



LV Capacitors QCap-L series Capacitors for power factor correction

ABB and power quality

ABB is a leader in power and automation technologies that enable utility and industry customers to improve their performance while lowering environmental impact. The ABB Group of companies operates in around 100 countries and employs about 145,000 people.

ABB delivers the full value chain in low, medium and high voltage technologies for electrical power transmission, distribution and usage. ABB has been driving development in the field of Power Quality for over 70 years and is responsible for several important developments in reactive power and filtering technologies.

Today, ABB is recognized as a leader in Power Quality, partnering with its customers to define optimal solutions for their system.

Quality capacitors for power factor correction

Applications such as motors, transformers, induction furnaces, welding and lighting installations consume both reactive and active power, resulting in reduced availability and lower quality of power. This translates into lower capacity utilization and eventually additional capital and running costs.

ABB with its cutting-edge technologies and extensive experience has developed a wide range of advanced Low Voltage (LV) capacitors, which offer simple and cost effective solution to improve power quality and reduce costs.



LV capacitors QCap-L series

Product design



ABB's low voltage QCap-L series capacitors consist of a number of wound elements and a dielectric made of metallized polypropylene film. These dry windings are provided with over pressure disconnecter for safety. The capacitor elements are treated in vacuum to ensure optimal electrical characteristics. Each winding is encapsulated in thermo-setting resin to obtain a perfectly sealed element.

The QCap-L series LV Capacitors are available in cylindrical & box type models.

Product key benefits

- Dry type design - The QCap-L series capacitor has a dry type dielectric which minimizes risk of leakage and environmental pollution
- Very low losses - Dielectric losses within the QCap-L series capacitors are very low and total losses including discharge resistors are less than 0.5 W/ kvar
- High reliability - The use of robust terminals minimize the risk of damage during installation and reduce maintenance requirements
- Accredited with International standards- The QCap-L series low voltage capacitors are IS: 13340/41 and IEC 60831-1&2 compliant

Product features

Type	Box type	Cylindrical type
		
Construction	<ul style="list-style-type: none"> – Dielectric: Polypropylene film – Dry PU resin; non-PCB (1 to 4 kvar) in normal duty – Soft PU resin; non-PCB (5 kvar up to 25 kvar in normal duty) – Container type: MS sheet metal – Elements placed inside a metal box, delta connected internally – Provided with discharge resistor 	<ul style="list-style-type: none"> – Dielectric: Polypropylene film – Non-PCB, soft PU resin – Extruded cylindrical aluminum can with stud – Overpressure disconnecter – Elements inside an extruded cylindrical aluminum can, delta connected internally – Provided with discharge resistor
Features	<ul style="list-style-type: none"> – Three phase – Self-healing technology – Naturally air cooled or forced cooling 	<ul style="list-style-type: none"> – Three phase – Self-healing technology – Naturally air cooled or forced cooling
Typical applications	<ul style="list-style-type: none"> – For power factor correction in indoor applications 	<ul style="list-style-type: none"> – For power factor correction in indoor applications

