

Control Station and Control Panel: Panel Mounted Operating Devices and Windows, IIC



Flameproof and Dust protection by enclosure

Zone 1 & 2 – 21 & 22

Application

The panel mounted operating devices are designed for used with the flameproof enclosure and dust protection enclosure for controlling or indicating the status of electrical equipment such as motor starter, control equipment operation. They are suitable for Zone 1, 2 and Zone 21, 22 hazardous areas.

Technical Data

Hazardous Area		Gas	Dust
Zones		1 & 2	21 & 22
Conforming to ATEX		⊕ II 2G	⊕ II 2D
Symbol of Protection ATEX	DPL1, DPB1, DPBS1, DMPB1, DSPB1, DSL1 & DSLK1 series	Ex db IIC Gb	Ex tb IIIC Db IP66
	ACM1, ACM2, ALCB1, ALCB2, & ALCB3 series		
	DCM1 series	Ex db IIC Gb	Ex tb IIIC Db IP65
	LGCR, LGCR1 & LGCS series	Ex db IIB+H2 Gb	Ex tb IIIC Db IP66
ATEX Certificate	TÜV CY 18 ATEX		
Compliance with	EC Directive for "Apparatus and protective systems for use in explosive atmospheres" (2014/34/EU)		
Standards	EN 60079-0:2012+A11:2013, EN 60079-1:2014, EN 60079-31:2014		
Ambient Temperature	-20°C to +55°C	Index of Protection	IP65/ IP66

Specification

Thread coupling, Shaft :
Stainless steel
Thread bushing : Aluminium
Lock nut : Nickel-plated
brass
Flush button : Plastic
O-ring : Neoprene

Electrical Rating

Pilot lights characteristics









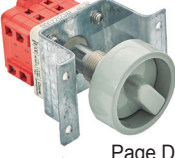
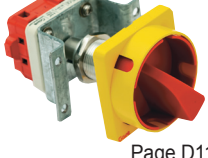






Current consumption	For all colours	24V.DC/ AC	20mA. (27 max)
		120V.AC	18mA. (21 max)
		230-240V.AC	16mA. (20 max)
Voltage limit	At nominal voltage	24V.DC	19.2-30V.
		24V.AC	26.1-26.4V.
		120V.AC	100-132V.
		230-240V.AC	195-264V.
Service life	At nominal voltage and at an ambient temp. of 25°C		70,000Hrs.

Contact Block ratings

Rated operational current (EN/IEC 60947-5-1)	AC15	240V.	3A.
		600V.	1.2A.
Rated thermal current	DC13	250V.	0.27A.
		600V.	0.1A.
Rated thermal current			10A.
Rated insulation voltage			600V.

Cam operated switches

Rated operational current (EN/IEC 60947-3)	16A.	25A.	32A.
Rated thermal current	20A.	30A.	40A.
Rated insulation voltage	400V.	400V.	600V.

DPL1 series  Page D8/45	DPB1 series  Page D8/45	DPBS1 series  Page D9/45	DMPB1 series  Page D9/45
DSPB1 series  Page D9/45	DSL1 series  Page D10/45	DSLK1 series  Page D10/45	ACM1 series  Page D11/45
ACM2 series  Page D11/45	DCM1 series  Page D11/45	ALCB1 series  Page D12/45	ALCB2 series  Page D12/45
ALCB3 series  Page D12/45	LGCR series  Page D12/45	LGCR1 series  Page D12/45	LGCS series  Page D12/45

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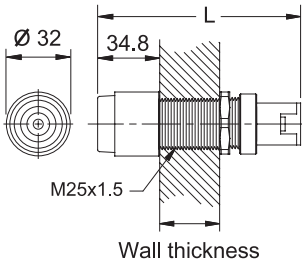


Flameproof and Dust protection by enclosure

Zone 1 & 2 – 21 & 22

Catalogue Number and Dimension

Pilot Light, DPL1 series

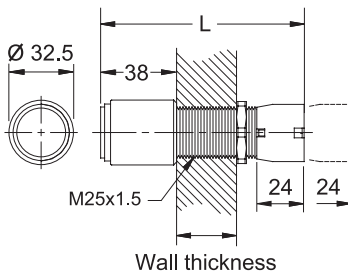


Dimension in mm. (L)

