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Our suppliers are constantly developing and improving their products, therefore, we reserve the right to change or withdraw specifications without notice. All information correct at time of going to print, no responsibility can be taken for any errors or omissions.



WELCOME TO ABC



ALAN BUTCHER COMPONENTS LTD

Since 1986, we have been distributing electronic and electro mechanical components. Over this period, we have developed considerable experience within a variety of industries, supplying OEMs, sub-contract manufacturers, designers and broad-line distributors.

As a family business, our focus is on our customers; we strongly believe in communicating with you. We provide high quality, reliable products and excellent customer service, no matter how large or small the order.

When purchasing from Alan Butcher Components, you can expect:

- > Competitive pricing
- > Ex-stock delivery for most products
- > Technical support
- > Pro-active delivery updates
- > Rapid responses to enquiries
- > Scheduled / call-off ordering
- > Wide product portfolio
- > Innovative, modern and beautifully designed products
- > Excellent customer service
- > A person at the end of the telephone

Many of our customers have benefited from our product and application knowledge, so whether you need sounders, switches, speakers or signal lamps, please contact us with your enquiry.

QUALITY

We are ISO 9001 accredited. A copy of our certificate can be downloaded from our website by clicking on the ISO logo. The products we supply are covered by international approvals, copies of which can be supplied on request.



BS EN ISO 9001 Certification No 5239



We have established strong working relationships with all of our suppliers to ensure the products we distribute are of the highest quality. These manufacturers develop new solutions and new technologies to ensure continuous improvements to their products and processes.

With this support, Alan Butcher Components offer innovative products, designed to the highest specifications and manufactured using modern, efficient production lines.

Working with our suppliers and customers, we have the flexibility and experience to offer customised solutions for your specific design requirements.

We have franchise and agency agreements with the following manufacturers:

- > **Berker**
Socket outlets and switches
- > **PIC**
Float switches, reed switches and sensors
- > **Deca SwitchLab**
16mm illuminated push button switches
- > **Sanyou**
Relays
- > **ITW Metalflex**
Domestic appliance controls and signal lamps
- > **Everel** and their own brands;
 - > **Molveno OEM**
Switches
 - > **Signal Lux**
Signal lamps
 - > **Kautt & Bux**
IEC connectors





APPLICATIONS

Our products are used in a diverse range of applications including:

- White goods (washing machines, ovens, tumble dryers)
- Medical products
- Caravans and boats
- Household appliances (showers, coffee machines, kettles)
- Security applications
- Kitchen and bathroom units
- Distribution boxes
- Air conditioning and heating products
- Recording studios

If you are unsure of the product you need, our sales and technical team are on hand to offer their expertise. With over 40 years of experience within the industry, we can offer suggestions for the most applicable products. We also have highly experienced field representatives who are available to visit and discuss your requirements.

HOW TO ORDER

If you would like to place an order or need technical assistance, please give us a call or send us an email, our experienced sales and technical team will be very happy to help.



Telephone
+44 (0)1258 456360



Fax
+44 (0)1258 459194



Online
www.abcomponents.co.uk



Email
sales@abcomponents.co.uk

COMPLIANCE

We have taken and continue to take, measures to ensure that the products within our range comply with the EU directives on the Restriction of Hazardous Substances (RoHS) and the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).





B.
Berker

BERKER SWITCHES & SYSTEMS

8-9 Berker Integro Range



Berker Switches and Systems

Alan Butcher Components Ltd is the UK Distributor and Agent for the Berker Integro range of socket outlets and switch systems.

Berker products are used extensively within the caravan, motor home and boating industries throughout Europe as well as industrial applications such as PAT testers, electrical distribution boxes, power tools, kitchen and cleaning equipment.

The primary benefits of the Berker Integro range are:

Design

Compact dimensions (55.5mm x 55.5mm) and minimal installation depths, offer a modern solution to applications where space is a premium.

Modular Product Concept

Combine an insert with a frame to form a complete product. There are three design options to choose from; **Integro Flow**, **Integro Pure** and **Integro Classic**.

Quality

These products are widely known for the quality of manufacture and their reliability, particularly within demanding environments.

Installation

Quick and easy, with no requirement for special tools.

Flexibility

Wide range of contemporary colours to suit a variety of applications.

Call us on **01258 456360** to discuss your design requirements or for further information on the Berker Integro range. You can also download or request a copy of the Berker catalogue from our website www.abcomponents.co.uk

The Berker Integro product range includes:

SOCKET OUTLETS

Various International socket outlets available ensuring continuity of design.



British standard socket outlet



Schuko socket outlet



USA / Canada NEMA socket outlet



France / Belgium socket outlet

CONNECTING DEVICES & MULTIMEDIA SOCKETS

Devices include aerial sockets, USB charging sockets, HDMI sockets and 12V socket outlets.



12V socket outlet



12V USB charging socket



USB / 3.5mm audio socket outlet



12V + SAT socket outlet

SWITCHES

Switching options include on / off, changeover and momentary. Single and twin switches also available.



On / off switch



Twin on / off switch



Reverse polarity push button switch



Twin push button switch with arrows

FRAMES

Available in three designs in various colour options, in 1, 2 and 3 gang.



Integro Flow



Integro Pure



Integro Classic



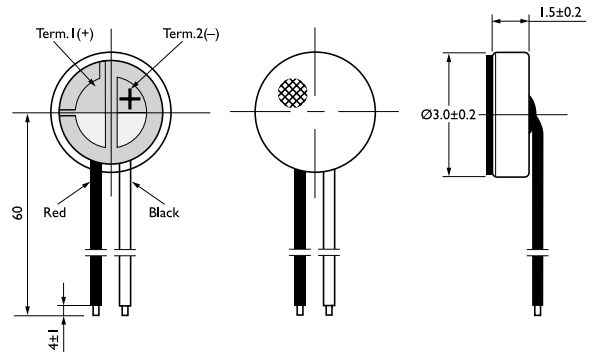
MICROPHONES

- 11 Electret Condenser Microphones 3mm
- 11-12 Electret Condenser Microphones 4mm
- 12-14 Electret Condenser Microphones 6mm
- 14 Electret Condenser Microphones 9.7mm

ELECTRET CONDENSER MICROPHONE WITH LEADS
3MM



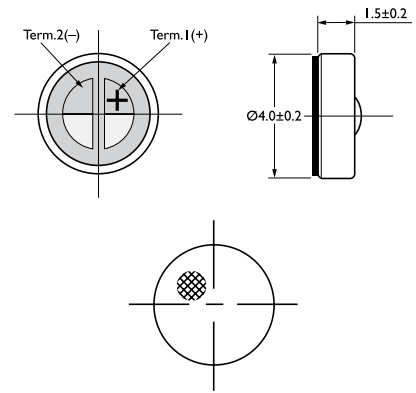
Part No.	ABM-716-RC
Directivity	Omni directional
Standard operating voltage	2V
Max operating voltage	10V
Max current consumption	0.5mA
Output impedance	<2.2KΩ
Frequency	50~16000Hz
Sensitivity	-44±3dB
Signal to noise ratio	>60dB
Electrets type	Foil type
Material	Aluminium
Storage / Op temperature	-20°C~+60°C
Lead wire	UL1571 36AWG



ELECTRET CONDENSER MICROPHONE
4MM



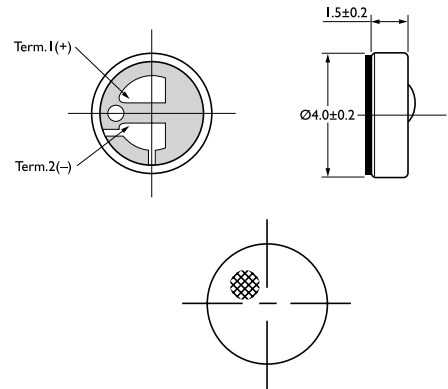
Part No.	ABM-702-RC
Directivity	Omni directional
Standard operating voltage	2V
Max operating voltage	10V
Max current consumption	0.5mA
Output impedance	<2.2KΩ
Frequency	50~16000Hz
Sensitivity	-42±3dB
Signal to noise ratio	>60dB
Electrets type	Foil type
Material	Aluminium
Storage temperature	-20°C~+60°C
Operating temperature	-20°C~+60°C



ELECTRET CONDENSER MICROPHONE
4MM



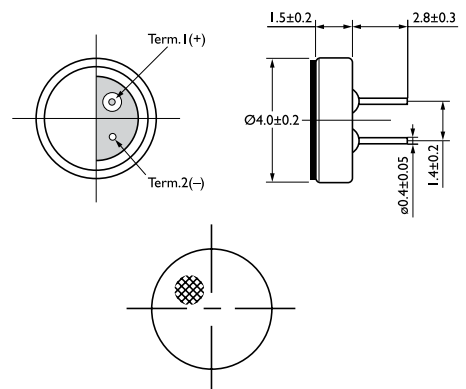
Part No.	ABM-710-RC
Directivity	Noise cancelling
Standard operating voltage	2V
Max operating voltage	10V
Max current consumption	0.5mA
Output impedance	<2.2KΩ
Frequency	50~16000Hz
Sensitivity	-46±3dB
Signal to noise ratio	>58dB
Electrets type	Foil type
Material	Aluminium
Storage temperature	-20°C~+60°C
Operating temperature	-20°C~+60°C



ELECTRET CONDENSER MICROPHONE
4MM



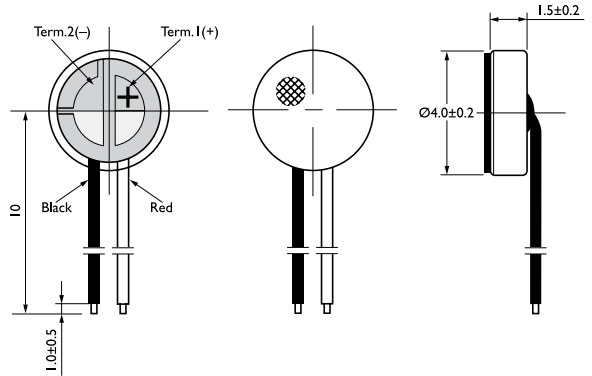
Part No.	ABM-714-RC
Directivity	Omni directional
Standard operating voltage	2V
Max operating voltage	10V
Max current consumption	0.5mA
Output impedance	<2.2KΩ
Frequency	50~16000Hz
Sensitivity	-42±3dB
Signal to noise ratio	>60dB
Electrets type	Foil type
Material	Aluminium
Storage temperature	-20°C~+60°C
Operating temperature	-20°C~+60°C



ELECTRET CONDENSER MICROPHONE WITH LEADS
4MM



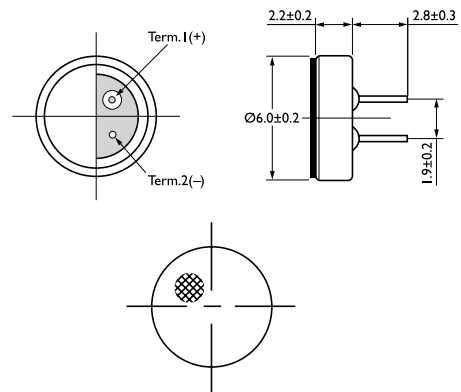
Part No.	ABM-715-RC
Directivity	Omn directional
Standard operating voltage	2V
Max operating voltage	10V
Max current consumption	0.5mA
Output impedance	<2.2KΩ
Frequency	50~16000Hz
Sensitivity	-44±3dB
Signal to noise ratio	>60dB
Electrets type	Foil type
Material	Aluminium
Storage / Op temperature	-20°C~+60°C
Lead wire	UL1571, 32AWG



ELECTRET CONDENSER MICROPHONE
6MM



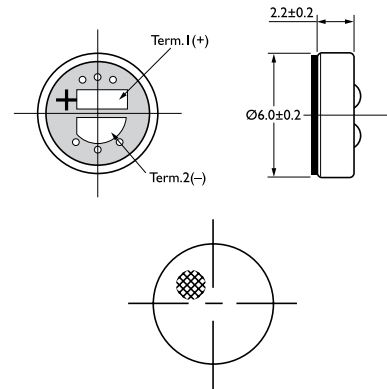
Part No.	ABM-703-RC
Directivity	Omn directional
Standard operating voltage	2V
Max operating voltage	10V
Max current consumption	0.5mA
Output impedance	<2.2KΩ
Frequency	100~16000Hz
Sensitivity	-40±3dB
Signal to noise ratio	>60dB
Electrets type	Foil type
Material	Aluminium
Storage temperature	-20°C~+60°C
Operating temperature	-20°C~+60°C



ELECTRET CONDENSER MICROPHONE
6MM



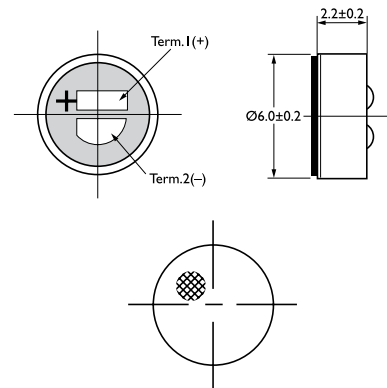
Part No.	ABM-704-RC
Directivity	Omn directional
Standard operating voltage	2V
Max operating voltage	10V
Max current consumption	0.5mA
Output impedance	<2.2KΩ
Frequency	50~16000Hz
Sensitivity	-40±3dB
Signal to noise ratio	>60dB
Electrets type	Foil type
Material	Aluminium
Storage temperature	-20°C~+60°C
Operating temperature	-20°C~+60°C



ELECTRET CONDENSER MICROPHONE
6MM



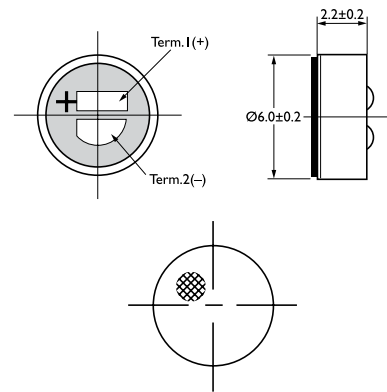
Part No.	ABM-705-RC
Directivity	Omn directional
Standard operating voltage	2V
Max operating voltage	10V
Max current consumption	0.5mA
Output impedance	<2.2KΩ
Frequency	50~16000Hz
Sensitivity	-42±3dB
Signal to noise ratio	>60dB
Electrets type	Foil type
Material	Aluminium
Storage temperature	-20°C~+60°C
Operating temperature	-20°C~+60°C



ELECTRET CONDENSER MICROPHONE
6MM



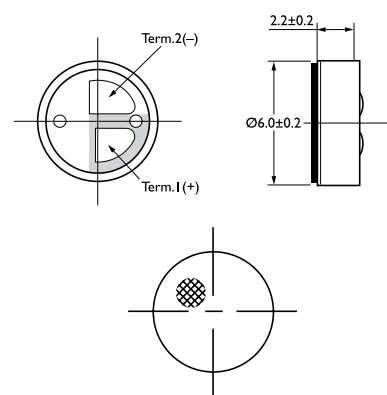
Part No.	ABM-706-RC
Directivity	Omn directional
Standard operating voltage	2V
Max operating voltage	10V
Max current consumption	0.5mA
Output impedance	<2.2KΩ
Frequency	50~16000Hz
Sensitivity	-41±3dB
Signal to noise ratio	>60dB
Electrets type	Foil type
Material	Aluminium
Storage temperature	-20°C~+60°C
Operating temperature	-20°C~+60°C



ELECTRET CONDENSER MICROPHONE
6MM



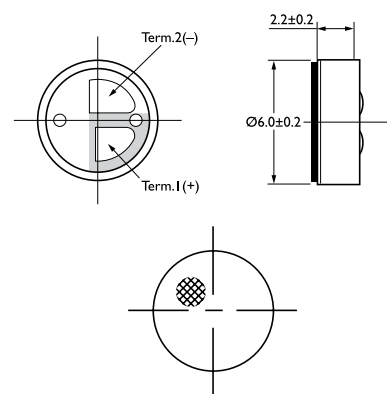
Part No.	ABM-708-RC
Directivity	Uni directional
Standard operating voltage	2V
Max operating voltage	10V
Max current consumption	0.5mA
Output impedance	<2.2KΩ
Frequency	50~16000Hz
Sensitivity	-47±3dB
Signal to noise ratio	>58dB
Electrets type	Foil type
Material	Aluminium
Storage temperature	-20°C~+60°C
Operating temperature	-20°C~+60°C



ELECTRET CONDENSER MICROPHONE
6MM



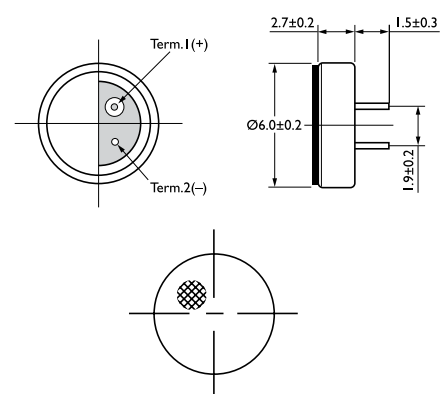
Part No.	ABM-711-RC
Directivity	Noise cancelling
Standard operating voltage	2V
Max operating voltage	10V
Max current consumption	0.5mA
Output impedance	<2.2KΩ
Frequency	50~16000Hz
Sensitivity	-44±3dB
Signal to noise ratio	>58dB
Electrets type	Foil type
Material	Aluminium
Storage temperature	-20°C~+60°C
Operating temperature	-20°C~+60°C



ELECTRET CONDENSER MICROPHONE
6MM



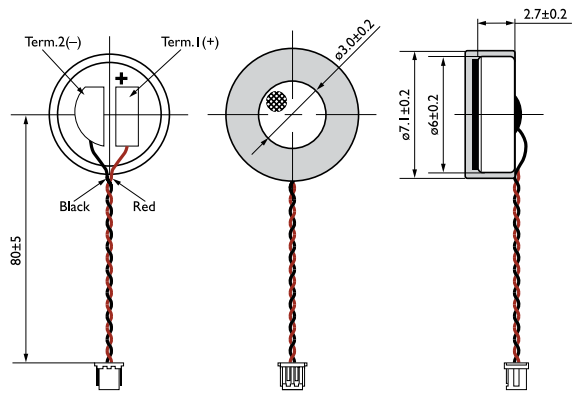
Part No.	ABM-713-RC
Directivity	Omn directional
Standard operating voltage	2V
Max operating voltage	10V
Max current consumption	0.5mA
Output impedance	<2.2KΩ
Frequency	50~16000Hz
Sensitivity	-42±2dB
Signal to noise ratio	>60dB
Electrets type	Foil type
Material	Aluminium
Storage temperature	-20°C~+60°C
Operating temperature	-20°C~+60°C



