up to 1000A AC1 and with other Coil Voltages			
CC0910	400V - 12A / 1 x N/O	5	£26.50
CC0910	230V - 12A	3	£26.50
CC1210	400V - 18A	5	£27.90
CC1210	230V - 18A	3	£27.90
CC1810	400V - 25A	2	£36.60
CC1810	230V - 25A	2	£36.60
CC2510	400V - 32A	2	£54.20
CC2510	230V - 32A	2	£54.20
CC3210	400V - 40A	2	£70.40
CC3210	230V - 40A	2	£70.40
CC4011	400V - 50A / 1 x N/O, 1 x N/C	2	£96.50
CC4011	230V - 50A / 1 x N/O, 1 x N/C	2	£96.50
CC5011	400V - 65A / 1 x N/O, 1 x N/C	2	£125.90
CC5011	230V - 65A / 1 x N/O, 1 x N/C	2	£125.90
CBF11	Contact Block / 1 x N/O, 1 x N/C	3	£7.66
CFB22	Contact Block / 2 x N/O, 2 x N/C	3	£12.52
CML09-32	Mech Interlock to fit 9A to 32A Contactors	2	£5.70
CML40-65	Mech Interlock to fit 40A to 65A Contactors	2	£8.60
CML80	Mech Interlock to fit 80A Contactors	2	£8.60
Contactor Coils			
CX09-18	Coil to fit 9A to 18A Contactors	3	£11.70
CX25-32	Coil to fit 25A to 32A Contactors	2	£14.90
CX40-80	Coil to fit 40A to 80A Contactors	1	£23.20
Thermal Overload Relays			
CR09/4	2.5A - 4A	3	£29.40
CR09/6	4A - 6A	3	£29.40
CR09/8	5.5A - 8A	3	£29.40
CR09/10	7A - 10A	3	£29.40
CR12/13	10A - 13A	3	£29.40
CR16/18	13A - 18A	3	£29.40

With your first order :

- FREE Stand on orders over £4,000 Net
- Orders under £4,000 Stand Cost £450 Net
- Select from our recommended stock profile or choose your own



Part No.	Description	Recommended Quantity	Price £ Each
Push Buttons & Empty Housings - 22mm			
PB013C	Flush Green Chrome Collar	2	£4.30
PB017C	Protruding Red Chrome Collar	2	£5.00
PB020C	Red Latching Mushroom Head	2	£11.90
PB039C	N/O Contact Block Green	2	£4.10
PB040C	N/C Contact Block Red	2	£4.10
PB046C	E-Stop Station 1 Way Yellow Lid	2	£14.40
PB051C	Station 2 Way Grey Lid	2	£17.90
PB023C	Pilot Light Lens Yellow	2	£3.20
PB024C	Pilot Light Lens Red	2	£3.20
PB022C	Pilot Light Lens Green	2	£3.20
PB041C	Lamp Holder 415V 2.6W max	6	£5.00
BU004	Spare Bulbs 24V	3	£2.10
BU010	Spare Bulbs 60V	3	£2.90
BU009	Spare Bulbs 130V	3	£2.10
PB093C	Coupler	2	£0.70
Complete Push Button Stations			
PBS1 START-C	1 Way Start	1	£26.80
PBS1 ES-C	1 Way Emergency Stop	1	£28.50
PBS2 SS-C	2 Way Start/Stop	1	£42.20
PBS3 FSR-C	3 Way - Forward/Stop/Reverse	1	£64.30
Isolators			
S3AC20	3 Pole 20A @230vac	2	£24.10
S3AC25	3 Pole 25A @230vac	2	£25.70
S3AC32	3 Pole 32A @230vac	2	£26.50
V1000 Inverters			
YNE055 +	V1000 0.4kW 3.0A Single Phase	1	£239.70
YNE019	+ RFI Filter		
YNE057 +	V1000 1.5kW 8.0A Single Phase	1	£333.00
YNE022	+ RFI Filter		
YNE035 +	V1000 2.2kW 5.5A Single Phase	1	£460.60
YNE010	+ RFI Filter		

Definition of Degrees of Protection

The designation used for the degree of protection consists of the letters IP followed by two numerals signifying conformity with the conditions stated in the table.

