



- ø22mm pushbuttons, selector/key switches, pilot lights & control stations
- Complete range of E-stop mushroom heads
- Fast easy single hand mount
- Snap-on contact blocks



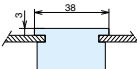
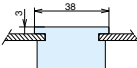




BACO			
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NON ILLUMINATED PUSHBUTTON HEADS IP65

	Dimensions	Red	Green	Black	Yellow	White	Blue
Spring Return							
Flush without Engraving 		C21AA01	C21AA02	C21AA03	C21AA04	C21AA05	C21AA06
Flush with Engraving 		C21AA81 C21AA31 *	C21AA82 C21AA32 *	C21AA83 C21AA33 *	- C21AA34 *	- C21AA35 *	- C21AA36 *
Super Flush without Engraving 	 (mounts in a 30mm hole)	F24AA01	F24AA02	F24AA03	F24AA04	F24AA05	F24AA06
Super Flush with Engraving 	 (mounts in a 30mm hole)	F24AA81 F24AA31 *	F24AA82 F24AA32 *	F24AA83 F24AA33 *	- F24AA34 *	- F24AA35 *	- F24AA36 *
Projecting 		C21AB01	C21AB02	C21AB03	C21AB04	C21AB05	C21AB06
Mushroom Dia 29mm 		C21AC01	C21AC02	C21AC03	C21AC04	-	-
Mushroom Dia 40mm 		C21AD01	C21AD02	C21AD03	C21AD04	-	-
Mushroom Dia 70mm 		C21AE01	-	C21AE03	-	-	-
Latching (Push Push)							
Flush 		C21CA01	C21CA02	C21CA03	C21CA04	C21CA05	C21CA06
Projecting 		C21CB01	C21CB02	C21CB03	C21CB04	C21CB05	C21CB06

* Please add code for text or symbol required to the end of the part number from the tables on page 18
Example C21AA36-315 = Flush Blue Pushbutton Engraved "Reset"

ILLUMINATED PUSHBUTTON HEADS IP65

	Dimensions	Red	Green	Transp.	Yellow	White	Blue
Spring Return							
Flush without Engraving 		C21AH10	C21AH20	C21AH30	C21AH40	C21AH50	C21AH60
Flush with Engraving 		C21AJ10	C21AJ20	C21AJ30	C21AJ40	C21AJ50	C21AJ60
Super Flush without Engraving 	 (mounts in a 30mm hole)	F24AH10	F24AH20	F24AH30	F24AH40	F24AH50	F24AH60
Super Flush with Engraving 	 (mounts in a 30mm hole)	F24AJ10	F24AJ20	F24AJ30	F24AJ40	F24AJ50	F24AJ60
Projecting 		C21AK10	C21AK20	C21AK30	C21AK40	C21AK50	C21AK60
Latching (Push Push)	Dimensions	Red	Green	Transp.	Yellow	White	Blue
Flush 		C21CH10	C21CH20	C21CH30	C21CH40	C21CH50	C21CH60
Projecting 		C21CK10	C21CK20	C21CK30	C21CK40	C21CK50	C21CK60
Silicon Shroud IP67	Dimensions	Red	Green	Transp.	Yellow	Black	Blue
		WA0203	WA0204	WA0228	WA0206	WA0205	WA0227


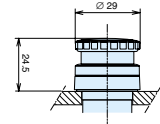

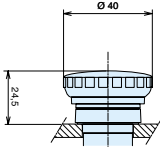

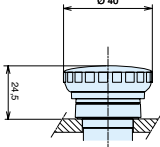

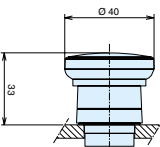

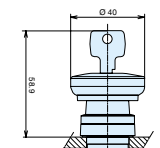

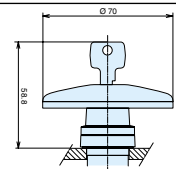


Part numbers beginning C21 have a mat chromed plastic bezel as standard. Other types of bezel are available as shown here. Simply change the start of the part number from C21 to the required type from the table opposite.


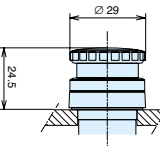

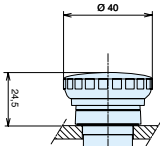

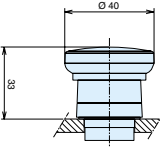
C21	Mat chromed plastic bezel
C22	Black plastic bezel
C23	Grey plastic bezel
C24	Brilliant chromed brass bezel
C26	Brilliant chromed plastic bezel
C28	Mat anodised aluminium bezel

* Please add code for text or symbol required to the end of the part number from the tables on page 18
Example C21AJ40-313 = Flush Yellow Pushbutton Engraved "Open"

NON ILLUMINATED MUSHROOM HEADS IP65

Mushroom Heads	Dimensions	Red	Green	Black	Yellow
Dia 29mm, Turn To Reset 		C21EC01	C21EC02	C21EC03	C21EC04
Dia 40mm, Turn To Reset 3 x STOP 		C23ED11	-	-	-
Dia 40mm, Turn To Reset 		C23ED01	C23ED02	C23ED03	C23ED04
Dia 40mm, Pull To Reset 		C28DW01	-	-	-
Dia 40mm, Key To Reset 		C21GM01	-	-	-
Dia 70mm, Key To Reset 		C21GP01	-	-	-


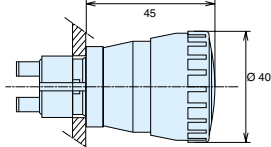

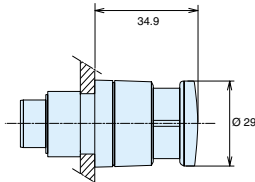

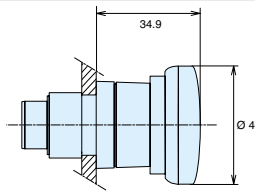

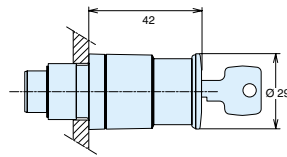

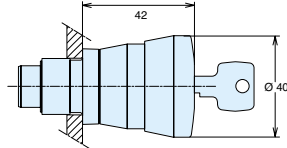

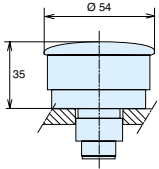
ILLUMINATED MUSHROOM HEADS

Mushroom Heads	Dimensions	Red	Green	Yellow	Opal
Dia 29mm, Turn To Reset 		C21EL10	C21EL20	C21EL40	C21EL50
Dia 40mm, Turn To Reset 		C23EM10	C23EM20	C23EM40	C23EM50
Dia 40mm, Pull To Reset 		C28DM10	C28DM20	C28DM40	C28DM50

Key reset mushroom heads supplied with 2 keys, profile 455 as standard.
 Key profile 1424A also available at no extra cost. Other profiles available at extra cost, details upon request.

EN418 MUSHROOM HEADS IP65

A complete range of Mushroom Heads conforming to the requirements of EN418 suitable for use in Emergency Stop applications.

EN418 Mushroom Heads	Dimensions	Red
Dia 40mm, Turn To Reset 		C20ER01
Dia 29mm, Pull To Reset 		C20DQ01
Dia 40mm, Pull To Reset 		C20DR01
Dia 29mm, Key To Reset 		C20GQ01
Dia 40mm, Key To Reset 		C20GR01
Dia 54mm, Pull To Reset, Flag Indicator 		Off - Red Flag "O" White Text On - Green Flag "I" White Text Off - Red Flag "O" Yellow Text On - Yellow Flag "I" Red Text Off - Red Flag "STOP" Yellow Text On - Yellow Flag "I" Red Text
IP66		C20UA21 C20UA41 C20UA42




Part numbers beginning C21 have a mat chromed plastic bezel as standard. Other types of bezel are available as shown here. Simply change the start of the part number from C21 to the required type from the table opposite.

C21	Mat chromed plastic bezel
C22	Black plastic bezel
C23	Grey plastic bezel
C24	Brilliant chromed brass bezel
C26	Brilliant chromed plastic bezel
C28	Mat anodised aluminium bezel


Key reset mushroom heads supplied with 2 keys, profile 455 as standard. Key profile 1424A also available at no extra cost. Other profiles available at extra cost, details upon request.

MUSHROOM HEAD ACCESSORIES

Metal Legend Plates

	Dia 60mm "EMERGENCY STOP"	WE16-300
	Dia 80mm "EMERGENCY STOP"	WE00-300
	Dia 60mm Without text	WE16
	Dia 80mm Without text	WE00

Extended Bezel

	Low version suitable for use with C23ED01 C21GM01 C21EC01 C28DW01	WA0239
	High version suitable for use with C20DR01 C20DQ01	WA0240

NON ILLUMINATED SELECTOR/KEY SWITCH HEADS IP65

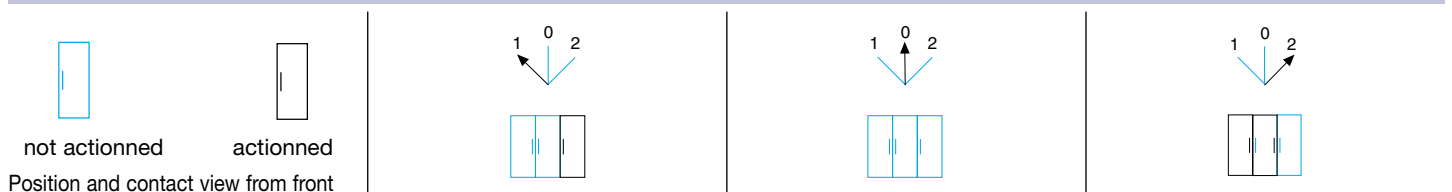
Position	Small Handle	Lever Handle	Key Operated	Key Operated
Black Handle Mat Chromed Bezel				
	C21KA03	C21KP03	Key Free 0 C21LA00	Key Free 0 - 1 -
	C21KB03	C21KQ03	-	-
	C21KC03	C21KR03	C21LC00	-
	C21KD03	C21KS03	C21LD00	-
	C21KE03	C21KT03	-	C21LG00
	C21KF03	-	C21LF00	C21LH00
	C21MA03	C21MR03	C21NA00	-
	C21MB03	C21MS03	-	-
	C21MC03	C21MT03	C21NC00	-
	C21MD03	C21MU03	C21ND00	-
	C21MK03	-	-	C21NK00 Key Free 1-0-2
Dimensions				



All of the selector switch heads on this page are black in colour with a white index. Other colours are available as shown here. Simply change the end of the part number from 03 to the required type from the table opposite.

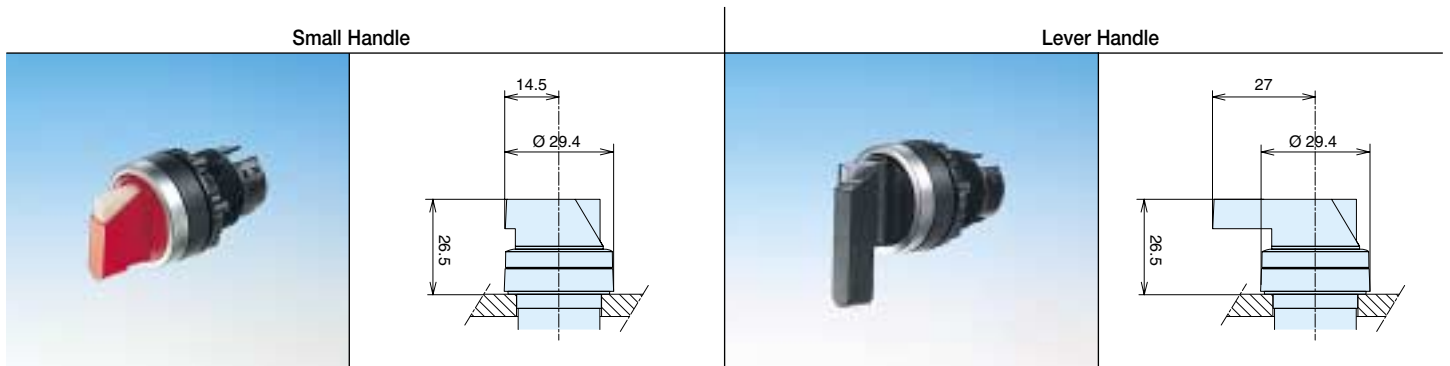
Code	Colour
01	Red
02	Green
03	Black
08	Grey

WORKING DIAGRAM OF CONTACTS



Key switches supplied with 2 keys, profile 455 as standard. Key profile 1424A also available at no extra cost. Other profiles available at extra cost, details upon request.

ILLUMINATED SELECTOR SWITCH HEADS IP65



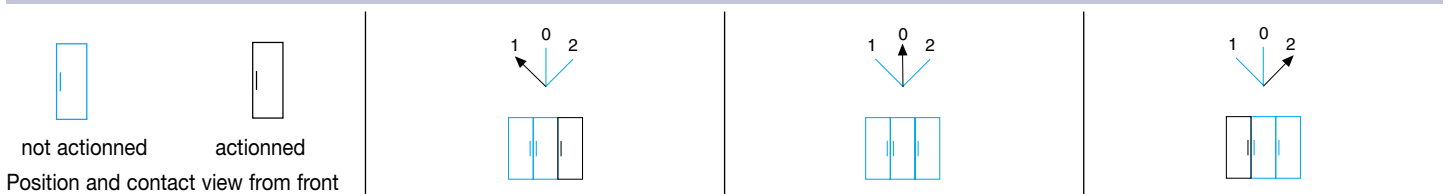
Position	Handle	Red	Green	Black	Yellow	Blue
	Small handle Lever handle	C21KG51 -	C21KG52 -	C21KG53 C21KV53	C21KG54 -	C21KG56 -
	Small handle Lever handle	C21KJ51 -	C21KJ52 -	C21KJ53 C21KX53	C21KJ54 -	C21KJ56 -
	Small handle Lever handle	C21KK51 -	C21KK52 -	C21KK53 C21KY53	C21KK54 -	C21KK56 -
	Small handle Lever handle	C21KM51 -	C21KM52 -	C21KM53 -	C21KM54 -	C21KM56 -
	Small handle Lever handle	C21ME51 -	C21ME52 -	C21ME53 C21ML53	C21ME54 -	C21ME56 -
	Small handle Lever handle	C21MF51 -	C21MF52 -	C21MF53 C21MM53	C21MF54 -	C21MF56 -
	Small handle Lever handle	C21MG51 -	C21MG52 -	C21MG53 C21MN53	C21MG54 -	C21MG56 -
	Small handle Lever handle	C21MH51 -	C21MH52 -	C21MH53 C21MP53	C21MH54 -	C21MH56 -
	Small handle Lever handle	C21MJ51 -	C21MJ52 -	C21MJ53 -	C21MJ54 -	C21MJ56 -



Part numbers beginning C21 have a mat chromed plastic bezel as standard. Other types of bezel are available as shown here. Simply change the start of the part number from C21 to the required type from the table opposite.