ELECTRET CONDENSER MICROPHONE WITH LEADS
6MM



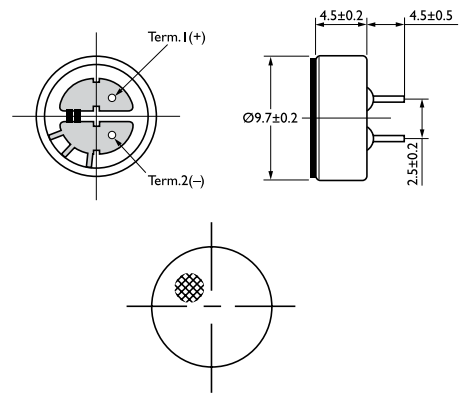
Part No.	ABM-717-RC
Directivity	Omnidirectional
Standard operating voltage	2V
Max operating voltage	10V
Max current consumption	0.5mA
Output impedance	<2.2KΩ
Frequency	50~16000Hz
Sensitivity	-38±3dB
Signal to noise ratio	>60dB
Electrets type	Foil type
Material	Aluminium
Storage / operating temp	-20°C~+60°C
Lead wire	UL1571 32AWG



ELECTRET CONDENSER MICROPHONE
9.7MM



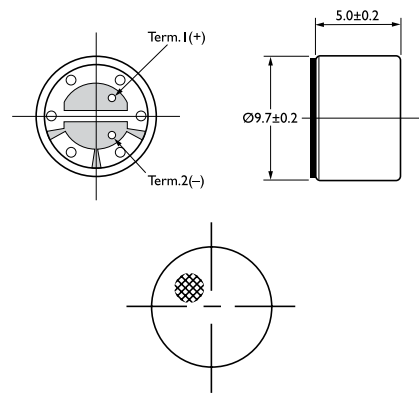
Part No.	ABM-707-RC
Directivity	Omnidirectional
Standard operating voltage	1.5V
Max operating voltage	10V
Max current consumption	0.5mA
Output impedance	<2.2KΩ
Frequency	50~16000Hz
Sensitivity	-41±3dB
Signal to noise ratio	>60dB
Electrets type	Foil type
Material	Aluminium
Storage temperature	-20°C~+60°C
Operating temperature	-20°C~+60°C



ELECTRET CONDENSER MICROPHONE
9.7MM



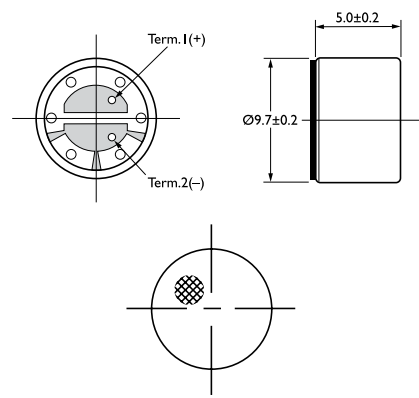
Part No.	ABM-709-RC
Directivity	Uni directional
Standard operating voltage	2V
Max operating voltage	10V
Max current consumption	0.5mA
Output impedance	<2.2KΩ
Frequency	100~10000Hz
Sensitivity	-47±3dB
Signal to noise ratio	>58dB
Electrets type	Foil type
Material	Aluminium
Storage temperature	-20°C~+60°C
Operating temperature	-20°C~+60°C



ELECTRET CONDENSER MICROPHONE
9.7MM



Part No.	ABM-712-RC
Directivity	Noise cancelling
Standard operating voltage	2V
Max operating voltage	10V
Max current consumption	0.5mA
Output impedance	<2.2KΩ
Frequency	100~10000Hz
Sensitivity	-40±3dB
Signal to noise ratio	>58dB
Electrets type	Foil type
Material	Aluminium
Storage temperature	-20°C~+60°C
Operating temperature	-20°C~+60°C





SPEAKERS

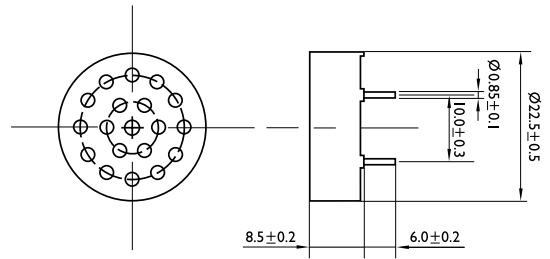
- 16-19 Mylar Speakers
- 19-20 Paper Cone Speakers
- 20-21 Rectangular Speakers
- 21 Square Speakers

ENCASED MYLAR SPEAKER

23MM WITH PCB PINS



Part No.	ABS-201-RC
Rated impedance	8±20%Ω
Nominal power	0.08W
Maximum power	0.15W
Resonant frequency	1500±20%Hz
Frequency range	F 700-4,000Hz
Sound output level at 0.1W/0.1m	73±3dB
Magnet material	N/A
Magnet size	N/A
Operating temperature	-20°C~+85°C
Storage temperature	-30°C~+90°C
Weight	5g±0.5g



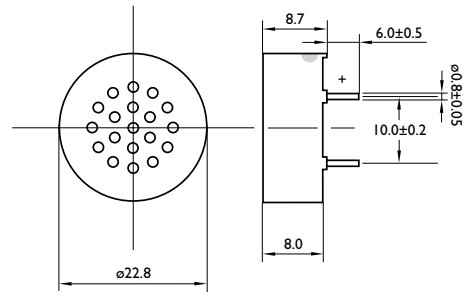
Dimensions Unit: mm Tolerance: ±0.3mm

ENCASED MYLAR SPEAKER

23MM WITH PCB PINS



Part No.	ABS-227-RC
Rated impedance	32±20%Ω
Nominal power	0.1W
Maximum power	0.2W
Resonant frequency	1800±20%Hz
Frequency range	F 0-4,000Hz
Sound output level at 0.1W/0.1m	75±3dB
Magnet material	N/A
Magnet size	N/A
Operating temperature	-20°C~+60°C
Storage temperature	-40°C~+60°C
Weight	3.0g



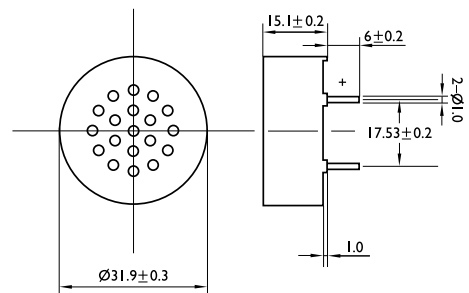
Dimensions Unit: mm Tolerance: ±0.5mm

ENCASED MYLAR SPEAKER

32MM WITH PCB PINS



Part No.	ABS-225-RC
Rated impedance	8±15%Ω
Nominal power	0.15W
Maximum power	0.2W
Resonant frequency	1500±20%Hz
Frequency range	F 500-20,000Hz
Sound output level at 0.1W/0.1m	84±3dB
Magnet material	N/A
Magnet size	N/A
Operating temperature	-20°C~+60°C
Storage temperature	-30°C~+70°C
Weight	10g±5%



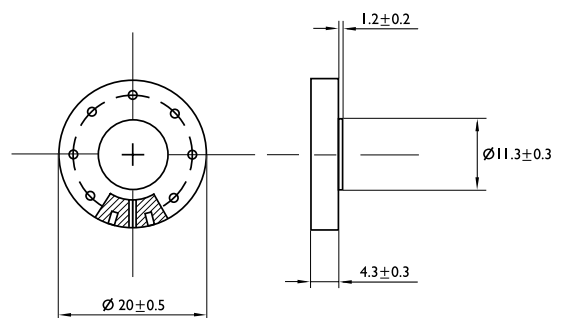
Dimensions Unit: mm

MYLAR SPEAKER

20MM



Part No.	ABS-203-RC
Rated impedance	8±15%Ω
Nominal power	0.1W
Maximum power	0.2W
Resonant frequency	1000±20%Hz
Frequency range	F 0-5,000Hz
Sound output level at 0.1W/0.1m	75±3dB
Magnet material	Nd-Fe-B
Magnet size	ø6.5x1.5mm
Operating temperature	-20°C~+60°C
Storage temperature	-30°C~+70°C
Weight	2.5g

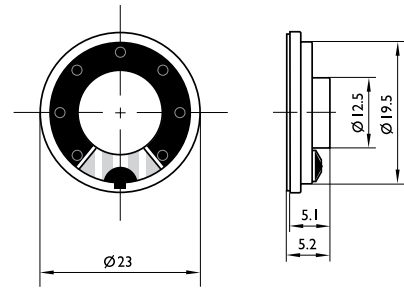


Dimensions Unit: mm Tolerance: ±0.3mm

MYLAR SPEAKER
23MM



Part No.	ABS-231-RC
Rated impedance	32±15%Ω
Nominal power	0.5W
Maximum power	1.0W
Resonant frequency	800±20%Hz
Frequency range	F 0-10,000KHz
Sound output level at 0.1W/0.1m	87±3dB
Magnet material	Nd-Fe-B
Magnet size	ø9.5x1.5mm
Operating temperature	-20°C~+60°C
Storage temperature	-30°C~+60°C
Weight	8.5g

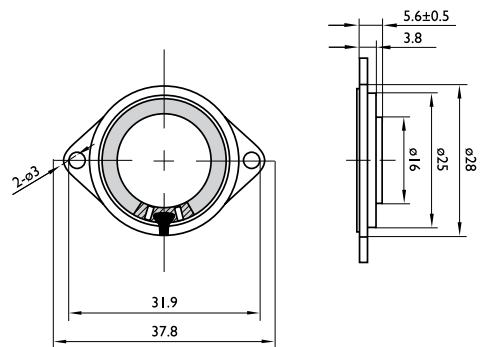


Dimensions Unit: mm

MYLAR SPEAKER
28MM



Part No.	ABS-233-RC
Rated impedance	8±1.2Ω
Nominal power	0.5W
Maximum power	1.0W
Resonant frequency	750±150Hz
Frequency range	F 0-7,000Hz
Sound output level at 0.1W/0.1m	92±3dB
Magnet material	Nd-Fe-B
Magnet size	ø12.5x1.5mm
Operating temperature	-20°C~+60°C
Storage temperature	-30°C~+70°C
Weight	5.2g

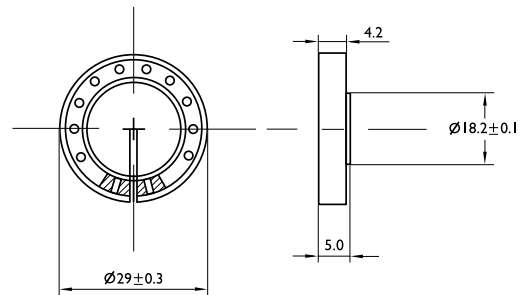


Dimensions Unit: mm Tolerance: ±0.5mm

MYLAR SPEAKER
29MM



Part No.	ABS-205-RC
Rated impedance	8±15%Ω
Nominal power	0.25W
Maximum power	0.5W
Resonant frequency	700±25%Hz
Frequency range	F 0-3,000Hz
Sound output level at 0.1W/0.1m	90±3dB
Magnet material	N/A
Magnet size	N/A
Operating temperature	-20°C~+60°C
Storage temperature	-30°C~+70°C
Weight	5g±5%

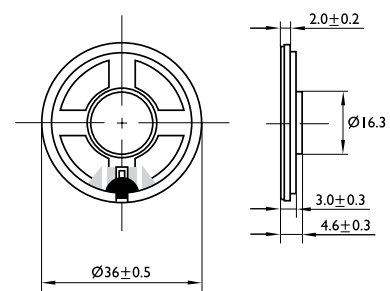


Dimensions Unit: mm

MYLAR SPEAKER
36MM



Part No.	ABS-222-RC
Rated impedance	8±15%Ω
Nominal power	1.0W
Maximum power	1.2W
Resonant frequency	550±20%Hz
Frequency range	F 0-11,000Hz
Sound output level at 1W/1m	85±3dB
Magnet material	Nd-Fe-B
Magnet size	ø12.5x1.5mm
Operating temperature	-20°C~+60°C
Storage temperature	-30°C~+60°C
Weight	8.25g



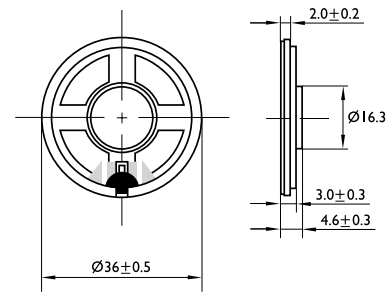
Dimensions Unit: mm

MYLAR SPEAKER

36MM



Part No.	ABS-228-RC
Rated impedance	150±15%Ω
Rated power	0.1W
Maximum power	0.2W
Resonant frequency	500±20%Hz
Frequency range	F 0-11,000KHz
Sound output level at 0.1W/0.1m	93±3dB
Magnet material	Nd-Fe-B
Magnet size	ø12.5x1.5mm
Operating temperature	-20°C~+60°C
Storage temperature	-30°C~+60°C
Weight	8.25g



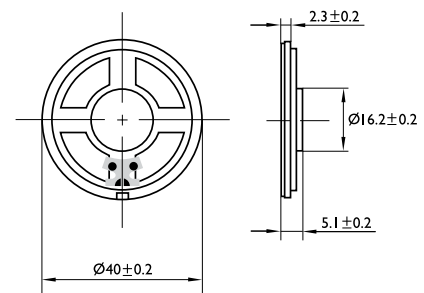
Dimensions Unit: mm

MYLAR SPEAKER

40MM



Part No.	ABS-220-RC
Rated impedance	8±15%Ω
Nominal power	0.5W
Maximum power	0.8W
Resonant frequency	600±25%Hz
Frequency range	F 0-6,000Hz
Sound output level at 0.1W/0.1m	96±3dB
Magnet material	Nd-Fe-B
Magnet size	ø12.5x1.5mm
Operating temperature	-20°C~+60°C
Storage temperature	-30°C~+60°C
Weight	9.2g



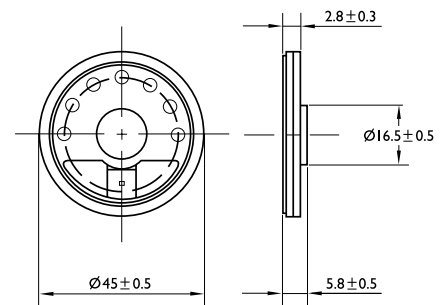
Dimensions Unit: mm

MYLAR SPEAKER

45MM



Part No.	ABS-209-RC
Rated impedance	32±15%Ω
Nominal power	0.25W
Maximum power	0.5W
Resonant frequency	500±25%Hz
Frequency range	F 0-5,500Hz
Sound output level at 0.5W/0.5m / 0.1W/0.1m	85±3dB
Magnet material	Nd-Fe-B
Magnet size	ø12.5x1.5mm
Operating temperature	-20°C~+60°C
Storage temperature	-30°C~+70°C
Weight	12g



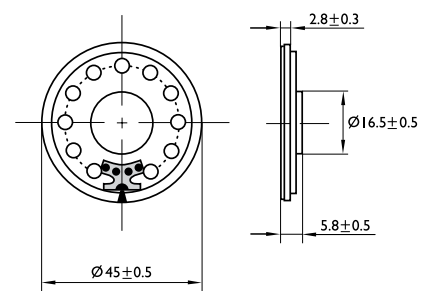
Dimensions Unit: mm

MYLAR SPEAKER

45MM



Part No.	ABS-217-RC
Rated impedance	64±15%Ω
Nominal power	0.25W
Maximum power	0.5W
Resonant frequency	500Hz±25Hz
Frequency range	F 0-5,500Hz
Sound output level at 0.5W/0.5m and 0.1W/0.1m	85±3db / 92±3db
Magnet material	Nd-Fe-B
Magnet size	ø12.5x1.5mm
Operating temperature	-20°C~60°C
Storage temperature	-30°C~70°C
Weight	12g

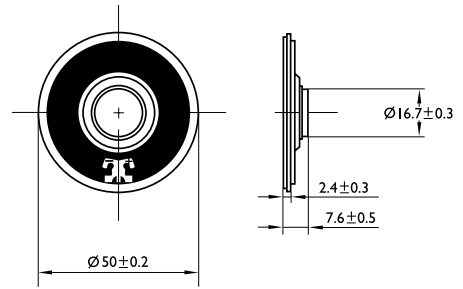


Dimensions Unit: mm

MYLAR SPEAKER
50MM



Part No.	ABS-210-RC
Rated impedance	8±15%Ω
Nominal power	1.0W
Maximum power	1.5W
Resonant frequency	350±20%Hz
Frequency range	F 0-20,000Hz
Sound output level at 0.1W/0.1m	92±3dB
Magnet material	Nd-Fe-B
Magnet size	ø12.5x1.5mm
Operating temperature	-10°C~+40°C
Storage temperature	-20°C~+60°C
Weight	13.2g±5%

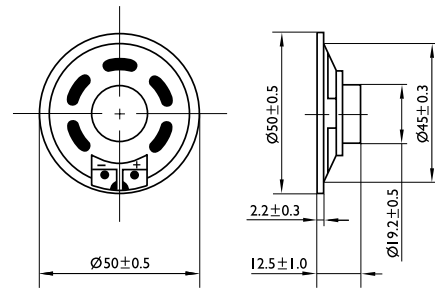


Dimensions Unit: mm

MYLAR SPEAKER
50MM



Part No.	ABS-215-RC
Rated impedance	8±15%Ω
Nominal power	1.5W
Maximum power	2.0W
Resonant frequency	550±20%Hz
Frequency range	F 0-20,000KHz
Sound output level at 0.1W/0.5m	89±3dB
Magnet material	Nd-Fe-B
Magnet size	ø12.5x2.5mm
Operating temperature	-20°C~+60°C
Storage temperature	-30°C~+70°C
Weight	18g±5%

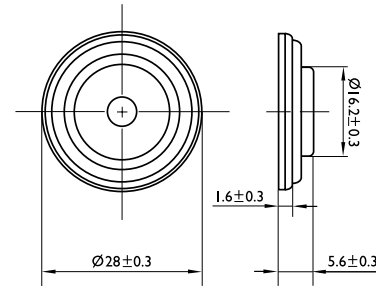


Dimensions Unit: mm

ROUND PAPER CONE SPEAKER
28MM



Part No.	ABS-221-RC
Rated impedance	8±15%Ω
Nominal power	1.5W
Maximum power	3.0W
Resonant frequency	550±20%Hz
Frequency range	F 0-9,000Hz
Sound output level at 0.1W/0.1m	92±3dB
Magnet material	Nd-Fe-B
Magnet size	ø12.5x2mm
Operating temperature	-20°C~+60°C
Storage temperature	-30°C~+60°C
Weight	8.7g±5%