Designation	First Numeral Protection against contact and against ingress of solid objects.	Second Numeral Protection against ingress of water.	General Description
IP21	Protection against contact by finger with electrically live parts inside the enclosure and against solid objects with a diameter greater than 12mm.	Dripping water falling vertically	Drip Proof
IP22		Dripping water falling at an angle up to 15° from the vertical.	
IP23		Water falling as a spray at an angle up to 60° from the vertical.	
IP31	Protected against ingress of solid objects with a diameter of more than 2.5 mm.	Dripping water falling vertically	Enclosed
IP44	Protection against contact with live or moving parts by tools, wires or other objects of a thickness greater than 1mm.	Water splashing against the machine from any angle shall have no harmful effect	Totally Enclosed
IP55	Complete protection against contact with live or moving parts. Protection against harmful deposits of dust. Dust does not accumulate in an amount sufficient to impair operation.	Water projected by a nozzle against the machine from any angle shall have no harmful effect.	Totally Enclosed or Weatherproof or Dustproof or Hoseproof
IP56		Water protected against conditions on a ships deck.	Deck Watertight
IP65	Totally protected against dust.	Water projected by a nozzle against the machine from any angle shall have no harmful effect.	Dust Tight
IP66		Water protected against conditions on a ships deck.	Dust and Watertight

A Guide to Typical Currents (amps)

Motor Power Rating		FULL LOAD CURRENT (A)										
		Single Phase			Three Phase							
kW	HP	110V	220V	240V	220V	240V	346V	380V	415V	440V	500V	550V
0.095	1/8	2.69	1.34	1.23	0.751	0.689	0.478	0.435	0.398	0.376	0.331	0.3
0.125	1/6	3.38	1.69	1.55	0.935	0.855	0.593	0.541	0.495	0.466	0.411	0.372
0.150	1/5	3.91	1.96	1.79	1.06	0.971	0.675	0.614	0.562	0.53	0.466	0.424
0.190	1/4	4.66	2.32	2.13	1.24	1.14	0.788	0.718	0.657	0.62	0.545	0.495
0.250	1/3	5.80	2.9	2.68	1.50	1.37	0.955	0.87	0.795	0.75	0.66	0.6
0.375	1/2	7.77	3.88	3.56	1.98	1.82	1.26	1.15	1.05	0.99	0.871	0.792
0.600	3/4	10.4	5.2	4.77	2.72	2.5	1.73	1.58	1.44	1.36	1.20	1.09
0.750	1	13.2	6.59	6.04	3.36	3.09	2.14	1.95	1.78	1.68	1.48	1.34
1.1	1 1/2	19.2	9.6	8.8	4.75	4.35	3.02	2.75	2.51	2.37	2.09	1.9
1.5	2	25.4	12.7	11.7	6.12	5.61	3.89	3.55	3.24	3.06	2.7	2.45
1.9	2 1/2	31.5	15.7	14.4	7.5	6.88	4.76	4.34	3.97	3.75	3.3	3
2.2	3	37.3	18.6	17.1	8.83	8.1	5.61	5.11	4.68	4.42	3.88	3.53
3	4	48.3	24.3	22.2	11.5	10.6	7.32	6.66	6.1	5.77	5.07	4.61
3.7	5	59.2	29.6	27.1	14.2	13	9.04	8.22	7.54	7.1	6.25	5.69
4.5	6	69.4	34.7	31.8	16.9	15.4	10.7	9.75	8.92	8.41	7.40	6.73
5.2	7	79.6	39.8	36.5	19.5	17.9	12.4	11.3	10.4	9.75	8.59	7.8
5.6	7 1/2	84.4	42.2	38.7	20.8	19.1	13.2	12	11	10.4	9.15	8.31
6	8	89.0	44.5	40.8	22.1	20.2	14	12.8	11.7	11	9.7	8.81
6.7	9	99.0	49.5	45.4	24.6	22.6	15.7	14.3	13.1	12.3	10.8	9.84
7.5	10	109.0	54.4	50.0	27.3	25	17.4	15.8	14.5	13.7	12	10.9
9.3	12 1/2				33.8	31	21.5	19.6	17.9	16.9	14.9	13.5
11	15				40.1	36.8	25.5	23.3	21.3	20.1	17.7	16.1
15	20				53	48.5	33.7	30.7	28	26.5	23.3	21.2
18.5	25				65.6	60.1	41.7	38	34.8	32.8	28.9	26.3
22	30				78.1	71.5	49.6	45.1	41.3	39	34.4	31.2
26	35				90.6	83.1	57.6	52.5	48	45.3	39.9	36.3
30	40				103	94.5	65.5	59.6	54.6	51.5	45.3	41.2
34	45				116	106	73.5	67	61.3	57.9	50.9	48.3
37.5	50				128	117	81.3	74.1	67.9	64	56.4	51.2
45	60				153	140	97	88.4	80.9	76.3	67.1	61
52.5	70				177	163	113	103	94	88.5	77.9	70.9
56	75				189	174	120	110	100	94.6	83.4	75.7
60	80				202	185	128	117	107	101	88.5	80.5
67.5	90				227	208	144	131	120	113	99.8	90.7
75	100				251	230	159	145	133	125	110	100