C21	Mat chromed plastic bezel
C22	Black plastic bezel
C23	Grey plastic bezel
C24	Brilliant chromed brass bezel
C26	Brilliant chromed plastic bezel
C28	Mat anodised aluminium bezel

WORKING DIAGRAM OF CONTACTS



Illuminated switches in Red, Green, Yellow & Blue have coloured transparent handle with translucent white index
 Illuminated switches in Black have solid black handle with transparent colourless index

SPRING RETURN TWIN & TRIPLE TOUCH BUTTONS IP40

Without Indicator Light				With Indicator light	
V62QA02	V62QB02	V62QA11	V62B051	V62QH02	V62QK02

Other versions available please enquire for further details

Silicon Shroud (IP67)



WA0223
For Projecting Twin/Triple Touch



WA0224
For Non Projecting Twin/Triple Touch

PUSHBUTTON ACCESSORIES

	Adjustable Push/Reset Button	Button For Potentiometer
	 L=26mm - 63mm Travel=11mm Other lengths available upon request	 Suitable for Potentiometer with Dia. 6-6.35mm shaft 46-51mm long
	Red C21HA01 Green C21HA02 Black C21HA03 Yellow C21HA04 Blue C21HA06	C21RP03

Toggle Switch 2 Position	Padlockable Cap For Pushbuttons	Blanking Plug For Dia 22mm Hole	Super Flush Adaptor Kit
Stable Spring Return	WA0226	Black WA0229 Grey WA0215	WKS024
C21PA03 C21PB03			

Square Bezel	Din Rail Adaptor	Extended Bezel	Anti Rotation Ring	Pushbutton Fixing Tool	Lamp Extractor
Bezel WA0230 End Piece WA0231	WA0238	WA0225	WA0209	WA0234	WA0201

CONTACT MODULES & LAMPHOLDERS

N/C Contact	N/O Contact	N/C & N/O Contact	Lampholder	Lampholder
		 For Use With 234E Clip Only	 Direct Supply 400V/2.6W Max	 230V Supply 130V/2.6W Lamp
23E01	23E10	23E11	23EA	23ECJG

CLIPS

Single Clip	3 Module Clip	Clip For 23E11	Side Clip	Second Row Clip
		 For Use With 23E11 Contact Block Only		
230E	233E	234E	235E	236E

COMPLETE CONTACT BLOCKS

Without Lampholder For Non Illuminated Switches

1 x N/C Single Clip 230E01	1 x N/O Single Clip 230E10	2 x N/C 3 Module Clip 233E02	1 x N/C + 1 x N/O 3 Module Clip 233E11	2 x N/O 3 Module Clip 233E20

With 23EA Lampholder (Direct Supply 400V/2.6W Max) For Illuminated Switches

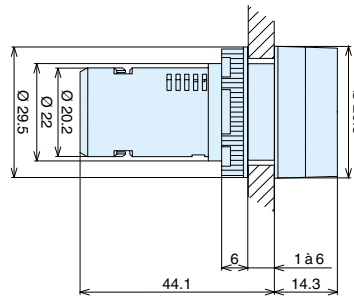
1 x N/C 3 Module Clip 233EA01	1 x N/O 3 Module Clip 233EA10	2 x N/C 3 Module Clip 233EA02	1 x N/C + 1 x N/O 3 Module Clip 233EA11	2 x N/O 3 Module Clip 233EA20

TRANSFORMER BLOCKS

Type		130V - 6V	240V - 6V	400V - 6V	130V - 12V	240V - 12V	400V - 12V
 Transformer Block	For illuminated pushbutton or selector switch Side/rear mounted on 233E/236E	23EGA	23EJA	23ELA	23EGB	23EJB	23ELB
 Transformer Lamp Holder	For pilot light lenses C20SAxx/C20SBxx only Supplied complete with 233E clip	233EVGA	233EVJA	233EVLA	233EVGB	233EVJB	233EVLB

Please note all contact modules and complete contact blocks are supplied with open screw terminals as standard. Please enquire for details of faston connector & pcb mount contact blocks as well as gold plate contacts for low level signal switching.

ONE PIECE PILOT LIGHTS IP65




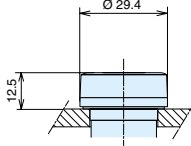

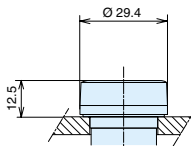
- Simple low cost one piece pilot lights
- Noticeably better brightness through optimal positioning of the lamp
- Fluted lens version recommended for use with filament lamps & neon's
- Smooth lens version recommended for use with LED's
- Resistor & diode version allows a 230V supply with a 130V 2.6W filament lamp
- IP65 rated from the front with IP20 terminals

	Red	Green	Transp.	Yellow	White	Blue
Fluted lens - Direct supply Supply up to 400V/2.6W Max (Filament lamp/neon not included)	S20SA10	S20SA20	S20SA30	S20SA40	S20SA50	S20SA60
Smooth lens - Direct supply Recommended for LED up to 230V (LED not included)	S20SB10	S20SB20	S20SB30	S20SB40	-	S20SB60
Fluted lens - Built in resistor & diode Supply 230V for filament lamp 130V (Inclusive of 130V 2.6W filament lamp)	S20JA10C	S20JA20C	S20JA30C	S20JA40C	S20JA50C	S20JA60C

Notes:

- (1) Direct supply versions recommended to be used with filament lamps up to 130V maximum
- (2) For 230V requirements use neon lamps or the built in resistor & diode version
- (3) When using LED's use the smooth lens version which also has a diffuser under the coloured lens that greatly improves the luminosity
- (4) When using LED's ensure that you match the colour of the LED to the colour of the lens

PILOT LIGHT LENSES

Type		Red	Green	Transp.	Yellow	White	Blue
 		C20SA10	C20SA20	C20SA30	C20SA40	C20SA50	C20SA60
 		C20SB10	C20SB20	C20SB30	C20SB40	C20SB50	C20SB60

For WE18 Text/Symbol Insert see page 18.

LAMP HOLDERS & ACCESSORIES

Lampholder & Clip Direct Supply 400V Max	Lampholder & Clip 230V Supply 130V Lamp	Empty Module	Diode Module Single Diode	Diode Module Two Diodes
				
230EA	230ECJG	23EX	23ET	23ETT

FILAMENT LAMPS Ba9s DIA 10 X 28 MM



Voltage (V)	Current (mA)	Power (W)	Average life (Hours)	Part Number
6	200	1.2	15,000	WDL006
12	166	2	3,000	WDL012
24	83	2	10,000	WDL024
30	66	2	10,000	WDL030
48	41	2	5,000	WDL048
130	20	2.6	2,000	WDL130

NEON LAMPS Ba9s DIA 10 X 28 MM



Voltage (V)	Current (mA)	Average life (Hours)	Colour	Part Number
115	2.5	25,000	Orange	WDN127
115	1.2	25,000	Green	WDF127
230	2.5	25,000	Orange	WDN220
230	1.2	25,000	Green	WDF220

STAR LED LAMPS Ba9s DIA 10 X 25 MM



Voltage (V)	Current (mA)	Red	Green	Yellow	Blue	White
12 AC/DC	15	LED12R	LED12G	LED12Y	LED12B	LED12W
24 AC/DC	15	LED24R	LED24G	LED24Y	LED24B	LED24W
130 AC	5	LED130R	LED130G	LED130Y	LED130B	LED130W
230 AC	3	LED230R	LED230G	LED230Y	LED230B	LED230W

MEGA STAR LED LAMPS Ba9s DIA 10 X 25 MM

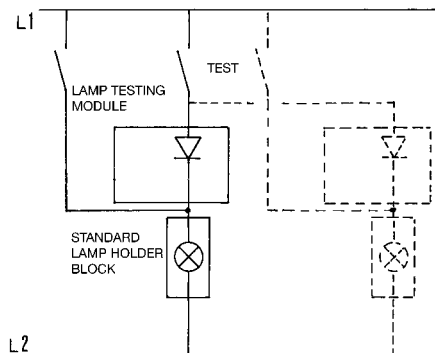


Voltage (V)	Current (mA)	Red	Green	Yellow	Blue	White
24 AC/DC	17	MLED24R	MLED24G	MLED24Y	MLED24B	MLED24W
130 AC	5	MLED130R	MLED130G	MLED130Y	MLED130B	MLED130W
230 AC	3	MLED230R	MLED230G	MLED230Y	MLED230B	MLED230W

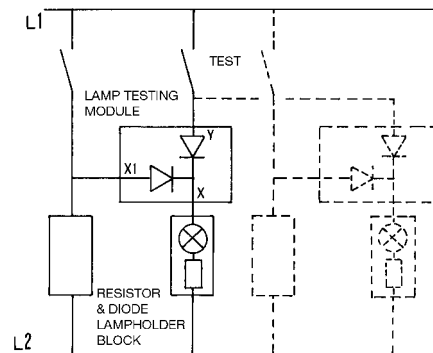
All of the LED lamps above have a lifetime in excess of 100,000 hours

CONNECTION DIAGRAMS FOR LAMP TESTING MODULE

With 1 Diode (part number 23ET) For direct supply 6-130V (Lampholder 23EA)


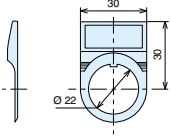

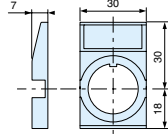

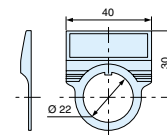

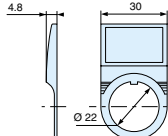

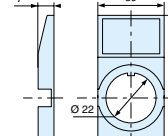


With 2 Diodes (part number 23ETT) For 230V supply 130V lamp (Lampholder 23ECJG)



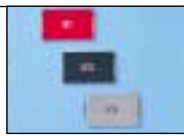




LEGEND PLATES

Frames For Legend Plates

 30mm x 45mm For Plate Type IA 	 30mm x 48mm For Plate Type IA 	 40mm x 45mm For Plate Type IB 	 30mm x 50mm For Plate Type IE 	 30mm x 53mm For Plate Type IE 
WP3	WP4	WG3	WP5	WP6











Legend Plate Inserts











	IA	IB	IE	WE15	WE18
					
	26mm x 10.5mm Frame WP3/WP4	36mm x 10.5mm Frame WG3	26mm x 16mm Frame WP5/WP6	Dia 17mm Pushbutton Insert	Dia 22mm Lamp Lens Insert
No Of Rows	1 - 2	1 - 2	1 - 2 - 3	1 - 2	1 - 2
Characters Per Row	13	18	13	8	8
Character Height	3mm	3mm	3mm	3mm	3mm
Red	IA1	IB1	IE1	-	-
Black	IA3	IB3	IE3	-	-
Transparent	IA7	IB7	IE7	WE15	WE18
Aluminium	IA9	IB9	IE9	-	-











Standard Text

Text	Code	Text	Code	Text	Code	Text	Code
Alarm	521	Hand - 0 - Auto	591	Power On	330	Start	301
Auto	513	Hand - Auto	583	Raise	307	Stop	302
Close	314	Jog	328	Reset	315	Tripped	3327
Down	336	Lower	308	Reverse	306	Up	335
Fast	310	Off	304	Run	327	0 - I	081
Forward	305	On	303	Running	3326	0 - I - Start	093
Hand	524	Open	313	Slow	309	I - 0 - II	091

Standard Symbols ISO / DIN

Description	Symbol	Code
Continuous straight line movement ISO 1		A01
Alternating straight line movement ISO 5		A05
Continuous rotating movement clockwise ISO 7A/DIN 100		A07
Continuous rotating mov. anti clockwise ISO 7B		B07
Forward ISO 16		A16
Increase in value ISO 28		A28
Decrease in value ISO 29		A29
Adjustable ISO 62		A62
Clamp, block apply pressure ISO 63A		A63
Clamp, block apply pressure ISO 63B		B63

Description	Symbol	Code
Unclamp, release ISO 64A		A64
Unclamp, release ISO 64D		B64
Brake ISO 65		A65
Release brake ISO 66		A66
Automatic cycle (or semi automatic) ISO 67		A67
Manual control ISO 68		A68
<<ON>> Close circuit ISO 69		A69
<<STOP>> Open circuit ISO 70		A70
ON/OFF close + open circuit ISO 71		A71
Close circuit manual impulse ISO 72/ DIN 168		A72

Description	Symbol	Code
Clutch ISO 74/ DIN 46		A74
De-clutch ISO 75/ DIN 45		A75
Warning <<Live>> (energised) ISO 92/DIN 45		A92
Main switch ISO 94		A94
Lubrication jet ISO 101		C01
Machine lighting ISO 102/ DIN 139		C02
Greasing ISO 107/DIN 175		C07
Blow ISO 108/ DIN 264		C08
Suction ISO 109/ DIN 264		C09
(Sound) Alarm DIN 155		D01