Wall thickness of enclosure (□)	
A (14-30mm.)	B (31-45mm.)
99.0	119.0

Series	Wall thickness of enclosure	Voltage	Colour of lens	Approx. Weight (kgs.)
□	A 14-30 mm. B 31-45 mm.	D02 24V.DC A12 120V.AC A22 220-230V.AC	G Green	0.145
			B Blue	
			R Red	
			Y Yellow	
			C Clear	
Operating Voltage	Diagram (Integral LED)	Colour of Lens	Cat. No.	Approx. Weight (kgs.)
24V.DC/ AC ~		Green Red Yellow Blue Clear	DPL1-□ D02G DPL1-□ D02R DPL1-□ D02Y DPL1-□ D02B DPL1-□ D02C	0.145
120V.AC ~		Green Red Yellow Blue Clear	DPL1-□ A12G DPL1-□ A12R DPL1-□ A12Y DPL1-□ A12B DPL1-□ A12C	
220-230V.AC ~		Green Red Yellow Blue Clear	DPL1-□ A22G DPL1-□ A22R DPL1-□ A22Y DPL1-□ A22B DPL1-□ A22C	

Push Button, DPB1 series



Dimension in mm. (L)

Wall thickness of enclosure (□)	
A (14-30mm.)	B (31-45mm.)
96.0	116.0

Series	Wall thickness of enclosure	Contact	Colour of button	Approx. Weight (kgs.)
□	A 14-30 mm. B 31-45 mm.	10 1NO	G Green R Red Y Yellow	0.215
		01 1NC		
		11 1NO-1NC		
■	A 14-30 mm. B 31-45 mm.	20 2NO	B Black W White	0.215
		02 2NC		
		11 1NO-1NC		
Type of Function	Contact Symbol	Colour of Button	Cat. No.	Approx. Weight (kgs.)
Momentary	1NO 	Green Red Yellow Black White	DPB1-□ 10G DPB1-□ 10R DPB1-□ 10Y DPB1-□ 10B DPB1-□ 10W	0.215
	1NC 	Green Red Yellow Black White	DPB1-□ 01G DPB1-□ 01R DPB1-□ 01Y DPB1-□ 01B DPB1-□ 01W	
	1NO-1NC 	Green Red Yellow Black White	DPB1-□ 11G DPB1-□ 11R DPB1-□ 11Y DPB1-□ 11B DPB1-□ 11W	
	2NO 	Green Red Yellow Black White	DPB1-□ 20G DPB1-□ 20R DPB1-□ 20Y DPB1-□ 20B DPB1-□ 20W	0.230
	2NC 	Green Red Yellow Black White	DPB1-□ 02G DPB1-□ 02R DPB1-□ 02Y DPB1-□ 02B DPB1-□ 02W	

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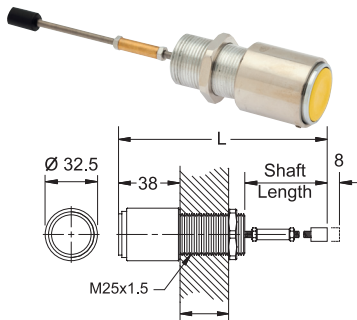


Flameproof and Dust protection by enclosure

Zone 1 & 2 – 21 & 22

Catalogue Number and Dimension

Push Button Shaft, DPBS1 series



Dimension in mm. (L) Wall thickness

Wall thickness of enclosure (□)			
50mm. shaft length		100mm. shaft length	
A (14-30mm.)	B (31-45mm.)	A (14-30mm.)	B (31-45mm.)
122.0	142.0	172.0	192.0

DPBS1 -

Series	Wall thickness of enclosure	Shaft length	Colour of button
	A 14-30 mm. B 31-45 mm.	50 50mm. 1X 100mm.	G Green B Black R Red W White Y Yellow

Type of Function	Shaft Length	Colour of Button	Cat. No.	Approx. Weight (kgs.)	
Momentary	50mm.	Green	DPBS1-□ 50G	0.215	
		Red	DPBS1-□ 50R		
		Yellow	DPBS1-□ 50Y		
		Black	DPBS1-□ 50B		
		White	DPBS1-□ 50W		
	100mm.	Green	DPBS1-□ 1XG		0.235
		Red	DPBS1-□ 1XR		
		Yellow	DPBS1-□ 1XY		
		Black	DPBS1-□ 1XB		
		White	DPBS1-□ 1XW		

Mushroom-Head Push Button, DMPB1 series



Dimension in mm. (L)