Extras for motor starters

Description	Enclosure	Price £
Small ammeter to 40A	Pressed	£71.30
Ammeter under 70A	All types	£91.00
Ammeter above 70A FLC	All types	£131.30
Volt Meter	All types	£91.00
Control Transformer	Pressed	£83.40
Anti Condensation Heater	Pressed	£15.70
Anti Condensation Heater	Hinged	£35.40
Neon Indicator	Pressed	£16.70
Filament Lamp	All Types	£38.10

Description	Enclosure	Price £
Mushroom Head Stop	Pressed	£5.60
Latching Stop/Lock	All Types	£23.70
Thermistor Unit in place of Thermal Overload	Pressed	£49.60
Hand/Off/Auto Switch	Pressed	£24.50
Hours Run Meter	All types	£70.10
External Overload Reset	Hinged	£35.50
Chassis Interiors Only	All types	P.O.A.



SERIES 3000

Crompton Controls Standard Starter Codes

Example Starter Code:
3SD3ENI/04
 A 22kW Star Delta starter 400V, 3ph, 50Hz, complete with Isolator, Ammeter and Thermal Overload range 31-43 amps is:

1 Starter Type

Code	Description
3DL	Direct-on-Line (D.O.L.)
3DR	Direct-on-Line Reversing
3SD	Star-Delta (S.D.)
3DW	Dual Wound
3PC	Pole Change
3SP	Series Parallel
3DS	Duty Standby
3FS	Fan Shaker
3EBS	Enclosures only
3DC	3 Phase DOL DC Brake
3DP	1 Phase DOL DC Brake
3DY	Star Delta DC Brake
3SG	Spinguard
3DLF	ATEX Direct-on-Line
3SDF	ATEX Star-Delta

2 Main Contactor

Code	Maximum Power & Current			S.D	
	D.O.L. kW	A	A		
1	CC09	5.5	12	11	21
2	CC12	7.5	18	15	30
3	CC16	11.0	25	22	43
4	CC25	15.0	32	30	55
A5	CC32	18.5	40	37	69
5(05 for 3SD)	CC40	26.0	50	45	85
6(06 for 3SD)	CC50	30.0	55	55	98
07	CC65	37.0	80	75	138
08	CC80	55.0	100	90	160
09	CCM150	75.0	140	110	208
10	CCM180	90.0	180	150	250
11	CCM250	110.0	200	200	346
12	CCM250	132.0	220	220	380

3 Contactor Coil Voltage & Hz

Code	Dual 50/60Hz Standard Voltage	60Hz Only	Special Voltage	Special Voltage
A	110		M	277
B	230		P	208
C	24		U	600
D	24			
E	400			
F	440			
I	48			
J	120			
K	380			
L	220			
M	480			
N	240			
O	400			
P	240			
Q	575			
R	415			

Method Of Starting
 Contactor Size to cover motor Power (kW's) and Full Load Current (AMPS)
Note Different Ratings for Direct-On-Line & Star-Delta

Typical Motor Currents (amps)

Motor Power Rating	HP	220V	240V	380V	415V
0.095	1.34	1.23	1.23	0.435	0.398
0.125	1.69	1.55	1.55	0.541	0.495
0.150	1.96	1.79	1.79	0.614	0.562
0.190	2.32	2.13	2.13	0.718	0.657
0.250	2.9	2.68	2.68	0.87	0.795
0.375	3.88	3.56	3.56	1.15	1.05
0.600	5.2	4.77	4.77	1.58	1.44
0.750	6.59	6.04	6.04	1.95	1.78
1.1	9.6	8.8	8.8	2.75	2.51
1.5	12.7	11.7	11.7	3.55	3.24
2.2	15.7	14.4	14.4	4.34	3.97
3	18.6	17.1	17.1	5.11	4.68
4	24.3	22.2	22.2	6.66	6.1
5	29.6	27.1	27.1	8.22	7.54
7.5	34.7	31.8	31.8	9.75	8.92
11	42.2	38.7	38.7	11.3	10.4
15	44.5	40.8	40.8	12.8	11.7
22	49.5	45.4	45.4	14.3	13.1
30	54.4	50.0	50.0	15.8	14.5
37.5	54.4	50.0	50.0	15.8	14.5
45	54.4	50.0	50.0	15.8	14.5
60	54.4	50.0	50.0	15.8	14.5
75	54.4	50.0	50.0	15.8	14.5
90	54.4	50.0	50.0	15.8	14.5
110	54.4	50.0	50.0	15.8	14.5
150	54.4	50.0	50.0	15.8	14.5
200	54.4	50.0	50.0	15.8	14.5
250	54.4	50.0	50.0	15.8	14.5
300	54.4	50.0	50.0	15.8	14.5
350	54.4	50.0	50.0	15.8	14.5
400	54.4	50.0	50.0	15.8	14.5
450	54.4	50.0	50.0	15.8	14.5
500	54.4	50.0	50.0	15.8	14.5
550	54.4	50.0	50.0	15.8	14.5
600	54.4	50.0	50.0	15.8	14.5
650	54.4	50.0	50.0	15.8	14.5
700	54.4	50.0	50.0	15.8	14.5
750	54.4	50.0	50.0	15.8	14.5
800	54.4	50.0	50.0	15.8	14.5
850	54.4	50.0	50.0	15.8	14.5
900	54.4	50.0	50.0	15.8	14.5
950	54.4	50.0	50.0	15.8	14.5
1000	54.4	50.0	50.0	15.8	14.5