Additional Standard Symbols

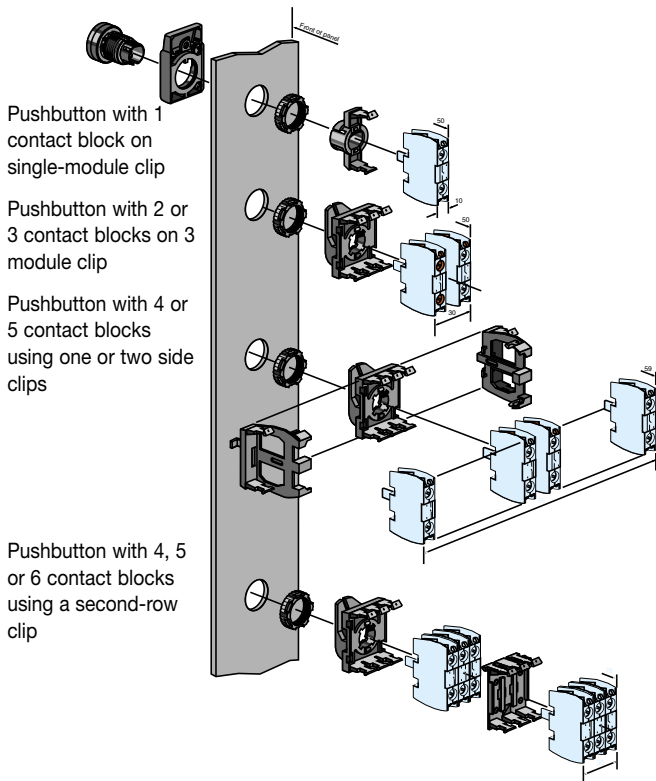
B01	E01	F01	B62	E62	F62	003	004	005
								

TECHNICAL SPECIFICATION

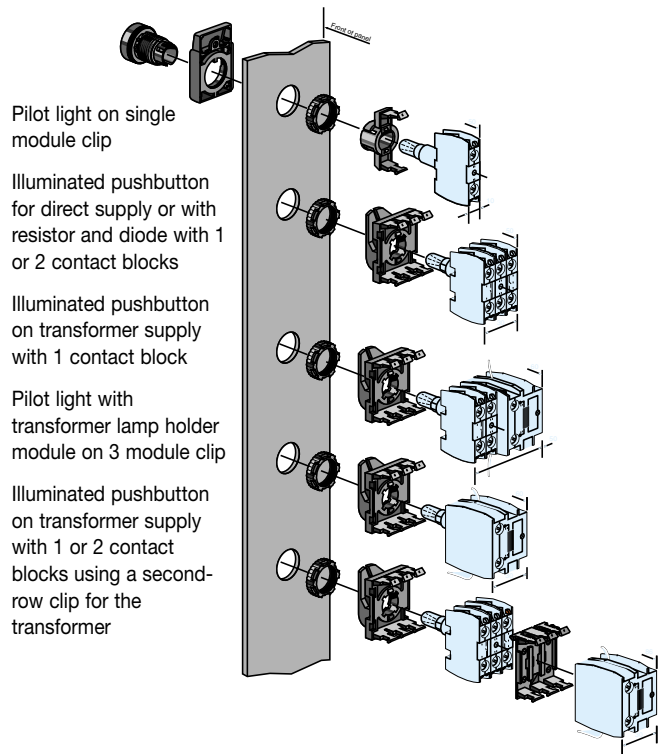
Max Thermal Current (I _{th}) A	16		Low Level	5 mA @ 24 VDC
Insulation Voltage (U _i) VAC	690		Impulse Withstand (U _i) KV	6
Rated AC Current (I _e) A	AC21	AC15	Temperature Limits	°C
230 VAC	14	6	Operating	-30 - +60
400 VAC	12	4.5	Storage	-50 - +80
440 VAC	11	3.5	Electrical Life (AC1) A	x10 ⁶
500 VAC	10	2.5	2	3
690 VAC	6	1	6	1
Rated DC Current (I _e) A	-	DC13	10	0.5
24 VDC	-	1.5		
48 VDC	-	1		
60 VDC	-	0.7		
110 VDC	-	0.3		
230 VDC	-	0.2		
			Mechanical Life	x10 ⁶
			Spring Return Buttons	3
			Other Buttons	1
			Max Bulb Power	2.6w
			Ingress Protection	IP
			Standard	65
			Twin/Triple Touch	40
			Silicon Shroud	67
			C2OUAxx	66

Approvals:

ASSEMBLY EXAMPLES FOR NON-ILLUMINATED PUSH BUTTONS

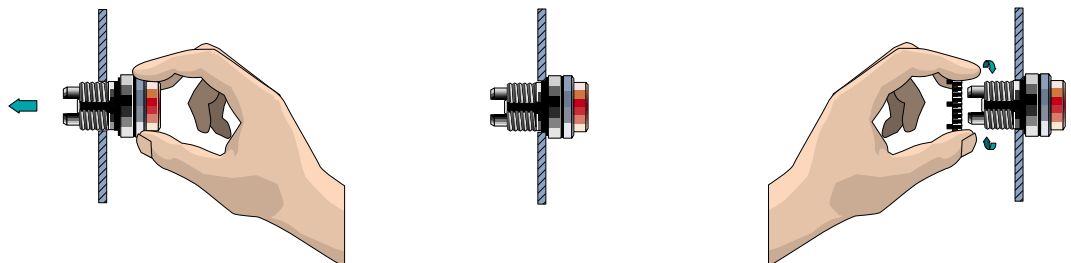


ASSEMBLY EXAMPLES FOR ILLUMINATED PUSH BUTTONS AND PILOT LIGHTS



Single Handed Mounting

For easier and quicker assembly all of the auxibloc heads are rounded with an autogrip ring. This ring ensures that the head is held securely in place on the panel and affords one-man mounting even on large scale panels. In addition this ring reduces the risk of the head-turning when the locking ring is tightened up thus avoiding the necessity for later re-alignment of the heads.



AUXIBOX EQUIPPED CONTROL STATIONS IP65

Type	Function	Colour	Text/Symbol	Contacts	Part Number
 Flush pushbutton, spring return	START	Green		1 x NO (Rear Mounted)	BX101-10
 Flush pushbutton, spring return	STOP	Red		1 x NC (Rear Mounted)	BX106-10
 Mushroom head, Dia 40mm, spring return	STOP	Red		1 x NC (Rear Mounted)	BX102-10
 Two position selector switch	OFF-ON	Black		1 x NO (Rear Mounted)	BX125-10
 Two position key switch Key out in both positions	OFF-ON	Black		1 x NO (Rear Mounted)	BX126-10
 2 Spring Return Push Buttons	START STOP	Green Red		1 x NO 1 x NC (Rear Mounted)	BX201-20
 3 Spring Return Push Buttons	UP STOP DOWN	Green Red Green		1 x NO 1 x NC 1 x NO (Rear Mounted)	BX304-30
 2 Spring Return Pushbuttons Dia 29 mm Mushroom Head Turn to Reset	UP STOP DOWN	Green Red Green		1 x NO 1 x NC 1 x NO (Rear Mounted)	BX3088-30
 Mushroom Head, Dia 40mm Turn to Reset	E STOP	Red	EMERGENCY STOP	1 x NC (Rear Mounted)	BX105-10
 Mushroom Head, Dia 40mm Turn to Reset	E STOP	Red	EMERGENCY STOP	2 x NC (Rear Mounted)	BX105-20

AUXIBOX EQUIPPED CONTROL STATIONS IP65

	Type	Function	Colour	Text/Symbol	Contacts	Part Number
	Mushroom Head, Dia 40mm, Turn to Reset, Fulfils EN418	E STOP	Red	EMERGENCY STOP	1 x NC <small>(Rear Mounted)</small>	BX173-01
	Mushroom Head, Dia 40mm, Turn to Reset, Fulfils EN418	E STOP	Red	EMERGENCY STOP	2 x NC <small>(Rear Mounted)</small>	BX173-02
	Mushroom Head, Dia 40mm, Pull to Reset, Fulfils EN418	E STOP	Red	EMERGENCY STOP	1 x NC <small>(Rear Mounted)</small>	BX153-01
	Mushroom head, Dia 40mm, Pull to Reset, Fulfils EN418	E STOP	Red	EMERGENCY STOP	2 x NC <small>(Rear Mounted)</small>	BX153-02
	Mushroom Head, Dia 40mm, Key to Reset, Fulfils EN418	E STOP	Red	EMERGENCY STOP	1 x NC <small>(Rear Mounted)</small>	BX113-01
	Mushroom Head, Dia 40mm, Key to Reset, Fulfils EN418	E STOP	Red	EMERGENCY STOP	2 x NC <small>(Rear Mounted)</small>	BX113-02
	Mushroom Head, Dia 54mm, Pull to Reset with Indicator Flag, Fulfils EN418	E STOP	Red		1 x NC <small>(Rear Mounted)</small>	BX131-01
	Mushroom Head, Dia 54mm, Pull to Reset with Indicator Flag, Fulfils EN418	E STOP	Red		2 x NC <small>(Rear Mounted)</small>	BX131-02
	Mushroom Head, Dia 40mm, Pull to Reset, Fulfils EN418	E STOP	Red	EMERGENCY STOP PULL TO RESET	1 x NC <small>(Front Mounted)</small>	BX1214-10
	Mushroom Head, Dia 54mm, Pull to Reset with Indicator Flag, Fulfils EN418	E STOP	Red	EMERGENCY STOP PULL TO RESET	1 x NC <small>(Front Mounted)</small>	BX1215-10

AUXIBOX UN-EQUIPPED CONTROL STATIONS IP65



- Compact and easy to install
- Accepts standard pushbuttons & Indicators
- Front or rear mount contacts
- IP65

EMPTY ENCLOSURES

Grey lid	Single hole	BX0100
Grey lid	2 holes	BX0200
Grey lid	3 holes	BX0300
Grey lid	5 holes	BX0500
Yellow lid	Single hole	BX0100J

CONTACT MODULES & LAMPHOLDERS

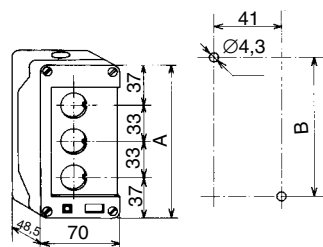
Type	Symbol	Description	Part Number
	11 —┘ 12	Normally closed contact for rear mount	ZA5
	13 —┐ 14	Normally open contact for rear mount	ZB5
	X1 ⊗ X2	Lampholder for direct supply 400V/2.6W max for rear mount	1 x NC Z3XD5
		Combined version with contact	1 x NO Z3BD5
	X1 —┤— ⊗ —┤— X2	Lamp holder with built in resistor and diode for 230V supply to 130V/2.6W lamp for rear mount	Z5XE5
	11 —┘ 12	Normally closed contacts for front mount	1 x NC Z1AX1
			2 x NC Z1AA1

Notes (1) Each position can have up to 2 contacts or 1 lampholder or 1 combined lampholder & contact
 (2) Illuminated pushbuttons can only be used with the combined lampholder contact blocks

(3) Normally closed contacts for front mount can be used in emergency stop applications where the contacts must stay with the actuator when the lid is removed.
 (4) Electrical characteristics are the same as for standard contacts, see page 19.

DIMENSIONS AND DRILL PLAN

Dimensions (mm)



	1 Hole	2 Hole	3 Hole	5 Hole
Dim A	74	107	140	206
Dim B	61	94	127	193

Cable Entry - 3 ø21mm knockouts to suit M20 cable glands

NEW PRODUCT FROM BACO

CONTACT BLOCKS WITH
CAGE CLAMP TERMINALS

- Easy and quick connection
- Reliable longterm connection method
- Ideal for vibration sensitive applications
- Compatible with standard 230E & 233E clips

TECHNICAL SPECIFICATION

Wire Size (Without Ferrule)	2 x 0.5mm ² to 2 x 2.5mm ² (Stranded or Solid)
Wire Size (With Ferrule)	2 x 0.5mm ² to 2 x 1.5mm ² (Stranded)
Terminal Protection	IP20
Connection Tool	3.0 mm Flat Tip Screwdriver
Temperature Range	-40 to + 80° C (Storage) -30 to + 60° C (Operation)
Electrical Performance	6A @ 230V AC15
IEC 60947-5-1	0.2A @ 230V DC13
Lampholder	Ba9s 2.6W / 400V max.
Norms Approval	IEC 60947-1, IEC 60947-3, IEC 60947-5-1, UL 508

ORDERING CODES

Normally closed contact block	23E01R
Normally open contact block	23E10R
Lampholder for direct supply	23ER
Lampholder with resistor & diode	23ERKG



crameda intersys



- Thumbwheel switches
- Various connection codes available
- Panel mountable seven segment modules

CRAMEDA

Thumbwheel range, technical specification	26
Special assemblies, ordering and connection codes	27
LED displays	28
Accessories and order code	29
60/100mm 7- segment displays	30



THUMBWHEEL SWITCHES

- Compact construction
- Simple panel mounting from the front or rear
- Secure reading of set values
- Many standard codes, special codes on request
- CE conformity (series S,W,Q)
- IP65 (Q series only)
- Units can be pre-assembled by OEM to your configuration (Assy - Code)