Range/ Connection type

Cylindrical type - normal duty

1 kvar to 4 kvar (415 V & 440 V): Fast-on terminal

6.3 kvar to 25 kvar (415 V & 440 V): Screw terminal



Cylindrical type - heavy duty

1 kvar (415 V): Fast-on terminal

2 kvar and above (415 V): Sigut terminal

1 kvar and 2 kvar (440 V): Fast-on terminal

3 kvar to 25 kvar (440 V): Sigut terminal



Box type - normal duty

1 to 4 kvar (415 V & 440 V): Wire type terminal

6.3 to 25 kvar (415 V & 440 V): Stud type terminal



Box type - heavy duty

1 kvar to 25 kvar (415 V & 440 V): Stud terminal



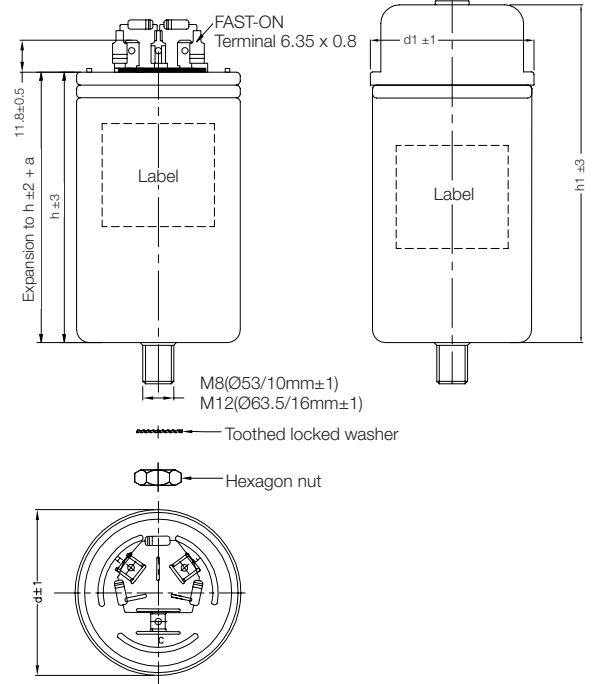
Technical data

Range	Cylindrical type - normal duty	Cylindrical type - heavy duty	Box type - normal duty	Box type - heavy duty
Voltage (V)	415/440			
Range (kvar)	1 – 25			
Frequency (Hz)	50			
Connection	3 phase as standard construction			
Discharge resistors	In-built as part of the capacitor			
Execution	Indoor			
Standards	In compliance to IS:13340/41 & IEC 60831-1&2			
Mounting parts	Threaded stud at bottom of can (max. torque = 4Nm for M8 & 10Nm for M12)		Mounting bracket at rear plate	
Earth	Extruded stud		Earth connection on the enclosure fixation	
Mean life expectancy	100,000 hours (max. 5000 switching per year)	115,000 hours (max. 6000 switching per year)	100,000 hours (max. 5000 switching per year)	125,000 hours (max. 6000 switching per year)

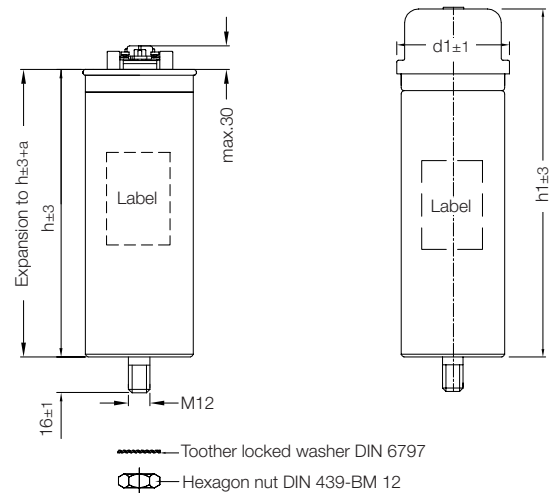
Dimensions

Cylindrical type - normal duty

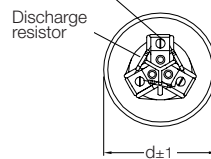
Voltage (V)	Power (Q) kvar	Capacitance (µf)	Rated current (A)		Dimensions (mm) without cap
			50 Hz	50 Hz	
415	1.0	6.5	1.4		53 x 117
	2.0	12.5	2.8		53 x 117
	3.0	18.5	4.2		63.5 x 129
	4.0	25.0	5.6		63.5 x 152
	5.0	31.0	7.0		63.5 x 152
	6.3	39	8.8		78.4 x 195
	7.5	46.5	10.4		78.4 x 195
	10.0	62.0	13.9		88.4 x 195
	12.5	77.0	17.4		88.4 x 270
	15.0	92.5	20.9		88.4 x 270
	20.0	123.5	27.8		88.4 x 345
	25.0	154	34.8		88.4 x 345
440	1.0	5.5	1.3		53 x 117
	2.1	11.5	2.8		53 x 117
	3.0	16.5	3.9		63.5 x 129
	4.2	23.0	5.5		63.5 x 129
	5.0	27.5	6.6		63.5 x 152
	6.0	33	7.9		78.4 x 195
	7.5	41.0	9.8		78.4 x 195
	10.0	55.0	13.1		88.4 x 195
	12.5	68.5	16.4		88.4 x 270
	15.0	82.5	19.7		88.4 x 270
	20.0	110.0	26.2		88.4 x 345
	25.0	137.5	32.8		93.5 x 345