Control Circuit Voltage & Frequency (Hz)

Starter Style
 Overload Range to cover Motor Full Load Current
Note Different Ratings for Direct-On-Line & Star-Delta

4 Overload Range

Code	D.O.L.	Star Delta	Overload Relay	Fits Contactor
X	0.16 - 0.25A	CR09/0.25	CR09/0.25	CC09 to CC32
A	0.25 - 0.4A	CR09/0.4	CR09/0.4	CC09 to CC32
B	0.4 - 0.63A	CR09/0.63	CR09/0.63	CC09 to CC32
D	0.63 - 1.0A	CR09/1	CR09/1	CC09 to CC32
E	1.0 - 1.6A	CR09/1.6	CR09/1.6	CC09 to CC32
F	1.6 - 2.5A	CR09/2.5	CR09/2.5	CC09 to CC32
G	2.5 - 4.0A	CR09/4	CR09/4	CC09 to CC32
H	4.0 - 6A	CR09/6	CR09/6	CC09 to CC32
J	5.5 - 8A	CR09/8	CR09/8	CC09 to CC32
K	7.0 - 10A	CR09/10	CR09/10	CC09 to CC32
L	10 - 13A	CR12/13	CR12/13	CC09 to CC32
M	13 - 18A	CR16/18	CR16/18	CC09 to CC32
N	18 - 25A	CR25/25	CR25/25	CC09 to CC32
C	23 - 32A	CR32/32	CR32/32	CC25 to CC32
Q	28 - 40A	48 - 69A	CR32/40	CC25 to CC32
R	23 - 32A	39 - 55A	CR40/32	CC40 to CC65
S	30 - 40A	51 - 69A	CR40/40	CC40 to CC65
T	38 - 50A	65 - 86A	CR63/50	CC40 to CC65
U	48 - 57A	88 - 98A	CR63/57	CC40 to CC65
V	57 - 66A	98 - 114A	CR63/66	CC40 to CC65
W	63 - 80A	109 - 138A	CR80/80	CC40 to CC80
P	80 - 93A	138 - 161A	CR80/93	CC40 to CC80
Y				Thermistor Protection
Z				Without Overload Fitted (Wired for loose O/L to be fitted)

Higher Thermal Overload Ranges available on request

6 Extra Features Suffix Codes

Code	Description
01	Stop/Reset Only
02	Press to Run
03	Hand/Off/Auto Selector
04	Ammeter
05	Separate Control Circuit
06	Control Transformer
07	Line to Neutral Control
08	Motor Running Lamp
09	Anti-Condensation Heater
10	Single Phase Mains Wiring
11	Single Phase & Stop Reset
12	Single Phase & Press to Run
13	Single Phase & Hand/Off/Auto
14	Single Phase & Ammeter
15	Single Phase & Separate Control Circuit
16	Single Phase & Control Transformer
17	Single Phase & Motor Run Lamp
18	Single Phase & Anti-Condensation Heater

5 Variations

Code	Starter Version
S	Standard
F	With Isolator
F	With Isolator and Mains Fuses / Switch Fuse*
L	With Mains Fuses
P	Plastic Enclosure
U	Un-enclosed (Interior only)

