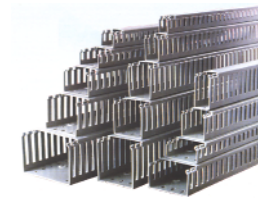
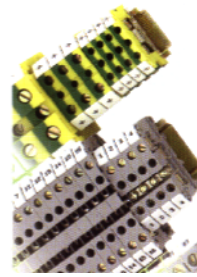


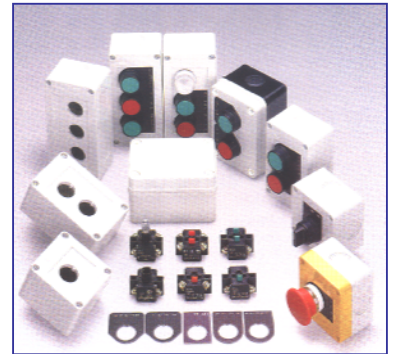
Crompton Greaves



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Ø 22mm Control & indicating units



**Crompton
Greaves**



NON – ILLUMINATED ACTUATORS

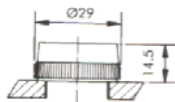
ACTUATORS & INDICATORS

Actuators and Indicators are used in control circuits for direct and remote management of operations, vital for Industries, Commercial Establishments and Domestic Installations. The range offers reliability, critical to operational control, together with flexibility so important to Panel Assemblers, with the standardised modular construction.

The Actuators and Indicators together with Contact Blocks, Bulb Holders and Integral Indicators and Actuators conform to international standards and are certified to carry the following applicable International Certification Marks.



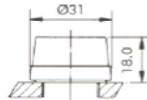
- All Actuators and Indicators except Integral Indicators and LED Indicators are supplied with First Row Clip as shown.
- All Actuators having black ABS collar denoted by 'C' in the Cat. Ref. also offer the following factory fitted collar options :
 Chrome Plated ABS Collar : Replace 'C' by 'A' in Cat. No.
 Grey ABS Collar : Replace 'C' by 'D' in Cat. No.
 Chrome Plated Brass : Replace 'C' by 'B'
- The Actuator and Indicator fronts are IP65 and IP67 with shroud, except Illuminated Symmetric Head, Lever Head, Tip Head and Lock & Key types due to their inherent construction.
- The key is withdrawable in 'O' position for Lock & Key Head Actuators as a standard feature. Key withdrawable in other positions is available on request.
- Symmetrical Head, Lever Head and Lock & Key Actuators are supplied with antirotation ring (for mounting, see drill plan on page 16).
- For Projecting Head "Push-Push" Actuator, cascading with Side Row Clip or Second Row Clip is not recommended.
- The Integral Indicators are suitable for 6V/12V/24V/48V/110V/240V AC/DC supply and for 2.6W max. bulb. Please specify voltage and type of supply along with the Cat. Ref.
- The Indicators and Illuminated Actuators do not include bulbs except LED Integral Indicators which include LED light source.



PUSH BUTTON ACTUATORS

Flush Head

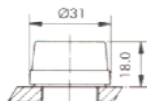
Colour	Red	Green	Black	Yellow	White	Blue	Orange
Cat. No.	HD15C1	HD15C2	HD15C3	HD15C4	HD15C5	HD15C6	HD15C7



PUSH BUTTON ACTUATORS

Transparent Shroud Flush Head

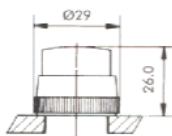
Colour	Red	Green	Black	Yellow	White	Blue	Orange
Cat. No.	HD25C1	HD25C2	HD25C3	HD25C4	HD25C5	HD25C6	HD25C7



PUSH BUTTON ACTUATORS

Rubber Shrouded Flush Head

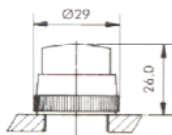
Colour	Red	Green	Black	Yellow	White	Blue	Orange
Cat. No.	HD35C1	HD35C2	HD35C3	HD35C4	HD35C5	HD35C6	HD35C7



PUSH BUTTON ACTUATORS

Projecting Head 'Push' Function

Colour	Red	Green	Black	Yellow	White	Blue	Orange
Cat. No.	HD45C1	HD45C2	HD45C3	HD45C4	HD45C5	HD45C6	HD45C7

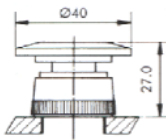
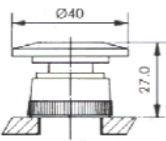
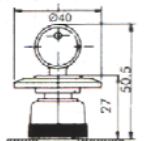
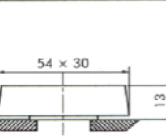
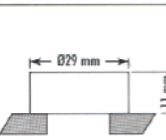


PUSH BUTTON ACTUATORS

Projecting Head 'Push-Push' Function

Colour	Red	Green	Black	Yellow	White	Blue	Orange
Cat. No.	HF45C1	HF45C2	HF45C3	HF45C4	HF45C5	HF45C6	HF45C7

NON – ILLUMINATED ACTUATORS

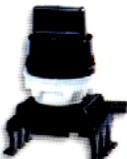
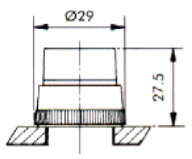
		<table><tr><th colspan="5">PUSH BUTTON ACTUATORS</th></tr><tr><td colspan="5">Mushroom Head Ø40mm.</td></tr><tr><td>Colour</td><td colspan="4">Red</td></tr><tr><td>Cat. No.</td><td colspan="4">HD55C1</td></tr></table>	PUSH BUTTON ACTUATORS					Mushroom Head Ø40mm.					Colour	Red				Cat. No.	HD55C1				<table><tr><th colspan="2">Exploded View</th></tr><tr><td></td><td>LENS CAP</td></tr><tr><td></td><td>COLLAR</td></tr><tr><td></td><td>LENS</td></tr><tr><td></td><td>RING</td></tr><tr><td></td><td>SEALING GROMMET</td></tr><tr><td></td><td>SPRING</td></tr><tr><td></td><td>OPERATING HEAD</td></tr><tr><td></td><td>SEALING RING</td></tr><tr><td></td><td>LOCKING NUT</td></tr><tr><td></td><td>FIRST ROW CLIP</td></tr></table>	Exploded View			LENS CAP		COLLAR		LENS		RING		SEALING GROMMET		SPRING		OPERATING HEAD		SEALING RING		LOCKING NUT		FIRST ROW CLIP
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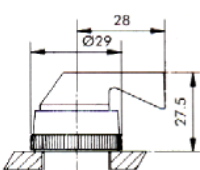
Flush Head Push Button Actuator

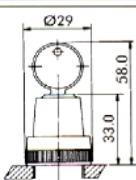
The Compact Integral Actuators are suitable for mounting on Push Button Stations due to lower height.

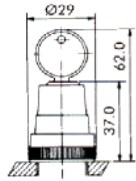
NON – ILLUMINATED ACTUATORS

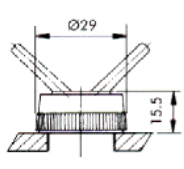
2 POSITION				3 POSITION			
Non Spring Return		Spring Return		Non Spring Return	With Spring Return	Spring Return from L.H	Spring Return from R.H

 	SELECTOR ACTUATORS								
	Symmetric Head								
		2 POSITION				3 POSITION			
	Colour	Cat. No.				Cat. No.			
Red	HK65C1	HR65C1	HT65C1	HI65C1	HL65C1	HJ65C1	HM65C1	HN65C1	
Black	HK65C3	HR65C3	HT65C3	HI65C3	HL65C3	HJ65C3	HM65C3	HN65C3	
White	HK65C5	HR65C5	HT65C5	HI65C5	HL65C5	HJ65C5	HM65C5	HN65C5	

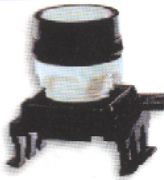
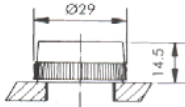
 	SELECTOR ACTUATORS								
	Lever Head								
		2 POSITION				3 POSITION			
	Colour	Cat. No.				Cat. No.			
Red	HK75C1	HR75C1	HT75C1	HI75C1	HL75C1	HJ75C1	HM75C1	HN75C1	
Black	HK75C3	HR75C3	HT75C3	HI75C3	HL75C3	HJ75C3	HM75C3	HN75C3	
White	HK75C5	HR75C5	HT75C5	HI75C5	HL75C5	HJ75C5	HM75C5	HN75C5	

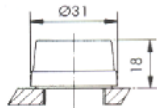
 	SELECTOR ACTUATORS								
	Lock & Key Head 'Rotary' Type								
		2 POSITION				3 POSITION			
	Cat. No.	HK85C3	HR85C3	HT85C3	HI85C3	HL85C3	HJ85C3	HM85C3	HN85C3

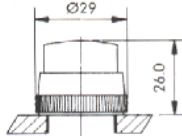
 	SELECTOR ACTUATORS								
	Lock & Key Head 'Push Turn' Type								
		2 POSITION				3 POSITION			
	Cat. No.	HH85C3				N.A	N.A	N.A	N.A

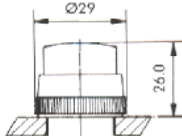
 	SELECTOR ACTUATORS								
	Tip Head								
		2 POSITION				3 POSITION			
	Colour	Cat. No.				Cat. No.			
Red	HP95C1				N.A.				
Green	HP95C2				N.A.				
Black	HP95C3				N.A.				
White	HP95C5				N.A.				

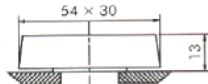
ILLUMINATED ACTUATORS

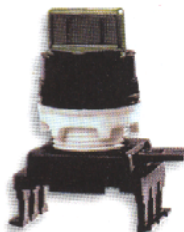
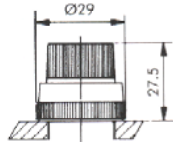
	
PUSH BUTTON ACTUATORS	
Flush Head	
Colour	Red Green Yellow Opal Blue Orange Colourless
Cat. No.	HD16C1 HD16C2 HD16C4 HD16C5 HD16C6 HD16C7 HD16C8

	
PUSH BUTTON ACTUATORS	
Transparent Shroud Flush Head	
Colour	Red Green Yellow Opal Blue Orange Colourless
Cat. No.	HD26C1 HD26C2 HD26C4 HD26C5 HD26C6 HD46C7 HD46C8

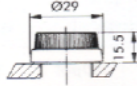
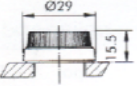
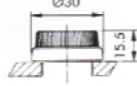
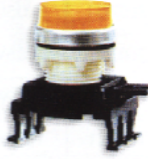
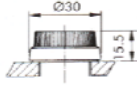
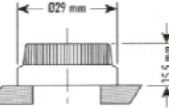
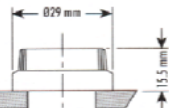
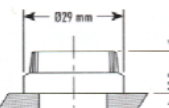
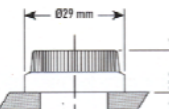
	
PUSH BUTTON ACTUATORS	
Projecting Head 'Push' Function	
Colour	Red Green Yellow Opal Blue Orange Colourless
Cat. No.	HD46C1 HD46C2 HD46C4 HD46C5 HD46C6 HD46C7 HD46C8

	
PUSH BUTTON ACTUATORS	
Projecting Head 'Push-Push' Function	
Colour	Red Green Yellow Opal Blue Orange Colourless
Cat. No.	HF46C1 HF46C2 HF46C4 HF46C5 HF46C6 HF46C7 HF46C8

	
PUSH BUTTON ACTUATORS	
Twin - Touch Flush	
Colour	Green / Red ON : GREEN OFF : RED
Cat. No.	HD16G4 Yellow Pilot Light between Red & Green
Cat. No.	HD16G7 Orange Pilot Light between Red & Green
Cat. No.	HD16G8 Colourless Pilot Light between Red & Green

	
SELECTOR ACTUATORS	
Symmetric Head	
POSITION	2 POSITION 3 POSITION
	Non Spring Return Spring Return Non Spring Return With Spring Return Spring Return From L.H Spring Return From R.H
	       
Colours	Cat. No. Cat. No. Cat. No. Cat. No. Cat. No. Cat. No. Cat. No. Cat. No.
Red	HK66C1 HR66C1 HT66C1 HI66C1 HL66C1 HJ66C1 HM66C1 HN66C1
Green	HK66C2 HR66C2 HT66C2 HI66C2 HL66C2 HJ66C2 HM66C2 HN66C2
Opal	HK66C5 HR66C5 HT66C5 HI66C5 HL66C5 HJ66C5 HM66C5 HN66C5
Colourless	HK66C8 HR66C8 HT66C8 HI66C8 HL66C8 HJ66C8 HM66C8 HN66C8

INDICATORS

 	INDICATORS							
	Without Trim Collar (Plain Lens)							
	Colour	Red	Green	Yellow	Opal	Blue	Orange	Colourless
 	INDICATORS							
	Without Trim Collar (Ribbed Lens)							
	Colour	Red	Green	Yellow	Opal	Blue	Orange	Colourless
 	INDICATORS							
	With Trim Collar (Plain Lens)							
	Colour	Red	Green	Yellow	Opal	Blue	Orange	Colourless
 	INDICATORS							
	With Trim Collar (Ribbed Lens)							
	Colour	Red	Green	Yellow	Opal	Blue	Orange	Colourless
  	INTEGRAL INDICATORS (DIRECT SUPPLY 6V - 240V AC)							
	With ribbed lens, white body; without trim collar							
	Colour	Red	Green	Yellow	Opal	Blue	Orange	Clear
  	INTEGRAL INDICATORS (DIRECT SUPPLY 6V - 240V AC)							
	With plain lens, white body; without trim collar							
	Colour	Red	Green	Yellow	Opal	Blue	Orange	Clear
  	INTEGRAL INDICATORS (DIRECT SUPPLY 6V - 240V AC)							
	With plain lens, trim collar and white body							
	Colour	Red	Green	Yellow	Opal	Blue	Orange	Clear
  	INTEGRAL INDICATORS (DIRECT SUPPLY 6V - 240V AC)							
	With ribbed lens, trim collar and white body							
	Colour	Red	Green	Yellow	Opal	Blue	Orange	Clear
	Cat. No.	HV03E1	HV03E2	HV03E4	HV03E5	HV03E6	HV03E7	HV03E8

INDICATOR, CONTACT BLOCKS BULB HOLDER BLOCKS

New!

LED INTEGRAL INDICATORS						
With ribbed lens, white body, without trim collar						
Colour	Red	Green	Yellow	Blue	Orange	Opal
12V AC/DC	HSO3F1T1	HSO3F2T1	HSO3F4T1	HSO3F6T1	HSO3F7T1	HSO3F5T1
24V AC/DC	HSO3F1U1	HSO3F2U1	HSO3F4U1	HSO3F6U1	HSO3F7U1	HSO3F5U1
48V AC/DC	HSO3F1V1	HSO3F2V1	HSO3F4V1	HSO3F6V1	HSO3F7V1	HSO3F5V1
110V AC	HSO3F1W1	HSO3F2W1	HSO3F4W1	HSO3F6W1	HSO3F7W1	HSO3F5W1
240V AC	HSO3F1X1	HSO3F2X1	HSO3F4X1	HSO3F6X1	HSO3F7X1	HSO3F5X1

MODULAR CONTACT BLOCKS, NO	MODULAR CONTACT BLOCKS, NC	MODULAR DUMMY BLOCKS
Cat No. HC61A2  Green Tip, Black Body.	Cat No. HC61B2  Red Tip, Black Body.	Cat No. HC71C2  Assembly module for Indicators or Illuminated Actuators with Transformer Block

CLIPS FOR MODULAR BLOCKS		
3 Module First Row Clip Cat.No. HC922002 	3 Module Second Row Clip Cat.No. HC122030 	Side Row Clip Cat.No. HC929002 
	For Vertical Cascading	For Horizontal Cascading

MODULAR BULB HOLDER BLOCKS			
	Direct supply to bulb, 2.6W max.	130V, 20mA Bulb for 110V AC/DC supply	With series R & diode for 130V, 20mA Bulb & 240V AC supply
			
	HC61R1	HC61W1	HC61X1

CONTACT BLOCKS FOR PUSH BUTTON STATIONS

Cat.No.	HC22A2	HC22B2	HC22C2	HC22D2	HC22E2
Function	NO	NC	1 NO+1 NC	2 NO	2 NC
Tip Color	Green	Red	Green/Red	Both Green	Both Red

BULB HOLDER BLOCKS FOR PUSH BUTTON STATIONS

Bulb holder, without bulb, with resistor and 1NO contact

Supply	6V AC/DC		24V AC/DC		110V AC/DC	6V-240V AC
Cat. No.	HC12H1		HC12J1		HC12L1	HC22Y1*

Bulb holder, without bulb, with resistor, diode & 1NO contact, to be used with 130V, max 20mA (BA9S) bulb

Supply	240V AC/DC	Cat. No.	HC22N1
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Bulb holder, without bulb for direct supply

Supply	6V - 240V AC/DC	Cat. No.	HC22R1
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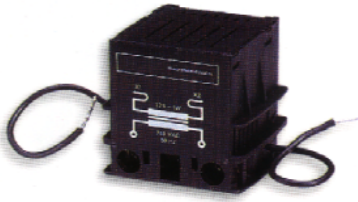
Bulb holder, without bulb, with resistor and 1NC contact

Contact	6V AC/DC	12V AC/DC	24V AC/DC	48V AC/DC	110V AC/DC	6V-240V AC
Cat. No.	HC12M1	HC12N1	HC12O1	HC12P1	HC12Q1	HC22Z1*

Bulb holder, without bulb, with resistor, diode & 1NC contact, to be used with 130V, max 20mA (BA9S) bulb

Supply	240V AC/DC	Cat. No.	HC22O1
--------	------------	----------	--------

TRANSFORMER BLOCKS AND ACCESORIES

	MODULAR TRANSFORMER BLOCKS									
	Mounting possibilities : 1. On second row or 2. On first row along side bulb holder									
	Cat No.	HC51W1	HC51X1	HC52W1	HC52X1					
	Primary	110V	240V	110V	240V					
	Secondary	6V	6V	12V	12V					
VA	1.0	1.0	1.0	1.0						

	Lens Cap for Flush Head Actuators (Non-Illuminated)									
	Colour	Red	Green	Black	Yellow	Opal	Blue	Orange	White	Colourless
	Cat.No.	HB103002	HB104000	HB102006	HB105008	N. A.	HB107010	HB108012	HB101004	N. A.