Push-pull

Wall thickness of enclosure (□)	
A (14-30mm.)	B (31-45mm.)
125.0	145.0

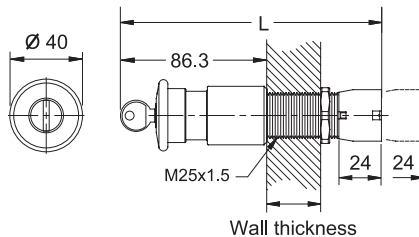
Push-lock, Turn to release

Wall thickness of enclosure (□)	
A (14-30mm.)	B (31-45mm.)
122.5	142.5

DMPB1 -

Series	Wall thickness of enclosure	Type of function	Contact
	A 14-30 mm. B 31-45 mm.	1 Push-pull 2 Push-lock, Turn to release 3 Push-lock, Key to release	10 1NO 20 2NO 01 1NC 02 2NC

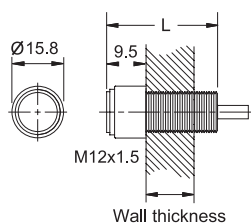
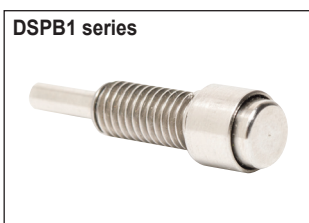
Type of Function	Contact	Colour of Button	Cat. No.	Approx. Weight (kgs.)
Push-pull	1NO	Red	DMPB1-□ 110R	0.254
Push-lock, Turn to release	14	Red	DMPB1-□ 210R	0.254
Push-lock, Key to release			DMPB1-□ 310R	0.255
Push-pull	1NC		Red	DMPB1-□ 101R
Push-lock, Turn to release	12	Red	DMPB1-□ 201R	0.254
Push-lock, Key to release			DMPB1-□ 301R	0.255
Push-pull	2NO		Red	DMPB1-□ 120R
Push-lock, Turn to release	14	Red	DMPB1-□ 220R	0.269
Push-lock, Key to release			DMPB1-□ 320R	0.270
Push-pull	2NC		Red	DMPB1-□ 102R
Push-lock, Turn to release	12	Red	DMPB1-□ 202R	0.269
Push-lock, Key to release			DMPB1-□ 302R	0.270



Push-lock, Key to release

Wall thickness of enclosure (□)	
A (14-30mm.)	B (31-45mm.)
145.5	165.5

Special Purpose Push Button Shaft, ASPB1 series



Type of Function	Wall Thickness	Colour of Button	Cat. No.	Approx. Weight (kgs.)
Momentary	15-20mm. 21-45mm.	Stainless (natural)	ASPB1-A ASPB1-B	
Wall thickness of enclosure (□)				
A (15-20mm.)		B (21-45mm.)		
36.5		29.5		

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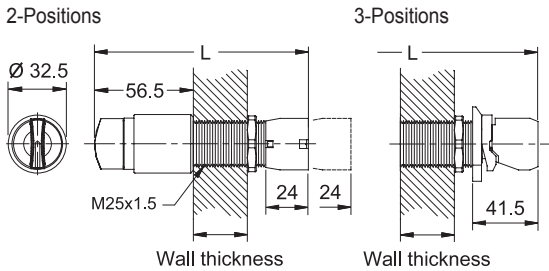


Flameproof and Dust protection by enclosure
Zone 1 & 2 – 21 & 22

Catalogue Number and Dimension

Series	Wall thickness of enclosure	Position	Contact	Function
DSL1 Selector Switch	A 14-30 mm.	2 2-Positions	10 1NO 20 2NO	S Spring return
DSLK1 Key Selector Switch	B 31-45 mm.	3 3-Positions	01 1NC 02 2NC	R Spring return from Right
			11 1NO-1NC	

Selector Switch, DSL1 series



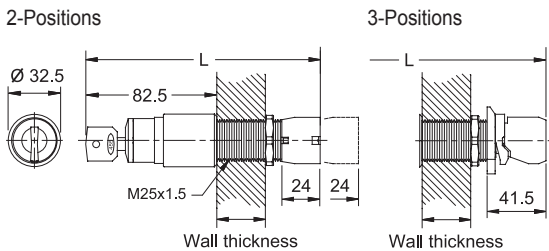
Dimension in mm. (L)

Wall thickness of enclosure (□)			
2-Positions		3-Positions	
A (14-30mm.)	B (31-45mm.)	A (14-30mm.)	B (31-45mm.)
115.5	165.5	132.0	152.0



Type of Function	Contact	Cat. No.	Approx. Weight (kgs.)
2-Positions Stay put (or Maintained)	1NO	DSL1-□ 210	0.230
	2NO	DSL1-□ 220	0.245
	1NO-1NC	DSL1-□ 211	0.245
Spring return	1NO	DSL1-□ 210S	0.230
	2NO	DSL1-□ 220S	0.245
	1NO-1NC	DSL1-□ 211S	0.245
3-Positions Stay put (or Maintained)	2NO	DSL1-□ 320	0.250
	2NO	DSL1-□ 320R	0.250

