Product Finder

This catalogue is designed for ease of use, with you the Contractor in mind!
Each product section is identified by a coloured band at the page edge.
To locate a product by description, eg. D.O.L. Starters, simply identify the range from the listing on this page and turn to the relevant section. Order references are shown in the green columns. List prices shown are effective 1/1/99. Technical data and dimensions are in the blue-edged pages at the rear of the catalogue.

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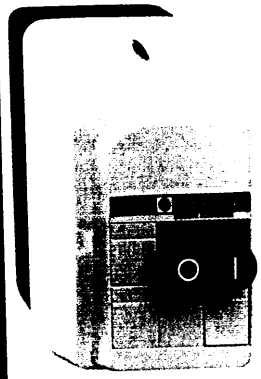
Enclosed motor starters

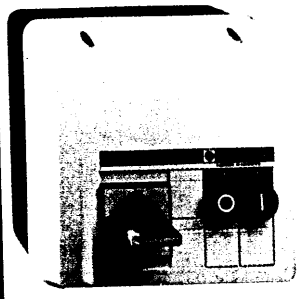
Direct-on-line starters
Without thermal overload relay (1)

Power circuit : AC
Control circuit : AC

Technical data & dimensions : see pages 29-32



LE1-GB



LE1-GB

Direct-on-line starters Composite steel/plastic enclosure. Ingress protection : IP 65

Maximum current rating category AC3	Maximum kW rating Utilisation category AC3		Control supply	Order reference
	220/230 V	380/415 V		
A	**kW**	**kW**	**V**	
Direct-on-line starters without disconnect switch (2)				
12	3	5.5	240 50/60 Hz	**LE1-GBKO55U7**
			415 50/60 Hz	**LE1-GBKO55N7**
25	5.5	11	240 50/60 Hz	**LE1-GBDO11U7**
			415 50/60 Hz	**LE1-GBDO11N7**
Direct-on-line starters with disconnect switch (3)				
12	3	5.5	240 50/60 Hz	**LE1-GBKS55U7**
			415 50/60 Hz	**LE1-GBKS55N7**
25	5.5	11	240 50/60 Hz	**LE1-GBDS11U7**
			415 50/60 Hz	**LE1-GBDS11N7**

(1) Select thermal overload relay separately. See page 7 for up to 5.5 kW and page 8 for 7.5 to 11
(2) 1 additional lamp, pushbutton (not mushroom head)
or selector switch may be fitted to the cover.
Select from pages 18-23.
(3) Up to three additional lamps, pushbutton (not mushroom head)
or selector switches may be fitted to the cover.
Select from pages 18-23.

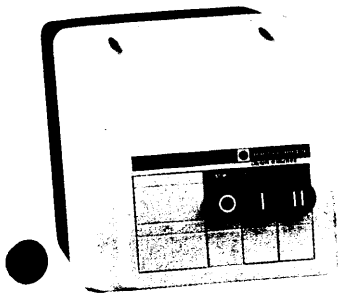
Enclosed motor starters

Direct-on-line starters
Without thermal overload relay (1)

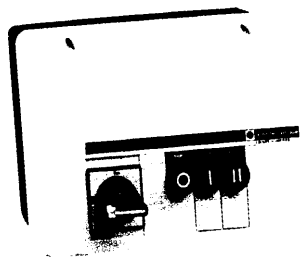
Power circuit : AC
Control circuit : AC

Technical data & dimensions : see pages 29-32

Reversing direct-on-line starters Composite steel/plastic enclosure. Ingress prote



LE2-GB



LE2-GB

Maximum current rating category AC3	Maximum kW rating Utilisation category AC3 220/230 V	380/415 V	Control supply	Order reference
A	**kW**	**kW**	**V**	
Reversing direct-on-line starters without disconnect switch (2)				
12	3	5.5	240 50/60 Hz	**LE2-GBKO55U7**
			415 50/60 Hz	**LE2-GBKO55N7**
25	5.5	11	240 50/60 Hz	**LE2-GBDO11U7**
			415 50/60 Hz	**LE2-GBDO11N7**
Reversing direct-on-line starters with disconnect switch (2)				
12	3	5.5	240 50/60 Hz	**LE2-GBKS55U7**
			415 50/60 Hz	**LE2-GBKS55N7**
25	5.5	11	240 50/60 Hz	**LE2-GBDS11U7**
			415 50/60 Hz	**LE2-GBDS11N7**

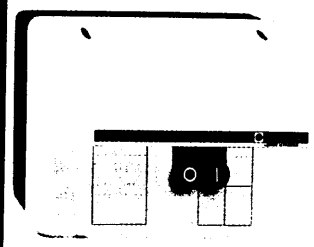
(1) Select thermal overload relay separately. See page 7 for up to 5.5 kW and page 8 for 7.5 to 11
(2) Up to two additional lamps, pushbuttons (not mushroom head)
or selector switches may be fitted to the cover.
Select from pages 18-23.

Enclosed motor starters

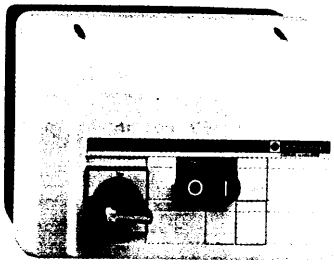
Star-delta starters
Without thermal overload relay (1)
With mechanical/electrical interlock

Power circuit : AC
Control circuit : AC

Technical data & dimensions : see pages 29-32



LE3-GBDO



LE3-GBDS

Automatic (2) star-delta starters Composite steel/plastic enclosure. Ingress protecti

Maximum kW rating Utilisation category AC3			Control supply	Order Reference
380 V	415 V	440 V		
kW	**kW**	**kW**	**V**	
Automatic (2) star-delta starters without disconnect switch (3)				
11	11	11	240 50/60 Hz	**LE3-GBDO11U7**
			415 50/60 Hz	**LE3-GBDO11N7**
18.5	22	22	240 50/60 Hz	**LE3-GBDO22U7**
			415 50/60 Hz	**LE3-GBDO22N7**
Automatic (2) star-delta starters with disconnect switch (3)				
11	11	11	240 50/60 Hz	**LE3-GBDS11U7**
			415 50/60 Hz	**LE3-GBDS11N7**
18.5	22	22	240 50/60 Hz	**LE3-GBDS22U7**
			415 50/60 Hz	**LE3-GBDS22N7**

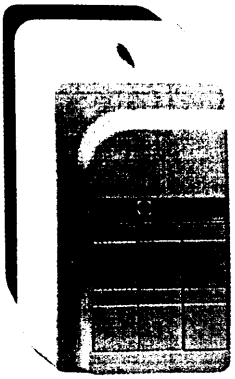
(1) Select thermal overload relay separately. See page 9.
Overload relay should be selected for setting at 0.58 x Motor full load current.
(2) The star-delta timer imposes a delay of 40 ms ±15 ms on the delta contactor at the moment of changeover to ensure that the star contactor has sufficient breaking time.
(3) Up to three additional lamps, pushbuttons (not mushroom head) or selector switches may be fitted to the cover.
Select from pages 18-23.

Enclosed heating and lighting contactors

Heating and lighting contactors
Without thermal overload relay (1)
Without pushbutton controls

Power circuit : AC
Control circuit : AC

Technical data & dimensions : see pages 29-32



LE1-GBDHL

Heating and lighting contactors Composite steel/plastic enclosure. Ingress protect

Maximum continuously rated operational current	Poles	Control supply	Order Reference
A		V	
Heating and lighting contactors			
25	3 + Neutral	240 50/60 Hz	**LE1-GBDHL25U7**
		415 50/60 Hz	**LE1-GBDHL25N7**
32	3 + Neutral	240 50/60 Hz	**LE1-GBDHL32U7**
		415 50/60 Hz	**LE1-GBDHL32N7**
50	3 + Neutral	240 50/60 Hz	**LE1-GBDHL50U7**
		415 50/60 Hz	**LE1-GBDHL50N7**
80	3 + Neutral	240 50/60 Hz	**LE1-GBDHL80U7**
		415 50/60 Hz	**LE1-GBDHL80N7**

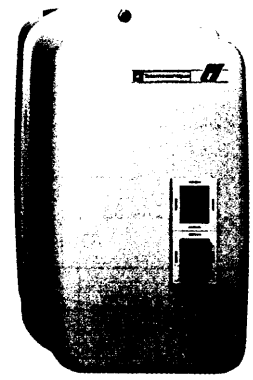
(1) Contactor for non-motor loads does not require a thermal overload relay.

Enclosed motor starters

Direct-on-line and Star-delta starters for motor control

Without thermal overload relay (1)
Power circuit : AC
Control circuit : AC

Technical data & dimensions : see pages 29-32



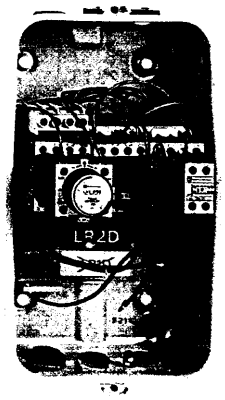
LE1-D405●●

Direct-on-line starters sheet steel enclosure. Ingress protection : IP 55

Utilisation category AC-3 Standard power ratings 3-phase motors 50/60 Hz				Rated current at 440 V	Type of enclosure	Order reference (Replace ●● with code indicating control circuit voltage. See below)
220 V	400 V	415 V	440			
kW	**kW**	**kW**	**kW**	**A**		
7.5	15	15	15	**32**	Metal IP 55	**LE1-D325●●**
11	18.5	22	22	**40**	Metal IP 55	**LE1-D405●●**
15	22	25	30	**50**	Metal IP 55	**LE1-D505●●**
18.5	30	37	37	**65**	Metal IP 55	**LE1-D655●●**
22	37	45	45	**80**	Metal IP 55	**LE1-D805●●**
25	45	45	45	**95**	Metal IP 55	**LE1-D955●●**

Star-delta starters sheet steel enclosure. Ingress protection : IP 55

Standard power ratings squirrel cage motors Mains voltages - delta connection				Type of enclosure	Order reference (Replace ●● with code indicating control circuit voltage. See below)
220 V	400 V	415 V	440		
kW	**kW**	**kW**	**kW**		
Maximum operating rate : 30 starts/hour. Maximum starting time : 30 seconds					
4	7.5	7.5	7.5	Metal IP 55	**LE3-D095●●A64**
5.5	11	11	11	Metal IP 55	**LE3-D125●●A64**
11	18.5	22	22	Metal IP 55	**LE3-D185●●A06A64**
15	25	30	30	Metal IP 55	**LE3-D325●●A06A64**
18.5	37	37	37	Metal IP 55	**LE3-D405●●A06A64**
30	55	59	59	Metal IP 55	**LE3-D505●●A06A64**
37	75	75	75	Metal IP 55	**LE3-D805●●A06A64**



LE3-D095

Control voltage code

Standard control circuit voltages (for other voltages, please consult your local Customer support cen

Volts ∼ 50/60 Hz	240	415
Code	**U7**	**N7**

Specifications

Green Start button "I" +
Red Stop/Reset button "0"

Pre-wired power and control circuit connections

Please consult your local Custome centre for special versions.

The Star Delta timer imposes a delay of 40ms ± 15ms on the delta contactor at the moment of changeove that the star contactor has sufficient breaking time.

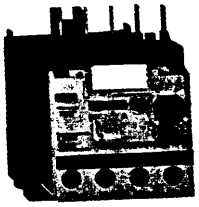
(1) Select appropriate overload relay for setting at 0.58 the full load rated motor current, see pages 8 ar

Thermal overload relays, type LR2-K

for motor protection. D.O.L. starting

Ambient temperature compensated
Phase failure sensitive
Manual or automatic reset

Technical data & dimensions : see pages 33-35



LR2-K0310

Thermal overload relay selection table

For normal starting (ambient temperature ≤ 40 °C / Iq = 50 kA)
Continuous, temporary or intermittent duty up to 30 operating cycles/hour

Motor 415V (1)		Enclosed DOL Starter (2)	Relay Setting range	Fuses to be used with selected relay. Maximum rating BS88(gG)	Order reference Type
kW	**A**		**A**	**A**	
				Class 10	
–	–	LE1/LE2GBK●5.5	0.11...0.16	2	**LR2-K0301**
–	–	LE1/LE2GBK●5.5	0.16...0.23	2	**LR2-K0302**
–	–	LE1/LE2GBK●5.5	0.23...0.36	2	**LR2-K0303**
–	–	LE1/LE2GBK●5.5	0.36...0.54	4	**LR2-K0304**
–	–	LE1/LE2GBK●5.5	0.54...0.8	4	**LR2-K0305**
0.37	1	LE1/LE2GBK●5.5	0.8...1.2	6	**LR2-K0306**
0.55	1.5	LE1/LE2GBK●5.5	1.2...1.8	6	**LR2-K0307**
0.75	1.9	LE1/LE2GBK●5.5	1.8...2.6	10	**LR2-K0308**
1.1	2.5	LE1/LE2GBK●5.5	1.8...2.6	10	**LR2-K0308**
1.5	3.4	LE1/LE2GBK●5.5	2.6...3.7	16	**LR2-K0310**
2.2	4.8	LE1/LE2GBK●5.5	3.7...5.5	16	**LR2-K0312**
3	6.3	LE1/LE2GBK●5.5	5.5...8	20	**LR2-K0314**
4	8.1	LE1/LE2GBK●5.5	8...11.5	20	**LR2-K0316**
5.5	10.9	LE1/LE2GBK●5.5	8...11.5	35	**LR2-K0316**

(1) The values indicated are standard motor power ratings
(2) For complete references refer to pages 2 and 3

Direct mounting beneath the contactor.
Functions on the front of the overload relay :
- selection of reset mode : Manual (marked H) or Automatic (marked A),
- red pushbutton : Trip test,
- blue pushbutton : Stop and manual reset,
- yellow trip flag indicator : Overload relay tripped.

Application example

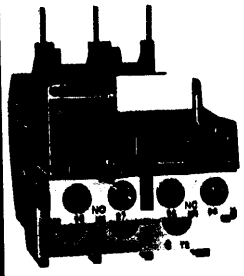
For direct on line starting of an 0.37 kW 415V motor (240V Control supply to starter)
Select the following components.
- An LE1GBK055U7 enclosed direct-on line starter
- An LR2-K0306 Thermal Overload Relay
- 3 x 6A BS88 Fuses

Thermal overload relays, type LR2-D

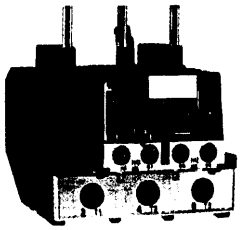
For motor protection - D.O.L. starting

Ambient temperature compensated
Phase failure sensitive
Manual or Automatic reset

Technical data & dimensions : see pages 29-32



LR2-D 1306



LR2-D 3363

Thermal overload relays selection table

Continuous, temporary or intermittent duty up to 30 operating cycles/hour

Motor (1) 380/400 V		415/440 V		Enclosed D.O.L. starter type (2)	Setting range	Protection 3 fuses type BS88 (gG) (3) Rating	Order reference of thermal overload relay
kW	In A	kW	In A		A	A	
0.37	1.03	0.37	–	LE1/LE2-GBD•11	1...1.6	6	**LR2-D1306**
0.55	1.6	0.55	–	LE1/LE2-GBD•11	1.25...2	6	**LR2-D13X6**
0.75	2	0.75	2	LE1/LE2-GBD•11	1.6...2.5	10	**LR2-D1307**
1.1	2.6	1.1	2.5	LE1/LE2-GBD•11	2.5...4	16	**LR2-D1308**
1.5	3.5	1.5	3.5	LE1/LE2-GBD•11	2.5...4	16	**LR2-D1308**
2.2	5	2.2	5	LE1/LE2-GBD•11	4...6	16	**LR2-D1310**
3	6.6	3	6.5	LE1/LE2-GBD•11	5.5...8	20	**LR2-D1312**
4	8.5	4	8.4	LE1/LE2-GBD•11	7...10	20	**LR2-D1314**
5.5	11.5	5.5	11	LE1/LE2-GBD•11	9...13	25	**LR2-D1316**
7.5	15.5	9	17	LE1/LE2-GBD•11	12...18	35	**LR2-D1321**
9	18.5	11	21	LE1/LE2-D25	17...25	50	**LR2-D1322**
11	22	–	–	LE1/LE2-D25	17...25	50	**LR2-D1322**
15	30	15	28	LE1/LE2-D32	23...32	63	**LR2-D2353**
15	30	–	–	LE1/LE2-D32	28...36	80	**LR2-D2355**
18.5	37	18.5	35	LE1/LE2-D40	30...40	80	**LR2-D3355**
–	–	22	40	LE1/LE2-D40	37...50	80	**LR2-D3357**
22	44	–	–	LE1/LE2-D50	37...50	100	**LR2-D3357**
25	52	25	48	LE1/LE2-D50	48...65	100	**LR2-D3359**
30	60	37	65	LE1/LE2-D65	55...70	100	**LR2-D3361**
37	72	45	80	LE1/LE2-D80	63...80	125	**LR2-D3363**
45	85	51	94	LE1/LE2-D95	80...93	160	**LR2-D3365**

(1) The values indicated are standard motor power ratings and average rated operational currents. The overload relay should be set to the full-load current indicated on the motor rating plate or to the current given in the "In" column. For other power ratings, select the relay/contactor combination covering the rated current, together with fuses having a rating equal to or immediately greater than In.
(2) For complete references refer to pages 2, 3 and 6.
(3) gM fuses may be used where available.