Fast-on terminal



M5 screw clamp terminals

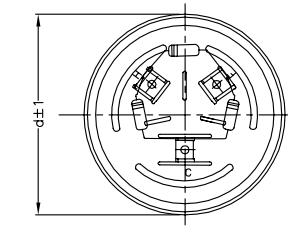
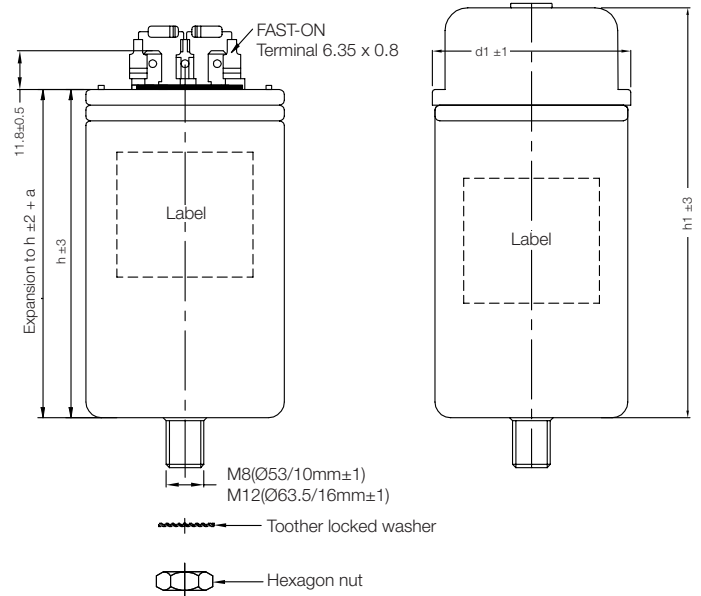


