

2022



SPECIALIST CONTROL SOLUTIONS

Standard & Bespoke Starters |  
DC Injection Brakes | Contac-  
tors | Components | Timers | Re-  
lays | Control Panels | Periph-  
erals | Power Transmission &  
Monitors | VSD Inverters | Pan-  
el Monitoring & Proccess Pro-  
tection | Electric Vehicle Charg-  
ing | Energy Efficient Controls



# This is Crompton Controls

Welcome to a heritage spanning 130 years supplying outstanding controls and system solutions.



Our well known products are listed at the front of the catalogue, our **GREEN** listings indexed from the back and our Custom Panel Builds are highlighted in the centre spread.

## Standard & Bespoke Starters

We've made industrial electric motor starters for generations and are still No.1 in what we do with a huge installed base and the widest range from a single UK supplier. Our experienced Sales & Technical Support Teams are readily contactable to help you select from our massive back catalogue or design a bespoke starter to suit your exact specification from special control features to enhanced connectivity or any other custom solution.

## Control Panel Design & Build

If you like our starter's, you'll love our main courses! Custom built control panels. With full AutoCAD design, quick drawing turnaround and a highly skilled production team, dedicated to hitting client deadlines, you really can rely on us for all your special control panel needs. From motor and machine control to fan and pump operation, variable speed drive and power changeover to fully functional building management system control panels.

## Components, Peripherals, VSDs & EV Equipment

Whether Crompton own branded or in conjunction with our select international partners and exclusive UK distribution deals we can supply an impressive and comprehensive range of products. From internal panel controllers, modules, switchgear and panel door mounted devices, to external panel sensors, detectors and indicators, electric motors, mechanical drive transmission equipment, variable speed inverters, electric vehicle chargers and accessories and much, much more!

'...We Design, Manufacture, Distribute & Support with a professional yet personal touch & a core value to be as easy to deal with as possible so that you can trust us to look after your business with minimum fuss..!'



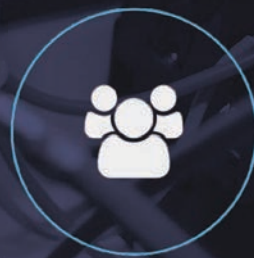
**DESIGN**  
AutoCAD - Expert Project Engineers



**MANUFACTURE**  
Long History of Technical Excellence



**DISTRIBUTE**  
Nationwide Partner Network



**SUPPORT**  
Technical Guidance, Sales & Service

**DOL & Star Delta Starters,  
Steel & Plastic Enclosures**

(Page 8 to 19)

Section 1

**DC Injection Brake Systems**

(Page 20 to 24)

Section 2

**Hazardous Area Starters  
& Controls**

(Page 26 & 27)

Section 3

**Contactors & Accessories**

(Page 28 to 33)

Section 4

**Panel Components, Control  
Stations & Electronic Timer  
Relays**

(Page 34 to 39)

Section 5

**Control Panels & Peripheral  
Equipment**

(Page 41 to 44)

Section 6

**Power Transmission, Shaft  
Power Monitors, Soft  
Starters & Variable Speed  
Inverter Drives**

(Page 46 to 65)

Section 7

**Special Panel Monitoring  
& Process Protection**

(Page 66 to 71)

Section 8

**Electric Vehicle (EV) Charging  
Stations & Equipment**

(Page 72 to 77)

Section 9

**Easy Speedy Energy Efficient  
Starters**

(Page 78 & 79)

Section 10



## Slatwall Displays - POINTS OF SALE for the Serious Stockist!

Contact our office to find out more about our POS options.

**1** PB046CBP  
Emergency Stop Station  
1 Unit - Yellow Lid

**2** PB050CBP  
Station for 1 Unit

**3** PB051CBP  
Station for 2 Units

**4** PB013CNOBP  
Green Push Button  
c/w N/O Contact and Coupler

**5** PB017CNCBP  
Red Protruding Push Button  
c/w N/C Contact and Coupler

**6** PB036CNOBP  
Selector Switch  
2 Position Latching - 1 x 90°  
c/w 1 N/O Contact and Coupler

**7**

**8** PB031CNOBP  
Key Switch  
2 Position Latching - 1 x 90°  
c/w 1 N/O Contact and Coupler

**9** PB032C2NOBP  
Key Switch  
3 Position Latching - 2 x 90°  
c/w 2 N/O Contact and Coupler

**10** PB088CNCBP  
Emergency Stop Twist Release  
Push Button  
c/w 1 N/C Contact and Coupler

**11** PB039CBP  
N/O Contact

**12**

**13**

**14**

**15** PB108CBP  
Green LED Indicator

**16** PB109CBP  
Blue One Piece LED Indicator

**17** PB110CBP  
White One Piece LED Indicator

**18** CC14MR BASE 24VACBP  
14 Pin 24VAC Miniature Relay  
c/w Base

**19** CC14MR BASE 24VDCBP  
14 Pin 24VDC Miniature Relay  
c/w Base

**20**

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**100**

Your specialist in control solutions

Call us **NOW** for Technical Help and Pricing..!

**Spoola**+

The Original Spoola Plus Cable Carrier will hold up to 50KG of cable..!

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Or visit our website for details  
[cromptoncontrols.co.uk](http://cromptoncontrols.co.uk)

Cable Tidy Bar for hassle free uncoiling

**Crompton**  
controls





**Did you know** we are part of a growing group of connected businesses?





# Why choose **Crompton** for your **Starters**

- **UK manufacturer with over 130 years history**
- **Huge Market** - for new & replacement starters & components
- **Largest Range** - of motor starters available from a single supplier
- **Experienced Sales & Technical Support Staff always on hand**
- **Custom Build** - Starters with any additional controls & features
- **Free Product & Sales Training** - for close stockist partners

**Get off to the right start..!**



## Direct-on-Line & Star Delta **Standard Motor Starters**

...and there's more...

# BESPOKE

WE'RE No.1 IN THE UK FOR OUR HUGE RANGE OF STANDARD GEAR FROM STOCK & WE RAISE THE BAR HIGHER STILL WITH OUR CUSTOM DESIGN & BUILD OFFERING. COVERING YOUR EXACT SPECIFICATION, WE'LL PLAN THROUGH YOUR NEEDS WITH YOU, OFFER ADVICE, CREATE POSSIBILITIES & DELIVER THE OPTIMAL SOLUTION FOR YOUR PROCESS OR APPLICATION - WHAT BITS DO YOU WANT IN YOUR BOX? YOU NAME IT, WE'LL CUSTOM BUILD IT!



## Product in focus

# Standard Starters

## Star Delta Motor Starters

22kW 43A FLC version  
ref 3SD3ENS without isolator

### Standard Features:

- IP55 Steel Enclosure 184H x 284W x 149D(mm)
- Built in Stop/Start push buttons
- Provision for Remote Control
- Hand Reset Thermal Overload
- Coil voltages 24V, 48V, 110V, 230V, 400V & 440V
- UK designed & manufactured



Complete **Star Delta** starter range of products available

LARGER Star Delta Standard Starters **11kW to 220kW**

Star Delta DC Injection Brakes **5.5kW to 37kW**

Customised Steel, Plastic/GRP, Stainless and ATEX enclosures on request



## Direct-on-Line Motor Starters

7.5kW 18A FLC version  
ref 3DL2EZS without isolator

### Standard Features:

- IP55 Steel Enclosure
- Surface mounting (flush mounting option)
- Three phase (and single phase)
- Built in Stop/Start push buttons
- Provision for Remote Control
- Hand Reset Thermal Overload
- Coil voltages 24V, 48V, 110V, 230V, 400V & 440V
- UK designed & manufactured



Complete **DOL** starter range of products available

LARGER Size Direct-on-Line Standard Starters **5.5kW to 132kW**

Direct-on-Line DC Injection Brakes **2.2kW to 22kW**

Customised Steel, Plastic/GRP, Stainless and ATEX enclosures on request



# SERIES 3000

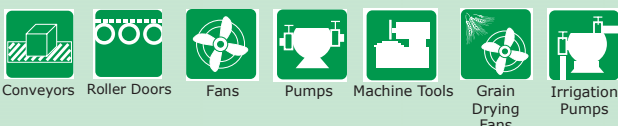


## How's this for **Starters..?**

- Direct On Line / Star Delta
- DOL Reversing / 1Ph Series Parallel
- 2 Speed Dual Wound / 2 Speed Pole Change
- DOL Duty Standby / DOL Fanshaker
- DOL Flush Mounted
- Manual Motor Starters



WEBSHOP



BOX SIZE Colour Chart - See Page 12

## Direct-on-Line Standard Starters

**Features:**

- Robust Enclosure - Sheet Steel 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 and more
- Provision for remote control



Max FLC (415V 3ph)	kW	Approx. (HP)	Without Isolator & Mains Fuses Reference	List Price £	With Isolator Reference	List Price £	With Isolator & Mains Fuses Reference	List Price £
12	5.5	(7.5)	3DL1--S	POA	3DL1--I	POA	3DL1--F	POA
18	7.5	(10)	3DL2--S	POA	3DL2--I	POA	3DL2--F	POA
25	11	(15)	3DL3--S	POA	3DL3--I	POA	3DL3--F	POA
30	15	(20)	3DL4--S	POA	3DL4--I	POA	3DL4--F	POA
40	18.5	(25)	3DLA5--S	POA	3DLA5--I	POA	3DLA5--F	POA
50	26	(35)	3DL5--S	POA	3DL5--I	POA	3DL5--F	POA
65	30	(40)	3DL6--S	POA	3DL6--I	POA	3DL6--F	POA
80	37	(50)	3DL07--S	POA	3DL07--I	POA	3DL07--F	POA
100	55	(75)	3DL08--S	POA	3DL08--I	POA	3DL08--F	POA
140	75	(100)	3DL09--S	POA	3DL09--I	POA	3DL09--F	POA
180	90	(125)	3DL10--S	POA	3DL10--I	POA	3DL10--F	POA
200	110	(150)	3DL11--S	POA	3DL11--I	POA	3DL11--F	POA
220	132	(175)	3DL12--S	POA	3DL12--I	POA	3DL12--F	POA

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

**Overload:**  
Up to 18 amps POA  
19 to 25 amps POA

Contactor Coil Voltage & Hz			
Dual 50 / 60Hz		60Hz Only	
Standard	Voltage	Special	Voltage
A	110		
C	230		
D	24		
E	400		
F	440		
I	48		
S	480	P	208

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
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

Overload Range				
Code	D.O.L.	Star Delta	Overload Relay	Fits Contactors
X	0.16 - 0.25A		CR09/0.25	CC09 to CC32
A	0.25 - 0.4A		CR09/0.4	CC09 to CC32
B	0.4 - 0.63A		CR09/0.63	CC09 to CC32
D	0.63 - 1.0A		CR09/1	CC09 to CC32
E	1.0 - 1.6A		CR09/1.6	CC09 to CC32
F	1.6 - 2.5A	2.7 - 4.3A	CR09/2.5	CC09 to CC32
G	2.5 - 4.0A	4.3 - 6.9A	CR09/4	CC09 to CC32
H	4.0 - 6A	6.9 - 10.4A	CR09/6	CC09 to CC32
J	5.5 - 8A	9.5 - 13.8A	CR09/8	CC09 to CC32
K	7.0 - 10A	12 - 17A	CR09/10	CC09 to CC32
L	10 - 13A	17 - 22A	CR12/13	CC09 to CC32
M	13 - 18A	22 - 31A	CR16/18	CC09 to CC32
N	18 - 25A	31 - 43A	CR25/25	CC09 to CC32
C	23 - 32A	39 - 55A	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	83 - 98A	CR63/57	CC40 to CC65
V	57 - 66A	98 - 114A	CR63/66	CC40 to CC65
W	63 - 80A	109 - 138A	CRA80/80	CC40 to CC80
P	80 - 93A	138 - 161A	CRA80/93	CC40 to CC80

Y Thermister Protection  
Z Without Overload Fitted (Wiring for loose O/L to be fitted)

Higher Thermal Overload Ranges available on request

Note: For how to code a Standard Starter see page 18



3DL1ELS



3DL1ELI

## Star Delta Standard Starters

**Features:**

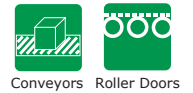
- Robust Enclosure - Sheet Steel IP55
- Surface Mounting Type: 3SD
- Built in Start/Stop Reset Push Buttons
- Three Phase
- Standard Coil Voltages: 50/60Hz
- Hand reset thermal overloads
- Wye Delta Connected
- 24V, 48V, 110V, 230V, 400V, 440V and more
- Provision for remote control

Max FLC (415V 3ph)	Approx. kW	Approx. (HP)	Without Isolator & Mains Fuses (Interior Only)			With Isolator (Interior Only)			With Isolator & Mains Fuses (Interior Only)		
			Reference	List Price £	List Price £	Reference	List Price £	List Price £	Reference	List Price £	List Price £
21	11	(15)	3SD1--S	POA	POA	3SD1--I	POA	POA	3SD1--F	POA	POA
30	15	(20)	3SD2--S	POA	POA	3SD2--I	POA	POA	3SD2--F	POA	POA
43	22	(30)	3SD3--S	POA	POA	3SD3--I	POA	POA	3SD3--F	POA	POA
55	30	(40)	3SD4--S	POA	POA	3SD4--I	POA	POA	3SD4--F	POA	POA
69	37	(50)	3SDA5--S	POA	POA	3SDA5--I	POA	POA	3SDA5--F	POA	POA
85	45	(60)	3SD05--S	POA	POA	3SD05--I	POA	POA	3SD05--F	POA	POA
98	55	(75)	3SD06--S	POA	POA	3SD06--I	POA	POA	3SD06--F	POA	POA
138	75	(100)	3SD07--S	POA	POA	3SD07--I	POA	POA	3SD07--F	POA	POA
160	90	(125)	3SD08--S	POA	POA	3SD08--I	POA	POA	3SD08--F	POA	POA
208	110	(150)	3SD09--S	POA	POA	3SD09--I	POA	POA	3SD09--F	POA	POA
250	150	(175)	3SD10--S	POA	POA	3SD10--I	POA	POA	3SD10--F	POA	POA
310	185	(250)	3SD10--S	POA	POA	3SD10--I	POA	POA	3SD10--F	POA	POA
346	200	(287)	3SD11--S	POA	POA	3SD11--I	POA	POA	3SD11--F	POA	POA
380	220	(300)	3SD12--S	POA	POA	3SD12--I	POA	POA	3SD12--F	POA	POA

## Direct-on-Line Reversing Standard Starters

**Features:**

- Robust Enclosure - Sheet Steel IP55
- Surface Mounting Type: 3DR
- 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 and more



Max FLC (415V 3ph)	Approx. kW	Approx. (HP)	Without Isolator & Mains Fuses		With Isolator		With Isolator & Mains Fuses	
			Reference	List Price £	Reference	List Price £	Reference	List Price £
12	5.5	(7.5)	3DR1--S	POA	3DR1--I	POA	3DR1--F	POA
18	7.5	(10)	3DR2--S	POA	3DR2--I	POA	3DR2--F	POA
25	11	(15)	3DR3--S	POA	3DR3--I	POA	3DR3--F	POA
30	15	(20)	3DR4--S	POA	3DR4--I	POA	3DR4--F	POA

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

## Direct-on-Line Fan Shaker - For Dust Extraction Systems

**Features:**

- Robust Enclosure - Sheet Steel IP55
- Surface Mounting Type: 3FS
- Overload current ranges: 0.16 to 25amps
- 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 and more
- Two Motor D-O-L

Max FLC (415V 3ph)	Approx. kW	Approx. (HP)	Without Isolator		With Isolator		With Isolator & Fuses	
			Reference	List Price £	Reference	List Price £	Reference	List Price £
12	5.5	(7.5)	3FS1--S	POA	3FS1--I	POA	3FS1--F	POA
18	7.5	(10)	3FS2--S	POA	3FS2--I	POA	3FS2--F	POA
25	11	(15)	3FS3--S	POA	3FS3--I	POA	3FS3--F	POA



**\* 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 - POA  
 Neon - Lamp - Shaker Tripped up to 230V - P.O.A.  
 Emergency Stop - P.O.A.  
 Any combination on request - P.O.A.



3FSIEKS

**Options - Timer Only:**

Reference	Voltage	List Price £
FS1 400V	400V	POA
FS1 230V	230V	POA
FS1 110V	110V	POA

## Direct-on-Line Flush Mounted - Unique Design

**Features:**

- Robust Enclosure - Sheet Steel 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 and more
- Overload current ranges: 0.16 to 18amps



Max FLC (415V 3ph)	kW	Approx. (HP)	All Steel Enclosure	
			Reference	List Price £
12	5.5	(7.5)	3DF1--S	POA
18	7.5	(10)	3DF2--S	POA

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



3DF1CLS10

## Manual Motor Starters

Reference	Description	List Price £
CCMS0.16	Manual motor starter overload 0.1-0.16	POA
CCMS0.25	Manual motor starter overload 0.16-0.25	POA
CCMS0.4	Manual motor starter overload 0.25-0.40	POA
CCMS0.63	Manual motor starter overload 0.40-0.63	POA
CCMS1	Manual motor starter overload 0.63-1	POA
CCMS1.6	Manual motor starter overload 1-1.6	POA
CCMS2.5	Manual motor starter overload 1.6-2.5	POA
CCMS4	Manual motor starter overload 2.5-4	POA
CCMS6.3	Manual motor starter overload 4-6.3	POA
CCMS10	Manual motor starter overload 6.3-10	POA
CCMS16	Manual motor starter overload 10-16	POA
CCMS20	Manual motor starter overload 16-20	POA
CCMS25	Manual motor starter overload 20-25	POA
CCGE1	IP55 Enclosure	POA
CCUN110V	Under voltage release 110V	POA
CCUN240V	Under voltage release 240V	POA
CCUN415V	Under voltage release 415V	POA
CCAS415V	Shunt release 415V	POA
CCPV	Emergency stop button	POA
CCHS11	Auxiliary Contact Block 1NO/1NC Side Mounting	POA



CCMS

CCGE1

CCPV

CCUN110V



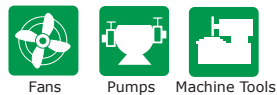
## Two Speed Dual Wound

**Features:**

- Robust Enclosure - Sheet Steel IP55
- Surface Mounting Type: 3DW
- Hand reset thermal overloads
- Three Phase
- Standard Coil Voltages: 50/60Hz
- Built in High/Stop Reset/Low Push Buttons
- Provision for remote control
- Colour RAL7035 Light Grey
- 24V, 48V, 110V, 230V, 400V, 440V and more

Max FLC (415V 3ph)	kW	Approx. (HP)	Without Isolator		With Isolator	
			Reference	List Price £	Reference	List Price £
12	5.5	(7.5)	3DW1---S	POA	3DW1---I	POA
18	7.5	(10)	3DW2---S	POA	3DW2---I	POA

For Two Speed Dual Wound Starters above 7.5kW - P.O.A. FLC required for high and low speeds



3DW1EFKS

## Two Speed Pole Change

**Features:**

- Robust Enclosure - Sheet Steel IP55
- Surface Mounting Type: 3PC
- Sheet Steel Enclosure
- Hand reset thermal overloads
- Three Phase
- Standard Coil Voltages: 50/60Hz
- Built in High/Stop Reset/Low Push Buttons
- Provision for remote control
- Colour RAL7035 Light Grey
- 24V, 48V, 110V, 230V, 400V, 440V and more

Max FLC (415V 3ph)	kW	Approx. (HP)	Without Isolator		With Isolator	
			Reference	List Price £	Reference	List Price £
12	5.5	(7.5)	3PC1---S	POA	3PC1---I	POA
18	7.5	(10)	3PC2---S	POA	3PC2---I	POA
25	11	(15)	3PC3---S	POA	3PC3---I	POA

Please note: Overload setting range - High Speed Overload first in the code reference and to be rated half the Full Load Current of the motor For Two Speed Pole Change Starters above 11kW - P.O.A. Motor Connection details required



3PC1EKL

## Single Phase Series Parallel

**Features:**

- Robust Enclosure - Sheet Steel IP55
- Surface Mounting Type: 3SP
- Built in High/Stop Reset/Low Push Buttons
- Single Phase
- Standard 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)	kW	(HP)	Without Isolator		With Isolator		With Isolator & Mains Fuses	
			Reference	List Price £	Reference	List Price £	Reference	List Price £
24	3.0	(5)	3SP1--S	POA	3SP1--I	POA	3SP1--F	POA
30	5.5	(7.5)	3SP2--S	POA	3SP2--I	POA	3SP2--F	POA

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 & Electrodrive motors - P.O.A.



3SP1CHS

## Direct-on-Line Duty Standby - Dual Pump & Fan Control

**Features:**

- Robust Enclosure - Sheet Steel IP55
- Surface Mounting Type: 3DS
- Two Motor D-O-L
- Single Phase or Three Phase
- Standard Coil Voltages: 50/60Hz
- Hand reset thermal overloads
- Duty Selector & Reset Push Button
- Colour RAL7035 Light Grey
- 24V, 48V, 110V, 230V, 400V, 440V and more
- Provision for remote control

Max FLC (415V 3ph)	kW	Approx. (HP)	Without Isolator		With Isolator	
			Reference	List Price £	Reference	List Price £
12	5.5	(7.5)	3DS1--S	POA	3DS1--I	POA
18	7.5	(10)	3DS2--S	POA	3DS2--I	POA

For Duty Stand 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.



3DS1ELS

# Crompton Enclosures *Empty, Full or Colourful*

Crompton Controls are happy to provide our own, well known boxes to meet all customers requirements, large or small..!

We also stock a wide range of **plastic, GRP, sheet steel, stainless & aluminium enclosures** along with a host of components and accessories ready to build into any preferred specification including contactors, transformers, MCB's, terminal blocks, isolators, push buttons, lamps, switches and any other Control or BMS peripheral..

**We can even provide Crompton Enclosures in Special colours on request!**



BOX SIZE Colour Chart BELOW

## Series 3000 Enclosures

Plain Epoxy plant finish, colour RAL 7035

Reference	Description	List Price £
3EBS21	Size 1 enclosure DIN Rail fitted accepting CC09/CC12/CC18 or CC25 contactor	POA
3EBS22	Size 2 enclosure chassis fitted accepting 2 x CC25 Contactors	POA
3EBS23	Size 3 enclosure chassis fitted accepting component combinations	POA
3EBS24	Size 4 enclosure chassis fitted accepting component combinations	POA

IP55 enclosure: Sheet steel

## Series 3000 Enclosure Sizes

SIZE CHART applies to all standard Series 3000 Enclosures

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

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



## Isolators in Steel Enclosures

Suitable for motor isolation (AC23) in IP55 enclosures

Reference	Current Rating AC1	Approx. kW at 240V	Dimensions (mm)			List Price £
			Height	Width	Depth	
MI1S	20A	5.5	174	104	134	POA
MI2S	30A	7.5	174	104	134	POA
MI3S	60A	18.5	184	184	149	POA
MI4S	72A	22	184	184	149	POA

# What **bits** are **in** your **boxes**..?

You name it we  
will **custom**  
**build** it..!