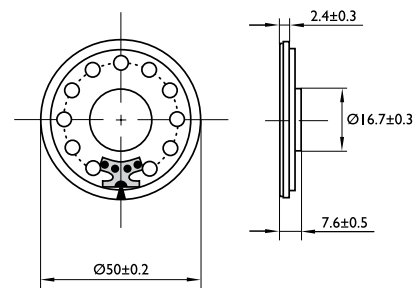


Dimensions Unit: mm

ROUND PAPER CONE SPEAKER
50MM



Part No.	ABS-232-RC
Rated impedance	64±15%Ω
Nominal power	0.5W
Maximum power	1.0W
Resonant frequency	350±20%Hz
Frequency range	F 0-20,000Hz
Sound output level at 0.1W/0.1m	90dB±3dB
Magnet material	Nd-Fe-B
Magnet size	ø12.5x1.5mm
Operating temperature	-20°C~+60°C
Storage temperature	-30°C~+70°C
Weight	13.2g

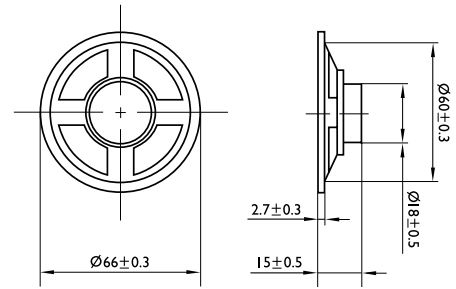


Dimensions Unit: mm Tolerance: ±0.5mm

**ROUND PAPER
CONE SPEAKER**
66MM



Part No.	ABS-223-RC
Rated impedance	64±15%Ω
Nominal power	0.5W
Maximum power	1.0W
Resonant frequency	280±20%Hz
Frequency range	F 0-4,000Hz
Sound output level at 1W/0.5m	89±3dB
Magnet material	Nd-Fe-B
Magnet size	ø12.5x2.5mm
Operating temperature	-20°C~+60°C
Storage temperature	-30°C~+70°C
Weight	19g±5%

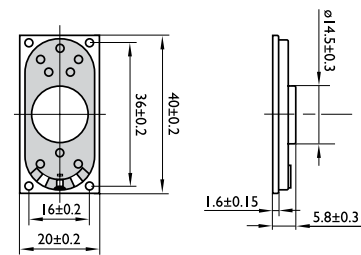


Dimensions Unit: mm

**RECTANGULAR
SPEAKER**
40X20MM



Part No.	ABS-224-RC
Rated impedance	4±15%Ω
Rated power	2.0W
Maximum power	3.0W
Resonant frequency	400±20%Hz
Frequency range	F 200-20,000KHz
Sound output level at 0.5W/1m	83±3dB
Magnet material	Nd-Fe-B
Magnet size	11x1.5mm
Operating temperature	-20°C~+60°C
Storage temperature	-30°C~+70°C
Weight	7.6g±5%

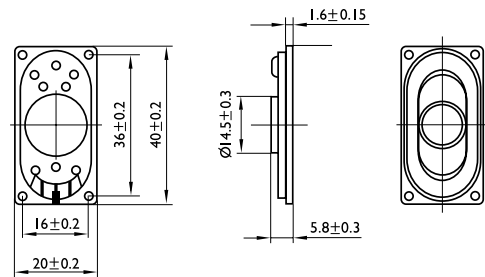


Dimensions Unit: mm

**RECTANGULAR
SPEAKER**
40X20MM



Part No.	ABS-216-RC
Rated impedance	8±15%Ω
Rated power	2.0W
Maximum power	3.0W
Resonant frequency	400±20%Hz
Frequency range	F 200Hz-20,000KHz
Sound output level at 1.0W/0.5m	83±3dB
Magnet material	Nd-Fe-B
Magnet size	11x1.5mm
Operating temperature	-20°C~+60°C
Storage temperature	-30°C~+70°C
Weight	7.6g

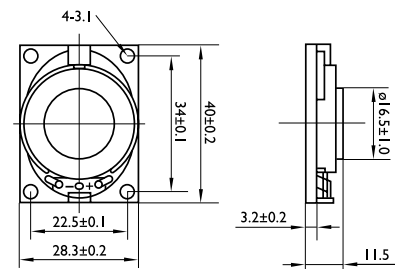


Dimensions Unit: mm

**RECTANGULAR
SPEAKER**
40X28MM



Part No.	ABS-230-RC
Rated impedance	4±15%Ω
Rated power	2.0W
Maximum power	4.0W
Resonant frequency	380±20%Hz
Frequency range	F 0-20,000Hz
Sound output level at 1W/1m	84±3dB
Magnet material	Nd-Fe-B
Magnet size	12.5x2.5mm
Operating temperature	-20°C~+60°C
Storage temperature	-30°C~+70°C
Weight	12g±5%

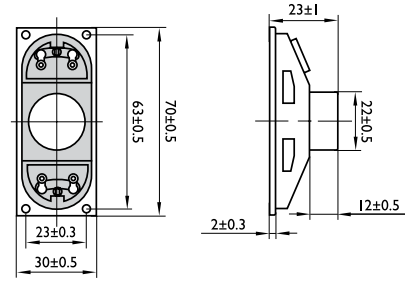


Dimensions Unit: mm

RECTANGULAR SPEAKER
70X30MM



Part No.	ABS-235-RC
Rated impedance	8±15%Ω
Nominal power	2.0W
Maximum power	5.0W
Resonant frequency	300±70Hz
Frequency range	F 100-20,000KHz
Sound output level at 1W/0.5m	86±3dB
Magnet material	Nd-Fe-B
Magnet size	12.5x2.5mm
Operating temperature	-20°C~+60°C
Storage temperature	-30°C~+70°C
Weight	35g±5%

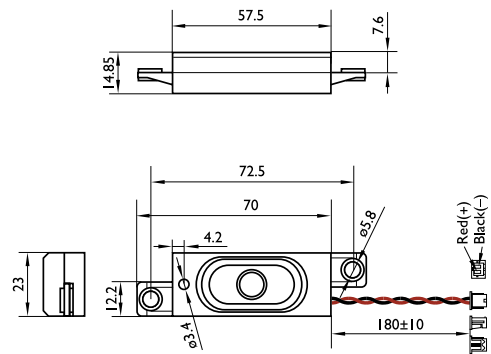


Dimensions Unit: mm Tolerance: ±0.5mm

RECTANGULAR SPEAKER
ENCASED WITH LEADS
72.5X23MM



Part No.	ABS-229-RC
Rated impedance	8±15%Ω
Rated power	1.0W
Maximum power	2.0W
Resonant frequency	700±20%Hz/1V
Frequency range	F 0-20,000Hz
Sound output level at 1W/0.1m	98±3dB
Magnet material	Nd-Fe-B
Magnet size	12.5x2.5mm
Wire	UL1571, AWG28#
Connector	Molex 51021-0200 equivalent
Weight	28g

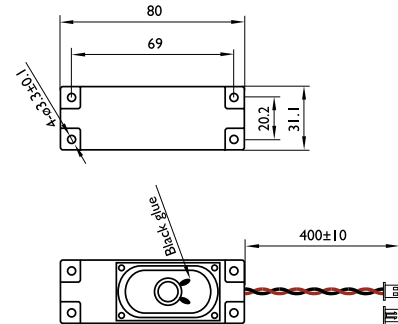


Dimensions Unit: mm Tolerance: ±0.5mm

RECTANGULAR SPEAKER
80X31MM



Part No.	ABS-236-RC
Rated impedance	8±15%Ω
Rated power	2.0W
Maximum power	4.0W
Resonant frequency	550±20%Hz
Frequency range	F 0-8,000Hz
Sound output level at 2W/0.1m	100±3dB
Magnet material	Nd-Fe-B
Magnet size	12.5x2.5mm
Wire	UL1007 AWG26#
Connector	XH-2P
Weight	55g

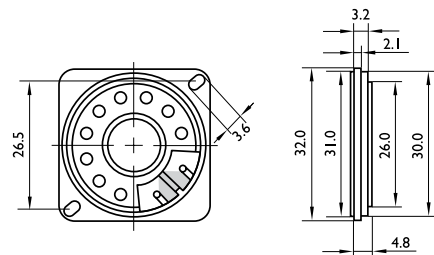


Dimensions Unit: mm

SQUARE SPEAKER
32X32MM



Part No.	ABJS-700-RC
Rated impedance	8±15%Ω
Nominal power	0.2W
Maximum power	0.4W
Resonant frequency	900±180Hz
Frequency range	F 0-7,000Hz
Sound output level at 0.2W/0.5m	80±3dB
Magnet material	N/A
Magnet size	ø9.5x1.5mm
Operating temperature	-20°C~+65°C
Storage temperature	-20°C~+65°C
Weight	4g



Dimensions Unit: mm Tolerance: ±0.5mm

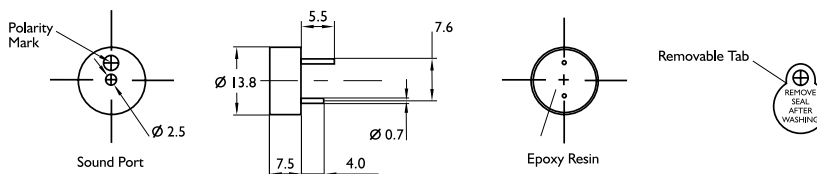


BUZZERS & SOUNDERS

23-27	Piezo Indicators
27-29	Electro Mechanical Indicators
29	Surface Mount Indicators
29	Mains Buzzers
30-34	Piezo Transducers
34-36	Electro Mechanical Transducers
37-38	Surface Mount Transducers
39-41	Piezo Elements

DC DEVICES (with internal drive circuits)

PIEZO INDICATOR

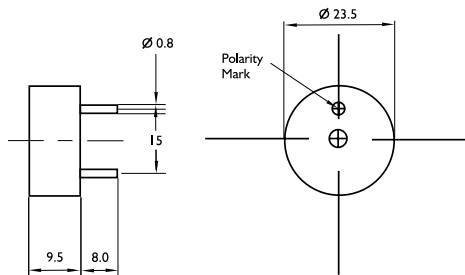


Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage	Operating voltage	Rated current*	Sound output level at 10cm*	Resonant frequency	Tone	Housing material	Operating temperature	Storage temperature	Lead wire	Weight
ABI-001-RC	12VDC	3~16VDC	≤7mA	≥80dB	4000±500Hz	Continuous	Noryl	-20°C~+70°C	-30°C~+80°C	N/A	1g

*Value applying at rated voltage (DC)

PIEZO INDICATOR

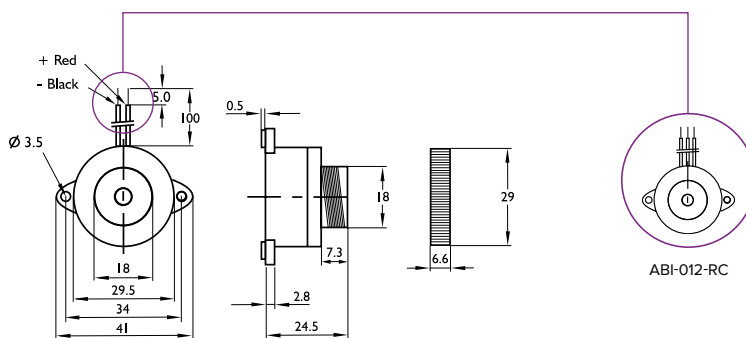


Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage	Operating voltage	Rated current*	Sound output level at 10cm*	Resonant frequency	Tone	Housing material	Operating temperature	Storage temperature	Lead wire	Weight
ABI-003-RC	12VDC	3~20VDC	≤15mA	≥95dB	3400±500Hz	Continuous	Noryl	-20°C~+60°C	-30°C~+70°C	N/A	4g

*Value applying at rated voltage (DC)

PIEZO INDICATOR



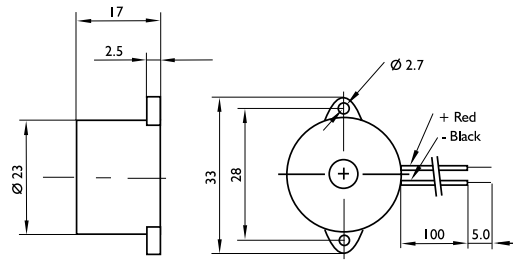
Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage	Operating voltage	Rated current*	Sound output level at 30cm*	Resonant frequency	Tone	Housing material	Operating temperature	Storage temperature	Lead wire	Weight
ABI-004-RC	12VDC	1.5~16VDC	≤15mA	≥95dB	3500±500Hz	Continuous	ABS	-20°C~+60°C	-30°C~+70°C	UL1007 AWG26	15g
ABI-005-RC	24VDC	1.5~28VDC	≤20mA	≥95dB	3500±500Hz	Continuous	ABS	-20°C~+60°C	-30°C~+70°C	UL1007 AWG26	15g
ABI-012-RC	12VDC	3~15VDC	≤20mA	≥95dB	3200±500Hz	Single / Pulse	ABS	-20°C~+60°C	-30°C~+70°C	UL1007 AWG26	15g
ABI-013-RC	12VDC	3~15VDC	≤10mA	≥90dB	3200±500Hz	Pulse	ABS	-20°C~+60°C	-30°C~+70°C	UL1007 AWG26	15g

*Value applying at rated voltage (DC)

DC DEVICES (with internal drive circuits)

PIEZO INDICATOR

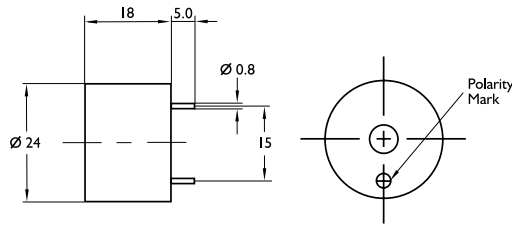


Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage	Operating voltage	Rated current*	Sound output level at 30cm*	Resonant frequency	Tone	Housing material	Operating temperature	Storage temperature	Lead wire	Weight
ABI-006-RC	12VDC	3~16VDC	≤8mA	≥90dB	3700±500Hz	Continuous	ABS	-20°C~+60°C	-30°C~+70°C	UL1095 AWG28	5g

*Value applying at rated voltage (DC)

PIEZO INDICATOR

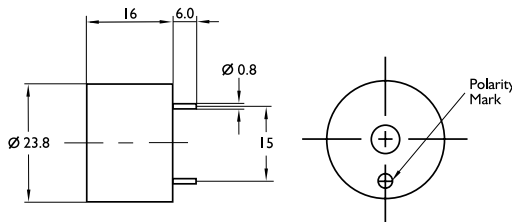


Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage	Operating voltage	Rated current*	Sound output level at 30cm*	Resonant frequency	Tone	Housing material	Operating temperature	Storage temperature	Lead wire	Weight
ABI-007-RC	12VDC	3~16VDC	≤8mA	≥90dB	3700±500Hz	Continuous	Noryl	-20°C~+60°C	-30°C~+70°C	N/A	5g

*Value applying at rated voltage (DC)

PIEZO INDICATOR



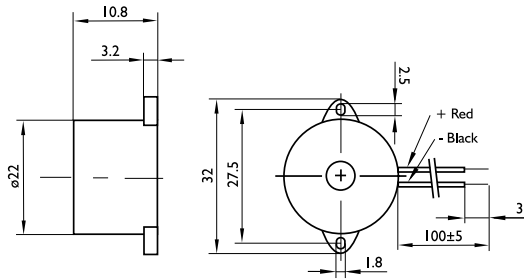
Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage	Operating voltage	Rated current*	Sound output level at 30cm*	Resonant frequency	Tone	Housing material	Operating temperature	Storage temperature	Lead wire	Weight
ABI-008-RC	12VDC	3~20VDC	≤8mA	≥85dB	2900±500Hz	Continuous	Noryl	-20°C~+60°C	-30°C~+70°C	N/A	6g

*Value applying at rated voltage (DC)

DC DEVICES (with internal drive circuits)

PIEZO INDICATOR

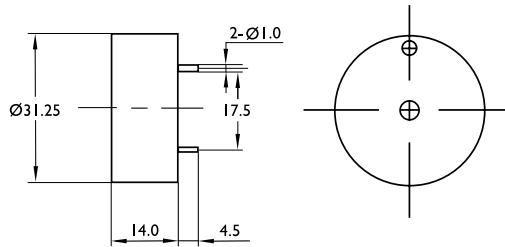


Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage	Operating voltage	Rated current*	Sound output level at 30cm*	Resonant frequency	Tone	Housing material	Operating temperature	Storage temperature	Lead wire	Weight
ABI-014-RC	12VDC	3~30VDC	≤3mA	≥80dBA	4500±500Hz	Continuous	ABS	-20°C~+60°C	-30°C~+70°C	UL1007 AWG26	4g

*Value applying at rated voltage (DC)

PIEZO INDICATOR

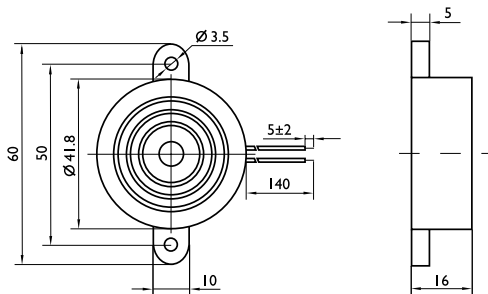


Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage	Operating voltage	Rated current*	Sound output level at 10cm*	Resonant frequency	Tone	Housing material	Operating temperature	Storage temperature	Lead wire	Weight
ABI-022-RC	12VDC	5~15VDC	≤15mA	≥100dB	3500±500Hz	Continuous	ABS	-20°C~+60°C	-30°C~+70°C	N/A	8g

*Value applying at rated voltage (DC)

PIEZO INDICATOR



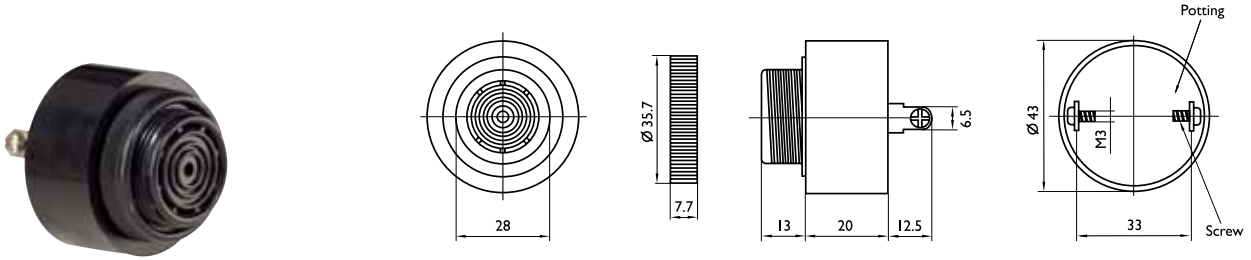
Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage	Operating voltage	Rated current*	Sound output level at 30cm*	Resonant frequency	Tone	Housing material	Operating temperature	Storage temperature	Lead wire	Weight
ABI-023-RC	12VDC	3~20VDC	≤10mA	≥96dB	2800±500Hz	Continuous	ABS	-20°C~+60°C	-30°C~+70°C	UL1007 AWG28	15g
ABI-036-RC	12VDC	3~28VDC	≤9mA	≥90dB	2900±500Hz	Fast pulse	ABS	-20°C~+60°C	-30°C~+70°C	UL1007 AWG28	15g