Screw terminal

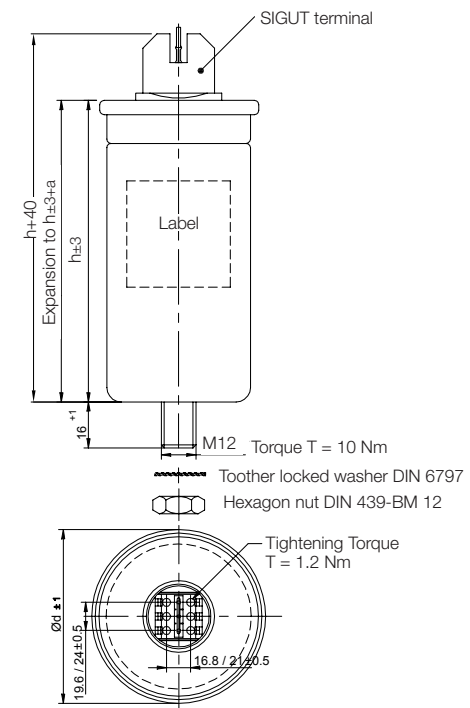
Dimensions

Cylindrical type - heavy duty

Voltage (V)	Power (Q) kvar	Capacitance (μf)	Rated current (A)	Dimensions (mm)
				D x H
415	1	6.5	1.4	53 x 129
	2	12.5	2.8	78.4 x 195
	3	19	4.2	78.4 x 195
	4	25	5.6	78.4 x 195
	5	31	7.0	88.4 x 195
	8	49.5	11.1	88.4 x 270
	9	55.5	12.5	88.4 x 270
	10	62	13.9	88.4 x 345
	12.5	77	17.4	88.4 x 345
	15	93.5	20.9	93.5 X 348
	20	123.3	27.8	121.5 x 325
	25	154.1	34.8	142 x 325
440	1	5.5	1.3	53 x 117
	2	11	2.6	63.5 x 129
	3	16.5	3.9	78.4 x 195
	4	22	5.2	78.4 x 195
	5	27.5	6.6	78.4 x 195
	6	33	7.8	88.4 x 195
	7.5	41.5	9.8	88.4 x 270
	10	55	13.1	88.4 x 270
	12.5	68.5	16.4	93.5 X 270
	15	82.5	19.7	105.5 X 280
	20	109.6	26.3	121.5 x 280
	25	137	32.8	121.5 x 325



Fast-on terminal

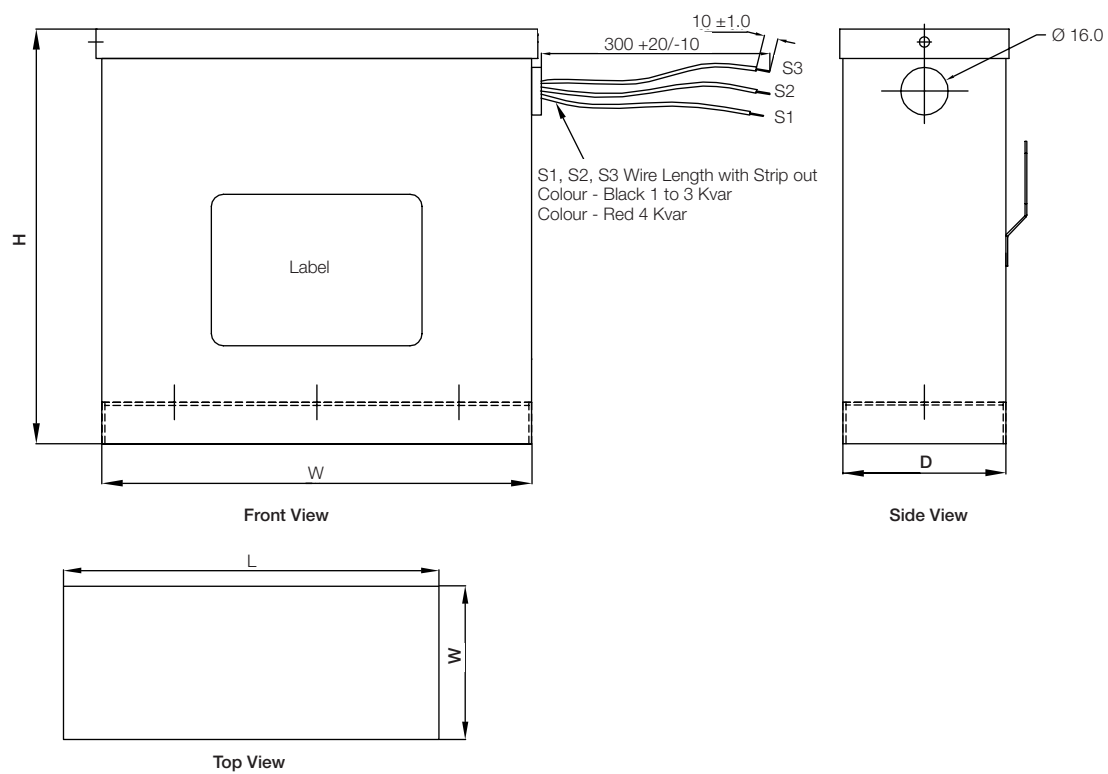


Sigut terminal

Dimensions

Box type - normal duty (1-4 kvar)