Application example

For direct on line starting of a 11 kW-415 V motor

Select the following components :
- an **LE1-GBDO11••** enclosed D.O.L. starter,
- an **LR2-D1322** protection relay set to 21 A,
- 3 x 50A BS88 fuses.

Other versions

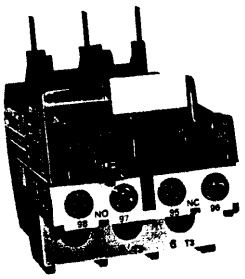
For motors smaller than 0.37 k/W
For single phase motors.

Please consult your local customer support centre.

Thermal overload relays, type LR2-D, 9 to 13

For motor protection - Star-delta starting 9 to 135 A

Technical data & dimensions : see pages 29-32



LR2-D

Selection table - Thermal overload relays

For long starting times, check that the starting current does not cause the overload relay to trip.
Maximum operating rate 30 starts/hour; maximum starting time : 30 seconds
Used with time delay relay **LA2-DS2** which imposes a delay of 40 ms ± 15 on the delta contactor during th
from star to delta connection.

Mains supply 380/400 V Motor (1)			415/440 V Motor (1)			Enclosed star-delta starter type (2)	Protection		Order reference of thermal overload relay
	In	0.58 In		In	0.58 In		Setting for 0.58 In	3 fuses type BS88 (gG) (3) Rating	
kW	A	A	kW	A	A		A	A	
7.5	15.5	9	7.5	14	8.1	LE3-GBD●11	7...10	25	**LR2-D1314**
9	18.5	10.7	9	17	10	LE3-GBD●11	9...13	32	**LR2-D1316**
11	22	12.8	11	21	12.2	LE3-GBD●11	9...13	35	**LR2-D1314**
15	30	17.4	15	28	16.2	LE3-GBD●22	12...18	40	**LR2-D1321**
18.5	37	21.5	18.5	35	20.3	LE3-GBD●22	17...25	50	**LR2-D1322**
–	–	–	22	40	23.2	LE3-GBD●22	17...25	50	**LR2-D1322**
22	44	25.5	25	47	27.3	LE3-D32	23...32	63	**LR2-D2353**
25	52	30.2	30	55	32	LE3-D32	28...36	80	**LR2-D2355**
30	60	34.8	–	–	–	LE3-D40	30...40	80	**LR2-D3355**
37	72	41.8	37	66	38.3	LE3-D40	37...50	80	**LR2-D3357**
–	–	–	45	80	46.4	LE3-D50	37...50	100	**LR2-D3357**
45	85	49.3	–	–	–	LE3-D50	37...50	100	**LR2-D3357**
–	–	–	55	100	58	LE3-D50	48...65	125	**LR2-D3359**
55	105	60.9	59	105	61	LE3-D50	48...65	125	**LR2-D3359**
59	112	65	–	–	–	LE3-D80	63...80	125	**LR2-D3363**
75	138	80	75	135	78.3	LE3-D80	63...80	160	**LR2-D3363**

(1) The values indicated are standard motor power ratings and average operational currents. The overload rel
should be set to 0.58 times the full-load current shown on the motor rating plate (0.58 In = In/√3).
(2) For complete references refer to pages 4 and 6.
(3) gM fuses may be used where available.

Application example

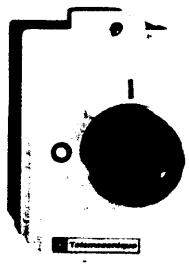
For Star-delta starting of
a 22 kW415 V motor complete with
disconnect switch

Select the following components :
- an **LE3-GBDS22●●** enclosed star-delta starter, with disconnect
- an **LR2-D3355** protection relay set to 34.8 A (35),
- 3 BS88 fuses rated 80A

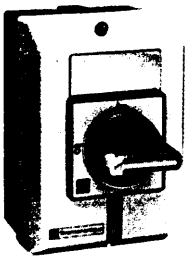
Vario and Mini-Vario enclosed switch-disconnectors

For main and emergency stop switching
Double insulated enclosure

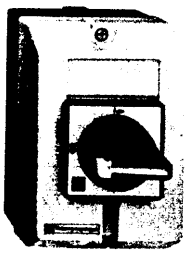
Technical data & dimensions : see pages 36-37



VCFN● ●GE●



VCF0GE



VCFXGE●

Mini-Vario 3-pole main and emergency stop switch disconnectors (1)

Operator Red handle	Marking	Ithe	Power AC 23 at 400 V	Possible attachment	Order reference
		A	**kW**		
Padlockable with up to 3 padlocks (4)	Yellow cover	10	4	(5)	**VCFN12GE**
		16	5.5	(5)	**VCFN20GE**

Vario 3-pole main and emergency stop switch disconnectors (1)

Operator Red handle	Yellow front plate Dimensions	Marking	Ithe	Power AC 23 at 400 V	Possible attachment	Order reference
	mm		**A**	**kW**		
Padlockable with up to 3 padlocks (4)	60 x 60		10	4	(3)	**VCF02GE**
			16	5.5	(3)	**VCF01GE**
			20	7.5	(3)	**VCF0GE**
			25	11	(3)	**VCF1GE**
			32	15	(3)	**VCF2GE**
Padlockable with up to 3 padlocks (4)	60 x 60		50	22	(3)	**VCF3GE**
			63	30	(3)	**VCF4GE**
Padlockable with up to 3 padlocks (4)	91 x 128		100	37	(2)	**VCF5GE**
			140	45	(2)	**VCF6GE**

Vario 6-pole main and emergency stop switch disconnectors (1)

6-pole main and emergency stop switch disconnectors may be assembled from the following compo

Ithe	Enclosure with red padlockable operator (4) and yellow front plate		Switch body		Add-on pole (6) (Order 3 pieces)	
A	Order reference	List price	Order reference	List price	Order reference	
20	**VCFXGE4**	£33.01	**V0**	£11.53	**VZ0**	
25	**VCFXGE4**	£33.01	**V1**	£12.42	**VZ1**	
32	**VCFXGE4**	£33.01	**V2**	£14.40	**VZ2**	
50	**VCFXGDXE**	£56.22	**V3**	£20.56	**VZ3**	
63	**VCFXGDXE**	£56.22	**V4**	£24.26	**VZ4**	

(1) **VCFN** enclosures have IP 55 degree of protection. **VCF** enclosures have IP 65 degree of protection and are sealable.
(2) 1 neutral pole module VZ-13 or 1 N/O + N/C block type VZ-7 or 1 N/O + N/O block type VZ-20.
(3) 1 main pole module or 1 neutral pole module or 1 N/O + N/C block type VZ-7 or 1 N/O + N/O block type VZ-20.
(4) Padlocks not supplied.
(5) 1 main pole module or 1 neutral pole VZN11 + 1 N/O block type VZN05
or 1 N/C block type VZN06
or 1 earth block type VZN14
(6) An auxiliary contact attachment VZ7 or VZ 20 may also be fitted.

Note: Select main pole to match switch size.

Additional contacts


VZ1


VZN12


VZ11


VZN11


VZ14


VZN05

Add-on modules - mini-Vario and Vario

Description	Rating A Ithe	For switch type	Order reference
Main pole module	10	VCFN12GE	**VZN12**
	16	VCFN20GE	**VZN20**
	10	VCF02GE	**VZ02**
	16	VCF01GE	**VZ01**
	20	VCF0GE	**VZ0**
	25	VCF1GE	**VZ1**
	32	VCF2GE	**VZ2**
	50	VCF3GE	**VZ3**
	63	VCF4GE	**VZ4**
Neutral pole module with early make and late break contacts	20	VCNF12GE/20GE	**VZN11**
	20 to 32	VCF02GE-2GE	**VZ11**
	50 and 63	VCF3/4GE	**VZ12**
	100 and 140	VCF5/6GE	**VZ13**
Earthing module	20	VCFN12GE/20GE	**VZN14**
	20 to 32	VCF02GE-2GE	**VZ14**
	50 and 63	VCF3/4GE	**VZ15**
	100 and 140	VCF5/6GE	**VZ16**
Auxiliary contact block module with 1 contact	N/O	VCFN12GE/20GE	**VZN05**
	N/C	VCFN12GE/20GE	**VZN06**
Auxiliary contact block module with 2 contacts	N/O + N/C(1)	ALL except VCFN	**VZ7**
	N/O + N/O	ALL except VCFN	**VZ20**

Attachment Options - Mini-Vario

SWITCH	ATTACHMENT	
VCFN12GE VCFN20GE	VZN12 VZN20	or VZN11 or VZN14 or VZN05 or VZN06

Note: 1 main or neutral pole on one side, with auxiliary contact or earth module on opposite side.

Attachment Options - Vario

SWITCH	ATTACHMENT	
VCF02GE VCF01GE VCF0GE VCF1GE VCF26E	VZ02 VZ01 VZ0 VZ1 VZ2	or VZ11 or VZ7 or VZ20

SWITCH	ATTACHMENT	
VCF5GE VCF6GE	VZ13	

SWITCH	ATTACHMENT	
VCF3GE VCF4GE	VZ3 VZ4	or VZ12 or VZ7 or VZ20

(1) Late make N/O contact, early break N/C contact.

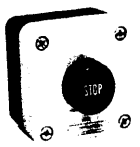
Double insulated control stations

For control circuits

Ready assembled with contact block fitted
Ingress protection IP65

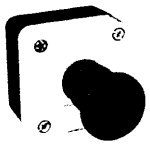
Technical data & dimensions : see pages 38-40

XAL-B103

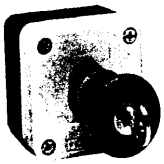


XAL-B114

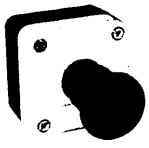
XAL-B112



XAL-J178



XAL-J184

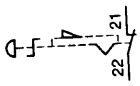
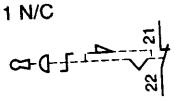


XAL-J174

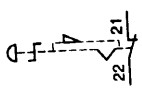
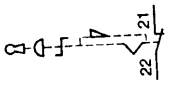
"Start" or "Stop" function (grey lid with dark grey base)

Description	Scheme	Marking on legend	Marking on push-button	Order reference
1 green flush pushbutton spring return	1 N/O 	Start	–	**XAL-B101H29**
		–	I	**XAL-B102**
		–	Start	**XAL-B103**
1 red flush pushbutton spring return	1 N/C 	Stop	–	**XAL-B111H29**
		–	Stop	**XAL-B114**
		–	O	**XAL-B112**
1 red mushroom head pushbutton, Ø 40 mm spring return	1 N/C 	Emergency stop	–	**XAL-B164H29**
1 red projecting pushbutton	1 N/C 	–	Stop	**XAL-B116**

"Emergency stop" function with trigger action mechanism (yellow lid w

Description	Scheme	Function marking	Order reference
1 red mushroom head pushbutton Ø 40 mm latching Turn to release	1 N/C 	Blank	**XAL-J178**
1 red mushroom head pushbutton Ø 40 mm latching Key release (Ronis key n° 455)	1 N/C 	Blank	**XAL-J188**

"Emergency stop" function without trigger action (yellow lid with dark grey

Description	Scheme	Function marking	Order reference
1 red mushroom head pushbutton Ø 40 mm latching Turn to release	1 N/C 	Blank	**XAL-J174**
1 red mushroom head pushbutton Ø 40 mm latching Key release (Ronis key n° 455)	1 N/C 	Blank	**XAL-J184**

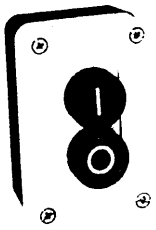
Other versions Please consult your local customer support centre.

Double insulated control stations

For control circuits

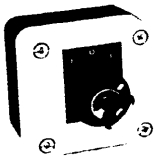
Ready assembled with contact block fitted
Ingress protection IP65

Technical data & dimensions : see pages 38-40



XAL-B213

XAL-B132H29



XAL-B142H29

"Start-Stop" function (light grey lid with dark grey base)

Description	Scheme	Marking on legend	Marking on push-button	Order reference
2 spring return pushbuttons 1 flush green 1 flush red	1 N/O + 1 N/C	Start Stop	– –	**XAL-B211H29**
		– –	I O	**XAL-B213**
		– –	Start Stop	**XAL-B215**
1 selector switch 2-position stay put, standard black handle	1 N/O	Stop Start	– –	**XAL-B132H29**
		O I	– –	**XAL-B134**
1 key switch (Ronis key n° 455) 2-position stay put. Key withdrawal in left hand position	1 N/O	Stop Start	– –	**XAL-B142H29**
		O I	– –	**XAL-B144**

"Start-Stop" function with pilot light (light grey lid with dark grey base)

Description	Scheme	Marking on legend	Marking on push-button	Order reference
1 red pilot light Direct supply ≤ 130 V Bulb not included (1) + **2 spring return pushbuttons** 1 flush green 1 flush red	X1 X2 1 N/O + 1 N/C	Start Stop	– –	**XAL-B361H29**
		– –	I O	**XAL-B363**
		– –	Start Stop	**XAL-B366**
1 red pilot light 230-240 V Direct supply through resistor BA 9s-130 V bulb included + **2 spring return pushbuttons** 1 flush green 1 flush red	X1 X2 1 N/O + 1 N/C	Start Stop	– –	**XAL-B371H29**
		– –	I O	**XAL-B373**
		– –	Start Stop	**XAL-B376**

(1) Bulb types for use with direct supply units :
Incandescent, BA 9s base fitting : U ≤ 130 V, maximum power 2.6 W, maximum Ø 11 mm, maximum length :
Neon BA 9s base fitting : 110 V ≤ U ≤ 380 V (DL1-CF●●●, see page 25).

Other versions Please consult your local customer support centre.

Double insulated control stations

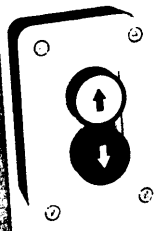
For control circuits

Ready assembled control stations
Ingress protection IP65

Technical data & dimensions : see pages 38-40

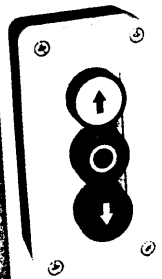
Control of movement (light grey lid with dark grey base)

Description	Scheme	Marking on legend	Marking on push-button	Order reference
2 spring return pushbuttons 1 flush green 1 flush red	1 N/O (13-14) + 1 N/O (23-24)	Open Close	– –	**XAL-B241H29**
2 spring return pushbuttons 1 flush white (black arrow) 1 flush black (white arrow)	1 N/O (13-14) + 1 N/O (23-24)	– –	↑ ↓	**XAL-B222**
		– –	→ ←	**XAL-B223**
3 spring return pushbuttons 1 flush green 1 flush red 1 flush green	1 N/O (13-14) + 1 N/C (21-22) + 1 N/O (13-14)	Forward Stop Reverse	– – –	**XAL-B311H29**
		Up Stop Down	– – –	**XAL-B321H29**
		Right Stop Left	– – –	**XAL-B331H29**
		Open Stop Close	– – –	**XAL-B341H29**
		– – –	I O II	**XAL-B339**
3 spring return pushbuttons 1 flush white (black arrow) 1 flush red 1 flush black (white arrow)	1 N/O (13-14) + 1 N/C (21-22) + 1 N/O (13-14)	– – –	↑ O ↓	**XAL-B324**
		– – –	→ O ←	**XAL-B334**



XAL-B222

XAL-B321H29



XAL-B324

Other versions Please consult your local customer support centre.