TECHNICAL SPECIFICATION

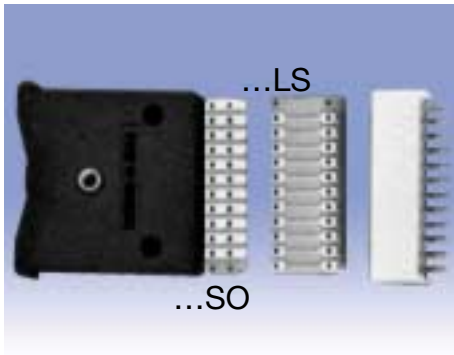
Series	B	D	G	H	L	M
Width in mm	12.5	7.62	20	10	8	8
Height in mm	58	24	76	33	18	33
Mounting Depth + SO in mm	67.1	33.5	79	38	31.5	38
Mounting Depth + LS in mm ^{82.1}	43	93.6	49	45.5	49	
Character height in mm	4	4	10	4	3	4
Operation by	Thumbwheel	Push button	Thumbwheel	Thumbwheel	Thumbwheel	Thumbwheel
Front Mounting	yes	yes	yes	yes	yes	yes
Rear Mounting			yes			
Service Life	Min. 10°	Min. 10°	Min. 10°	Min. 10°	Min. 10°	Min. 10°
Operation Temperature	-25 to 70°C	-25 to 70°C	-25 to 70°C	-25 to 70°C	-25 to 70°C	-25 to 70°C
10 positions	yes	yes	yes	yes	yes	yes
16 positions				yes		
Decimal	yes	yes	yes	yes	yes	yes
Binary	yes		yes	yes		
Binary and complement	yes		yes	yes		
Soldering pins	yes	yes		yes	yes	yes
Wire wrap pins	yes			yes	yes	yes
Dummyswitch	yes		yes	yes	yes	yes
IP65						
Compatible with Codicount		900	500/800		500/800	
Assembly dimensions (mm)						
n x module width + end brackets	n x 12.5 + 17.5	n x 7.62 + 6	n x 20 + 25	n x 10 + 13	n x 8 + 24	n x 8 + 11
*n = no. of elements						
Series	Q	S	U	V	W	Z
Width in mm	12.7	10	8	8	12.5	7.62
Height in mm	33	33	33	26.5	58	15
Mounting Depth + SO in mm	47	38	40	34.5	67.1	24
Mounting Depth + LS in mm-	49	51	48.5	82.1	34.5	
Character height in mm	8	4	5	3.5	5	5
Operation by	Thumbwheel	Thumbwheel	Thumbwheel	Thumbwheel	Thumbwheel	Push button
Front Mounting	yes	yes	yes	yes	yes	yes
Rear Mounting	yes					
Service Life	Min. 10°	Min. 10°	Min. 10°	Min. 10°	Min. 10°	Min. 10°
Operation Temperature	-40 to 85°C	-55 to 85°C	-25°C to 70°C	-25°C to 70°C	-25°C to 70°C	-10 to 60°C
10 positions	yes	yes	yes	yes	yes	yes
16 positions			yes			
Decimal	yes	yes	yes	yes	yes	
Binary	yes	yes	yes	yes	yes	yes
Binary and complement		yes				
Soldering pins	yes	yes	yes	yes	yes	yes
Wire wrap pins	yes	yes	yes	yes	yes	
Dummyswitch		yes		yes		yes
IP65	yes					
Compatible with Codicount	500/800	300	100			
Assembly dimensions (mm)						
Dimensions block assembly	n x 12.7 + 12.5n x 10 + 13	n x 8 + 11	n x 8 + 11	n x 12.5 + 17.5	n x 7.62 + 5	
n x module width + end brackets	n x 12.5 + 17.5	n x 7.62 + 6	n x 20 + 25	n x 10 + 13	n x 8 + 24	n x 8 + 11
CE Conformity	yes	yes			yes	

*n = no. of elements

ORDERING GUIDE

Division modules
End brackets
Nuts and threaded rod
Assy - Assembly + nuts + rods

Dummy spacing modules
Connectors
Units can be assembled before shipping

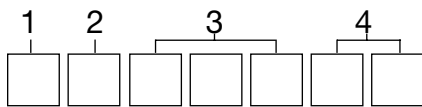


THUMBWHEEL SWITCHES

- The Multiswitch switches are available in two Circuit board executions
- ...SO Short PCB for plug-in connection
- ...LS Long PCB for mounting diodes and plug-in connection
- ...LK Long PCB with diodes and plug-in connection

SPECIAL ASSEMBLY FORMATS

ORDER CODE



- 1 Series B,D,G,H,L,M,Q,S,U,V,W,Z
- 2 Colour of housing - Grey A, Black B
- 3 Coding refer to table (3 Digits)
- 4 Circuit board Execution

- **Limit stops**

they can be set from the outside on series H,L,M,S,U,V,W and can also be set during assembly and cannot be changed later on series B,G,H,Q.

- **Special Markings**

In the place of digits, letters, icons, or symbols can be printed.

STANDARD CODES OF MULTISWITCH SWITCHES

Code	Description	B	D	G	H	L	M	Q	S	U	V	W	Z
001	Two-pole change-over			✓				✓					
010	Decimal 0-9	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	
031	BCD positive + complement	✓	✓	✓	✓		✓						
033	Aiken positive + complement	✓											
044	BCD positive + complement make before break contacts	✓		✓									
140	BCD + 2 inputs	✓		✓	✓		✓						
239	Binary coded 16 positions, 2 inputs	✓											
531	BCD + complement				✓		✓		✓				
618	Kelvin Varly voltage divider		✓		✓		✓			✓			
627	Hexadecimal				✓		✓			✓			
632	Resistance decade				✓	✓	✓			✓	✓		
701	Single pole change-over switch	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓
731	BCD positive	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
861	BCD negative	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓

ACCESSORIES

Coupled switches -

Blind switches have the same technical data as standard switches, but have no thumb-wheel and are closed from the front. They are coupled to either the left or right hand side Multiswitch.

Dummy switches -

Dummy switches appearance is identical to standard switches. The dummy switch has no electronics or contacts.

Blank spacing module -

A blank spacing module has the same dimensions as the real unit. It can be placed in any position within the assembly.

ORDERING GUIDE

CU400270 Connector with flange, soldering eyes
CU400271 Connector with flange, soldering pins

CU400272 Connector without flange, soldering eyes
CU400273 Connector without flange, soldering pins



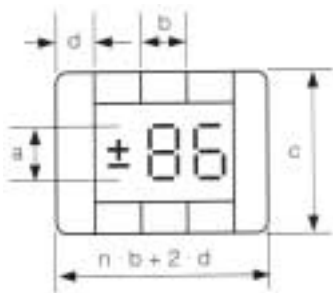
LED DISPLAYS

- Codicount panel mounted seven-segment displays
- Can be combined with the Thumbwheel switches
- Character height from 9–45 mm
- Units can be pre-assembled by OEM to your configuration (Assy - Code)

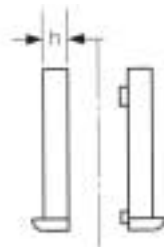
TECHNICAL SPECIFICATION

Series	100						300		500		800						900				
	01	02	04	05	15	16	15	16	16	45	05	06	15	16	21	22	45	46	15	16	
Type																					
Characteristic features																					
7 segment display	✓				✓		✓		✓	✓		✓		✓		✓	✓	✓	✓		
Sign display		✓				✓		✓	✓		✓		✓		✓						✓
Mechanical data																					
Character height a mm	9	9	9	9	9	9	9	9	9	9	16	16	16	16	16	16	16	16	25+35+45		
Module width b mm	8	8	8	8	8	8	8	8	10	10	20	20	20	20	20	20	20	20	40	40	
Module height c mm	26.5	26.5	26.5	26.5	26.5	26.5	33	33	33	33	33	33	33	33	33	33	33	33	76	76	
Module depth d mm	46.5	46.5	46.5	46.5	56.5	56.5	64	64	64	64	38	38	64	74	74	64	74	79	79		
Panel cut-out f mm	24.5	24.5	24.5	24.5	24.5	24.5	31	31	31	31	31	31	31	31	31	31	31	31	72	72	
End bracket dimension d	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	12.5	12.5	
End bracket dimension h	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	10	10	
Electrical data																					
Direct input	✓	✓																			
BCD input			✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
5V supply voltage	✓	✓	✓	✓								✓	✓								
12V supply voltage	✓	✓	✓	✓								✓	✓								
24V supply voltage					✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
24V signal voltage					✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Common anode	✓	✓																			
Common cathode	✓	✓																			
TTL compatible			✓	✓								✓	✓								
CMOS compatible				✓								✓	✓								
Block mounting																					
Push fit							✓	✓													
Screw together	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Compatible Multiswitch	V	V	V	V	V	V	U	U						H,M,S						G	G

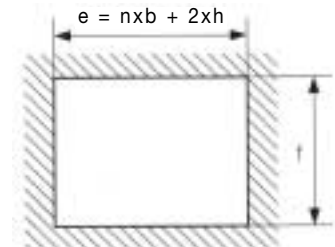
DIMENSIONS



n = no. of elements



Pair of brackets

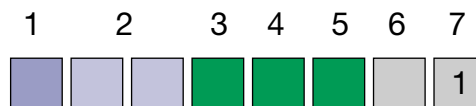


Front panel cut-out



- Accessories
- Connectors
- Filters
- Dummy housing
- Screw terminal adapters

ORDER CODE



- | | | |
|--|---|--|
| <p>1) Series 1=100 8=800
 3=300 9=900
 5=500</p> <p>2) Type
 see technical specification</p> <p>3) For Series 100, 300, 500 and 800
 Display 0 = red
 For series 900
 Character height
 7=25mm
 8=35mm
 9=45mm
 (Display red)</p> | <p>4) Logic
 1 = TTL
 2 = CMOS
 3 = without logic, CA
 4 = without logic, CC
 5 = with adaptation</p> | <p>5) Supply Voltage
 0 = + 5V
 5 = + 12V
 7 = + 24V</p> <p>6) Housing Colour
 1 = grey
 2 = black</p> <p>7) Connection
 1 = plug in</p> |
|--|---|--|

PLUG-IN CONNECTORS

Connectors for series 100	CU300644
Connectors for series 300/500/800	CU400217
Connectors for series 900	CU400272

TERMINAL SCREW ADAPTER

The Terminal screw adapter enables fast and simple connection to an individual unit or a block of up to 10 units.
 Available for the following modules 805, 806, 815, 816, 845, all with BCD connection.

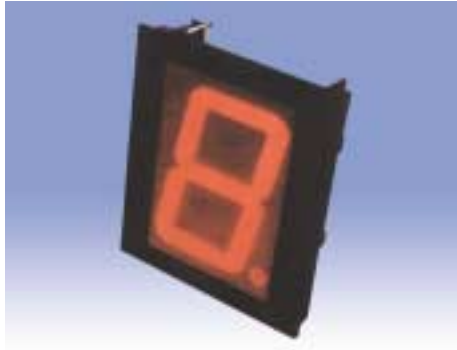
ACCESSORIES

Dummy housing black	___ - 01-102
End of bracket pair black (up to 3mm panel thickness)	___ - 03-302
End of bracket pair black (up to 5mm panel thickness)	___ - 03-802
Contrast filter	___ - 06-L*
Slotted nut M2	M2
Threaded rod M2	G2 x L*
Slotted nut M2,5 (series 900)	M2,5
Threaded rod M2,5 (series 900)	G2,5 x L*

ORDERING GUIDE

CU400270 Connector with flange, soldering eyes
 CU400271 Connector with flange, soldering pins
 Assy - Assembly + nuts + rods
 ST10 10 Digit backplane
 ST1 1 Digit backplane

CU400272 Connector without flange, soldering eyes
 CU400273 Connector without flange, soldering pins



60/100MM 7-SEGMENT LARGE DISPLAY

- LED 7- Segment display
- Display size 60 and 100mm
- Reading distance up to 40m
- Display colour red with red filter
- Viewing angle $\pm 75^\circ$
- Assembled in black plastic bezel
- Left and right end brackets included
- PLC-compatible
- Data entry with BCD code
- Parallel and multiplex operation possible
- Control inputs for display test and blank inhibit

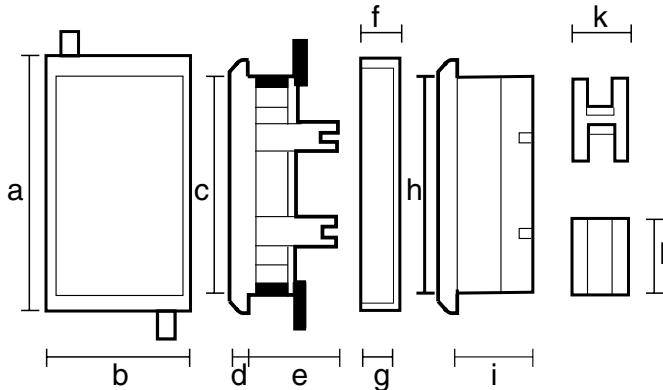
DESCRIPTION

The panel mounting 7-segment LED display modules allows user configuration of display requirements.

The modules are available with appropriate end brackets and fixing enabling easy assembly into panel.

Two digit sizes are available 60mm and 100mm and the LED colour is red. The electronic interface is BCD via connector on the rear of the module. The modules are PLC compatible.

DIMENSIONS



Measurement	Height 60mm	Height 100mm
a	96	144
b	57	94
c	91	137
d	4	5
e	27	30
f	12	15
g	10	12
h	91	136
i	31	31
k	8	8
l	11	11

PIN LAYOUT

Pin	Signal	Description
1	GND	0V
2	DP	Decimal Point
3	Data 2 ⁰	Data
4	Data 2 ³	Data
5	LE	Latch enable
6	BI(Inverted)	Blank inhibit
7	LT(Inverted)	Segment test
8	Data 2 ²	Data
9	Data 2 ¹	Data
10	Vcc	24V

Truth Table

Input	BI (Inverted)	LT (Inverted)	2 ³	2 ³	2 ¹	2 ⁰	Output Display
X	X	0	X	X	X	X	8
X	0	1	X	X	X	X	Blank
0	1	1	0	0	0	0	0
0	1	1	0	0	0	1	1
0	1	1	0	0	1	0	2
0	1	1	0	0	1	1	3
0	1	1	0	1	0	0	4
0	1	1	0	1	0	1	5
0	1	1	0	1	1	0	6
0	1	1	0	1	1	1	7
0	1	1	1	0	0	0	8
0	1	1	1	0	0	1	9
0	1	1	1	0	1	0	Blank
0	1	1	1	0	1	1	Blank
0	1	1	1	1	0	0	Blank
0	1	1	0	0	1	0	Blank
0	1	1	1	1	1	0	Blank
0	1	1	1	1	1	1	Blank
1	1	1	X	X	X	X	*

* The data are displayed with the positive edge of the signal LE.