	Lens Cap for Flush Head Actuators (Illuminated)									
	Colour	Red	Green	Black	Yellow	Opal	Blue	Orange	White	Colourless
	Cat.No.	HB103103	HB104101	N. A.	HB105109	HB101105	HB107111	HB108113	N. A.	HB100107

	Lens for Indicator with Trim Collar (Plain)							
	Colour	Red	Green	Yellow	Opal	Blue	Orange	Colourless
	Cat.No.	HE903102	HE904103	HE905104	HE901105	HE907106	HE908107	HE900100

	Lens for Indicator with Trim Collar (Ribbed)							
	Colour	Red	Green	Yellow	Opal	Blue	Orange	Colourless
	Cat.No.	HE903108	HE904109	HE905110	HE901111	HE907112	HE908113	HE900101

	Lens for Indicator without Trim Collar (Plain)							
	Colour	Red	Green	Yellow	Opal	Blue	Orange	Colourless
	Cat.No.	HE103102	HE104103	HE105104	HE101105	HE107106	HE108107	HE100100

	Lens for Indicator without Trim Collar (Ribbed)							
	Colour	Red	Green	Yellow	Opal	Blue	Orange	Colourless
	Cat.No.	HE103108	HE104109	HE105110	HE101111	HE107112	HE108113	HE100101

Locking Nut (Chrome Plated Brass)	Extended Collar (Chrome Plated Brass)	Gray Collar	Selector Switch Shroud
			
Colour Chrome	Colour Chrome	Colour Gray	Colour Yellow
Cat. No. HB326002	Cat. No. HB326001	Cat. No. HB199000	Cat. No. HB105006

FIXING DEVICE	LAMP EXTRACTOR
	
Cat. No. HH192000	Cat. No. HH157000

ACCESSORIES

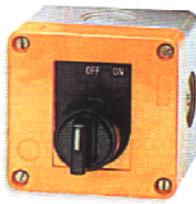
FILAMENT LAMPS BA 9S - 11 × 28 max. 		ANTIROTATION RING 	TRANSPARENT SHROUD 	RUBBER SHROUD 										
Ratings	Cat. No.	Cat. No.	Cat. No.	<table><tr><td>Colour</td><td>Cat. No.</td></tr><tr><td>Red</td><td>HH152002</td></tr><tr><td>Green</td><td>HH153003</td></tr><tr><td>Black</td><td>HH154004</td></tr><tr><td>Yellow</td><td>HH155005</td></tr></table>	Colour	Cat. No.	Red	HH152002	Green	HH153003	Black	HH154004	Yellow	HH155005
Colour	Cat. No.													
Red	HH152002													
Green	HH153003													
Black	HH154004													
Yellow	HH155005													
6V 2W VAC/DC	HC550001	HH180004	HH150100											
12V 2W VAC/DC	HC550002													
24V 2W VAC/DC	HC550003													
48V 2W VAC/DC	HC550004													
130V 20mA suitable for 110 VAC/DC (or 240 VAC with series resistor and diode)	HC550005													
COLLAR  Only for, flush and projecting head push function actuators		ADAPTOR RING (For 30 to 22 mm Panel cutout conversion) 												
Material	Cat. No.	Colour	FRONT AND REAR											
Chrome Plated ABS	HB196000	Gray	HH180000 & 1											
Chrome Plated Brass	HB326000	Black	HH182004 & 5											
Black ABS	HB192000	Chrome Plated	HH196006 & 7											

MODELO	LEYENDA	DESCRIPCION	APARIENCIA
HH2420102	OFF	Letras verticales	 
HH2420103	ON		
HH2420108	REVERSA		
HH2420110	LENTO		
HH2420111	MARCHA		
HH2420112	PARADA		
HH2420113	SUBIR		
HH2420114	AUTO		
HH2420116	BAJAR		
HH2420117	PARADA DE EMERGENCIA		
HH2420118	FALLA		
HH2420119	RAPIDO		
HH2420120	AVANCE	Letras horizontales	 
HH2420202	OFF		
HH2420203	ON		
HH2420208	REVERSA		
HH2420210	LENTO		
HH2420211	MARCHA		
HH2420212	PARADA		
HH2420213	SUBIR		
HH2420214	AUTO		
HH2420216	BAJAR		
HH2420217	PARADA DE EMERGENCIA		
HH2420218	FALLA		
HH2420219	RAPIDO		
HH2420220	AVANCE		
HH2420229	MANUAL-AUTO		
HH2420236	OFF-ON		
HH2420237	ABRIR-CERRAR		
HH2420240	MARCHA-PARADA		
HH2420241	SUBIR-BAJAR		
HH2420242	AVAN-PARADA-REV		
HH2420243	MANUAL-OFF-AUTO		

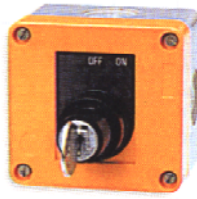
PUSH BUTTON STATIONS



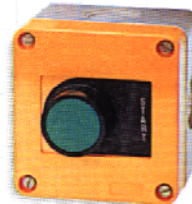
HF 995001



JAH20000



JAI20000



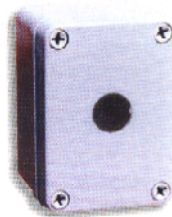
JAB20000



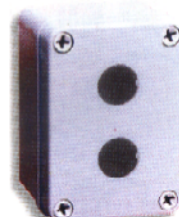
JAE10000



HF999000



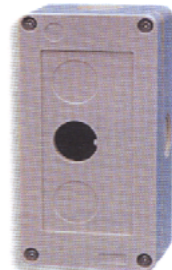
HF999001



HF999002



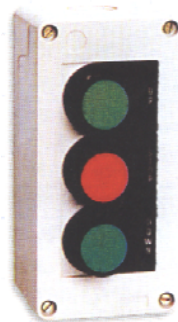
HF 999005



HF 999003



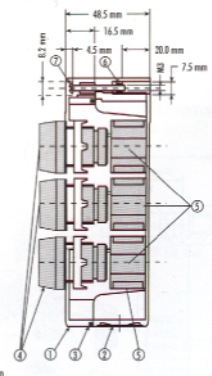
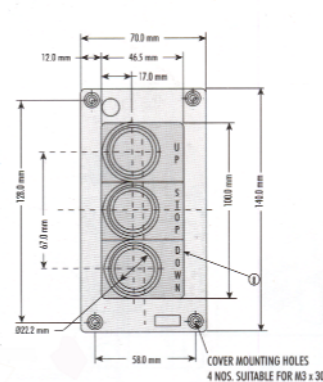
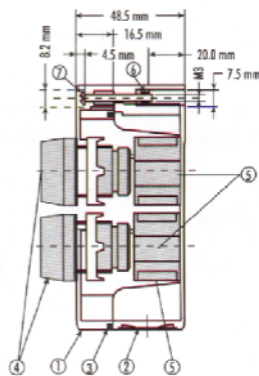
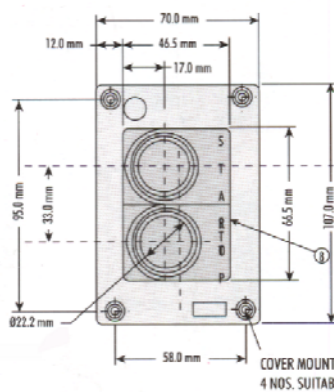
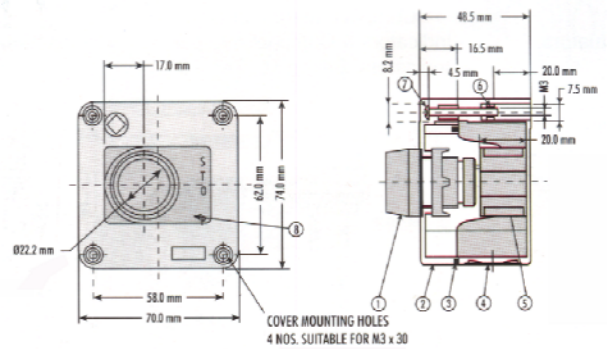
JCZ4B2A1



JEB2A1B2



JBB2A100



1. ENCLOSURE COVER
2. ENCLOSURE BOX
3. GASKET
4. ACTUATORS

5. CONTACT ELEMENTS
6. HEX. NUT
7. SCREWS M3 X 30
8. METAL PLATES

CAM OPERATED ROTARY SWITCHES

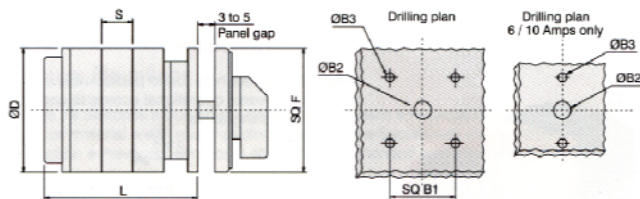


CAM SWITCHS

Tipos de montajes



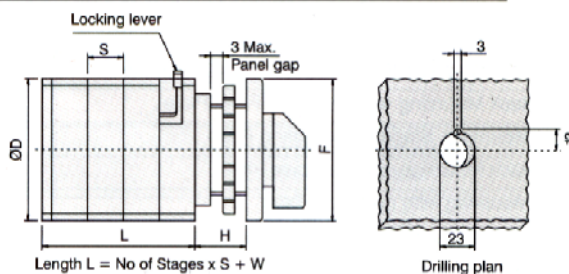
B03
Montaje 4 tornillos



Length L = No of Stages of Prog x S + W

Protección del Frontal: IP 55

TYPE	B1	B2	B3	D	F	S	W	Max
S6/S10/TP6/	20	9	4.5	33	32	9.5	18.5	12
S16/TP16/	36	12	4.5	46	48	12	26	21
S25/S32/	48	12	5.5	52	64	15	27	15
S40/S63/	68	15	5.5	76	88	21	33	10
S80/S100/S125	68	15	5.5	92	88	26	40	10
S200	68	15	5.5	88	88	32	40	10
S400	68	15	5.5	88	88	64	40	4



Length L = No of Stages x S + W

Protección del Frontal: IP 65

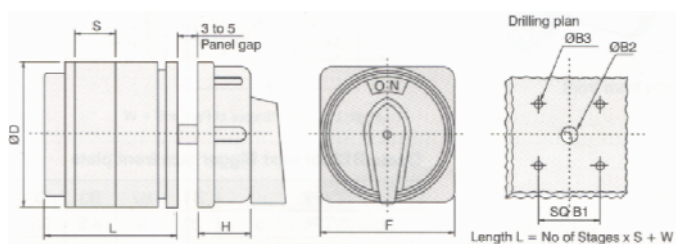
TYPE	CODE	D	F	S	H	W	Max
S6/S10/TP16	B19	33	32	9.5	10	28.5	12
	B14	33	48	9.5	13	28.5	12
S16/TP16	B19	46	48	12	13	36	21
S25/S32	B19	52	48	15	13	37	15



B19
Montaje Ø22 mm



B33
Bloqueo con candado



Length L = No of Stages x S + W

Protección del Frontal: IP 55

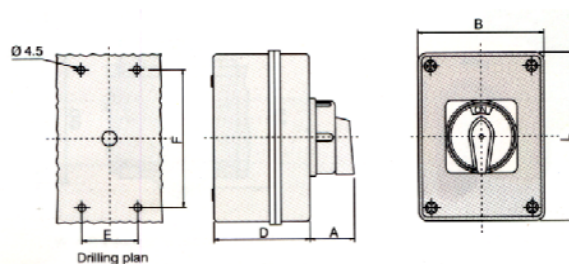
TYPE	B1	B2	B3	D	F	H	S	W	Max
TP16	36	12	4.5	46	65	26	12	26	12
S25/S32/	36	12	4.5	52	65	26	15	27	8
S40/S63/	68	15	5.5	76	95	31	21	33	6

Colores Disponibles: Frontal Plateado - Actuador Negro / Frontal Amarillo - Actuador Rojo

CAM SWITCHES



B31



TYPE	A	L	B	D	E	F	Stages
TP16	42	110	80	66	60	90	3
S25/S32	42	125	100	70	80	115	2
S40/S63	48	175	125	90	105	155	2

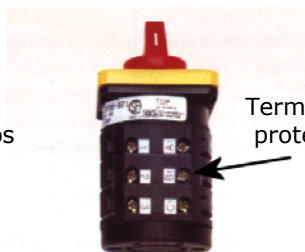
Protección de terminales

S Series



Terminales no protegidos

TP Series



Terminales protegidos

- Available from 6 to 400 Amp.
- Open terminals for easy accessibility.

- Available from 6 to 16 Amp.
- "Touch Proof" (finger protected) terminals (IP 20)

Tipos de Frontales

CODE - YR



Yellow Front Plate
Red Knob

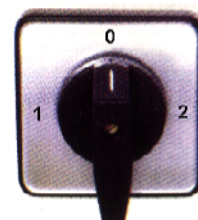
CODE - AB



Aluminium Foil Front Plate
with Black Knob

Tipos de conmutadores

PROG NO.	DESCRIPTION	SCRIPT PLATE MARKING/ OPERATING QUADRANT	CONNECTING DIAGRAM/ TERMINAL MARKING	NO. OF STAGES
61003	on-off switch 60°			3
61199	on-off switch 90°			3
61153	1-0-2 switch 90°			3



CAM SWITCHES

CONMUTADORES PARA MEDICIÓN

AMPERÍMETRO



TP 16 61325

VOLTIMETRO



TP 16 61312

VOLTIMETRO

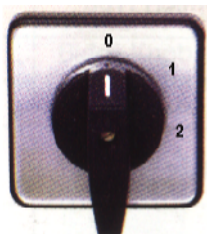


TP 16 61313

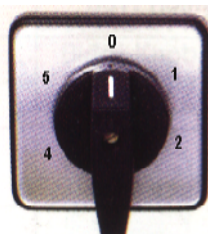
MONTAJE B19

PROG NO.	DESCRIPTION	SCRIPT PLATE MARKING/ OPERATING QUADRANT	CONNECTING DIAGRAM/ TERMINAL MARKING	NO. OF STAGES
61325	1 Pole - 3 Transformer with OFF			3
61313	3 ph Line to Line & Line to Neutral			3
61312	3 ph Line to Line			2

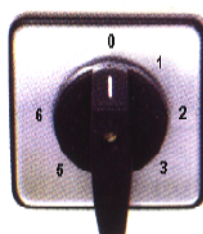
CONMUTADORES MULTIPASOS



TP16 61059



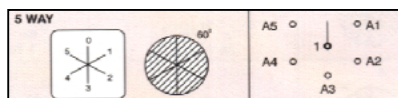
TP16 61062



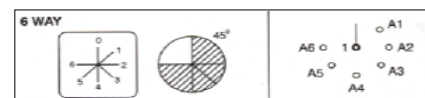
TP16 61065



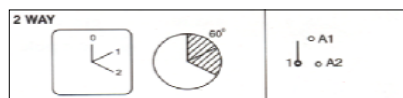
TP16 61060



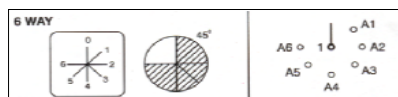
TP16 61063



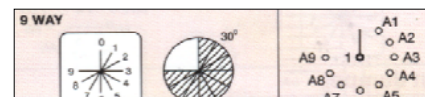
TP16 61066



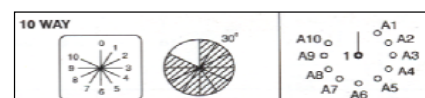
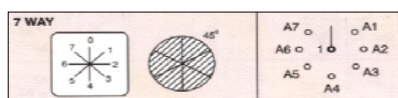
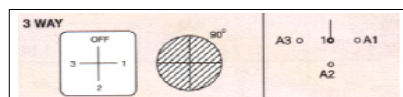
TP16 61061



TP16 61064

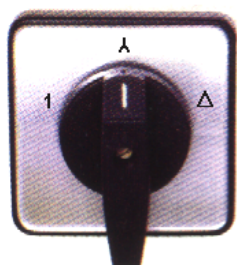


TP16 61067

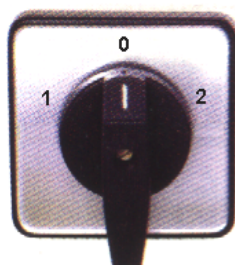


MONTAJE B19

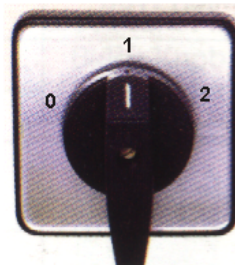
CAM SWITCHS



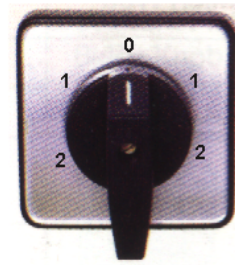
S (25 - 200 A) 61200
Arranque Estrella-Triángulo



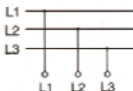
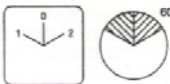
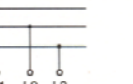
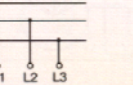
S (25 - 400 A) 61211
Inversor de Giro