Key Selector Switch, DSLK1 series



2-Positions Stay put (or Maintained)	1NO	DSLK1-□ 210	0.235
	2NO	DSLK1-□ 220	0.250
	1NO-1NC	DSLK1-□ 211	0.250
3-Positions Stay put (or Maintained)	2NO	DSLK1-□ 320	0.255

Dimension in mm. (L)

Wall thickness of enclosure (□)			
2-Positions		3-Positions	
A (14-30mm.)	B (31-45mm.)	A (14-30mm.)	B (31-45mm.)
141.5	161.5	158.0	178.0

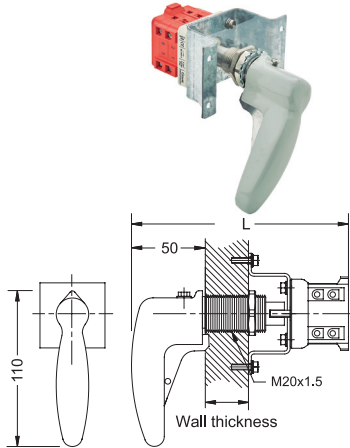
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Flameproof and Dust protection by enclosure
Zone 1 & 2 – 21 & 22

Catalogue Number and Dimension

Cam Operated Switch Type-2, ACM1 series



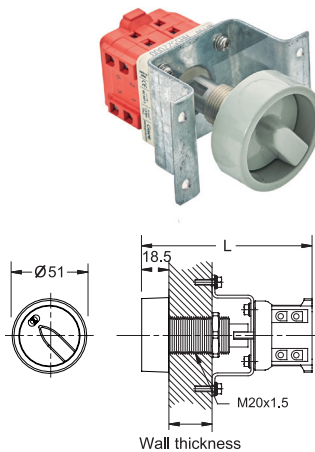
Ampere	Connection	Cat. No.	Approx. Weight (kgs.)	
2-Steps (Position 45°)				
Single pole	16A.		ACM1-□ 116	
	25A.			ACM1-□ 125
	32A.			ACM1-□ 132
Double poles	16A.		ACM1-□ 216	
	25A.			ACM1-□ 225
	32A.			ACM1-□ 232

Dimension in mm. (L)

Wall thickness of enclosure (□)

A (15-20mm.)	B (21-45mm.)
138.0	161.0

Cam Operated Switch Type-3, ACM2 series



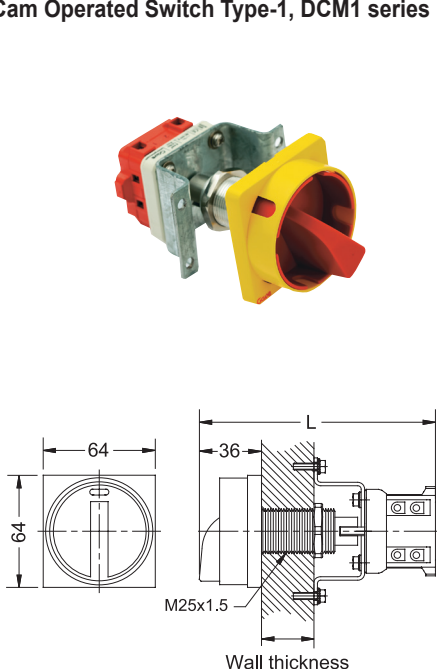
Ampere	Connection	Cat. No.	Approx. Weight (kgs.)	
2-Steps (Position 45°)				
Single pole	16A.		ACM2-□ 116	
	25A.			ACM2-□ 125
	32A.			ACM2-□ 132
Double poles	16A.		ACM2-□ 216	
	25A.			ACM2-□ 225
	32A.			ACM2-□ 232

Dimension in mm. (L)

Wall thickness of enclosure (□)

A (15-20mm.)	B (21-45mm.)
138.0	161.0

Cam Operated Switch Type-1, DCM1 series



Series	Wall thickness of enclosure (see dimension table)	Type of function	Ampere
DCM1		1 Single pole	16 16A.
ACM1		2 Double poles	25 25A.
ACM2			32 32A.