3ENC4/40N

## Enclosed Single, Triple and Four Pole Contactors for Heating & Lighting load Control - IP55

### Common Features:

- Supplied with 220/240V 50Hz coils as standard.
- All units are designed for two wire control circuit c/w fuse protection suitable for Time Switch, Thermostat, Sensor or other remote controls
- Optional On/Off Switch, Local/Remote Switch, Indicator Lamps and Control Fuses
- Robust sheet steel IP55 enclosures

### Single Pole and Neutral complete with Fuse Protection

Reference	Current Rating AC1	Approx. kW at 240V	Height	Dimensions (mm)		Depth	List Price £
				Width			
3HS1S	60A	14	184	184	184	149	POA
3HS3S	100A	24	305	285	184	159	POA
3HS5S	180A	43	300	300	300	210	POA
3HS6S	275A	66	300	300	300	210	POA



3HS1S

### Triple Pole and Neutral complete with Fuse Protection

Reference	Current Rating AC1	Approx. kW at 240V	Height	Dimensions (mm)		Depth	List Price £
				Width			
3HT1S	25A	6.0	184	184	184	149	POA
3HT3S	40A	9.0	184	184	184	149	POA
3HT5S	72A	17.0	305	285	184	159	POA
3HT6S	110A	26.0	305	285	184	159	POA
3TEH13	125A	32.4	300	300	300	210	POA
3TEH15	160A	36.0	600	400	400	300	POA
3TEH18	200A	43.2	600	400	400	300	POA
3TEH22	250A	52.8	600	400	400	300	POA



3HT3S

Extras (Types 3HS & 3HT only) 2 pole aux' contact block / 4 pole aux' contact block add £10.00 / £16.00

### 4 Pole complete with Neutral Blocks and Oversize Enclosures for ease of wiring

Reference	Current Rating AC1	Approx. kW at 240V	Height	Dimensions (mm)		Depth	List Price £
				Width			
3ENC4/25N	25A	6	184	184	184	149	POA
3ENC4/40N	40A	9	184	184	184	149	POA
3ENC4/60N	60A	17	305	285	184	159	POA
3ENC4/125N	125A	26	305	285	184	159	POA



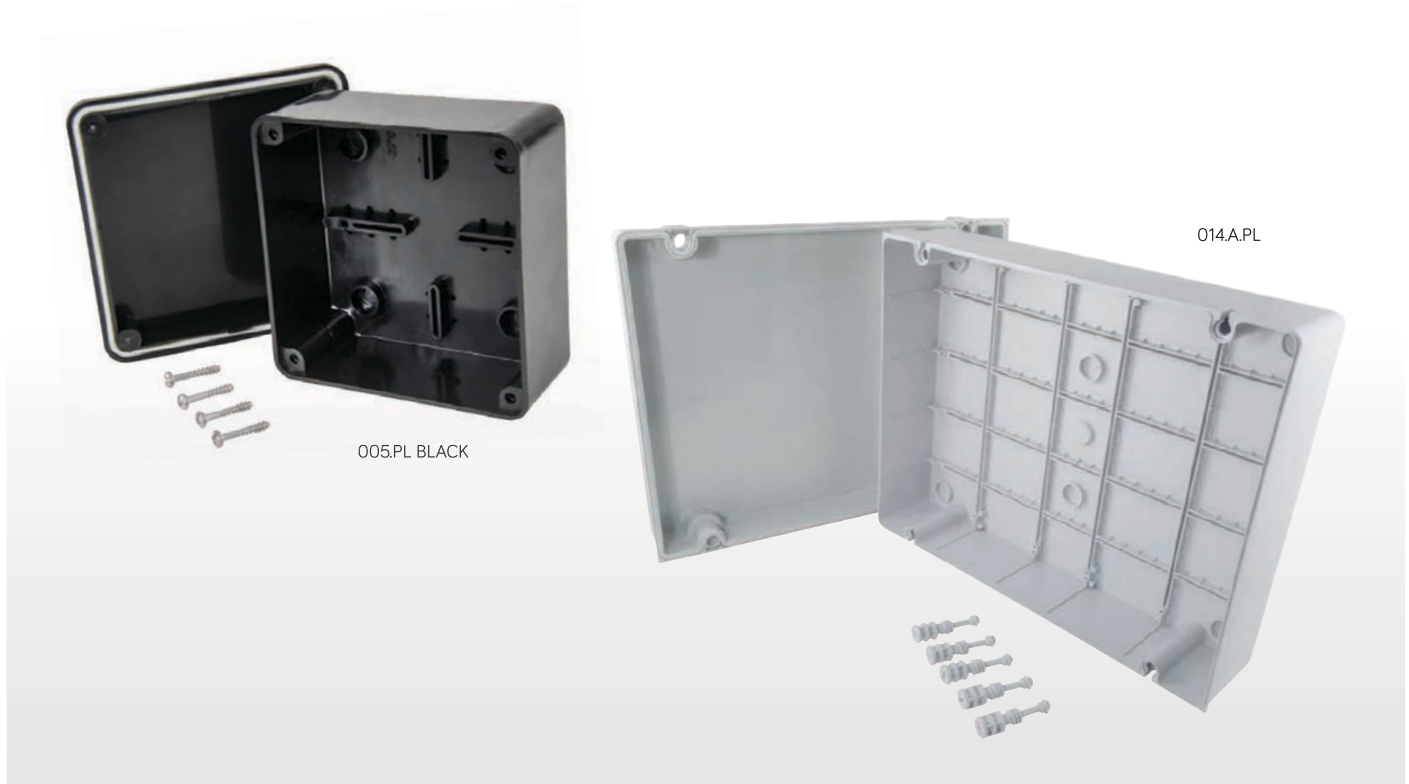


# Plastic Enclosures with screw on plain/solid lid

Square & Rectangular, Blank Sides

Ref No	Lid Type	Dimensions (mm)			Screw Type or Fixing Type	General	IP Rating	Colour	Mounting Plate to fit
		H	W	D					
<b>005.PL</b>	Solid	100	100	50	Stainless Steel	Blank Sides	IP66	Grey	-
<b>005.PL BLACK</b>	Solid	100	100	50	Stainless Steel	Blank Sides	IP66	Black	-
<b>005.PL WHITE</b>	Solid	100	100	50	Stainless Steel	Blank Sides	IP66	White	-
<b>006.PL</b>	Solid	100	100	70	Stainless Steel	Blank Sides	IP66	Grey	-
<b>006.PL BLACK</b>	Solid	100	100	70	Stainless Steel	Blank Sides	IP66	Black	-
<b>007.PL</b>	Solid	75	123	51	Stainless Steel	Blank Sides	IP66	Grey	-
<b>008.PL</b>	Solid	110	150	70	Stainless Steel	Blank Sides	IP66	Grey	-
<b>008.PL BLACK</b>	Solid	110	150	70	Stainless Steel	Blank Sides	IP66	Black	-
<b>009.PL</b>	Solid	145	190	72	Stainless Steel	Blank Sides	IP66	Grey	1009.PF
<b>009.PL BLACK</b>	Solid	145	190	72	Stainless Steel	Blank Sides	IP66	Black	1009.PF
<b>010.PL</b>	Solid	190	243	90	Stainless Steel	Blank Sides	IP66	Grey	1010.PF
<b>010.PL Black</b>	Solid	190	243	90	Stainless Steel	Blank Sides	IP66	Black	1010.PF
<b>010.PL.70</b>	Solid	190	243	70	Stainless Steel	Blank Sides	IP66	Grey	1010.PF
<b>010.PL.70 Black</b>	Solid	190	243	70	Stainless Steel	Blank Sides	IP66	Black	1010.PF
<b>009.A.PL</b>	Solid	140	190	75	Nylon	Blank Sides	IP66	Grey	1009.PF
<b>010.A.PL</b>	Solid	190	238	90	Nylon	Blank Sides	IP66	Grey	1010.PF
<b>012.A.PL</b>	Solid	220	300	120	Nylon	Blank Sides	IP66	Grey	1012.PF
<b>012.A.PL BLACK</b>	Solid	220	300	120	Nylon	Blank Sides	IP66	Blank	1012.PF
<b>014.A.PL</b>	Solid	300	376	120	Nylon	Blank Sides	IP66	Grey	1014.PF
<b>5WTB25*</b>	Solid	100	100	55	Nylon	Blank Sides	IP65	Grey	-

\* Complete with 25A 5 Way Terminal Strip



Call us **NOW** for Technical Help and Pricing..!

## Plastic Enclosures with screw on plain/solid lid

Rectangular & High Top, Blank Sides

Ref No	Lid Type	Dimensions (mm)			Screw Type or Fixing Type	General	IP Rating	Colour	Mounting Plate to fit
		H	W	D					
<b>008.CA.G</b>	Solid - High Top	110	150	135	Stainless Steel Screw	Blank Sides	IP66	Grey	-
<b>008.CA BLACK</b>	Solid - High Top	110	150	135	Stainless Steel Screw	Blank Sides	IP66	Black	-
<b>009.CA.G</b>	Solid - High Top	145	190	135	Stainless Steel Screw	Blank Sides	IP66	Grey	1009.PF
<b>009.CA BLACK</b>	Solid - High Top	145	190	135	Stainless Steel Screw	Blank Sides	IP66	Black	1009.PF
<b>010.CA.G</b>	Solid - High Top	190	243	155	Stainless Steel Screw	Blank Sides	IP66	Grey	1010.PF
<b>014.CA.G</b>	Solid - High Top	300	376	180	Nylon Screw	Blank Sides	IP65	Grey	1014.PF
<b>015.CA.G</b>	Solid - High Top	380	460	182	Nylon Screw	Blank Sides	IP65	Grey	1015.PF

014.CA.G



008.CA.G BLACK



## Termination Box with snap on plain/solid lid

Square - Moulded Gaskets

MCG Ref No:	Lid Type	Dimensions (mm)			Screw Type or Fixing Type	General	IP Rating	Colour
		H	W	D				
<b>005.CS</b>	Solid	94	94	50	Snap Cover	10x Moulded Gaskets & Cable Sleeves plus 2 Rear Cable Entries Cover Retaining Strap	IP65	Grey

Unique and innovative thanks to the watertight entries on all sides.

10 entry membranes plus 2 rear cable entries of varying diameter from PG9 up to PG21 allowing the connection of conduit and cable rapidly without any additional tools.



## Distribution Boards with screw on, tinted, hinged front door

Rectangular - with DIN rail Sides

Ref No	Transparent Door Type	Dimensions (mm)			General	DIN Rail	Modules	Power Rating	IP Rating
		H	W	D					
<b>940.02*</b>	Front - Tinted	156	102	100	Blank Sides	Metal - Fitted	2	10W	IP65
<b>960.21001</b>	Front - Tinted	310	230	110	-	Metal - Fitted	10 (4 Sockets 16 Amp)	-	IP44

\* Complies with EU 2002/95/EC RoHS Deca-BDE



## Plastic Enclosure Accessories

A range of accessories to complement the whole range of plastic enclosures

Ref No	Description	To Fit/Description	Screw Type	Dimensions (mm)		
				H	W	D
<b>1009.PF</b>	Metal Mounting Plate c/w screws	All 009 Range Enclosures	Metal	180	118	1.5
<b>1010.PF</b>	Metal Mounting Plate c/w screws	All 010 Range Enclosures	Metal	212	162	1.5
<b>1012.PF</b>	Metal Mounting Plate c/w screws	All 012 Range Enclosures	Metal	270	190	1.5
<b>1014.PF</b>	Metal Mounting Plate c/w screws	All 014 Range Enclosures	Metal	358	283	1.5
<b>1015.PF</b>	Metal Mounting Plate c/w screws	All 015 Range Enclosures	Metal	424	341	1.5
<b>1000.T</b>	Module Blanks - Grey	For Grey distribution Enclosures	-	-	-	-
<b>1000.T Black</b>	Module Blanks - Black	For Black distribution Enclosures	-	-	-	-
<b>1004.1</b>	Earth/Neutral Brass Terminal	5 x 16mm <sup>2</sup> Terminals	-	-	-	-
<b>1004.3</b>	Earth/Neutral Brass Terminal	2 x 16mm <sup>2</sup> & 8 x 10mm <sup>2</sup> Terminals	-	-	-	-
<b>1004.4</b>	Earth/Neutral Brass Terminal	2 x 16mm <sup>2</sup> & 12 x 10mm <sup>2</sup> Terminals	-	-	-	-
<b>1006.04*</b>	Earth/Neutral Brass Connector Kit	5 x 16mm <sup>2</sup> E & N Terminals	-	-	-	-
<b>1006.08*</b>	Earth/Neutral Brass Connector Kit	2 x 16mm <sup>2</sup> & 8 x 10mm <sup>2</sup> E & N Terminals	-	-	-	-
<b>1006.12*</b>	Earth/Neutral Brass Connector Kit	2 x 16mm <sup>2</sup> & 12 x 10mm <sup>2</sup> E & N Terminals	-	-	-	-

\* Complete with plastic mounting frame





## GRP Enclosures with screw on solid/transparent lid

- Glass reinforced polyester (GRP)
- Complies to IEC 62208
- Polyurethane Gasket
- Plastic Screws for lid
- Fixing Kit included
- Plain sides - select your own entry and exit points
- Deep base with a Shallow Clear Lid
- Full range of GRP Mounting Plates (Order Separately)
- Colour RAL7032

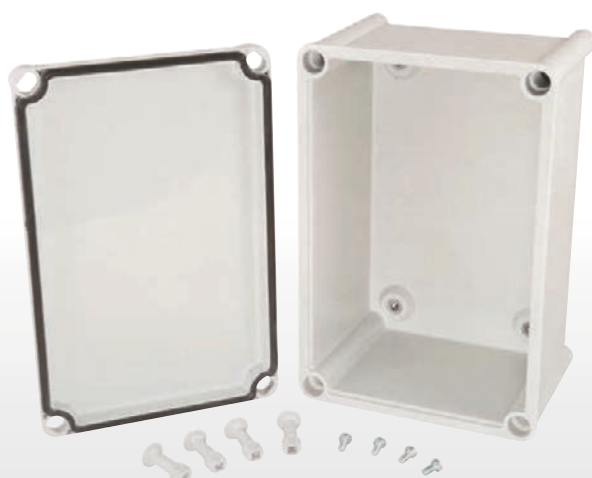
### Solid screw on lid

Ref No	Dimensions (mm)			IP Rating	GRP Mounting Plate To Fit (order separately)
	W	H	D		
SL131313	135	135	130	IP66	MP131313
SL181313	135	180	130	IP66	MP181313
SL181813	180	180	130	IP66	MP181813
SL271313	135	270	130	IP66	MP271313
SL271817	180	270	170	IP66	MP271817
SL272717	270	270	170	IP66	MP272717
SL361817	180	360	170	IP66	MP361817
SL362717	270	360	170	IP66	MP362717/20
SL362720	270	360	205	IP66	MP362717/20
SL363617	360	360	170	IP66	MP363620
SL363620	360	360	205	IP66	MP363620
SL542717	270	540	170	IP66	MP542717/20
SL542720	270	540	205	IP66	MP542717/20
SL543617	360	540	170	IP66	MP543620
SL543620	360	540	205	IP66	MP543620
SL545417	540	540	170	IP66	MP545420
SL545420	540	540	205	IP66	MP545420
SL723620	360	720	205	IP66	MP723620
SL725420	540	720	205	IP66	MP725420

### Transparent screw on lid

Ref No	Dimensions (mm)			IP Rating	GRP Mounting Plate To Fit (order separately)
	W	H	D		
SL131313C	135	135	130	IP66	MP131313
SL181313C	135	180	130	IP66	MP181313
SL181813C	180	180	130	IP66	MP181813
SL271313C	135	270	130	IP66	MP271313
SL271817C	180	270	170	IP66	MP271817
SL272717C	270	270	170	IP66	MP272717
SL361817C	180	360	170	IP66	MP361817
SL362717C	270	360	170	IP66	MP362717/20
SL362720C	270	360	205	IP66	MP362717/20
SL363617C	360	360	170	IP66	MP363620
SL363620C	360	360	205	IP66	MP363620
SL542717C	270	540	170	IP66	MP542717/20
SL542720C	270	540	205	IP66	MP542717/20
SL543617C	360	540	170	IP66	MP543620
SL543620C	360	540	205	IP66	MP543620
SL545417C	540	540	170	IP66	MP545420
SL545420C	540	540	205	IP66	MP545420
SL723620C	360	720	205	IP66	MP723620
SL725420C	540	720	205	IP66	MP725420

SL271817



SL543620C



Call us **NOW** for Technical Help and Pricing..!

# GETTING STARTED

## > How to code a Standard Starter >

### 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

**Example Starter Code:**  
A22kW Star Delta Starter 400V, 3ph, 50Hz,  
complete with Isolator,  
Ammeter & Thermal Overload range 31-43 amps is:  
**3SD3ENI/04**



### 2. Main Contactor

Code	Contactor	Maximum Power & Current			
		D.O.L.		S.D.	
		kW	A	kW	A
1	CC09	5.5	12	11	21
2	CC12	7.5	18	15	30
3	CC18	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	CCF150	75.0	140	110	208
10	CCF185	90.0	180	150	250
11	CCF265	110.0	200	200	346
12	CCF330	132.0	220	220	380

### 3. Contactor Coil Voltage & Hz

Dual 50 / 60Hz		60Hz Only	
Standard	Voltage		
A	110		
C	230		
D	24		
E	400		
F	440		
I	48		
Special	Voltage	Special	Voltage
B	120	M	277
X	380	P	208
R	220	U	600
S	480		
Q	240		
W	575		
Y	415		



### 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 Variation
S	Standard
I	With Isolator
F	With Isolator and Mains Fuses / Switch Fuse*
L	With Mains Fuses
P	Plastic Enclosure
U	Un-enclosed (Interior Only)

\*Hinged Door Enclosure - Switch Fuse Fitted

### 4. Overload Range

Code	D.O.L.	Star Delta	Overload Relay	Fits Contactor
X	0.16 - 0.25A		CR09/0.25	CC09 to CC32
A	0.25 - 0.4A		CR09/0.4	CC09 to CC32
B	0.4 - 0.63A		CR09/0.63	CC09 to CC32
D	0.63 - 1.0A		CR09/1	CC09 to CC32
E	1.0 - 1.6A		CR09/1.6	CC09 to CC32
F	1.6 - 2.5A	2.7 - 4.3A	CR09/2.5	CC09 to CC32
G	2.5 - 4.0A	4.3 - 6.9A	CR09/4	CC09 to CC32
H	4.0 - 6A	6.9 - 10.4A	CR09/6	CC09 to CC32
J	5.5 - 8A	9.5 - 13.8A	CR09/8	CC09 to CC32
K	7.0 - 10A	12 - 17A	CR09/10	CC09 to CC32
L	10 - 13A	17 - 22A	CR12/13	CC09 to CC32
M	13 - 18A	22 - 31A	CR16/18	CC09 to CC32
N	18 - 25A	31 - 43A	CR25/25	CC09 to CC32
C	23 - 32A	39 - 55A	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	83 - 98A	CR63/57	CC40 to CC65
V	57 - 66A	98 - 114A	CR63/66	CC40 to CC65
W	63 - 80A	109 - 138A	CRA80/80	CC40 to CC80
P	80 - 93A	138 - 161A	CRA80/93	CC40 to CC80
Y	Thermister Protection			
Z	Without Overload Fitted (Wiring for loose O/L to be fitted)			

Higher Thermal Overload Ranges available on request

- 1 Method of Starting
- 2 Contactor size to cover Motor Power (kW's) and Full Load Current
- 3 Control Circuit Voltage and Frequency (Hz)
- 4 Overload Range to cover Motor Full Load Current  
*Note: Different Ratings for Direct-On-Line & Star Delta*
- 5 Starter Style
- 6 Extras



## 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	<b>Drip Proof</b>
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	<b>Enclosed</b>
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	<b>Totally Enclosed</b>
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 the nozzle against the machine from any angle shall have no harmful effect	<b>Totally Enclosed or Weatherproof or Dustproof or Hoseproof</b>
IP56		Water protected against conditions on a ships deck.	<b>Deck Watertight</b>
IP65	Totally protected against dust.	Water projected by the nozzle against the machine from any angle shall have no harmful effect	<b>Dust Tight</b>
IP66		Water protected against conditions on a ships deck.	<b>Dust &amp; Watertight</b>

## 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	3.0
2.2	3.0	37.3	18.6	17.1	8.83	8.1	5.61	5.11	4.68	4.42	3.88	3.53
3.0	4.0	48.3	24.3	22.2	11.5	10.6	7.32	6.66	6.1	5.77	5.07	4.61
3.7	5.0	59.2	29.6	27.1	14.2	13.0	9.04	8.22	7.54	7.1	6.25	5.69
4.5	6.0	69.4	34.7	31.8	16.9	15.4	10.7	9.75	8.92	8.41	7.40	6.73
5.2	7.0	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	12.0	11.0	10.4	9.15	8.31
6.0	8.0	89.0	44.5	40.8	22.1	20.2	14.0	12.8	11.7	11.0	9.7	8.81
6.7	9.0	99.0	49.5	45.4	24.6	22.6	15.7	14.3	13.1	12.3	10.8	9.84
7.5	10.0	109.0	54.4	50.0	27.3	25.0	17.4	15.8	14.5	13.7	12.0	10.9
9.3	12 1/2				33.8	31.0	21.5	19.6	17.9	16.9	14.9	13.5
11.0	15.0				40.1	36.8	25.5	23.3	21.3	20.1	17.7	16.1
15.0	20.0				53.0	48.5	33.7	30.7	28.0	26.5	23.3	21.2
18.5	25.0				65.6	60.1	41.7	38.0	34.8	32.8	28.9	26.3
22.0	30.0				78.1	71.5	49.6	45.1	41.3	39.0	34.4	31.2
26.0	35.0				90.6	83.1	57.6	52.5	48.0	45.3	39.9	36.3
30.0	40.0				103.0	94.5	65.5	59.6	54.6	51.5	45.3	41.2
34.0	45.0				116.0	106.0	73.5	67.0	61.3	57.9	50.9	48.3
37.5	50.0				128.0	117.0	81.3	74.1	67.9	64.0	56.4	51.2
45.0	60.0				153.0	140.0	97.0	88.4	80.9	76.3	67.1	61.0
52.5	70.0				177.0	163.0	113.0	103.0	94.0	88.5	77.9	70.9
56.0	75.0				189.0	174.0	120.0	110.0	100.0	94.6	83.4	75.7
60.0	80.0				202.0	185.0	128.0	117.0	107.0	101.0	88.5	80.5
67.5	90.0				227.0	208.0	144.0	131.0	120.0	113.0	99.8	90.7
75.0	100.0				251.0	230.0	159.0	145.0	133.0	125.0	110.0	100.0

## Extras for Motor Starters

Description	Enclosure	List Price £	Description	Enclosure	List Price £
Small ammeter to 40A FLC	Pressed	P.O.A.	Mushroom Head Stop	Pressed	P.O.A.
Ammeter under 70A FLC	All Types	P.O.A.	Latching Stop/Lock	All Types	P.O.A.
Ammeter above 70A FLC	All Types	P.O.A.	Thermistor Unit in place of Thermal Overload	Pressed	P.O.A.
Volt Meter	All Types	P.O.A.	Hand/Off/Auto Switch	Pressed	P.O.A.
Control Transformer	Pressed	P.O.A.	Hours Run Meter	All Types	P.O.A.
Anti Condensation Heater	Pressed	P.O.A.	External Overload Reset	Hinged	P.O.A.
Anti Condensation Heater	Hinged	P.O.A.	Chassis Interiors Only	All Types	P.O.A.
Neon Indicator up to 230V	Pressed	P.O.A.	Emergency Stop Button	All Types	P.O.A.
Filament Lamp up to 230V	All Types	P.O.A.			