ORDERING GUIDE

Display module 60mm
Supplied with:
1 pair of end brackets
4 clips
1 instruction leaflet

A1005721M

Display module 100mm
Supplied with:
1 pair of end brackets
4 clips
1 instruction leaflet

B1005721M

BACO[®]



- 20 - 250A switch size
- Wide range of standard switch schemes
- Custom built versions available
- Choice of mounting options
- Wide range of handles and legend plates

BACO

PR12 standard versions	34-35
Part number key & selection guide	36
Presentation, handles & accessories	37
Special request order form	38
Mainswitches	39



PR12 STANDARD VERSIONS

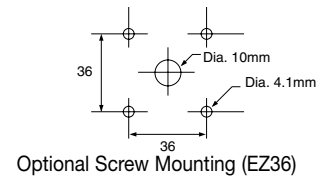
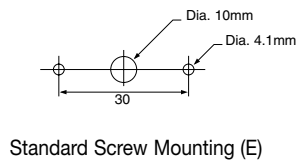
- Modern flexible design
- 20A rated contacts
- Wide choice of switch presentation and mounting options
- Fingerproof terminals
- IP65 version also available
- UL and CSA approved
- Custom switches up to 24 contacts & 12 positions



TECHNICAL SPECIFICATION

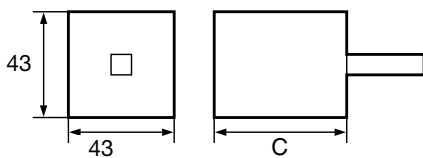
Insulation Voltage (Ui)	VAC	660	Load Power (3 x 380V) AC23	kW	7.5
Thermal Current (Ith) AC20	A	20	Load Power (3 x 380V) AC3	kW	4
Operating Current (Ie) AC21	A	16	Max Rigid Wire Gauge	mm ²	4
Operating Temp	°C	-20 to +70	Mechanical Durability	x 10 ⁶	1.25
Protection Rating	IP40 (IP65 Upon Request)				

DRILL PLAN

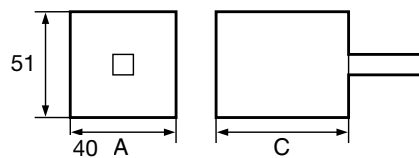


DIMENSIONS

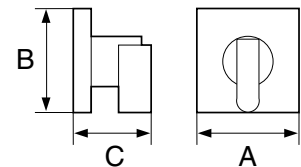
Screw Mount Switch Body



Single Hole Mount Switch Body



Standard Plate Frame & Handle



No of Contacts	C	No of Contacts	C	No of Contacts	C
1-2	36	13-14	122	1-2	51
3-4	46	15-16	132	3-4	61
5-6	56	17-18	142	5-6	71
7-8	66	19-20	152	7-8	81
9-10	76	21-22	162	9-10	91
11-12	86	23-24	172	11-12	101

A = 48
B = 48
C = 32

CHOICE OF PRESENTATIONS & MOUNTING



- Screw Mount
- 48 x 48 Legend Plate & Frame
- Grey/Black Handle



- Single Hole Mount
- 48 x 48 Legend Plate & Frame
- Grey/Black Handle



- Single Hole Mount
- Selector Switch Style Handle
- To Order add C21RA03 to the end of the Screw Mount Part Number



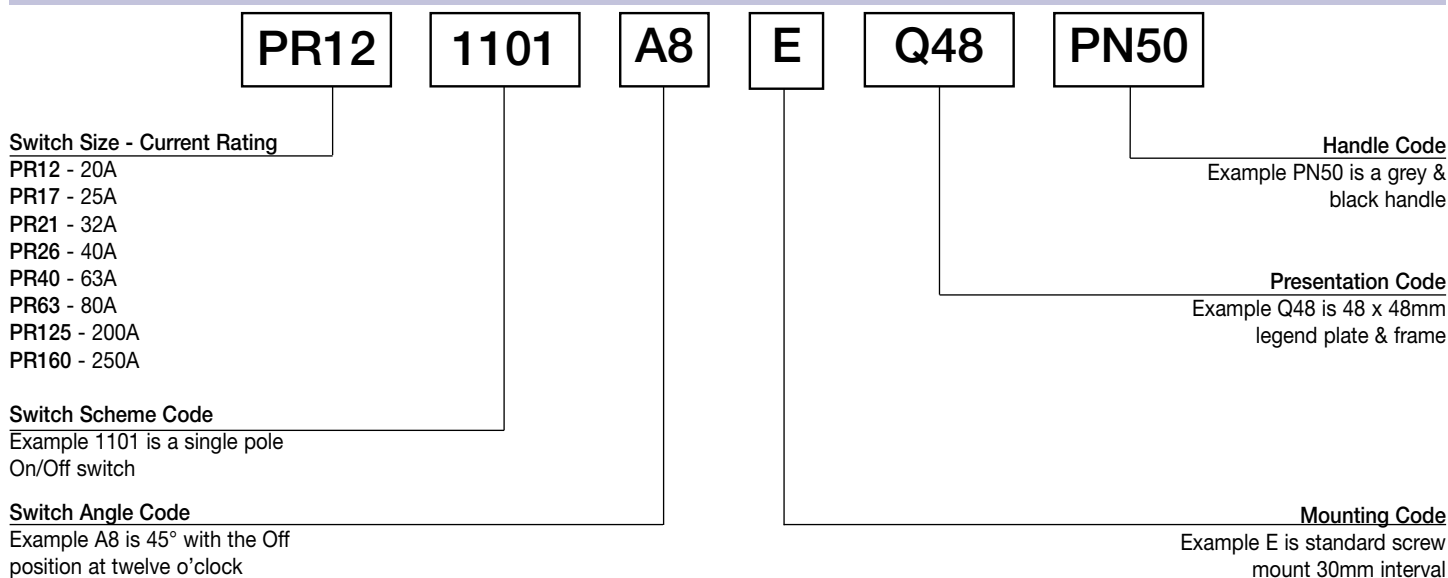
- Single Hole Mount
- Key Switch Head
- To Order add C21RC00 to the end of the Screw Mount Part Number

PR12 STANDARD VERSIONS

Type	Diagram - Terminals	Legend	Screw Mount	Single Hole Mount
ON/OFF Switch			PR121101A8 PR121102A8 PR121103A8 PR121104A8	PR12X1101A8 PR12X1102A8 PR12X1103A8 PR12X1104A8
Change-over Switch with OFF			PR122201C8 PR122202C8 PR122203C8 PR122204C8	PR12X2201C8 PR12X2202C8 PR12X2203C8 PR12X2204C8
Change-over Switch without OFF			PR122251D4 PR122252D4 PR122253D4 PR122254D4	PR12X2251D4 PR12X2252D4 PR12X2253D4 PR12X2254D4
Instrument Switch 1 Ammeter, 1 Network, 3 Wires, 3 CT's with Common Point			PR128151A4	PR12X8151A4
Instrument Switch, 1 Ammeter, 1 Network, 3 Wires, 3 CT's without Common Point			PR128157A4	PR12X8157A4
Instrument Switch, 1 Voltmeter, 1 Network, 3 Wires			PR128351A4	PR12X8351A4
Instrument Switch, 1 Voltmeter, 1 Network, 3 Wires + Neutral			PR128357C8	PR12X8357C8
Motor Control Switch Forward/Reverse 1 Speed, 1 Coil			PR129151C8	PR12X9151C8

Please note that the switch types above are only a very small selection of the range available.
For any other switch scheme up to a maximum of 24 contacts please contact us.

CAM SWITCH PART NUMBER KEY



HOW TO SELECT A CAMSWITCH

When selecting your cam switch requirement the following five criteria need to be considered and the details entered on to the 'Special request Order Form'

- (1) Switch Size - Current Rating
- (2) Switch Scheme & Switching Angle
- (3) Choice of Mounting
- (4) Choice of Presentation & Handle
- (5) Additional Accessories

(1) SWITCH SIZE CURRENT RATING

Electrical Characteristics		PR12	PR17	PR21	PR26	PR40	PR63	PR125	PR160
Insulation Voltage (Ui)	VAC	660	690	690	690	660	660	660	660
Thermal Current (Ith) AC20	A	20	25	32	40	63	80	200	250
Operating Current (Ie) AC21	A	16	20	25	32	50	80	160	200
Load Power (3 x 380V) AC23	kV	7.5	11	11	15	22	25	-	-
Load Power (3 x 380V) AC3	kV	4	7.5	7.5	11	18.5	22	-	-
Max Rigid Wire Gauge	mm ²	4	6	6	6	16	16	Dia 8mm Screws	

(2) SWITCH SCHEME & SWITCHING ANGLE

- The standard switch schemes & switching angles available are as detailed on the previous page
- Other standard switch schemes are available please consult us for further details
- For custom design switch schemes up to 24 contacts & 12 positions please complete the details on the 'Special Request Order Form'

(3) CHOICE OF MOUNTING

Type	Code	PR12	PR17	PR21	PR26	PR40	PR63	PR125	PR160
Standard 2 Screw (30mm Interval)	E	✓	✓	✓	✓	-	-	-	-
Standard 2 Screw (50mm Interval)	E	-	-	-	-	✓	✓	✓	✓
Optional 2 Screw (35mm Interval)	EZ35	✓	-	-	-	-	-	-	-
Optional 4 Screw (36mm x 36mm)	EZ36	✓	✓	✓	✓	-	-	-	-
Optional 4 Screw (48mm x 48mm)	EZ48	✓	✓	✓	✓	-	-	-	-
Optional 4 Screw (68mm x 68mm)	EZ68	-	-	-	-	✓	✓	✓	✓
Dia 22mm Single Hole	-	Only on PR12 by fixing single hole presentation to standard E mount.							
Rear Mount (48mm x 48mm)	S	✓	✓	✓	✓	-	-	-	-
Rear Mount (68mm x 68mm)	S	-	-	-	-	✓	✓	✓	✓
Din Rail Mount	SX	✓	✓	✓	✓	-	-	-	-

(4) CHOICE OF SWITCH & HANDLE PRESENTATION

The following parts can be added to a standard screw (E) mount PR12 cam switch to convert it to a 22mm single hole mount version with the presentations detailed below.

• Single hole mount kit with 48 x 48 legend plate, frame & grey/black handle			N48MD50
Small Handle	Level Handle	Key Switch Head	Key Switch Head
C21RA03	C21RB03	C21RC00	C21RF00

Handles		Grey/Black	Red	Black
	Small Handle to Suit PR12 to PR26 (5mm Shaft)	PN50	PN51	PN53
	Medium Handle to Suit PR12 to PR26 (5mm Shaft) Medium Handle to Suit PR40 to PR160 (6mm Shaft)	MN50 MN60	MN51 MN61	MN53 MN63
	Large Handle to Suit PR12 to PR26 (5mm Shaft) Large Handle to Suit PR40 to PR160 (6mm Shaft)	GN50 GN60	GN51 GN61	GN53 GN63
	Small Lever to Suit PR12 - PR26 (5mm Shaft) Small Lever to Suit PR40 - PR160 (6mm Shaft)	PC50 PC60	PC51 PC61	PC53 PC63
	Large Lever to Suit PR40 - PR160 (6mm Shaft)	GC60	GC61	GC63

Legend Plates, Frames & Function Labels		Size	Silver
	Blank Legend Plate (Can be custom engraved to your requirement)	48 x 48	WE40
		64 x 64	WE60
		72 x 72	WE70
		96 x 96	WE90
	Legend Plate Frame	Size	Frame
		48 x 48	CQ48
		64 x 64	CQ64
		72 x 72	CQ72
	Blank Function Label (Can be custom engraved to your requirement)		IF9
	Function Label Frame	Size	Frame
		48 x 48	Q040

(5) ADDITIONAL ACCESSORIES

Please enquire for further details on any of the following:

- Clutch drive without door interlock
- Clutch drive with door interlock
- Reduced size enclosure for PR12
- Standard enclosure
- Parallel coupling of 2 switches
- Series coupling of 2 switches
- Pushbutton released device
- Key Locking device
- Terminal covers
- Rear mounted protection shrouds
- Spring return versions
- Troytech heavy duty handles

SPECIAL REQUEST ORDER FORM



Please photocopy this sheet and tick/complete each section to define your cam switch requirement.

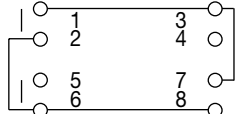
Name Telephone.....

Company Fax

Switch Size				Switch Mounting	
PR12 - 20A	<input type="checkbox"/>	PR40 - 63A	<input type="checkbox"/>	Standard 2 Screw Mount (E)	<input type="checkbox"/>
PR17 - 25A	<input type="checkbox"/>	PR63 - 80A	<input type="checkbox"/>	Optional 4 Screw Mount (EZ)	<input type="checkbox"/>
PR21 - 32A	<input type="checkbox"/>	PR125 - 200A	<input type="checkbox"/>	Single Hole Mount	<input type="checkbox"/>
PR26 - 40A	<input type="checkbox"/>	PR160 - 250A	<input type="checkbox"/>	Din Rail Mount (SX)	<input type="checkbox"/>
				Other:-	<input type="checkbox"/>







Contact Options mark in grid as required

-  Closed contact.
-  Overlapping: second contact closes before first contact opens.
-  Closed contact, cut off between 2 positions.
-  Impulse contact. Closes momentarily when switching from one position to next.
-  Closed contact, 2 positions without cut-off.

Requested text Fill in text left to right													Example of links (recommended to be on same wafer or from one to next.)		Switch Presentation	
																
Contact Number	Positions												Mark any required links below as recommended above		Function Label	
	1	2	3	4	5	6	7	8	9	10	11	12			<div style="border: 1px solid black; width: 100px; height: 40px; margin: 0 auto;"></div> Mark text above as required	
1-2													<input type="checkbox"/>	<input type="checkbox"/>		
3-4													<input type="checkbox"/>	<input type="checkbox"/>		
5-6													<input type="checkbox"/>	<input type="checkbox"/>		
7-8													<input type="checkbox"/>	<input type="checkbox"/>		
9-10													<input type="checkbox"/>	<input type="checkbox"/>		
11-12													<input type="checkbox"/>	<input type="checkbox"/>		
13-14													<input type="checkbox"/>	<input type="checkbox"/>		
15-16													<input type="checkbox"/>	<input type="checkbox"/>		
17-18													<input type="checkbox"/>	<input type="checkbox"/>		
19-20													<input type="checkbox"/>	<input type="checkbox"/>		
21-22													<input type="checkbox"/>	<input type="checkbox"/>		
23-24													<input type="checkbox"/>	<input type="checkbox"/>		
25-26													<input type="checkbox"/>	<input type="checkbox"/>		
27-28													<input type="checkbox"/>	<input type="checkbox"/>		
29-30													<input type="checkbox"/>	<input type="checkbox"/>		
31-32													<input type="checkbox"/>	<input type="checkbox"/>		
33-34													<input type="checkbox"/>	<input type="checkbox"/>		
35-36													<input type="checkbox"/>	<input type="checkbox"/>		
37-38													<input type="checkbox"/>	<input type="checkbox"/>		
39-40													<input type="checkbox"/>	<input type="checkbox"/>		
41-42													<input type="checkbox"/>	<input type="checkbox"/>		
43-44													<input type="checkbox"/>	<input type="checkbox"/>		
45-46													<input type="checkbox"/>	<input type="checkbox"/>		
47-48													<input type="checkbox"/>	<input type="checkbox"/>		

Switching angle

Mark angle required below and number the positions to be used.