*Value applying at rated voltage (DC)

DC DEVICES (with internal drive circuits)

PIEZO INDICATOR

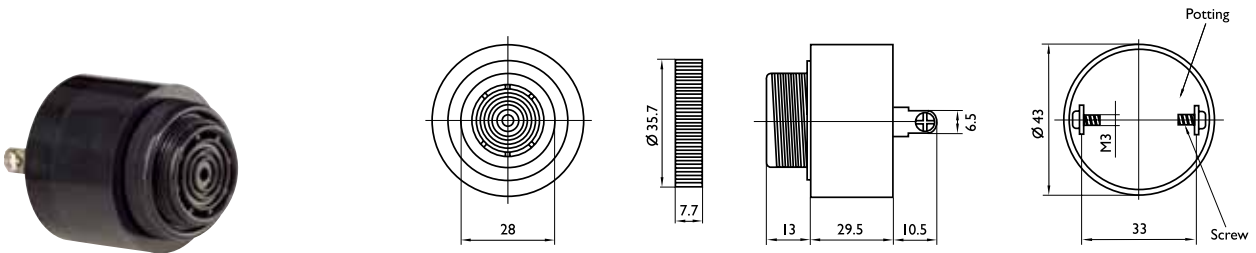


Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage	Operating voltage	Rated current*	Sound output level at 30cm*	Resonant frequency	Tone	Housing material	Operating temperature	Storage temperature	Lead wire	Weight
ABI-024-RC	12VDC	4~28VDC	≤8mA	≥97dB	2800±500Hz	Continuous	ABS	-20°C~+60°C	-30°C~+70°C	N/A	43g
ABI-025-RC	12VDC	6~28VDC	≤6mA	≥88dB	2900±500Hz	Fast pulse	ABS	-20°C~+60°C	-30°C~+70°C	N/A	43g
ABI-026-RC	12VDC	6~28VDC	≤6mA	≥88dB	2900±500Hz	Slow pulse	ABS	-20°C~+60°C	-30°C~+70°C	N/A	43g
ABI-043-RC	110VDC / AC	30~120 DC / AC	≤17mA	≥98dB	2800±500Hz	Continuous	ABS	-20°C~+60°C	-30°C~+70°C	N/A	43g

*Value applying at rated voltage (DC)

PIEZO INDICATOR

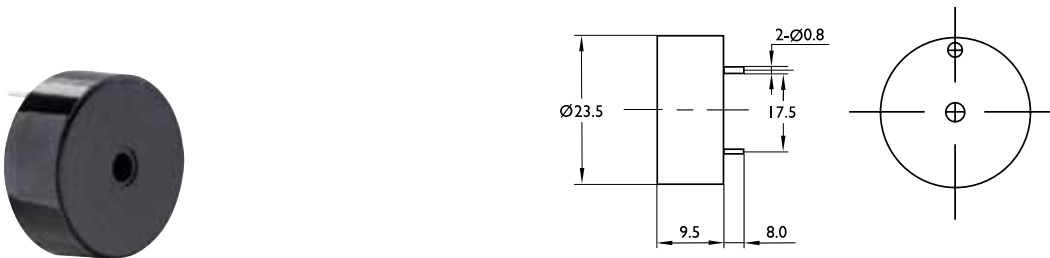


Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage	Operating voltage	Rated current*	Sound output level at 30cm*	Resonant frequency	Tone	Housing material	Operating temperature	Storage temperature	Lead wire	Weight
ABI-027-RC	220VDC / AC	60~250 VDC / AC	≤16mA	≥91dB	2800±500Hz	Fast pulse	ABS	-20°C~+60°C	-30°C~+70°C	N/A	43g

*Value applying at rated voltage (DC)

PIEZO INDICATOR



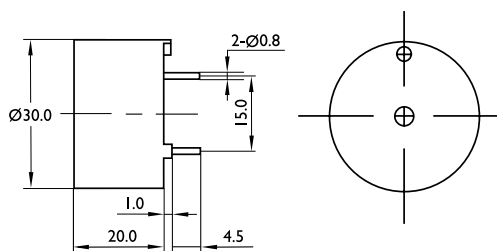
Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage	Operating voltage	Rated current*	Sound output level at 10cm*	Resonant frequency	Tone	Housing material	Operating temperature	Storage temperature	Lead wire	Weight
ABI-033-RC	24VDC	3~30VDC	≤30mA	≥95dB	3400±500Hz	Continuous	Noryl	-20°C~+70°C	-30°C~+80°C	N/A	4g

*Value applying at rated voltage (DC)

DC DEVICES (with internal drive circuits)

PIEZO INDICATOR

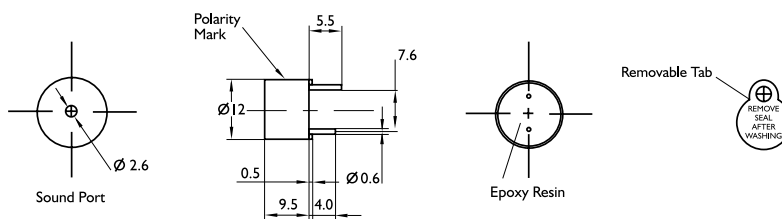


Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage	Operating voltage	Rated current*	Sound output level at 30cm*	Resonant frequency	Tone	Housing material	Operating temperature	Storage temperature	Pin pitch	Weight
ABI-038-RC	12VDC	3~24VDC	≤13mA	≥77dB	2200±500Hz	Continuous	PBT	-20°C~+80°C	-30°C~+85°C	15mm	8g

*Value applying at rated voltage (DC)

ELECTRO MECHANICAL INDICATOR

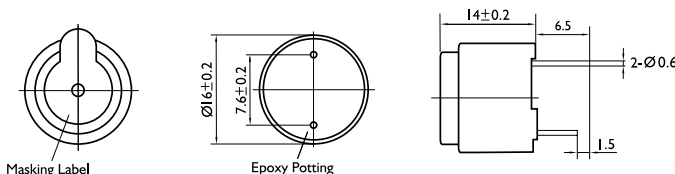


Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage	Operating voltage	Rated current*	Sound output level at 10cm*	Resonant frequency	Tone	Housing material	Operating temperature	Storage temperature	Lead wire	Weight
ABI-042-RC	1.5VDC	2~3VDC	≤20mA	≥80dB	2300±400Hz	Continuous	Noryl	-30°C~+70°C	-40°C~+85°C	N/A	2g
ABI-009-RC	6VDC	4~8VDC	≤30mA	≥85dB	2300±300Hz	Continuous	Noryl	-25°C~+80°C	-30°C~+85°C	N/A	2g
ABI-010-RC	12VDC	8~16VDC	≤30mA	≥85dB	2300±300Hz	Continuous	Noryl	-20°C~+70°C	-30°C~+80°C	N/A	2g

*Value applying at rated voltage (DC)

ELECTRO MECHANICAL INDICATOR



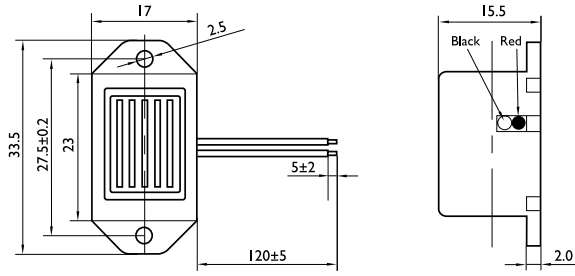
Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage	Operating voltage	Rated current*	Sound output level at 10cm*	Resonant frequency	Tone	Housing material	Operating temperature	Storage temperature	Lead wire	Weight
ABI-021-RC	6VDC	4~8VDC	≤30mA	≥85dB	2300±500Hz	Continuous	Noryl	-20°C~+70°C	-30°C~+80°C	N/A	7g
ABI-020-RC	12VDC	8~15VDC	≤30mA	≥85dB	2300±300Hz	Continuous	Noryl	-20°C~+70°C	-30°C~+80°C	N/A	7g

*Value applying at rated voltage (DC)

DC DEVICES (with internal drive circuits)

ELECTRO MECHANICAL INDICATOR

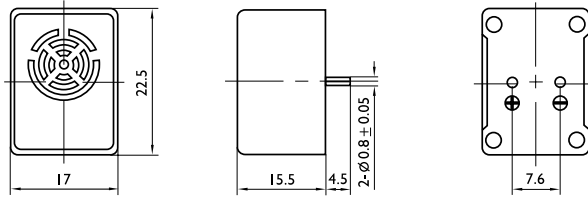


Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage	Operating voltage	Rated current*	Sound output level at 20cm*	Resonant frequency	Tone	Housing material	Operating temperature	Storage temperature	Lead wire	Weight
ABI-040-RC	1.5VDC	1.2~3VDC	≤20mA	≥70dB	400±100Hz	Continuous	ABS	-10°C~+60°C	-10°C~+70°C	UL1095 AWG26	10g
ABI-041-RC	6VDC	4~8VDC	≤25mA	≥75dB	400±100Hz	Continuous	ABS	-10°C~+60°C	-30°C~+70°C	UL1095 AWG26	10g
ABI-028-12-RC	12VDC	9~15VDC	≤25mA	≥75dB	400±100Hz	Continuous	ABS	-10°C~+60°C	-30°C~+70°C	UL1095 AWG26	10g
ABI-034-RC	24VDC	15~27VDC	≤30mA	≥75dB	400±100Hz	Continuous	ABS	-10°C~+60°C	-10°C~+70°C	UL1095 AWG26	10g

*Value applying at rated voltage (DC)

ELECTRO MECHANICAL INDICATOR

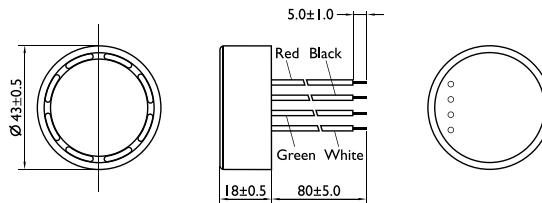


Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage	Operating voltage	Rated current*	Sound output level at 20cm*	Resonant frequency	Tone	Housing material	Operating temperature	Storage temperature	Lead wire	Weight
ABI-039-RC	6VDC	4~8VDC	≤25mA	≥75dB	400±100Hz	Continuous	White ABS	-20°C~+60°C	-30°C~+70°C	N/A	10g
ABI-030-RC	12VDC	9~15VDC	≤25mA	≥75dB	400±100Hz	Continuous	White ABS	-20°C~+60°C	-30°C~+70°C	N/A	10g

*Value applying at rated voltage (DC)

ELECTRO MECHANICAL MULTI-TONE INDICATOR



Wiring:
 Red = Positive supply
 Black = Continuous tone
 Green = Slow pulse
 White = Fast pulse

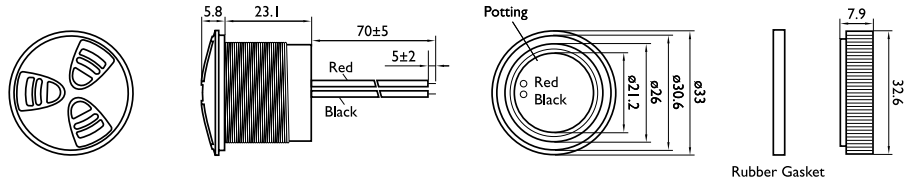
Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage	Operating voltage	Rated current*	Sound output level at 30cm*	Resonant frequency	Tone	Housing material	Operating temperature	Storage temperature	Lead wire	Weight
ABI-046-RC	12VDC	6~28VDC	≤25mA	≥105dB	2900±500Hz	Continuous / Slow pulse / Fast pulse / Multi-tone	PBT	-20°C~+70°C	-30°C~+80°C	UL1007 AWG26	20g

*Value applying at rated voltage (DC)

DC DEVICES (with internal drive circuits)

ELECTRO MECHANICAL IP54 SPLASH PROOF INDICATOR

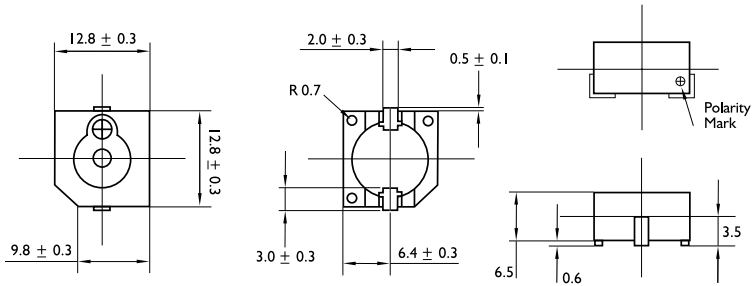


Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage	Operating voltage	Rated current*	Sound output level at 10cm*	Resonant frequency	Tone	Housing material	Operating temperature	Storage temperature	Lead wire	Weight
ABI-047-RC	10VDC	5~25VDC	≤25mA	≥100dB	2900±500Hz	Continuous	Noryl	-20°C~+65°C	-40°C~+85°C	UL1007 AWG22	20g

*Value applying at rated voltage (DC)

SURFACE MOUNT INDICATOR

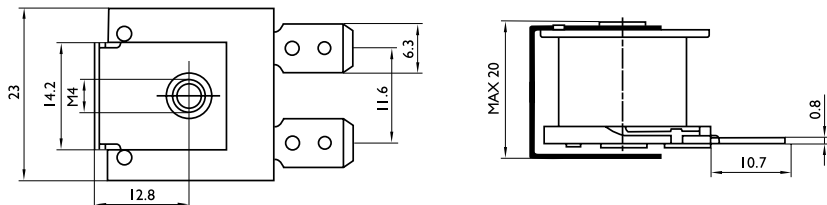


Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage	Operating voltage	Rated current*	Sound output level at 20cm*	Resonant frequency	Tone	Housing material	Operating temperature	Storage temperature	Lead wire	Weight
ABI-017-RC	5VDC	4~7VDC	≤30mA	≥88dB	2400±400Hz	Continuous	PPS	-20°C~+70°C	-30°C~+80°C	N/A	2g
ABI-018-RC	12VDC	8~15VDC	≤30mA	≥85dB	2400±400Hz	Continuous	PPS	-20°C~+70°C	-30°C~+80°C	N/A	2g

*Value applying at rated voltage (DC)

MAINS BUZZER



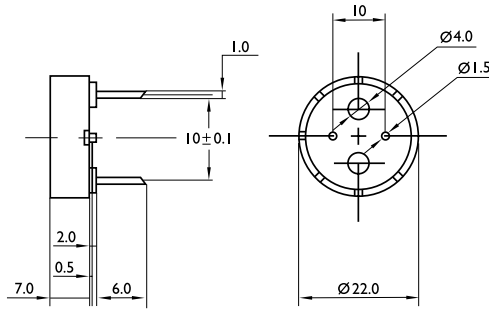
Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage	Operating voltage	Rated current*	Sound output level at 10cm*	Coil resistance	Tone	Housing material	Operating temperature	Storage temperature	Lead wire	Weight
ABI-019-RC	220VAC	160~260VAC	≤30mA	≥80dB	6500Ω±10%	Continuous	PBT	-20°C~+60°C	-30°C~+70°C	N/A	18g
ABI-045-RC	110VAC	70~150VAC	≤25mA	≥80dB	4200Ω±10%	Continuous	PBT	-20°C~+60°C	-30°C~+70°C	N/A	18g

*Value applying at rated voltage (DC)

AC DEVICES (requires external circuitry to generate sound)

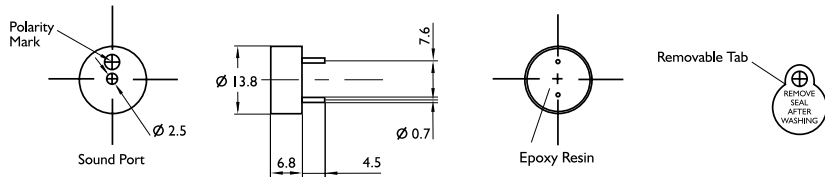
PIEZO TRANSDUCER



Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 10cm	Resonant frequency	Capacitance	Tone	Operating temperature	Storage temperature	Lead wire	Weight
ABT-401-RC	3Vp-p	1~30Vp-p	1mA	≥80dB	4000±500Hz	15000±30%pF	Continuous	-20°C~+70°C	-30°C~+80°C	N/A	2.5g

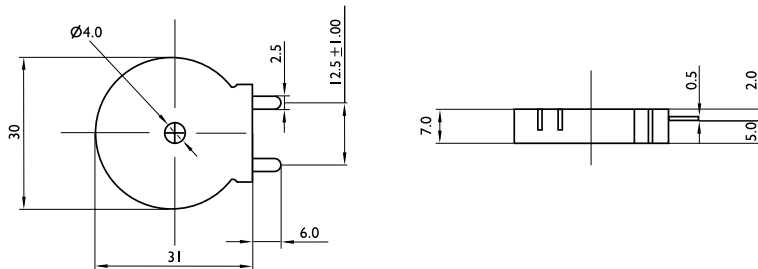
PIEZO TRANSDUCER



Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 10cm	Resonant frequency	Capacitance	Tone	Operating temperature	Storage temperature	Lead wire	Weight
ABT-402-RC	5Vp-p	1~20Vp-p	≤1mA	≥80dB	4000±500Hz	13000±30%pF	Continuous	-20°C~+70°C	-30°C~+80°C	N/A	1g

PIEZO TRANSDUCER

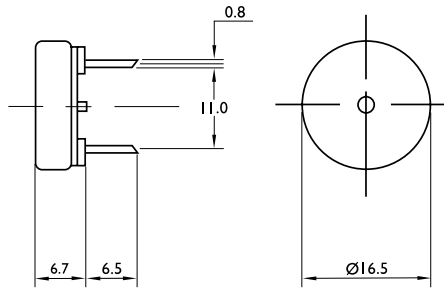


Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 10cm	Resonant frequency	Capacitance	Tone	Operating temperature	Storage temperature	Lead wire	Weight
ABT-403-RC	10Vp-p	1~30Vp-p	≤10mA	≥90dB	3000±500Hz	35000±30%pF	Continuous	-20°C~+60°C	-30°C~+70°C	N/A	5g

AC DEVICES (requires external circuitry to generate sound)