Volts V	Range (kvar)	Capacitance μf	Rated current (A)	Dimensions (mm) $\pm 5\text{mm}$		
				H	W	D
415	1.0	6.2	1.4	95	125	45
415	2.0	12.3	2.8	120	125	45
415	3.0	18.5	4.2	120	145	55
415	4.0	24.7	5.6	140	145	55
440	1.0	5.5	1.3	95	125	45
440	2.0	11.0	2.6	120	125	45
440	3.0	16.4	3.9	120	145	55
440	4.0	21.9	5.3	140	145	55

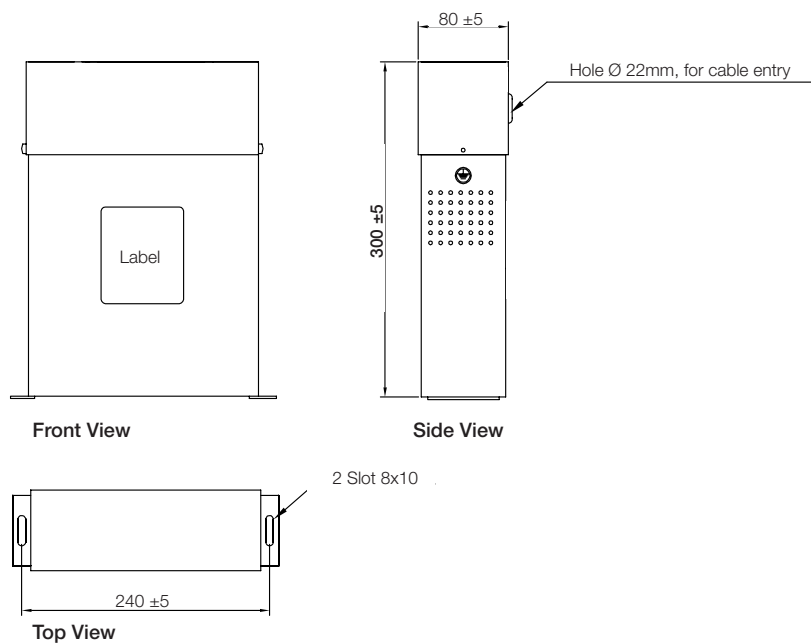


Wire type terminal

Dimensions

Box type - normal duty (5-25 kvar)

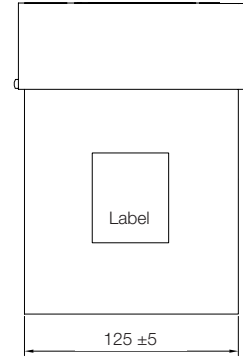
Volts V	(Range) kvar	Capacitance μf	Rated Current (A)	Dimensions (mm) $\pm 5\text{mm}$		
				H	W	D
415	5	31	7.0	240	185	60
	6	37.5	8.3	300	240	80
	7.5	46.5	10.4	300	240	80
	10	62	13.9	300	240	80
	12.5	77	17.4	300	240	80
	15	92.5	20.9	300	240	80
	17.5	107.9	24.3	300	240	160
	20	124	27.8	300	240	160
	22.5	138.7	31.3	300	240	160
440	5	27.5	6.6	240	185	60
	6	33	7.9	300	240	80
	7.5	41.5	9.8	300	240	80
	10	55	13.1	300	240	80
	12.5	68.5	16.4	300	240	80
	15	82.5	19.7	300	240	80
	17.5	96	23	300	240	160
	20	110	26.2	300	240	160
	22.5	123.4	29.5	300	240	160
25	138	32.8	300	240	160	