S (25 - 200 A) 61212
Dos Velocidades



S (25 - 200 A) 61217
Dos Velocidades con
Inversor de giro

PROG NO.	DESCRIPTION	SCRIPT PLATE MARKING/ OPERATING QUADRANT	CONNECTING DIAGRAM/ TERMINAL MARKING	NO. OF STAGES
61200	OFF - STAR - DELTA			4
61211	Motor Reversing			3
61212	2 Speed Single Winding			4
61217	2 Speed Single Winding Reversing			6

TECHNICAL SPECIFICATIONS

AC Rating Code	Unit	S6 TP6	S10 TP10	S16 TP16	S25	S32	S40	S63	S80	S100	S125	S200	S400
Rated Operational Current (Ie) AC21A / AC1	A	6	10	16	25	32	40	63	80	100	125	200	320
Rated Operational Voltage (Ue)	V	440	440	690	690	690	690	690	690	690	690	690	690
Isolating Voltage upto (Uiso)	V	250	250	415	415	415	500	500	690	690	690	690	690
Impulse withstand Voltage (Uimp)	kV	4	4	6	6	6	6	6	6	6	6	6	6
Rated Uninterrupted Current (Ith)	A	8	12	20	32	40	50	80	100	125	150	225	425
Rated Operational Power													
AC23A 3 Phase	kW	1	1.8	3	5.5	7.5	11	15	22	30	31	37	-
380 - 440V	kW	2.2	3	7.5	11	15	18.5	22	33	41	45	55	-
500 - 690V	kW	-	-	7.5	11	15	18.5	22	30	37	41	45	-
AC3 3 Phase	kW	0.25	0.37	0.55	1.5	2.2	2.5	3	-	-	8.3	-	-
110V	kW	0.8	1.5	2.2	4	5.5	7.5	15	18.5	22	17.2	22	-
220 - 240V	kW	1.5	3	5.5	7.5	11	15	18.5	22	33	37	45	-
380 - 440V	kW	-	-	5.5	7.5	11	15	18.5	22	33	37	45	-
500 - 690V	kW	-	-	-	-	-	-	-	-	-	-	-	-
Short Circuit Capacity													
Fuse Size (Type gG/gM)	A	6	10	16	25	32	40	63	80	100	125	200	400
Rated Fuse Short Circuit Current	kA	3	3	5	10	10	20	20	25	25	25	25	50
DC Rating													
DC1 (Power) 48V	A	6	10	16	25	32	40	63	80	100	125	160	250
DC13 (Control) 24V	A	4	6	16	25	32	40	63	80	100	125	160	250
Terminal Cross Section													
Single / Multiple	mm ²	0.7	0.7	1.5	1.5	2.5	2.5	4	6	10	10	10	20
min	mm ²	1.5	1.5	4	4	6	10	16	25	35	50	70	140
max	mm ²	0.7	0.7	1	1	1.5	2.5	2.5	6	10	10	10	20
Fine strand with sleeve	mm ²	1.5	1.5	2.5	2.5	4	6	10	16	25	35	50	100
max	mm ²	M3	M3	M3.5	M4	M4	M5	M5	2 x M5	2 x M5	2 x M5	M10	M10
Terminal screw	Metric	M3	M3	M3.5	M4	M4	M5	M5	2 x M5	2 x M5	2 x M5	M10	M10
Terminal Tightening Torque	NM	0.5	0.5	0.8	1.2	1.2	2	2	2.5	2.5	2.5	2.5	4

Switch life under standard operating conditions : Mechanical : 100,000 operations @ 300 cycles / hour Electrical : 10,000 operations at 100 % rated duty for 120 cycles / hour

CSA / UL RATINGS



Conformance to standards :

European : IEC-60947-1 : 1988

IEC-60947-3 : 1990

IEC-60947-5 : 1992

Canadian : CSA 22.2 No.14-1991

American : UL 508 (1994)

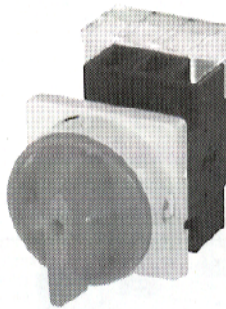
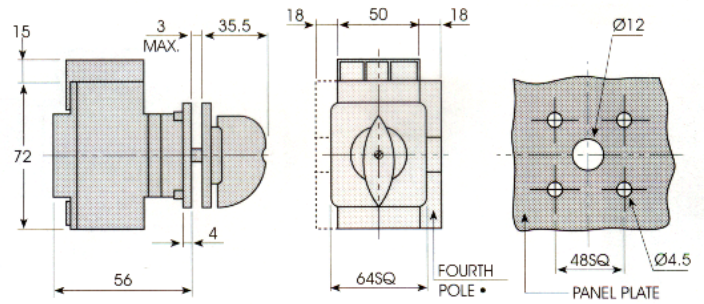
AC Rating Code	Unit	S6	S10	TP16	S25	S32	S40	S63	S80	S100	S200
Ampere Rating	A	6	10	15	20	30	40	55	70	95	175
Operational Voltage	V	300	300	300	600	600	600	600	600	600	600
HP Rating 1 phase	HP	0.25	0.33	0.33	1	1	2	3	-	-	-
120V	HP	0.50	0.75	1	3	3	5	7.5	-	-	-
240V	HP	0.75	1	2	2	2	5	7.5	10	15	20
3 phase	HP	1	1	2	5	5	10	15	20	25	25
120V	HP	-	-	-	10	10	20	30	40	50	50
240V	HP	-	-	-	15	15	24	40	50	50	50
480V	HP	-	-	-	-	-	-	-	-	-	-
600V	HP	-	-	-	-	-	-	-	-	-	-

Note :- AC4 Rating = AC3 rating / 2, Star Delta Rating = 1.6 X AC3 Rating

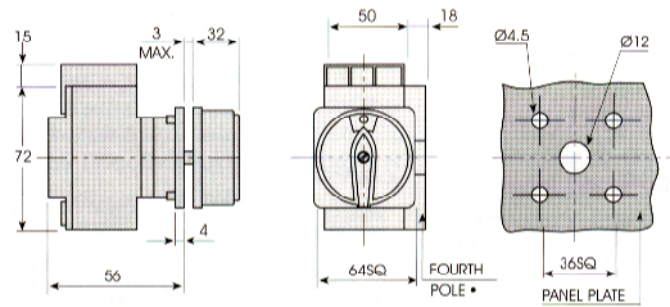
LOAD BREAK SWITCHES



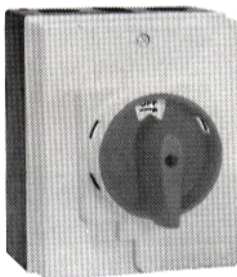
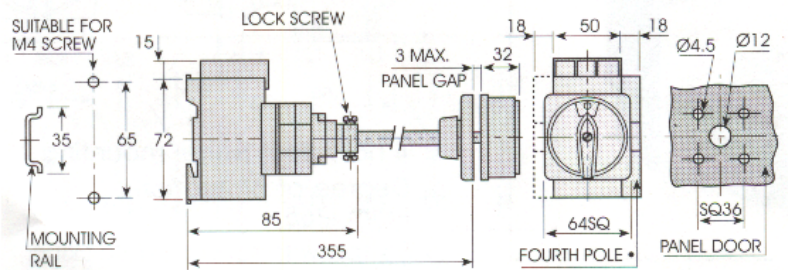
B13



B33

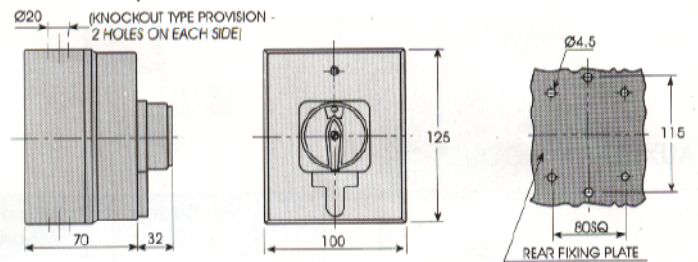


MB34



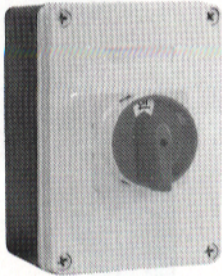
B31SM

Up to 32 Amps, 4 Pole

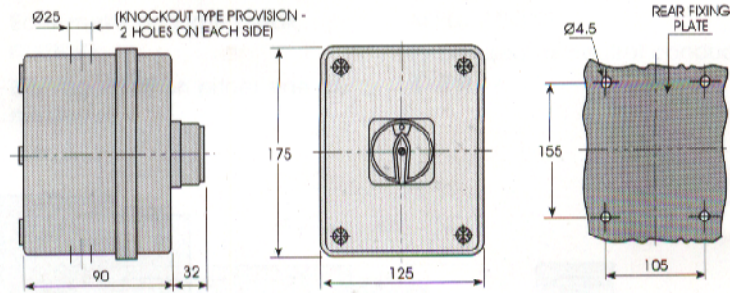


LOAD BREAK SWITCHS

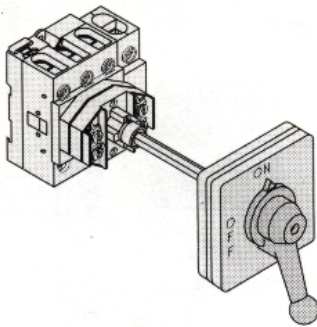
B31M



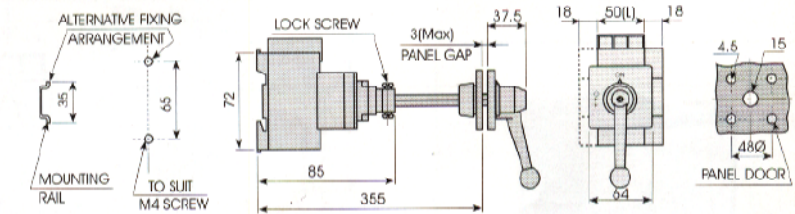
Up to 63 Amps, 5 Pole



MB42



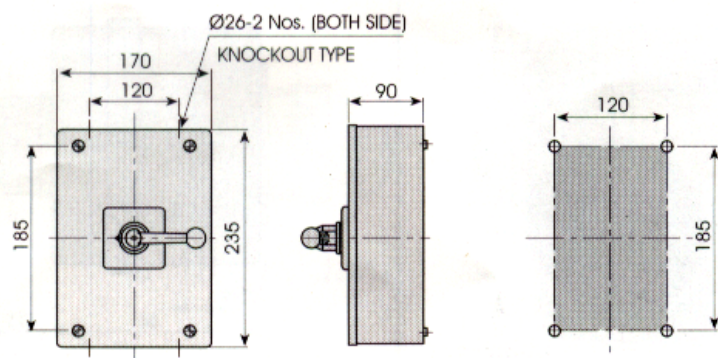
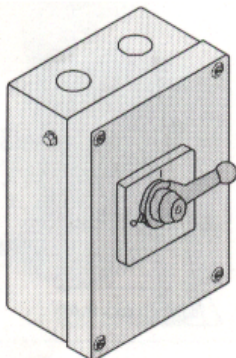
25A-63A



Note : 6 pole Switch shall have L as 100.5 mm and 8 pole Switch shall have total width of 136.5 mm.

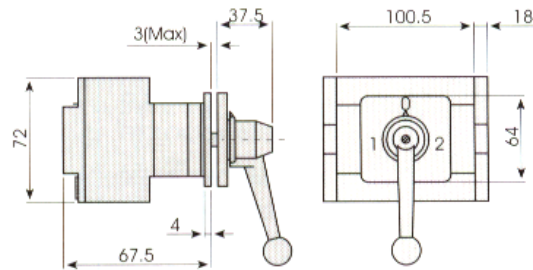
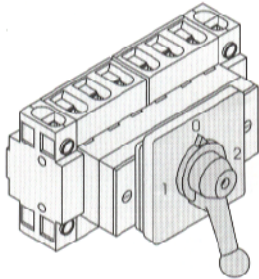
B31L

80 - 125 Amps, 5 Pole

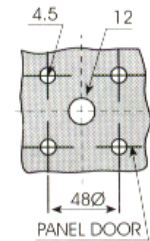


LOAD BREAK SWITCHES

B13 (31153)

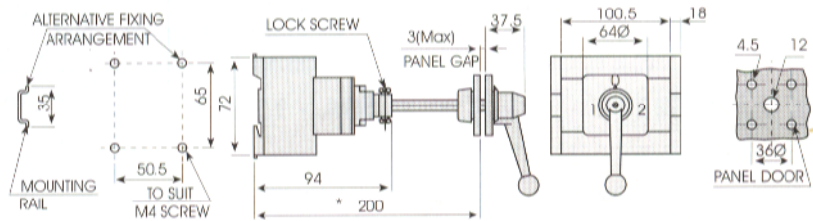
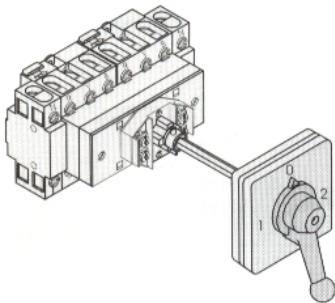


4 Hole Front Panel Mounting.

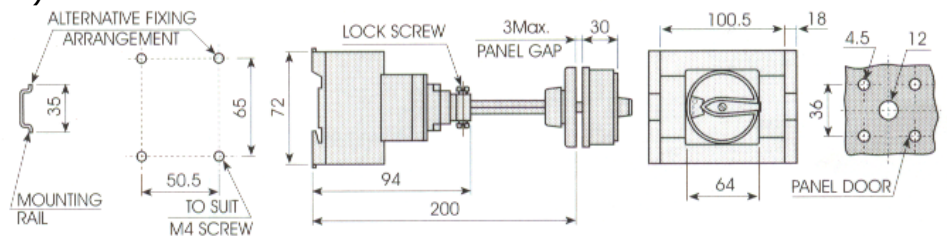
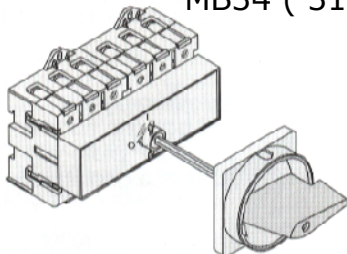


Degree of Protection:
Front IP55.

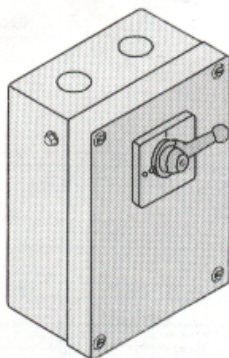
MB42 (31153)



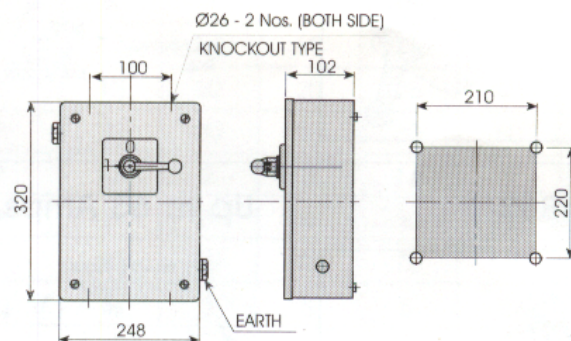
MB34 (31153)



80A - 125A



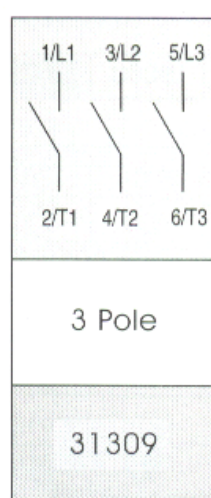
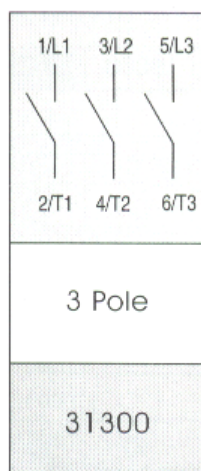
SB31L (31153)



LOAD BREAK SWITCHS

Technical Data

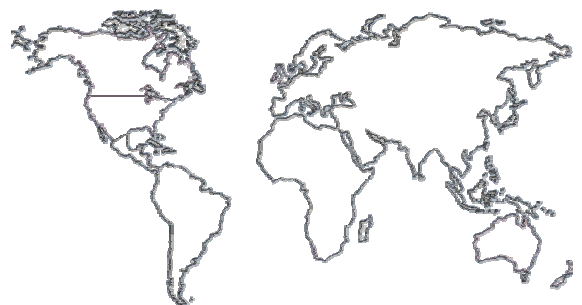
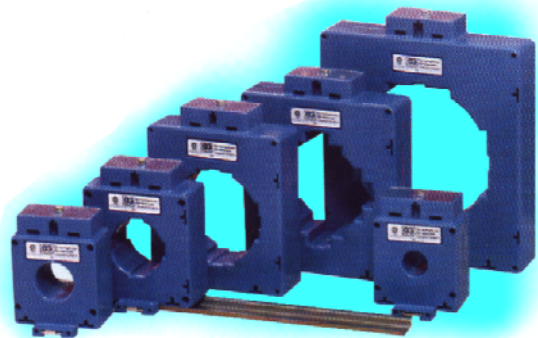
Technical Data / Product Code			LB225	LB232	LB240	LB263	LB080	LB100	LB125
Rated operational voltage U _e									
IEC / EN / VDE	V		690	690	690	690	690	690	690
UL / CSA	V		600	600	600	600	600	600	600
Main switch : Isolating voltage up to	V		750	750	750	750	750	750	750
Resistance to surge pulse voltage U _{imp}	KV		6	6	6	6	6	6	6
Rated uninterrupted current I _u	A		25	32	40	63	80	100	125
Rated operational current I _e									
AC-21A, IEC / EN / VDE	A		25	32	40	63	80	100	125
AC-1, IEC / EN / VDE	A		25	32	40	63	80	100	125
UL / CSA	A		25	32	40	63	80	100	125
IEC / EN / VDE RATINGS (POWER)									
AC-23A, 3Phase, 3Pole	220-240V	kW	5.5	7.5	11	15	18.5	22	30
	380-440V	kW	11	15	18.5	30	30	37	45
	500-690V	kW	11	15	22	30	37	45	55
AC-3, 3Phase, 3Pole	220-240V	kW	4	5.5	7.5	11	15	18.5	22
	380-440V	kW	7.5	11	18.5	22	22	30	37
	500-690V	kW	11	11	18.5	22	30	37	45
Max. Fuse size (Type gL)	A		25	32	40	63	80	100	125
Rated fused short circuit current	kA		30	30	30	30	30	30	30
UL / CSA RATINGS (POWER)									
DOL, 3Phase, 3Pole	120V	HP	3	3	5	7.5	7.5	10	15
	240V	HP	7.5	7.5	10	15	20	25	30
	480V	HP	15	20	20	25	40	50	60
	600V	HP	20	20	30	30	50	50	60
DOL, 1Phase	120V	HP	1.5	2	3	4.5	5	5	5
	240V	HP	2	3	4	6	10	15	15
Max.Fuse size (RK5)	A		50	50	70	70	100	100	125
Rated fused short circuit current	kA		5	5	5	5	5	5	5