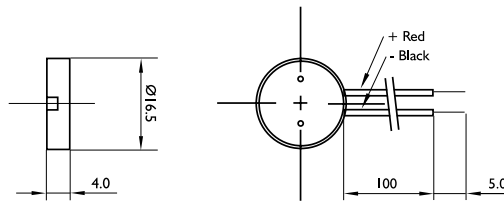
PIEZO TRANSDUCER



Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 10cm	Resonant frequency	Capacitance	Tone	Operating temperature	Storage temperature	Lead wire	Weight
ABT-405-RC	3Vp-p	1~30Vp-p	≤1mA	≥75dB	4000±500Hz	10000±30%pF	Continuous	-20°C~+70°C	-30°C~+80°C	N/A	1g

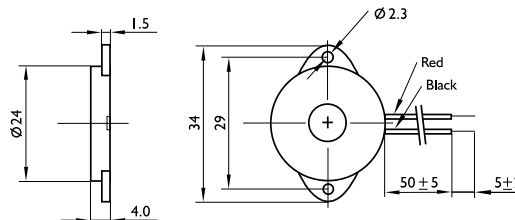
PIEZO TRANSDUCER



Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 10cm	Resonant frequency	Capacitance	Tone	Operating temperature	Storage temperature	Lead wire	Weight
ABT-421-RC	9Vp-p	1~30Vp-p	≥2mA	≥80dB	4000±500Hz	15000±30%pF	Continuous	-20°C~+60°C	-30°C~+70°C	UL1571 AWG30	1g

PIEZO TRANSDUCER

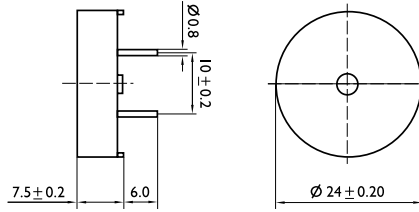


Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 30cm	Resonant frequency	Capacitance	Tone	Operating temperature	Storage temperature	Lead wire	Weight
ABT-422-RC	15Vp-p	1~30Vp-p	≤8mA	≥90dB	5500±700Hz	18000±30%pF	Continuous	-20°C~+70°C	-30°C~+80°C	UL1571 AWG32	3g

AC DEVICES (requires external circuitry to generate sound)

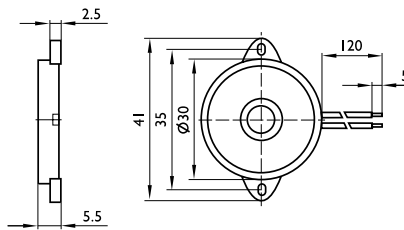
PIEZO TRANSDUCER



Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 10cm	Resonant frequency	Capacitance	Tone	Operating temperature	Storage temperature	Lead wire	Weight
ABT-430-RC	9Vp-p	1~30Vp-p	≤3mA	≥85dB	4000±500Hz	17000±30%pF	Continuous	-20°C~+60°C	-30°C~+70°C	N/A	3g

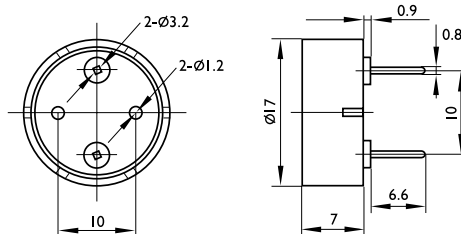
PIEZO TRANSDUCER



Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 10cm	Resonant frequency	Capacitance	Tone	Operating temperature	Storage temperature	Lead wire	Weight
ABT-431-RC	9Vp-p	1~30Vp-p	≤3mA	≥88dB	3500±500Hz	20000±30%pF	Continuous	-20°C~+60°C	-30°C~+70°C	UL1905 AWG28	3.5g

PIEZO TRANSDUCER

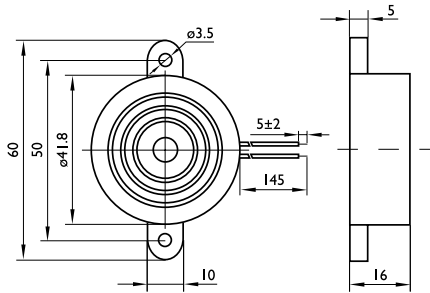


Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 10cm	Resonant frequency	Capacitance	Tone	Operating temperature	Storage temperature	Lead wire	Weight
ABT-436-RC	5Vp-p	1~30Vp-p	≤1mA	≥78dB	4000±500Hz	15000±30%pF	Continuous	-20°C~+70°C	-30°C~+80°C	N/A	1g

AC DEVICES (requires external circuitry to generate sound)

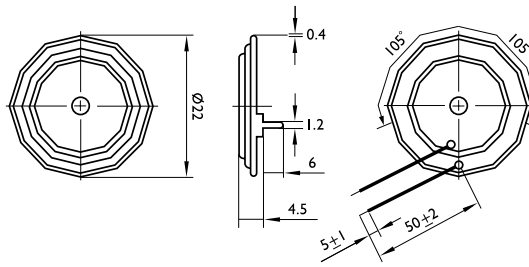
PIEZO TRANSDUCER



Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 30cm	Resonant frequency	Capacitance	Tone	Operating temperature	Storage temperature	Lead wire	Weight
ABT-438-RC	12Vp-p	1~30Vp-p	3mA	≥90dB	2800Hz±500	35000pF±30%	Continuous	-20°C~+60°C	-30°C~+70°C	UL1007 AWG28	10g

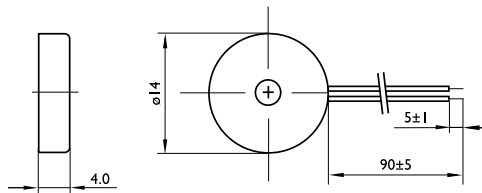
PIEZO TRANSDUCER



Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 10cm	Resonant frequency	Capacitance	Tone	Operating temperature	Storage temperature	Lead wire	Weight
ABT-440-RC	15Vp-p	1~30Vp-p	≤5mA	≥90dB	4300±500Hz	N/A	Continuous	-20°C~+60°C	-30°C~+70°C	UL1571 AWG32	2g

PIEZO TRANSDUCER

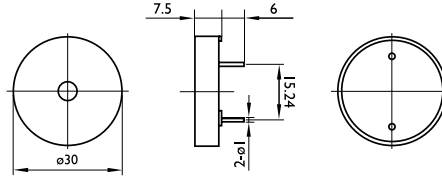


Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at XXcm	Resonant frequency	Capacitance	Tone	Operating temperature	Storage temperature	Lead wire	Weight
ABT-450-RC	10Vp-p	1~30Vp-p	≤5mA	≥85dB	4800±500Hz	15000±30%	Continuous	-20°C~+70°C	-30°C~+80°C	UL1571 AWG30	1g

AC DEVICES (requires external circuitry to generate sound)

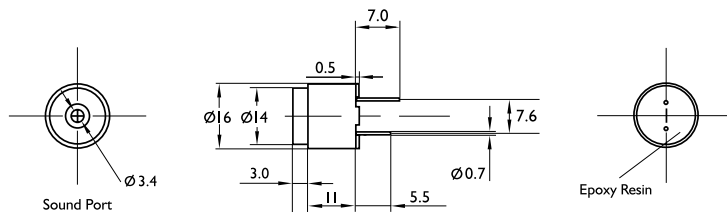
PIEZO TRANSDUCER



Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 10cm	Resonant frequency	Capacitance	Tone	Operating temperature	Storage temperature	Lead wire	Weight
ABT-451-RC	10Vp-p	1~30Vp-p	≤3mA	≥90dB	2800±500Hz	N/A	Continuous	-20°C~+60°C	-30°C~+70°C	N/A	2g

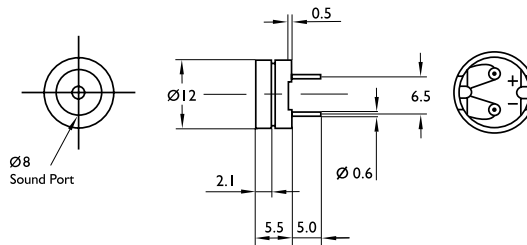
ELECTRO MECHANICAL TRANSDUCER



Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 10cm	Resonant frequency	Coil resistance	Tone	Operating temperature	Storage temperature	Lead wire	Weight
ABT-453-RC	12Vp-p	9~15Vp-p	≤40mA	≥85dB	2048±500Hz	115±12Ω	Continuous	-30°C~+70°C	-30°C~+80°C	N/A	2g

ELECTRO MECHANICAL TRANSDUCER

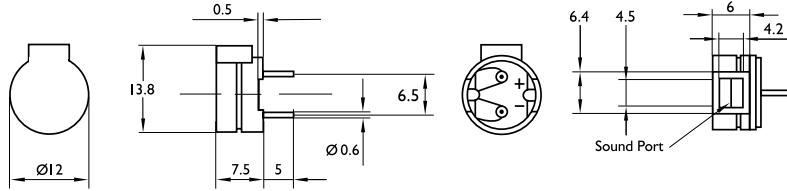


Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 10cm	Resonant frequency	Coil resistance	Coil impedance	Tone	Operating temperature	Storage temperature	Weight
ABT-407-RC	1.5Vp-p	1~3Vp-p	≤15mA	≥70dB	2048Hz	42±6Ω	120Ω	Continuous	-20°C~+70°C	-30°C~+80°C	2g

AC DEVICES (requires external circuitry to generate sound)

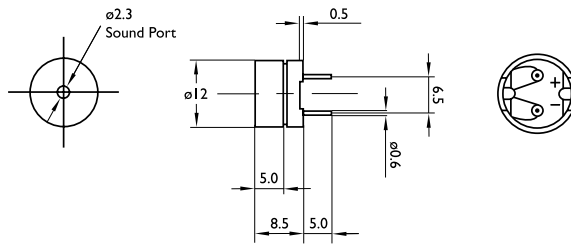
ELECTRO MECHANICAL TRANSDUCER



Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 10cm	Resonant frequency	Coil resistance	Coil impedance	Tone	Operating temperature	Storage temperature	Weight
ABT-408-RC	1.5Vp-p	1~3Vp-p	≤70mA	≥85dB	2731Hz	6.5±1Ω	22Ω	Continuous	-20°C~+70°C	-30°C~+85°C	2g

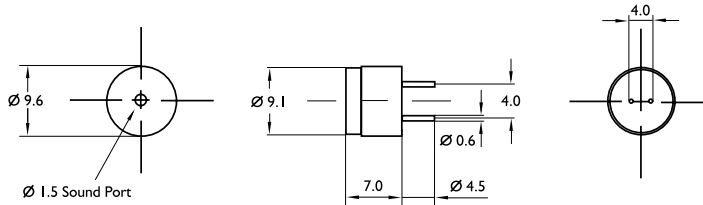
ELECTRO MECHANICAL TRANSDUCER



Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 10cm	Resonant frequency	Coil resistance	Coil impedance	Tone	Operating temperature	Storage temperature	Weight
ABT-410-RC	1.5Vp-p	1~3Vp-p	≤15mA	≥80dB	2048Hz	42±6Ω	120Ω	Continuous	-20°C~+70°C	-30°C~+80°C	2g

ELECTRO MECHANICAL TRANSDUCER

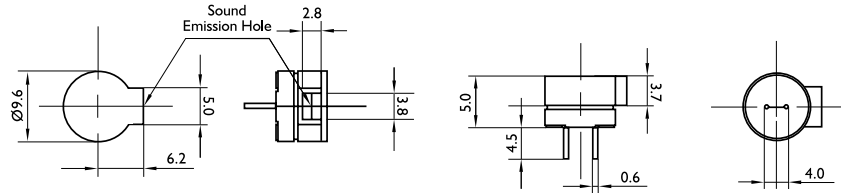


Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 10cm	Resonant frequency	Coil resistance	Tone	Operating temperature	Storage temperature	Weight
ABT-411-RC	1.5Vp-p	1~3Vp-p	≤80mA	≥85dB	3100Hz	5.5±1Ω	Continuous	-20°C~+70°C	-30°C~+80°C	1g

AC DEVICES (requires external circuitry to generate sound)

ELECTRO MECHANICAL TRANSDUCER

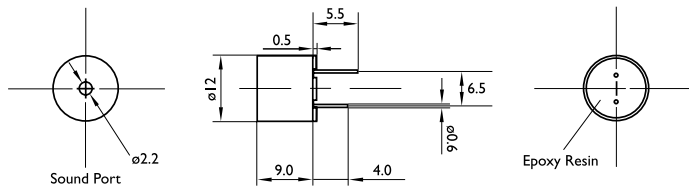


Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 10cm	Resonant frequency	Coil resistance	Tone	Operating temperature	Storage temperature	Weight
ABT-412-RC	1.5Vp-p	1~3Vp-p	≤80mA	≥85dB	2731Hz	5.5±1Ω	Continuous	-30°C~+70°C	-40°C~+80°C	1g

WAVE SOLDER AND WASH NOT ALLOWED

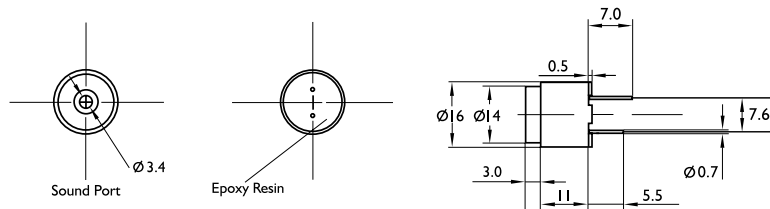
ELECTRO MECHANICAL TRANSDUCER



Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 10cm	Resonant frequency	Coil resistance	Tone	Operating temperature	Storage temperature	Weight
ABT-414-RC	5Vp-p	3~8Vp-p	≤40mA	≥85dB	2400Hz	47±5Ω	Continuous	-20°C~+75°C	-30°C~+85°C	2g

ELECTRO MECHANICAL TRANSDUCER

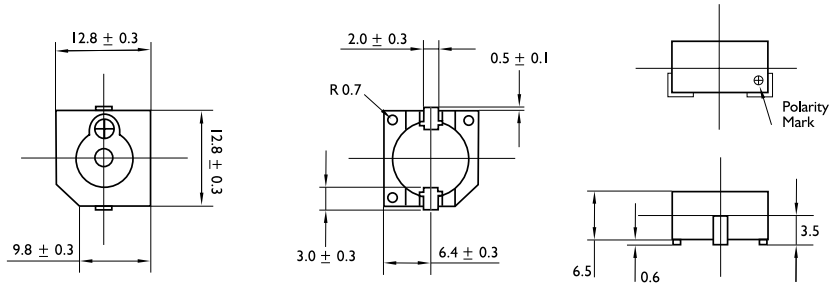


Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 10cm	Resonant frequency	Coil resistance	Tone	Operating temperature	Storage temperature	Weight
ABT-415-RC	1.5Vp-p	1.3Vp-p	≤18mA	≥80dB	2048Hz	27±3Ω	Continuous	-20°C~+70°C	-30°C~+80°C	2g
ABT-416-RC	6Vp-p	4~8Vp-p	≤40mA	≥85dB	2048Hz	50±5Ω	Continuous	-20°C~+70°C	-30°C~+80°C	2g

AC DEVICES (requires external circuitry to generate sound)

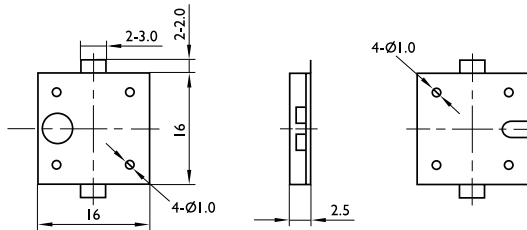
SURFACE MOUNT TRANSDUCER



Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 10cm	Resonant frequency	Coil resistance	Tone	Operating temperature	Storage temperature	Weight
ABT-425-RC	1.5Vp-p	1~3Vp-p	≤30mA	≥80dB	2400Hz±400Hz	15±3Ω	Continuous	-20°C~+70°C	-30°C~+80°C	2g
ABT-418-RC	5Vp-p	3~8Vp-p	≤40mA	≥85dB	2400Hz±400Hz	45±5Ω	Continuous	-20°C~+70°C	-30°C~+80°C	2g
ABT-427-RC	12Vp-p	8~16Vp-p	≤40mA	≥85dB	2400Hz±400Hz	140±14Ω	Continuous	-20°C~+70°C	-30°C~+80°C	2g

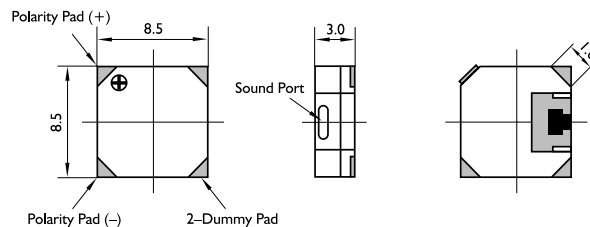
SURFACE MOUNT TRANSDUCER



Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 10cm	Resonant frequency	Capacitance at 1.0KHz	Tone	Operating temperature	Storage temperature	Lead wire	Weight
ABT-439-RC	3Vp-p	1~25Vp-p	≤1mA	≥70dB	4000±500Hz	14000±30%pF	Continuous	-20°C~+70°C	-30°C~+80°C	N/A	1g

SURFACE MOUNT TRANSDUCER

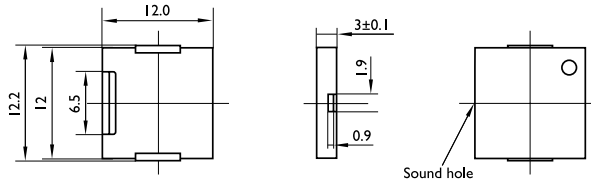


Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 10cm	Resonant frequency	Coil resistance	Tone	Operating temperature	Storage temperature	Weight
ABT-443-RC	3.6Vp-p	2.5~4.5Vp-p	≤90mA	≥85dB	2730Hz	16±3Ω	Continuous	-30°C~+80°C	-40°C~+85°C	0.5g

AC DEVICES (requires external circuitry to generate sound)

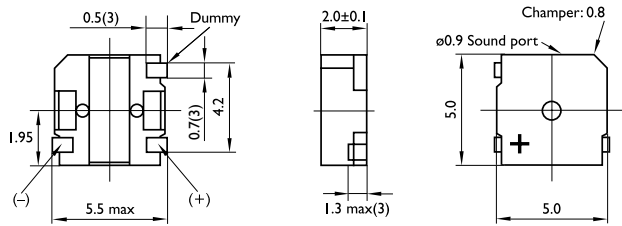
**SURFACE MOUNT
TRANSDUCER**



Dimensions Unit: mm Tolerance: ±0.5mm

Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 10cm	Resonant frequency	Capacitance	Tone	Operating temperature	Storage temperature	Lead wire	Weight
ABT-458-RC	3Vp-p	1~25Vp-p	1mA	≥75dB	4000±500Hz	15000±30%pF	Continuous	-30°C~+70°C	-40°C~+85°C	N/A	0.4g