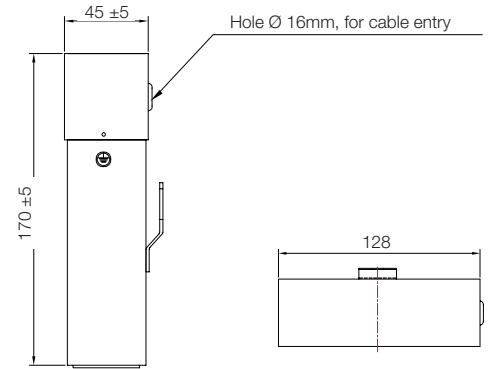
Dimensions

Box type - heavy duty

Volts (V)	Range (kvar)	Capacitance μf	Rated current (A)	Dimensions (mm) $\pm 5\text{mm}$		
				H	W	D
415	1	6.3	1.4	170	125	45
	2	12.5	2.8	170	125	45
	3	19	4.2	215	185	60
	4	25	5.6	215	185	60
	5	31	7	215	185	60
	6	37.5	8.3	300	240	80
	7.5	49.5	10.4	300	240	80
	10	62	13.9	300	240	80
	12.5	77	17.4	300	240	80
	15	92	20.9	300	240	80
	17.5	107.9	24.3	300	240	160
	20	124	27.8	300	240	160
	22.5	138.7	31.3	300	240	160
	25	154	34.8	300	240	160
	440	1	5.5	1.3	170	125
2		11	2.6	170	125	45
3		16.5	3.9	215	185	60
4		22	5.2	215	185	60
5		27.5	6.6	215	185	60
6		33	7.9	300	240	80
7.5		41.5	9.8	300	240	80
10		55	13.1	300	240	80
12.5		69	16.4	300	240	80
15		82.5	19.7	300	240	80
17.5		96	23	300	240	160
20		110	26.2	300	240	160
22.5		123.4	29.5	300	240	160
25		138	32.8	300	240	160



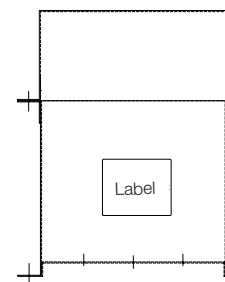
Front View



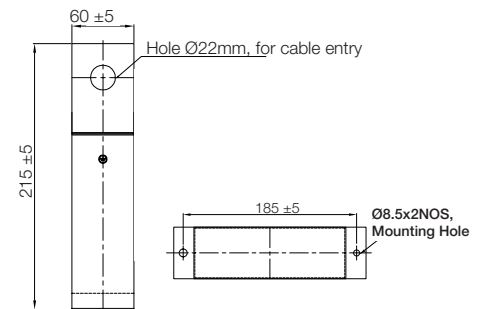
Side View

Top View

Stud Type Terminal



Front View

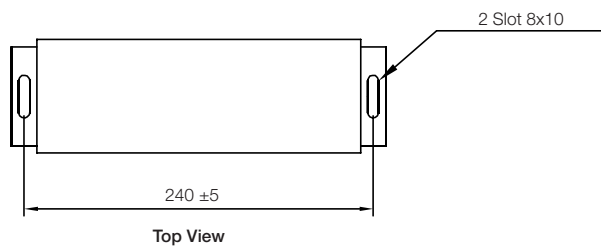
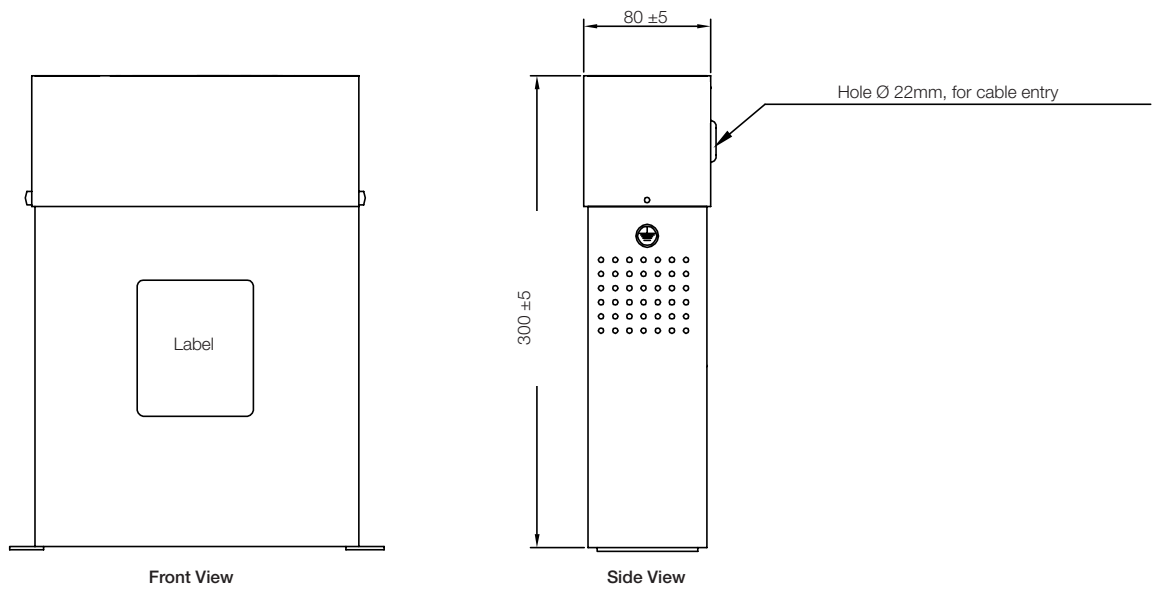