CODE : 31153
3 POLE CHANGEOVER

OFF EB-GEN						
EB	X	X	X			
OFF						
GEN				X	X	X

PANEL METERS & CURRENT TRANSFORMERS



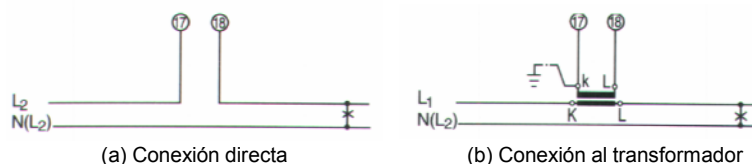
PANEL METER

AMPERÍMETROS AC HIERRO MÓVIL - EMPOTRABLES



MODELO	DIMENSION FRONTAL	DESCRIPCION
EQ 72 10/20 A-D	72 x 72	0 a 10/20A. Lectura Directa
EQ 72 20/40 A-D		0 a 20/40A. Lectura Directa
EQ 72 40/80 A-D		0 a 40/80A. Lectura Directa
EQ 72 60/120 A-D		0 a 60/120A. Lectura Directa
EQ 72 /5A WOS		0 a 5A. Sin escala
EQ 96 10/20 A-D	96 x 96	0 a 10/20A. Lectura Directa.
EQ 96 20/40 A-D		0 a 20/40A. Lectura Directa.
EQ 96 40/80 A-D		0 a 40/80A. Lectura Directa.
EQ 96 60/120 A-D		0 a 60/120A. Lectura Directa.
EQ 96 /5A WOS		0 a 5A. Sin escala

CONEXION DE TERMINALES

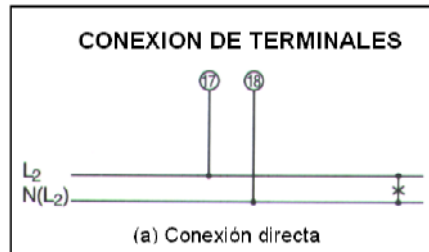
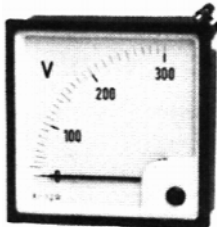


MODELO	DESCRIPCION
EQS72-50/100/5A	Rango dual: 0 a 50/100. Para amperímetro EQ 72 /5A + transformador
EQS72-60/120/5A	Rango dual: 0 a 60/120. Para amperímetro EQ 72 /5A + transformador
EQS72- 75/150/5A	Rango dual: 0 a 75/150. Para amperímetro EQ 72 /5A + transformador
EQS72-100/200/5A	Rango dual: 0 a 100/200. Para amperímetro EQ 72 /5A + transformador
EQS72-150/300/5A	Rango dual: 0 a 150/300. Para amperímetro EQ 72 /5A + transformador
EQS72-200/400/5A	Rango dual: 0 a 200/400. Para amperímetro EQ 72 /5A + transformador
EQS72-300/600/5A	Rango dual: 0 a 300/600. Para amperímetro EQ 72 /5A + transformador
EQS72-400/800/5A	Rango dual: 0 a 400/800. Para amperímetro EQ 72 /5A + transformador
EQS72-600/1200/5A	Rango dual: 0 a 600/1200. Para amperímetro EQ 72 /5A + transformador
EQS72-800/1600/5A	Rango dual: 0 a 800/1600. Para amperímetro EQ 72 /5A + transformador
EQS72-1000/2000	Rango dual: 0 a 1000/2000. Para amperímetro EQ 72 /5A + transformador
EQS72-1200/2400/5A	Rango dual: 0 a 1200/2400. Para amperímetro EQ 72 /5A + transformador
EQS72-1600/3200/5A	Rango dual: 0 a 1600/3200. Para amperímetro EQ 72 /5A + transformador
EQS72-2000/400/5A	Rango dual: 0 a 2000/4000. Para amperímetro EQ 72 /5A + transformador
EQS72-2500/5000/5A	Rango dual: 0 a 2500/5000. Para amperímetro EQ 72 /5A + transformador
EQS72-3000/6000/5A	Rango dual: 0 a 3000/6000. Para amperímetro EQ 72 /5A + transformador
EQS72-4000/8000/5A	Rango dual: 0 a 4000/8000. Para amperímetro EQ 72 /5A + transformador
EQS96-50/100/5A	Rango dual: 0 a 50/100. Para amperímetro EQ 96 /5A + transformador
EQS96-60/120/5A	Rango dual: 0 a 60/120. Para amperímetro EQ 96 /5A + transformador
EQS96-75/150/5A	Rango dual: 0 a 75/150. Para amperímetro EQ 96 /5A + transformador
EQS96-100/200/5A	Rango dual: 0 a 100/200. Para amperímetro EQ 96 /5A + transformador
EQS96-150/300/5A	Rango dual: 0 a 150/300. Para amperímetro EQ 96 /5A + transformador
EQS96-200/400/5A	Rango dual: 0 a 200/400. Para amperímetro EQ 96 /5A + transformador
EQS96-300/600/5A	Rango dual: 0 a 300/600. Para amperímetro EQ 96 /5A + transformador
EQS96-400/800/5A	Rango dual: 0 a 400/800. Para amperímetro EQ 96 /5A + transformador
EQS96-600/1200/5A	Rango dual: 0 a 600/1200. Para amperímetro EQ 96 /5A + transformador
EQS96-800/1600/5A	Rango dual: 0 a 800/1600. Para amperímetro EQ 96 /5A + transformador
EQS96-1000/2000/5A	Rango dual: 0 a 1000/2000. Para amperímetro EQ 96 /5A + transformador
EQS96-1200/2400/5A	Rango dual: 0 a 1200/2400. Para amperímetro EQ 96 /5A + transformador
EQS96-1600/3200/5A	Rango dual: 0 a 1600/3200. Para amperímetro EQ 96 /5A + transformador
EQS96-2000/4000/5A	Rango dual: 0 a 2000/4000. Para amperímetro EQ 96 /5A + transformador
EQS96-2500/5000/5A	Rango dual: 0 a 2500/5000. Para amperímetro EQ 96 /5A + transformador
EQS96-3000/6000/5A	Rango dual: 0 a 3000/6000. Para amperímetro EQ 96 /5A + transformador
EQS96-4000/8000/5A	Rango dual: 0 a 4000/8000. Para amperímetro EQ 96 /5A + transformador

PANEL METER

VOLTIMETROS AC - EMPOTRABLES

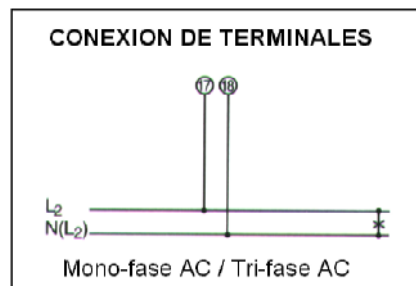
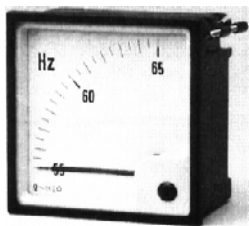
Clase 1.5 conforme a norma DIN 47380. Cubierta conforme a norma DIN 43700.



MODELO	DIMENSION FRONTAL	RANGO DE MEDICION
EQ 72 300V	72x72mm.	0 a 300V
EQ 72 500V		0 a 500V
EQ 96 300V	96x96mm.	0 a 300V
EQ 96 500V		0 a 500V

FRECUENCIMETROS - EMPOTRABLES

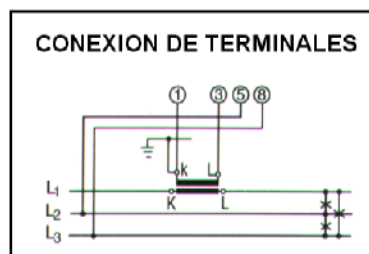
Clase 0.5 conforme a la norma DIN 47380. Cubierta conforme a norma DIN 43700.



MODELO	DIMENSION FRONTAL	RANGO DE MEDICION
ZQ 72 55-60-65Hz 220V	72x72mm.	55 a 65Hz. 220V
ZQ 96 55-60-65Hz 220V	96x96mm.	

MEDIDORES DE FACTOR DE POTENCIA

Clase 1.5 conforme a norma DIN 43780. Cubierta conforme a norma DIN 43700.

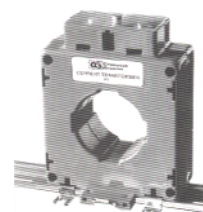


MODELO	DIMENSION	DESCRIPCION
CQ96D cap.0,5 - 1 - 0,5ind. 220V/5A.	96x96mm.	3 fases, 3 hilos, corriente balanceada Rango: cap.0,5 - 1 - 0,5 ind. 220V/5A. Frec.: 45...50...65Hz.

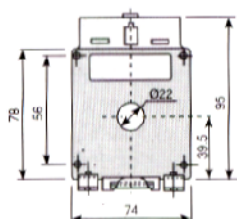
CURRENT TRANSFORMERS

TRANSFORMADOR DE CORRIENTE DE MONTAJE UNIVERSAL SERIE CGCT

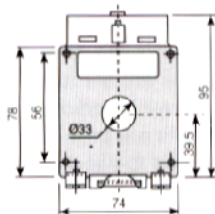
- Cumple con los estándares BS 7626 , 1993 e IEC 44, 19996
- Temperatura de operación : -20° C a 70°C
- Rigidez Di-eléctrica: 2,5 KV por un minuto
- Frecuencia nominal: 50/60Hz
- Voltaje nominal: 660 Vac máx
- Corriente térmica de corto circuito (I_{th}):
60 veces la corriente nominal primaria por un segundo
- Corriente dinámica nominal: (I_{dyn}) : 2,5 veces I_{th}
- Grado de protección : IP 40



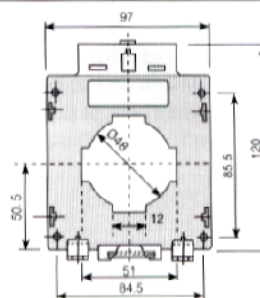
CGCT - 1



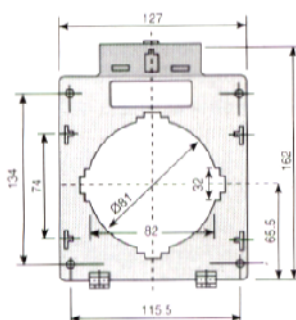
CGCT - 2



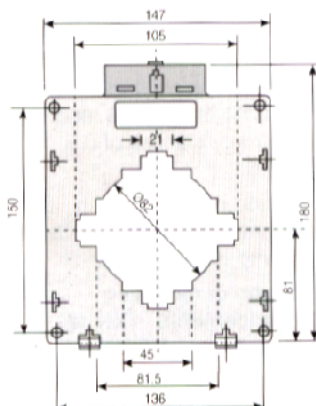
CGCT - 3



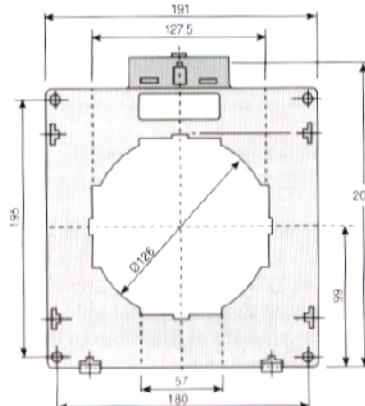
CGCT - 4



CGCT - 5



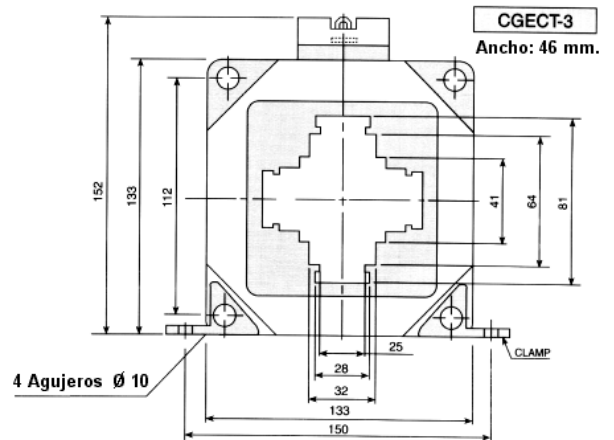
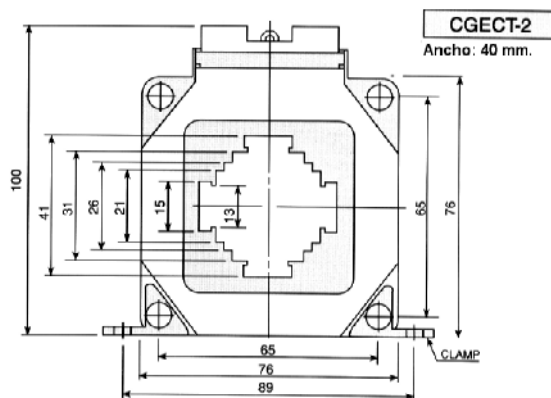
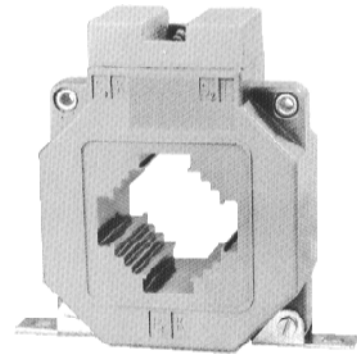
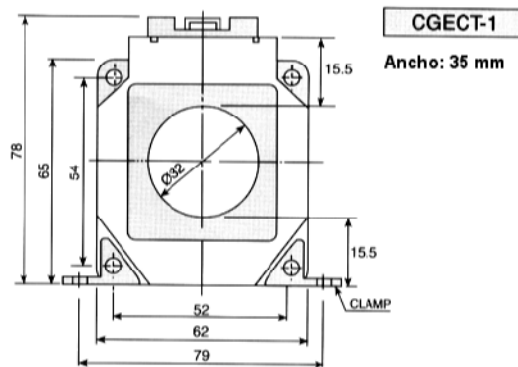
CGCT - 6



MODELO	VENTANA	RELACIÓN	CLASE
CGCT-1 50/5 VA3	Ø 22mm	50/5	Clase 5
CGCT-1 75/5 VA5		75/5	Clase 3
CGCT-1 100/5 VA3		100/5	Clase 1
CGCT-1 150/5 VA3		150/5	
CGCT-2 200/5 VA5	Ø 33mm	200/5	Clase 1
CGCT-2 300/5 VA10		300/5	
CGCT-2 400/5 VA15		400/5	
CGCT-3 500/5 VA10		500/5	
CGCT-3 600/5 VA10	Ø 48mm	600/5	Clase 0.5
CGCT-3 800/5 VA15		800/5	
CGCT-3 1000/5 VA15		1000/5	
CGCT-4 1200/5 VA15		1200/5	
CGCT-4 1600/5 VA15	Ø 81mm	1600/5	
CGCT-5 2000/5 VA15		2000/5	
CGCT-5 2500/5 VA15	Ø 82mm	2500/5	
CGCT-6 3000/5 VA15		3000/5	
CGCT-6 4000/5 VA15	Ø 126mm	4000/5	

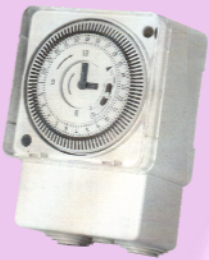
TRANSFORMADORES DE CORRIENTE MONTAJE ESTANDAR SERIE CGECT

- RIGIDEZ DI-ELÉCTRICA: 2,5 KV, por un minuto.
- VOLTAJE NOMINAL: 660 VAC máx.
- CORRIENTE TERMICA DE CORTO CIRCUITO (Ith):
60 veces la corriente nominal primaria por un segundo
- CORRIENTE DINAMICA NOMINAL (IDyn): 2,5 veces Ith.