**MINIATURE SURFACE
MOUNT TRANSDUCER**



Dimensions Unit: mm Tolerance: ±0.5mm

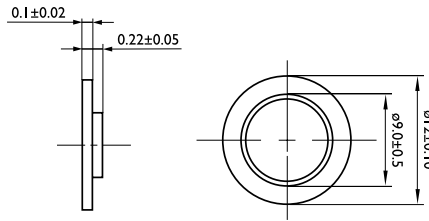
Part No.	Rated voltage (Vp-p square wave)	Operating voltage	Rated current	Sound output level at 10cm	Resonant frequency	Tone	Operating temperature	Storage temperature	Lead wire	Weight
ABMT-801-RC	3.0Vp-p	2~4Vp-p	100mA	≥78dB	4000Hz	Continuous	-30°C~+70°C	-40°C~+85°C	N/A	0.3g

*Paper clip for size demonstration purposes only

AC DEVICES (requires external circuitry to generate sound)

PIEZO ELEMENT

Ø12MM

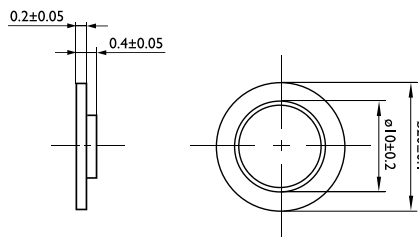


Dimensions Unit: mm

Part No.	Rated voltage (Vp-p square wave)	Resonant frequency	Resonant impedance	Capacitance	Plate material	Operating temperature	Storage temperature	Lead wire	Flying leads
ABT-456-RC	≤30Vp-p	9500±1000Hz	≤1000Ω	8000±30%pF	Brass	-20°C~+60°C	-20°C~+70°C	N/A	N/A

PIEZO ELEMENT

Ø20MM

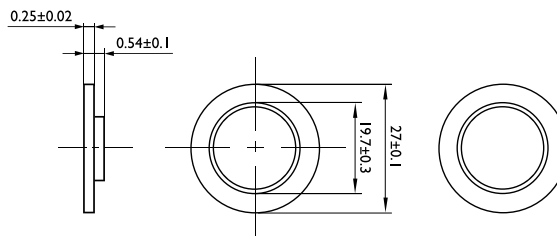


Dimensions Unit: mm

Part No.	Rated voltage (Vp-p square wave)	Resonant frequency	Resonant impedance	Capacitance	Plate material	Operating temperature	Storage temperature	Lead wire	Flying leads
ABT-449-RC	30Vp-p	6400±1000Hz	≥400Ω	60000±30%pF	Brass	-20°C~+60°C	-20°C~+70°C	N/A	N/A

PIEZO ELEMENT

Ø27MM



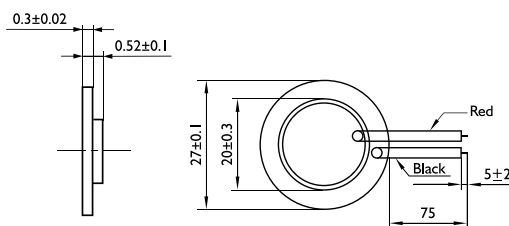
Dimensions Unit: mm

Part No.	Rated voltage (Vp-p square wave)	Resonant frequency	Resonant impedance	Capacitance	Plate material	Operating temperature	Storage temperature	Lead wire	Flying leads
ABT-432-RC	30Vp-p	4600±500Hz	≥300Ω	20000±30%pF	Brass	-20°C~+60°C	-30°C~+70°C	N/A	N/A

AC DEVICES (requires external circuitry to generate sound)

PIEZO ELEMENT WITH 75MM LEADS

Ø27MM

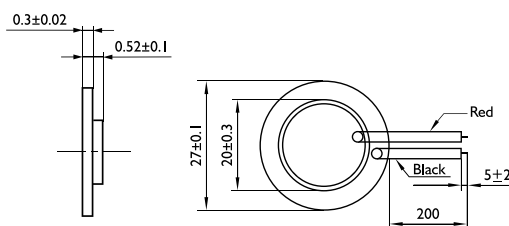


Dimensions Unit: mm

Part No.	Rated voltage (Vp-p square wave)	Resonant frequency	Resonant impedance	Capacitance	Plate material	Operating temperature	Storage temperature	Lead wire	Flying leads
ABT-454-RC	30Vp-p	4200±500Hz	≥300Ω	20000±30%pF	Brass	-20°C~+60°C	-20°C~+70°C	UL1095 AWG32	75mm

PIEZO ELEMENT WITH 200MM LEADS

Ø27MM

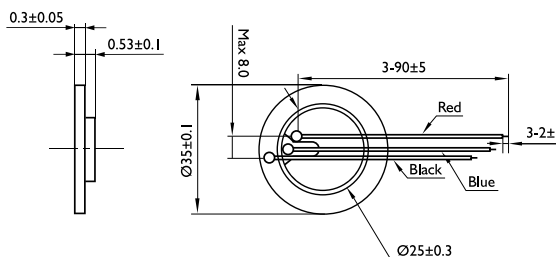
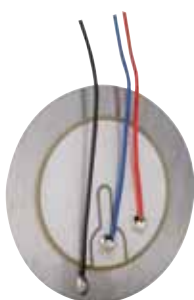


Dimensions Unit: mm

Part No.	Rated voltage (Vp-p square wave)	Resonant frequency	Resonant impedance	Capacitance	Plate material	Operating temperature	Storage temperature	Lead wire	Flying leads
ABT-441-RC	30Vp-p	4200±500Hz	≥300Ω	20000±30%pF	Brass	-20°C~+60°C	-20°C~+70°C	UL1095 AWG28	200mm

PIEZO ELEMENT WITH 90MM LEADS & FEEDBACK

Ø35MM



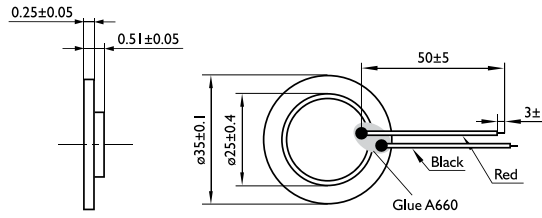
Dimensions Unit: mm

Part No.	Rated voltage (Vp-p square wave)	Resonant frequency	Resonant impedance	Capacitance	Plate material	Operating temperature	Storage temperature	Lead wire	Flying leads
ABT-448-90-RC	30Vp-p	2900±500Hz	≥200Ω	25000±30%pF	Stainless steel	-20°C~+60°C	-30°C~+70°C	UL1571 AWG30	90mm

AC DEVICES (requires external circuitry to generate sound)

PIEZO ELEMENT WITH 50MM LEADS

Ø35MM

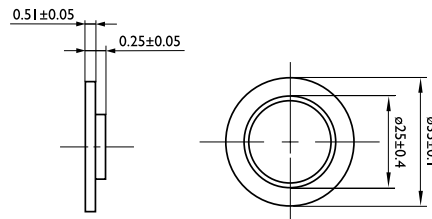


Dimensions Unit: mm

Part No.	Rated voltage (Vp-p square wave)	Resonant frequency	Resonant impedance	Capacitance	Plate material	Operating temperature	Storage temperature	Lead wire	Flying leads
ABT-455-RC	≤30Vp-p	2800±300Hz	≤600Ω	37000±30%pF	Brass	-20°C~+60°C	-20°C~+70°C	UL1571 AWG32	50mm

PIEZO ELEMENT

Ø35MM



Dimensions Unit: mm

Part No.	Rated voltage (Vp-p square wave)	Resonant frequency	Resonant impedance	Capacitance	Plate material	Operating temperature	Storage temperature	Lead wire	Flying leads
ABT-457-RC	≤30Vp-p	2800±300Hz	≤600Ω	37000±30%pF	Brass	-20°C~+60°C	-20°C~+70°C	N/A	N/A



SWITCHES

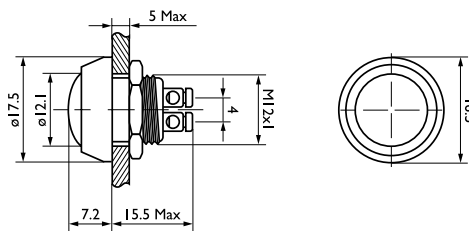
43-50	Anti-vandal Switches
51-52	Float Switches
53	Micro Switches
54-57	Push Button Switches
58-64	Rocker Switches
65	Splash Proof Switches
66	Slide & Rotary Switches
67-68	Tactile Switches

ANTI-VANDAL SWITCHES

Our Anti-vandal Switch range is extensive and not all of the options are shown in this catalogue. If you have a particular requirement or would like assistance to find the switch you need, please call us on **01258 456360** or alternatively send us an email sales@abcomponents.co.uk, we will be happy to assist you with your request.

**AB-AV-1200 SERIES
ANTI-VANDAL SWITCH**

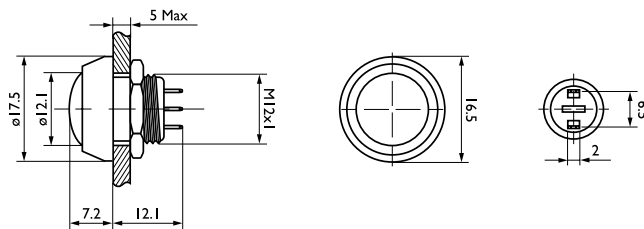
Ø12MM NON-ILLUMINATED



SCREW TERMINAL

Part No.	Cut out	Max depth	Rating	LED voltage	Actuator colour	Actuator	Termination	Switch action	Illuminated	Non-illuminated	Button material	IP rating
AB-AV-1201	12mm	15.5mm	2A / 36VDC	N/A	●	Domed	Screw	1NO momentary	✗	✓	PBT	IP65
AB-AV-1202	12mm	15.5mm	2A / 36VDC	N/A	●	Domed	Screw	1NO momentary	✗	✓	PBT	IP65
AB-AV-1203	12mm	15.5mm	2A / 36VDC	N/A	●	Domed	Screw	1NO momentary	✗	✓	PBT	IP65

Approval UL, VDE, CE



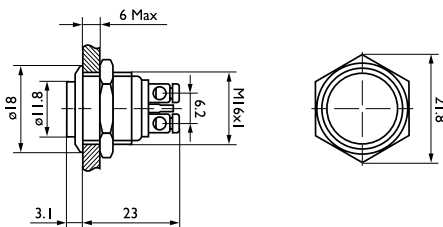
SOLDER TERMINAL

Part No.	Cut out	Max depth	Rating	LED voltage	Actuator colour	Actuator	Termination	Switch action	Illuminated	Non-illuminated	Button material	IP rating
AB-AV-1205	12mm	12.1mm	2A / 36VDC	N/A	●	Domed	Solder	1NO momentary	✗	✓	PBT	IP65
AB-AV-1206	12mm	12.1mm	2A / 36VDC	N/A	●	Domed	Solder	1NO momentary	✗	✓	PBT	IP65
AB-AV-1207	12mm	12.1mm	2A / 36VDC	N/A	●	Domed	Solder	1NO momentary	✗	✓	PBT	IP65
AB-AV-1208	12mm	12.1mm	2A / 36VDC	N/A	○	Domed	Solder	1NO momentary	✗	✓	PBT	IP65
AB-AV-1209	12mm	12.1mm	2A / 36VDC	N/A	●	Domed	Solder	1NO momentary	✗	✓	PBT	IP65

Approval UL, VDE, CE

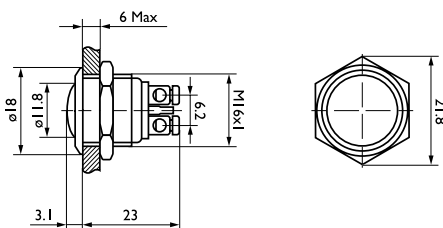
**AB-AV-1600 SERIES
ANTI-VANDAL SWITCH**

Ø16MM NON-ILLUMINATED



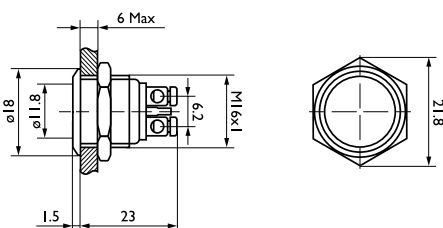
HIGH ROUND ACTUATOR

Part No.	Cut out	Max depth	Rating	LED voltage	LED colour	Actuator	Termination	Switch action	Illuminated	Non-illuminated	Body coating	IP rating
AB-AV-1601	16mm	23mm	2A / 36VDC	N/A	N/A	High round	Screw	1NO momentary	✗	✓	Stainless steel	IP65



DOMED ACTUATOR

Part No.	Cut out	Max depth	Rating	LED voltage	LED colour	Actuator	Termination	Switch action	Illuminated	Non-illuminated	Body coating	IP rating
AB-AV-1602	16mm	23mm	2A / 36VDC	N/A	N/A	Domed	Screw	1NO momentary	✗	✓	Stainless steel	IP65
AB-AV-1611	16mm	23mm	2A / 36VDC	N/A	N/A	Domed	Screw	1NO momentary	✗	✓ yellow ring	Stainless steel	IP65

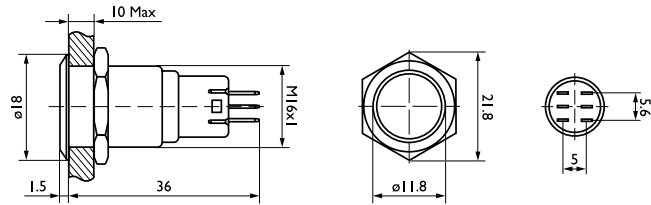


FLAT ROUND ACTUATOR

Part No.	Cut out	Max depth	Rating	LED voltage	LED colour	Actuator	Termination	Switch action	Illuminated	Non-illuminated	Body coating	IP rating
AB-AV-1603	16mm	23mm	2A / 36VDC	N/A	N/A	Flat round	Screw	1NO momentary	✗	✓	Nickel plated brass	IP65
AB-AV-1606	16mm	23mm	2A / 36VDC	N/A	N/A	Flat round	Screw	1NO momentary	✗	✓	Stainless steel	IP65

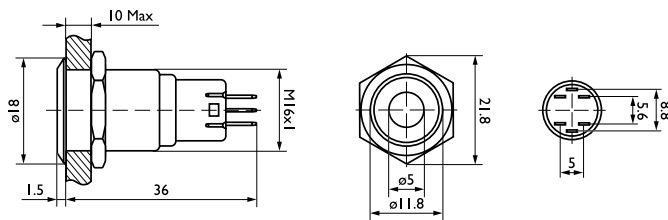
Approval UL, VDE, CE

AB-AV-1600 SERIES
ANTI-VANDAL SWITCH
 Ø16MM NON-ILLUMINATED



SOLDER TERMINAL, NON-ILLUMINATED

Part No.	Cut out	Max depth	Rating	LED voltage	Actuator colour	Actuator	Termination	Switch action	Illuminated	Non-illuminated	Body coating	IP rating
AB-AV-1604	16mm	36mm	3A / 250VAC 1A / 24VDC	N/A	N/A	Flat round	Solder tabs	1NO / 1NC latching	✗	✓	Nickel plated brass	IP40
AB-AV-1605	16mm	36mm	3A / 250VAC 1A / 24VDC	N/A	N/A	Flat round	Solder tabs	1NO / 1NC latching	✗	✓	Nickel plated brass	IP67
AB-AV-1607	16mm	36mm	3A / 250VAC 1A / 24VDC	N/A	N/A	Flat round	Solder tabs	1NO / 1NC momentary	✗	✓	Stainless steel	IP67



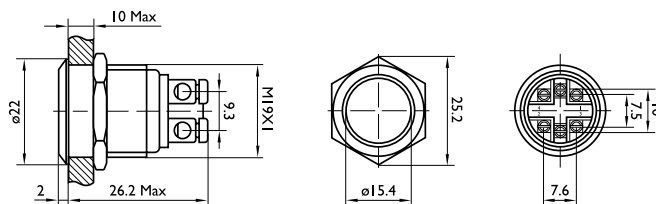
SOLDER TERMINAL, DOT ILLUMINATED

Part No.	Cut out	Max depth	Rating	LED voltage	LED colour	Actuator	Termination	Switch action	Illuminated	Non-illuminated	Body coating	IP rating
AB-AV-1608	16mm	36mm	3A / 250VAC 1A / 24VDC	12VAC / DC	●	Flat round	Solder tabs	1NO / 1NC momentary	✓ Dot	✗	Nickel plated brass	IP40

Approval UL, VDE, CE

**AB-AV-900 SERIES
ANTI-VANDAL SWITCH**

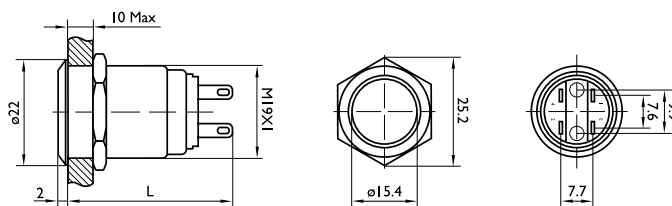
Ø19MM NON-ILLUMINATED



SCREW TERMINAL

Part No.	Cut out	Max depth	Rating	LED voltage	LED colours	Actuator	Termination	Switch action	Illuminated	Non-illuminated	Body coating	IP rating
AB-AV-926	19mm	26.2mm	2A / 36VDC	N/A	N/A	Flat	Screw	1NO / 1NC momentary	✗	✓	Stainless steel	IP65
AB-AV-935	19mm	26.2mm	2A / 36VDC	N/A	N/A	Flat	Screw	1NO / 1NC momentary	✗	✓	Brass	IP65
AB-AV-937	19mm	26.2mm	2A / 36VDC	N/A	N/A	Flat	Screw	1NO / 1NC momentary	✗	✓ yellow ring	Stainless steel	IP65

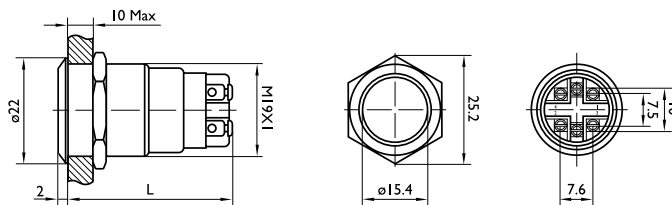
Approval UL, VDE, CE



L: Momentary is 33
Latching is 39

SOLDER TERMINAL

Part No.	Cut out	Max depth	Rating	LED voltage	LED colours	Actuator	Termination	Switch action	Illuminated	Non-illuminated	Body coating	IP rating
AB-AV-901	19mm	33mm	5A / 250VAC 2A / 24VDC	N/A	N/A	Flat	2.8mm solder tabs	1NO / 1NC momentary	✗	✓	Stainless steel	IP67