# Safely **STOP**

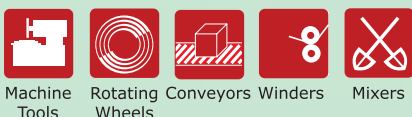
## Your Woodworking Machines

& Comply with PUWER98 Regulation 15

- Controlled DC Injection Braking
- START / PROTECT / STOP
- Strong Pressed Steel IP55 Enclosures
- Simple Retro-Fit
- Solutions For All Machines



WEBSHOP



Machine Tools   Rotating Wheels   Conveyors   Winders   Mixers

BOX SIZE Colour Chart - See Page 21

### Market Leading S10 Brakes

Crompton Controls have manufactured DC Injection Brakes for over 50 years and are now a recognised market leader. All of 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.

### Automatic DC Injection Brake Controllers

Start, protect and safely stop standard Rotating Machines

**Features:**

- Controlled stopping for compliance to PUWER 98
- IP55 Dust proof
- Compact surface mounting sheet steel 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	Reference	Module List Price £	Card List Price £	Enclosure Dimensions (mm)	Height	Width	Depth
4-6	2.2	3DCM1EHS	POA	POA	184	184	149	
5.5-8	3	3DCM1EJS	POA	POA	184	184	149	
7-10	4	3DCM1EKS	POA	POA	184	184	149	
10-12	5.5	3DCM1ELS	POA	POA	184	184	149	
13-18	7.5	3DCM2EMS	POA	POA	184(305)	184(285)	149(159)	
18-25	11	3DC3ENS	POA	POA	305	285	159	
25-32	15	3DC4ECS	POA	POA	400	400	210	
32-40	22	3DC5ESS	POA	POA	400	400	210	

Typical applications: Dimension and Circular Saws

In 3DCM, 3DPM & 3DYM "M" denotes S10 Brake Module fitted. For Crosscut saws or similar with increased stopping rates alternative Power & Control Cards are required

### Direct-on-Line Single Phase

230V / 1ph / 50Hz

Motor FLC	Motor Rating kW	Reference	Module List Price £	Card List Price £	Enclosure Dimensions (mm)	Height	Width	Depth
4-6	0.5	3DPM1CHS/10	POA	POA	184	184	149	
10-12	1.5	3DPM1CLS/10	POA	POA	184	184	149	
13-18	2.2	3DPM2CMS/10	POA	POA	184(184)	184(284)	149(149)	

Typical applications: Circular Saws and Tennon Machines

### Star Delta Three Phase

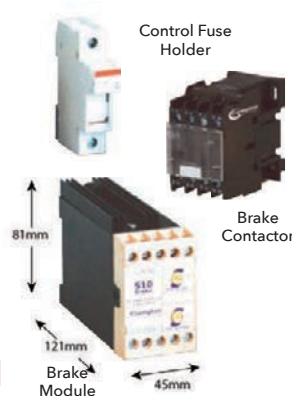
400V / 3ph / 50Hz

Motor FLC	Motor Rating kW	Reference	Module List Price £	Card List Price £	Enclosure Dimensions (mm)	Height	Width	Depth
9.5-13.8	5.5	3DYM1EJS	POA	POA	305(500)	285(400)	159(210)	
12-17	7.5	3DYM1EKS	POA	POA	305(500)	285(400)	159(210)	
17-21	11	3DY1ELS	POA	POA	500	400	210	
22-30	15	3DY2EMS	POA	POA	500	400	210	
31-43	22	3DY3ENS	POA	POA	600	600	210	
39-55	30	3DY4ECS	POA	POA	700	500	210	

Typical applications: Panel and Rip Saws

### DC Injection Modular Kits & Spares

Reference	Part Number	List Price £
S10 Brake Module 400V	BR011	POA
S10 Brake Module 230V	BR016	POA
Brake Contactor 400V Coil	CC1201-400V	POA
Brake Contactor 240V Coil	CC1201-230V	POA
Control Fuse Holder	FC014	POA
Control Fuse	FL071	POA
DB5 Driver Card 400V	BR002	POA
DB2 Power Card	BR003	POA
DB2 Control Card 400V	BR004	POA
Mains Fuse 30A	FL078	POA



3DCM1ELS



3DCM1EKS  
S10 DC Injection Brake (Module)



3DC3ENS  
S10 DC Injection Brake (Driver Card)



### SIZES: S10 Brake Colour Chart

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

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

## Advanced Technology Smooth - BRAKES

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.

**Features:**

- 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



SmoothBRAKE11

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

**Specialist DC Braking...**

## Star Delta Smooth Brake - Control Panels, Assemblies & Modules

400V / 3ph / 50Hz

Maximum Current FLC	Maximum Current (DC)	Motor Power kW	Motor Power (HP)	Reference	List Price £	Height	Width	Depth
21	(35)	11	(15)	SmoothBRAKE11	POA	400	300	240
30	(45)	15	(20)	SmoothBRAKE15	POA	400	300	240
90		11/22	(15/30)	BR026 Brake Assembly	POA	100	160	125
...All Ratings...				BR024 - Spare Control Module only	POA	74	45	121

**Notes:**

- i) Control panels are pre-engineered and complete with **Standard Specification** above
- ii) 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**
- iii) BR024 is a spare Control Module for the current BR026 & previous BR025 Brake Assemblies

**Call us NOW for Technical Help and Pricing..!**



## PUWER 98 DC Injection Brakes

### DC Injection Brake Control Panels

Designed to safely stop HEAVY DUTY Woodworking Machines



**Features:**

- 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

**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



**Specialist DC Braking...**

### Star Delta Dust Proof Control Panels - IP55

FLC	(DC)	kW	(HP)	Reference	List Price £	Height	Width	(Optional)	Depth
21	(55)	11	(15)	RESAW 11	POA	600	500	(600)	210
30	(72)	15	(20)	RESAW 15	POA	600	500	(600)	210
35	(87)	18.5	(25)	RESAW 18	POA	600	500	(600)	210
43	(107)	22	(30)	RESAW 22	POA	600	500	(600)	210
55	(137)	30	(40)	RESAW 30	POA	1000	800		300
69	(180)	37	(50)	RESAW 37	POA	1000	800		300

Standard Options	List Price £
a) Track/Run selector switch complete with hold to track push button	POA
b) Feeder Motor DOL starter up to 5.5kW (11 - 22kW)	POA
Complete with Stop/Start Push Buttons (30 - 55kW)	POA
c) Main Motor Thermistor Protection Relay	POA
d) Main Motor Fuse Protection (11 - 22kW)	POA
(30 - 37kW)	POA

Call us **NOW** for Technical Help and Pricing..!

# Product in focus

## DC Injection Brake: Spingard



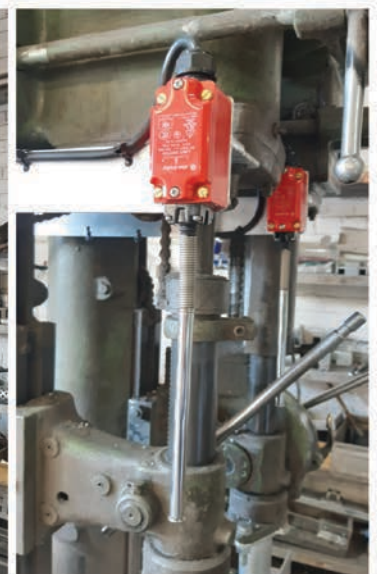
### EMERGENCY STOP SYSTEM FOR RADIAL DRILLING MACHINES

For Installation on all Radial Arm Drilling Machines

#### APPLICATION

For automatic emergency stopping using the principle of timed DC Injection braking.

This system can be retro-fitted to existing machines bringing them in line with modern safety precautions.



#### D.C. Injection Brake Units 'SPINGARD'

Including Trip Arm and Reset for Button Emergency Stopping of Spindle Drives

Motor Rating	Reference	List Price £	Motor Rating	Reference	List Price £	Motor Rating	Reference	List Price £
4kW (5.5hp)	3SG1S	POA	7.5kW (10hp)	3SG2S	POA	11kW (15hp)	3SG3S	POA

 Call us **NOW** for Technical Help and Pricing..!



## Did You Know we do Panel Mount Isolators?

Loose Components OR Fully Enclosed - *AND don't forget your Lockout Kits!*

# Make the Switch

AC Isolators/Switch Fuses/Changeover Switches  
**SURFACE & PANEL MOUNT**  
(20A - 1250A)



## ARE YOU SAFELY LOCKED OUT..?





# NEW ATEX

## Approved Starters and Accessories



- Standard DOL & Star Delta
- Zone 1 & Zone 21 Applications
- EEx d II 2GD IP65 T6 up to 50°C
- Special Custom Solutions on Request
- Hazardous Area Cable Glands Available



 Call us **NOW** for Technical Help and Pricing..!

**SERIES EX**



# ATEX Approved Control Equipment

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

*Crompton Controls provides a solution for all motor starting options ATEX approved control equipment!*

## Direct-on-Line

Surface Mounting Types: DLF

# SERIES EX

Max FLC (415V 3ph)	kW	Approx. (HP)	Without Isolator		With Isolator	
			Reference	List Price £	Reference	List Price £
12	5.5	(7.5)	3DLF1--S	P.O.A.	3DLF1--I	P.O.A.
18	7.5	(10)	3DLF2--S	P.O.A.	3DLF2--I	P.O.A.
25	11	(15)	3DLF3--S	P.O.A.	3DLF3--I	P.O.A.
30	15	(20)	3DLF4--S	P.O.A.	3DLF4--I	P.O.A.
50	26	(35)	3DLF5--S	P.O.A.	3DLF5--I	P.O.A.
65	30	(40)	3DLF6--S	P.O.A.	3DLF6--I	P.O.A.

\*Up to 132kW available on request

## Star Delta

Surface Mounting Types: SDF

Max FLC (415V 3ph)	kW	Approx. (HP)	Without Isolator		With Isolator	
			Reference	List Price £	Reference	List Price £
21	11	(15)	3SDF1--S	P.O.A.	3SDF1--I	P.O.A.
30	15	(20)	3SDF2--S	P.O.A.	3SDF2--I	P.O.A.
43	22	(30)	3SDF3--S	P.O.A.	3SDF3--I	P.O.A.
55	30	(40)	3SDF4--S	P.O.A.	3SDF4--I	P.O.A.

\*Up to 185kW available on request

## Control Stations

Thermoplastic

Type	Reference	Description	List 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 4 Pole 16A max Pad-lockable	P.O.A.



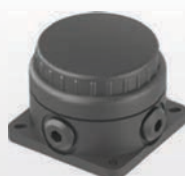
### Suitable for:

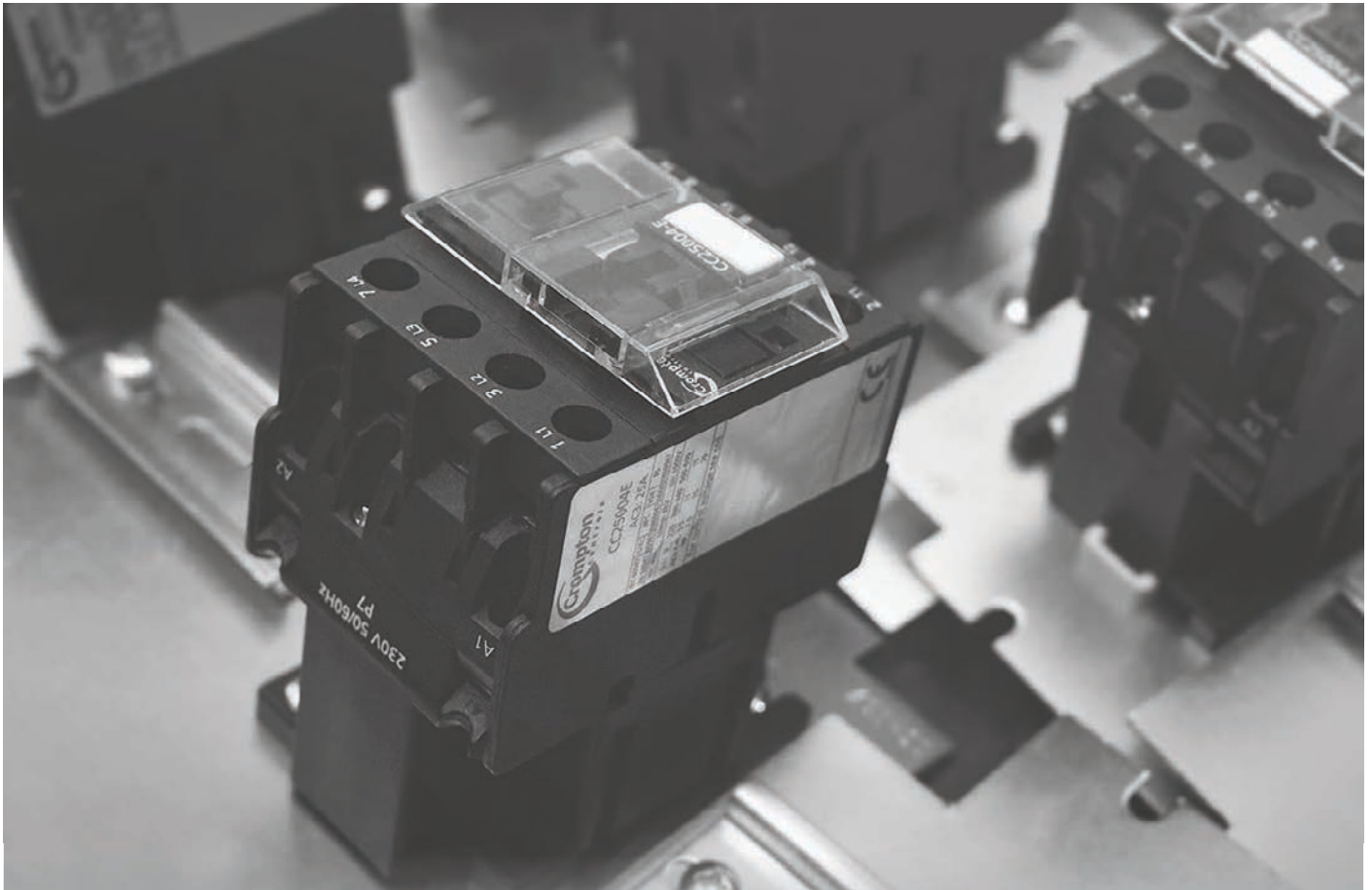
- II 2G EEx edm IIB T6
- II 2D IP66 T80 Deg C
- A Ex edm IIB/Ex edm IIB
- Class I Zone 1
- Class I, Div.2 Groups A,B,C,D
- Cert: PTB 00 ATEX 1068
- Amb. Temp: -55 to +60 Deg C (-20 to +60 Deg C for Zone 21 & 22)
- Custom built equipment available on request.



**ATEX GRP Junction Boxes also available** (contact us for the full range & more details)

Suitable for: IP66/68 EExe Category 2 Zone 1 & 21 & Category 3 Zone 2 & 22 -60 Deg C to +55 Deg C





# AC Contactors

## Overloads & Accessories

In Enclosures where required

- Modular Contactors
- Low Height Contactors
- Thermal Overload Relays
- 3 Pole & 4 Pole AC Contactors
- Contactor Accessories, Spares & Sets



 Call us **NOW** for Technical Help and Pricing..!

 BOX SIZE Colour Chart - See Page 33

# Modular Contactors

Crompton Controls offer a wide range of Modular Contactors for controlling remote switching and protecting electrical installations. Our Modular Contactors are ideally suited to connecting and breaking non-inductive or low-inductive loads, resistance heaters, household appliances or similar.

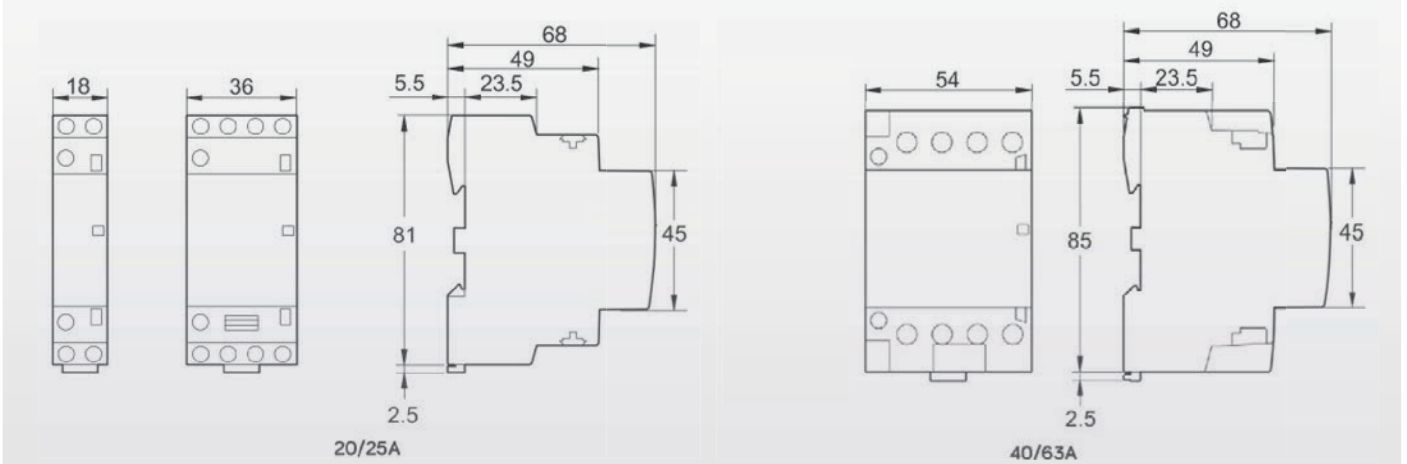
## Full Range of Modular Contactors complete with 230VAC Coil



REFERENCE	PART NUMBER	AMPERAGE	SIZE	CONTACT ARRANGEMENT	PRICE £
CC20A1MC2NO	(COM001)	20A	18mm	2 Pole 2N/O	POA
CC20A1MC2NC	(COM002)	20A	18mm	2 Pole 2N/C	POA
CC25A1MC2NO	(COM003)	25A	18mm	2 Pole 2N/O	POA
CC25A1MC2NC	(COM004)	25A	18mm	2 Pole 2N/C	POA
CC25A2MC4NO	(COM005)	25A	36mm	4 Pole 4N/O	POA
CC25A2MC2NO2NC	(COM006)	25A	36mm	4 Pole 2N/O, 2N/C	POA
CC25A2MC4NC	(COM007)	25A	36mm	4 Pole 4N/C	POA
CC40A3MC4NO	(COM008)	40A	54mm	4 Pole 4N/O	POA
CC40A3MC2NO2NC	(COM009)	40A	54mm	4 Pole 2N/O, 2N/C	POA
CC40A3MC4NC	(COM010)	40A	54mm	4 Pole 4N/C	POA
CC63A3MC4NO	(COM011)	63A	54mm	4 Pole 4N/O	POA
CC63A3MC2NO2NC	(COM012)	63A	54mm	4 Pole 2N/O, 2N/C	POA
CC63A3MC4NC	(COM013)	63A	54mm	4 Pole 4N/C	POA

NOTE: DIN rail mounting ENCLOSURES available in all materials and sizes on request.

A one module width space between contactors is recommended for heat dissipation and longer life.