MODELO	VOLTAJE	CLASE	VA MAXIMO
CGECT-1 50/5A CL5	50/5A	Clase 5	3
CGECT-1 100/5A CL1	100/5A	Clase 1	
CGECT-1 60/5A CL5	60/5A	Clase 5	
CGECT-1 75/5A CL3	75/5A	Clase 3	2.5
CGECT-2 100/5A CL3	100/5A		5
CGECT-2 150/5A CL3	150/5A		3
CGECT-2 200/5A CL0.5	200/5A	Clase 0.5	5
CGECT-2 300/5A CL0.5	300/5A		10
CGECT-2 400/5A CL0.5	400/5A		15
CGECT-3 600/5A CL0.5	600/5A		15
CGECT-3 800/5A CL0.5	800/5A		
CGECT-3 1200/5A CL0.5	1200/5A		
CGECT-3 2000/5A CL0.5	2000/5A		
CGECT-3 2500/5A CL0.5	2500/5A		

ELECTRONICS & OTHERS



**Crompton
Greaves**



DIGITAL CONTROLLERS

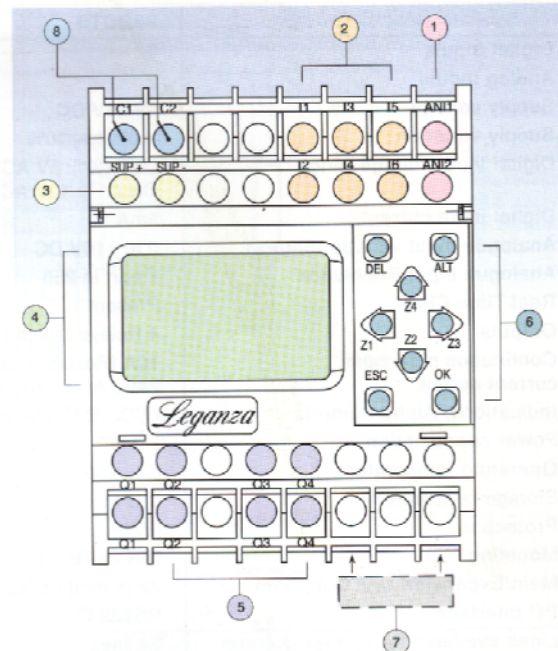
Leganza



FEATURES

- Offers integrated, ready to use, wide range programmable functions to include 8 Timers, 8 Counters, 4 Time Switches, 4 Analogue functions and real time clock.
- 64 or 250 lines ladder diagram programming with key pad.
- 8 digital inputs for maintained-contact switches, momentary-contact switches, sensors etc. or 6 digital and 2 analogue inputs.
- 4 relay type digital outputs for connecting the load.
- Extendable up to 32 inputs and 16 outputs using Extension Modules.
- Comfortable alpha-numeric LC display for all steps (logic and set points), functions (timers, counters, time switches and analogue), inputs, outputs and day-time.
- PC Interface for easy programming, managing multiple programmes and for simulation. The special software, Leganza-Soft, enables creating ladder diagrams, simulation, testing, documentation and printing.
- With in-built EEPROM memory, programmes and parameters are saved despite accidental power failure.
- DIN 35 Rail or optional base mounting for Leganza and Extension Module.
- Optional EEPROM Memory Card, having same memory as in-built, allows transfer of the programme and parameters, secured back-up and local storage.
- Optional Extension Module, same size, with LED display instead of LCD, for extending inputs and outputs exactly as per the basic Unit, without PC interface and key pad.
- Compact and standardised [72(4 modular spaces) x 90 x 95 mm] dimensions.

FRONT DISPLAY



- ① 2 analogue inputs for 88DDT0 or 88DDT8, otherwise digital.
- ② 6 digital inputs
- ③ Power supply terminals, L, N for 87DDT0 and 87DDT8 and Sup + and Sup - for 88DDT0 and 88DDT8
- ④ LC display
- ⑤ Digital outputs
- ⑥ Keypad
- ⑦ Interface for Memory Card or PC cable located on lower side and not seen in the front view.
- ⑧ Terminals for Extension Module.

Note : Colours are used on the above diagram for indication purpose only.

- Widely used in low cost and simple automation, such as Auto-Packing Machines, Auto-Printing Machines, Domestic and Commercial Building Controls, Auto-Parking Controls, Home Applications etc.

ACCESSORIES

8GDDT1	: Leganza Software CD
8GDDT2	: Serial Interface Cable
8GDDT3	: Memory Card
8GDDT4	: Instruction Manual
8GDDT5D	: Extension Module for 110-240V AC.
8GDDT5E	: Extension Module for 12-24V AC.

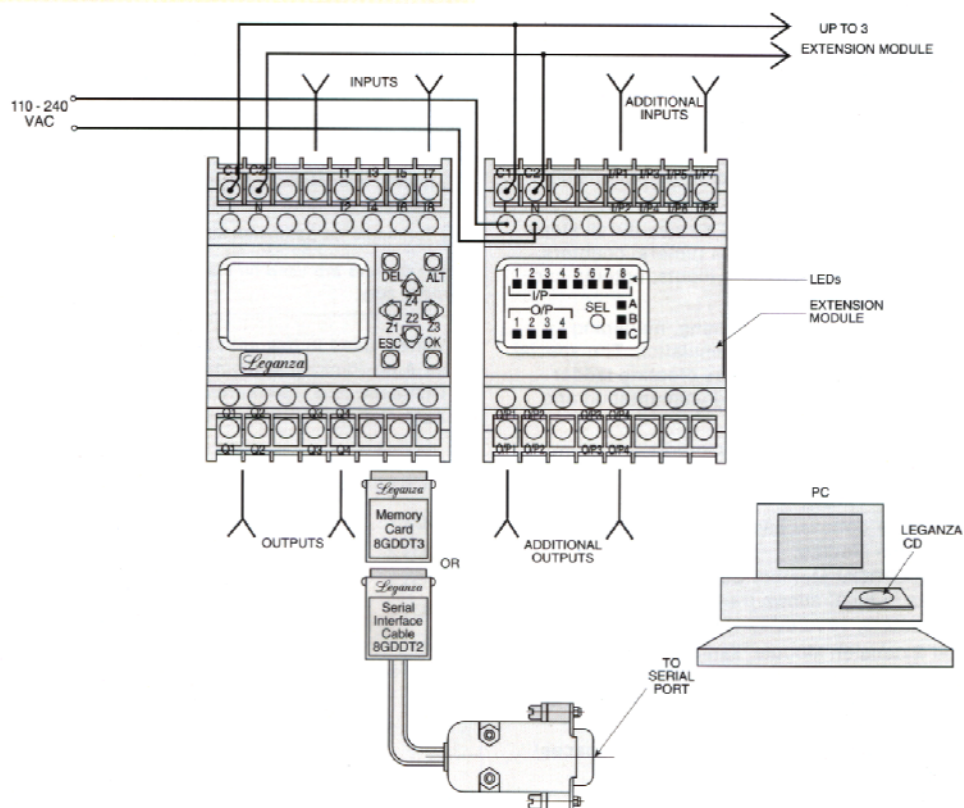
DIGITAL CONTROLLERS

Leganza

SPECIFICATIONS

	88DDT0	88DDT8	87DDT0	87DDT8
Digital Inputs	6		8	
Analog Inputs	2		—	
Supply voltage	12-24V DC		110-240V AC, 50/60Hz	
Supply variation	-10% to +10%		-20% to +10%	
Digital input voltage range	OFF ("0"): 5V AC max. ON ("1"): 12V AC min.		OFF ("0"): 40V AC max. ON ("1"): 80V AC min.	
Digital input current	5mA		5mA	
Analogue input voltage range	0 to +10V DC		—	
Analogue input Resolution	1 part in 256		—	
Real Time Clock	Present		Present	
Outputs	4 Relays (electro mechanical)		4 Relays (electro mechanical)	
Continuous maximum current output	10A (Resistive load), 240V AC or 28V DC		10A (Resistive load) 240V AC or 28V DC	
Indications, Alpha-numeric	LCD, 12 Characters x 4 Lines		LCD, 12 Characters x 4 Lines	
Power consumption	~ 3 W		~ 3 W	
Operating temperature	0 to +50°C		0 to +50°C	
Storage temperature	0°C to + 70°C		0°C to + 70°C	
Protection	IP20		IP20	
Mounting	DIN 35 Rail or base		DIN 35 Rail or base	
Main/Expansion Unit Dim., mm	72 (4 modular spaces)×90×65		72 (4 modular spaces)×90×65	
PC Interface	RS232 C		RS232 C	
Lines available for Ladder Diagram	64 lines	250 lines	64 lines	250 lines

SCHEMATIC CONNECTIONS

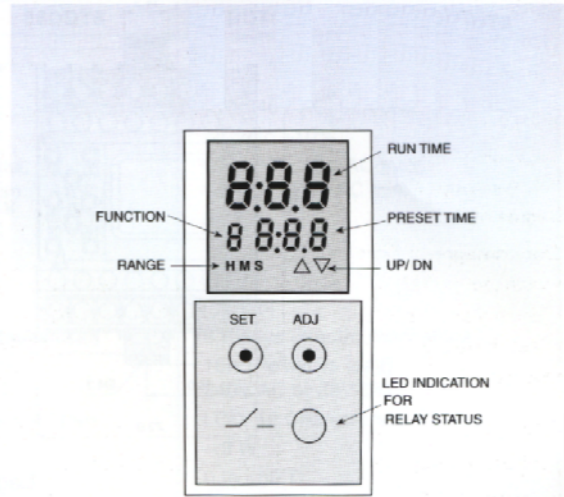




FEATURES

- 8 mode multifunction facility for complete flexibility and wide range applications.
- Timing from 0.1 second to 999 hours.
- Selectable up/down counting modes to show elapsed/remaining time.
- 3 digit LC display for preset time and run time.
- Wide operating range for supply voltage.

FRONT DISPLAY



- Easy front settings.
- Tamper-proof with key lock function.
- Confirms to IEC standards for EMI / EMC, with **CE** mark.
- Compact and standard size of 1 module space.
- Optional base or DIN 35 Rail mounting.

SPECIFICATIONS

Cat No.	V0DDT0
Nominal Voltage (Ur)	110-240V AC or 24V AC/DC (selectable)
Operating Range	-15% to +10% of Ur
Frequency	50/60 Hz
Modes	On delay, Cyclic off/on, Cyclic on/off, Signal on/off, Signal off Delay, Interval, Signal off/on, One shot output.
Timing	h:m m:s hr min sec 9:59 9:59 999 999 999 99.9 99.9 99.9
Repeat Accuracy	± 50 ms
Max. Reset Time	100 msec
Max. Switching Rate, at max./min. load	360/1000 per hour
Output Contacts	1 C/O, AgNi 90/10 (Cadmium free)
Output Contact Rating (resistive)	5A @ 240 V AC / 28 V DC
Electrical Life	1 × 10 ⁵ operations
Mechanical Life	5 × 10 ⁶ operations
Power Consumption	15 VA
Dimension (WxDxH)	17.5 × 76 × 89 (mm)
Terminal Capacity	2.5 mm ² max.
Mounting	Base/DIN rail (Sym.35mm)
Weight	85 gms approx (unpacked)

FUNCTIONS

P: A1-A2	Power Supply Pulse
(A) S: B1 R: 15-18	1. On Delay : The Timer Starts when both Power (P) & Signal (S) are applied. The relay is energized at the end of Preset Time (T) & remains On till Power is removed.
(B) S: B1 R: 15-18	2. Cyclic Off/On (Off Start [Sym, Asym]) : TON and TOFF can be same or different. The relay keeps on changing its status till the power is removed
(C) S: B1 R: 15-18	3. Cyclic On/Off (On Start [Sym, Asym]) : This function is quite similar to the function (b) but initially the relay is on for period TON after the power is applied.
(D) S: B1 R: 15-18	4. Signal On/Off : The output relay is turned on for Preset Time (T) whenever the Signal (S) is applied or removed.
(E) S: B1 R: 15-18	5. Signal Off Delay : Output relay becomes on when Signal (S) is applied. Timer duration (T) starts when Signal (S) is removed. At the end of Timer duration (T) the output relay goes off. Signal (S), if applied during the Timer duration (T) will re-trigger the Timer and the total duration will be extended.
(F) S: B1 R: 15-18	6. Interval : When Signal (S) is applied, the Timer starts and the output relay is energized. The output relay becomes off at the end of Timer Duration (T).
(G) S: B1 R: 15-18	7. Signal Off/On : When Signal (S) is applied or removed, the relay changes its state after Timer duration (T).
(H) S: B1 R: 15-18	8. One shot Output : When Signal (S) is applied, the Timer Duration (T) starts. At the end of Timer Duration (T), the relay gets energized for approximately 1 Sec.

Notes : P = POWER, S = SIGNAL, R = RELAY.

STANDARDS AND CERTIFICATION

Certification

Environmental	CE
Temperature Limits	Operating -10° to +50°C Storage -20° to +65°C
Humidity	93% Rh
Installation Category	II
Pollution Degree	II
Degree of Protection	IP 30

IEC1010 - 1 1990 + 2nd Amendment 1995
IEC1010 - 1 1990 + 2nd Amendment 1995
IEC Pub 947 - 1(1998) / IS 13947 Part I 1993

Electromagnetic Compatibility (EMC)

- Vibration F = 10 to 55 Hz, A = 0.35mm or 5gm
- Electrostatic Discharge Level III (Air 8KV / Contact 6KV)
- Fast Transients Level III 2KV (Peak) Tr / Th = 5 / 50 Rep. Freq. = 5KHz
- Surges Level IV Tr / Th = 8/20µs Common Mode : 4KV
Differential Mode : 2KV
- Voltage Dips 30% reduction / 10 ms, 60% reduction / 100 ms
- Voltage Interruption >95% reduction / 5000 ms

IS 9000 (Part VIII-1981); IS 9001 (Part XIII-1981)
IEC 1000 - 4 - 2, First Edition 1995 - 01
IEC 1000 - 4 - 4, First Edition 1995 - 01
IEC 1000 - 4 - 5, First Edition 1995 - 02
IEC 1000 - 4 - 11, First Edition 1994 - 06
IEC 1000 - 4 - 11, First Edition 1994 - 06

Immunity (EMC)

Port - Enclosure	80 - 1000 MHz 10V / m (unmodulated rms) 80%AM (1KHz)
Port - AC Mains	0.15MHz - 80MHz 10 V/m (unmodulated ms) 80%AM (1KHz)

EN 50082 - 2 : 1995

EN 50082 - 2 : 1995

Radiated (EMC)

Port - Enclosure	30MHz - 230 MHz 30 dBµ V/m Quasi Peak Measured at 30 m distance 230MHz - 1000 MHz 37 dBµ V/m Quasi Peak Measured at 30 m distance
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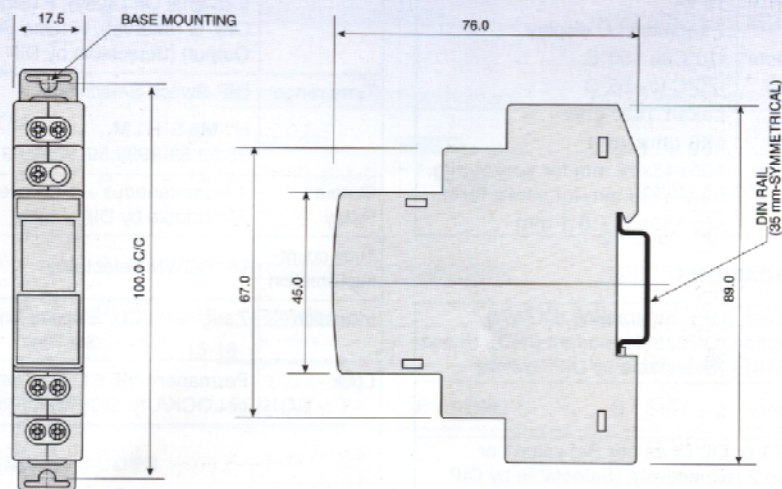
EN 50081 - 2 : 1994

Conducted Emission

Port - AC Mains	0.15MHz - 0.5MHz 79 dBµ V Quasi Peak, 66 dBµ V Average 0.50MHz - 30MHz 73 dBµ V Quasi Peak, 60 dBµ V Average
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EN 50081 - 2 : 1994

DIMENSIONS





24x48 SCREW MOUNT BEZEL

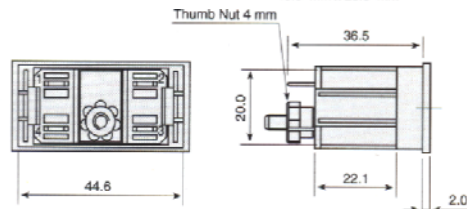
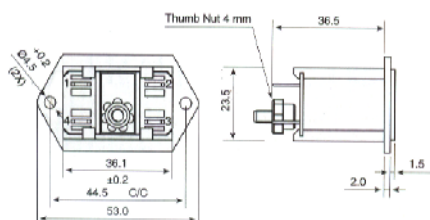
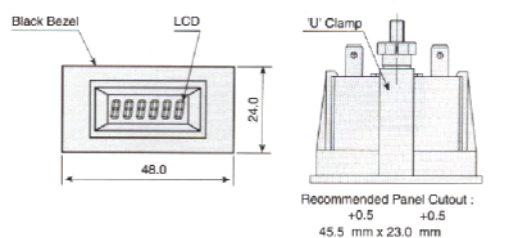
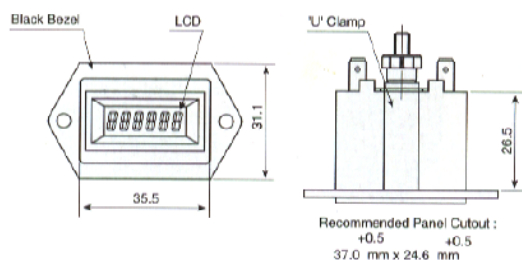


ROUND BEZEL

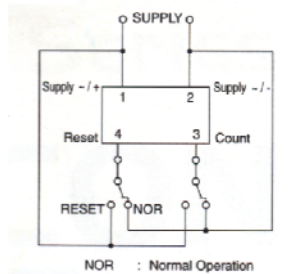
Hour meter & Counter



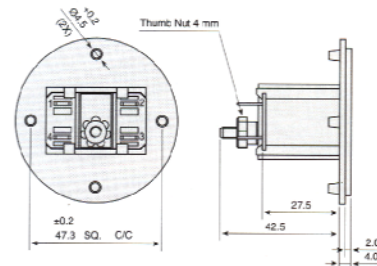
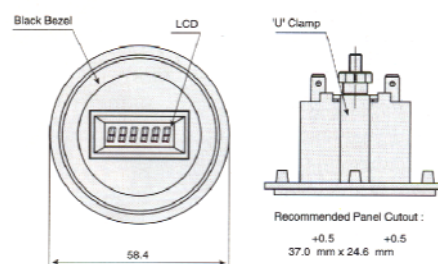
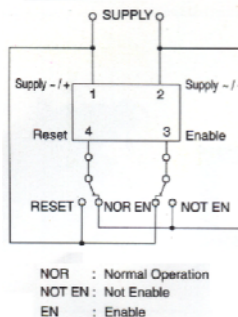
24x48 BEZEL



DIGITAL COUNTER



DIGITAL HOUR METER



SPECIFICATIONS

Item	Counters	Hour Meter
1. Range	999999	99999.9 Hrs
2. Display	6 Digit LCD, 5 mm. height	6 Digit LCD, 5 mm. height
3. Resolution	1 count	0.1 hrs
4. Accuracy	± 1 count at 25°C	±0.2% at 25°C
5. Temperature	- 10°C to +50°C (Operating), - 20°C to +65°C (Storage)	- 10°C to +50°C (Operating), - 20°C to +65°C (Storage)
6. Humidity	95% Rh (Non-condensing)	95% Rh (Non-condensing)
7. Protection class	IP54 (For front side only)	IP54 (For front side only)
8. Terminals	1, 2 : Input Supply 3 : Count Input 4 : Reset	1, 2 : Input Supply 3 : Enable Input 4 : Reset
Cat. Ref.	ZA2FBx* ZB2FBx* ZC2FBx*	ZA1FBx* ZB1FBx* ZC1FBx*
Input Voltage	9-32V AC/DC 75-130V AC 190-270V AC	9-32V AC/DC 75-130V AC 190-270V AC
Max. Supply Current	4mA@24VAC 4mA@24VDC	3mA@24VAC 3mA@24VDC
Counting Frequency	2Hz (Max)	—

* x = A / B / C, where A : Round Bezel, B : 24 x 48 Bezel, C : Screw Mount Bezel

FEATURES

- Easy to read 6-digit LCD.
- Exceptional reliability with in-built nonvolatile memory (EEPROM) retaining data for 100 years.
- Wide range of supply voltage.
- "Electrical Reset" terminal for Counters and Hour Meters and "Enable" terminal for Hour Meters.
- Available in 3 different Bezels.
- Low power consumption.