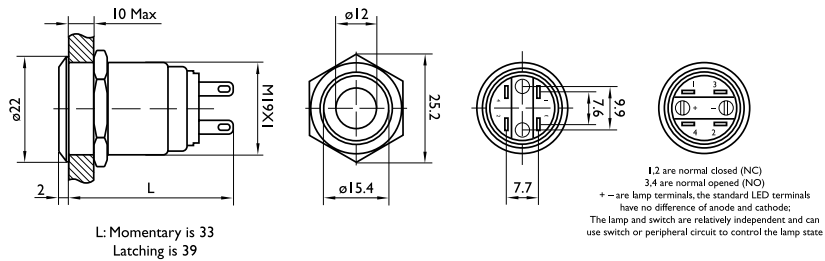
L: Momentary is 35 Max
Latching is 41 Max

SCREW TERMINAL

Part No.	Cut out	Max depth	Rating	LED voltage	LED colours	Actuator	Termination	Switch action	Illuminated	Non-illuminated	Body coating	IP rating
AB-AV-902	19mm	35mm	5A / 250VAC 2A / 24VDC	N/A	N/A	Flat	Screw	1NO / 1NC momentary	✗	✓	Stainless steel	IP67
AB-AV-933	19mm	41mm	5A / 250VAC 2A / 24VDC	N/A	N/A	Flat	Screw	1NO / 1NC latching	✗	✓	Stainless steel	IP65

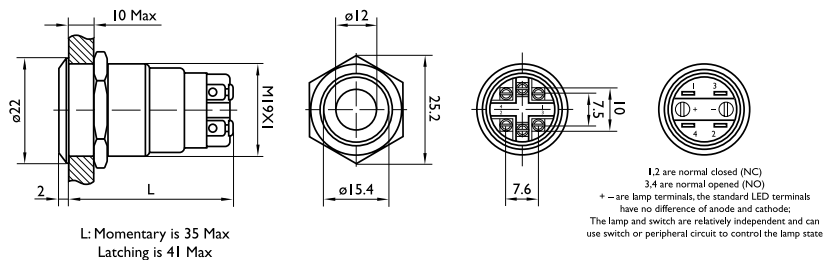
Approval UL, VDE, CE

AB-AV-900 SERIES
ANTI-VANDAL SWITCH
Ø19MM RING ILLUMINATED



SOLDER TERMINAL

Part No.	Cut out	Max depth	Rating	LED voltage	LED colours	Actuator	Termination	Switch action	Illuminated	Non-illuminated	Body coating	IP rating
AB-AV-903	19mm	33mm	5A / 250VAC 2A / 24VDC	12VAC / DC	●	Flat	2.8mm solder tabs	1NO / 1NC momentary	✓	✗	Stainless steel	IP67
AB-AV-907	19mm	33mm	5A / 250VAC 2A / 24VDC	24VAC / DC	●	Flat	2.8mm solder tabs	1NO / 1NC momentary	✓	✗	Stainless steel	IP67
AB-AV-911	19mm	33mm	5A / 250VAC 2A / 24VDC	12VAC / DC	●	Flat	2.8mm solder tabs	1NO / 1NC momentary	✓	✗	Stainless steel	IP67
AB-AV-915	19mm	33mm	5A / 250VAC 2A / 24VDC	24VAC / DC	●	Flat	2.8mm solder tabs	1NO / 1NC momentary	✓	✗	Stainless steel	IP67



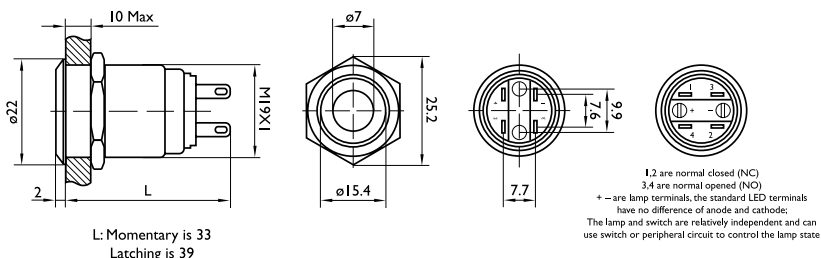
SCREW TERMINAL

Part No.	Cut out	Max depth	Rating	LED voltage	LED colours	Actuator	Termination	Switch action	Illuminated	Non-illuminated	Body coating	IP rating
AB-AV-904	19mm	35mm	5A / 250VAC 2A / 24VDC	12VAC / DC	●	Flat	Screw	1NO / 1NC momentary	✓	✗	Stainless steel	IP67
AB-AV-908	19mm	35mm	5A / 250VAC 2A / 24VDC	24VAC / DC	●	Flat	Screw	1NO / 1NC momentary	✓	✗	Stainless steel	IP67
AB-AV-912	19mm	35mm	5A / 250VAC 2A / 24VDC	12VAC / DC	●	Flat	Screw	1NO / 1NC momentary	✓	✗	Stainless steel	IP67
AB-AV-916	19mm	35mm	5A / 250VAC 2A / 24VDC	24VAC / DC	●	Flat	Screw	1NO / 1NC momentary	✓	✗	Stainless steel	IP67
AB-AV-925	19mm	35mm	5A / 250VAC 2A / 24VDC	24VAC / DC	●	Flat	Screw	1NO / 1NC momentary	✓	✗	Stainless steel	IP67
AB-AV-927	19mm	35mm	5A / 250VAC 2A / 24VDC	12VAC / DC	○	Flat	Screw	1NO / 1NC momentary	✓	✗	Stainless steel	IP65
AB-AV-928	19mm	35mm	5A / 250VAC 2A / 24VDC	12VAC / DC	●	Flat	Screw	1NO / 1NC momentary	✓	✗	Stainless steel	IP65
AB-AV-934	19mm	35mm	5A / 250VAC 2A / 24VDC	12VAC / DC	●	Flat	Screw	1NO / 1NC momentary	✓	✗	Stainless steel	IP67
AB-AV-921	19mm	41mm	5A / 250VAC 2A / 24VDC	12VAC / DC	●	Flat	Screw	1NO / 1NC latching	✓	✗	Stainless steel	IP65
AB-AV-922	19mm	41mm	5A / 250VAC 2A / 24VDC	12VAC / DC	●	Flat	Screw	1NO / 1NC latching	✓	✗	Stainless steel	IP65
AB-AV-929	19mm	41mm	5A / 250VAC 2A / 24VDC	220VAC	○	Flat	Screw	1NO / 1NC latching	✓	✗	Stainless steel	IP65
AB-AV-930	19mm	41mm	5A / 250VAC 2A / 24VDC	24VAC / DC	●	Flat	Screw	1NO / 1NC latching	✓	✗	Stainless steel	IP65
AB-AV-931	19mm	41mm	5A / 250VAC 2A / 24VDC	24VAC / DC	●	Flat	Screw	1NO / 1NC latching	✓	✗	Stainless steel	IP65
AB-AV-932	19mm	41mm	5A / 250VAC 2A / 24VDC	24VAC / DC	●	Flat	Screw	1NO / 1NC latching	✓	✗	Stainless steel	IP65

Approval UL, VDE, CE

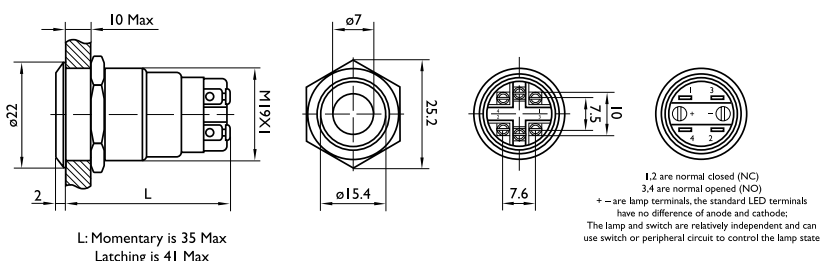
**AB-AV-900 SERIES
ANTI-VANDAL SWITCH**

Ø19MM DOT ILLUMINATED



SOLDER TERMINAL

Part No.	Cut out	Max depth	Rating	LED voltage	LED colours	Actuator	Termination	Switch action	Illuminated	Non-illuminated	Body coating	IP rating
AB-AV-905	19mm	33mm	5A / 250VAC 2A / 24VDC	12VAC / DC	●	Flat	2.8mm solder tabs	1NO / 1NC momentary	✓	✗	Stainless steel	IP67
AB-AV-909	19mm	33mm	5A / 250VAC 2A / 24VDC	24VAC / DC	●	Flat	2.8mm solder tabs	1NO / 1NC momentary	✓	✗	Stainless steel	IP67
AB-AV-913	19mm	33mm	5A / 250VAC 2A / 24VDC	12VAC / DC	●	Flat	2.8mm solder tabs	1NO / 1NC momentary	✓	✗	Stainless steel	IP67
AB-AV-917	19mm	33mm	5A / 250VAC 2A / 24VDC	24VAC / DC	●	Flat	2.8mm solder tabs	1NO / 1NC momentary	✓	✗	Stainless steel	IP67



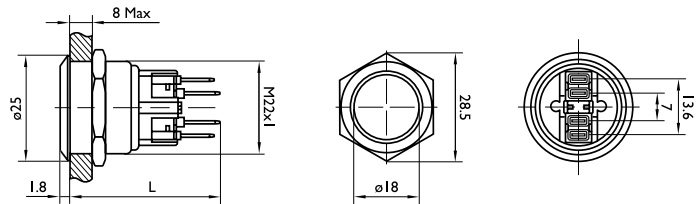
SCREW TERMINAL

Part No.	Cut out	Max depth	Rating	LED voltage	LED colours	Actuator	Termination	Switch action	Illuminated	Non-illuminated	Body coating	IP rating
AB-AV-906	19mm	35mm	5A / 250VAC 2A / 24VDC	12VAC / DC	●	Flat	Screw	1NO / 1NC momentary	✓	✗	Stainless steel	IP67
AB-AV-910	19mm	35mm	5A / 250VAC 2A / 24VDC	24VAC / DC	●	Flat	Screw	1NO / 1NC momentary	✓	✗	Stainless steel	IP67
AB-AV-914	19mm	35mm	5A / 250VAC 2A / 24VDC	12VAC / DC	●	Flat	Screw	1NO / 1NC momentary	✓	✗	Stainless steel	IP67
AB-AV-918	19mm	35mm	5A / 250VAC 2A / 24VDC	24VAC / DC	●	Flat	Screw	1NO / 1NC momentary	✓	✗	Stainless steel	IP67
AB-AV-923	19mm	35mm	5A / 250VAC 2A / 24VDC	12VAC / DC	●	Flat	Screw	1NO / 1NC momentary	✓	✗	Stainless steel	IP67
AB-AV-919	19mm	41mm	5A / 250VAC 2A / 24VDC	12VAC / DC	●	Flat	Screw	1NO / 1NC latching	✓	✗	Stainless steel	IP65
AB-AV-920	19mm	41mm	5A / 250VAC 2A / 24VDC	12VAC / DC	●	Flat	Screw	1NO / 1NC latching	✓	✗	Stainless steel	IP65
AB-AV-924	19mm	41mm	5A / 250VAC 2A / 24VDC	12VAC / DC	●	Flat	Screw	1NO / 1NC latching	✓	✗	Stainless steel	IP65

Approval UL, VDE, CE

**AB-AV-2200 SERIES
ANTI-VANDAL SWITCH**

Ø22MM

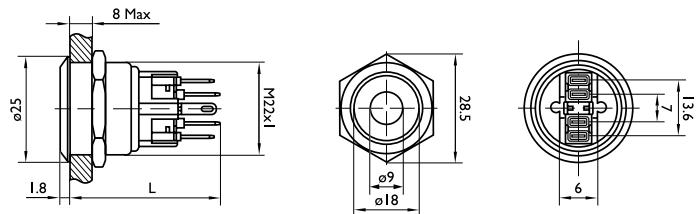


L: Momentary is 35.8
Latching is 40.8

NON-ILLUMINATED

Part No.	Cut out	Max depth	Rating	LED voltage	LED colours	Actuator	Termination	Switch action	Illuminated	Non-illuminated	Body coating	IP rating
AB-AV-2200	22mm	40.8mm	5A / 250VAC 2A / 24VDC	N/A	N/A	Flat round	2.8mm solder tabs	1NO / 1NC momentary / latching	✗	✓	Stainless steel	IP65

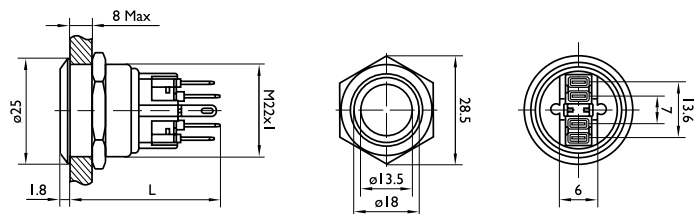
Various options available



L: Momentary is 35.8
Latching is 40.8

DOT ILLUMINATED

Part No.	Cut out	Max depth	Rating	LED voltage	LED colours	Actuator	Termination	Switch action	Illuminated	Non-illuminated	Body coating	IP rating
AB-AV-2200	22mm	40.8mm	5A / 250VAC 2A / 24VDC	6 / 12 / 24 / 110 / 220		Flat round	2.8mm solder tabs	1NO / 1NC momentary / latching	✓	✗	Stainless steel	IP65



L: Momentary is 35.8
Latching is 40.8

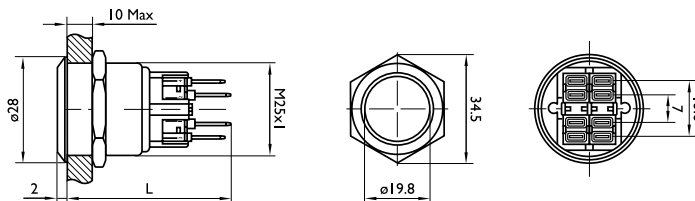
RING ILLUMINATED

Part No.	Cut out	Max depth	Rating	LED voltage	LED colours	Actuator	Termination	Switch action	Illuminated	Non-illuminated	Body coating	IP rating
AB-AV-2200	22mm	40.8mm	5A / 250VAC 2A / 24VDC	6 / 12 / 24 / 110 / 220		Flat round	2.8mm solder tabs	1NO / 1NC momentary / latching	✓	✗	Stainless steel	IP65

Approval UL, VDE, CE

**AB-AV-2500 SERIES
ANTI-VANDAL SWITCH**

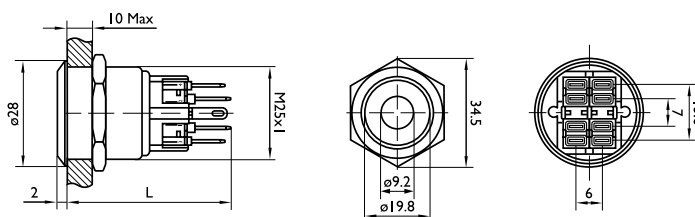
Ø25MM



L: Momentary is 38.4
Latching is 41.4

NON-ILLUMINATED

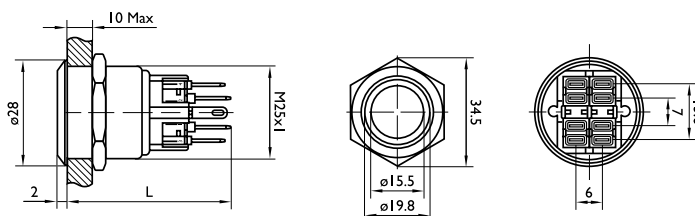
Part No.	Cut out	Max depth	Rating	LED voltage	LED colours	Actuator	Termination	Switch action	Illuminated	Non-illuminated	Body coating	IP rating
AB-AV-2500	25mm	41.4mm	5A / 250VAC 2A / 24VDC	N/A	N/A	Flat round	2.8mm solder tabs	1NO / 1NC momentary / latching	✗	✓	Stainless steel	IP65



L: Momentary is 38.4
Latching is 41.4

DOT ILLUMINATED

Part No.	Cut out	Max depth	Rating	LED voltage	LED colours	Actuator	Termination	Switch action	Illuminated	Non-illuminated	Body coating	IP rating
AB-AV-2500	25mm	41.4mm	5A / 250VAC 2A / 24VDC	6 / 12 / 24 / 110 / 220		Flat round	2.8mm solder tabs	1NO / 1NC momentary / latching	✓	✗	Stainless steel	IP65



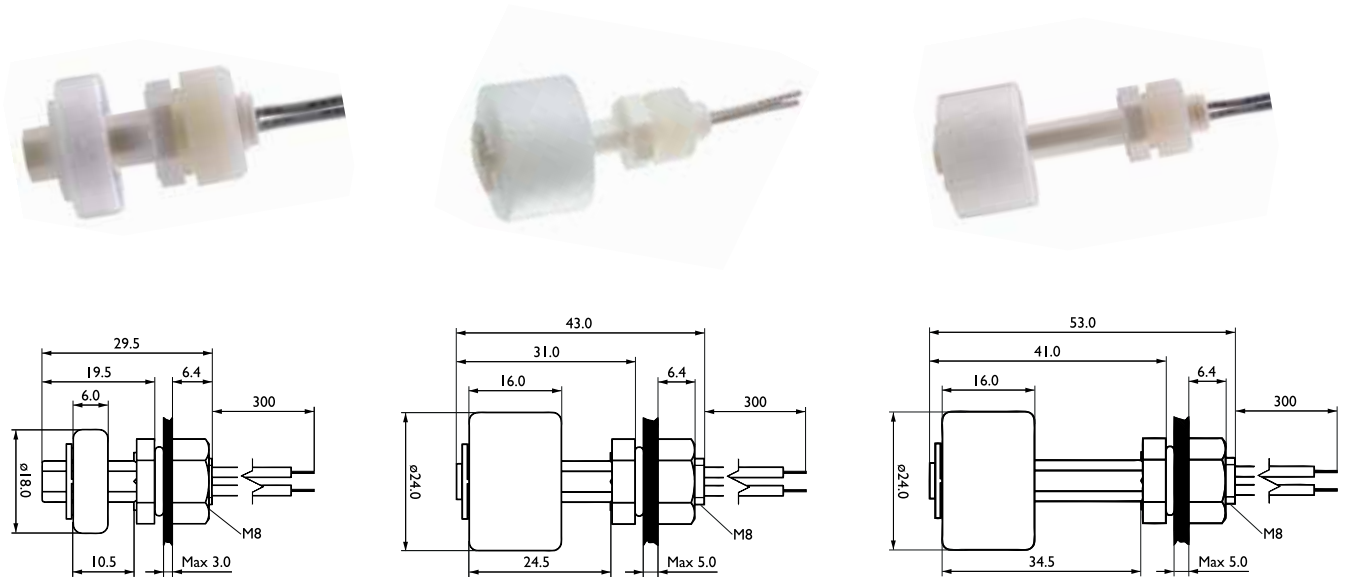
L: Momentary is 38.4
Latching is 41.4

RING ILLUMINATED

Part No.	Cut out	Max depth	Rating	LED voltage	LED colours	Actuator	Termination	Switch action	Illuminated	Non-illuminated	Body coating	IP rating
AB-AV-2500	25mm	41.4mm	5A / 250VAC 2A / 24VDC	6 / 12 / 24 / 110 / 220		Flat round	2.8mm solder tabs	1NO / 1NC momentary / latching	✓	✗	Stainless steel	IP65