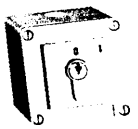
Vandal-resistant control stations

Assembled vandal-resistant control stations

1 N/O contact per function, screw clamp terminal connections

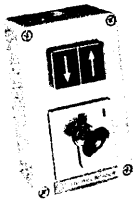
Ingress protection IP54

Technical data & dimensions : see pages 38-40



XAP-S11111

XAP-S14221



XAP-S21111

XAP-S21331

XAP-S24431

Vandal-resistant control stations with key lock

Description	Key withdrawal	Marking	Mounting	Order reference
2 position, stay put	Left hand position	0 I	Surface	**XAP-S11111**
			Flush	**XAP-S14111**
2 position, spring return from right to left	Left hand position	➡	Surface	**XAP-S11221**
			Flush	**XAP-S14221**
2 position, stay put + 2 buttons, spring return	Left hand position	↑ ↓ 0 I	Surface	**XAP-S21111**
			Flush	**XAP-S24111**
3 position, stay put	Centre position	◀ 0 ▶	Surface	**XAP-S11331**
			Flush	**XAP-S14331**
3 position, spring return from right and left to centre	Centre position	◀ 0 ▶	Surface	**XAP-S11431**
			Flush	**XAP-S14431**
3 position, stay put + 1 button, spring return	Centre position	STOP ◀ 0 ▶	Surface	**XAP-S21331**
			Flush	**XAP-S24331**
3 position, spring return from right and left to centre + 1 button, spring return	Centre position	STOP ◀ 0 ▶	Surface	**XAP-S21431**
			Flush	**XAP-S24431**

Other versions

XAP-S vandal-resistant control stations :
- with front plate without fixing hole (fixing by enclosure),
- with specific markings and/or key numbers.

Please consult your local customer support centre.

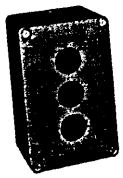
Metal control station enclosures

with cut-outs for Ø 22 mm control and signalling units

Ingress protection IP65

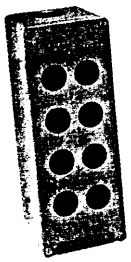
Technical data & dimensions : see pages 41-43

XAP-M1202H29



XAP-M2203H29

XAP-M2504H29



XAP-M4508H29

Diecast metal control station enclosures (blue enclosure and cover)

Description	Front face dimensions mm	Number of cut-outs	N° of rows vertical	N° of rows horizontal	Order reference
Zinc alloy Usable depth 49 mm	80 x 80	1	1	1	**XAP-M1201H29**
		2	2	1	**XAP-M1202H29**
	80 x 130	2	1	2	**XAP-M2202H29**
		3	1	3	**XAP-M2203H29**
		4	2	2	**XAP-M2204H29**
	80 x 175	3	1	3	**XAP-M3203H29**
		4	1	4	**XAP-M3204H29**
		6	2	3	**XAP-M3206H29**
Zinc alloy Usable depth 74.5 mm	80 x 80	1	1	1	**XAP-M1501H29**
		2	2	1	**XAP-M1502H29**
	80 x 130	2	1	2	**XAP-M2502H29**
		3	1	3	**XAP-M2503H29**
		4	2	2	**XAP-M2504H29**
	80 x 175	3	1	3	**XAP-M3503H29**
		4	1	4	**XAP-M3504H29**
		6	2	3	**XAP-M3506H29**
	80 x 220	6	1	6	**XAP-M4506H29**
		8	2	4	**XAP-M4508H29**
Aluminium alloy Usable depth 74.5 mm	85 x 310	8	1	8	**XAP-M5508H29**
		12	2	6	**XAP-M5512H29**

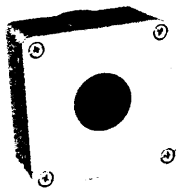
Select control and signalling units from pages 18-24

Metal control station enclosures

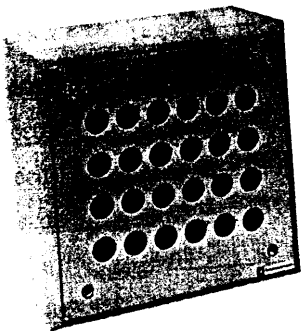
with cut-outs for O 22 mm control and signalling units

Ingress protection IP65

Technical data & dimensions : see pages 41-43



XAP-J1201H29



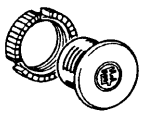
XB2-SL64007

Diecast metal control station enclosures (blue enclosure, yellow cover)

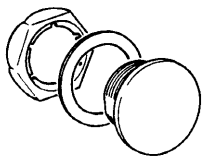
Description	Front face dimensions mm	Number of cut-outs	N° of rows vertical	N° of rows horizontal	Order reference
Zinc alloy Usable depth 49 mm	80 x 80	1	1	1	**XAP-J1201H29**
Zinc alloy Usable depth 74.5 mm	80 x 80	1	1	1	**XAP-J1501H29**

Sheet steel control station enclosures

Usable depth 115 mm	200 x 200	8	4	2	**XB2-SL42007**
	200 x 260	16	4	4	**XB2-SL44007**
	260 x 260	24	6	4	**XB2-SL64007**
	260 x 320	30	6	5	**XB2-SL65007**
	320 x 320	40	8	5	**XB2-SL85007**



ZB2-SZ3
ZB2-SZ4



ZB2-SZ2

Accessories

Description	Material	Colour	Order reference
Blanking plugs with seal and fixing nut for cut-outs Ø 22.3 $^{+0.4}_{-0}$ mm	Insulated	Black	**ZB2-SZ3**
		Grey	**ZB2-SZ4**
	Metal	Blue	**ZB2-SZ2**

Select control and signalling units from pages 18-24

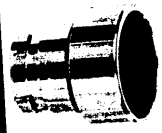
Other versions Please consult your local customer support centre.

Control units Ø 22 mm (IP 65)

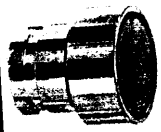
Circular head with chromium plated metal bezel. O 22 mm fixir

Pushbutton operating heads

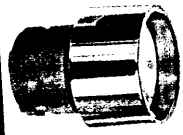
Technical data & dimensions : see pages 41-43



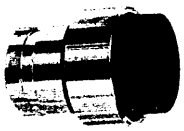
ZB2-BA2



ZB2-BA58

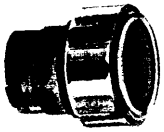


ZB2-BA16



ZB2-BL4

ZB2-BP2



ZB2-BP68

Pushbutton operating heads, spring return

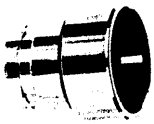
Description	Colour	Order reference
Flush pushbutton	White	**ZB2-BA1**
	Black	**ZB2-BA2**
	Green	**ZB2-BA3**
	Red	**ZB2-BA4**
	Yellow	**ZB2-BA5**
	Blue	**ZB2-BA6**
Flush transparent pushbutton for use with integral circular legend plate ZB2-BY1●●● (see page 27)	Green	**ZB2-BA38**
	Red	**ZB2-BA48**
	Yellow	**ZB2-BA58**
	Blue	**ZB2-BA68**
	Clear	**ZB2-BA78**
Recessed pushbutton with guard	White	**ZB2-BA16**
	Black	**ZB2-BA26**
	Green	**ZB2-BA36**
	Red	**ZB2-BA46**
	Yellow	**ZB2-BA56**
	Blue	**ZB2-BA66**
Projecting pushbutton	White	**ZB2-BL1**
	Black	**ZB2-BL2**
	Green	**ZB2-BL3**
	Red	**ZB2-BL4**
	Yellow	**ZB2-BL5**
	Blue	**ZB2-BL6**
Booted pushbutton	Black	**ZB2-BP2**
	Green	**ZB2-BP3**
	Red	**ZB2-BP4**
	Yellow	**ZB2-BP5**
	Blue	**ZB2-BP**
Transparent booted pushbutton for use with integral circular legend plate ZB2-BY1●●● (see page 25)	Green	**ZB2-BP**
	Red	**ZB2-BP**
	Yellow	**ZB2-BP**
	Blue	**ZB2-BP**
	Clear	**ZB2-BP**
Other versions	Operating heads with black metal bezel. Please consult your local customer support ce	

Control units Ø 22 mm (IP 65)

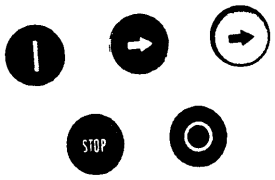
Circular head with chromium plated metal bezel. O 22 mm fix

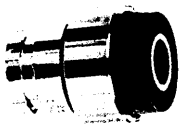
Pushbutton operating heads

Technical data & dimensions : see pages 41-43

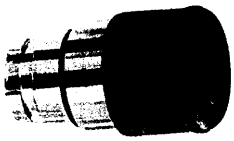


ZB2-BA334

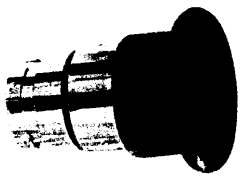




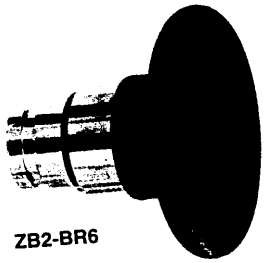
ZB2-BL432



ZB2-BC44



ZB2-BC4



ZB2-BR6

Pushbutton operating heads, spring return (continued)

Description	Marking	Colour	Order Reference
Flush pushbutton with function symbol on button	I	Green	**ZB2-BA331**
	II	Green	**ZB2-BA336**
	↑ or →	White	**ZB2-BA334**
	↓ or ←	Black	**ZB2-BA335**
	O	Red	**ZB2-BA432**
	Start	Green	**ZB2-BA333**
	Stop	Red	**ZB2-BA434**
Projecting pushbutton with function symbol on button	O	Red	**ZB2-BL432**
	Stop	Red	**ZB2-BL434**
Mushroom head pushbutton	Ø 30 mm	Black	**ZB2-BC24**
		Green	**ZB2-BC34**
		Red	**ZB2-BC44**
		Yellow	**ZB2-BC54**
		Blue	**ZB2-BC64**
	Ø 40 mm	Black	**ZB2-BC2**
		Green	**ZB2-BC3**
		Red	**ZB2-BC4**
		Yellow	**ZB2-BC5**
		Blue	**ZB2-BC6**
	Ø 60 mm	Black	**ZB2-BR2**
		Green	**ZB2-BR3**
		Red	**ZB2-BR4**
		Yellow	**ZB2-BR5**
		Blue	**ZB2-BR6**

Wobblestick operating heads For "Fast operation" functions

Plastic coated metal rod Operates in all directions		Black	**ZB2-BB2**
		Red	**ZB2-BB4**

Other versions

Operating heads with black metal bezel.
Pushbuttons with metal button.
Flush pushbutton with heavy duty sealing.
Padlockable guard - 1, 2 or 3 padlocks.
Please consult your local customer support ce

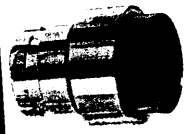
Control units Ø 22 mm (IP 65)

Circular head with chromium plated metal bezel, Ø 22 mm fixing

Pushbutton operating heads

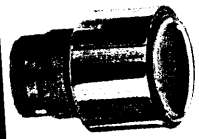
Technical data & dimensions: see pages 41-43

Pushbutton operating heads, latching



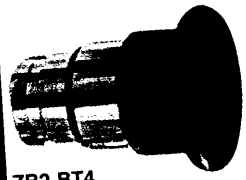
ZB2-BH3

Description		Colour	Order reference
Transparent projecting pushbutton Push-push to release		Green	**ZB2-BH3**
		Red	**ZB2-BH4**
		Yellow	**ZB2-BH5**
		Blue	**ZB2-BH6**
		Clear	**ZB2-BH7**



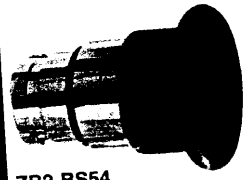
ZB2-BH78

Transparent booted pushbutton Push-push to release		Green	**ZB2-BH38**
		Red	**ZB2-BH48**
		Yellow	**ZB2-BH58**
		Blue	**ZB2-BH68**
		Clear	**ZB2-BH78**



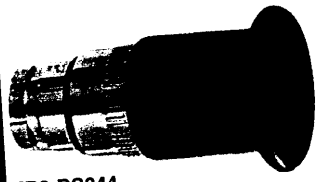
ZB2-BT4

Mushroom head pushbutton Push-pull	Ø 40 mm	Black	**ZB2-BT2**
		Red	**ZB2-BT4**
	Ø 60 mm	Black	**ZB2-BX2**
		Red	**ZB2-BX4**



ZB2-BS54

Mushroom head pushbutton Turn to release	Ø 30 mm	Black	**ZB2-BS42**
		Red	**ZB2-BS44**
	Ø 40 mm	Black	**ZB2-BS52**
		Red	**ZB2-BS54**
		Yellow	**ZB2-BS55**
	Ø 60 mm	Black	**ZB2-BS62**
		Red	**ZB2-BS64**



ZB2-BS844

Mushroom head pushbutton with TRIGGER ACTION (1) Turn to release	Ø 30 mm	Red	**ZB2-BS8**
	Ø 40 mm	Red	**ZB2-BS8**
Mushroom head pushbutton Key release - Ronis key n° 455	Ø 30 mm	Black	**ZB2-BS7**
		Red	**ZB2-BS7**
	Ø 40 mm	Black	**ZB2-BS**
		Red	**ZB2-BS**
	Ø 60 mm	Black	**ZB2-BS**
		Red	**ZB2-BS**

ZB2-BS24

Mushroom head pushbutton with TRIGGER ACTION (1) Key release - Ronis key n° 455	Ø 30 mm	Red	**ZB2-BS**
	Ø 40 mm	Red	**ZB2-BS**
	Ø 60 mm	Red	**ZB2-BS**

(1) The trigger action mushroom head is a tamper proof unit whereby a change of contact s operator, which can leave it in the unlatched position. They are particularly suitable in applicat pushbuttons are used and it is necessary to quickly ascertain which one has been operated. T which operator is latched or via a pilot light etc. - use ideally with a ZB2-BZ105 body/co

Other versions

Operating heads with black metal bezel.
Key release mushroom head pushbutton
Please consult your local customer supp

Control units Ø 22 mm (IP 65)

Circular head with chromium plated metal bezel. O 22 mm fix

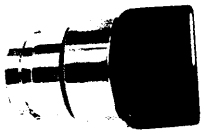
Selector switch operating heads

Key switch operating heads

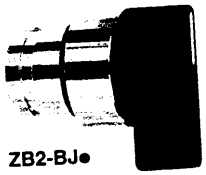
Potentiometer operating heads

Technical data & dimensions : see pages 41-43

Selector switch operating heads



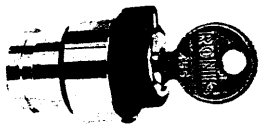
ZB2-BD●



ZB2-BJ●

Description	Type	Operator	Order reference
2 position	stay put	Standard handle	**ZB2-BD2**
		Long handle	**ZB2-BJ2**
	spring return from right to left	Standard handle	**ZB2-BD4**
		Long handle	**ZB2-BJ4**
3 position	stay put	Standard handle	**ZB2-BD3**
		Long handle	**ZB2-BJ3**
	spring return to centre from either side	Standard handle	**ZB2-BD5**
		Long handle	**ZB2-BJ5**
	spring return right to centre	Standard handle	**ZB2-BD8**
		Long handle	**ZB2-BJ8**
	spring return left to centre	Standard handle	**ZB2-BD7**
		Long handle	**ZB2-BJ7**

Key switch operating heads (Ronis key n° 455)



ZB2-BG●

Description	Type	Key removal	Order reference
2 position	stay put	LH position	**ZB2-BG2**
		LH and RH pos.	**ZB2-BG4**
	spring return right to left	LH position	**ZB2-BG6**
3 position	stay put	centre position	**ZB2-BG3**
		LH and RH pos.	**ZB2-BG5**
		LH position	**ZB2-BG9**
		RH position	**ZB2-BG09**
		all 3 positions	**ZB2-BG0**
	spring return to centre from either side	centre position	**ZB2-BG7**
	spring return left to centre	RH position	**ZB2-BG1**
	spring return right to centre	centre position	**ZB2-BG8**

Operating head + mounting base for potentiometer (potentiomet

Description	For potentiometer shaft Ø	Order Reference
For potentiometer with shaft length	6 mm	**ZB2-BD91**
	6.35 mm	**ZB2-BD92**

Other versions

Operating heads with black metal bezel.
Operating heads for key switches with other key nur
functions.
Please consult your local customer support centre.