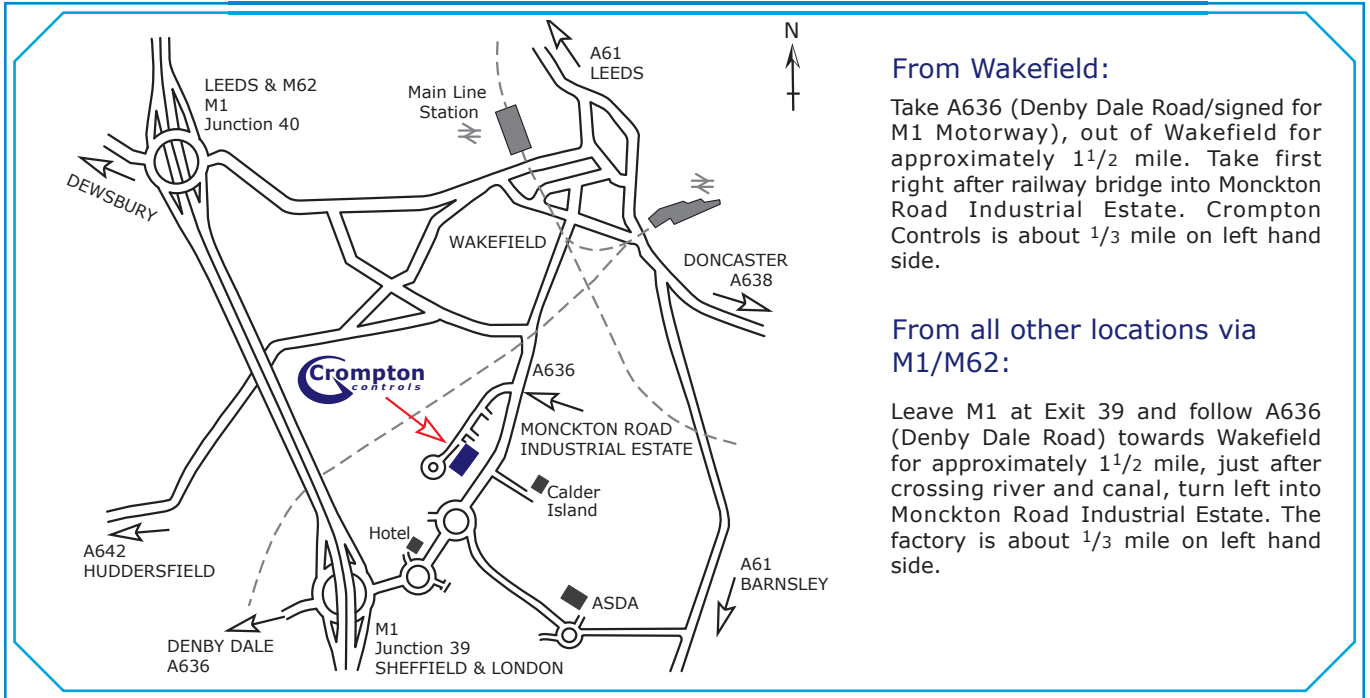
* Hinged Door Enclosures - Switch Fuse fitted



Crompton Controls
 Monckton Road,
 Wakefield,
 West Yorkshire WF2 7AL UK
 Tel: +44 (0)1924 368251
 Fax: +44 (0)1924 367274
 E-mail: sales@cromptoncontrols.co.uk

www.cromptoncontrols.co.uk

You are welcome to visit us



From Wakefield:

Take A636 (Denby Dale Road/signed for M1 Motorway), out of Wakefield for approximately 1½ mile. Take first right after railway bridge into Monckton Road Industrial Estate. Crompton Controls is about 1/3 mile on left hand side.

From all other locations via M1/M62:

Leave M1 at Exit 39 and follow A636 (Denby Dale Road) towards Wakefield for approximately 1½ mile, just after crossing river and canal, turn left into Monckton Road Industrial Estate. The factory is about 1/3 mile on left hand side.

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Goods are sold subject to our standard conditions of sale appropriate to the particular goods (available on request).

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Standard 1 to 2 Day Carrier over £50 order value **£15.00 net**

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£21.50 net

Next day, up to 12.00 noon

£26.50 net

Next day, up to 10am

£31.50 net

Saturday am

£39.50 net

Items under 1kg via mail

£5.50 net

Items over 20kg

£110 net per pallet

Ireland, Scottish Highlands and Channel Islands **£26.50 net** up to 3 days transit - no next day service

We can arrange special delivery via couriers etc. at customers request.

Please note: Delivery charges for inverters - **P.O.A.**

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Your Specialist in Control Solutions

Monckton Road, Wakefield, West Yorkshire WF2 7AL UK

Tel: +44 (0)1924 368251 E-mail: info@cromptoncontrols.co.uk

www.cromptoncontrols.co.uk

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