- 
 90°
- 
 90°
- 
 60°
- 
 60°
- 
 45°
- 
 30°

Switch Ref



MAINSWITCHES

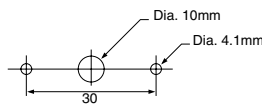
- 3 Pole Isolator Switches
- Padlockable Handles
- UL and CSA approved
- Enclosure and Clutch Drive versions available upon request
- IP65 version also available



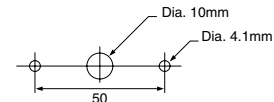
TECHNICAL SPECIFICATION

	NS3EB	SS3EB	TS3EB	ZS3EB	HS3EC	IS3EC
Insulation Voltage (Ui) VAC	690	690	690	690	690	690
Thermal Current (Ith) A	20	25	32	40	63	80
Operating Current (AC21) A	16	20	25	32	50	80
Load Power (AC23) kW	7.5	11	11	15	22	25
Load Power (AC3) kW	4	7.5	7.5	11	18.5	22
Max Rigid Wire Gauge mm ²	4	6	6	6	16	16
Mechanical Durability x 10 ⁶	1.25					
Operating Temp °C	-20 to +70					
Protection Rating	IP40 (IP65 Upon Request)					

DRILL PLAN

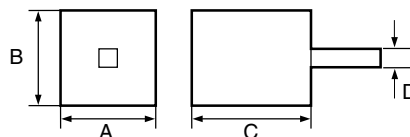


*Size 1 - 3



*Size 4

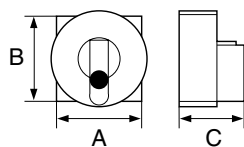
SWITCH BODY



*Size	A	B	C	D
1	40	42	46	5
2	50	48	45	5
3	53	60	52	5
4	80	80	82	6

Switch Body 3 Pole 20A *Size1	NS3EB
Switch Body 3 Pole 25A *Size2	SS3EB
Switch Body 3 Pole 32A *Size2	TS3EB
Switch Body 3 Pole 40A *Size3	ZS3EB
Switch Body 3 Pole 63A *Size4	HS3EC
Switch Body 3 Pole 80A *Size4	IS3EC

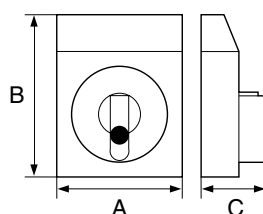
PADLOCKABLE HANDLE



A	B	C
48	48	37
72	72	37

Yellow/Red 48x48mm (5mm shaft)	J48PN51
Yellow/Red 72x72mm (5mm shaft)	J72MN51
Yellow/Red 72x72mm (6mm shaft)	J72MN61
Grey/Black 48x48mm (5mm shaft)	V48PN50
Grey/Black 72x72mm (5mm shaft)	V72MN50
Grey/Black 72x72mm (6mm shaft)	V72MN60

PADLOCKABLE HANDLE WITH TEXT "MAINSWITCH"



A	B	C
65	82	37
80	100	37

Yellow/Red 48x48mm (5mm shaft)	J483PN51
Yellow/Red 72x72mm (5mm shaft)	J723MN51
Yellow/Red 72x72mm (6mm shaft)	J723MN61
Grey/Black 48x48mm (5mm shaft)	V483PN50
Grey/Black 72x72mm (5mm shaft)	V723MN50
Grey/Black 72x72mm (6mm shaft)	V723MN60

BACO®

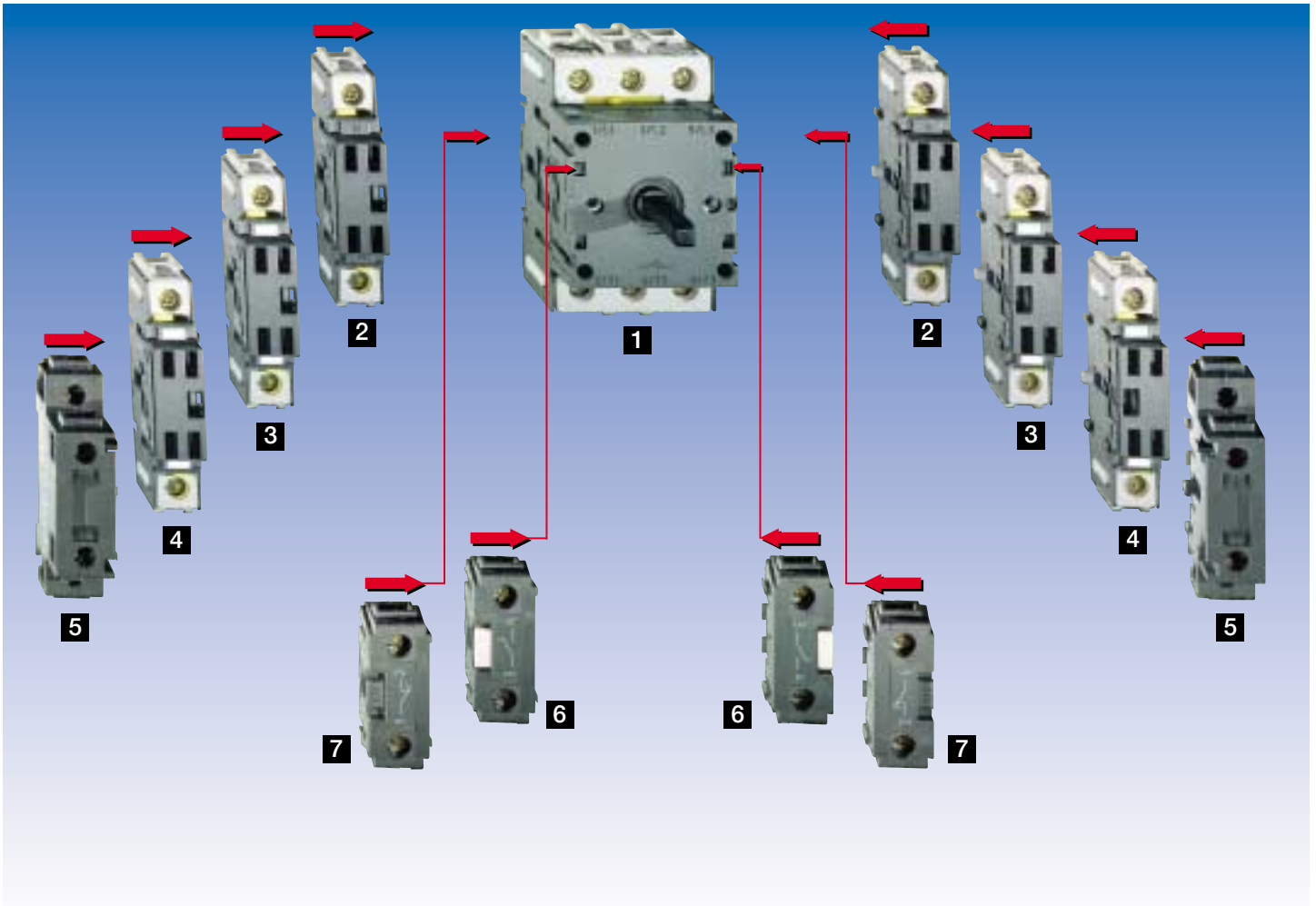


- Reversible terminals allow the same switch body to be used in both front & rear mount applications
- 25A - 32A - 50A - 63A - 80A - 100A versions available
- Neutral pole, additional poles & auxiliary contacts are simply snapped in to place
- Clutch drive with metal cuttable shafts and door interlock for rear mounting
- Enclosure versions
- UL approved

BACO

Panoramic view of the reverso range	42
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Component parts	45
Enclosure dimensions	46
Technical specification	47

PANORAMIC VIEW OF THE REVERSO RANGE



1 Basic 3 pole switch body

2 Neutral pole

3 Additional pole

4 Junction block

5 Auxiliary NC/NO contact

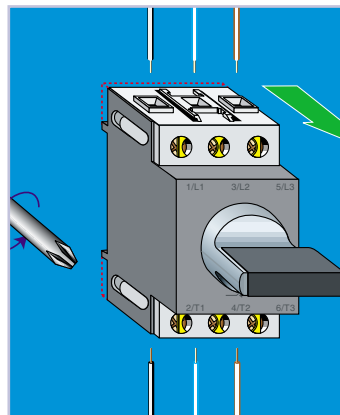
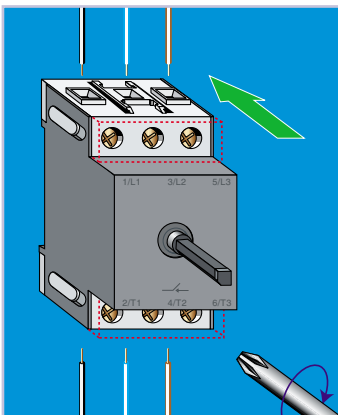
6 Late make/early break auxiliary contact

7 Early make/late break auxiliary contact

Possible Combinations

- Up to 2 additional poles/neutral poles/junction blocks can be added to each side of the switch body
- Up to 1 additional pole/ neutral pole/ junction block and the auxiliary NC/NO contact can be added to each side of the switch body but the auxiliary NC/NO contact must be on the outside
- Up to 1 late make or early make auxiliary contact can be added to each side of the switch body using the standard component parts
- Up to 2 late make or early make auxiliary contacts can be added to each side of the switch body but must be specially ordered

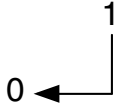
REVERSIBLE TERMINAL FEATURE



All the switch bodies neutral poles and additional contacts have reversible terminals and can therefore be used in both rear mounting and front mounting applications. This is possible thanks to patented system where by the terminals can be inverted by means of a sliding terminal bar.

STANDARD VERSIONS

yellow/red presentation



Front mount with padlockable handle



Rear mount with clutch drive, door interlock & padlockable handle



Enclosure with integral padlockable handle IP66



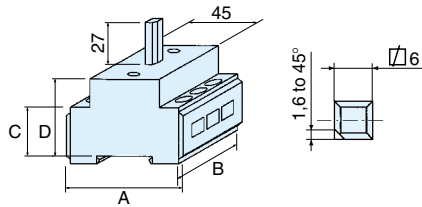
Enclosure & padlockable handle

25A				
3 Pole	0172001	0165009	0172061	—
3 Pole + NC/NO	0172011	0165019	0172071	—
4 Pole neutral L	0172021	0165029	0172081	—
4 Pole neutral L + NC/NO	0172031	0165039	0172091	—
4 Pole neutral R	0172041	0165049	—	—
4 Pole neutral R + NC/NO	0172051	0165059	—	—
6 Pole	—	—	—	0172009
6 Pole + NC/NO	—	—	—	0172029
32A				
3 Pole	0172101	0165109	0172161	—
3 Pole + NC/NO	0172111	0165119	0172171	—
4 Pole neutral L	0172121	0165129	0172181	—
4 Pole neutral L + NC/NO	0172131	0165139	0172191	—
4 Pole neutral R	0172141	0165149	—	—
4 Pole neutral R + NC/NO	0172151	0165159	—	—
6 Pole	—	—	—	0172109
6 Pole + NC/NO	—	—	—	0172129
50A				
3 Pole	0172201	0165209	—	0172261
3 Pole + NC/NO	0172211	0165219	—	0172271
4 Pole neutral L	0172221	0165229	—	0172281
4 Pole neutral L + NC/NO	0172231	0165239	—	0172291
4 Pole neutral R	0172241	0165249	—	—
4 Pole neutral R + NC/NO	0172251	0165259	—	—
6 Pole	—	—	—	0172209
6 Pole + NC/NO	—	—	—	0172229
63A				
3 Pole	0172301	0165309	—	0172361
3 Pole + NC/NO	0172311	0165319	—	0172371
4 Pole neutral L	0172321	0165329	—	0172381
4 Pole neutral L + NC/NO	0172331	0165339	—	0172391
4 Pole neutral R	0172341	0165349	—	—
4 Pole neutral R + NC/NO	0172351	0165359	—	—
6 Pole	—	—	—	0172309
6 Pole + NC/NO	—	—	—	0172329
80A				
3 Pole	0172401	0165409	—	0172461
3 Pole + NC/NO	0172411	0165419	—	0172471
4 Pole neutral L	0172421	0165429	—	0172481
4 Pole neutral L + NC/NO	0172431	0165439	—	0172491
4 Pole neutral R	0172441	0165449	—	—
4 Pole neutral R + NC/NO	0172451	0165459	—	—
6 Pole	—	—	—	0172409
6 Pole + NC/NO	—	—	—	0172429
100A				
3 Pole	0172501	0165509	—	0172561
3 Pole + NC/NO	0172511	0165519	—	0172571
4 Pole neutral L	0172521	0165529	—	0172581
4 Pole neutral L + NC/NO	0172531	0165539	—	0172591
4 Pole neutral R	0172541	0165549	—	—
4 Pole neutral R + NC/NO	0172551	0165559	—	—
6 Pole	—	—	—	0172509
6 Pole + NC/NO	—	—	—	0172529

Notes: (1) Neutral on the left or the right is as seen from the operators view
 (2) Rear mount with clutch drive and door interlock:
 25A & 32A metal shaft length suitable for panel depth 125mm to 250mm
 50A & 63A metal shaft length suitable for panel depth 135mm to 260mm
 80A & 100A metal shaft length suitable for panel depth 145mm to 420mm

(3) Protection rating is IP40 as standard, IP65 on request and IP66 as standard on enclosure version with integral handle
 (4) Enclosure mounted versions have non reversible terminals
 (5) Grey padlockable handle is available as an alternative to red/yellow, please enquire for details

3 POLE SWITCH BODY

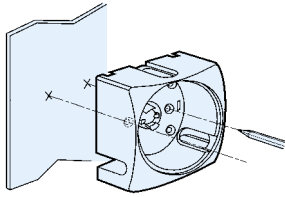


Size	A	B	C	D
1	75.4	44.0	31.5	50.0
2	85.0	53.6	42.2	60.0
3	93.0	71.8	52.6	70.0

Switch Body 3 Pole 25A (AC21) *Size1	0172000
Switch Body 3 Pole 32A (AC21) *Size1	0172100
Switch Body 3 Pole 50A (AC21) *Size2	0172200
Switch Body 3 Pole 63A (AC21) *Size2	0172300
Switch Body 3 Pole 80A (AC21) *Size3	0172400
Switch Body 3 Pole 100A (AC21) *Size3	0172500