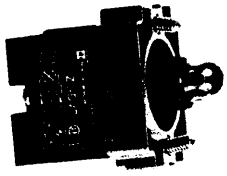
Pilot light heads
Pilot light bodies, with screws and captive cable clamp connections

Technical data & dimensions : see pages 41-43

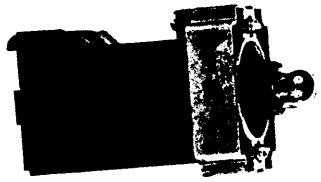
ZB2-BV03

ZB2-BV043

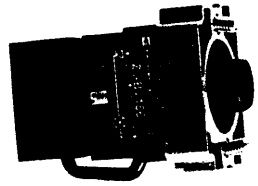
ZB2-BV6



ZB2-BV7



ZB2-BV4



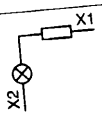
ZB2-BV156

Pilot light heads

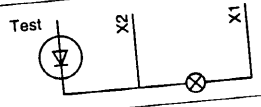
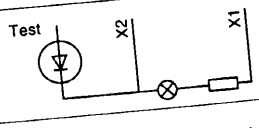
Description	Colour	Order reference
For use with incandescent bulbs	White	**ZB2-BV01**
	Green	**ZB2-BV03**
	Red	**ZB2-BV04**
High contrast, for use with neon bulbs or LEDs	Green	**ZB2-BV033**
	Red	**ZB2-BV043**
	Yellow	**ZB2-BV053**

Colour	Order Reference
Yellow	**ZB2-BV05**
Blue	**ZB2-BV06**
Clear	**ZB2-BV07**
Blue	**ZB2-BV063**
Clear	**ZB2-BV073**

Pilot light bodies, screw and captive cable clamp connections

Supply	Scheme	Supply voltage	Order reference
Direct bulb not included (1)		≤ 400 V	**ZB2-BV6**
Direct through resistor BA 9s, 130 V bulb included		230-240 V	**ZB2-BV7**
Via integral transformer 1.2 VA BA 9s, 6 V bulb included		110 V/50 Hz 110-120 V/60 Hz	**ZB2-BV3**
		230 V/50 Hz	**ZB2-BV4**
		240 V/50 Hz 220-240 V/60 Hz	**ZB2-BV94**
		400 V/50 Hz	**ZB2-BV5**
		415 V/50 Hz	**ZB2-BV93**
		440-480 V/60 Hz	**ZB2-BV95**

Pilot light bodies with "Test" function, screw and captive cable cla

Supply	Scheme	Supply voltage	Order reference
Direct bulb not included (1)		≤ 400 V	**ZB2-BV156**
Direct via resistor BA 9s, 130 V bulb included		230-240 V	**ZB2-BV157**

(1) Bulb types for use with direct supply : BA 9s base fitting incandescent bulb U ≤ 130 V, Neon bulb 120 V ≤ U ≤ 400 V, maximum Ø 11 mm, maximum length 28 mm (DL1-C●●●

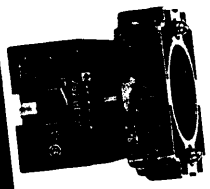
Other versions Please consult your local customer support centre.

Control units Ø 22 mm (IP 65)

Circular head with chromium plated metal bezel. O 22 mm fixing

Body/contact block assemblies, with screw and captive cable clamp connections

Technical data & dimensions : see pages 41-43



ZB2-BZ101

Body assemblies with 1 contact block

Description	Contact type	Scheme		Order reference
For pushbuttons, 2 position selector switches, 2 position key switches	N/O		Standard	**ZB2-BZ101**
			For low power switching	**ZB2-BZ1016**
	N/C		Standard	**ZB2-BZ102**
			For low power switching	**ZB2-BZ1026**

Body assemblies with 2 contact blocks

For pushbuttons, 2 and 3 position selector switches, 2 and 3 position key switches	N/O + N/O		Standard	**ZB2-BZ103**
			For low power switching	**ZB2-BZ1036**
	N/C + N/C		Standard	**ZB2-BZ104**
			For low power switching	**ZB2-BZ1046**
	N/C + N/O		Standard	**ZB2-BZ105**
			For low power switching	**ZB2-BZ1056**
	Make before break			
	N/O + N/C		Standard	**ZB2-BZ106**
	2-step			
	N/O + N/O		Standard	**ZB2-BZ107**

ZB2-BE10●

Additional/replacement contact blocks

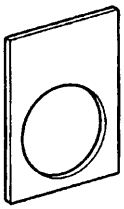
Description	Contact type	Scheme		Order reference
For making up body assemblies with 3, 4, 5 or maximum of 6 contact blocks or replacing 1st or 2nd contact	N/O		Standard	**ZB2-BE101**
			For low power switching	**ZB2-BE1016**
			Early make	**ZB2-BE201**
	N/C		Standard	**ZB2-BE102**
			For low power switching	**ZB2-BE1026**
			Late break	**ZB2-BE202**

Other versions Please consult your local customer support centre.

Control and signalling units Ø 22 mm

Legend plates

Legend plates 30 x 40 mm



Weight : 0.001
ZB2-BY2●●●
ZB2-BY4●●●

Weight : 0.001

"Start" functions : white characters on black background. "Stop" functions : white characters on red background.

Without text

Colour	Order reference	List price	Colour	Order reference	List price
Black or red background	**ZB2-BY2101**	£0.45	White or yellow background	**ZB2-BY4101**	
Universal symbols					
For pushbuttons			For selector switches		
O	**ZB2-BY2146**	£0.45	O-I	**ZB2-BY2178**	
I	**ZB2-BY2147**	£0.45	I-II	**ZB2-BY2179**	
II	**ZB2-BY2148**	£0.45	I-O-II	**ZB2-BY2186**	£
III	**ZB2-BY2149**	£0.45			

Standard texts

Text	Order reference	Text	Order reference	Text	Order reference
For pushbuttons and pilot lights		Off	**ZB2-BY2312**	For selector switches	
Auto	**ZB2-BY2115**	On	**ZB2-BY2311**	Auto-Hand	**ZB2-BY2364**
Bridge forward	**ZB2-BY2343**	Open	**ZB2-BY2313**	Auto-O-Hand	**ZB2-BY2385**
Bridge reverse	**ZB2-BY2344**	Out	**ZB2-BY2339**	For-Rev	**ZB2-BY2371**
Close	**ZB2-BY2314**	Power on	**ZB2-BY2326**	For-O-Rev	**ZB2-BY2384**
Down	**ZB2-BY2308**	Raise	**ZB2-BY2335**	Hand-Off-Auto	**ZB2-BY2387**
Emergency stop	**ZB2-BY2330**	Reset (red)	**ZB2-BY2323**	High-Low	**ZB2-BY2369**
Fast	**ZB2-BY2328**	Reset (black)	**ZB2-BY2322**	Jog-For	**ZB2-BY2381**
Forward	**ZB2-BY2305**	Reverse	**ZB2-BY2306**	Jog-Rev	**ZB2-BY2380**
Hand	**ZB2-BY2316**	Right	**ZB2-BY2309**	Jog-Run	**ZB2-BY2365**
High	**ZB2-BY2338**	Run	**ZB2-BY2334**	Man-Auto	**ZB2-BY2372**
Hoist down	**ZB2-BY2342**	Slow	**ZB2-BY2327**	Off-On	**ZB2-BY2367**
Hoist up	**ZB2-BY2341**	Start	**ZB2-BY2303**	Open-Close	**ZB2-BY2376**
Inch	**ZB2-BY2321**	Stop	**ZB2-BY2304**	Open-O-Close	**ZB2-BY2388**
Left	**ZB2-BY2310**	Trolley left	**ZB2-BY2346**	Start-Stop	**ZB2-BY2362**
Low	**ZB2-BY2336**	Trolley right	**ZB2-BY2345**	Up-Down	**ZB2-BY2370**
Lower	**ZB2-BY2337**	Up	**ZB2-BY2307**	Up-O-Down	**ZB2-BY2389**

Special texts. Please state exact wording required when ordering (2 lines maximum, 11 characters per line).

White characters on black background	**ZB2-BY2002**	For a number of legends with the same text, please consult your local customer support centre.	All legends on this page List price £0.45
White characters on red background	**ZB2-BY2004**		
Black characters on white background	**ZB2-BY4001**		
Black characters on yellow background	**ZB2-BY4005**		

When ordering

a standard legend plate : Please state the exact reference. Example : **ZB2-BY2304.**
a special legend plate : Please state the exact reference of the legend plate together with the text required. **Example : ZB2-BY4001 "Pump 1".**

Other versions

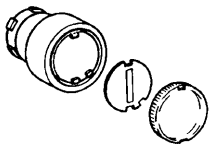
Legend plates with special texts or texts in other languages.
Please consult your local customer support centre.

Legend plates
Bulbs

ZB2-BY8330

Large legend plates (for mushroom head pushbuttons)

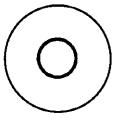
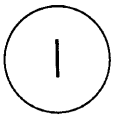
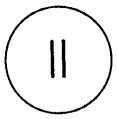
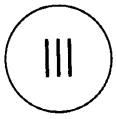
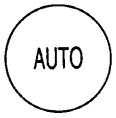
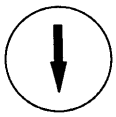
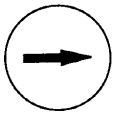
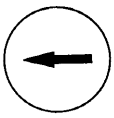
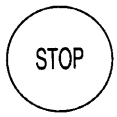
Description	Colour	Diameter	Order reference
Circular without text	White or yellow background	Ø 60 mm	**ZB2-BY9101**
		Ø 90 mm	**ZB2-BY8101**
Circular with text "Emergency stop"	Black characters on yellow background	Ø 60 mm	**ZB2-BY9330**
		Ø 90 mm	**ZB2-BY8330**
Rectangular without text	Red background	45 x 67.5 mm	**ZB2-BY5101**



Flush transparent pushbutton

ISO Circular legend plates (for use with transparent pushbuttons and pilot lights)

For a more comprehensive list of ISO legends, please consult your Regional Sales Office.

						Weight kg
						
'Blank'					AUTO	
ZB2-BY1101	**ZB2-BY1146**	**ZB2-BY1147**	**ZB2-BY1148**	**ZB2-BY1149**	**ZB2-BY1115**	0.001
						
				START	STOP	
ZB2-BY1912	**ZB2-BY1912**	**ZB2-BY1912**	**ZB2-BY1912**	**ZB2-BY1303**	**ZB2-BY1304**	0.001

All legends above reference ZB2 BY1 ●●● List price £0.45

Bulbs (sold in lots of 10)

Description		Voltage	Order unit reference
BA 9s base fitting	Incandescent	6 V	**DL1-CB006**
		12 V	**DL1-CE012**
		24 V	**DL1-CE024**
		48 V	**DL1-CE048**
		130 V	**DL1-CE130**
	Neon	120 V	**DL1-CF110**
		230/240 V	**DL1-CF220**
		400 V	**DL1-CF380**

When ordering **a legend plate or bulb :** Please state the exact reference. Example : **ZB2-BY9101.**

Other versions Legend plates with special texts or texts in other languages. Please consult your local customer support centre.

Complete illuminated beacons

Surface mount or tube fixing

Technical data & dimensions : see pages 44-45

Description	Type of illumination	Lens colour	Order reference
Complete assembly comprising : 1 cover 1 coloured lens unit 1 base unit	Steady light BA 15d bulb (not included, see page 15) ≤ 230 V	Green	**XVA-L33**
		Red	**XVA-L34**
		Orange	**XVA-L35**
		Blue	**XVA-L36**
		Clear	**XVA-L37**
	Flashing light BA 15d bulb (not included, see page 15) ~ 24...230 V (± 10 %)	Green	**XVA-L43**
		Red	**XVA-L44**
		Orange	**XVA-L45**
		Blue	**XVA-L46**
		Clear	**XVA-L47**
	Discharge circuit for flashing light. Integral high intensity xenon discharge tube ⎓ 24 V (350 mA maximum, on supply : 720 mA)	Green	**XVA-L63C024**
		Red	**XVA-L64C024**
		Orange	**XVA-L65C024**
		Blue	**XVA-L66C024**
		Clear	**XVA-L67C024**
	Discharge circuit for flashing light. Integral high intensity xenon discharge tube ~ 110/120 V 50/60 Hz	Green	**XVA-L63B120**
		Red	**XVA-L64B120**
		Orange	**XVA-L65B120**
		Blue	**XVA-L66B120**
		Clear	**XVA-L67B120**
	Discharge circuit for flashing light. Integral high intensity xenon discharge tube ~ 230 V (± 10 %) 50 Hz	Green	**XVA-L63A23**
		Red	**XVA-L64A2**
		Orange	**XVA-L65A**
		Blue	**XVA-L66A**
		Clear	**XVA-L67A**

XVA-L3●

XVA-L4●

XVA-L6●●●●●

Accessories and spare parts see page 28

Adaptable illuminated indicator banks

Up to 5 units, direct or tube fixing

Sub-assemblies

Technical data & dimensions : see pages 44-45

Description	Type of illumination	Lens colour	Order reference
Illuminated lens units Not interchangeable with illuminated beacons	Steady light BA 15d bulb (not included, see next page) Supply voltage ≤ 230 V	Green	**XVA-C33**
		Red	**XVA-C34**
		Orange	**XVA-C35**
		Blue	**XVA-C36**
		Clear	**XVA-C37**
	Flashing light BA 15d bulb (not included, see next page) ~ 24 to 230 V (± 10 %)	Green	**XVA-C43**
		Red	**XVA-C44**
		Orange	**XVA-C45**
		Blue	**XVA-C46**
		Clear	**XVA-C47**
Normal intensity xenon flashing light Stackable units *For high intensity units see next page*	With discharge circuit. Integral tube Supply voltage ~ 220 V (± 10 %) 50 Hz	Green	**XVA-C53**
		Red	**XVA-C54**
		Orange	**XVA-C55**
		Blue	**XVA-C56**
		Clear	**XVA-C57**

XVA-C34

XVA-C37

XVA-C9●

XVA-C21

Description	Signal	Supply voltage	Reference
Audible signalling unit (90 db at 1 m)	Continuous	⎓ 12...48 V (1)	**XVA-C9**
	Intermittent	⎓ 12...48 V (1)	**XVA-C**
	Continuous	~ 110...230 V	**XVA-C**
	Intermittent	~ 110...230 V	**XVA-C**
Base unit + cover	For bank without xenon flashing light		**XVA-**
Base unit only	For bank with xenon flashing light		**XVA-**

XVA-C02

XVA-C01

A maximum of 5 units may be stacked

(1) "–" line to common terminal (PLC solid state PNP type output).

Note : Illuminated indicator banks are supplied as sub-assemblies.
Each unit is packed individually and marked with its respective reference.
Maximum number of units per bank : 5 illuminated units or 4 illuminated units + 1 au
For accessories and spare parts see page 28.

Sub-assemblies for illuminated indicator banks (continued)
Accessories and spare parts for illuminated beacons and indicator banks

Technical data & dimensions : see pages 44-45

XVA-C6●●●●●

Sub-assemblies for illuminated indicator banks (continued)

Description	Type of illumination	Lens colour	Order reference
High intensity xenon flashing light (Maximum of 1 unit per indicator bank, mounted at top) *For normal intensity stackable units see page 14*	With discharge circuit. Integral tube Supply voltage ⎓ 24 V (1) (350 mA maximum, on supply : 720 mA)	Green	**XVA-C63C0241**
		Red	**XVA-C64C0241**
		Orange	**XVA-C65C0241**
		Blue	**XVA-C66C0241**
		Clear	**XVA-C67C0241**
	With discharge circuit. Integral tube ~ 110/120 V 50/60 Hz	Green	**XVA-C63B120**
		Red	**XVA-C64B120**
		Orange	**XVA-C65B120**
		Blue	**XVA-C66B120**
		Clear	**XVA-C67B120**
	With discharge circuit. Integral tube ~ 230 V (± 10 %) 50 Hz	Green	**XVA-C63A220**
		Red	**XVA-C64A220**
		Orange	**XVA-C65A220**
		Blue	**XVA-C66A220**
		Clear	**XVA-C67A220**

(1) "–" line to common terminal (PLC solid state PNP type output).