## Low Height Contactors

Up to 25A

### Features:

- Reduced height compared to standard DC contactors
- 3 most common ratings in 2 compact frames sizes
- Price includes Coil
- Requires 75W/3A 24VDC power supply to energise coil



## 3 Pole AC Switching Contactors with 24V DC coils

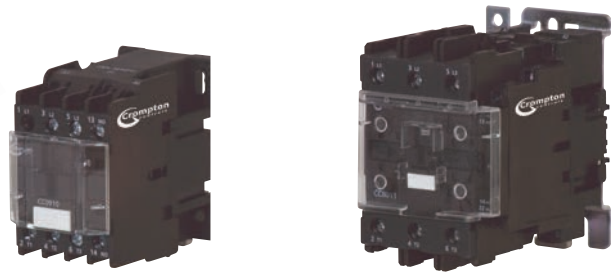
Reference	Part Number	AC-3 Rating	AC-1 Rating	Aux Contacts Included	List Price £
CCPC09-24	CO509	9A	25A	Non Included*	POA
CCPC12-24	CO510	12A	25A	Non Included*	POA
CCPC25-24	CO511	25A	40A	Non Included*	POA

\*Add On Auxiliary Contact Blocks  
See 3 Pole Contactors & Accessories on page 30  
Other contactors available on request





# RANGE



## AC Contactors & Accessories

up to 105A

### Three Pole AC Contactors

(Price includes coil)

Reference	AC-3 Rating	kW @ 415V	Aux Contacts	AC-1 Rating	List Price £	Reference	AC-3 Rating	kW @ 415V	Aux Contacts	AC-1 Rating	List Price £
CC0910	12A	5.5	1 x N/O	25A	POA	CC2501	32A	15	1 x N/C	40A	POA
CC0901	12A	5.5	1 x N/C	25A	POA	CC3210	40A	18.5	1 x N/O	50A	POA
CC1210	18A	7.5	1 x N/O	25A	POA	CC3201	40A	18.5	1 x N/C	50A	POA
CC1201	18A	7.5	1 x N/C	25A	POA	CC4011	50A	22	1 x N/O, 1 x N/C	60A	POA
CC1810	25A	11	1 x N/O	32A	POA	CC5011	65A	30	1 x N/O, 1 x N/C	80A	POA
CC1801	25A	11	1 x N/C	32A	POA	CC6511	80A	37	1 x N/O, 1 x N/C	80A	POA
CC2510	32A	15	1 x N/O	40A	POA	CC8011	105A	55	1 x N/O, 1 x N/C	125A	POA

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

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

### Spare Contactor Coils

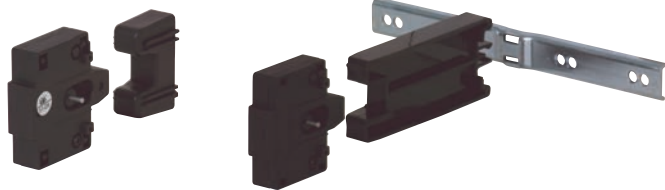
Reference	Description	List Price £
CX09-18	Fit 09 to 18 Contactors	POA
CX25-32	Fit 25 to 32 Contactors	POA
CX40-80	Fit 40 to 80 Contactors	POA

\*As above - Add the required AC Voltage and Frequency to Contactor and Coil Type



### Mechanical Interlocks

Reference	Description	List Price £
CML09-32	Fit 09 to 32 Contactors	POA
CML40-65	Fit 40 to 65 Contactors	POA
CML80	Fit 80 Contactors	POA



### Add-On Auxiliary Contact Blocks

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

Reference	Description	List Price £	Type	Description	List Price £
CBF20	Fit 09 to 80 Contactors	11.00	CBF31	Fit 09 to 80 Contactors	POA
CBF02	Fit 09 to 80 Contactors	11.00	CBF40	Fit 09 to 80 Contactors	POA
CBF11	Fit 09 to 80 Contactors	11.00	CBF04	Fit 09 to 80 Contactors	POA
CBF13	Fit 09 to 80 Contactors	17.50	CBF10	Fit 25 to 65 Contactors	POA
CBF22	Fit 09 to 80 Contactors	17.50	CBF01	Fit 25 to 65 Contactors	POA



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

Reference	Description	List Price £	Type	Description	List Price £
CBS20	Fit 09 to 80 Contactors	14.00	CBS11	Fit 09 to 80 Contactors	POA

### Pneumatic Timer Block - Front Mounting

Reference	Description	List Price £	Type	Description	List Price £
CTD3	3 Sec Delay Off	61.00	CTE3	3 Sec Delay On	POA
CTD30	30 Sec Delay Off	61.00	CTE30	30 Sec Delay On	POA
CTD180	180 Sec Delay Off	61.00	CTE180	180 Sec Delay On	POA

# RANGE

## Thermal Overloads & Accessories

Up to 93A



Manual Overload Reset  
Used in Series 3000 Starters (CR)



Manual/Automatic Reset (CRA)

### Thermal Overload Relays

Manual Reset Type CR

Reference	Amps Range	Description	List Price £	Reference	Amps Range	Type	List Price £
CR09/0.25	0.16 - 0.25	Fit 09 to 32 Contactors	POA	CR16/18	13 - 18	Fit 09 to 32 Contactors	POA
CR09/0.4	0.25 - 0.4	Fit 09 to 32 Contactors	POA	CR25/25	18 - 25	Fit 09 to 32 Contactors	POA
CR09/0.63	0.4 - 0.63	Fit 09 to 32 Contactors	POA	CR32/32	23 - 32	Fit 25 to 32 Contactors	POA
CR09/1	0.63 - 1.0	Fit 09 to 32 Contactors	POA	CR32/40	28 - 40	Fit 25 to 32 Contactors	POA
CR09/1.6	1.0 - 1.6	Fit 09 to 32 Contactors	POA	CR40/32	23 - 32	Fit 40 to 65 Contactors	POA
CR09/2.5	1.6 - 2.5	Fit 09 to 32 Contactors	POA	CR40/40	30 - 40	Fit 40 to 65 Contactors	POA
CR09/4	2.5 - 4.0	Fit 09 to 32 Contactors	POA	CR63/50	38 - 50	Fit 40 to 65 Contactors	POA
CR09/6	4.0 - 6.0	Fit 09 to 32 Contactors	POA	CR63/57	48 - 57	Fit 40 to 65 Contactors	POA
CR09/8	5.5 - 8.0	Fit 09 to 32 Contactors	POA	CR63/66	57 - 66	Fit 40 to 65 Contactors	POA
CR09/10	7.0 - 10.0	Fit 09 to 32 Contactors	POA	CR80/80	66 - 80	Fit to CC65 Contactor	POA
CR12/13	10.0 - 13.0	Fit 09 to 32 Contactors	POA				

Type CMB Mounting Bracket required for use with CC80 Contactor



### Manual Relay Mounting Brackets Type CMB

Reference	Description	List Price £
CMB09-25	For relays CR09-25	POA
CMB32	For relays CR32	POA
CMB40-80	For relays CR40-80	POA

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



### Manual Overload Relay Mounting Start Contacts

Reference	Description	List Price £
CSC09-25B	Fits relays CR09-25	POA
CSC32B	Fits relays CR32 Only	POA

### Thermal Overload Relays

Manual/Automatic Reset Type CRA

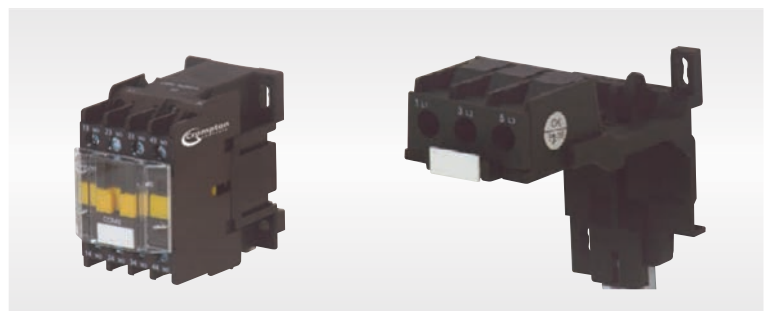
Reference	Amps Range	Description	List Price £	Reference	Amps Range	Type	List Price £
CRA09/0.25	0.16 - 0.25	Fit 09 to 32 Contactors	POA	CRA16/18	12 - 18	Fit 09 to 32 Contactors	POA
CRA09/0.4	0.25 - 0.4	Fit 09 to 32 Contactors	POA	CRA25/25	18 - 25	Fit 09 to 32 Contactors	POA
CRA09/0.63	0.4 - 0.63	Fit 09 to 32 Contactors	POA	CRA32/32	23 - 32	Fit 25 to 32 Contactors	POA
CRA09/1	0.63 - 1.0	Fit 09 to 32 Contactors	POA	CRA32/36	28 - 36	Fit 25 to 32 Contactors	POA
CRA09/1.6	1.0 - 1.6	Fit 09 to 32 Contactors	POA	CRA40/32	23 - 32	Fit 40 to 95 Contactors	POA
CRA09/2.5	1.6 - 2.5	Fit 09 to 32 Contactors	POA	CRA40/40	30 - 40	Fit 40 to 95 Contactors	POA
CRA09/4	2.5 - 4.0	Fit 09 to 32 Contactors	POA	CRA63/50	37 - 50	Fit 40 to 95 Contactors	POA
CRA09/6	4.0 - 6.0	Fit 09 to 32 Contactors	POA	CRA65/65	48 - 65	Fit 40 to 95 Contactors	POA
CRA09/8	5.5 - 8.0	Fit 09 to 32 Contactors	POA	CRA65/70	55 - 77	Fit 40 to 95 Contactors	POA
CRA09/10	7.0 - 10.0	Fit 09 to 32 Contactors	POA	CRA80/80	63 - 80	Fit 40 to 95 Contactors	POA
CRA12/13	9.0 - 13.0	Fit 09 to 32 Contactors	POA	CRA80/93	80 - 93	Fit 40 to 95 Contactors	POA

### Automatic Relay Mounting Brackets Type CMBA

Reference	Description	List Price £
CMBA09-25	For relays CRA09-25	POA
CMBA32	For relays CRA32	POA
CMBA40-80	For relays CRA40-80	POA

### Four Pole Contactor Style Control Relays

Reference	Description	List Price £
CCR22	2 x N/O & 2 x N/C	POA
CCR31	3 x N/O & 1 x N/C	POA
CCR40	4 x N/O Only	POA



\* Add required AC voltage and Frequency to Relay Type  
CBF/CBS Type Contactor Auxiliary Contact Blocks  
and CX Type Contactor Coils can be fitted

# RANGE

## 3-Pole AC Contactors, Overloads & Accessories

**Features:**

- Common family of 3 & 4-pole versions
- Simple & robust construction
- High mechanical & electrical life
- Full range of add on accessories

### Three Pole AC Contactors

115 to 780A (Price includes Coil)

Reference	AC Rating (A)		Recommended Enclosure Size			List Price £
	AC-1	AC-3	Height	Width	Diameter	
CCF115A	200	115	400	400	210	POA
CCF150A	250	150	400	400	210	POA
CCF185A	275	185	400	400	210	POA
CCF225A	315	225	400	400	210	POA
CCF265A	350	265	600	400	300	POA
CCF330A	400	330	600	400	300	POA
CCF400A	500	400	600	400	300	POA
CCF500A	700	500	600	400	300	POA
CCF630A	1000	630	600	400	300	POA
CCF780A	1600	780	600	400	300	POA

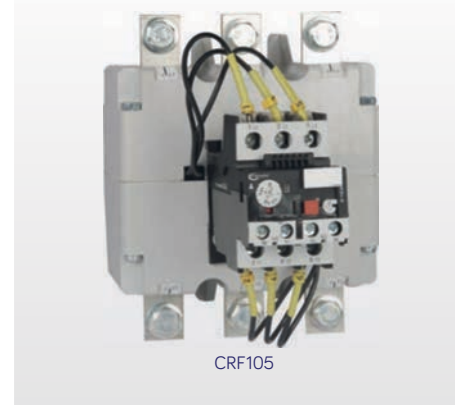
\* Other coil voltages available on request

2 x Normally Open & 2 x Normally Closed Auxilliary Contacts Included

\*If shrouds are being fitted check enclosure size



CCF150A



CRF105

### Thermal Overload Relays

65 to 800A Man/Auto Reset Type CRF - Stand Alone Type

Reference	Amps Range	List Price £
CRF105	65-105	POA
CRF125	80-125	POA
CRF160	100-160	POA
CRF200	125-200	POA
CRF250	160-250	POA
CRF315	200-315	POA
CRF400	250-400	POA
CRF500	315-500	POA
CRF630	400-630	POA
CRF800	500-800	POA

## Accessories for 3 & 4-Pole Contactors

### Protective Shrouds for Contactor Terminals

3-Pole Reference	Set of 6 Shrouds for Contactor	List Price £	4-Pole Reference	Set of 8 Shrouds for Contactor	List Price £
CA9-F701	CCF115A	POA	CA9-F706	CCF1154A	POA
CA9-F702	CCF150-CCF185	POA	CA9-F707	CCF150-1854A	POA
CA9-F703	CCF225-CCF500A	POA	CA9-F708	CCF225-CCF5004A	POA
CA9-F704	CCF630-780A	POA	CA9-F709	CCF6304A	POA

### AC Contactor Coils

Reference	For Contactor	List Price £
CCFFE-xx	115-150	POA
CCFGE-xx	185-225	POA
CCFH2E-xx	265-330	POA
CCFJE-xx	400	POA
CCFKE-xx	500	POA
CCFCE-xx	630	POA
CCFE-xxx	780	POA

### DC Contactor Coils (Special Order In)

Reference	For Contactor	List Price £
CCC4FE-xx	115-150	POA
CC4FGE-xx	185-225	POA
CC4FH2E-xx	265-330	POA
CC4FJE-xx	400	POA
CC4FKE-xx	500	POA
CC4FCE-xx	630	POA
CC4FE-xxx	780	POA

Replace "xx" below with required voltage i.e. 24, 48, 110, 230, 400, 440V





# RANGE

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

### 4 Pole Contactors

& Accessories

### Four Pole AC Contactors

(Price includes Coil)

**Features:**

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

Reference	AC Rating (A)		Recommended Enclosure Size			List Price £
	AC-1	AC-3	Height	Width	Depth	
CCF09004	25	9	174	104	134	POA
CCF12004	25	12	174	104	134	POA
CCF25004	40	25	184	184	149	POA
CCF40004	60	40	305	285	159	POA
CCF50004	80	50	305	285	159	POA
CCF65004	80	65	305	285	159	POA
CCF80004	125	80	305	285	159	POA
CCF95004	125	95	305	285	159	POA
CCF1154A	200	115	400	400	210	POA
CCF1504A	250	150	400	400	210	POA
CCF1854A	275	185	400	400	210	POA
CCF2254A	315	225	400	400	210	POA
CCF2654A	350	265	600	400	300	POA
CCF3304A	400	330	600	400	300	POA
CCF4004A	500	400	600	400	300	POA
CCF5004A	700	500	600	400	300	POA
CCF6304A	1000	630	600	400	300	POA

Other coil voltages available on request

CF1154A and above 2 x Normally Open & 2 Normally Closed Auxilliary Contacts included

\*If shrouds are being fitted check enclosure size

### Mechanical Interlocks

Complete with Rail - Larger sizes also require Base Plates

Reference	For Contactors	List Price £
CML09-32	CC09 to CC25	POA
CML40-65	CC40 to CC65	POA
CML80	CC80 to CC95	POA
CML-FF970	CCF115 to CCF150	POA
CML-FG970	CCF185 to CC225	POA
CML-FJ970	CCF265 to CCF500	POA
CML-FL970	CCF630	POA



CML40-65

\*Add On Auxiliary Contact Blocks

See 3 Pole Contactors & Accessories on page 32

### Contactor Sets (ideal for Generator changeover)

Either choose your contactors and accessories from above for self-assembly, or contact our internal Technical team now for pre-assembled contactor sets.

**Contactor Set Features:**

- IP55 enclosure to suit set size if required
- 2 x 4-Pole Contactors
- 230V 50/60Hz Coils Standard
- 2 x CBF11 Contact Blocks (CCF09-95 only)
- 1 x Mechanical Interlock & rail
- 1 x Mounting Base plate if required

On request **Crompton Controls** offer a full variety of solutions for multiple switching requirements. This includes enclosed Automatic Transfer Panels (ATS), and bypass switch options.



CCF25004

CCF1504A

### Base Plates

For CCF115 to CCF630

Reference	For Contactors	List Price £
CCF115 & CCF150	MI020	POA
CCF185 & CCF225	MI021	POA
CCF2654A	MI022	POA
CCF3304A	MI023	POA
CCF4004A	MI024	POA
CCF5004A	MI025	POA
CCF6304A	MI026	POA



### SIZES: Enclosure - Colour Chart

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

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



# Panel Mount Components

## Control Stations & Timers

All the basics covered in one place..!

- **Push Buttons & Selector Switches**
- **One Piece LED Pilot Lights**
- **Push Button Control Stations**
- **Standard & Multifunction Digital Timers**
- **Voltage Relays & Protection Units**

 Call us **NOW** for Technical Help and Pricing..!

## 22.5mm Control & Signaling Devices

Comprehensive range of Push Buttons, Indicators Lamps, Key & Selector Switches **IP65 Chrome Bezels** suitable for panel door and enclosed control station mounting.

Available as individual items for flexible stocking & assembly

### Features:

- Each Push Button & Switch requires a Coupler & Contact Block/s
- New LED Lamps are one piece including Lens & Bulb

## Push Buttons

Reference	Description	List Price £
PB013S	Push Button Green Chrome Collar	POA
PB017S	Push Button Protruding Red Chrome Collar	POA
PB018S	Push Button Flush Red Chrome Collar	POA
PB019S	Push Button Red Mushroom Head	POA
PB020S	Push Button Red Latching Mushroom Head - Pull to Release	POA
PB021S	Push Button Double (Vertical) with Legend (IP40 only)	POA
PB048S	Push Button Red Latching Mushroom Head (Key Release)	POA
PB054S	Push Button Black Chrome Collar	POA
PB055S	Push Button Blue Chrome Collar	POA
PB088S	Push Button Red Emergency Stop - Twist to Release	POA
PB089S	Push Button Green Chrome Collar with Legend (I)	POA
PB090S	Push Button Red Protruding Chrome Collar with Legend (0)	POA

Order Coupler & Contact Block Separately

## Illuminated Push Buttons

Reference	Description	List Price £
PB077S	Illuminated Push Button head - Green	POA
PB078S	Illuminated Push Button head - Red	POA
PB104S	230-130V 1.2W Resistor Lamp Holder supplied with 130V Bulb	POA
PB103S	130V 1.2W Lamp Holder (Bulb not included) (Choose from below)	POA

Both PB104S and PB103S are complete with coupler. (Contact Blocks to be ordered separately). See below PB039S (N/O) and PB040S (N/C) for contact blocks.

## Key Operated Switches

Referencer	Description	Key Removal Position	List Price £
PB028S	2 Position Switch Non Latching (1x90 deg)	Left	POA
PB029S	3 Position Switch Non Latching (2x45 deg)	Centre	POA
PB030S	2 Position Switch Latching (1x90 deg)	Left & Right	POA
PB031S	2 Position Switch Latching (1x90 deg)	Left	POA
PB032S	3 Position Switch Latching (2x45 deg)	Centre	POA

Order Coupler & Contact Block Separately

Spare Keys: £4.60 each (DO021C)

To suit above switches only

## Selector Switches

Reference	Description	List Price £
PB033S	2 Position Selector Switch Non Latching (1x90 deg) Spring Return	POA
PB034S	3 Position Selector Switch Non Latching (2x45 deg) Spring Return	POA
PB035S	3 Position Selector Switch Latching (2x45 deg) Stay Put	POA
PB036S	2 Position Selector Switch Latching (1x90 deg) Stay Put	POA

Order Coupler & Contact Block Separately

## Contact Blocks

Reference	Description	List Price £
PB039S	N/O Contact Green	POA
PB040S	N/C Contact Red	POA

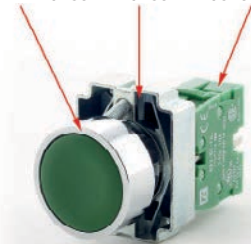
Late Break/Early Make contacts available on request.

## Coupler - Required for ALL buttons and Switches

Reference	Description	List Price £
PB093S	Coupler	POA

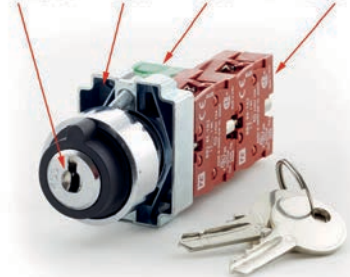


Start Button + Coupler + 1 x NO Contact  
**PB013S + PB093S + PB039S**

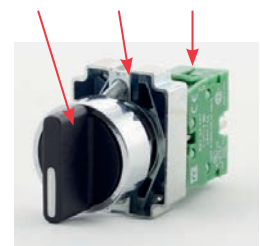


3-Way Key Switch + Coupler + 1 x NO Contact  
+ 2 x NC Contacts

**PB032S + PB093S + PB039S 2 x PB040S**



2 Way Selector Switch + Coupler + 1 x NO Contact  
**PB035S + PB093S + PB039S**





### One Piece LED Pilot Lights - 24V

Reference	Description	Colour	List Price £
PB120S	Lamp LED 24V PL22-24R	RED	POA
PB121S	Lamp LED 24V PL22-24G	GREEN	POA
PB122S	Lamp LED 24V PL22-24Y	YELLOW	POA
PB123S	Lamp LED 24V PL22-24B	BLUE	POA
PB124S	Lamp LED 24V PL22-24W	WHITE	POA



### One Piece LED Pilot Lights - 110V

Reference	Description	Colour	List Price £
PB127S	Lamp LED 110V PL22-110R	RED	POA
PB126S	Lamp LED 110V PL22-110G	GREEN	POA
PB128S	Lamp LED 110V PL22-110Y	YELLOW	POA
PB131S	Lamp LED 110V PL22-110B	BLUE	POA
PB125S	Lamp LED 110V PL22-110W	WHITE	POA



### One Piece LED Pilot Lights - 230V

Reference	Description	Colour	List Price £
PB107S	Lamp LED 230V PL22-230R	RED	POA
PB106S	Lamp LED 230V PL22-230G	GREEN	POA
PB108S	Lamp LED 230V PL22-230Y	YELLOW	POA
PB109S	Lamp LED 230V PL22-230B	BLUE	POA
PB110S	Lamp LED 230V PL22-230W	WHITE	POA



### Push Button Stations

#### Empty Push Button Stations - IP65 Plastic

Part Number	Description	List Price £
PB050C	Push button station 1 hole plastic	POA
PB051C	Push button station 2 hole plastic	POA
PB052C	Push button station 3 hole plastic	POA
PB053C	Push button station 4 hole plastic	POA
PB046S	Emergency stop station - 1 unit yellow lid	POA



#### Empty Push Button Stations - IP55 Mild Steel

Reference	Description	List Price £
PB050S	Push button station 1 hole mild steel	POA
PB051S	Push button station 2 hole mild steel	POA
PB052S	Push button station 3 hole mild steel	POA



#### Empty Push Button Stations - IP55 Stainless Steel

Part Number	Description	List Price £
PB050SS	Push button station 1 hole stainless steel	POA
PB051SS	Push button station 2 hole stainless steel	POA
PB052SS	Push button station 3 hole stainless steel	POA



## Push Button Stations

### Pre-Assembled Push Button Stations - IP65 Plastic

Part Number	Description	List Price £
PBS1 START	Start	POA
PBS1 STOP	Stop	POA
PBS1 STOPM	Mushroom Stop	POA
PBS1 ES	Emergency Stop	POA
PBS2 SS	Stop/Start	POA
PBS2 SSM	Start/Mushroom Stop	POA
PBS2 UD	Up/Down	POA
PBS3 FSR	Forward/Stop/Reverse	POA
PBS3 SSI	Start/Stop/Inch	POA
PBS3 FMSR	Forward/Mushroom Stop/Reverse	POA
PBS3 SMSI	Start/Mushroom Stop/Inch	POA
PBS3 SSP	Start/Stop/Potentiometer	POA



### Pre-Assembled Push Button Stations - IP55 Mild Steel

Reference	Description	List Price £
PBS1 START/MS	Start	POA
PBS1 STOP/MS	Stop	POA
PBS1 STOPM/MS	Mushroom Stop	POA
PBS1 ES/MS	Emergency Stop	POA
PBS2 SS/MS	Stop/Start	POA
PBS2 SSM/MS	Start/Mushroom Stop	POA
PBS2 UD/MS	Up/Down	POA
PBS3 FSR/MS	Forward/Stop/Reverse	POA
PBS3 SSI/MS	Start/Stop/Inch	POA
PBS3 FMSR/MS	Forward/Mushroom Stop/Reverse	POA
PBS3 SMSI/MS	Start/Mushroom Stop/Inch	POA
PBS3 USD/MS	Up/Stop/Down	POA



### Pre-Assembled Push Button Stations - IP55 Stainless

Part Number	Description	List Price £
PBS1 START/SS	Start	POA
PBS1 STOP/SS	Stop	POA
PBS1 STOPM/SS	Mushroom Stop	POA
PBS1 ES/SS	Emergency Stop	POA
PBS2 SS/SS	Stop/Start	POA
PBS2 SSM/SS	Start/Mushroom Stop	POA
PBS2 UD/SS	Up/Down	POA
PBS3 FSR/SS	Forward/Stop/Reverse	POA
PBS3 SSI/SS	Start/Stop/Inch	POA
PBS3 FMSR/SS	Forward/Mushroom Stop/Reverse	POA
PBS3 SMSI/SS	Start/Mushroom Stop/Inch	POA



### Emergency Stop Button Protective Shrouds (Retro Fit)

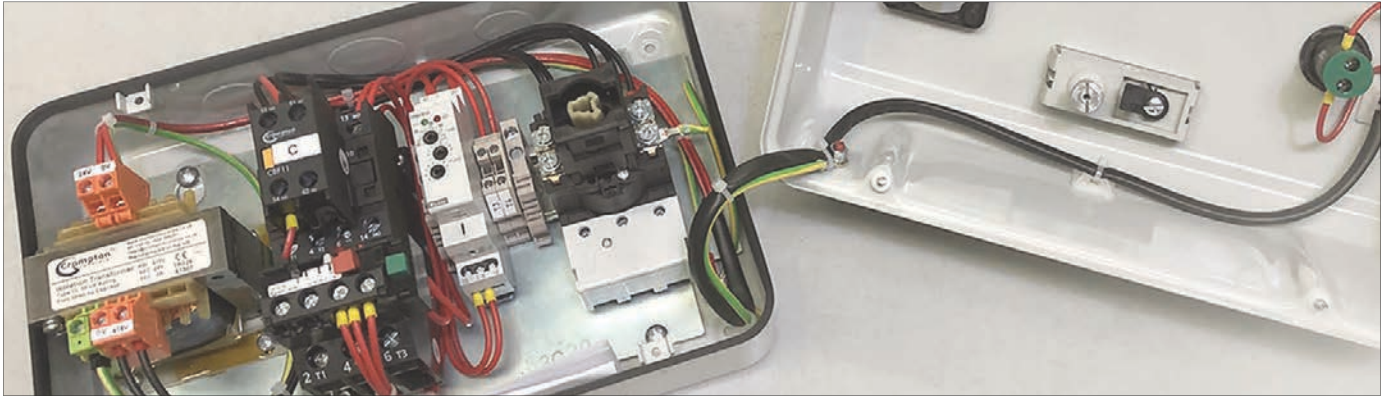
Reference	Description	List Price £
PB151	Emergency Stop Shroud - Open Frame	POA
PB152	Emergency Stop Shroud - Lift Up Cover	POA



Call us **NOW** for Technical Help and Pricing..!