Side View

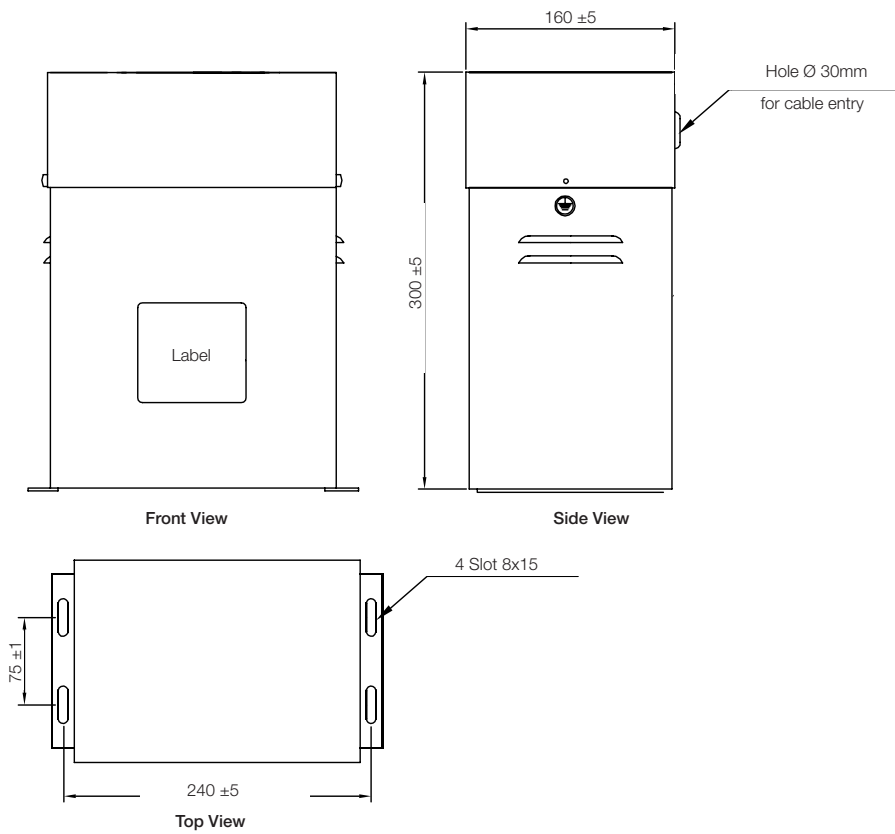
Top View

Stud Type Terminal

Dimensions



Stud Type Terminal



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