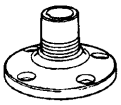
Note : Illuminated indicator banks are supplied as sub-assemblies.
Each unit is packed individually and marked with its respective reference.
Maximum number of units per bank : 5 illuminated units or 4 illuminated units + 1 audible unit.

Accessories and spare parts for illuminated beacons and indicatc

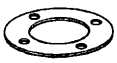
Description

XVA-C02

XVA-C05



XVA-C01



XVA-C06

DL1-B●●●●

			Order reference
Accessories for tube mounting	Tube only	100 mm	**XVA-C02**
		400 mm	**XVA-C03**
		800 mm	**XVA-C04**
	Tube support/ fixing plate	Polycarbonate	**XVA-C01**
		Aluminium	**XVA-C11**
Sealing gaskets	Dust and damp protecting	For base unit	**XVA-C05**
		For tube support	**XVA-C06**
Bulbs, BA 15d base fitting (Sold in lots of 10)	–	12 V - 5 W	**DL1-BA012**
		24 V - 6.5 W	**DL1-BL024**
		48 V - 5 W	**DL1-BA048**
		120 V - 7 W	**DL1-BL120**
		230 V - 7 W	**DL1-BL230**

Thermal overload relays, type LR2-D

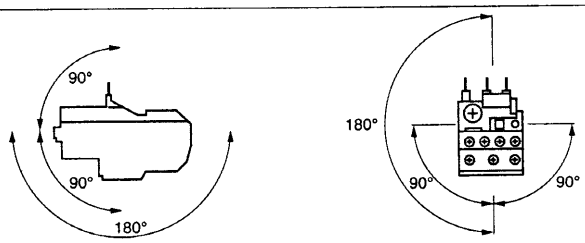
3-pole thermal overload relays
adjustable from 0.1 to 93 A

Technical data

Application

LR2 3-pole thermal overload relays are designed to protect a.c. circuits and motors against overloads, phase failure, long starting times and prolonged stalling of the motor.

Environment

Conforming to standards			IEC 947-1, IEC 947-4-1, NF C 63-650, VDE 0660
Approvals			**LR2-D** : ASE, CSA, UL, DEMKO, NEMKO, FI, SEMKO, Sichere Trennung, PTB.
Degree of protection	Conforming to VDE 0106		Protection against direct finger contact
Protective treatment	Standard version		"TH"
Ambient air temperature around the device (Inside enclosure)	Storage	°C	- 60...+ 70
	Normal operation without derating (IEC 947-4)	°C	- 30...+ 55
	Operational limits (with derating)	°C	- 40...+ 70
Direct mounting	Beneath the contactor		**LC1-D, LP1-D**
Operating positions without derating	In relation to normal vertical mounting plane		

Auxiliary contact characteristics

Conventional thermal current		**A**	5					
Maximum consumption for operating coils of controlled contactors (Occasional operating cycles of contact 95-96)	a.c. supply	**V**	24	48	110	220	380	600
		VA	100	200	400	600	600	600
	d.c. supply	**V**	24	48	110	220	440	–
		W	100	100	50	45	25	–
Protection	By gl, BS fuses. Maximum size or **GB2-CB●●** circuit breaker	**A**	5					
Cabling Flexible cable without cable end	1 or 2 conductors	**mm²**	Min./max. c.s.a. 1/2.5					
Flexible cable with cable end	1 or 2 conductors	**mm²**	1/2.5					
Solid cable without cable end	1 or 2 conductors	**mm²**	1/2.5					
Tightening torque		**N.m**	1.2					

Enclosed D.O.L. & star-delta starters

Contactors, type LC1-D (used in starters LE●-GBD
and enclosed contactors LEI-GBHL)
Control circuit : a.c. supply

Technical data

Contactor Type			LC1-D09	LC1-D12	LC1-D18
Environment					
Rated insulation voltage (Ui)	Conforming to VDE 0110 grC/IEC 947-1	V	1000	1000	1000
Rated impulse withstand voltage (Uimp)		kV	8	8	8
Conforming to standards			NFC 63-110, VDE 0660, BS 5424, JEM 1038. IEC 947-1, 947-4-1		
Approvals			ASE, UL, CSA, DEMKO, NEMKO, SEMKO, FI conforming to SNCF, Sichere Trennung recommendations		
Degree of protection	Conforming to VDE 0106		Protection against direct finger contact IP 2X (1)		
Protective treatment	Standard version		"TH"		
Ambient air temperature around the device (inside enclosure)	Storage	°C	- 60...+ 80		
	Operation	°C	- 5...+ 55 (0.8...1.1 Uc)		
	Permissible	°C	- 40...+ 70, for operation at Uc		
Maximum operating altitude	Without derating	m	3000		
Operating positions	Without derating		± 30° possible, in relation to normal vertical mounting plane		
Shock resistance (2) 1/2 sine wave = 11ms	Contactor open		10 g	10 g	10 g
	Contactor closed		15 g	15 g	15 g
Vibration resistance (2) 5...300 Hz	Contactor open		2 g	2 g	2 g
	Contactor closed		4 g	4 g	4 g
Pole characteristics					
Number of poles			3	3 or 4	3
Rated operational current (Ie) (Ue ≤ 440 V)	In AC-3, θ ≤ 55 °C	A	9	12	18
	In AC-1, θ ≤ 55 °C	A	25	25	32
Rated operational voltage (Ue)	Up to	V	690	690	690
Frequency limits	Of the operational current	Hz	25...400	25...400	25...400
Rated thermal current (Ith)	θ ≤ 55 °C	A	25	25	32
Rated making capacity	I rms conforming to IEC 158-1	A	250	250	300
Rated breaking capacity	I rms 220-380-415-440 V	A	250	250	300
	500 V	A	175	175	250
	660-690 V	A	85	85	120
Permissible short time rating from cold state, no current flowing for preceding 15 minutes, at θ ≤ 40 °C	For 1 s	A	210	210	240
	For 5 s	A	130	130	185
	For 10 s	A	105	105	145
	For 30 s	A	76	76	105
	For 1 min	A	61	61	84
	For 3 min	A	44	44	58
	For 10 min	A	30	30	40
Enclosed Starter Short-circuit protection by fuses U ≤ 415 V	Type BS88/gG Motor circuit (type aM)	A	See pages 4 and 7, for ratings of fuses corresponding to the associated thermal overload relay		
Average impedance per pole	At Ith and 50 Hz	mΩ	2.5	2.5	2.5
Power dissipation per pole for the above operational currents	AC-3	W	0.20	0.36	0.8
	AC-1	W	1.56	1.56	2.5
Cabling			Min/max c.s.a.		
Flexible cable without cable end	1 conductor	mm²	1/4	1/4	1.5/6
	2 conductors	mm²	1/4	1/4	1.5/6
Flexible cable with cable end	1 conductor	mm²	1/4	1/4	1/6
	2 conductors	mm²	1/2.5	1/2.5	1/4
Solid cable without cable end	1 conductor	mm²	1/4	1/4	1.5/6
	2 conductors	mm²	1/4	1/4	1.5/6
Tightening torque	Power circuit connections	N.m	1.2	1.2	1.7

(1) Minimum cabling c.s.a. with cable end
(2) In the least favourable direction, without change of contact state (coil supplied at Ue)

Enclosed D.O.L. & star-delta starters

Contactors, type LC1-D (used in starters LE●-GBD
and enclosed contactors LEI-GBHL)
Control circuit : a.c. supply

Technical data

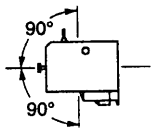
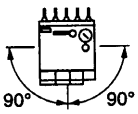
LC1-D25	LC1-D32	LC1-D40	LC1-D50	LC1-D65	LC1-D80	LC1-D95
1000	1000	1000	1000	1000	1000	1000
8	8	8	8	8	8	8
IEC 947-1, 947-4-1, NFC 63-110, VDE 0660, JEM 1038.						
ASE, UL, CSA, DEMKO, NEMKO, SEMKO, FI conforming to SNCF, Sichere Trennung recommendations						
Protection against direct finger contact IP 2X (1)						
"TH"						
- 60...+ 80						
- 5...+ 55 (0.8...1.1 Uc)		- 5...+ 55 (0.85...1.1 Uc)				
- 40...+ 70, for operation at Uc						
3000						
± 30° possible, in relation to normal vertical mounting plane						
8 g	8 g	8 g	8 g	8 g	8 g	8 g
15 g	15 g	10 g	10 g	10 g	10 g	10 g
2 g	2 g	2 g	2 g	2 g	2 g	2 g
4 g	4 g	3 g	3 g	3 g	3 g	3 g
3 or 4	3	3 or 4	3	3 or 4	3 or 4	3
25	32	40	50	65	80	95
40	50	60	80	80	125	125
690	690	690	690	690	690	690
25...400	25...400	25...400	25...400	25...400	25...400	25...400
40	50	60	80	80	125	125
450	550	800	900	1000	1100	1200
450	550	800	900	1000	1100	1100
400	450	800	900	1000	1000	1100
180	180	400	500	630	640	640
380	430	720	810	900	990	990
290	340	420	520	660	800	800
240	260	320	400	520	640	640
155	175	215	275	340	420	420
120	138	165	208	260	320	320
80	92	110	145	175	210	210
50	60	72	84	110	135	135
See pages 4 and 7, for ratings of fuses corresponding to the associated thermal overload relay						
2	2	1.5	1.5	1	0.8	0.8
1.25	2	2.4	3.7	4.2	5.1	7.2
3.2	5	5.4	9.6	6.4	12.5	12.5
Min/max c.s.a.						
1.5/10	2.5/10	2.5/25	2.5/25	2.5/25	4/50	4/50
1.5/6	2.5/10	2.5/16	2.5/16	2.5/16	4/25	4/25
1/6	1/10	2.5/25	2.5/25	2.5/25	4/50	4/50
1/4	1.5/6	2.5/10	2.5/10	2.5/10	4/16	4/16
1.5/6	1.5/10	2.5/25	2.5/25	2.5/25	4/50	4/50
1.5/6	2.5/10	2.5/16	2.5/16	2.5/16	4/25	4/25
1.85	2.5	5	5	5	9	9

Thermal overload relays, type LR2-K

for motor and distribution circuit protection
Compensated and phase failure sensitive
Manual or automatic reset

Technical data

Environment

Conforming to standards			IEC 947, NF C 63-650, VDE 0660
Approvals	Pending		UL, CSA, DEMKO, NEMKO, SEMKO, FI, PTB
Protective treatment	Conforming to IEC 68 (DIN 50016)		"TC" (Klimafest, Climateproof)
Degree of protection	Conforming to VDE 0106		Protection against direct finger contact
Ambient temperature around the device (inside enclosure)	Storage	°C	- 40...+ 70
	Operation at Ue	°C	- 20...+ 55
Ambient temperature compensation		°C	- 20...+ 55
Maximum operating altitude	Without derating	m	2000
Operating position	**Vertical axis**  Without derating		**Horizontal axis**  With derating
Flame resistance	Conforming to UL 94		Self-extinguishing V1
	Conforming to NF F 16-101 and 16-102		Conforming to requirement 2
Shock resistance in hot state (1/2 sine wave, 11 ms)	Conforming to IEC 68, N/C contact		10 g
	Conforming to IEC 68, N/O contact		10 g
Vibration resistance in hot state 5 to 300 Hz	Conforming to IEC 68, N/C contact		2 g
	Conforming to IEC 68, N/O contact		2 g
Safe circuit separation	Conforming to VDE 0106 and IEC 536		T.B.T.S., up to 400 V
Cabling Screw clamp terminals			Minimum / Maximum / Maximum to IEC 947
	Solid cable	mm²	1 x 1.5 / 2 x 4 / 1 x 4 + 1 x 2.5
	Flexible cable without cable end	mm²	1 x 0.75 / 2 x 4 / 2 x 2.5
	Flexible cable with cable end	mm²	1 x 0.34 / 1 x 1.5 + 1 x 2.5 / 1 x 1.5 + 1 x 2.5
Tightening torque	Philips head N° 2 - Ø 6	N.m	0.8
Mounting			Directly under the contactor or reversing contactor
Connections	Carried out automatically when mounting under the contactor, as follows : Connection of terminal A2 of the contactor to terminal 96 of the overload relay for all products. Connection of terminal 14 of the contactor to terminal 95 of the overload relay on products with 3P + N/O. For contactors with 3P + N/C, 4P or with the N/O contact marked 13-14, connected to a potential other than that of the coil voltage, remove the link on terminal 14.		

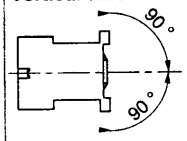
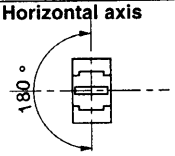
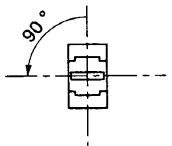
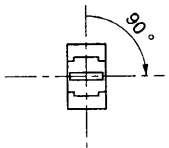
Auxiliary contact characteristics

Number of contacts			1 N/C + 1 N/O						
Rated thermal current		A	6						
Short-circuit protection	Conforming to IEC 947, BS88/gG fuse	A	6						
Maximum coil consumption of the controlled contactors in the closed state. (Occasional operating cycle of contact 95-96)	a.c.	V	24	48	110	230/240	400	415/440	600/690
		VA	100	200	400	600	600	600	600
	d.c.	V	24	48	110	220	250	–	–
		W	100	100	50	45	35	–	–
Maximum operating voltage	a.c., category AC-15	V	690						
	d.c., category DC-13	V	250						

LE*-GBK enclosed D.O.L. starters

Contactors type LCI-K (Used in starters LEI-GBK/LE2-GBK)
Technical data

Environment

Conforming to standards			IEC 947, NF C 63-110, VDE 0660
Approvals	Pending		UL, CSA, DEMKO, NEMKO, SEMKO, FI
Protective treatment	Conforming to IEC 68 (DIN 50016)		"TC" (Klimafest, Climateproof)
Degree of protection	Conforming to VDE 0106		Protection against direct finger contact
Ambient air temperature around the device (inside enclosure)	Storage	°C	- 50...+ 80
	Operation	°C	- 25...+ 50
Maximum operating altitude	Without derating	m	2000
Operating position	**Vertical axis**  Without derating	**Horizontal axis**  Without derating	 With derating  With derating
Flame resistance	Conforming to UL 94		Self-extinguishing V1
	Conforming to NF F 16-101 and 16-102		Conforming to requirement 2
Shock resistance (1/2 sine wave, 11 ms)	Contactor open		10 g
	Contactor closed		15 g
Vibration resistance 5...300 Hz	Contactor open		2 g
	Contactor closed		4 g
Safe circuit separation	Conforming to VDE 0106 and IEC 536		T.B.T.S., up to 400 V

Cabling Screw clamp terminals			Minimum	Maximum	Maximum to IEC 947
	Solid cable	mm²	1 x 1.5	2 x 4	1 x 4 + 1 x 2.5
	Flexible cable without cable end	mm²	1 x 0.75	2 x 4	2 x 2.5
	Flexible cable with cable end	mm²	1 x 0.34	1 x 1.5 + 1 x 2.5	1 x 1.5 + 1 x 2.5
Faston connectors	Clip	mm	2 x 2.8 or 1 x 6.35		
Solder pins for printed circuit board	With correct fitting device power circuit/control circuit		4 mm x 35 microns		
Tightening torque	Philips head N° 2 - Ø 6	N.m	0.8		
Contact marking	Conforming to EN 50005 and EN 50012 standards		Up to 5 contacts		

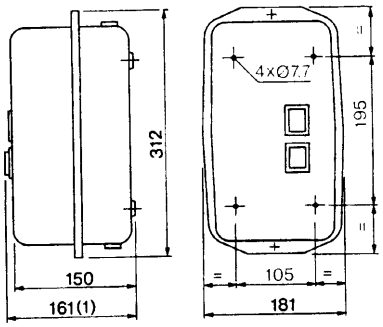
Control circuit characteristics

			LC1/ LC2
Rated control circuit voltage (Uc)		V	a.c. 12...690
Control voltage limits (≤ 50 °C)	For operation		0.8...1.15 Uc
Single voltage coil	For drop-out		≥ 0.20 Uc
Average consumption at 20 °C and at Uc	Inrush		30 VA
	Sealed		4.5 VA
Thermal dissipation		W	1.3
Operating time at 20 °C and at Uc	Between coil energisation and		
	- opening of N/C contacts	ms	5...15
	- closing of N/O contacts	ms	10...20
	Between coil de-energisation and		
	- opening of N/O contacts	ms	10...20
	- closing of N/C contacts	ms	15...25
Maximum immunity time to micro breaks		ms	2
Maximum operating rate	In operating cycles per hour		3600
Mechanical durability at Uc In millions of operating cycles	50/60 Hz coil		10/3
	Standard d.c. coil		–
	Wide range d.c. coil		–

LE1-D & LE3-D enclosed starters

Dimensions

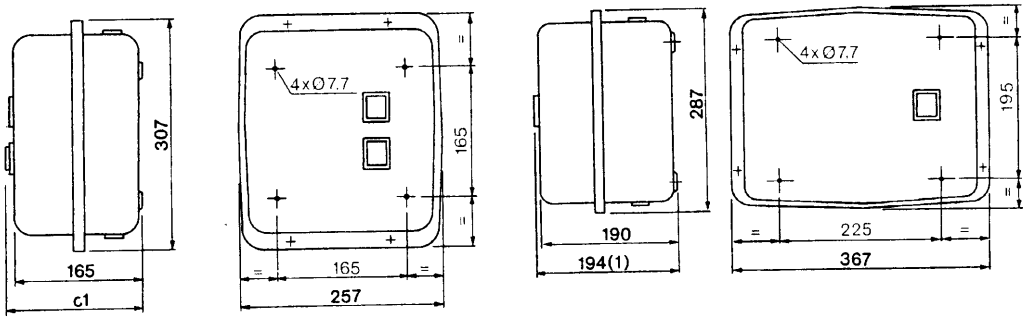
LE1-D325, D405, D505, D655
LE3-D095, D125, D185
LE3-D095●●A64, D125●●A64



(1) 150 for LE1-D●●●●●A04 (without pushbuttons).