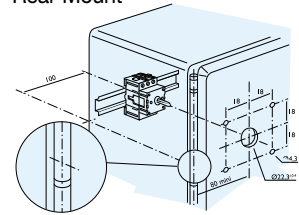
DRILL PLAN

Padlockable Presentation

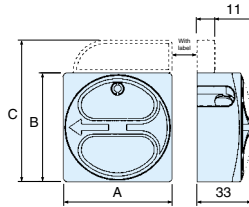


25/32A	66 x 66	
50/63A	66 x 66	
80/100A	86 x 86	

Rear Mount



RED/YELLOW PADLOCKABLE HANDLE

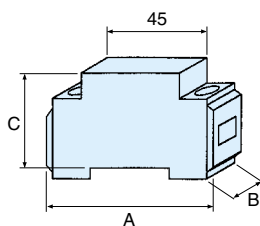


Size	A	B	C
1-2	66	66	86
3	86	86	106

Padlockable, Screw Mount, *Size1 & *Size2	0172601
Padlockable, Screw Mount, *Size3	0172621
Padlockable, Dia 22mm Hole Mount, *Size1	0172603

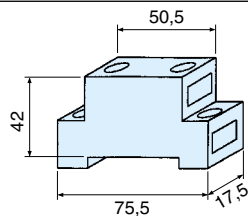
To order any of the above padlockable handles in Grey/Black instead of Red/Yellow change the start of the part number from 0172 to 0174.
Example:- Padlockable in Grey for 25A (*Size1) Switch Body = 0174601

ADDITIONAL CONTACTS



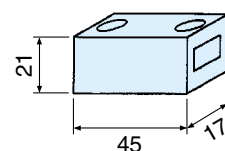
Size	A	B	C
1	75.4	14.5	43.5
2	85	17.9	60
3	93	26.8	70

Neutral Pole 25A	0172065
Neutral Pole 32A	0172165
Neutral Pole 50A	0172265
Neutral Pole 63A	0172365
Neutral Pole 80A	0172465
Neutral Pole 100A	0172565
Additional pole 25A	0172075
Additional pole 32A	0172175
Additional pole 50A	0172275
Additional pole 63A	0172375
Additional pole 80A	0172475
Additional pole 100A	0172575



Junction Block Dims are the same as the Neutral/Additional Poles

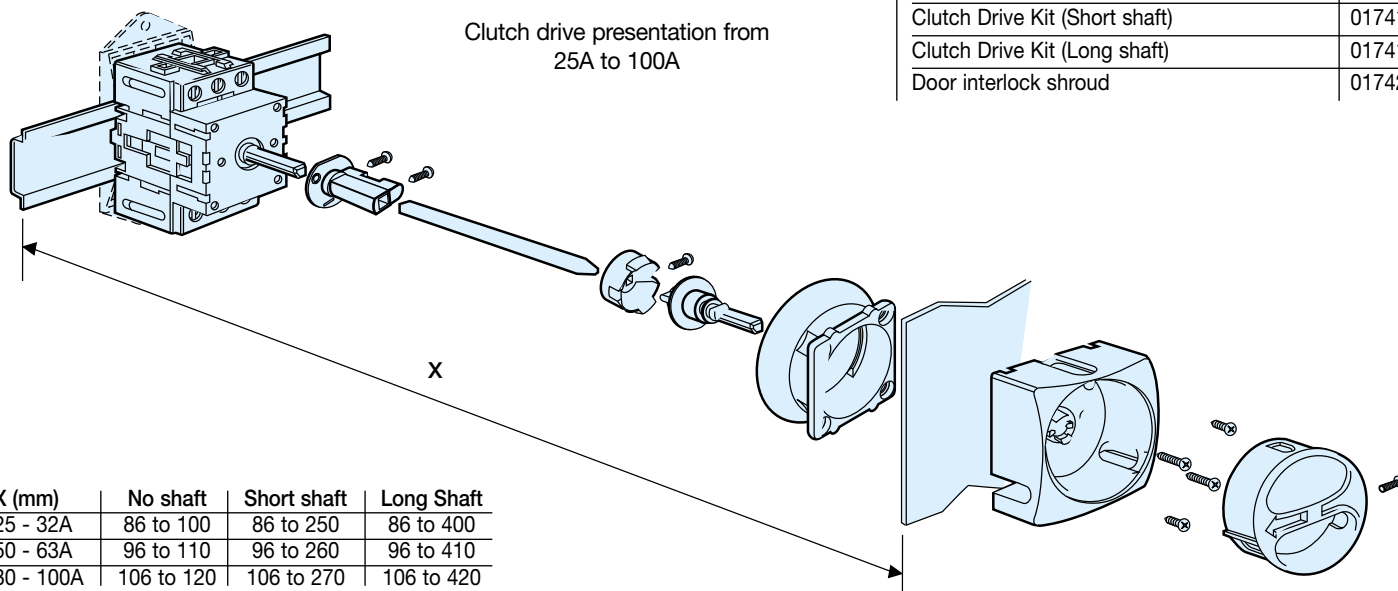
Auxiliary NO + NC Contact * All Sizes (Ui=400V Ie AC15 230V 6A - 400V 4A)	0172179
Junction Block *Size1	0172185
Junction Block *Size2	0172385
Junction Block *Size3	0172585



Late Make/Early Break Auxiliary Contact *Size1	0172195
Late Make/Early Break Auxiliary Contact *Size2	0172395
Late Make/Early Break Auxiliary Contact *Size3	0172595
Early Make/Late Break Auxiliary Contact *Size1	0172197
Early Make/Late Break Auxiliary Contact *Size2	0172397
Early Make/Late Break Auxiliary Contact *Size3	0172597
(Ui = 400V Ie AC15 230V 6A - 400V 4A)	

CLUTCH DRIVE KITS

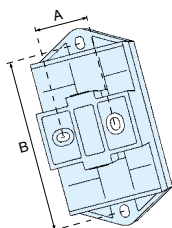
Each kit contains all of the parts required to convert a standard switch body and padlockable handle for rear mount with clutch drive. Consult the table for each kits panel depth dimensions. The door interlock shroud is available separately



Clutch Drive Kit (No shaft)	0174179
Clutch Drive Kit (Short shaft)	0174189
Clutch Drive Kit (Long shaft)	0174199
Door interlock shroud	0174249

X (mm)	No shaft	Short shaft	Long Shaft
25 - 32A	86 to 100	86 to 250	86 to 400
50 - 63A	96 to 110	96 to 260	96 to 410
80 - 100A	106 to 120	106 to 270	106 to 420

ACCESSORIES



Size	A	B
1	25	85
2	35	90
3	50	100

Dims for Rear Mount Plate

Rear Mounting Plate *Size1	0172187
Rear Mounting Plate *Size2	0172387
Rear Mounting Plate *Size3	0172587
IP65 Kit *Size1 & *Size2 for front mount	0172267
IP65 Kit *Size3 for front mount	0172277
IP65 Kit *Size1 and Size2 for rear mount with clutch drive	0174259
IP65 Kit *Size3 for rear mount with clutch drive	0174269
Duty Label "Mainswitch"	0172649



Terminal Cover For 3 Pole Switch Body *Size1	0172167
Terminal Cover For 3 Pole Switch Body *Size2	0172367
Terminal Cover For 3 Pole Switch Body *Size3	0172567
Terminal Cover For Neutral or Junction Block *Size1	0172177
Terminal Cover For Neutral or Junction Block *Size2	0172377
Terminal Cover For Neutral or Junction Block *Size3	0172577
Terminal Cover (Pair) For Auxiliary NO + NC Contact	0172189
Terminal Cover For Early Make/Early Break Contact	0172199

ENCLOSURES

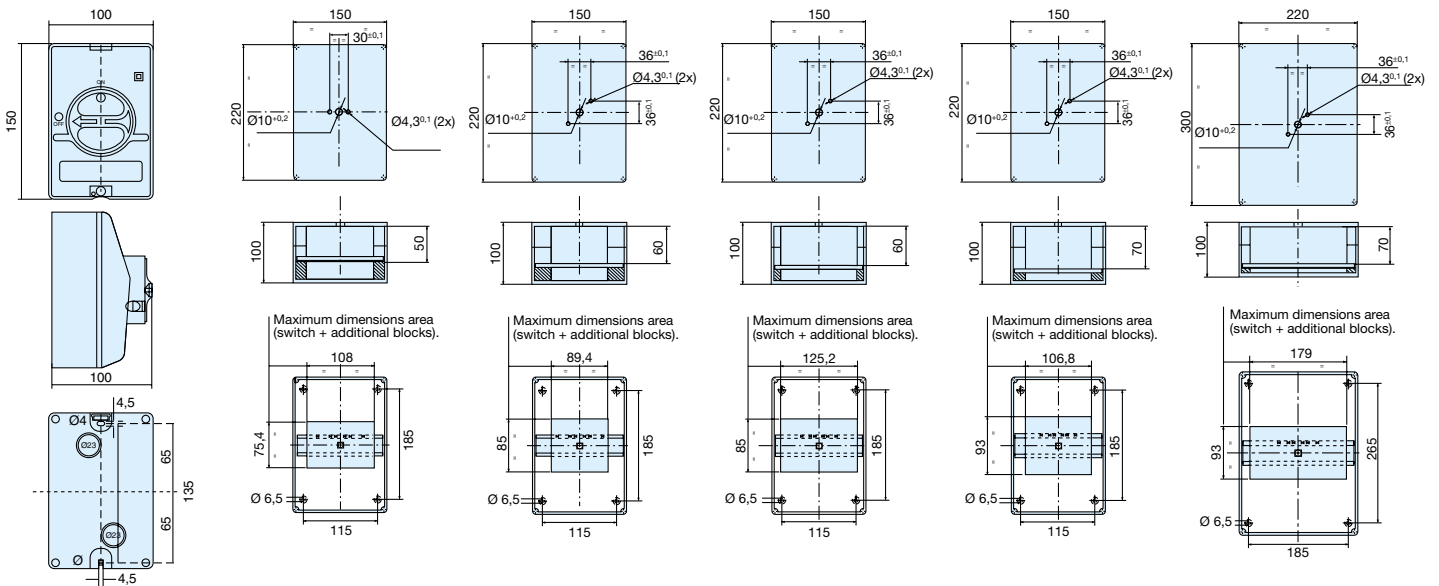


Empty Enclosure dimensions 220 x 150 x 100 for 25 & 32A up to 6 poles + auxiliary	0172559
Empty Enclosure dimensions 220 x 150 x 100 for 50 & 63A up to 4 poles + auxiliary	0172569
Empty Enclosure dimensions 220 x 150 x 100 for 50 & 63A up to 6 poles + auxiliary	0172579
Empty Enclosure dimensions 220 x 150 x 100 for 80 & 100A up to 4 poles + auxiliary	0172589
Empty Enclosure dimensions 300 x 220 x 100 for 80 & 100A up to 6 poles + auxiliary	0172599

ENCLOSURES

Dimensions (mm)	150 x 100 x 96	220 x 150 x 100	220 x 150 x 100	220 x 150 x 100	220 x 150 x 100	300 x 220 x 100
REVERSO rating	25 and 32 A 3 poles to 4 poles + NC/NO	25 and 32 A 6 poles and 6 poles + NC/NO	50 and 63 A 3 poles to 4 poles + NC/NO	50 and 63 A 6 poles and 6 poles + NC/NO	80 and 100 A 3 poles and 3 poles + NC/NO	80 and 100 A 4 poles to 6 poles + NC/NO
Cable entries	2 x 2 Pg 16 or M25 2 x Ø23 on rear	2 x 2 Pg 21	2 x 2 Pg 21	2 x 2 Pg 29	2 x 2 Pg 29	2 x 2 Pg 21 and 2 x 2 Pg 29
Ø push-through openings (mm)	22,5 or 25	28,5	28,5	37,5	37,5	37,5/28,5
Number/face (top and bottom)	2	2	2	2	2	4
Panel mounting	by 4 screws (see dimensional drawing)					
Lid/base assembly	by 1 self-tapping screw	by 4 self-tapping screws	by 4 self-tapping screws	by 4 self-tapping screws	by 4 self-tapping screws	by 6 self-tapping screws
Switch/base assembly	on 35 mm DIN rail (this rail is suitably notched to ensure the positioning of the switch)					
Presentation mounting	Handle moulded in lid	pre-pierced lid				
Insulation	class II installed (provided correct usage of the insulation plugs which must be pushed down over the base-to-panel mounting screws, supplied with each enclosure)					
Impact resistance	IK 07					
Fire resistance	960 °C by incandescent wire (IEC 925-2-1)					
Protection rating	IP66	IP40 in standard version (IP65 on request)				