Ampere	Connection	Cat. No.	Approx. Weight (kgs.)	
2-Steps (Position 45°)				
Single pole	16A.		DCM1-□ 116	
	25A.			DCM1-□ 125
	32A.			DCM1-□ 132
Double poles	16A.		DCM1-□ 216	
	25A.			DCM1-□ 225
	32A.			DCM1-□ 232

Dimension in mm. (L)

Wall thickness of enclosure (□)

A (14-30mm.)	B (31-45mm.)
128.0	148.0

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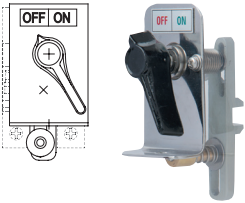


Flameproof and Dust protection by enclosure
Zone 1 & 2 – 21 & 22

Catalogue Number and Dimension

Mechanism for Circuit Breaker

Mechanism No.1
for Miniature Circuit Breaker (63AF/ 125AF), ALCB1 series

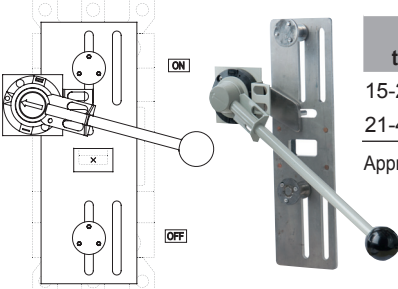


Slide Plate (Left)	
Wall thickness	Cat. No.
15-20mm.	ALCB1L-A
21-45mm.	ALCB1L-B

Slide Plate (Right)	
Wall thickness	Cat. No.
15-20mm.	ALCB1R-A
21-45mm.	ALCB1R-B

Approx. weight; 0.189 kgs.

Mechanism No.3
for Molded-Case Circuit Breaker (400 to 800AF), ALCB3 series



Wall thickness	Cat. No.
15-20mm.	ALCB3-A
21-45mm.	ALCB3-B

Approx. weight; 2.707 kgs.

Mechanism No.2 for Molded-Case Circuit Breaker (30 to 250AF), ALCB2 series

Handle Type-1

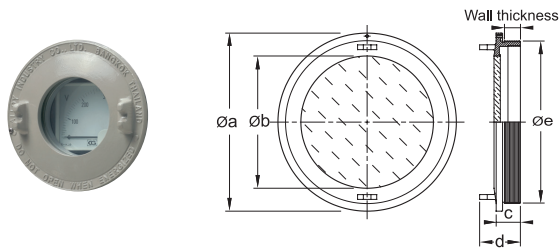
Wall thickness	Cat. No.
15-20mm.	ALCB21-A
21-45mm.	ALCB21-B

Handle Type-2

Wall thickness	Cat. No.
15-20mm.	ALCB22-A
21-45mm.	ALCB22-B

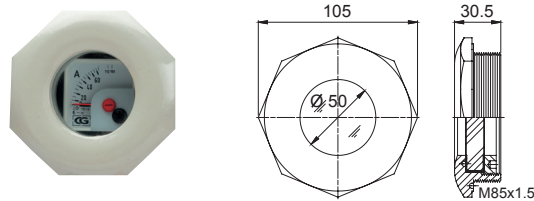
Approx. weight; 0.425 kgs.

Inspection Window (Round type), LGCR/ LGCR1 series



Cat. No.	Dimension in mm.					Wall thickness	Approx. Weight (kgs.)
	øa	øb (Lens dia.)	c	d	øe		
LGCR-113	189	117			M164		1.52
LGCR-217	251	179	46	61	M226	15-45mm.	2.41
LGCR-320	280	208			M255		2.89

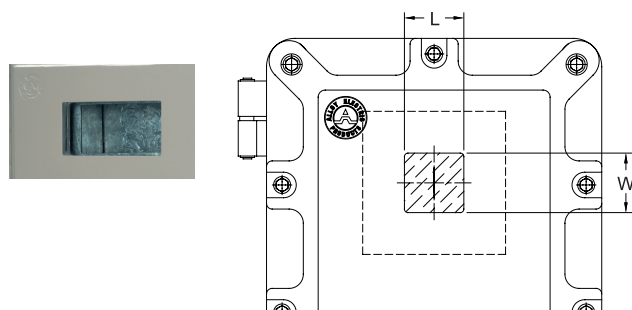
* Suitable for meters with maximum panel size of 96x96mm. or 72x72mm. respectively.



Cat. No.	Lens diameter* (mm.)	Wall thickness	Approx. Weight (kgs.)
LGCR1-50-M85	50	10-45mm.	0.515

* Suitable for meters with maximum panel size of 48x48mm.

Inspection Window (Rectangular type), LGCS series



Cat. No.	Dimension in mm.		Wall thickness	Approx. Weight (kgs.)
	W	L		
LGCS-142	42	42	15-45mm.	
LGCS-260	60	60		
LGCS-383	83	83		
LGCS-430	30	145		
LGCS-5120	120	120		
LGCS-6200	200	200		