LE1-D805, D955
LE3-D325
LE3-D185●●A64, D325●●A64

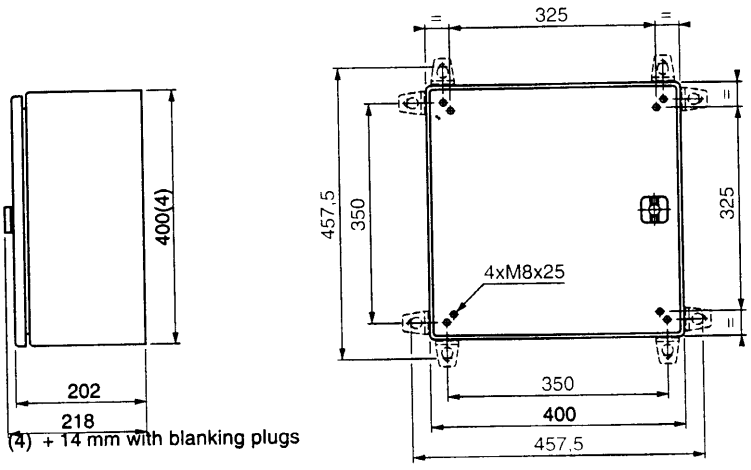
LE3-D405, D505
LE3-D405●●A64, D505●●A64



LE2-	c1	
LE1-D●●●	176	(2 pushbuttons "I" and "O")
LE1-D●●●●●A04	165	(without pushbuttons)
LE2-D●●●	169	(1 pushbutton "R")
LE3-D●●●	165	(without pushbuttons)

(1) 190 for LE3-D●●● (without pushbuttons).

LE3-D805, D805●●A64



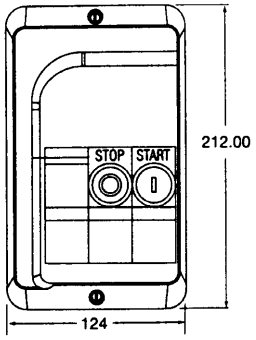
(4) + 14 mm with blanking plugs

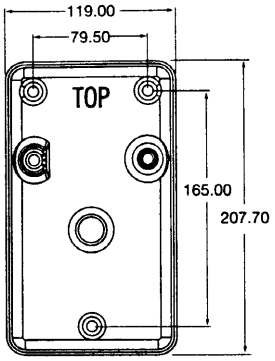
Knock-outs or blanking plugs for cable glands
(gland size in mm, P = Plastic)

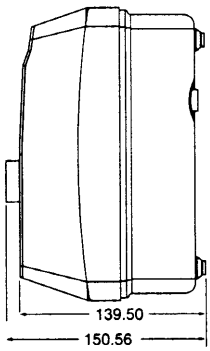
Type of enclosure	At top	At bottom
LE2-D325, D405	1 x 13 P and 1 x 21 P	1 x 13 P and 2 x 21
LE1-D325 to D655	1 x 13 P and	1 x 13 P and 2 x 29
LE1-D805, D955	1 x 13 P and	1 x 13 P and 2 x 36
LE3-D095, D125	1 x 16 P and 2 x 13 P	1 x 16 P and 2 x 13
LE3-D185	1 x 21 P and 2 x 13 P	1 x 21 P and 2 x 16
LE3-D325	1 x 21 P 2 x 16 P	1 x 21 P , 2 x 13 P a
LE3-D405	1 x 29 P 2 x 21 P	1 x 29 P , 2 x 13 P a
LE3-D505	1 x 36 P 2 x 29 P	1 x 36 P , 2 x 13 P a
LE3-D805	1 x 36 P	2 x 13 P , 3 x 36 P

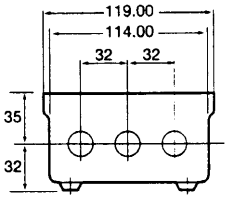
Dimensions

Direct-on-line starters without disconnect switch
LE1-GB●O●●●7



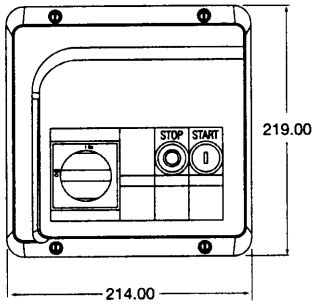


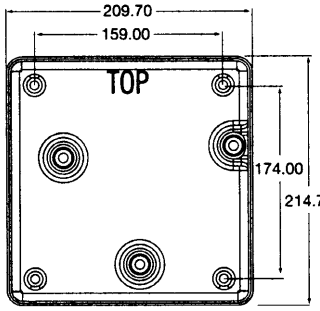


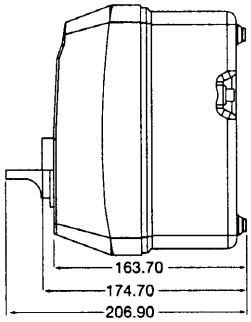


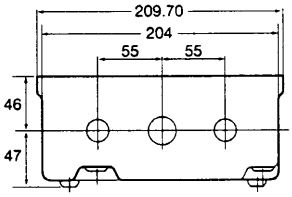
3 x ISO 20 mm knockouts
top and bottom

Direct-on-line starters with disconnect switch
LE1-GB●O●●●7
Reversing with/without disconnect switch
LE2-GB●O●●●7, LE2-GB●S●●●7



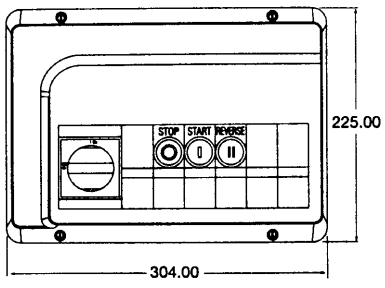


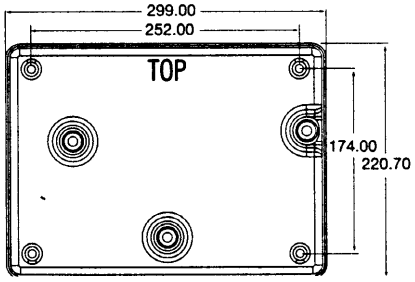


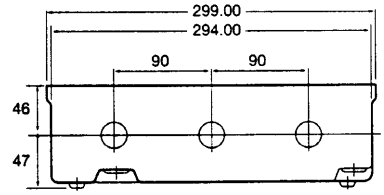


2 x ISO 20 mm 1 x ISO 25 mm
knockout top and bottom

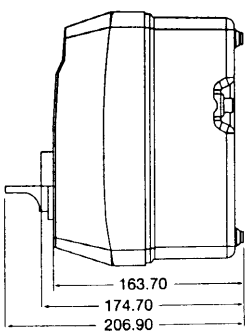
Star-delta starters with/without disconnect switch
LE3-GBDO●●●7







2 x ISO 25 mm 1 x ISO 20 mm
knockout top and bottom



Technical Characteristics

General

	V 02 VZ 02	VN 12 VZN 12	VN 20 VZN 20	V 01 VZ 01	V 0 VZ 0	V 1 VZ 1	V 2 VZ 2	V 3 VZ 3	V 4 VZ 4	V 5	V 6	VZ 7 VZ 20
Conformity to standards IEC	947-3	947-3	947-3	947-3	947-3	947-3	947-3	947-3	947-3	947-3	947-3	947-5
Certification UL, CSA, ASE, GL	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Protective treatment TC	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC	
Degree of protection IEC 529	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20(1)	IP 20(1)	IP 20
Ambient air temperature °C max/min	+50/-20	+50/-20	+50/-20	+50/-20	+50/-20	+50/-20	+50/-20	+50/-20	+50/-20	+50/-20	+50/-20	+50/-20
Mechanical durability Millions of operating cycles	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.03	0.03	0.03	0.03	0.1
Electrical durability AC-21 Millions of operating cycles	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.03	0.03	0.03	0.03	0.1 (AC-15)
Suitability for isolation	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	
Cabling - flexible with cable end mm²	6	6	6	6	6	6	6	16	16	70	70	2 x 0.75 to 1.5
Cabling - rigid	mm²	10	10	10	10	10	10	10	25	25	95	95 2 x 1 to 2.5
Cabling - tightening torque	N.m	2.1	2.1	2.1	2.1	2.1	2.1	2.1	4	4	22.6	22.6 0.8

(1) With protective shroud

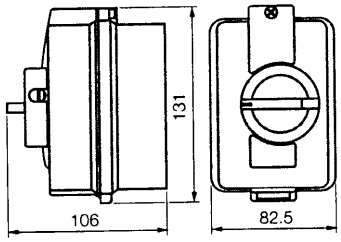
Electrical characteristics for AC operation

Rated operational voltage Ue		V	690	690	690	690	690	690	690	690	690	690	690	690
Conventional thermal current in free air Ith and rated continuous Iu		A	12	12	20	20	25	32	40	63	80	125	175	12
Conventional thermal current in enclosure Ithe		A	10	10	16	16	20	25	32	50	63	100	140	10
Rated operational current Ie														
AC-21A/22A	230 to 690v	A	12	12	20	20	25	32	40	63	80	125	160	12
AC-23A	230V	A/kW	10.6/3	10.6/3	14/4	14/4	19.7/5.5	19.7/5.5	25.8/7.5	50.3/15	61.2/18.5	71.9/22	96.6/30	6 A
	240V	A/kW	10.6/3	10.6/3	14/4	14/4	19.9/5.5	18.9/5.5	24.8/7.5	48.2/15	58.5/18.5	68/22	92.7/30	6 A
	400V	A/kW	8.1/4	8.1/4	11/5.5	11/5.5	14.5/7.5	21.8/11	29/15	41.5/22	57/30	68.5/37	83/45	4 A
	415V	A/kW	8.1/4	8.1/4	11/55	11/5.5	14/7.5	21/11	28/15	40/22	55/30	66/37	80/45	4 A
	500V	A/kW	8.9/5.5	8.9/5.5	11.9/1.5	11.9/7.5	16.7/11	16.7/11	28.5/18.	544/30	54/37	64.5/45	79/55	2 A
	690V	A/kW	8.6/7.5	8.6/1.5	12.3/11	12.3/11	17.5/15	17.5/15	17.5/15	25/22	33/30	42/37	49/45	1 A
Rated operational power														
AC-3	230/240V	kW	1.5	1.5	3	3	4	4	5.5	11	15	22	30	
	400/415V	kW	3	3	4	4	5.5	7.5	11	18.5	22	30	37	
	500V	kW	4	4	5.5	5.5	7.5	7.5	15	22	30	37	45	
	690V	kW	5.5	4/5.5	5.5/1.5	7.5	11	11	11	18.5	18.5	30	37	
Intermittent duty class			30	30	30	30	30	30	30	30	30	30	30	
Characteristics in normal operating conditions Rated making capacity AC-21A/22A/23A I rms		A/400V	120	120	200	200	760	760	760	1500	1500	2000	2000	
Rated breaking capacity AC-21A/22A/23A I rms		A/400V	120	120	200	200	330	330	330	800	800	1800	1800	
Short-circuit characteristics Permissible short time rating Icw		A/400V/1s	300	300	300	300	300	384	480	756	960	1500	2100	
Rated making capacity under short-circuit conditions Icm (peak)		A/400V	1	1	1	1	1	1	1	2,1	2,1	2,8	2,8	
Rated conditional short-circuit current I rms		kA/400v	10	6/10	6/10	10	10	10	10	10	10	10	10	1
• with BS88/gG fuses		A	12			20	25	32	40	63	80	125	160	10

Dimensions

Mini-Vario

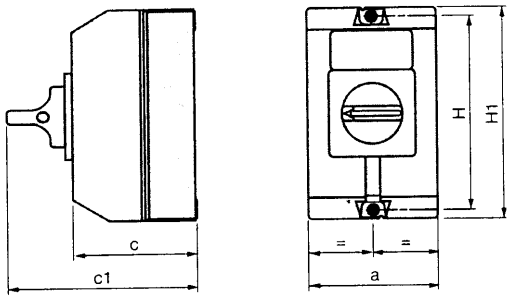
Enclosures
VCFN12GE, VCFN20GE (1)



(1) Conduit entry:
2 x Pg 16 at each end.

Vario

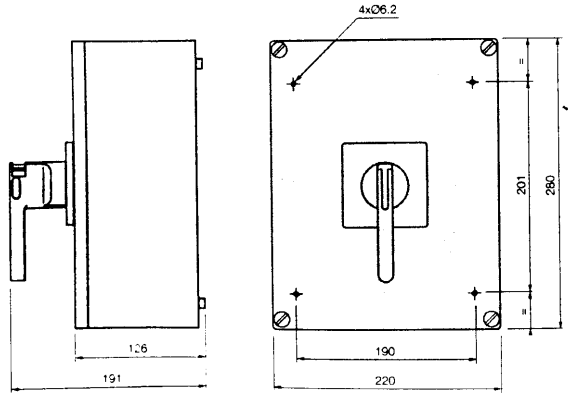
VCF-02GE to VCF-4GE, VCFX-GE1 to VCFX-GE4



	a	c	c1	H	H1
VCF-02GE to VCF-2GE, VCFX-GE1 (1)	**90**	**85**	**131**	**130**	**146**
VCF-3GE and VCF-4GE VCFX-GE2 and VCFX-GE4 (2)	**150**	**106**	**152**	**164**	**170**

(1) Conduit entry:
2 x Pg 16 at each end.
(2) Conduit entry:
2 x Pg 16/21/29 at each end.