## TIME 2 SWITCH

### Digital Timers / Voltage Relays



### MULTI-FUNCTION TIMER RELAY

- 8 Popular Function Settings Selectable
- 8 Adjustable Time Ranges from 0.1 sec to 10 days
- DIN Rail or Screw Mounting 90H x 27W x 65D (mm)
- 12 V to 230V 50/60Hz AC/DC Supply with Power On LED
- 16A Resistive 2A Inductive Changeover Contact with Status LED

Reference: **CCMFT 12-230V** (TI176)



### VOLTAGE RELAY 3-PHASE

- 3 or 4 Wire Phase Failure & Phase Sequence Function
- Control & Switching of Voltage & Phase Sensitive Equipment
- 220V to 460V 45/65Hz Phase to Phase Measurement
- DIN Rail or Screw Mounting 90H x 18W x 64D (mm)
- 10A Resistive 1A Inductive Changeover Contact
- Power On & Relay Status LED's

Reference: **CC3WPFSR 220-460VAC** (RE074)

Reference: **CC4WPFSR 127-264VAC** (RE075)



### VOLTAGE RELAY 3-PHASE & NEUTRAL

- 4 Wire Phase Failure & Phase Sequence Function
- Selectable Over/Under Voltage Levels + Trip Time
- 127V to 460V 45/65Hz Phase to Neutral Measurement
- DIN Rail or Screw Mounting 90H x 18W x 64D (mm)
- 10A Resistive 1A Inductive Changeover Contact
- Power On & Relay Status LEDs

Reference: **CC4WPFSR127-264VAC04** (RE088)



### UNDER/OVER VOLTAGE RELAY

- 2 Wire, 220VAC, 45 - 65Hz Operating Voltage
- Selectable Over/Under Voltage Levels + Trip Time
- Independent 180 - 260V Threshold Settings
- Din Rail or Screw Mounting 90H x 18W x 64D (MM)
- Power On & Relay Status LED's

Reference: **GRV8-02/A220**





## Special Application Timers & Protection Units for special starter & motor applications.

- Fan Shaker Timer
- Star Delta Timer
- Multi-Voltage Standard Timer
- Thermistor Protection Relay
- Complete starters available!



Example shows Fan Shaker Starter c/w timer fitted

### FAN SHAKER Timer for Dust Extraction Systems

Fan Shaker Timer	Type FS1. Voltages: 110V, 230V & 415V	List Price £
<b>FUNCTION</b>	Dedicated timer for main fan and shaker Motor Control	
	<ul style="list-style-type: none"> <li>• 0-120 seconds Fan Run Down time</li> <li>• 0-60 seconds Shake/Clean period</li> <li>• 110V, 230V 400V options available</li> </ul>	
<b>REFERENCES</b>	FS1 110V (TI175A), FS1 230V (TI175C), FS1 400V (TI175),	
		POA

### STAR DELTA Timer for Star Delta motor starting

Star Delta Timer	Type YD. Voltages: 12-230V AC/DC & 440V	List Price £
<b>FUNCTION</b>	Double relay timer for Star Delta starting.	
	<ul style="list-style-type: none"> <li>• Replaces - YD30S, YD1M, YD2M, YDL1LM</li> <li>• 2 different voltage versions available: 12-230VAC/DC &amp; 400V</li> <li>• 75 millisecond Star to Delta delay</li> <li>• Both units have adjustable time ranges between 0.1s-10mins</li> <li>• Units are Din rail mount only</li> </ul>	
<b>REFERENCES</b>	YD10M 12-230V (TI177), YD10M 400V (TI179)	
		POA



### STANDARD Timer for Delay on Energisation up to 400V

Standard Timer	Type TM. Voltages: 12-230V AC/DC & 440V	List Price £
<b>FUNCTION</b>	Delay on energisation	
	<ul style="list-style-type: none"> <li>• Replaces - TM30S, TM1M, TM2M, TM4M, TM8M, TM16M, TM20M</li> <li>• 2 different voltage versions available: 12-230VAC/DC &amp; 400V</li> <li>• On power up, relay operates after set delay period</li> <li>• Both units have adjustable time ranges between 0.1s-20mins</li> </ul>	
<b>REFERENCES</b>	CCMFT 12-230V (TI176) Must be set to 'Function A-Delay On' TM20M 400V (TI179)	
		POA

### THERMISTOR PROTECTION Relay for Motor Protection

Thermistor Protection Unit	Type TH. Voltages: 110/230V, 230/440V	List Price £
<b>FUNCTION</b>	Protection against over-temperature damage to motor windings.	
	<ul style="list-style-type: none"> <li>• Prevents overtemperature damage to industrial motors</li> <li>• For use with PTC motor embedded Thermistors</li> <li>• 24V (TH24) 110V/230V (TH110) &amp; 230/400V (TH415) options</li> </ul>	
<b>REFERENCES</b>	TH24, TH110, TH415	
		POA





**Did you know** we are a leading UK control panel building specialist?





# Control Panels & Peripheral Equipment

- Control Panels
- BMS Panels
- VSD Panels
- Lighting KNX Panels
- Automatic Changeover Panels
- Temperature & Humidity Sensors
- Input/Output & Relay Modules
- Thyristor Power Controllers
- Air & Liquid Pressure Sensors
- Gas & Smoke Detectors



# Why choose Crompton for your **Control Panels**

- **Professional Tendering Service** - We aim for a 24hr quotation turnaround
- **Dedicated Project Engineer** - From initial design to client handover
- **Extensive BMS & Panel Knowledge, Experience & Technical Support**
- **Professional CAD Design Service** - Ensures quick turnaround on drawings
- **Full Health Check** - On panel completion prior to despatch
- **Quality Build** - To the latest ISO 9001 (2015) compliance
- **Site Work** - For panel modifications / retrofit
- **Professional Motivated Production Team** - Dedicated to hitting deadlines



**Control Panels / BMS Panels / VSD Panels / Lighting KNX Panels / Automatic Changeover Panels & Associated Control & BMS Components & Peripherals.**

## Panel Engineering you can Trust

Crompton Controls is a leading control panel specialist in the UK. Providing flexible and economic solutions from design to manufacture within the Building Management Systems (BMS), Motor Control, Switchgear and Lighting design sectors. Crompton Controls delivers a wealth of experience to our strong and growing customer base.

It's the attention to detail and commitment to excellence that truly makes our control panel offering really stand out as something very special. Within the control panel and BMS sectors, we have gained a reputation for being one of the best in control panel build and our expert engineers have decades of panel design and build experience. This same team of engineers are dedicated from tender through to completion and sign off.

At Crompton Controls we utilise an extremely user friendly Auto-CAD system, which has been designed spe-

cifically to meet the exacting requirements of the industry and is an integral part of our operation in offering top quality solutions throughout all of our control panel design.

Ranging from small operator workstations to large multi-bay suites, our control panels are built to a wide range of protection categories with full certification and documentation.

Providing a full range of our own Crompton branded control components, along with having close strategic partnerships with many industry leading brands such as Annicom, Eldon, Yaskawa, Crompton Greaves and Emotron just to name a few, enables us to compete at all levels to fulfil end customer requirements from a simple panel build through to a total, cutting edge project solution.



## To compliment our panel build we offer Fast, Accurate, High Quality Precision Engraving & Cutting with repeatable quality..!

The engraving system uses a state of the art laser plotter that can be deployed for either laser engraving or as a laser cutting machine.

The software package enables us to download images such as company logos to high resolution photo images, CAD files and transfer them directly onto any material.

In addition it has the ability to cut the most complex design with amazing repeatable accuracy whilst handling high volume production.



Contact our Projects Team now  
[sales@cromptoncontrols.co.uk](mailto:sales@cromptoncontrols.co.uk) / **01924 368251**

## Input / Output & Relay Modules

Our wide range of Input/Output & Relay Modules will allow you to convert inputs and provide all the I/O signalling and control requirements for your application automatically within your project or building.

These modules are perfect for multiplexing, alarm management, boiler sequencing, voltage control and any other application where I/O control is needed. They add I/O and functionality to your project and are designed to be used in a wide range of buildings and HVAC applications.

- Compact Size
- Din rail mount
- Rising clamp terminals
- 24 VAC/DC supply
- Large range of types



## Temperature Sensors

Products, that we draw on 30 years' of experience in designing, developing and manufacturing high-quality environmental controls to bring you a wide range of temperature sensors. Have a look through our range or call us.

- Stainless Steel probes on Duct and Immersion types with IP65 Enclosures
- IP68 Flying lead available
- Thimble and Button in various finishes
- Vast range of Sensor types
- Transmitters for all housing styles (not button)
- High Accuracy
- 3 year warranty



## Air and Liquid Pressure

This range of controls offer both switches and transmitters for liquid and air. They offer flow and indication in HVAC application to ensure correctly functioning systems. Cost effective pressure switches are available for raising alarms, fan proving and flagging to the BMS when a filter needs changing to maintain air flow efficiency.

- LPCB approved switches available
- Static and differential types
- Highest quality materials used
- Up to 42 bar in liquid range
- Multi range air transmitter available
- 3 year warranty



## Thyristor Power Controllers

A range of duct and fan coil heater power controllers with high reliability, small size to power ratio suitable for controlling loads from an analogue signal.

- No additional heat sinks or RFI filters required
- Din Rail and Panel mount types
- Small footprint save panel space
- Single and three phase versions
- Over temperature sensor on all units.
- Zero volt switching
- Enclosure versions available.
- Range covers 2-105kW





# Partnership Matters



## BEGE Power Transmission

Crompton Controls are the new and exclusive UK distribution partner for BEGE Power Transmission.

With high quality power and control products including all types of mechanical geared motors, drum motors, MIG encoders and much more BEGE specializes in driving industrial machines.

As reliable partners, we can help machine builders and end users to engineer and optimize their production processes with power transmission and control technology from a single source for smart and efficient automation solutions.

BEGE and Crompton: Power Transmission Under Complete Control.

See Pages 46 to 49



## Emotron

Crompton Controls and Emotron have been in partnership for over two decades!

As Emotron's Number one UK distribution partner we deliver and support an outstanding range of power and industrial control products including Shaft Power Monitors, Electronic Soft Starters, Variable Speed Inverter Drives, Rotary Heat Exchanger Equipment along with matched Drive and Motor packages.

With our combined experience and expertise we can also create complete control systems optimised for your application to give the best performance and peace of mind.

Together, we put all our energy into saving yours!

See Pages 50 to 57



## Yaskawa

Crompton Controls are an authorised Yaskawa sales partner having worked together for well over 10 years.

Yaskawa have extensive knowledge and many years' experience in automation with more than 22 million AC drives installed worldwide. Thanks to high manufacturing quality and products designed for long, maintenance-free operation, we can offer highly competitive and reliable drive solutions for all industrial and machine control applications.

With well known legacy products from the J1000, V1000 and A1000 inverters to the latest state of the art GA500 and GA700 general purpose and industrial drives we can offer a comprehensive range of drive modules through to custom built inverter control panel solutions.

Yaskawa and Crompton Controls - AC Drives for all your industrial needs

See Pages 58 to 61

For more information contact our Technical Sales Team now  
[sales@cromptoncontrols.co.uk](mailto:sales@cromptoncontrols.co.uk) / **01924 368251**



# BEGE Power Transmission & Industrial Controls



Great partner range available including:

- BEGE (Mini) Helical Gear Motors
- BEGE Hypoid Gear Motors
- Ströter Helical Bevel Motors
- Ströter Variable Speed Gear Motors
- Drum Motors
- MIG Encoders
- Aluminium or Stainless Steel

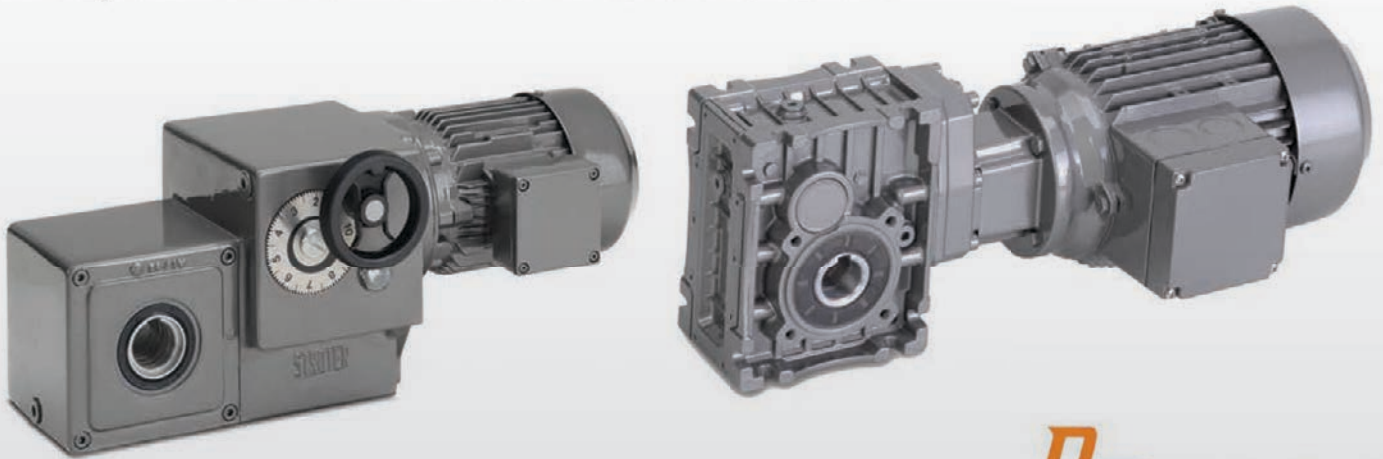


 Call us **NOW** for Technical Help and Pricing..!

# Control Your Transmission..!



**Standard Geared Motors**  
to fully customised **Products & Drive Solutions**



**Crompton Controls** are the NEW UK Distribution Partner for



MIG<sup>®</sup> Encoders to fit all brands of motors & gear units

Call us **NOW** for Technical Help and Pricing..!





## Product in focus Stainless Steel Drives

Efficient, hygienic and durable stainless steel drives that offer great value when it comes to productivity and user-friendliness.



### Food-safe stainless steel drives for the agrifood sector

Is your stainless steel drive not as efficient as it could be? Do you think the service life of your stainless steel drive is too low? Do you suspect that the drive's protection against bacterial contamination could be improved, but don't know how? Or are you dissatisfied with your current supplier's quality or support?

 Legally Compliant	 Food Safe	 Hygienic
 Cost Effective	 Durable	 Corrosion Resistant

As a drive partner for machine builders in the agrifood industry, we understand your needs. This is why we manufacture and supply a wide range of stainless steel components for high-quality drives.

	<p><b>Stainless Steel Gear Motors</b></p> <p>Hygienic, wear-resistant helical bevel, helical and worm gear motors.</p>		<p><b>Stainless Steel MIG Encoders</b></p> <p>Stainless steel flange encoders combine ultra high precision with compactness.</p>
	<p><b>Stainless Steel Gear Units</b></p> <p>Food safe and maintenance free. High efficiency, sturdiness and accuracy.</p>		<p><b>Stainless Steel Drum Motors</b></p> <p>Space saving stainless steel drum motors for a wide range of applications.</p>
	<p><b>Stainless Steel Motors</b></p> <p>Powerful and food safe economy, premium, NEMA, IE4 and PM electric motors.</p>		<p><b>Stainless Steel Components</b></p> <p>High precision components in accordance with DIN standards for hygienic machines.</p>



Superior quality



IEC flange 56 – 225



Protection up to IP67



Ultra-compact



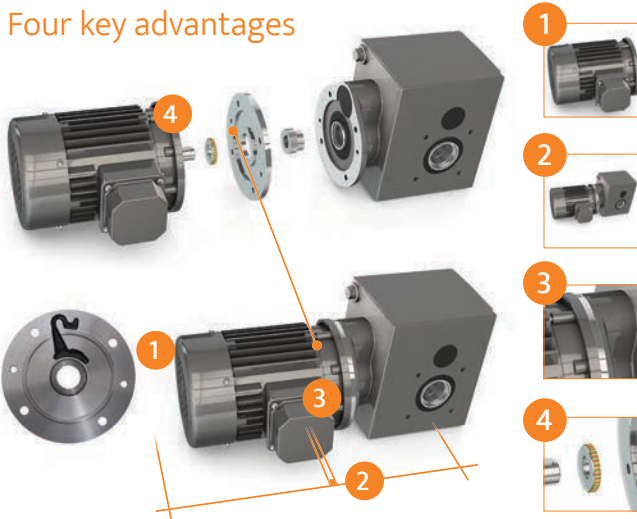
# Product in focus MIG<sup>®</sup> Encoder

## BEGE MIG<sup>®</sup> Encoder

Magnetic incremental and absolute encoders for precise positioning in industrial automation systems.



### Four key advantages



**Fits always:** Because the BEGE MIG is integrated between the motor and gear unit there are no motor modifications required e.g. extended fan cover or NDE shaft.



**Incredibly compact:** Machines and drive systems using the BEGE MIG barely increase in length. The encoder adds 7 to max. 15 mm to the total length.



**IP67 protection:** Due to the assembly between motor and gear unit, our encoder is completely protected from dirt, dust, corrosion and liquids. Even during high pressure cleaning.



**Robust and shockproof:** The use of a vulcanised magnet ring makes the encoder sturdy and shockproof.

### Specifications



#### MIG BASIC INCREMENTAL



#### MIG NOVA INCREMENTAL



#### MIG AST ABSOLUTE SINGLE TURN

Flange diameter (mm)	80 – 200	80 – 450	90 – 250
Flange design	IEC, NEMA, Cover, 4-pin plug	IEC, NEMA, Cover, 4-pin plug	IEC, NEMA
IEC Size	IEC56 – 112	IEC56 – 225	IEC63 – 80
Flange thickness (mm)	7 – 9	7 – 15	7
Protection class	IP55, IP67*	IP55, IP67*	IP55, IP67*
Impulses / Resolution	1 – 64	1 – 2048	1 – 18 (bit)
Max. speed (rpm)	6000	6000 (1024 P.), 3000 (2048)	6000
Connecting voltage	5 – 24 VDC	5 – 24 VDC	5 – 24 VDC

\*Depending on the type of seal between motor and gearbox



Superior quality



IEC flange  
56 – 225



Protection  
up to IP67



Ultra-compact



Available  
from stock

**DID YOU KNOW** Crompton Controls & Emotron have partnered for over 2 decades..?



# EMOTRON

## Power & Industrial Solutions

Great partner range available including:

- **Shaft Power Monitors**
- **Variable Speed Drives**
- **Electronic Soft Starters**
- **Rotary Heat Exchanger Equipment**
- **Drive & Motor Packages**

 Call us **NOW** for Technical Help and Pricing..!



## Shaft Power Monitors

### Proactive High Specification Measurement

For Machine and Process Protection

**Features:**

- 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



SS070/SS074

Model	Supply Voltage	Inputs	Outputs	Reference	Approximate Dimensions (mm)			List Price £
					Height	Width	Depth	
<b>M20</b>	1ph 100-240V	Up to 999 Amps	2 x N/O Relay	<b>SS070</b>	90	45	115	<b>POA</b>
	3ph 100-240V	Auto Set & Reset	Alarm & Pre-alarm 1 x Analogue					
<b>M20</b>	3ph 380-500V	Up to 999 Amps	2 x N/O Relay	<b>SS074</b>	90	45	115	<b>POA</b>

**Please Note:**

- 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 - P.O.A.
- For 525-690V supply/motor voltages - P.O.A.

SS076/FPK1

### Emotron Shaft Power Monitor Options

Options	Description	Reference	List Price £
<b>FPK1</b>	Front panel mounting kit including terminal covers spare Current Transformers	<b>SS076</b>	<b>POA</b>
<b>CTM10</b>	0.4 to 10.0A FLC	<b>SS071</b>	<b>POA</b>
<b>CTM25</b>	10.1 to 25.0A FLC	<b>SS073</b>	<b>POA</b>
<b>CTM50</b>	26.0 to 50.0A FLC	<b>SS072</b>	<b>POA</b>
<b>CTM100</b>	51.0 to 100.0A FLC	<b>SS075</b>	<b>POA</b>
<b>Terminal Covers</b>	2 off	<b>SS080</b>	<b>POA</b>



**NEW for OLD!**

Please note the above Emotron M20 Shaft Power Monitors now replace previous models as follows:  
 EL-FI models LM, DLM, G3, V3, V5, V6, PM & FM and Emotron model M10.  
 Please quote the old model voltage input, Part & Serial Numbers when enquiring

# Emotron M20

## Reliable and cost-efficient monitoring

Call us **NOW** for Technical Help and Pricing..!