TIMERS SWITCHS & HOUR METER

TEMPORIZADORES DIARIOS Y SEMANARIOS



FM/1 CUARZO
Montaje sobre Panel



FM/1 CUARZO BASE/DIN
Montaje sobre Base/Riel DIN



FM/1 DIGI 20
Montaje sobre Panel



FM/1 DIGI 20
Montaje sobre Base/Riel DIN

MODELO	TIPO	MONTAJE	TEMPORIZADO	ALIMENTACION	CONSUMO	SALIDA DE CONTROL			TIEMPO MINIMO DE CONMUTACION
						Carga Resistiva	Carga Inductiva CosΦ=0.6	Carga Lámpara incandescente	
J638B1	FM/1 CUARZO Analógico	Base/Riel DIN	Diario	110V AC 50/60Hz	2VA max.	16A 250V AC	8A 250V AC	1350W	15 Minutos
J638F1		Panel frontal		240V AC 50/60Hz					
J648B1		Base/Riel DIN	Semanario	110V AC 50/60Hz	4.4VA aprox.	16A 250V AC	2.5A 250V AC	1000W	2 Horas
J838B1		Panel frontal		240V AC 50/60Hz					
J848B1		Base/Riel DIN		240V AC 50/60Hz					
D847B1		Base/Riel DIN	Diario y Semanario	240V AC 50/60Hz					
D847F1	FM/1 DIGI 20 Digital	Base/Riel DIN		240V AC 50/60Hz					

CORRIENTE DE CONMUTACION MINIMA, AC: 100mA (20V AC).

TIEMPO DE OPERACION DE RESERVA: FM/1 CUARZO: 150h FM/1 DIGI 20: 25h.

TIEMPO DE CARGA: FM/1 CUARZO: 70h. FM/1 DIGI 20: 24h.

CONTADOR DE HORAS SERIE HM-700

Proporciona medición de horas con precisión de centésimas y a prueba de manipulación, ideal para determinar periodo de operación (en horas) de máquinas eléctricas, elevadores, hornos y sistemas de calentamiento; para llevar a cabo mantenimiento preventivo, monitoreo de tiempo de operación vs producción, y monitoreo de periodos de garantía.



HM-700

MONTAJE: En panel frontal.

PROTECCION: IP54, doble aislamiento

DIMENSION FRONTAL: 48x48, 55x55, 72x72mm

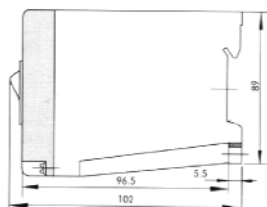
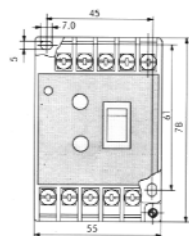
APROBACION: CAN/CSA-C22.2 N° 142-1987, UL 508

MODELO	CARACTERISTICAS	VOLTAJE DE OPERACION	CONSUMO DE POTENCIA	INDICACIÓN / LECTURA
HM 700	Manejado por motor sincrónico	110VAC 60Hz.	4VA	7 dígitos (2 decimales) / 99.999,99
		240VAC 60Hz.		

PHASING PREVENTORS & AC LINE CONTROLLERS

PROTECTOR DE FALLA DE FASE SM-100

Monitorea las líneas de voltaje L1, L2, y L3 y ejerce control en caso de falla de fase, asimetría de fases o secuencia incorrecta de fases. La unidad opera bajo un principio de sensado de voltaje y energiza el relé únicamente bajo condiciones seguras. Compacto, peso ligero, fácil montaje, excelentes características de construcción y operación. Tiempo de operación y liberación configurables por el usuario. Leds indicadores de estado.



TEMPERATURA DE OPERACION: -10°C a +55°C.

CONFORME A: IS 3842 P-III (1966)

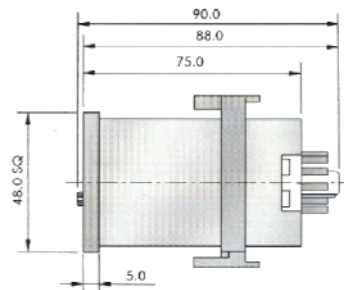
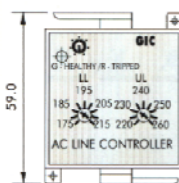
GRADO DE PROTECCION: IP30

MONTAJE: Base / Riel DIN (35 mm).

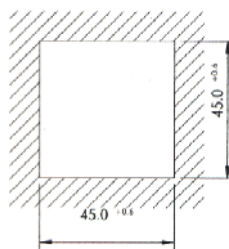
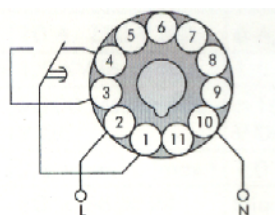
MODELO	VOLTAJE DE OPERACION	CARACTERISTICAS	CONSUMO/FASE	SALIDAS
SM-100	220VAC, 50/60Hz 3 fases ó 440 VAC 50/60Hz 3 fases	2 modos de operación: Manual y Auto Rango de Tpo. de Operación: 2-12s Rango de Tpo de Liberación: 2-12s	10 VA	Relé: 1 Contacto NA 5A a 250 VAC Carga resistiva Interruptor AUTO/MANUAL: 1 SPST 5A a 250 VAC Carga resistiva

SUPERVISOR DE VOLTAJE

Monitorea las líneas de voltajes y ejerce control en caso de que el voltaje sobrepase los límites por debajo o por arriba de los valores que han sido previamente seleccionados en la unidad.



MODELO	TIEMPO DE OPERACIÓN	AJUSTE DE VOLTAJE	CONSUMO	SALIDAS
COP-25	2 SEG. MÁX.	LL: 175-185-195-205-215 UL: 220-230-240-250- 260	20 VA	Relé: 1 SPDT 250V AC/28 V DC, 7ª Resistivo



PHASING PREVENTORS OVER & UNDER VOLTAGE

SUPERVISOR DE FASE - ALTO Y BAJO VOLTAJE

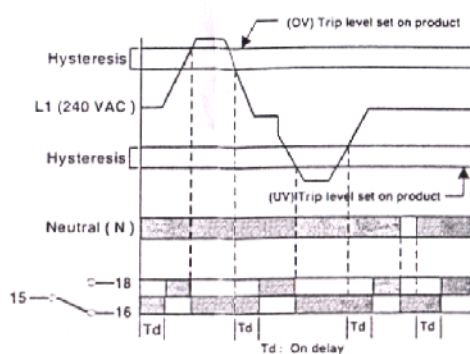
Monitor de fase – neutro y monitor de alto y bajo voltaje en una misma unidad. Incluye selectores de rango de voltajes y potenciómetros para ajuste de tiempo de disparo. En caso de faltar una de las fases o el neutro cambia el status del relé. Puede ser utilizado para aplicaciones monofásicas (según el diagrama anexo).



Mod. MD51B9

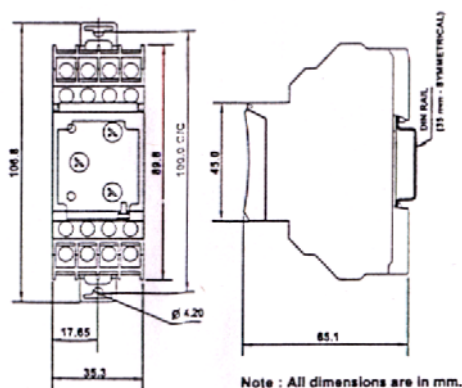
Voltaje de Operación	(3 – PH + neutro) , 415 Vac
Frecuencia	48 – 63 Hz
Niveles de disparo	Voltaje Bajo : 140 – 230 Vac Voltaje alto : 250 – 300 Nota: Voltajes con respecto al neutro
Tiempo de retardo	1.5 - 15 min
Salida	1 SPDT (1 NA + 1 NC) 250 Vac 10 Amp. resistivos
Led de indicación	Verde: encendido , Rojo: anomalía
Vida útil mecánica	3×10^7
Vida útil eléctrica	1×10^5
Temperatura de operación	-10 °C a 55 °C
Temperatura de almacenamiento	-25 °C a 70 °C

Diagrama de funcionamiento

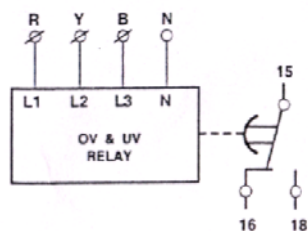


Nota: Diagrama aplicable a las otras fases L2 y L3

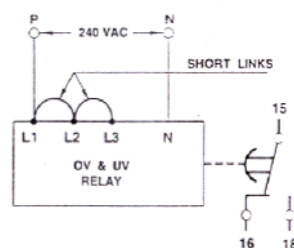
Dimensiones



Aplicación Trifásica



Aplicación monofásica



Series J

PROXIMITY SWITCHES

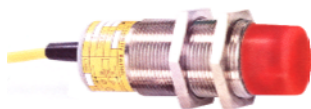
■ INDUCTIVE
■ CAPACITIVE
■ OPTICAL



*At the cutting edge of
current control*

CG Crompton
Greaves

PROXIMITY SWITCHES



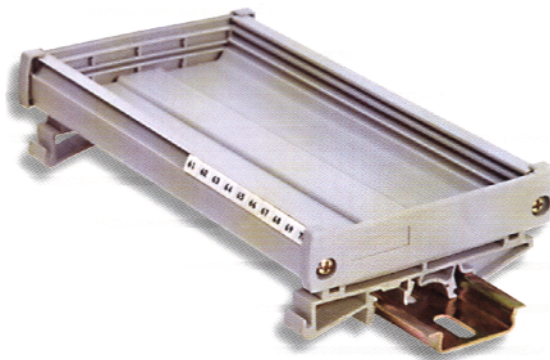
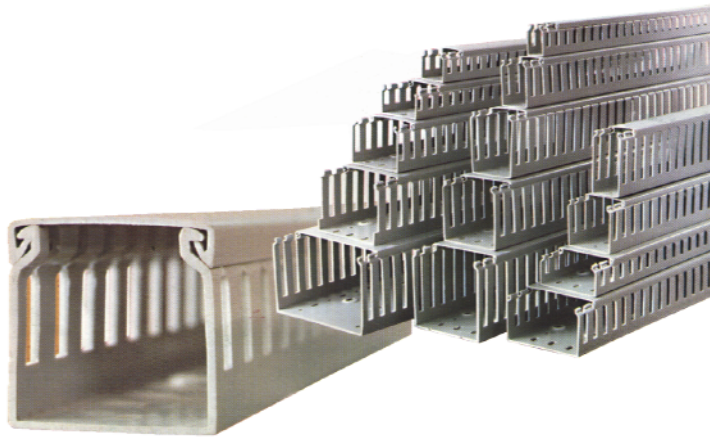
MODELO	TIPO	Ø	ALCANCE mm	SALIDA	ALIMENT.	CARACTERÍSTICAS		
JPS 30D 122.5 NCOFS	Sensores Inductivos	12	2.5	NPN NA + NC / 1KHZ / 200mA	10 - 30 Vdc	RASANTE		
JPS 30D 122.5 PCOFS			2.5	PNP NA + NC / 1KHZ/ 200mA				
JPS 30D 1204 PCONS			4	NPN NA + NC / 1KHZ / 200mA		NO RASANTE		
JPS 30D 1204 NCONS				PNP NA + NC / 1KHZ/ 200mA				
JPS 30D 1805 PCOFS		18	5	PNP NA + NC / 500HZ/ 400mA		RASANTE		
JPS 30D 1805 NCOFS				NPN NA + NC / 500HZ/ 400mA				
JPS 30D 1808 NCONS			8	NPN NA + NC / 500HZ/ 400mA		NO RASANTE		
JPS 30D 1808 PCONS				PNP NA + NC / 500HZ/ 400mA				
JPS 30D 3010 PCOFS		30	10	PNP NA + NC / 200HZ/ 400mA		RASANTE		
JPS 30D 3010 NCOFS				NPN NA + NC / 200HZ/ 400mA				
JPS 30D 3015 NCONS			15	NPN NA + NC / 200HZ/ 400mA		NO RASANTE		
JPS 230A 1805 COFS		18	5	NA + NC / 15HZ/ 400mA	40 - 240 Vac	RASANTE		
JPS 230A 1808 CONS			8	NA + NC / 15HZ/ 400mA		NO RASANTE		
JPS 230A 3010 COFS		30	10	NA + NC / 15HZ/ 400mA		RASANTE		
JPS 230A 3015 CONS			15	NA + NC / 15HZ/ 400mA		NO RASANTE		
JCS 230A 1810 CONS	Sensores Capacitivos	18	10	NA + NC / 15HZ/ 200mA	10 - 30 Vdc			
JCS 230A 3015 COFS		30	15	NA + NC / 15HZ/ 400mA		RASANTE		
JCS 230A 3620 CONS		36	20	NA + NC / 15HZ/ 400mA		NO RASANTE		
JCS 230A 6025 CONS		60	25	NA + NC / 15HZ/ 400mA				
JCS 30D 1810 PCONS		18	10	PNP NA + NC / 50HZ/ 400mA				
JCS 30D 1810 NCONS			10	NPN NA + NC / 50HZ/ 400mA				
JCS 30D 3015 NCONS		30	15	PNP NA + NC / 50HZ/ 400mA				
JCS 30D 3015 PCONS			15					
JCS 30D 3620 PCONS		36	20	NPN NA + NC / 50HZ/ 400mA				
JCS 30D 3620 NCONS								
JCS 30D 6025 NCONS		60	25	NPN NA + NC / 50HZ/ 400mA				
JCS 30D 6025 NCONS								
JOS 30D 18200 NNODSS F	Sensor fotoeléctrico	18	200	NPN NA / 50HZ/ 200mA	10 - 30 Vdc	DIFUSO		
JOS 30D 18200 PNODSS F				PNP NA/ 50HZ/ 200mA				

SENSORES INDUCTIVOS MODELOS IPS*

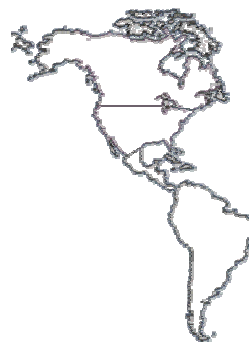
* El modelo IPS será sustituido al agotarse su existencia por el mod. JPS

MODELO	Ø	ALCANCE	SALIDA	ALIMENT.	CUERPO
IPS 30D 0801 PNOFS	8	1mm	PNP NA 2KHZ	10 - 30 VDC	RASANTE / LARGO: 62mm
IPS 30D 0801 NNOFS			NPN NA 2KHZ		
IPS 30D 1202 NNOFS	12	2mm	NPN NA 2KHZ		
IPS 30D 1202 PNOFS			PNP NA 2KHZ		
IPS 30D 1204 PNCFS		4mm	PNP NC 800HZ		
IPS 30D 1205 NCONS		5mm	NPN NA+NC 600HZ		NO RASANTE / LARGO: 65mm
IPS 30D 1205 PNONS			PNP NA 600HZ		NO RASANTE / LARGO: 70mm CON CONECTOR
IPS 30D 1205 PNONC			PNP NA 600HZ		
IPS 30D 1205 NNONC			NPN NA 600HZ		NO RASANTE / LARGO: 65mm
IPS 30D 1205 NNONS			NPN NA 600HZ		
IPS 30D 1205 PCONS			PNP NA+NC 600HZ		
IPS 30D 1805 PNOFS	18mm	5mm	PNP NA 2KHZ	40 - 240 VAC	RASANTE / LARGO: 72mm
IPS 30D 1805 NNOFS			NPN NA 2KHZ		
IPS 30D 1808 PNCFS		8mm	PNP NC 200HZ		
IPS 30D 1810 PNONS		10mm	PNP NA 200HZ		NO RASANTE / LARGO: 80mm
IPS 30D 1810 PCONS			PNP NA+NC 200HZ		
IPS 30D 1810 NNONS			NPN NA 200 HZ		
IPS 30D 1810 NCONS			NPN NA+NC 200HZ		
IPS 230A 1810 CONS			NA+NC 25HZ		
IPS 230A 1204 NCFS	12mm	4mm	NC 25HZ	40 - 240 VAC	RASANTE / LARGO: 62mm
IPS 230A 1808 NCFS	18mm	8mm			RASANTE / LARGO: 72mm

ACCESSORY

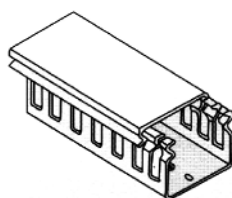


**Crompton
Greaves**

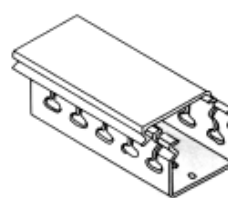


CANALETAS

- Material: PVC rígido de alto impacto.
- No se astilla, desconcha o rompe.
- No inflamable. Autoextinguible.
- Resistente a aceites, soluciones salinas y moho.
- A prueba de torsión.
- Elevada resistencia al calor (hasta 70°C).
- Conforme a estándares europeos y norteamericanos. Marcas: CSA-NRTL/C, UL y CE.
- Diseño de cierre de tapa evita el salto de los cables hacia afuera cuando la tapa es quitada.
- Resistencia a tensión: 390 Kg/cm²
- Resistencia a impacto IZOD: 7 Kg.cm/cm².
- Resistencia dieléctrica: 36 KV/mm.
- Resistencia específica: 6.1 x 10¹⁴ ohm.cm.
- Inflamabilidad: UL 94 VO.