VCF-5GE and VCF-6GE



Double insulated control stations

For control circuits

Technical data

Environment

Conforming to standards	IEC 947-5-1, EN 60 947-5-1, NF C 63-140, VDE 0660-200
Approvals	Standard version : DEMKO, NEMKO, SÄHKÖTARKASTUSKESKUS, ASE Special version : CSA, UL
Protective treatment	Standard version : "TC" and "TH"
Ambient air temperature	Operation : - 25...+ 70 °C. Storage : - 40...+ 70 °C
Vibration resistance	15 g (40...500 Hz) conforming to IEC 68-2-6
Shock resistance	Pushbuttons : 70 g, mushroom head pushbuttons : 15 g, selector switches : 200 g conforming to IEC 68-2-27
Electric shock protection	Class II conforming to IEC 536 and NF C 20-030
Degree of protection	IP 65 conforming to IEC 529 and IP 657 conforming to NF C 20-010
Mechanical durability	Spring return pushbuttons : 3 million operating cycles Latching pushbuttons : 300,000 operating cycles
Flame resistance	NF C 20-455 : 960 °C, UL 94 : V0
Material and colours	**XAL-B** : polycarbonate, grey RAL 7035 and grey RAL 7021. **XAL-J** : polycarbonate, yellow RAL 1012 and grey RAL 7021
Cable entries	'Knock-out' cable entries for addition of cable glands

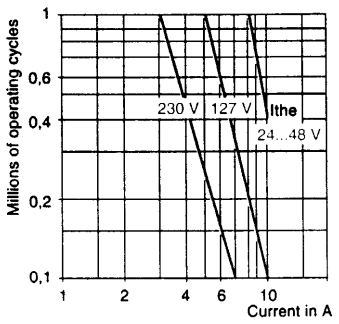
Contact block characteristics

Rated operational characteristics	∼ AC-15 : A600 or Ue = 240 V and Ie = 3 A ⎓ DC-13 : Q600 or Ue = 250 V and Ie = 0.27 A conforming to IEC 947-5-1 Appendix A
Rated insulation voltage	Ui = 500 V, degree of pollution 3 conforming to IEC 947-1. Ui = 600 V conforming to UL 508 and CSA C22-2 n° 14
Rated impulse withstand voltage	U imp = 6 kV conforming to IEC 947-1
Contact operation	Slow break (N/C or N/O)
Positive operation	Safety units ("Emergency stop" mushroom head pushbuttons) : N/C contact with positive opening operation conforming to IEC 947-5-1 Section 3
Operating force	Flush and projecting pushbuttons - with 1 N/O contact : 1 daN - with 1 N/C contact : 0.8 daN Additional contacts - N/O : + 0.5 daN - N/C : + 0.3 daN
Terminal referencing	Conforming to CENELEC EN 50013
Short-circuit protection	10 A cartridge fuse type BS88/gG

Rated operational power

Conforming to IEC 947-5-1 Appendix C. Utilisation categories AC-15 and DC-13. Operating rate : 3600 op. cycles/hour. Load factor : 0.5

a.c. supply ∼ 50-60 Hz
⌒ Inductive circuit



d.c. supply ⎓
Power broken in W
for 1 million operating cycles

Voltage V	24	48	120
⌒ W	65	48	40

Electrical reliability	Failure rate < 1 fault for 100 million operating cycles (programmable controller inputs, 24 V d.c.)
Cabling	Screw and captive cable clamp terminals. Capacity : min. 1 x 0.5 mm², max., with or without cable end : 2 x 1.5 mm² or 1 x 2.5 mm².

Technical data

Operating principle

These stations are fitted with a key operated lock and are designed to provide a starting or authorisation sequence, only by using the key.
To prevent unauthorised operation or tampering, the stations are fitted with a special lock which only allows removal of the front cover by the key holder.
The control stations are supplied with 3 keys.

Environment

Conforming to standards	IEC 947-5-1, EN60947-5-1, NF C 63-140, VDE 0660-200
Protective treatment	Standard version : "TC". Special version : "TH"
Ambient air temperature	Operation : - 25...+ 70 °C. Storage : - 40...+ 70 °C
Electric shock protection	Class I conforming to IEC 526 and NF C 20-030
Degree of protection	IP 54 conforming to IEC 529 and IP 547 conforming to NF C 20-010
Cable entry	1 tapped entry for addition of cable gland. Cable entry through rear on request

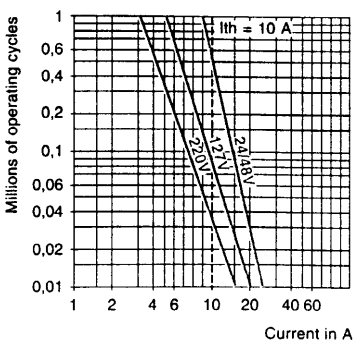
Contact block characteristics

Nominal thermal current	10 A conforming to IEC 337-1, NF C 63-140, VDE 0660-200 and CSA C 22-2 n° 14
Nominal insulation voltage	500 V conforming to NF C 20-040, VDE 0110, IEC 158-1 ; 600 V conforming to UL 508, 300 V to CSA C 22-2 n° 14
Insulation category	Group C conforming to NF C 20-040 and VDE 0110
Contact operation	Slow break
Resistance across terminals	≤ 25 mΩ conforming to NF C 93-050 method A or IEC 255-7 category 3
Terminal referencing	Conforming to CENELEC EN 50013
Short-circuit protection	10 A cartridge fuse type BS88/gG

Operational power
Utilisation categories AC-11 & DC-11

Operating rate : 3600 operating cycles/hour
Load factor : 0.5

a.c. supply ∿ 50-60 Hz
mm Inductive circuit



d.c. supply ⎓
Power broken in W
for 1 million operating cycles

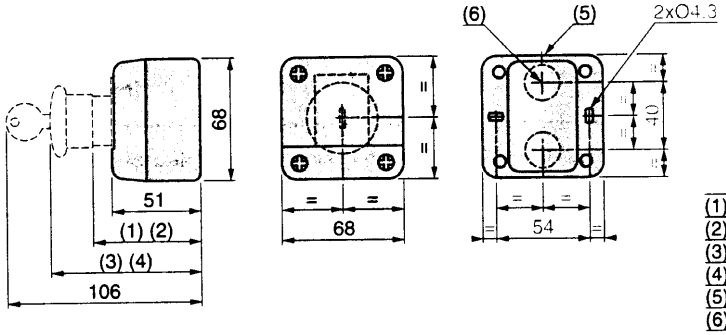
Voltage	V	24	48	120
mm	W	65	48	40

Cabling	Screw clamp terminals. Capacity : 1 x 2.5 mm² or 2 x 1.5 mm² with or without cable end.

Complete control stations

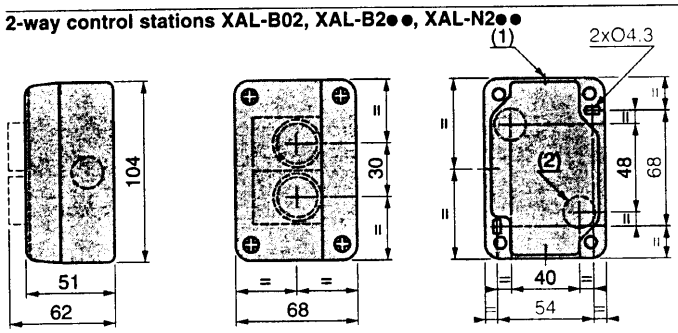
Double insulated control stations
Vandal resistant control stations
Dimensions

Single-way control stations XAL-B01, XAL-J01, XAL-B1●●, XAL-J1●●, XAL-N1●●



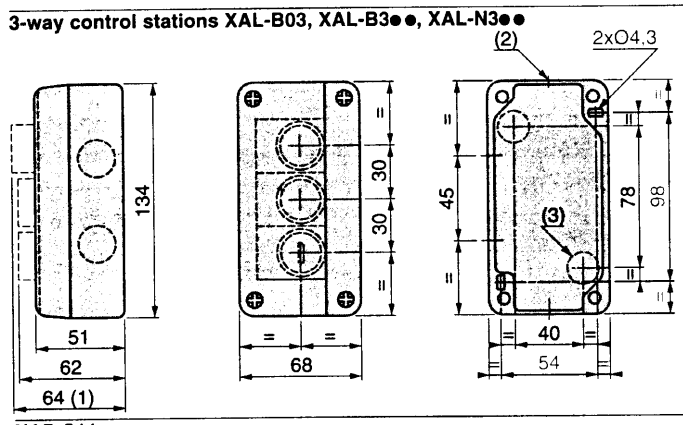
(1) 62 mm with pushbutton
(2) 77 mm with selector switch
(3) 82 mm with mushroom head pushbutton
(4) 102 mm with trigger action mushroom head pushbutton
(5) 2 Ø 20 mm 'knock-outs' in sides for 12 mm maximum capacity cable glands
(6) 2 Ø 19 mm 'knock-outs' for cable entry through base

2-way control stations XAL-B02, XAL-B2●●, XAL-N2●●



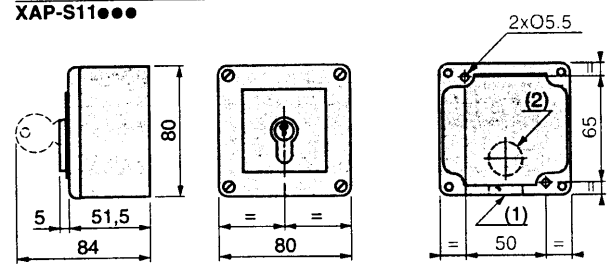
(1) 4 Ø 20 mm 'knock-outs' in sides for 12 mm maximum capacity cable glands
(2) 2 Ø 19 mm 'knock-outs' for cable entry through base

3-way control stations XAL-B03, XAL-B3●●, XAL-N3●●

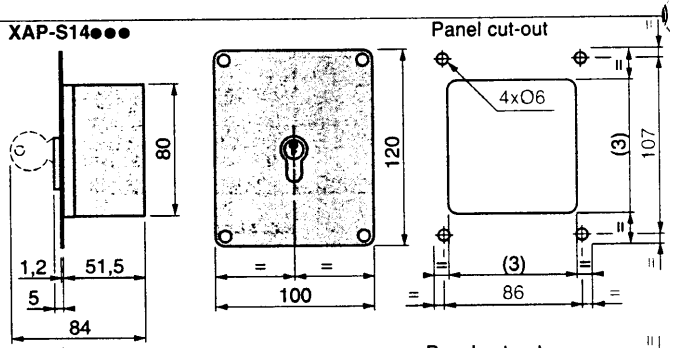


(1) Pilot light
(2) 6 Ø 20 mm 'knock-outs' in sides for 12 mm maximum capacity cable glands
(3) 2 Ø 19 mm 'knock-outs' for cable entry through base

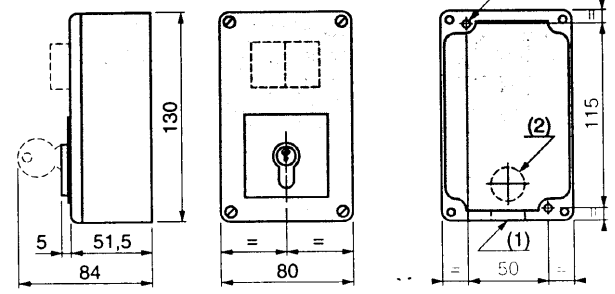
XAP-S11●●●



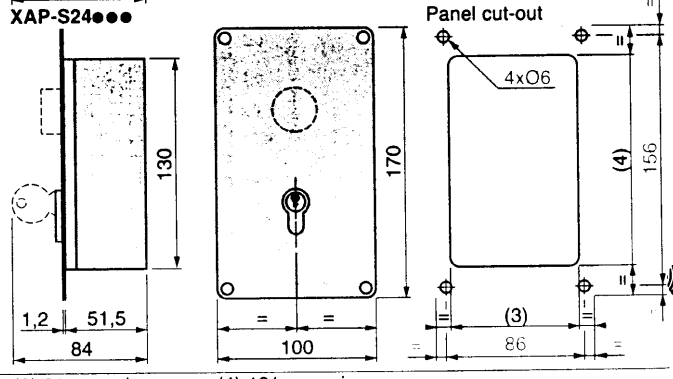
XAP-S14●●●



XAP-S21●●●



XAP-S24●●●



(1) 1 tapped entry for addition of 12 mm maximum capacity cable gland
(2) option : cable entry through rear
(3) 81 mm min.
(4) 131 mm min.

Technical data and dimensions

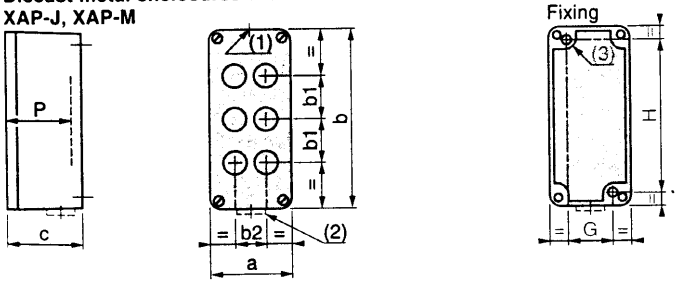
Diecast metal enclosures XAP-M

Material and colour	Zinc alloy **(XAP-M1, M2, M3, M4)**, aluminium alloy **(XAP-M5)**. Blue paint finish (**XAP-J**, yellow cover)
Approvals	Special version : CSA ENCLOSURE 4 and 5, UL ENCLOSURE 1, 3, 4 and 12K
Protective treatment	Standard version : "TC". Special version : "TH"
Ambient air temperature	Operation : - 25...+ 70 °C. Storage : - 40...+ 70 °C
Degree of protection	IP 65 conforming to IEC 529 and IP 657 conforming to NF C 20-010
Electric shock protection	Class I conforming to IEC 536 and NF C 20-030
Chemical resistance	Special treatments on request
Cable entry	Tapped entries for addition of ISO cable glands

Metal enclosures XB2-S

Material and colour	Aluminium alloy or sheet steel. Blue paint finish
Protective treatment	Standard version : "TC". Special version : "TH"
Ambient air temperature	Operation : - 25...+ 70 °C. Storage : - 40...+ 70 °C
Degree of protection	IP 54 conforming to IEC 529 and IP 547 conforming to NF C 20-010
Electric shock protection	Class I conforming to IEC 536 and NF C 20-030
Chemical resistance	Special treatments on request
Cable entry	**XB2-S** in aluminium alloy : tapped entries for addition of ISO cable glands
	XB2-S in sheet steel : undrilled, drill to suit

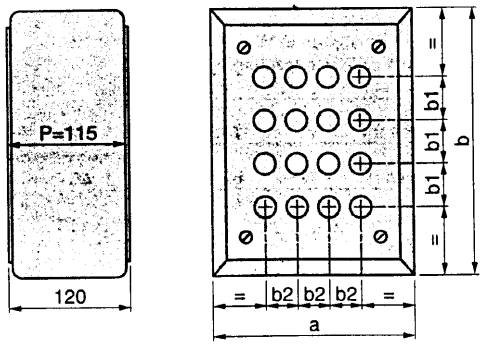
Diecast metal enclosures with cut-outs
XAP-J, XAP-M



XAP-	a	b	b1	b2	c	G	H	P
J1201	80	80	–	–	51.5	50	65	49
J1501	80	80	–	–	77	50	65	74.5

(1)1 hole, without blanking plug, for 20 mm ISO cable, except :
-XAP-M3●●●H29 and **XAP-M4●●●H29** : 25 mm ISO gland,
-XAP-M5●●● H29 : 32 mm ISO cable gland.
(2)1 hole, with blanking plug (protrusion 6 mm), for 20 mm ISO cable gland, except :
-XAP-M3●●●H29 : maximum capacity 18 mm,
-XAP-M4●●●H29 and **XAP-M5●●●H29** : undrilled.