## EMOTRON VS10, VS30 (IP20) Inverters - As fitted inside Easy Speedy (page 20) Smooth & Efficient Operation

Emotron VS10 and VS30 offers reliable and cost-efficient operation of your pumps, fans and compressors as well as constant torque applications such as conveyors. All are supplied complete with built-in EMC filter as standard. The complete series covers motors in the power range of 0.25kW.

Although small in size, our new Emotron VS10 and VS30 drive is equipped with several advanced features. It offers great flexibility in all senses. Functionality is easily adapted to your specific application requirements. The compact format offers flexible installation and the user-friendly set-up will have your system up and running in no time.

**Features:**

1. Key hole mounting
2. Main Power Supply removable connector
3. Motor Power Terminal removable connector
4. Relay output
5. Memory module
6. CAN connection with shield plate fixation (option)
7. HMI interface: Control panel hot-pluggable (keypad included)
8. I/O Terminal with shield plate



### VS10 (IP20) 1-phase supply: 230V Input - 0 to 230V 3 Phase Output

Model VS	Nominal Power		Rated Output Current (A) @ 230V	Approximate Dimensions (mm)			List Price £
	kW	HP		Height	Width	Depth	
VS10-23-1P7-20	0.25	0.33	1.7	155	60	130	P.O.A.
VS10-23-2P4-20	0.37	0.5	2.4	155	60	130	P.O.A.
VS10-23-3P2-20	0.55	0.75	3.2	180	60	130	P.O.A.
VS10-23-4P2-20	0.75	1.0	4.2	180	60	130	P.O.A.
VS10-23-6P0-20	1.1	1.5	6.0	250	60	130	P.O.A.
VS10-23-7P0-20	1.5	2.0	7.0	250	60	130	P.O.A.
VS10-23-9P6-20	2.2	3.0	9.6	250	60	130	P.O.A.

### VS30-23 (IP20) 1/3 - phase supply: 230V Input - 0 to 230V 3 Phase Output

Model VS	Nominal Power		Rated Output Current (A) @ 230V	Approximate Dimensions (mm)			List Price £
	kW	HP		Height	Width	Depth	
VS30-23-1P7-20	0.25	0.33	1.7	155	60	130	P.O.A.
VS30-23-2P4-20	0.37	0.5	2.4	155	60	130	P.O.A.
VS30-23-3P2-20	0.55	0.75	3.2	180	60	130	P.O.A.
VS30-23-4P2-20	0.75	1.0	4.2	180	60	130	P.O.A.
VS30-23-6P0-20	1.1	1.5	6.0	250	60	130	P.O.A.
VS30-23-7P0-20	1.5	2.0	7.0	250	60	130	P.O.A.
VS30-23-9P6-20	2.2	3.0	9.6	250	60	130	P.O.A.

### VS30-40 (IP20) 3 - phase supply: 400V Input - 0 to 400V 3 Phase Output

Model VS	Nominal Power		Rated Output Current (A) @ 400/480V	Approximate Dimensions (mm)			List Price £
	kW	HP		Height	Width	Depth	
VS30-40-1P3-20	0.37	0.5	1.3 / 1.1	155	60	130	P.O.A.
VS30-40-1P8-20	0.55	0.75	1.8 / 1.6	180	60	130	P.O.A.
VS30-40-2P4-20	0.75	1.0	2.4 / 2.1	180	60	130	P.O.A.
VS30-40-3P2-20	1.1	1.5	3.2 / 3.0	250	60	130	P.O.A.
VS30-40-3P9-20	1.5	2.0	3.9 / 3.5	250	60	130	P.O.A.
VS30-40-5P6-20	2.2	3.0	5.6 / 4.8	250	60	130	P.O.A.



Call us **NOW** for Technical Help and Pricing..!

## VS10 & VS30 General Specifications

Mains voltage	VS10: 1-phase, 190-240V +/-10% VS30-23: 1/3 phase, 190-240V +/-10% VS30-40: 3 phase, 380-480V +/-10%
Mains frequency	45Hz...65Hz
Output voltage	3-phase, 0-Mains supply voltage level
Output frequency	0-599 Hz
Degree of Protection	IP20 / NEMA250
Mounting	Zero clearance side by side upright mounting, without derating
Cooling	Direct Air cooling (>= Unit size 3 with fan)
Connections	Spring loaded control terminals Removable power terminals <=2.2kW
Approvals	CE, UL, cUL, RoHS2 , DNV
EMC compliance	IEC 61800-3:2004 - C1/C2 depending on length of motor cable
Overload capacity	200% rated current for 3s 150% rated current for 60s
Switching frequency	2,4,8,16 kHz
Temperature	-10°C - 55°C /4kHz (>45°C/ reduce rated output current by 2.5 %/°C)

## Standard Functions and Features

Control types, motor control	VVFC control plus (linear or square-law V/Hz) Sensor less vector control (speed) Fixed / Auto-Boost DC Brake / Brake control Flying restart
Basic functions	Freely assignable user menu S-shaped ramps for smooth acceleration PID controller Sequencer Parameter set change-over Sleep / rinse function
Monitoring and protective measures	Short circuit Earth fault I <sup>2</sup> x t monitoring Motor phase failure Mains phase failure Motor over temperature/heat sink (de-rating) Motor maximum speed detection Motor maximum torque detection Motor maximum current detection Load loss monitoring
Diagnostics Diagnostic interface	Error management via LED, Failure history, Log (Control panel)



## Options

Available Options	
CAN Open	Communication bus
Modbus-RTU	RS485 Serial communication
USB	Communication module



# EASY SPEEDY

PUMPS

FANS

COMPRESSORS

HVAC

# MASSIVE ENERGY SAVINGS

Now is the time to save on your electric motor running costs!



## EMOTRON FDU 2.1 Inverter Drive - IP20/IP54

The Emotron FDU 2.1 AC drive is a step forward from the VS range and has added features. It is specially developed for controlling variable torque loads such as flow and pressure applications. It continuously adapts motor speed to the level required, minimising energy consumption and wear.

A unique monitoring functionality protects your process from damage and unplanned downtime. Typical applications are pumps, fans, compressors and blowers.

**Features:**

- Robust and certified IP20 or IP54 metal construction as standard offers cost-efficient installation close to the application.
- All drive sizes are delivered with built-in Category C3 EMC-filter as standard. C3 requirements are fulfilled with 80m motor cable.
- Soft starts minimise start currents and linear stops prevent water hammer.
- One Emotron FDU can control up to seven pumps/fans without external control systems.
- Energy saving function pauses the motor when it is not required to run to maintain pressure.
- Efficiency is increased by setting the pump to run at full speed at certain intervals to rinse out sludge.
- Speed controlled fans assures less noise, a more even drive temperature and higher efficiency.
- Module fuses included as standard for sizes above 430A at 480V and above 250A at 690V.
- Detachable multi-language control panel included as standard.  
Following languages are supported in the control panel:  
English, Swedish, Dutch, German, French, Spanish, Russian, Italian, Czech, Portuguese, Polish and Turkish.
- Operation parameters can be set in your process units, for example m<sup>3</sup>/min. and bar.
- Removable control panel with own memory means it is easy to transfer or copy settings.
- UL (UL 840) and marine (DNV/BV) approved standard drive.
- Liquid cooled version available for sizes above 90A.



### FDU 2.0 (IP20) 3-phase Supply Un = 380, 400, 415, 440, 460, 480V +10%/-15%, IP20/21 optional brake\*\*

Frame Size C2, D2, E2, F2, FA2 (DC Choke included)

Reference	Normal Duty 120%			Heavy Duty 150%			Imax (60s) A*	Approximate Dimensions (mm)			List Price £
	(400V) kW	(460V) HP	A	(400V) kW	(460V) HP	A		Height	Width	Depth	
FDU48- 025-20	11.0	15.0	25.0	7.5	10.0	20.0	30.0	438	176	267	P.O.A.
FDU48- 030-20	15.0	20.0	30.0	11.0	15.0	24.0	36.0	438	176	267	P.O.A.
FDU48- 036-20	18.5	25.0	36.0	15.0	20.0	29.0	43.0	438	176	267	P.O.A.
FDU48- 045-20	22.0	30.0	45.0	18.5	25.0	36.0	54.0	438	176	267	P.O.A.
FDU48- 058-20	30.0	40.0	58.0	22.0	30.0	46.0	68.0	438	176	267	P.O.A.
FDU48- 072-20	37.0	50.0	72.0	30.0	40.0	58.0	86.0	545	220	291	P.O.A.
FDU48- 088-20	45.0	60.0	88.0	37.0	50.0	70.0	106.0	545	220	291	P.O.A.
FDU48- 105-20	55.0	75.0	105.0	45.0	60.0	84.0	126.0	545	220	291	P.O.A.
FDU48- 142-20	75.0	100.0	142.0	55.0	75.0	114.0	170.0	956	275	294	P.O.A.
FDU48- 171-20	90.0	125.0	171.0	75.0	100.0	137.0	205.0	956	275	294	P.O.A.
FDU48- 205-20	110.0	150.0	205.0	90.0	125.0	164.0	246.0	956	335	294	P.O.A.
FDU48- 244-20	132.0	200.0	244.0	110.0	150.0	195.0	293.0	956	335	294	P.O.A.

\*Available for a limited time and as long as drive temperature permits. Rated data at 40°C ambient temperature.

\*\* If you order the Brake Chopper option, it is mounted internally in the drive. The brake resistors are not included and need to be ordered separately. Please contact us for add on options, selection and pricing.

Crompton Controls offer the complete Variable Speed Drive Solution, from Single Drives to specially designed Multi-Drive Panels!



## EMOTRON FDU 2.1 Inverter Drive - IP20/IP54



**FDU 2.1, 3-phase Supply Un = 380, 400, 415, 440, 460, 480V +10%/-15%, IP54/20 optional brake\*\***  
 Frame Size B, C, D, E, F, FA & G-O (DC Choke included)

Reference	IP Rating	Normal Duty 120%			Heavy Duty 150%			Imax (60s) A*	Approximate Dimensions (mm)			List Price £
		(400V) kW	(460V) HP	A	(400V) kW	(460V) HP	A		Height	Width	Depth	
FDU48-003-54	IP54	0.75	1.0	2.5	0.55	1.0	2.0	3.0	350	203	200	P.O.A.
FDU48-004-54	IP54	1.5	2.0	4.0	1.1	1.5	3.2	4.8	350	203	200	P.O.A.
FDU48-006-54	IP54	2.2	3.0	6.0	1.5	2.0	4.8	7.2	350	203	200	P.O.A.
FDU48-008-54	IP54	3.0	3.0	7.5	2.2	3.0	6.0	9.0	350	203	200	P.O.A.
FDU48-010-54	IP54	4.0	5.0	9.5	3.0	3.0	7.6	11.4	350	203	200	P.O.A.
FDU48-013-54	IP54	5.5	7.5	13.0	4.0	5.0	10.4	15.6	350	203	200	P.O.A.
FDU48-018-54	IP54	7.5	10.0	18.0	5.5	7.5	14.4	21.6	350	203	200	P.O.A.
FDU48-026-54	IP54	11.0	15.0	26.0	7.5	10.0	21.0	31.0	440	178	292	P.O.A.
FDU48-031-54	IP54	15.0	20.0	31.0	11.0	15.0	25.0	37.0	440	178	292	P.O.A.
FDU48-037-54	IP54	18.5	25.0	37.0	15.0	20.0	29.6	44.0	440	178	292	P.O.A.
FDU48-046-54	IP54	22.0	30.0	46.0	18.5	25.0	37.0	55.0	440	178	292	P.O.A.
FDU48-061-54	IP54	30.0	40.0	61.0	22.0	30.0	49.0	73.0	545	220	295	P.O.A.
FDU48-074-54	IP54	37.0	50.0	74.0	30.0	40.0	59.0	89.0	545	220	295	P.O.A.
FDU48-090-54	IP54	45.0	60.0	90.0	37.0	50.0	72.0	108.0	950	285	314	P.O.A.
FDU48-109-54	IP54	55.0	75.0	109.0	45.0	60.0	87.0	131.0	950	285	314	P.O.A.
FDU48-146-54	IP54	75.0	100.0	146.0	55.0	75.0	117.0	175.0	950	285	314	P.O.A.
FDU48-175-54	IP54	90.0	125.0	175.0	75.0	100.0	140.0	210.0	950	285	314	P.O.A.
FDU48-210-54	IP54	110.0	150.0	210.0	90.0	125.0	168.0	252.0	950	345	314	P.O.A.
FDU48-250-54	IP54	132.0	200.0	250.0	110.0	150.0	200.0	300.0	950	345	314	P.O.A.
FDU48-300-20	IP20	160.0	250.0	300.0	132.0	200.0	240.0	360.0	1036	500	390	P.O.A.
FDU48-375-20	IP20	200.0	300.0	375.0	160.0	250.0	300.0	450.0	1036	500	390	P.O.A.
FDU48-430-20	IP20	220.0	350.0	430.0	200.0	250.0	344.0	516.0	1036	500	450	P.O.A.
FDU48-500-20	IP20	250.0	400.0	500.0	220.0	350.0	400.0	600.0	1036	500	450	P.O.A.
FDU48-600-20	IP20	315.0	500.0	600.0	250.0	400.0	480.0	720.0	1036	730	450	P.O.A.
FDU48-650-20	IP20	355.0	550.0	650.0	315.0	400.0	520.0	780.0	1036	730	450	P.O.A.
FDU48-750-20	IP20	400.0	600.0	750.0	355.0	500.0	600.0	900.0	1036	730	450	P.O.A.
FDU48-860-20	IP20	450.0	700.0	860.0	400.0	550.0	688.0	1032.0	1036	1100	450	P.O.A.
FDU48-1K0-20	IP20	560.0	800.0	1000.0	450.0	650.0	800.0	1200.0	1036	1100	450	P.O.A.
FDU48-1K15-20	IP20	630.0	900.0	1150.0	500.0	750.0	920.0	1380.0	1036	1365	450	P.O.A.
FDU48-1K25-20	IP20	710.0	1000.0	1250.0	560.0	800.0	1000.0	1500.0	1036	1365	450	P.O.A.
FDU48-1K35-20	IP20	710.0	1100.0	1350.0	600.0	900.0	1080.0	1620.0	1036	1630	450	P.O.A.
FDU48-1K5-20	IP20	800.0	1250.0	1500.0	630.0	1000.0	1200.0	1800.0	1036	1630	450	P.O.A.
FDU48-1K75-20	IP20	900.0	1500.0	1750.0	800.0	1200.0	1400.0	2100.0	1036	2000	450	P.O.A.
FDU48-2K0-20	IP20	1120.0	1700.0	2000.0	900.0	1300.0	1600.0	2400.0	1036	2230	450	P.O.A.
FDU48-2K25-20	IP20	1250.0	1900.0	2250.0	1000.0	1500.0	1800.0	2700.0	1036	2530	450	P.O.A.
FDU48-2K5-20	IP20	1400.0	2100.0	2500.0	1120.0	1700.0	2000.0	3000.0	1036	2830	450	P.O.A.

\*Available for a limited time and as long as drive temperature permits. Rated data at 40°C ambient temperature.

\*\* If you order the Brake Chopper option, it is mounted internally in the drive. The brake resistors are not included and need to be ordered separately. Please contact us for add on options, selection and pricing.



Call us **NOW** for Technical Help and Pricing..!

## EMOTRON VFX 2.1 Inverter Drive - IP20/IP54

The Emotron VFX 2.1 AC drive is the complete package and optimises your process and prevents damage and downtime.

The combination of direct torque control, accurate speed control, and efficient vector braking makes it the ideal solution for all dynamic and constant torque applications, such as: cranes, crushers, mills, mixers and centrifuges.

### Features:

- Robust and certified IP20 or IP54 metal construction as standard offers cost-efficient installation close to the application.
- All drive sizes are delivered with built-in Category C3 EMC-filter as standard. C3 requirements are fulfilled with 80m motor cable.
- Direct torque control reacts extremely quickly and eliminates disturbances due to abrupt load changes
- Soft starts minimise start currents and full motor overload capacity is available from standstill.
- UL (UL 840) and marine (DNV/BV) approved version available.
- Integrated vector braking ensures quick and controlled stops, increasing productivity and safety.
- Built in brake chopper option.
- Speed controlled fans assures less noise, a more even drive temperature and higher drive efficiency.
- Module fuses included as standard for sizes above 430A at 480V and above 250A at 690V.
- Detachable multi-language control panel included as standard.  
Following languages are supported in the control panel:  
English, Swedish, Dutch, German, French, Spanish, Russian, Italian, Czech, Portuguese, Polish and Turkish.
- Operation parameters can be set in your process units, for example m/sec, tons/h or cycles/min.
- Removable control panel with own memory means it is easy to transfer or copy settings.
- Liquid cooled version available for sizes above 90A.



## VFX 2.0, (IP20) 3-phase Supply Un = 380, 400, 415, 440, 460, 480V +10%/-15%, IP20/21 optional brake\*\*

Frame Size C2, D2, E2, F2 , FA2 (DC Choke included)

Reference	Normal Duty 120%			Heavy Duty 150%			Imax A*	Approximate Dimensions (mm)			List Price £
	(400V) kW	(460V) HP	A	(400V) kW	(460V) HP	A		Height	Width	Depth	
VFX48- 025-20	11.0	15.0	25.0	7.5	10.0	20.0	38.0	438	176	267	P.O.A.
VFX48- 030-20	15.0	20.0	30.0	11.0	15.0	24.0	45.0	438	176	267	P.O.A.
VFX48- 036-20	18.5	25.0	36.0	15.0	20.0	29.0	54.0	438	176	267	P.O.A.
VFX48- 045-20	22.0	30.0	45.0	18.5	25.0	36.0	68.0	438	176	267	P.O.A.
VFX48- 060-20	30.0	40.0	60.0	22.0	30.0	48.0	90.0	545	220	291	P.O.A.
VFX48- 072-20	37.0	50.0	72.0	30.0	40.0	58.0	108.0	545	220	291	P.O.A.
VFX48- 088-20	45.0	60.0	88.0	37.0	50.0	70.0	132.0	545	220	291	P.O.A.
VFX48- 106-20	55.0	75.0	106.0	45.0	60.0	85.0	127.0	956	275	294	P.O.A.
VFX48- 142-20	75.0	100.0	142.0	55.0	75.0	114.0	170.0	956	275	294	P.O.A.
VFX48- 171-20	90.0	125.0	171.0	75.0	100.0	137.0	205.0	956	275	294	P.O.A.
VFX48- 205-20	110.0	150.0	205.0	90.0	125.0	164.0	246.0	956	335	294	P.O.A.
VFX48- 244-20	132.0	200.0	244.0	110.0	150.0	195.0	293.0	956	335	294	P.O.A.

\*Available for a limited time and as long as drive temperature permits. Rated data at 40°C ambient temperature.

\*\* Brake Chopper - Dynamic Braking Transistor internal option (optional DB Resistor not included)

Please contact us for add on options, selection and pricing.

Option	Factory mounted	List Price £
DC+/DC-Connectors	Frame size B	P.O.A.
	Frame size C, C2	P.O.A.
	Frame size D, D2	P.O.A.
	Frame size E, E2	P.O.A.
	Frame size F, F2, FA	P.O.A.
IT-Net	The variable speed drive will be factory-made for using IT-Net.	P.O.A.
Standby power supply	Build-in standby power supply, suitable for 24V AC/DC. If the main power supply drops out, the control print and the connected options, for example Profibus, will stay commissioned.	P.O.A.
Safe Stop	Extra build-in inputs and outputs for emergency stop circuit confirming with the norm EN 954-1 Category 3.	P.O.A.
Control panel blank	Factory mounted when ordering an external control panel	P.O.A.
PTC frame sizes B - D, C2 & D2	Factory mounted, isolated motor PTC input conform DIN 44081/440 82 for sizes B - D, C2 & D2	
EMC filter	Frame size B	
	Frame size C, C2	P.O.A.
	Frame size D, D2(60, 72A)	P.O.A.
	Frame size D2 (88A)	P.O.A.

Set by of the VSD configuration (see page Conf\_INV)



**TSA Soft Starters**  
**with built-in bypass & Shaft Power Monitor**  
*Everything you need except variable speed!*

A Brand New Level of Soft Starter Motor Control

**Features:**

- Integrated By-pass with proven contactor technology
- Soft torque starting, intelligent monitoring, smart stops
- Simple, robust & compact construction
- Coated printed circuit boards for harsh environments
- Slow speed, jog and reverse with no extra hardware
- Built in realtime clock
- Clear multilingual text display
- Option 575 - 670V AC version on request
- Marine DNV approval

**TSA Soft Starters**

Three Phase 200 - 525V AC 50/60Hz - IP20 Modules

TSA Model	Normal Duty* A	Normal Duty kW @400V	Height (mm)	Width (mm)	Depth (mm)	Reference	List Price £
TSA-016	16	7.5	246	126	188	SS084	P.O.A.
TSA-022	22	11	246	126	188	SS085	P.O.A.
TSA-030	30	15	246	126	188	SS086	P.O.A.
TSA-036	36	18.5	246	126	188	SS087	P.O.A.
TSA-042	42	22	246	126	188	SS088	P.O.A.
TSA-056	56	30	246	126	188	SS089	P.O.A.
TSA-070	70	37	246	126	188	SS090	P.O.A.
TSA-085	85	45	246	126	188	SS091	P.O.A.
TSA-100	100	55	246	126	188	SS092	P.O.A.
TSA-140	140	75	285	196	235	SS093	P.O.A.
TSA-170	170	90	285	196	235	SS094	P.O.A.
TSA-200	200	110	285	196	235	SS095	P.O.A.
TSA-240	240	132	373	254	260	SS096	P.O.A.
TSA-300	300	160	373	254	260	SS097	P.O.A.
TSA-360	360	200	373	254	260	SS098	P.O.A.
TSA-450	450	250	373	254	260	SS099	P.O.A.

\*Note: Normal duty - Start Amps=3xInom, Start Time=15sec to 56A & 30sec to 100A @ 10 Starts/Hour

Coming Soon: TSA power range is going to be expanded by:  
 frame size 5: TSA52-470, -580, -730 and -820  
 frame size 6: TSA52-960 and -1125

**TSA Soft Starter Options**

Option	Reference	List Price £
IP54 External Control Panel for cabinet door mounting	SS102	P.O.A.
I/O Board with 3 extra relay outputs & 3 extra digital inputs	SS103	P.O.A.
PTC & PT100 input board	SS104	P.O.A.
RS485 serial communications board - Modbus-RTU protocol	SS105	P.O.A.
Profibus DP V1 fieldbus option	SS106	P.O.A.
Devicenet fieldbus option	SS107	P.O.A.
Industrial Ethernet Profinet IO (RT) 1	SS108	P.O.A.
Industrial Ethernet Profinet IO (RT) 2 port	SS100	P.O.A.
Industrial Ethernet with Modbus/TCP protocol	SS101	P.O.A.
Industrial Ethernet EtherCAT (COE)	SS109	P.O.A.
Industrial Etherne/IP, 2 Port	SS110	P.O.A.
Industrial USB Serial Communications Board - Modbus-RTU protocol	SS111	P.O.A.