Modelo con
ranuras estándares
tipo B



Modelo con
ranuras horizontales
tipo A

MODELO BASE X ALTURA (mm)	CAPACIDAD PARA CABLES		
	1.5 mm ² /OD 3.18 mm/ 16 AWG	2.5 mm ² /OD 3.53mm/ 14 AWG	4mm ² /OD 4.01mm/ 12AWG
A15x15	11	9	7
A25x15	19	15	12
B25x30	36	29	23
B25x40	48	39	31
B25x60	72	57	45
B25x80	92	75	59
B40x40	81	65	51
B40x60	121	98	77
B40x80	160	130	102
B60x40	123	99	78
B60x60	180	146	114
B60x80	246	199	156
B80x40	165	134	105
B80x60	251	203	159
B80x80	337	272	214
B100x60	316	256	201
B100x80	425	344	270
B100x100	531	429	336
B150x100	807	653	512

ACCESSORY

PCB MOUNTING TRAYS, DIN Rail or Panel Mount

Mount standard or custom printed circuit boards (PCBs) in Mounting Trays which can be conveniently DIN rail or panel mounted in the control panel or cabinet. The Mounting Trays house and protect the PCBs. The trays are easily cut to size or can be ordered pre-cut to specific standard lengths. They are easily assembled from components and snap onto DIN 35 /DIN 32G rails or can be panel mounted. Each Tray has two sets of PCB guides to accept two alternate board widths. Select the suitable guide in the tray, offered in standard 1m (3'-3") or 2m (6'-6") lengths and several colors. End Sections hold printed circuit boards securely in place. Standard marking tags can be used for identification and marking.

Specifications

Mounting Tray Extrusions

- Material: PVC
- Lengths: Standard 1m (3'-3") or 2m (6'-6").
- With High Guide for 73mm and Low Guide for 69.5mm wide PCBs.
- Colours: Standard Grey, optional Green, Orange and Black.
- Accepts Marking Tags.

End Plates, Din Rail Foot

- Material: Polyamide
- Colours: Standard Grey, optional Green, Orange and Black.

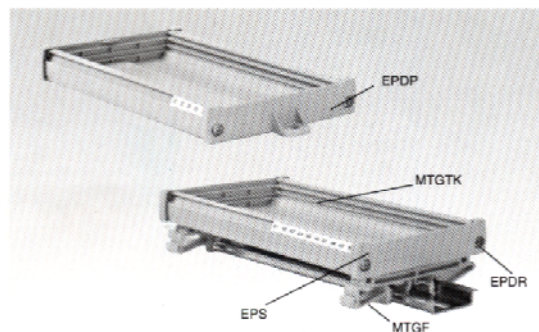
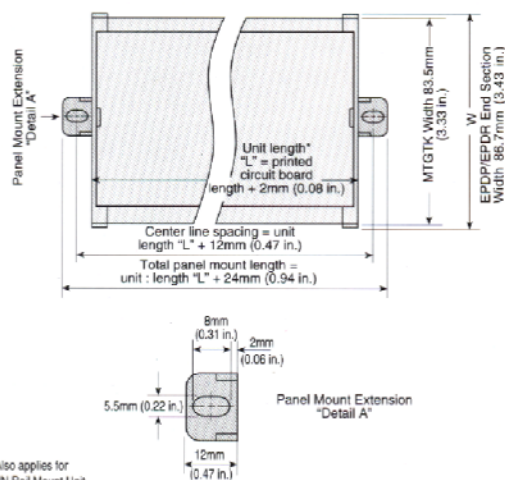
Temperature

- Short Term: upto 80°C (176°F)
- Continuous: upto 70°C (158°F)

Mounting

Panel Mounting

- Mounting Tray Extrusion, Cat. Ref. MTGTK...
- Panel Mount End Plates, Cat. Ref. EPDP...
- Hardware, 4 nos. Phillips Pan Head Self-Tapping End Plate Screws, Cat. Ref. EPS, and 2 nos. Mounting Screws with locknuts Cat. Ref. PMS



DIN Rail Mount

- Mounting Tray Extrusion, Cat. Ref. MTGTK...
- DIN Rail Mounting End Plates, Cat. Ref. EPDR...
- DIN Rail Mounting Foot, Cat. Ref. MTGF...
- Hardware, 4 nos. Phillips Pan Head Self-Tapping End Plate Screws, Cat. Ref. EPS.



Printed circuit board shown in High Guide

PCB Sizing

Track Type	High Guide (HG)	Low Guide (LG)
MTGTK	73.00 ± 0.2mm (2.86 ± .008 in.)	69.5 ± 0.3 mm (2.73 ± .019 in.)

Track Extrusion "Cut-to-Size" Formula

Extrusion Length = PCB Length - 4.5mm (.177 in.)

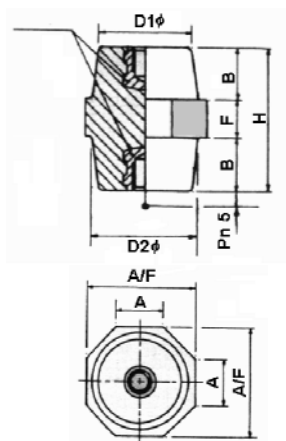
Ordering Guide

Item	Colour	Cat. Ref.	Std. Pack.
Mounting Extrusion Length, 1 meter (3'-3")	Grey	MTGTK/1m	5
	Green	MTGTK-GR/1m	5
	Orange	MTGTK-OR/1m	5
	Black	MTGTK-BL/1m	5
Mounting Extrusion Length, 2 meters (6'-6")	Grey	MTGTK/2m	5
	Green	MTGTK-GR/2m	5
	Orange	MTGTK-OR/2m	5
	Black	MTGTK-BL/2m	5
DIN Rail Mount End Plate	Grey	EPDR	20
	Green	EPDR-GR	20
	Orange	EPDR-OR	20
	Black	EPDR-BL	20
DIN Rail Mount Foot	Grey	MTGF	20
	Green	MTGF-GR	20
	Orange	MTGF-OR	20
	Black	MTGF-BL	20
Panel Mount End Plate	Grey	EPDP	20
	Green	EPDP-GR	20
	Orange	EPDP-OR	20
	Black	EPDP-BL	20
Set of 4 End Plate Screws		EPS	100 sets
Set of 2 Mounting Screws with locknuts		PMS	100 sets
Markers		CA509/K2	100

AISLADORES ó SOPORTES DE BARRA DE ALIMENTACION

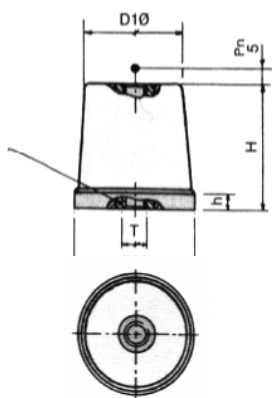
Moldeados en Resina Reforzada con Poliéster de alto grado (DMC).

Soportes de Barra de Alimentación Banda Central Octagonal



MODELO	ALTURA	ROSCA	A/F	D1 φ	D2φ	B	A	F	COLOR
OCT25M5	25mm	M5	21	16	18	9	9	7	Rojo
OCT30M6	30mm	M6	32	23	28	10.5	13	9	
OCT35M6	35mm	M6	35	25	30	12.5	14	10	
OCT40M8	40mm	M8	40	30	34.5	15	16	10	
OCT50M10	50mm	M10	44	33	38	20	18	10	
OCT60M10	60mm	M10	55	40	47	24.5	23	11	
OCT60M12	60mm	M12	55	40	47	24.5	23	11	

Soportes de Barra de Alimentación Cónicos (Con Collar)

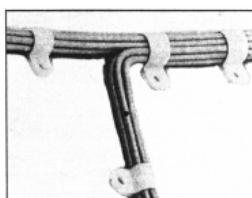
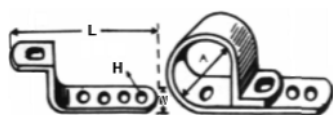


MODELO	ALTURA	ROSCA	D1 φ	D2φ	h	COLOR
CON30M6	30mm	M6	21	30	5	Rojo
CON40M8	40mm	M8	33	40	5	
CON50M10	50mm	M10	40	50	10	
CON60M12	60mm	M12	40	50	8	
CON70M12	70mm	M12	40	50	10	

SUJETADORES DE CABLE SERIE NSP

El diseño de su forma y tamaño particular se ajusta a un amplio rango de diámetros de cables, reduciendo inventario.

En nylon resistente a moho, la intemperie, la descomposición y a un amplio rango de agentes químicos. Buen aislamiento.

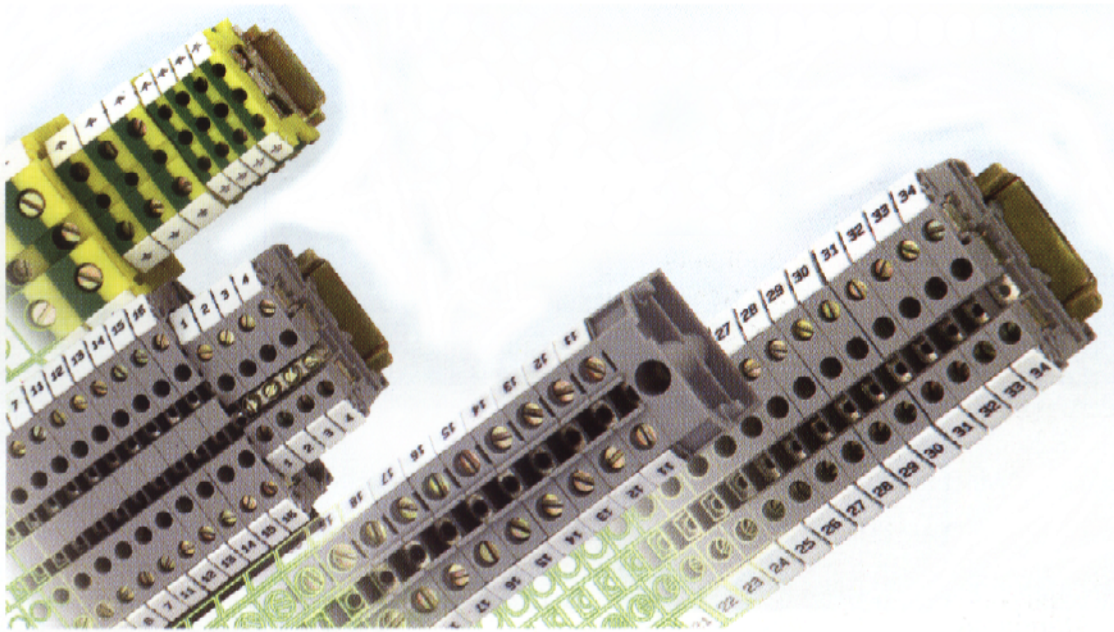


MODELO	DIMENSIONES (mm)			
	DIÁMETRO (mm)	W	H	L
NSP-1	5 a 12	9	4.2	53
NSP-2	7 a 26	12	5.2	103
NSP-3	24 a 45	15	5.2	153

TERMINALS



TERMINALS



C O N N E C T E C H



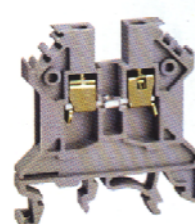
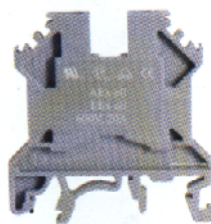
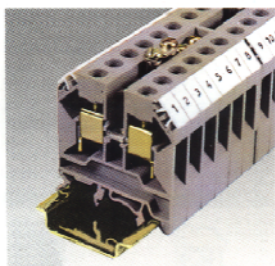
**Crompton
Greaves**



BORNERAS ESTANDAR SERIE SCRW

- Borneras de material termoplástico irrompible, excelentes características eléctricas, mecánicas y químicas, aun a altas temperaturas como 100 °C.
- Montaje sobre riel estándar DIN-1 tipo "G" de 32mm y riel DIN-3 tipo "Omega" de 35x7.5mm.
- Provisión para identificación individual.
- Poseen las marcas UL, CSA-NRTL/C y VDE.

Accesorios: Placa final, placas separadoras, topes, puentes de conexión e identificadores de borneras.

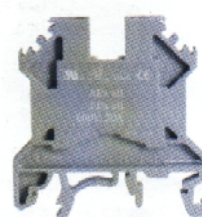
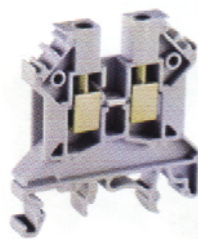
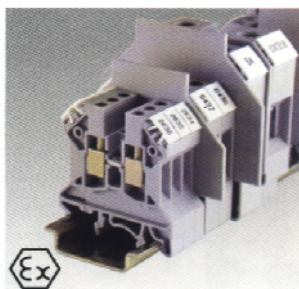


MODELO	ESPACIO EN EL RIEL	RANGO DE CORRIENTE (A)			RANGO DE VOLTAJE (V)			CABLE		
		UL	CSA	VDE	UL	CSA	VDE	UL	CSA	VDE
SCRW 2.5U	5mm	20	20	24	300	300/600	750	14-24 AWG	14-24 AWG	0.5 a 2.5mm ²
SCRW 4U	6mm	25	25	32	600	600	750	12-22 AWG	12-22 AWG	0.5 a 4mm ²
SCRW 10U	8mm	50	50	41	600	600	750	8-22 AWG	8-22 AWG	1.5 a 6mm ²
SCRW 16U	10mm	65	65	57	600	600	750	6-20 AWG	7-15 AWG	1.5 a 10mm ²
SCRW 25U	12mm	115	115	101	600	600	750	2-14 AWG	3-9 AWG	6 a 25mm ²
SCRW 35U	15mm	145	145	125	600	600	750	1/0-18 AWG	2-7A AWG	10 a 35mm ²

BORNERAS PARA AMBIENTES EXPLOSIVOS O ALTAMENTE CORROSIVOS

La serie SCRW - UCR son borneras del tipo "Explosion Proof" diseñada para ambientes altamente corrosivos y explosivos, condiciones típicas de industrias petroquímicas y químicas.

Accesorios: Placa final, placas separadoras, topes, puentes de conexión e identificadores de borneras.



MODELO	ESPACIO EN EL RIEL	RANGO DE CORRIENTE (A)			RANGO DE VOLTAJE (V)			CABLE		
		UL	CSA	VDE	UL	CSA	VDE	UL	CSA	VDE
SCRW 2.5UCR	5mm	20	20	24	300	300/600	750	14-24 AWG	14-24 AWG	0.5 a 2.5mm ²
SCRW 4UCR	6mm	25	25	32	600	600	750	12-22 AWG	12-22 AWG	0.5 a 4mm ²
SCRW 10UCR	8mm	50	50	41	600	600	750	8-22 AWG	8-22 AWG	1.5 a 6mm ²
SCRW 16UCR	10mm	65	65	57	600	600	750	6-20 AWG	7-15 AWG	1.5 a 10mm ²
SCRW 25UCR	12mm	115	115	101	600	600	750	2-14 AWG	3-9 AWG	6 a 25mm ²
SCRW 35UCR	15mm	145	145	125	600	600	750	1/0-18 AWG	2-7A AWG	10 a 35mm ²

Nota : Se provee información más detallada sobre especificaciones si así se requiere.

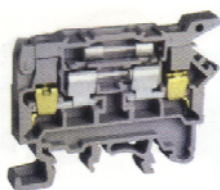
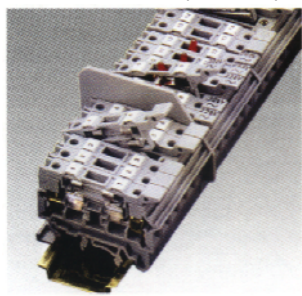
BORNERAS PORTAFUSIBLES

Borneras porta-fusible para aplicaciones con equipos eléctricos y sistemas de control que requieren protección con fusibles.