Sheet steel enclosures
XB2-SL



XB2-	a	b	b1	b2
SL42007	200	200	40	30
SL44007	200	260	40	30
SL64007	260	260	40	30
SL65007	260	320	40	30
SL85007	320	320	40	30

Enclosures supplied without fixing points or cable entries. In both cases, drill to suit. The enclosures are deep enough to accommodate all XB2-B control and signalling units with 1 to 4 contact blocks.
P = Usable depth

Control and signalling units Ø 22 mm (fixing)

Type XB2-B, with chromium plated metal bezel

Technical data

Environment

Conforming to standards	IEC 947-5-1, EN 60 947-5-1, VDE 06620-200, ASE 0119, ASE 1003, BS 4794, CSA C22-2 n° 14, UL 508
Approvals	Standard version : CSA : pushbuttons and selector switches : A600-Q600 pilot lights, direct supply (120 V max.), pilot lights, with integral transformer (120/6 V and 230/6 V). UL : pushbuttons and selector switches : A600-Q600 pilot lights, direct supply (120 V max.), pilot lights, with integral transformer (120/6 V and 230/6 V). ASE, DEMKO, NEMKO, SEMKO, BUREAU VERITAS, SÄHKÖTARKASTUSKESKUS, USSR, GL, DNV, LROS
Protective treatment	Standard version : "TC" and "TH"
Ambient air temperature	Operation : - 25...+ 70 °C. Storage : - 40...+ 70 °C
Vibration resistance	Mushroom head pushbuttons : 8 g. Other pushbuttons and pilot lights : 15 g (40 Hz < freq. < 500 Hz) to IEC 68-2-6
Shock resistance	Pushbuttons : 70 g. Mushroom head pushbuttons : 15 g. Selector switches : 200 g. Conforming to IEC 68-2-27
Electric shock protection	Class I, conforming to IEC 536 and NF C 20-030
Degree of protection conforming to IEC 529 and NF C 20-010	IP 65 : flush and projecting pushbuttons (mounted) IP 66 : booted pushbuttons (mounted)
Mechanical durability	Pushbuttons : 3 million operating cycles. "Emergency stop" pushbuttons : 300,000 operating cycles

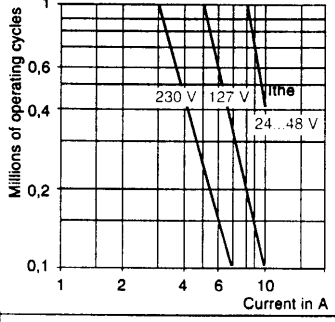
Contact block characteristics

Rated operational characteristics	~ AC-15 : A600 or Ue = 240 V and Ie = 3 A ⎓ DC-13 : Q600 or Ue = 250 V and Ie = 0.27 A conforming to IEC 947-5-1 Appendix A
Rated insulation voltage	Ui = 600 V, degree of pollution 3 conforming to IEC 947-1. Ui = 600 V conforming to UL 508 and CSA C22-2 n° 14
Rated impulse withstand voltage	U imp = 6 kV conforming to IEC 947-1
Contact operation	Slow break (N/C or N/O)
Positive operation	Safety units (mushroom head "Emergency stop" pushbuttons) : N/C contact with positive opening operation conforming to IEC 947-5-1 Section 3
Operating force	Flush and projecting pushbuttons - with 1 N/O contact : 1 daN - with 1 N/C contact : 0.8 daN Additional contacts - N/O : + 0.5 daN - N/C : + 0.3 daN
Terminal referencing	Conforming to CENELEC EN 50013
Short-circuit protection	10 A cartridge fuse type BS88/gG

Rated operational power

Conforming to IEC 947-5-1 Appendix C. Utilisation categories AC-15 and DC-13. Operating rate : 3600 op. cycles/hour. Load factor : 0.5

a.c. supply ~ 50-60 Hz
Inductive circuit



d.c. supply ⎓
Power broken in W
for 1 million operating cycles

Voltage	V	24	48	120
	W	65	48	40

Electrical reliability	Failure rate < 1 fault for 100 million operating cycles (programmable controller inputs, 24 V d.c.)
Cabling	- Screw and captive cable clamp terminals. Capacity : min. 1 x 0.5 mm², max., with or without cable end : 2 x 1.5 mm² or 1 x 2.5 mm² - 6.3 mm Faston connectors (on request)

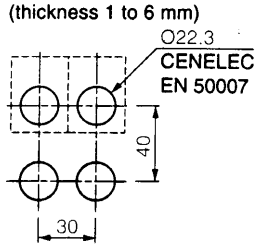
Control and signalling units Ø 22 mm (fixing)

Type XB2-B, with chromium plated metal bezel

Dimensions

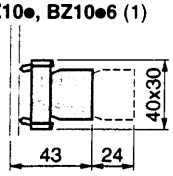
Characteristics
page 35000/2
References
pages 35001/2 to 35001/5 and 35003/2 to 35003/7

Panel cut-out
(thickness 1 to 6 mm)

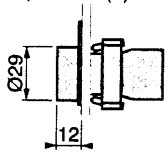


Control units with circular operating head

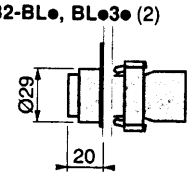
ZB2-BZ10●, BZ10●6 (1)



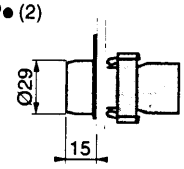
ZB2-BA●, BA●3● (2)



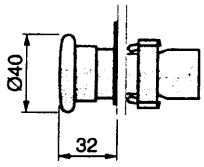
ZB2-BL●, BL●3● (2)



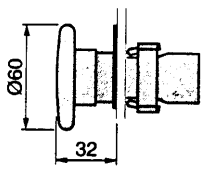
ZB2-BP● (2)



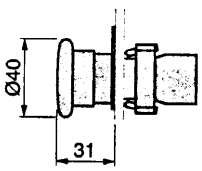
ZB2-BC●, BS5● (2)



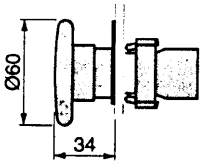
ZB2-BR● (2)



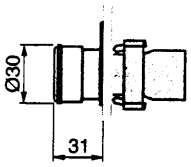
ZB2-BT● (2)



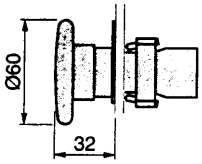
ZB2-BX● (2)



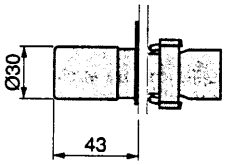
ZB2-BS4● (2)



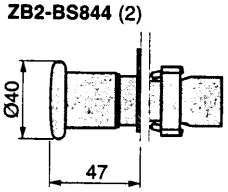
ZB2-BS6● (2)



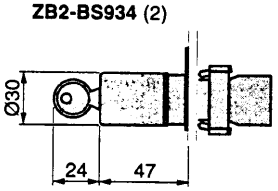
ZB2-BS834 (2)



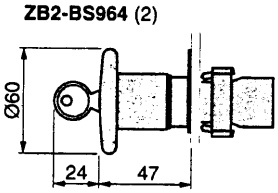
ZB2-BS844 (2)



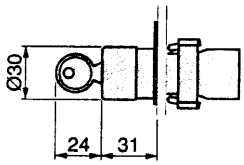
ZB2-BS934 (2)



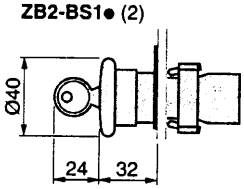
ZB2-BS964 (2)



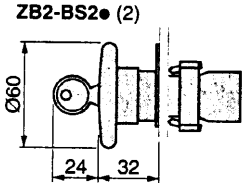
ZB2-BS7● (2)



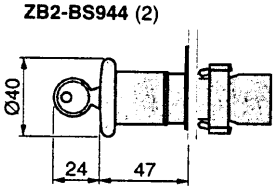
ZB2-BS1● (2)



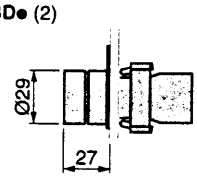
ZB2-BS2● (2)



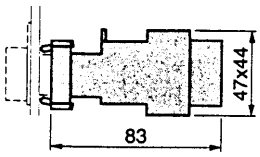
ZB2-BS944 (2)



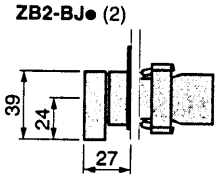
ZB2-BD● (2)



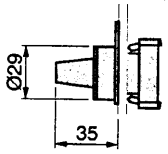
ZB2-BZ9● (1)



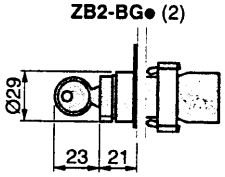
ZB2-BJ● (2)



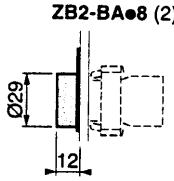
ZB2-BD9●2 (2)



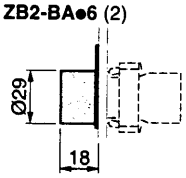
ZB2-BG● (2)



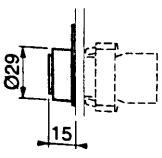
ZB2-BA●8 (2)



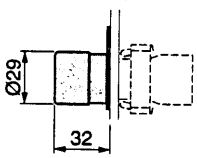
ZB2-BA●6 (2)



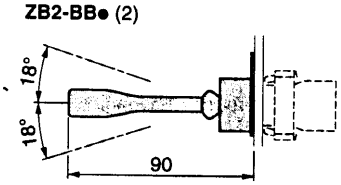
ZB2-BP●8 (2)



ZB2-BC●4 (2)



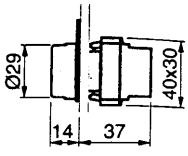
ZB2-BB● (2)



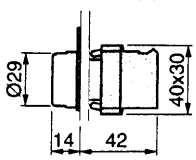
Note : units with black metal bezel have identical dimensions.
(1) Body/contact assembly.
(2) Operating head

Signalling units with circular operating head

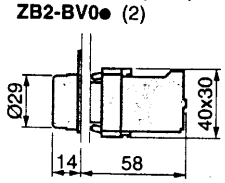
ZB2-BV6 (1)
ZB2-BV0● (2)



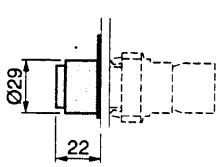
ZB2-BV7 (1)
ZB2-BV0● (2)



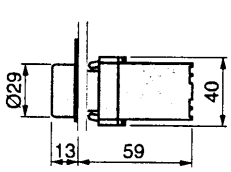
ZB2-BV3,BV4,BV5,BV9● (1)
ZB2-BV0● (2)



ZB2-BH● (2)



ZB2-BV1●● (1)



Illuminated beacons and indicator banks

Technical data

General

Illuminated beacons and illuminated indicator banks are visual or audible signalling units used mainly to indicate machine operation sequences and to check status from a distance. They are visible through 360°.
Example : start, stop machine, no material, call technical staff, fault indication, etc.

- **Illuminated beacon**
  Ready assembled with a single illuminating signalling unit : either steady, flashing or with high intensity xenon flash lamp.
  It comprises :
  - a base, incorporating terminal block, cable clamp and support tube fixings,
  - a coloured lens unit : green, red, orange, blue or clear,
  - a top cover,
  - optional accessory : anodised aluminium support tube ; 100 mm, 400 mm or 800 mm long,
  - optional accessory : support plate.

- **Illuminated indicator bank**
  For assembly by the user, with up to 5 illuminated or audible signalling units.
  It comprises :
  - a base, incorporating terminal block, cable clamp and support tube fixings,
  - 1 to 5 coloured lens units (green, red, orange, blue or clear) or audible signalling units,
  - a top cover, where necessary,
  - optional accessory : anodised aluminium support tube ; 100 mm, 400 mm or 800 mm long,
  - optional accessory : support plate.

  The illuminated lens or audible signalling units stack vertically and are each locked by a single screw.
  Electrical connections between each unit are made automatically during assembly.

- **Fixing**
  Base fitted directly onto panel by means of 2 screws.
  Fixed onto panel using support plate (4 fixing screws) and 100 mm, 400 mm or 800 mm anodised aluminium tube.

- **Cabling**
  Internal connections are brought out to a terminal block, with protected screw and captive cable clamp terminals, incorporated in the base unit.

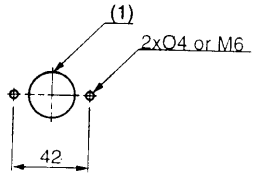
Characteristics

Approvals	Standard version : CSA, UL : ∼ 240 V max.
Protective treatment	Standard version : "TC"
Ambient air temperature	With steady or flashing circuit : storage : - 40...+ 70 °C, operation : - 25...+ 70 °C With discharge circuit : storage : - 20...+ 70 °C, operation : - 10...+ 50 °C
Electric shock protection	Direct mounting : class II. Tube mounting : class I conforming to IEC 536 and NF C 20-030
Degree of protection	IP 42 conforming to IEC 529 and NF C 20-010
Material	Illuminated units : polycarbonate. Base and top cover : glass-reinforced polyamide Tube : anodised aluminium. Support plate : polycarbonate or aluminium
Rated insulation voltage	Ui : 250 V conforming to IEC 947-1
Consumption	With flashing circuit : (7 W bulb) - on ∼ 24 V : 250 mA, - on ∼ 230 V : 35 mA. With discharge circuit : (flashing lamp) - on ⎓ 24 V : 350 mA max. (switch-on : 720 mA), - on ∼ 110/120 V : 100 mA, - on ∼ 230 V : 80 mA. Audible elements : - ⎓ 12...48 V : 10...50 mA, - ∼ 110...230 V : 3...7 mA.
Rated impulse withstand voltage	U imp = 4 kV conforming to IEC 947-1
Bulb/lamp type	Illuminated units with steady or flashing circuit : BA 15d base fitting bulbs, minimum power 5 W, maximum power 7 W. Illuminated units with high intensity "flash" lamp (integral xenon tube) : 13.6 cds with clear lens.
Audible signalling unit	90 db at 1 m, continuous or intermittent. Fundamental frequency : 3 kHz
Terminal referencing	1 terminal referenced "O" (–) common to all 5 possible stacked units, other terminals referenced 1 to 5, for use as required.
Cabling	Shrouded screw and captive cable clamp terminals (units supplied with terminals open). Capacity : 2 x 2.5 mm² max.

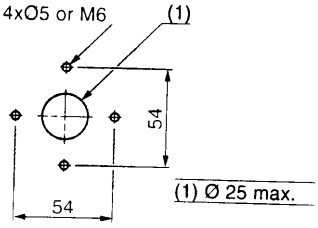
Dimensions

Dimensions

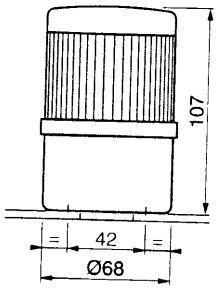
Panel cut-out
For direct fixing of illuminated beacons or indicator banks



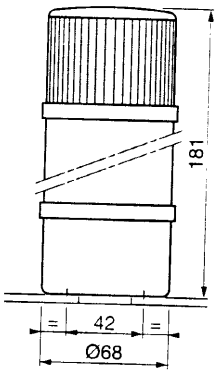
For tube fixing of illuminated beacons or indicator banks, using support plates



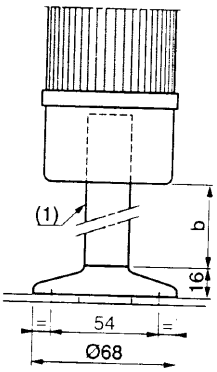
Illuminated beacons without xenon flashing light XVA-L3●, XVA-L4●



with xenon flashing light XVA-L6●●●●●●



Tube XVA-C0● and support plate XVA-C●1 for illuminated beacons and indicator banks

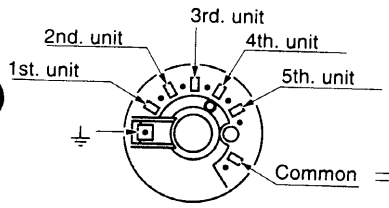


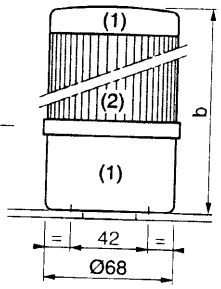
XVA-	C02	C03	C04
b	63	363	763

(1) Tube Ø 25 mm

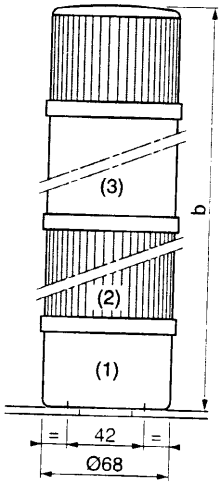
Illuminated indicator banks without xenon flashing light

Cabling (base viewed from below)





with xenon flashing light



Illuminated indicator banks without xenon flashing light Number of illuminated or audible signalling units (2)	b
1	107
2	159
3	211
4	263
5	315

(1) **XVA-C21**
(2) **XVA-C3●, C4● or C9●**

Illuminated indicator banks with xenon flashing light (3) Number of illuminated or audible signalling units (2)	b
0	181
1	233
2	285
3	337
4	389

(1) **XVA-C07**
(2) **XVA-C3●, C4● or C9●**
(3) **XVA-C6●●●●●**