70 - 100A



140 - 200A



240 - 450A

Call us **NOW** for Technical Help and Pricing..!

# YASKAWA Variable Speed Drives

New State of the art GA500 & GA700 added to well-known J1000, V1000 & A1000 ranges



## GA500 Microdrive - IP20



Balancing Power to Perfection - Makes Life Easier!  
Compact & flexible for almost all industrial applications.

### Features:

- Dual Rated Constant & Variable Torque
- Bright LED display & tactile keypad
- Side by side mounting reduces panel size
- Mobile or PC connectivity via USB port
- One drive for any induction, PM or SR motor
- Supports major communications networks
- Increased functional safety & reliability

### GA500 Inverter Overview

- o 0.1 - 30kW Power Ratings (ND)
- o 200VAC 1ph & 400VAC 3ph
- o Fast Installation & Setup
- o Wide Ambient Temperature Range
- o Braking Transistor built in
- o EMC filter built in as standard
- o Coated PCB's



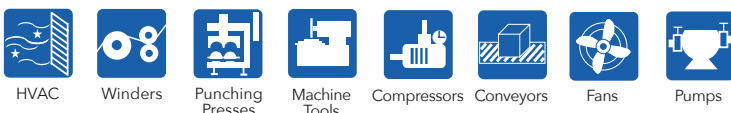
## Yaskawa GA500 Inverter - Single Phase 200 – 240V AC 50/60Hz – C1 EMC Filter Built in

Inverter Module	Normal Duty		Heavy Duty		Part No.	List Price £
	Amp	kW	Amp	kW		
GA50CB001EBA	1.2	0.18	0.8	0.1	YNE310	P.O.A.
GA50CB002EBA	1.9	0.37	1.6	0.25	YNE311	P.O.A.
GA50CB004EBA	3.5	0.75	3.0	0.55	YNE312	P.O.A.
GA50CB006EBA	6.0	1.1	5.0	1.1	YNE313	P.O.A.
GA50CB0010EBA	9.6	2.2	8.0	1.5	YNE314	P.O.A.
GA50CB0012EBA	12.2	3.0	11	2.2	YNE315	P.O.A.



## Yaskawa GA500 Inverter - Three Phase 380 – 480V AC 50/60Hz – C2 EMC Filter Built in

Inverter Module	Normal Duty		Heavy Duty		Part No.	List Price £
	Amp	kW	Amp	kW		
GA50C4002EBA	2.1	0.75	1.8	0.55	YNE298	P.O.A.
GA50C4004EBA	4.1	1.5	3.4	0.75	YNE299	P.O.A.
GA50C4005EBA	5.4	2.2	4.8	1.5	YNE300	P.O.A.
GA50C4007EBA	7.1	3.0	5.5	2.2	YNE301	P.O.A.
GA50C4009EBA	8.9	4.0	7.2	3.0	YNE302	P.O.A.
GA50C40012EBA	11.9	5.5	9.2	3.7	YNE303	P.O.A.
GA50C40018EBA	17.5	7.5	14.8	5.5	YNE304	P.O.A.
GA50C40023EBA	23.4	11	18	7.5	YNE305	P.O.A.
GA50C40031EBA	31	15	24	11	YNE306	P.O.A.
GA50C40038EBA	38	18.5	31	15	YNE307	P.O.A.
GA50C40044EBA	44	22	39	18.5	YNE308	P.O.A.
GA50C40060EBA	60	30	45	22	YNE309	P.O.A.



# YASKAWA NEW GA700 State of the Art Inverters IP20

## Limitless possibilities

Incredibly reliable, easy to use, and powerful!

YASKAWA have designed a variable speed drive to meet all your needs. Offering world class YASKAWA quality, along with intuitive interaction and high flexibility, the new **GA700** has absolutely endless application possibilities..!



### Features:

- Dual Rated Constant & Variable Torque Application
- Flexible control panel mounting & cooling possibilities
- Intuitive keypad, navigation and startup Wizards
- Mobile connectivity via built in USB or optional bluetooth
- One drive for any induction, PM or SR motor
- Supports all major communications networks
- Integrated increased functional safety & reliability

### GA700 Inverter

- o 0.55 – 355kW Power Ratings
- o 200VAC & 400VAC
- o 590Hz max output frequency
- o Built in DC reactor 22kW +
- o Braking Transistor to 75kW
- o EMC class C2 filter option
- o Coated PCB's

## Yaskawa GA700 Inverter - Three Phase 380 – 480V AC 50/60Hz - Category C3 Filter Built-In

Inverter Module	Normal Duty		Heavy Duty		Part No.	List Price £	Optional External Category C2 Filter		
	Amp	kW	Amp	kW			RFI Filter	Part No.	List Price £
GA70C4002BBA	2.1	0.75	1.8	0.55	YNE273	P.O.A.	FB-40008B	YNE110	P.O.A.
GA70C4004BBA	4.1	1.5	3.4	0.75	YNE274	P.O.A.	FB-40008B	YNE110	P.O.A.
GA70C4005BBA	5.4	2.2	4.8	1.5	YNE275	P.O.A.	FB-40008B	YNE110	P.O.A.
GA70C4007BBA	7.1	3.0	5.5	2.2	YNE276	P.O.A.	FB-40008B	YNE110	P.O.A.
GA70C4009BBA	8.9	4.0	7.2	3.0	YNE277	P.O.A.	FB-40014B	YNE114	P.O.A.
GA70C4012BBA	11.9	5.5	9.2	3.7	YNE278	P.O.A.	FB-40014B	YNE114	P.O.A.
GA70C4018BBA	17.5	7.5	14.8	5.5	YNE279	P.O.A.	FB-40025B	YNE116	P.O.A.
GA70C4023BBA	23.4	11	18	7.5	YNE280	P.O.A.	FB-40025B	YNE116	P.O.A.
GA70C4031BBA	31	15	24	11	YNE281	P.O.A.	FB-40044B	YNE118	P.O.A.
GA70C4038BBA	38	18.5	31	15	YNE282	P.O.A.	FB-40044B	YNE118	P.O.A.
GA70C4044BBA	44	22	39	18.5	YNE283	P.O.A.	FB-40060A	YNE120	P.O.A.
GA70C4060BBA	59.6	30	45	22	YNE284	P.O.A.	FB-40060A	YNE120	P.O.A.
GA70C4075BBA	74.9	37	60	30	YNE285	P.O.A.	FB-40072A	YNE119	P.O.A.
GA70C4089BBA	89.2	45	75	37	YNE286	P.O.A.	FB-40105A	YNE122	P.O.A.
GA70C4103BBA	103	55	91	45	YNE287	P.O.A.	FB-40105A	YNE122	P.O.A.
GA70C4140BBA	140	75	112	55	YNE288	P.O.A.	FB-40170A	YNE125	P.O.A.
GA70C4168BBA	168	90	150	75	YNE289	P.O.A.	FB-40170A	YNE125	P.O.A.
GA70C4208BBA	208	110	180	90	YNE290	P.O.A.	FB-40250A	YNE127	P.O.A.
GA70C4250BBA	250	132	216	110	YNE291	P.O.A.	FB-40250A	YNE127	P.O.A.
GA70C4296BBA	296	160	260	132	YNE292	P.O.A.	FB-40414A	YNE129	P.O.A.
GA70C4371BBA	371	200	304	160	YNE293	P.O.A.	FB-40414A	YNE129	P.O.A.
GA70C4389BBA	389	220	371	200	YNE294	P.O.A.	FB-40414A	YNE129	P.O.A.
GA70C4453BBA	453	250	414	220	YNE295	P.O.A.	FB-40675A	YNE111	P.O.A.
GA70C4568BBA	568	315	453	250	YNE296	P.O.A.	FB-40675A	YNE111	P.O.A.
GA70C4675BBA	675	355	605	315	YNE297	P.O.A.	FB-40675A	YNE111	P.O.A.

Flexibility, ease of use and a sustainable design for the best value proposition in your application

 Call us **NOW** for Technical Help and Pricing..!



# YASKAWA V1000 Enclosed Wall Mount Inverter - IP66

(Max 18.5kW)

## Compact V1000 based Drive Units with IP66 Protection for Wet & Dusty Harsh Environments

**Features:**

- 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 Enclosed Inverter - IP66

Three Phase 380-480V AC 50/60Hz with integral RFI Filter

Enclosed Inverter Model	Normal Duty		Heavy Duty		Dimensions (mm)			Part Number	List Price £
	Amp	kW	Amp	kW	Height	Width	Depth		
CIMR-VC4A0001HAA-0080	1.2	0.4	1.2	0.2	340	262	173.5	YNE067	P.O.A.
CIMR-VC4A0002HAA-0080	2.1	0.75	1.8	0.4	340	262	173.5	YNE068	P.O.A.
CIMR-VC4A0004HAA-0080	4.1	1.5	3.4	0.75	340	262	173.5	YNE069	P.O.A.
CIMR-VC4A0005HAA-0080	5.4	2.2	4.8	1.5	340	262	173.5	YNE070	P.O.A.
CIMR-VC4A0007HAA-0080	6.9	3	5.5	2.2	340	262	173.5	YNE071	P.O.A.
CIMR-VC4A0009HAA-0080	8.8	3.7	7.2	3.0	340	262	173.5	YNE072	P.O.A.
CIMR-VC4A0011HAA-0080	11.1	5.5	9.2	4.0	340	262	173.5	YNE073	P.O.A.
CIMR-VC4A0018HAA-0080	17.1	7.5	14.8	5.5	500	500	273.5	YNE008	P.O.A.
CIMR-VC4A0023HAA-0080	23.0	11.0	18.0	7.5	500	500	273.5	YNE009	P.O.A.
CIMR-VC4A0031HAA-0080	31.0	15.0	24.0	11.0	500	500	273.5	YNE011	P.O.A.
CIMR-VC4A0038HAA-0080	38.0	18.5	31.0	15.0	500	500	273.5	YNE012	P.O.A.

## A1000 High Performance Enclosed Wall Mounted Inverter - IP54

(18.5kW - 75kW)

**Features:**

- 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

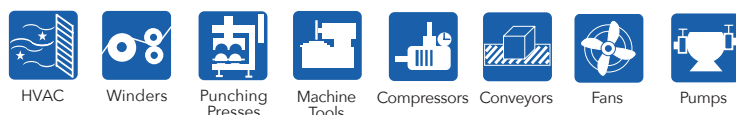


### A1000 IP54 Enclosed Inverter

Three Phase 380-480V AC 50/60Hz with integral RFI Filter

Inverter Model	Normal Duty		Height	Width	D1	D(2)	No Isolator		With Isolator			
	Amp	kW					Part Number	List Price £	Part Number	List price £		
CIMR-AC4A0044TAA*	44	22	39	18.5	700	400	260	(292)	YNE042	P.O.A.	YNE050	P.O.A.
CIMR-AC4A0058TAA*	58	30	45	22	750	465	300	(331)	YNE043	P.O.A.	YNE052	P.O.A.
CIMR-AC4A0072TAA*	72	37	60	30	750	465	300	(331)	YNE044	P.O.A.	YNE060	P.O.A.
CIMR-AC4A0088TAA*	88	45	75	37	950	555	325	(375)	YNE045	P.O.A.	YNE061	P.O.A.
CIMR-AC4A0103TAA*	103	55	91	45	950	555	325	(375)	YNE046	P.O.A.	YNE062	P.O.A.
CIMR-AC4A0139TAA*	139	75	112	55	950	555	325	(375)	YNE047	P.O.A.	YNE063	P.O.A.
CIMR-AC4A0165TAA*	165	90	150	75	950	555	325	(375)	YNE048	P.O.A.	YNE064	P.O.A.

\* 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



# YASKAWA Standard Inverter Panels - IP54

A Standard range of inverter drive cubicles pre-engineered for immediate installation.

**Technical Specification:**

- 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



**Features:**

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

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

**Available on request:**

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

Previous Inverter Drive Modules only available while stocks last.

# YASKAWA



J1000

V1000

A1000

**DID YOU KNOW**  
Crompton Controls & Yaskawa  
have partnered for more than 10 years?

Call us **NOW** for Technical Help and Pricing..!



# AC Variable Speed Inverter Drives

0.4kW - 500kW (0.5HP - 670HP)

Brand new partner range available offering:

- High performance at low speeds
- Enhanced Control Functionality
- Safety built in as standard
- High IP protection multifunction version
- 2 Year Warranty on all models

 Call us **NOW** for Technical Help and Pricing..!



## SD1 Series

**Single Phase up to 2.2kW (3HP) / Three Phase up to 110kW (150HP)**  
**Torque Vector Control / Safe Torque Off (STO)**

Comprehensively specified inverters for AC motors: 0.4kW-110kW (0.5HP-150HP). The SD1 range is the ultimate variable speed drive for you! Easy to set up, and specified for use in virtually any application, the SD1 is IMO's first complete range of variable speed drives which offer STO (SIL2 / SIL3) dependent upon model, along with a huge range of enhanced features, normally found on much more expensive inverter drives. A range of EMC filter options makes the SD1 suitable for virtually every industrial, commercial or domestic application.



## HD2 Series

**High Performance Torque Vector Inverters for AC Motors**  
**Three Phase (400V) up to 500kW (670HP)**  
**Integral Modbus-RTU / RS485 / Bluetooth and WiFi Communication**

High performance inverters for AC motors: 1.5kW-500kW (2HP-670HP). The HD2 range of inverters offer unrivalled performance. Designed for controlling asynchronous AC induction motors and permanent magnet synchronous motors, the HD2 torque vector control range are packed full of features that you would usually expect to find on considerably higher specified inverters. Utilising the most advanced vector control technology, the HD2 range delivers sensorless and closed loop vector control for both asynchronous and synchronous motors giving exceptional speed response and control. HD2 offers unparalleled reliability, environmental adaptability, high precision and stable performance.



## HD2IP Series

**Dual Rated IP55 Inverters for AC Motors**  
**Three Phase (400V) Variable Torque up to 110kW (150HP)**  
**Three Phase (400V) Constant Torque up to 110kW (150HP)**  
**Integral AC Isolator for Safe Control**

The HD2IP series of IP55 rated inverters is our latest high protection, multi-function torque vector inverter for AC motors. The IP55 protection rating provides the best protection experience, making it ideal for the harshest outdoor applications. The HD2IP also incorporates features such as ease of use, excellent performance, high scalability and wide application usage. An integrated AC isolator provides convenience and security for machine control and debugging.



IMO at the cutting edge of AC drive technology

 Call us **NOW** for Technical Help and Pricing..!

**IMO**



# Variable Frequency Drives for 3-Phase Motors

Brand new partner range available offering:

- Cutting Edge Design Technology
- Energy Efficient High Performance
- Complete Flexibility in Compact Dimensions
- Matched Motors & Inverters with Enhanced Warranty
- Easy Installation with Convenience Built in as Standard

 Call us **NOW** for Technical Help and Pricing..!

## CFW100 Micro Drive

**For the smallest machines - Single Phase up to 1.5kW**

The CFW100 is an extremely small, high performance variable speed drive for three-phase induction motors suitable for manufacturers of small machines. It features selectable scalar (V/F) or voltage vector (VW) control, HMI, and Plug & Play philosophy for fast and simple accessory installation. It also offers SoftPLC, which adds the functionalities of PLC to the drive, and free programming and monitoring software applications.



## CFW300 Mini Drive

**For more machines & industrial processes  
Single Phase up to 2.2kW / Three Phase up to 7.5kW**

The CFW300 variable speed drive is a high-performance VSD for three-phase induction motors, ideal for applications on machines or equipment that require precise control and easy operation. It features compact size, contactor-style electrical installation, selectable WEG vector control (VW) or scalar control (V/F), built-in operating interface (HMI), SoftPLC, free WPS programming software and plug-in accessories that may be added to provide extended functionalities, making it a flexible solution of excellent cost effectiveness.



## CFW500 Compact Machinery Drive

**For all precise motor control applications  
Single Phase up to 2.2kW (IP20 & IP66)  
Three Phase up to 110kW (IP66 Version up to 15kW)**

With a modern design the CFW500 frequency inverter is a high-performance variable speed drive, which assists in controlling speed and torque of three-phase induction motors. The drive offers sensorless vector, vector with encoder or scalar control modes, permanent magnet motor control, Soft-PLC, which adds PLC (Programmable Logic Controller) functions, STO and SS1 Safety Functions, Pump Genius, which brings dedicated pumping functions, and selectable plug-in modules, providing a flexible and optimized solution for any application.



**WEG** High-performance and energy-efficient solutions

 **Call us NOW for Technical Help and Pricing..!**





The most customizable,  
easy-to-use panel meter  
line on the market.



# Advanced Panel Meters

Cutting Edge, State of the Art Technology

- Smarter - Safer - Easier
- The modern digital monitoring solution
- Programmable dynamic colour backlighting
- High visibility status from distance
- For all your critical parameters

 Call us **NOW** for Technical Help and Pricing..!



# We've got you covered with the APM family!

Unique dynamic backlighting and starburst messaging, instant alarm status alerts, scale and range are fully customisable through plug and play software. IoT ready, get your data anywhere.



NORMAL RANGE



OPTIMAL RANGE



OUTSIDE RANGE

All units require small AC-DC PSU to operate - See PS005



## AMP METER

A general purpose meter for measuring AC & DC current for applications including control panels and power supplies.

- Auto-detects AC or DC input
- Measures 5A direct or up to 10,000A with a current transformer
- 1.0% accuracy



## VOLT METER

A general purpose meter for measuring mains voltage for applications including control panels and power supplies.

- Auto-detects AC or DC input
- Measures up to 600V DC/AC
- 1.0% accuracy



## CT METER

For measuring AC current in conjunction with an external CT for applications including motor control, heating control and industrial power supplies.

- Use with external current transformer
- Monitors AC currents up to 10,000A in conjunction with a current transformer
- 0.5% accuracy



## FREQUENCY METER

For measuring frequency and speed for applications including control panels, industrial applications and aviation.

- Accurately measures DC pulses from a sensor
- Supports a wide range of inputs between 2-400Hz
- 0.5% accuracy



## M2 METER

All-in-one meter that can be configured to measure amps, voltage or frequency for applications including switchgear and power control centers.

- 100-240V AC mains powered
- No additional power supply required
- 40-segment bar graph scale



## PROCESS METER

A specialized meter for process control applications including variable speed drives, flow and pressure transducers, and linear and non-linear sensors.

- 20 point non-linear conversion
- Can measure 0-10V DC or 0-50mA
- 0.1% accuracy across the input range



## SHUNT METER

A specialized meter for measuring DC current in conjunction with an external shunt for applications including marine, leisure and material handling.

- For use with shunts up to 1000mV
- High resolution 0-1V DC input
- Measures to 0.1% accuracy of the signal or 0.5mV (whichever is greater)



## RATE METER

A specialized meter for measuring speed, rate and flow for applications including motor speed, pump controls and production line monitoring.

- Process time measurement
- Wide input range of 0-60kHz
- 0.1% accuracy

All units require small AC-DC PSU to operate - See PS005

# POWER METER



A universal power meter for single-phase, split-phase and 3-phase power monitoring applications.

- Works with potential and current transformers
- Modbus® RTU included
- 4 alarm setpoints



All units require small AC-DC PSU to operate - See PS005



# APM MAX



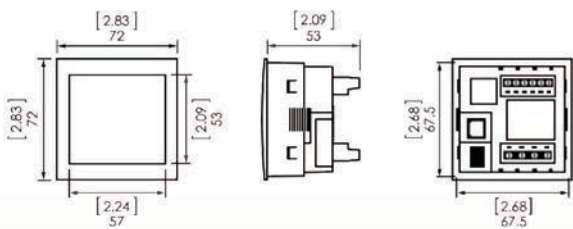
## New APM MAX meter

The APM MAX meters large 81.5mm x 66mm LCD screen the has a two-line display, programmable scale and alarm set-points with colour-changing, full colour RGB backlight for instant alerts. An all-in-one meter with endless configuration options, it features digital and analogue outputs and serial MODBUS® RTU as standard (ethernet MODBUS® also available).

- **APM-MAX-M21:** for high voltage applications; configurable as an ammeter, volt-meter, frequency meter or power monitor (Watts, VA & Power Factor).
- **APM-MAX-M23:** for low voltage applications; configurable as a process meter or to be used in conjunction with a shunt.