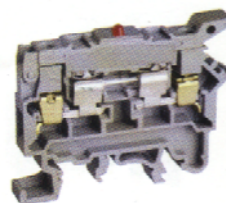
Características:

- Porta-fusible incorporado en tapa abisagrada, lo cual permite que el fusible pueda ser conectado o desconectado mediante la abertura de la tapa.
- Espacio del porta-fusible diseñado especialmente para fusibles de vidrio de $\Phi 5 \times 20$ o $\Phi 5 \times 25$ mm.
- Incluyen fusibles 6 amp en cada modelo.
- Provisión para identificación individual.

Accesorios: Placa final, placas separadoras, topes e identificadores de borneras.



F4U



F4UL

MODELO	ESPACIO EN EL RIEL	RANGO DE CORRIENTE (A) UL/CSA	RANGO DE VOLTAJE (V) UL/CSA	CABLE UL/CSA
F4U	8mm	25 A máx. (De acuerdo al fusible)	600 Vac	12-22 AWG
F4UL	8mm	6.3 Amp máx	110 Vac	12-22 AWG

BORNERAS PARA ATERRAMIENTO

Borneras para conexión a tierra.

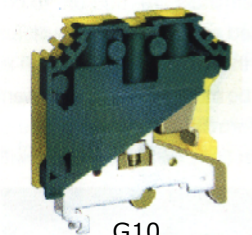
Características especiales:

- Cumple los estándares internacionales: muy baja resistencia de contacto y color de identificación amarillo y verde.
- Cubierta de material irrompible.
- Provisión para identificación individual.
- Puede ser montado con otras borneras en el mismo riel.
- Mordazas de sujeción de cables de alto torque.
- Montaje en riel ofrece soporte mecánico y funciones eléctricas para aterramiento.

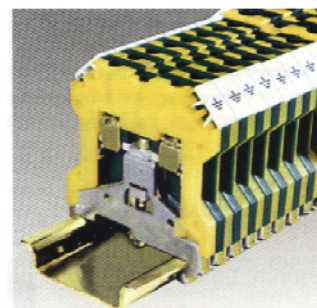
Accesorios: Topes e identificadores.



G4



G10



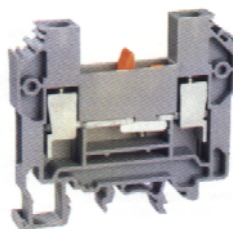
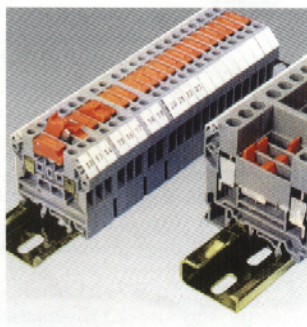
MODELO	ESPACIO EN EL RIEL	RANGO DE CORRIENTE (A)			RANGO DE VOLTAJE (V)			CABLE			TORQUE		
		UL	CSA	VDE	UL	CSA	VDE	UL	CSA	VDE	UL	CSA	VDE
G4	6mm	25	25	32	600	600	750	12-22 AWG	12-22 AWG	0.5 a 4mm ²	7 pulg- lib	7 pulg-lib	0.5 Nm
G10	10mm	65	65	57	600	600	750	7-15 AWG	7-15 AWG	1.5 a 10mm ²	14 pulg-lib	14pulg-lib	1.2 Nm

BORNERAS CON INTERRUPTOR PARA PRUEBAS

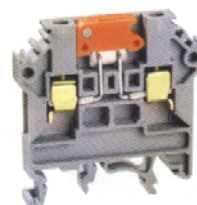
El modelo **CDTT U** está diseñado con puntos de prueba en ambos lados de conexión para puntas de 4mm de diámetro. Posee un puente de conexión deslizable en la parte superior de color naranja para fácil identificación, operable solo con destornillador común. Posee provisión para identificación individual.

El modelo **KN4U** son borneras compactas con puntos de prueba en ambos lados de conexión para puntas de 2mm de diámetro. Posee un interruptor tipo cuchilla en la tapa abisagrada, lo cual permite la conexión y desconexión mediante la apertura de la tapa, la tapa es color naranja para fácil identificación. Posee provisión para identificación individual.

Accesorios: Placa final, topes e identificadores de borneras.



CDTTU

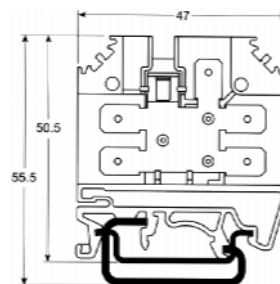
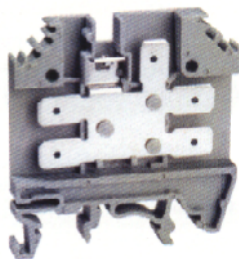
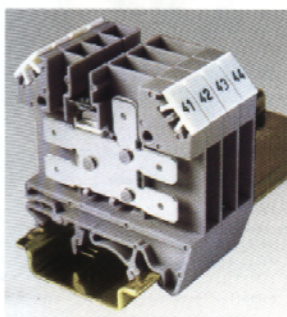


KN4U

MODELO	ESPACIO EN EL RIEL	RANGO DE CORRIENTE (A)			RANGO DE VOLTAJE (V)			CABLE			TORQUE		
		UL	CSA	VDE	UL	CSA	VDE	UL	CSA	VDE	UL	CSA	VDE
CDTT U	8mm	41	41	41	600	600	750	8-16 AWG	8-16 AWG	5-6mm ²	14pulg-lib	1.6Nm	1.2Nm
KN4U	6mm	16	16	16	600	600	500	12-22 AWG	12-22 AWG	0.5 a 4mm ²	7pulg-lib	0.8Nm	0.5Nm

BORNERAS MULTIPUNTO DE CONEXION RAPIDA

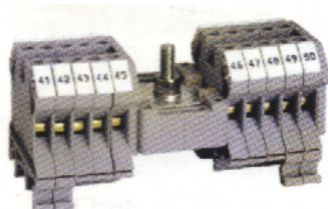
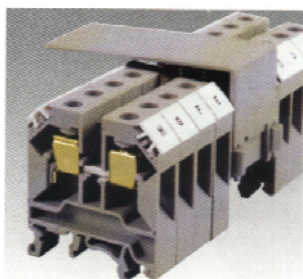
Ofrecen posibilidad de conexión/desconexión rápida para cables con terminal hembra tamaño 6.3x0.8mm. El diseño es tal que la conexión queda interna protegida por la pared de la bornera. Permite además la conexión cruzada con borneras adyacentes.



MODELO	ESPACIO EN EL RIEL	RANGO DE CORRIENTE (A)			RANGO DE VOLTAJE (V)			CABLE		
		UL	CSA	VDE	UL	CSA	VDE	UL	CSA	VDE
CTC 4U	6mm	32	32	32	600	600	750	12-22 AWG	12-22 AWG	0.5 a 4mm ²

BLOQUES DE DISTRIBUCION

Ideales para simplificar el cableado en sistemas de distribución. Se ensamblan en riel DIN forma 'G' y forma 'Q'. La conexión central de la bornera se puede cablear con terminal tipo anillo para permitir la entrada con un cable de mayor capacidad. Perfecta continuidad de distribución. Incluye pieza de cubierta de la conexión entrante para mayor protección.

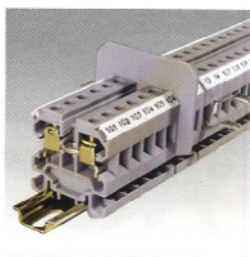


MODELO	ANCHO DE LA BORNERA	RANGO DE CORRIENTE (A)				RANGO DE VOLTAJE (V)			CABLE			
			UL	CSA	VDE	UL	CSA	VDE		UL	CSA	VDE
CDB 4U	6mm	ENT	65	65	57	600	600	750	ENT	6-22 AWG	2-7 AWG	1.5 a 10mm²
		SAL	25	25	32				SAL	12-22 AWG	7-15 AWG	0.5 a 4mm²

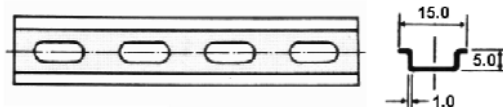
BORNERAS MINIATURA

Bornera miniatura para ahorro de espacio. Montaje en riel estándar de 15x5mm tipo Q15. Provisión para identificación individual.

Accesorios: Tope, placas separadoras e identificadores.



M4

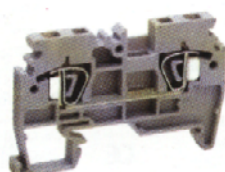
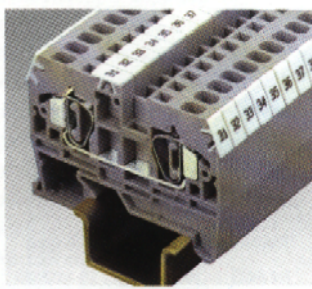


Riel Din 15 MODELO: **AMC15S**

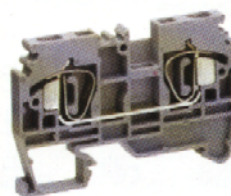
MODELO	ESPACIO EN EL RIEL	RANGO DE CORRIENTE (A)			RANGO DE VOLTAJE (V)			CABLE		
		UL	CSA	VDE	UL	CSA	VDE	UL	CSA	VDE
M 4	6mm	25	25	32	300	300/600	500	12-22 AWG	12-22 AWG	0.5 a 4mm ²

BORNERAS SIN TORNILLOS PARA CONEXIÓN Y DESCONEXIÓN RÁPIDA

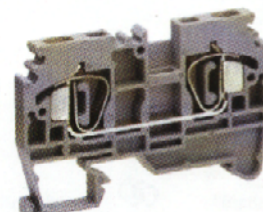
Las borneras de conexión tipo **CAGE** ofrecen una serie de ventajas al permitir realizar con mayor rapidez y facilidad el cableado, siendo de gran utilidad cuando las cantidades de puntos de conexión son numerosos. Sus puntos de conexión tipo pinza permiten que con un destornillador adecuado podamos conectar el cable con gran agarre solo con un medio giro de la herramienta.



CAGE 2.5T



CAGE 4T



CAGE 6T

BORNERAS TIPO CAGE DE CONEXIÓN MÚLTIPLES



CAGE 2.5T1-2



CAGE 4T1-2



CAGE 2.5T2-2



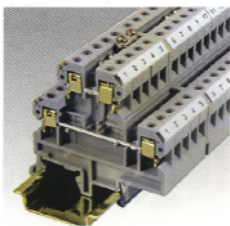
CAGE CAGE 4T2-2

MODELO	ESPACIO EN EL RIEL	RANGO DE CORRIENTE (A)			RANGO DE VOLTAJE (V)			CABLE		
		UL	CSA	VDE	UL	CSA	VDE	UL	CSA	VDE
CAGE 2.5T	5mm	20	20	24	300	300/600	750	14-24 AWG	14-24 AWG	0.5 a 2.5mm ²
CAGE 4T	6mm	25	25	32	600	600	750	12-22 AWG	12-22 AWG	0.5 a 4mm ²
CAGE 6T	8mm	50	50	41	600	600	750	8-22 AWG	8-22 AWG	1.5 a 6mm ²
CAGE 2.5T1-2	5mm	20	20	24	600	600	750	14-24 AWG	14-24 AWG	0.5 a 2.5mm ²
CAGE 4T1-2	6mm	25	25	32	600	600	750	12-22 AWG	12-22 AWG	0.5 a 4mm ²
CAGE 2.5T2-2	5mm	20	20	24	600	600	750	14-24 AWG	14-24 AWG	0.5 a 2.5mm ²
CAGE CAGE 4T2-2	6mm	25	25	32	600	600	750	12-22 AWG	12-22 AWG	0.5 a 4mm ²

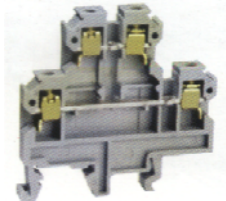
BORNERAS DE NIVELES DOBLES O CON COMPONENTES ELECTRÓNICOS

Borneras compactas de dos niveles ó salida doble ideales para resolver problemas de densidad en el cableado. Borneras con componentes electrónicos: led de indicación y supresores de picos para contactores, relé y válvulas solenoides.

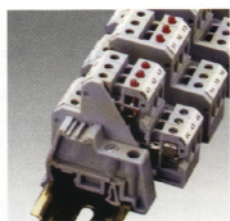
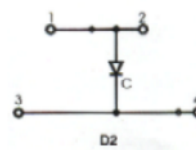
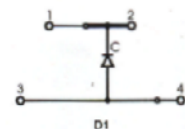
Accesorios: Placa final, topes e identificadores.



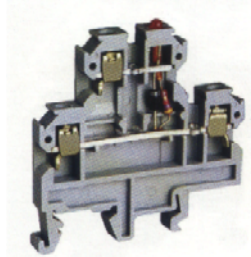
DBL-4U



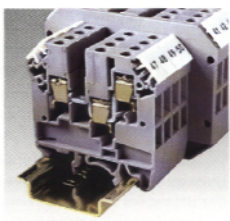
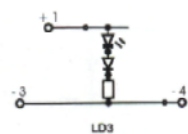
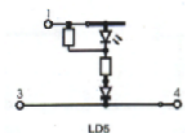
DBL 4UED1/D2



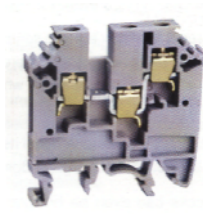
DBL 4UELD3



DBL 4UELD5



SCRW4U 1-2



DBL-4U (0)

MODELO	ESPACIO EN EL RIEL	RANGO DE CORRIENTE (A)			RANGO DE VOLTAJE (V)			CABLE		
		UL	CSA	VDE	UL	CSA	VDE	UL	CSA	VDE
DBL-4U	6mm	20	20	24	300	300/600	400	12-22 AWG	12-22 AWG	0.5 a 4mm ²
DBL 4UED1/D2	9mm	25	25	32	600	600	400	12-22 AWG	12-22 AWG	0.5 a 4mm ²
DBL 4UELD3	9mm	25	25	32	600	600	-	12-22 AWG	12-22 AWG	0.5 a 4mm ²
DBL 4UELD5	9mm	25	25	32	600	600	-	12-22 AWG	12-22 AWG	0.5 a 4mm ²
SCRW4U 1-2	9mm	25	25	32	600	600	600	12-22 AWG	12-22 AWG	0.5 a 4mm ²
DBL-4U (0)	6mm	25	25	32	600	600	600	12-22 AWG	12-22 AWG	0.5 a 4mm ²

PLACAS FINALES PARA BORNERAS

EPSCRW2.5U/4U



PARA SCRW 2.5U/4U

EPM4



PARA M4

EPKN4



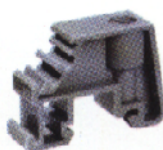
PARA CKT 4U

EPCAGE4



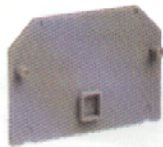
PARA CAGE 4

CA 802



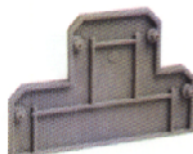
PARA Riel Din 35

EPSCRW2.5U/4U



PARA SCRW 6U/10U

EPDBL4U



PARA DBL 4U/4U(0)

EPTAB4U



PARA CTC4U

EPCAGE6



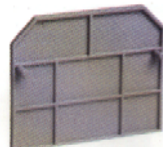
PARA CAGE 6

CA 702



PARA Riel Din 35

EPSCRW2.5U/4U



PARA SCRW 25U

EPF4U



PARA F4U/F4UL

EPSCRW4U1-2



PARA SCRW4U1-2

EPCAGE2.5 1-2



PARA CAGE 2.5 1-2

CA 602



PARA Riel Din 15

EPSCRW2.5U/4U



PARA SCRW 35U

CDTEPU



PARA CDTTU

EPCAGE2.5



PARA CAGE2.5

EPCAGE4 1-2



PARA CAGE 4 1-2

Puentes Permanente



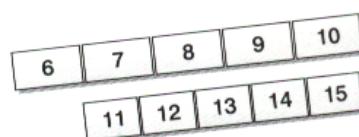
Para conectar entre
Borneras

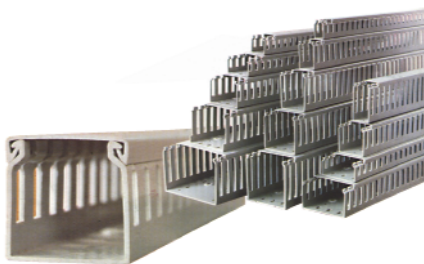
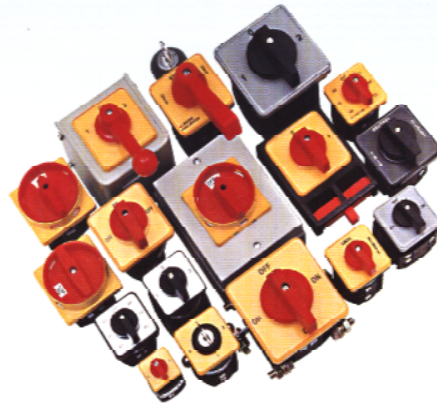
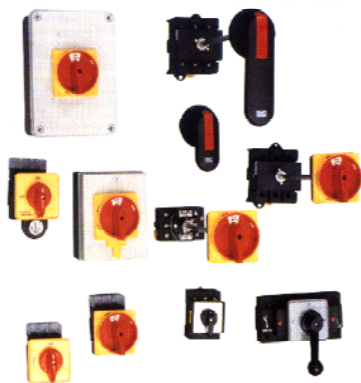


Para usarse con los Puentes Permanentes



Nº y letras tipo "K"





CG Crompton Greaves