ENCLOSURE DIMENSIONS



Enclosure for 25 and 32A Reverso up to 4 Poles + NC/NO

Enclosure for 25 and 32 A REVERSO up to 6 poles + NC/NO

Enclosure for 50 and 63 A REVERSO up to 4 poles + NC/NO

Enclosure for 50 and 63 A REVERSO up to 6 poles + NC/NO

Enclosure for 80 and 100 A REVERSO up to 3 poles + NC/NO

Enclosure for 80 and 100 A REVERSO up to 6 poles + NC/NO

TECHNICAL SPECIFICATION

Switch Bodys & Auxiliary Controls		25 A	32 A	50 A	63 A	80 A	100 A	
Rated operating voltage U_i	V	690	690	690	690	690	690	
Rated thermal current - open - $I_{u/lth}$	A	25	32	50	63	80	100	
Rated thermal current - enclosed - I_{th}	A	20	25	40	50	63	80	
Rated impulse withstand voltage $U_{imp k}$	V	6	6	6	6	6	6	
Rated operating current I_e I_e AC - 21A/22A 230 to 690 V	A	25	32	50	63	80	100	
Rated operating power								
AC - 23A	3 x 230 V	kW	5,5	5,5	15	15	18,5	22
	3 x 400 V		7,5	11	18,5	22	30	37
	3 x 500 V		7,5	11	22	30	37	45
	3 x 690 V		7,5	11	18,5	22	22	30
AC - 3	3 x 230 V	kW	4	4	7,5	11	15	18,5
	3 x 400 V		5,5	7,5	15	18,5	22	30
	3 x 500 V		5,5	7,5	15	22	30	37
	3 x 690 V		5,5	7,5	15	18,5	18,5	22
Make - break characteristics								
Rated make capacity	$A_{eff}/400 V$	710	710	1270	1270	1970	1970	
Rated break capacity	$A_{eff}/400 V$	330	330	800	800	800	800	
Short circuit characteristics								
Rated short time withstand current - I_{cw}	$A_{eff}/400 V/1s$	350	430	500	760	1100	1500	
Rated short circuit make capacity - I_{cm}	kA peak/400 V	1	1	1,8	1,8	2,8	2,8	
Short circuit current	kA eff/400 V	10	10	10	10	10	10	
with fuse gI/gG	A	25	32	50	63	80	100	
Mechanical life AC - 20	million	0,1	0,1	0,04	0,04	0,04	0,04	
Connections								
Stranded wire plus connector (max/min)	mm ²	6/0,75	6/0,75	16/1,5	16/1,5	35/2,5	35/2,5	
Solid wire	mm ²	10	10	25	25	50	50	
Storage temperature	°C	- 30 to + 70	- 30 to + 70	- 30 to + 70	- 30 to + 70	- 30 to + 70	- 30 to + 70	
Operating temperature	°C	- 30 to + 70	- 30 to + 70	- 30 to + 70	- 30 to + 70	- 30 to + 70	- 30 to + 70	
Protection rating		inside panel : IP xx B outside panel : IP 40 IP 65 upon request						
Conformity to standards		IEC 947-3 - EN 60 947-3						
Approvals		UL - cUL (USA - Canada)						
Climatic resistance		Tropical atmosphere according to : IEC 68/2.3 constant humid heat IEC 68/2.30 cyclical humid heat						
Auxiliary contact electrical characteristics								
Rated operating voltage - U_i	V	400	400	400	400	400	400	
Rated thermal current - open - $I_{u/lth}$	A	10	10	10	10	10	10	
Rated operating current - I_e	AC - 15 230 V A	6	6	6	6	6	6	
	400 V A	4	4	4	4	4	4	
Protection against short circuit by fuse gG	A	10	10	10	10	10	10	
Connection	Stranded wire mm ² max.	2 x 2,5	2 x 2,5	2 x 2,5	2 x 2,5	2 x 2,5	2 x 2,5	

BACO[®]



- AC type: alternating current
- A type: alternating or pulsating DC current
- A-KV type: high protection against nuisance tripping
- Rating: from 16 to 80 A in 2-pole version and from 25 to 80 A in 4 pole version.
- Sensitivities: 10-30-100-300 and 500 mA.
- Time delay versions.
- Range of auxiliary contacts

BACO

General description & technical	50
RCCB type AC 2 & 4 pole	
RCCB type A 2 pole	51
RCCB type A 4 pole	
RCCB type A-KV 2 & 4 pole	52
Dimensions	53

GENERAL DESCRIPTION

For the protection of people and property against the risks of direct and indirect contact in homes and in professional premises.

A more complete range:

- 16-25-40-63 and 80 Amp sizes in 2-pole versions and 25-40-63 and 80 Amp in 4-pole versions.
- a range of auxiliary devices for the 2-pole and 4-pole RCCB's: auxiliary changeover switch, fault signalling changeover switch, shunt trip release unit
- a range of 2-pole and 4-pole RCCB's in 25-40-63 and 80 Amp - 1 Δ 30mA with high protection against nuisance tripping

Higher performance electrical characteristics:

- increased resistance to short circuits: 20 kA at 40 Amp and 10kA at 63 Amp
- increased terminal capacity for the whole range: 25 mm² stranded cable - 35mm² solid wire

Standards: NF/USE - SEMKO - VDE - CEBEC

Conform to: NF EN 61 008

ELECTRICAL AND MECHANICAL CHARACTERISTICS

Rating	16 A		25 A		40 A		63 A		80 A	
Number of poles	2-pole	2-pole	4-pole	2-pole	4-pole	2-pole	4-pole	2-pole	4-pole	
Nominal operating voltage Un (V)	230	230	400	230	400	230	400	230	400	
Short-circuit resistance (kA) with gG fuses										
25 A	40	40	40	-	-	-	-	-	-	
40 A	20	20	20	20	20	-	-	-	-	
63 A	10	10	10	10	1	10	10	-	-	
80 A	6	6	6	6	6	6	6	6	6	
Terminal capacity in mm ²	25 mm ² stranded - 35 mm ² solid									

Max. earth resistance according to contact voltage Uc	$I\Delta n$		Uc = 50 V		Uc = 25 V	
	0,01 A	0,03 A	5000 Ω	1666 Ω	2500 Ω	833 Ω
	0,1 A		500 Ω		250 Ω	
	0,3 A		167 Ω		83 Ω	
	0,5 A		100 Ω		50 Ω	

Immunity:

All the Interguard RCCB's are immune to nuisance tripping brought about by transient fault currents, for example: lightning or capacitive loads...

Depending on the usage and on the conditions under which these devices are used, the risk of nuisance tripping will vary and will be more or less acceptable.

In this regard, the Baco range gives one possibility of choosing between several solutions, represented in practice by the resistance at peak A values to the standard 8/20 μ current wave:

- standard version, all tripping values: 250 Amp
- KV type - 30 mA : 3000 Amp
- S versions 300 to 500 mA : 5000 Amp

These last two versions are recommended for usage in cases where the environment is often disturbed or where there is low acceptability of nuisance tripping.

For example:

Installations comprising: discharge bulbs - electronic ballasts - computers - UPS appliances - rectifiers - welding apparatus - dimmer switches - speed controls,

All installations with high exposure to electro-magnetic interference due to atmospheric conditions (lightning strikes)

All installations where the risk must be reduced to a minimum: cold-stores - anti-intrusion safety devices - alarm devices - anti-freeze heating - medical assistance equipment.

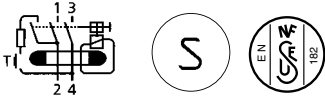
Types of devices according to form of operating current:

- AC type devices = to be used with 50 Hz pure sinusoidal alternating current
- A type devices = certain electronic installations, incorporating rectifiers for example, inject into the circuit to be protected a direct current component which can interfere with the correct functioning of the AC type devices. The type A devices, which are not sensitive to a DC component within the specified limits, are to be recommended for use in this case.

RCCB TYPE AC 2 & 4 POLE

TYPE AC: ALTERNATING CURRENT 2 POLE RCCB

WIDTH 2 MODULES
RATED VOLTAGE U_n : 230 V



2-poles RCCB
40 A - $1\Delta n$
30 mA
0660210

Rated current I_n	Sensitivity $I_{\Delta n}$	Weight (g)	Ordering code
16 A	10 mA	200	0660 000
	30 mA	200	0660 110
	100 mA	200	0660 120
	300 mA	200	0660 130
40 A	30 mA	200	0660 131
	30 mA [S]	200	0660 210
	100 mA	200	0660 220
	300 mA	200	0660 230
63 A	30 mA [S]	200	0660 231
	30 mA	200	0660 310
	100 mA	200	0660 320
	300 mA	200	0660 330
80 A	30 mA [S]	200	0660 331
	30 mA	200	0660 410
	100 mA	200	0660 420
	300 mA	200	0660 430
	300 mA [S]	200	0660 431

4 POLE RCCB (neutral on the left)

WIDTH 4 MODULES
RATED VOLTAGE U_n : 400 V



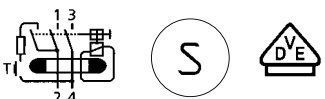
4-poles RCCB
40 A - $1\Delta n$ 30
mA
0660710

25 A	30 mA	400	0660 610
	100 mA	400	0660 620
	300 mA	400	0660 630
	300 mA [S]	400	0660 631
40 A	30 mA	400	0660 710
	100 mA	400	0660 720
	300 mA	400	0660 730
	300 mA [S]	400	0660 731
63 A	30 mA	400	0660 810
	100 mA	400	0660 820
	300 mA	400	0660 830
	300 mA [S]	400	0660 831
80 A	30 mA	400	0660 910
	100 mA	400	0660 920
	300 mA	400	0660 930
	300 mA [S]	400	0660 931

RCCB TYPE A 2 POLE

TYPE A: ALTERNATING OR PULSATING DC CURRENT 2-POLE RCCB

WIDTH 2 MODULES
RATED VOLTAGE U_n : 230 V



2-poles RCCB
16 A - $1\Delta n$ 10
mA
0660002

Rated current I_n	Sensitivity $I_{\Delta n}$	Weight (g)	Ordering code
16 A	10 mA	200	0660 002
	30 mA	200	0660 112
	100 mA	200	0660 122
25 A	30 mA	200	0660 132
	100 mA	200	0660 212
	300 mA	200	0660 222
40 A	30 mA	200	0660 232
	100 mA	200	0660 312
	300 mA	200	0660 322
63 A	30 mA	200	0660 332
	100 mA	200	0660 412
	300 mA	200	0660 422
80 A	30 mA	200	0660 432
	100 mA	200	0660 442
	300 mA	200	0660 452

[S]: time-delayed RCCB

RCCB TYPE A 4 POLE

TYPE A: ALTERNATING OR PULSATING DC CURRENT

4-POLE RCCB (neutral on the right)

WIDTH 4 MODULES
RATED VOLTAGE U_n : 400 V



4-poles RCCB
63 A - 1 Δ n 300 mA
0661832

Rated current I_n	Sensitivity $I_{\Delta n}$	Weight (g)	Ordering code
25 A	30 mA	400	0661 612
	100 mA	400	0661 622
	300 mA	400	0661 632
	500 mA	400	0661 642
40 A	30 mA	400	0661 712
	100 mA	400	0661 722
	300 mA	400	0661 732
	300 mA [S]	400	0661 733
	500 mA	400	0661 742
	500 mA [S]	400	0661 743
63 A	30 mA	400	0661 812
	100 mA	400	0661 822
	300 mA	400	0661 832
	300 mA [S]	400	0661 833
	500 mA	400	0661 842
	500 mA [S]	400	0661 843
80 A	30 mA	400	0661 912
	100 mA	400	0661 922
	300 mA	400	0661 932
	300 mA [S]	400	0661 933
	500 mA	400	0661 942
	500 mA [S]	400	0661 943

[S]: time-delayed RCCB

RCCB TYPE A-KV 2 & 4 POLE

TYPE A-KV: ALTERNATING OR PULSATING DC CURRENT
PROTECTION AGAINST NUISANCE TRIPPING

2-POLE RCCB

WIDTH 2 MODULES
RATED VOLTAGE U_n : 230 V



WIDTH 4 MODULES
RATED VOLTAGE U_n : 400 V



Rated current I_n	Sensitivity $I_{\Delta n}$	Weight (g)	Ordering code
25 A	30 mA	200	0660 115
40 A	30 mA	200	0660 215
63 A	30 mA	200	0660 315
80 A	30 mA	200	0660 415
4-POLE RCCB (neutral on the right)			
25 A	30 mA	400	0661 615
40 A	30 mA	400	0661 715
63 A	30 mA	400	0661 815
80 A	30 mA	400	0661 915

AUXILIARY UNITS FOR 2 & 4 POLE RCCB'S

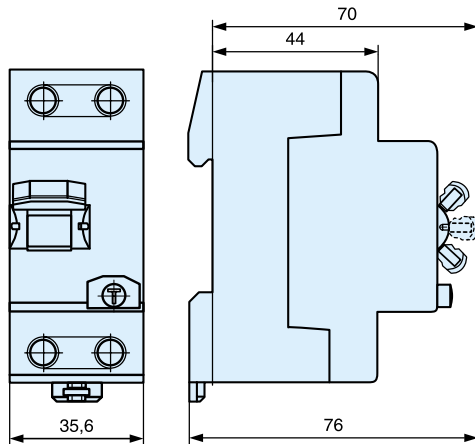


Auxiliary
changeover switch
0650900

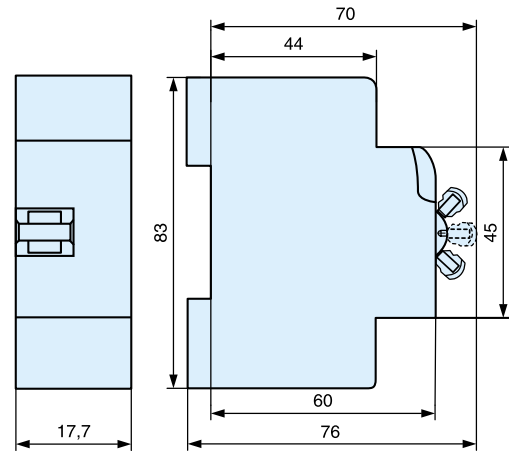
Auxiliary changeover switch (6A - 250 VAC) (must absolutely be used before mounting 1 or 2 other auxiliary units)	35	0650 900
Fault signalling changeover switch (6 A - 250 VAC)	30	0650 901
Shunt trip release unit (110 à 415 VAC)	80	0650 902
Assembled by snapping onto the left hand side of the RCCB		

DIMENSIONS

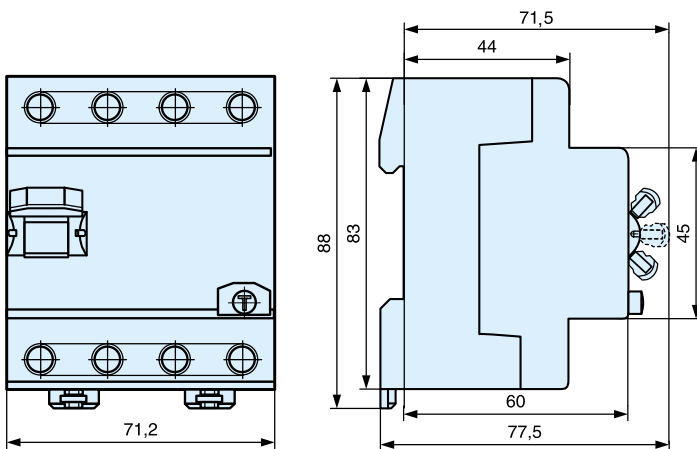
2 pole RCCB



Shunt trip release unit



4 pole RCCB



Auxiliary and fault signalling
changeover switch