## DIMENSIONS

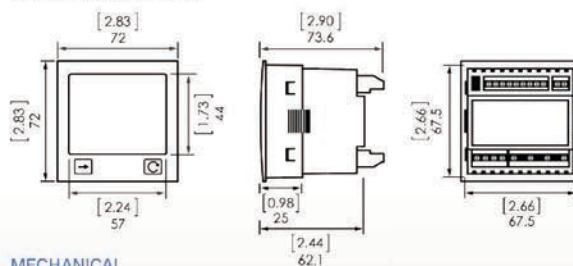
### APM Meter Series



#### MECHANICAL

Dimensions: 72mm x 72mm x 53mm | 2.83" x 2.83" x 2.09"  
Cutout: 68mm x 68mm | 2.68" x 2.68" as per DIN43700/IEC61554

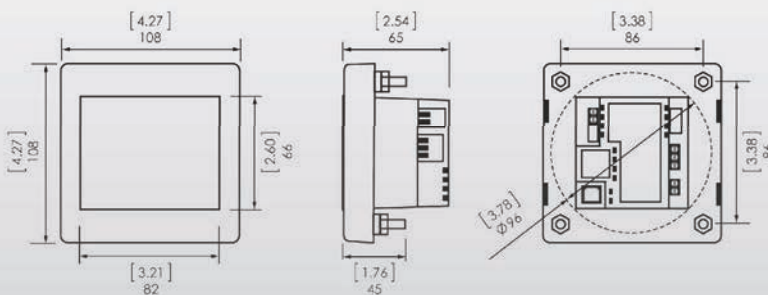
### APM Power Meter



#### MECHANICAL

Dimensions: 72mm x 72mm x 74mm | 2.83" x 2.83" x 2.90"  
Cutout: 68mm x 68mm | 2.68" x 2.68" as per DIN43700/IEC61554

### APM MAX Meter



#### MECHANICAL

Dimensions: 108.4mm x 108.4mm x 64.5mm | 4.268" x 4.268" x 2.54"  
Cutout: Square: 68mm x 68mm | 2.7" x 2.7" | Circle Diameter: 96mm | 3.8"



# Advanced Panel Meters

Our Complete Listed Range



Reference	Description	List Price £
APM-AMP-CNO	APM Amp Meter: Negative LCD w/outputs	POA
APM-AMP-CPO	APM Amp Meter: Positive LCD w/outputs	POA
APM-CT-CNO	APM CT Meter: Negative LCD w/outputs	POA
APM-CT-CPO	APM CT Meter: Positive LCD w/outputs	POA
APM-FREQ-CNN	APM Frequency Meter: Negative LCD	POA
APM-FREQ-CNO	APM Frequency Meter: Negative LCD w/outputs	POA
APM-FREQ-CPN	APM Frequency Meter: Positive LCD	POA
APM-FREQ-CPO	APM Frequency Meter: Positive LCD w/outputs	POA
APM-M2-CNO	APM M2: Amp, Volt and Frequency Meter	POA
APM-M2-CPO	APM M2: Amp, Volt and Frequency Meter	POA
APM-PROC-CNO	APM Process Meter: Negative LCD w/outputs	POA
APM-PROC-CPO	APM Process Meter: Positive LCD w/outputs	POA
APM-RATE-CNO	APM Rate Meter: Negative LCD w/outputs	POA
APM-RATE-CPO	APM Rate Meter: Positive LCD w/outputs	POA
APM-SHUNT-CNO	APM Shunt Meter: Negative LCD w/outputs	POA
APM-SHUNT-CPO	APM Shunt Meter: Positive LCD w/outputs	POA
APM-VOLT-CNO	APM Volt Meter: Negative LCD w/outputs	POA
APM-VOLT-CPO	APM Volt Meter: Positive LCD w/outputs	POA
APM-MAX-M21-PU-4R	APM MAX: High Voltage w/Modbus RTU	POA
APM-MAX-M23-PU-4R	APM MAX: Low Voltage w/Modbus RTU	POA
APM-MAX-M21-PU-4B	APM MAX: High Voltage w/Modbus RTU, TCP/IP	POA
APM-MAX-M23-PU-4B	APM MAX: Low Voltage w/Modbus RTU, TCP/IP	POA
APM-PWR-CPO	APM 3-Phase Power Meter w/Modbus RTU	POA
<b>PS005</b>	AC-DC PSU Unit 20W @ 24VDC Din Rail Mount	POA
C/Ts available for these units. Please confirm ratio required, (ie, 100/5A)		POA

 Call us **NOW** for Technical Help and Pricing..!



# ProcessDefender™

## Protects Motor Driven Equipment

### Main Features:

- Motor Load monitoring uses the motor as a sensor to prevent damage and downtime
- Display motor load as either HP, kW, % of Motor Power
- Overload and underload protection
- Built-in Real time Clock
- Certified to UL, cUL, and CE

 Call us **NOW** for Technical Help and Pricing..!



# Stop Damage & Downtime before it occurs



## Monitors & Protects pumps, fans, crushers, coneveyors, clarifiers and more.

Protecting motor driven equipment with ProcessDefender™ can alert the operator to events such as pump run dry, dead head, cavitation, or a closed suction valve. An alert can be as simple as a visual operator alarm, a signal to a plant DCS, or a direct local shut down of the motor. Either way, ProcessDefender™ will react quickly enough to protect the equipment from damage and downtime.

### Specifications:

Supply Voltage - 1 x 100-240 VAC & 3 x 100-480 VAC  
 Frequency - 45 Hz to 65 Hz  
 Rated Current - Up to 999A via current transformer  
 Output Relays - 3  
 Accuracy  $\geq 98\%$   
 Repeatability  $\geq 99\%$   
 Protection Class NEMA 4 / IP65 (HMI only)  
 Approvals UL cUL CE  
 Please Note:

A Specific Current Transformer is necessary with each unit.

### Current Transformer Options:

1 to 10A FLC - **PD-CT010** / 10 to 20A FLC - **PD-CT020** / 20 to 50A FLC - **PD-CT050** / 50 to 100A FLC - **PD-CT0100**



Feature	PD100	PD100 (Autumn 2022)
Arc Flash protection for User / Engineer	✓	✓
Custom, large-format externally mounted HMI	✓	✓
Single model for all voltages of 100 to 500 VAC	✓	✓
Split core CT's to aid installation	✓	✓
Three independent alarm relays	✓	✓
Process Overload Protection	✓	✓
Process Underload Protection	✓	✓
Process Overload Pre-Alarm with dedicated independent relay	✓	✓
Process Underload Pre-Alarm with dedicated independent relay	✓	✓
Ability to latch or unlatch all alarm relays	✓	✓
Ability to apply hysteresis to all unlatched alarm relays	✓	✓
Real time clock with date	✓	✓
Event Logging with time and date stamp	✓	✓
Auto setting of protection parameters	✓	✓
Over- and Under-Voltage protection with independent relay	✓	✓
Firmware updates applied by user	✓	✓
Lockable program settings	✓	✓
Programmable via external HMI	✓	✓
Designed for MCC applications	✓	✓
Programming assistance via QR code accessed online videos	✓	✓
Configurable via Modbus	✗	✓
Equipment Run Time	✗	✓
Modbus Parameters / Addresses displayed on HMI	✗	✓





# Electric Vehicle Charging Equipment

## Main Features:

- Set your own charging times
- No earth rod required
- Three EV charging modes
- Remote access and monitoring
- PIN code security protection

 Call us **NOW** for Technical Help and Pricing..!

zappi



Installation Options Available

## Future Proof, Intelligent Electric Car Charging Designed for Convenience, not Compromise

**zappi is a smart EV charger with a difference.** Not only does it operate as a standard EV charger, but it also has optional charging modes to utilise 100% green energy generated from your Solar PV or wind generation. Increasing the Return On Investment (ROI) for your panels and electric car, the zappi is easy to install and user friendly. But don't worry, if you don't have solar panels installed, the zappi will still operate as a standard EV charger harnessing power from the grid.

### Electrical Specification

Rated Power	7kW (1-ph) or 22kW (3-ph)
Rated Supply Voltage	230V AC Single Phase or 400V AC 3-phase (+/- 10%)
Supply Frequency	50 Hz
Rated Current	32A max
Standby Power Consumption	3W
Earth Leakage Protection	Integral 30mA Type A RCD + 6mA DC protection (EN 62955)
Economy Tariff Sense	Input 230V AC sensing (4.0kV isolated)
Tethered Cable Length	6.5 Meters

### Mechanical Specification

Enclosure Dimensions	439 x 282 x 122mm
Protection Degree	IP65 (weatherproof)
Enclosure Material	ASA

### Installation Specification

Circuit Breaker	32A Curve B
Earthing Arrangement	TN: can be connected to the PME supply. Complies with BS 7671:2018-amd1:2020



### Models Available

Model No.	Rating	Connector	Colour	
ZAPPI-2H07UW	7kW	Untethered	White	○
ZAPPI-2H07TW	7kW	Tethered	White	○
ZAPPI-2H07UB	7kW	Untethered	Black	●
ZAPPI-2H07TB	7kW	Tethered	Black	●
ZAPPI-2H22UW	22kW	Untethered	White	○
ZAPPI-2H22TW	22kW	Tethered	White	○
ZAPPI-2H22UB	22kW	Untethered	Black	●
ZAPPI-2H22TB	22kW	Tethered	Black	●

### Manage and monitor your energy usage

Monitor & control your zappi EV Charger device with the myenergi app. Adjust settings, timers and boost functions 24/7 from anywhere as required.

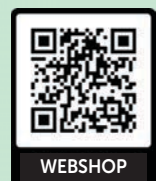
zappi is an adaptive EV charger that can take power from the grid, solar, or both.



wallbox 

# Electric Vehicle Charging Equipment

- Wallbox Charging Station - **Pulsar Plus**
- Wallbox Charging Station - **Copper SB**
- Wallbox Charging Station - **Commander 2**
- Wallbox Accessories - **Cable Holders**
- Wallbox Accessories - **Power Boost**



WEBSHOP

 Call us **NOW** for Technical Help and Pricing..!

Installation Options Available



## Wallbox Pulsar Plus - Type 2 | 7.4kW | 5m Cable | White or Black

Wallbox Pulsar Plus offers the ideal balance between a small size and the powerful performance you need for smart charging at home, with a charging capacity of 7.4 kW.

Connect Pulsar Plus to MyWallbox App through Wifi or Bluetooth to control your charging sessions and choose the suitable cable for your car, either type 1 or type 2.

- Charging power up to 7.4kW (1 Phase)
- 5m integrated charging cable
- Compatible with all Type 2 electric cars
- Wifi & Bluetooth connectivity
- Built In Earthing BS 7671:2018 - 722.411.4.1(iv)



(W)WB000 / (B)WB001

## Wallbox Pulsar Plus - Type 2 | 22kW | 5m Cable | Black

Wallbox Pulsar Plus offers the ideal balance between a small size and the powerful performance you need for smart charging at home, with a charging capacity of 22kW.

Connect Pulsar Plus to MyWallbox App through Wifi or Bluetooth to control your charging sessions and choose the suitable cable for your car, either type 1 or type 2.

- Charging power up to 22kW (3 Phase)
- 5m integrated charging cable
- Compatible with all Type 2 electric cars
- Wifi & Bluetooth connectivity



WB002

## Wallbox Copper SB - Type 1 & 2 | 7.4/22kW | DC Leakage + RFID

Wallbox Copper SB (black) offers a lot of options for you and your customers. Its universal socket makes it suitable for both type 1 and type 2 vehicle connectors. Copper SB is available with a maximum power of up to 22 kW for 3-phase installations.

Earth Rod Protection is required for this unit.

Please refer to our separate Online Crompton Wallbox Commercial Brochure for full details.



WB062

## Wallbox Commander 2 - Type 2 | 11kW | 5m Cable

Wallbox Commander 2 (white)

- Charging power up to 11kW (3 Phase)
- 5m integrated charging cable
- Compatible with all Type 2 electric cars
- Wifi & Bluetooth connectivity

Please refer to our separate Online Crompton Wallbox Domestic Brochure for full details.



WB031

Please refer to our separate [Online Crompton Wallbox Domestic & Commercial Brochures](#) for full details.



### Wallbox Accessories - Metal Charger Cable Holder Black

- Aluminium material
- 165 x 142 x 75 mm dimensions
- Installation Indoors or outdoors
- Compatible with Commander 2, Copper SB and Pulsar Plus



### Wallbox Accessories - Metal Charger Cable Holder White

- Aluminium material
- 165 x 142 x 75 mm dimensions
- Installation Indoors or outdoors
- Compatible with Commander 2, Copper SB and Pulsar Plus

**5 Metre Long Charging Cable - Type 2 to Type 2:** Cable compatible with all electric cars and Type 2 socket chargers - WB100

## POWER BOOST

### Wallbox Accessories - Power Boost 230V Single Phase

Get a power meter and stay in control of energy bills.

Combining an energy meter with your smart charger will enable the Power Boost functionality.

- For single-phase installations only
- Real time adjustment of the power provided to your EV
- Forget about costly energy bills
- Compatible with Commander 2, Copper SB and Pulsar Plus



Call us **NOW** for Technical Help and Pricing..!

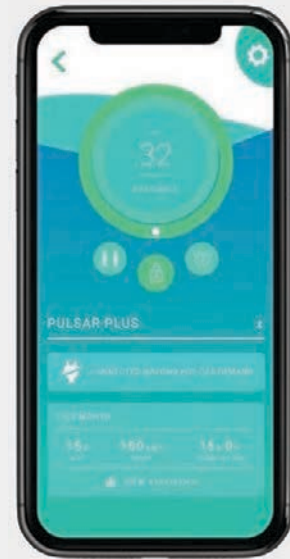
Installation Options Available

## MY WALLBOX

# Our chargers are powered by the myWallbox app

Connect and control your charger from anywhere via the myWallbox app.

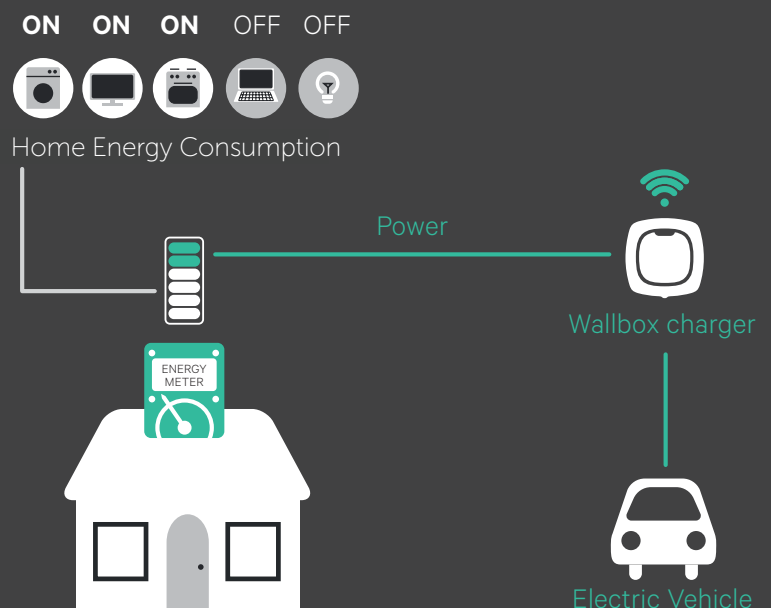
- **Manage charging** and monitor the charge status
- Set and change **charging schedules** to benefit from off-peak energy rates
- **Remote** locking and unlocking
- Real-time charging **statistics**
- Real-time **notifications**



## POWER BOOST

# Improve your charger intelligence with dynamic load management

Improve Pulsar Plus with dynamic load management. It will measure the live energy usage and automatically adjust the charging power to supply all connected EVs with the optimum energy available according to the local grid's capacity.





# EASY SPEEDY



Have you heard about our **Energy Efficient** Variable Speed Starters?



Try our Savings & Payback Calc

**EASY SPEEDY**



## Typical / Approximate Saving

10% SLOWER = 25% SAVING

20% SLOWER = 45% SAVING

30% SLOWER = 65% SAVING

# Motor Control in a box packed full of benefits..



Key considerations for installing an Easy Speedy Enclosed Variable Speed Drive with internally mounted speed potentiometer:

- Brand New Range of 0.25kW to 22kW Enclosed Inverter Panels **supplied ready to run**
- Latest Emotron VS Inverters with Integral EMC Filter & Keypad/Display fitted as standard
- Reduced Energy Consumption: **Pre-set** via internally mounted adjustable speed potentiometer
- Reduced **Co2** Emissions helping larger companies hit **Co2** targets & reduce their carbon footprint
- Reduced Inrush Current: **Pre-set** Soft Start Ramp Up Feature
- Reduced Mechanical Wear: Soft Start, Soft Stop & Slower Running Speed
- **Easy** Installation: Just wire in the Mains Supply & Connect the Motor - just like a DOL Starter!
- Improved Protection: Built in Short Circuit, Overload, Voltage Imbalance & Earth Fault detection
- Compact IP54 Enclosures with Ventilation Fans & Filters
- Simple: Start & Stop External Push Buttons

 Call us **NOW** for Technical Help and Pricing..!

# The Easy Speedy Standard Range

The Standard Range of 0.25kW to 22kW enclosed inverter panels are supplied ready to run and fitted as standard with:



- The Latest Emotron FDU & VS Inverters
- Integral EMC Filter & Keypad/Display
- Compact IP54 Enclosures with Ventilation Fans & Filters
- Mains Supply & Motor Connection Terminals
- Simple Start & Stop Push Buttons
- Internally Mounted Energy Saving Potentiometer



**EASY SPEEDY**

SINGLE PHASE 230V MAINS SUPPLY - FOR CONTROLLING 3 PHASE 230VAC MOTORS

REFERENCE	kW	AMPS	H x W x D	KG	LIST PRICE £
CC1P-0.25EVSD	0.25	1.7@230V	300 x 300 x 200	7.5	POA
CC1P-0.37EVSD	0.37	2.4@230V	300 x 300 x 200	7.5	POA
CC1P-0.55EVSD	0.55	3.2@230V	300 x 300 x 200	7.5	POA
CC1P-0.75EVSD	0.75	4.2@230V	300 x 300 x 200	7.5	POA
CC1P-1.1EVSD	1.1	6.0@230V	400 x 300 x 200	10	POA
CC1P-1.5EVSD	1.5	7.0@230V	400 x 300 x 200	10	POA
CC1P-2.2EVSD	2.2	9.6@230V	400 x 300 x 200	10	POA

THREE PHASE 400V & NEUTRAL MAINS SUPPLY - FOR CONTROLLING 3 PHASE 400VAC MOTORS

REFERENCE	kW	AMPS	H x W x D	KG	LIST PRICE £
CC3P-0.37EVSD	0.37	1.3@400V	300 x 300 x 200	7.5	POA
CC3P-0.55EVSD	0.55	1.8@400V	300 x 300 x 200	7.5	POA
CC3P-0.75EVSD	0.75	2.4@400V	300 x 300 x 200	7.5	POA
CC3P-1.1EVSD	1.1	3.2@400V	400 x 300 x 200	10	POA
CC3P-1.5EVSD	1.5	3.9@400V	400 x 300 x 200	10	POA
CC3P-2.2EVSD	2.2	5.6@400V	400 x 300 x 200	10	POA
CC3P-3EVSD	3	7.3@400V	400 x 300 x 200	11	POA
CC3P-4EVSD	4	9.5@400V	400 x 300 x 200	11	POA
CC3P-5.5EVSD	5.5	13@400V	400 x 300 x 200	11	POA
CC3P-7.5EVSD	7.5	16.5@400V	500 x 400 x 200	16	POA
CC3P-11EVSD	11	25@400V	800 x 600 x 300	48	POA
CC3P-15EVSD	15	30@400V	800 x 600 x 300	48	POA
CC3P-18.5EVSD	18.5	36@400V	800 x 600 x 300	48	POA
CC3P-22EVSD	22	45@400V	800 x 600 x 300	48	POA

Note - All smaller sizes up to 1.1kW have vents, larger sizes also have a fan for heat dissipation

■ No Neutral required for these units

Easy Speedy starts with the above standard specification but can also be Easily & Speedily Tailored to suit your specific requirements with Extra or Customised Features including:

- Additional Switchgear & Controls
- Alternative Enclosure Options
- Higher Powers & Motor Drive Packages up to 1400 kW



CALCULATOR

## MASSIVE ENERGY SAVINGS

Now is the time to save on your electric motor running costs!



# LinkedIn

Connect with us and follow our updates on LinkedIn >>



LINKEDIN



WEBSITE



WEB STORE



CALCULATOR



FACTORY TOUR



MANUALS



PRICE LIST



### Conditions of Sale

Goods are sold subject to our Standard Conditions of Sale appropriate to the particular goods (available on request).

Delivery Charges up to 20kg  
 Standard 1 to 2 day carrier under £50.00 list order value £10.00 net  
 Standard 1 to 2 day carrier over £50.00 list order value £15.00 net

Next Day up to 5.00pm	£ 21.50 net
Next Day up to 10.30am	£ 31.50 net
Next Day up to 12.00 noon	£ 26.50 net
Saturday am	£ P.O.A.
Items over 20kg	£110.00 net per pallet

Northern Ireland and Scottish Highlands £26.50 up to 3 days transit.  
 - no next day service.  
 Southern Ireland, Channel Islands and Scottish Islands £38.50 up to 3 days transit.  
 - no next day service.

We can arrange special delivery via couriers etc. at customers request.  
 Note: Delivery charges for larger Inverters, Soft Starters, ATEX & Special Panels - P.O.A.

All prices are subject to VAT at the appropriate rate.





**Disclaimer:**

Products offered may differ from those described in this publication due to later production, changes in specification, components, or manufacturing origin.

Our policy is one of constant development and improvement. Whilst every effort is made to make this catalogue accurate at the date of printing, specification and/or appearance may be changed in the interest of continuous improvement.

All products are subject to availability and are correct at the time of print.

Errors and omissions excepted.



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# This is Crompton Controls

Welcome to a heritage spanning 130 years supplying outstanding controls and system solutions.



## Sustainability at the forefront of business

More and more industries and consumers are becoming increasingly conscious of environmental issues and clearly value doing business with companies that can provide specific Green products and solutions for very real sustainability & economic concerns.

Crompton Controls have been at the forefront of Green Energy and energy saving products for many years. We manufacture high efficiency Motor Controllers as a standard and our BMS panels use cutting edge technology in Building Management Systems that are the beating heart of modern Environmentally sustainable buildings.

Crompton Controls can provide Control solutions for all Renewable Energy Sectors from Solar, Wind, Hydro and even EV Charging.

Please take a moment to digest our latest GREEN Energy Saving, monitoring and control products and don't hesitate to contact us for further help or information.

## Energy Saving - The Energy Costs

Increases in energy costs for the UK Manufacturing Industry have increased to such a degree that it has become one of the major issues of our time. A client of ours recently suffered an eye watering 800% increase in its energy bills, such an energy cost burden could drive a successful & profitable business into a loss.

Electric motors are crucial to many commercial buildings and industrial processes, consuming a huge 65% of all electricity use across all UK manufacturing. Within Water Utilities this increases to 85% of all electricity being consumed. Additional to the financial strain significant environmental impacts can result.

Our Energy Efficient & Energy Saving motor control products & solutions can substantially reduce electricity consumption, lower utility bills and contribute to a cleaner environment



**DESIGN**  
AutoCAD - Expert Project Engineers



**MANUFACTURE**  
Long History of Technical Excellence



**DISTRIBUTE**  
Nationwide Partner Network



**SUPPORT**  
Technical Guidance, Sales & Service

**DOL & Star Delta Starters,  
Steel & Plastic Enclosures**

(Page 8 to 19)

Section 1

**DC Injection Brake Systems**

(Page 20 to 24)

Section 2

**Hazardous Area Starters  
& Controls**

(Page 26 &amp; 27)

Section 3

**Contactors & Accessories**

(Page 28 to 33)

Section 4

**Panel Components, Control  
Stations & Electronic Timer  
Relays**

(Page 34 to 39)

Section 5

**Control Panels & Peripheral  
Equipment**

(Page 41 to 44)

Section 6

**Power Transmission, Shaft  
Power Monitors, Soft  
Starters & Variable Speed  
Inverter Drives**

(Page 46 to 65)

Section 7

**Special Panel Monitoring  
& Process Protection**

(Page 66 to 71)

Section 8

**Electric Vehicle (EV) Charging  
Stations & Equipment**

(Page 72 to 77)

Section 9

**Easy Speedy Energy Efficient  
Starters**

(Page 78 &amp; 79)

Section 10



2022



ENERGY CONSCIOUS EQUIPMENT

Standard & Bespoke Starters |  
DC Injection Brakes | Contac-  
tors | Components | Timers | Re-  
lays | Control Panels | Periph-  
erals | Power Transmission &  
Monitors | VSD Inverters | Pan-  
el Monitoring & Proccess Pro-  
tection | Electric Vehicle Charg-  
ing | Energy Efficient Controls