Approval UL, VDE, CE

IP67 FLOAT SWITCHES



PLS-020 ULTRA MINIATURE

PLS-031 MINIATURE

PLS-041 STANDARD

Part No.	Contact	Contact rating	Switch voltage	Switch current	Carry current	Breakdown voltage	Total resistance	Operating temperature	Storage temperature	Density float type	Min gravity	Wire	Housing material
PLS-020-A-3	NO	10W / VA	180VDC / 130VAC	0.7A	1A	200VDC	280mΩ	-20°C~+80°C	-30°C~+80°C	0.7g/cm ³	Float density +20%	UL1007 AWG 24	PP
PLS-020-B-3	NC	10W / VA	180VDC / 130VAC	0.7A	1A	200VDC	280mΩ	-20°C~+80°C	-30°C~+80°C	0.7g/cm ³	Float density +20%	UL1007 AWG 24	PP
PLS-031-A-3	NO	10W / VA	200VDC / 140VAC	1A	1.2A	240VDC	280mΩ	-20°C~+80°C	-30°C~+80°C	0.7g/cm ³	Float density +20%	UL1007 AWG 24	PP
PLS-031-A-6	NO	50W / VA	200VDC / 250VAC	1.5A	2A	400VDC	150mΩ	-20°C~+80°C	-30°C~+80°C	0.7g/cm ³	Float density +20%	UL1007 AWG 22	PP
PLS-031-B-6	NC	50W / VA	200VDC / 250VAC	1.5A	2A	400VDC	150mΩ	-20°C~+80°C	-30°C~+80°C	0.7g/cm ³	Float density +20%	UL1007 AWG 22	PP
PLS-041-A-3	NO	10W / VA	200VDC / 140VAC	1A	1.2A	240VDC	280mΩ	-20°C~+80°C	-30°C~+80°C	0.7g/cm ³	Float density +20%	UL1007 AWG 24	PP
PLS-041-A-6	NO	50W / VA	200VDC / 250VAC	1.5A	2A	400VDC	150mΩ	-20°C~+80°C	-30°C~+80°C	0.7g/cm ³	Float density +20%	UL1007 AWG 22	PP
PLS-041-B-6	NC	50W / VA	200VDC / 250VAC	1.5A	2A	400VDC	150mΩ	-20°C~+80°C	-30°C~+80°C	0.7g/cm ³	Float density +20%	UL1007 AWG 22	PP

Approval UL, CSA

FEATURES

- > Polypropylene housing
- > Suitable for contact with food
- > Appropriate for a wide range of applications

VARIANTS

Form A (normally open)

Off On

Form B (normally closed)

On Off

MOUNTING

Top mounting

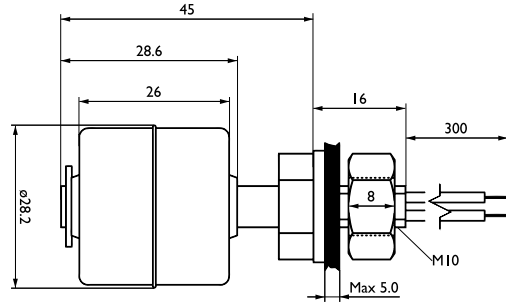
Bottom mounting

When mounted 'stem up' operating functions are reversed

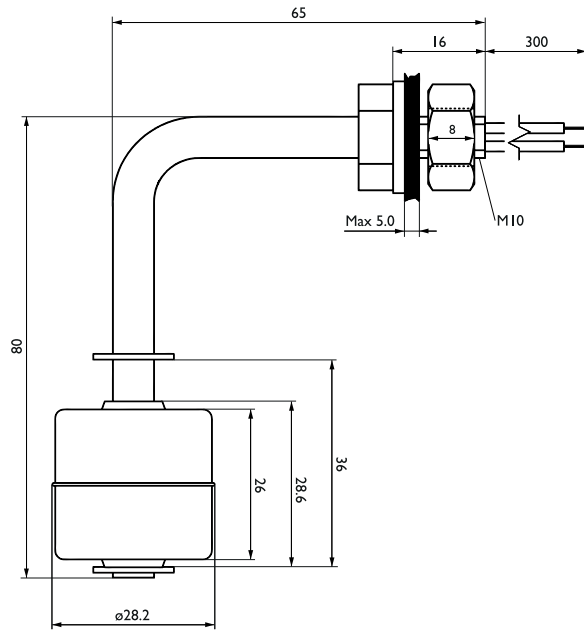
IP67 POWER FLOAT SWITCHES



PLS-045



PLS-080

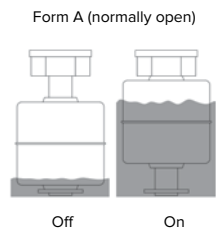


Part No.	Contact	Contact rating	Switch voltage	Switch current	Carry current	Breakdown voltage	Total resistance	Operating temperature	Storage temperature	Density float type	Min gravity	Wire	Housing material
PLS-045A-3VAI	NO	10W / VA	200VDC / 140VAC	1A	1.2A	240VDC	180mΩ	-40°C~+125°C	-40°C~+125°C	0.7g/cm ³	Float density +20%	UL1332 AWG 24	Stainless steel 304
PLS-045A-6VAI	NO	50W / VA	200VDC / 250VAC	1.5A	2A	400VDC	130mΩ	-40°C~+125°C	-40°C~+125°C	0.7g/cm ³	Float density +20%	UL1332 AWG 22	Stainless steel 304
PLS-080A-6VAL	NO	50W / VA	200VDC / 250VAC	1.5A	2A	400VDC	150mΩ	-40°C~+125°C	-40°C~+125°C	0.7g/cm ³	Float density +20%	UL1332 AWG 22	Stainless steel 304

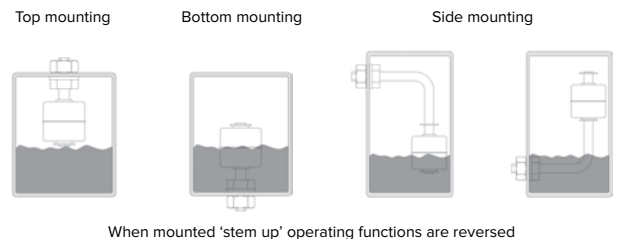
FEATURES

- > Stainless steel housing
- > Rugged and durable
- > Suitable for contact with food
- > High temperature range

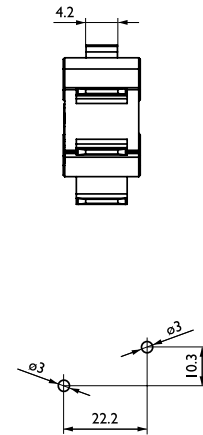
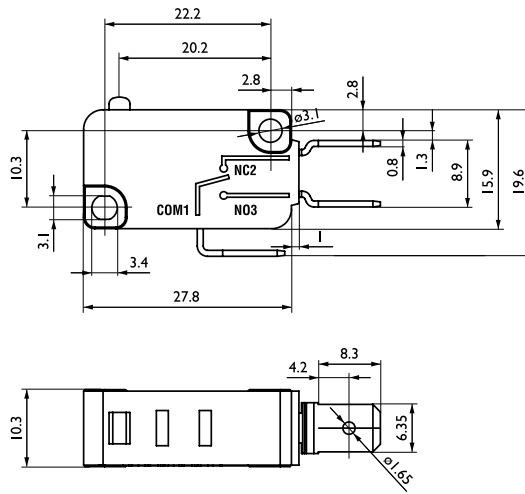
VARIANTS



MOUNTING



**MSA SERIES
MICRO SWITCH**

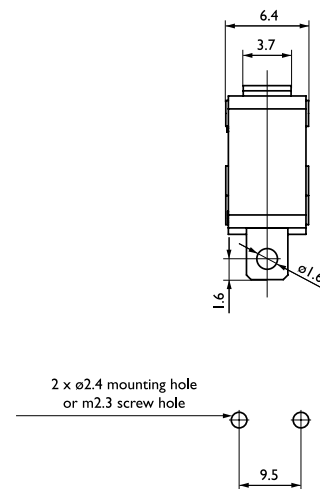
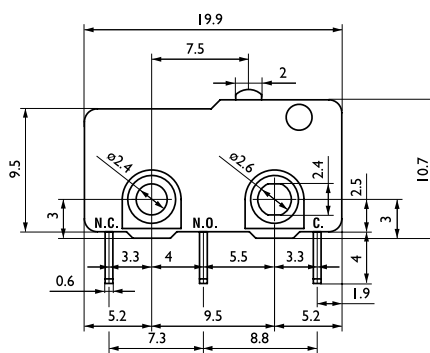


Mounting hole dimensions

Part No.	Rating	Switch action	Operating force	Insulation resistance	Contact resistance	Mechanical cycles	Electrical cycles
MSAT16C1C200000000	16(4)A / 250VAC	SPST NC	200gf 1, 96N	$\geq 100\text{M}\Omega / 500\text{VDC}$	$< 100\text{M}\Omega$ (initial value)	≥ 10 mio cycles	$\geq 50\text{k}$ cycles
MSAT16C1P200000000	16(4)A / 250VAC	SPST NO	200gf 1, 96N	$\geq 100\text{M}\Omega / 500\text{VDC}$	$< 100\text{M}\Omega$ (initial value)	≥ 10 mio cycles	$\geq 50\text{k}$ cycles
MSAT16C1Z200000000	16(4)A / 250VAC	SPDT	200gf 1, 96N	$\geq 100\text{M}\Omega / 500\text{VDC}$	$< 100\text{M}\Omega$ (initial value)	≥ 10 mio cycles	$\geq 50\text{k}$ cycles
MSAT16C1C300000000	16(4)A / 250VAC	SPST NC	300gf 2, 94N	$\geq 100\text{M}\Omega / 500\text{VDC}$	$< 100\text{M}\Omega$ (initial value)	≥ 10 mio cycles	$\geq 50\text{k}$ cycles
MSAT16C1P300000000	16(4)A / 250VAC	SPST NO	300gf 2, 94N	$\geq 100\text{M}\Omega / 500\text{VDC}$	$< 100\text{M}\Omega$ (initial value)	≥ 10 mio cycles	$\geq 50\text{k}$ cycles
MSAT16C1Z300000000	16(4)A / 250VAC	SPDT	300gf 2, 94N	$\geq 100\text{M}\Omega / 500\text{VDC}$	$< 100\text{M}\Omega$ (initial value)	≥ 10 mio cycles	$\geq 50\text{k}$ cycles

Approval ENEC, UL Various lever options available

**MSS SERIES
MICRO SWITCH**



2 x $\phi 2.4$ mounting hole or m2.3 screw hole

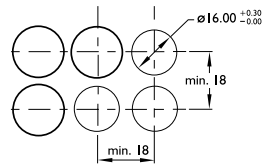
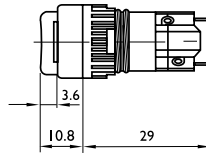
Mounting hole dimensions

Part No.	Rating	Switch action	Operating force	Insulation resistance	Contact resistance	Mechanical cycles	Electrical cycles
MSS05150S00A000	5A - 125 / 250VAC	SPDT	150gf	$\geq 100\text{M}\Omega / 500\text{VDC}$	$< 100\text{M}\Omega$ (initial value)	≥ 10 mio cycles	$\geq 50\text{k}$ cycles
MSS05150S00C000	5A - 125 / 250VAC	SPST NO	150gf	$\geq 100\text{M}\Omega / 500\text{VDC}$	$< 100\text{M}\Omega$ (initial value)	≥ 10 mio cycles	$\geq 50\text{k}$ cycles
MSS05150S00B000	5A - 125 / 250VAC	SPST NC	150gf	$\geq 100\text{M}\Omega / 500\text{VDC}$	$< 100\text{M}\Omega$ (initial value)	≥ 10 mio cycles	$\geq 50\text{k}$ cycles
MSS12350S00C000	12(6)A-125 / 250VAC	SPST NO	350gf	$\geq 100\text{M}\Omega / 500\text{VDC}$	$< 100\text{M}\Omega$ (initial value)	≥ 10 mio cycles	$\geq 50\text{k}$ cycles
MSS12350S00B000	12(6)A-125 / 250VAC	SPST NC	350gf	$\geq 100\text{M}\Omega / 500\text{VDC}$	$< 100\text{M}\Omega$ (initial value)	≥ 10 mio cycles	$\geq 50\text{k}$ cycles

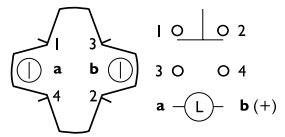
Approval ENEC, UL Various lever options available

D16 SERIES ROUND PUSH BUTTON SWITCH

16MM



Fixing specifications



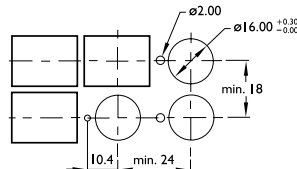
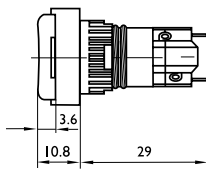
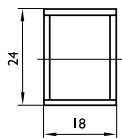
Bottom view

Part No.	Contact	Rating	LED colours*	Body colour	Switch action	Illuminated	Non-illuminated
D16-LAR1-1AB	1NO / 1NC	250VAC 5A / 24VDC 6A	● ● ● ● ● ● ● ● ● ●	●	Latching	✓	✓
D16-LMR1-1AB	1NO / 1NC	250VAC 5A / 24VDC 6A	● ● ● ● ● ● ● ● ● ●	●	Momentary	✓	✓

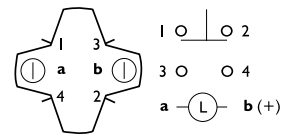
Approval UL, CSA, VDE *Lens to be ordered separately

D16 SERIES RECTANGULAR PUSH BUTTON SWITCH

16MM



Fixing specifications



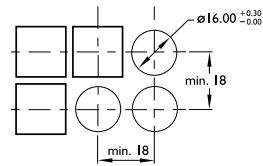
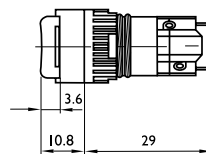
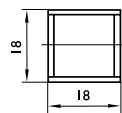
Bottom view

Part No.	Contact	Rating	LED colours*	Body colour	Switch action	Illuminated	Non-illuminated
D16-LAT1-1AB	1NO / 1NC	250VAC 5A / 24VDC 6A	● ● ● ● ● ● ● ● ● ●	●	Latching	✓	✓
D16-LMT1-1AB	1NO / 1NC	250VAC 5A / 24VDC 6A	● ● ● ● ● ● ● ● ● ●	●	Momentary	✓	✓

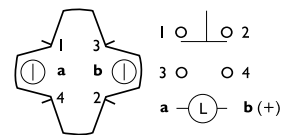
Approval UL, CSA, VDE *Lens to be ordered separately

D16 SERIES ROUND PUSH BUTTON SWITCH

16MM



Fixing specifications



Bottom view

Part No.	Contact	Rating	LED colours*	Body colour	Switch action	Illuminated	Non-illuminated
D16-LAS1-1AB	1NO / 1NC	250VAC 5A / 24VDC 6A	● ● ● ● ● ● ● ● ● ●	●	Latching	✓	✓
D16-LMS1-1AB	1NO / 1NC	250VAC 5A / 24VDC 6A	● ● ● ● ● ● ● ● ● ●	●	Momentary	✓	✓

Approval UL, CSA, VDE *Lens to be ordered separately

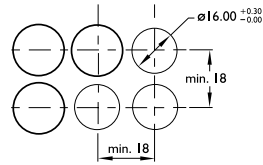
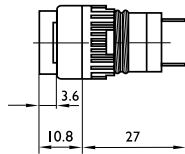
LAMP OPTIONS FOR D16 SERIES PUSH BUTTONS & PILOT LIGHTS



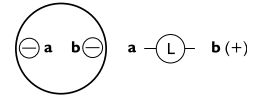
Type	Rating	Colour
Incandescent	6V / 14V / 28V / 48V / 60V	N/A
Neon	110V / 220VAC	● ● ● ● ● ● ● ● ● ●
LED	6V / 12V / 24VDC	● ● ● ● ● ● ● ● ● ●

D16 SERIES ROUND PILOT LIGHT

16MM



Fixing specifications



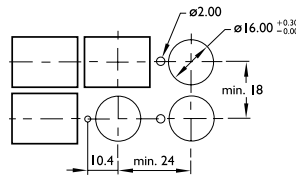
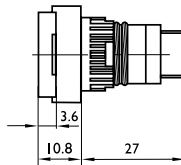
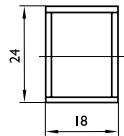
Bottom view

Part No.	Contact	Rating	LED colours*	Body colour	Switch action	Illuminated	Non-illuminated
D16-PLR1-000	N/A	220VAC / 14VDC / 28VDC	● ● ● ● ● ●	●	N/A	✓	✗

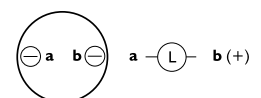
Approval UL, CSA, VDE *Lens to be ordered separately

D16 SERIES RECTANGULAR PILOT LIGHT

16MM



Fixing specifications



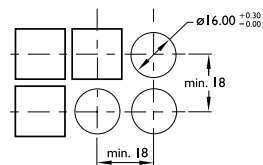
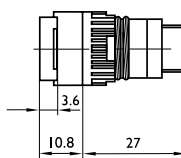
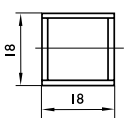
Bottom view

Part No.	Contact	Rating	LED colours*	Body colour	Switch action	Illuminated	Non-illuminated
D16-PLT1-000	N/A	220VAC / 14VDC / 28VDC	● ● ● ● ● ●	●	N/A	✓	✗

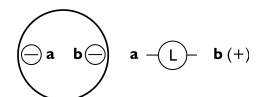
Approval UL, CSA, VDE *Lens to be ordered separately

D16 SERIES SQUARE PILOT LIGHT

16MM



Fixing specifications

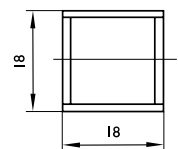
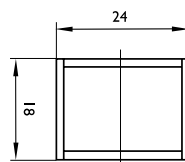
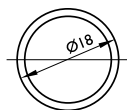


Bottom view

Part No.	Contact	Rating	LED colours*	Body colour	Switch action	Illuminated	Non-illuminated
D16-PLR1-000	N/A	220VAC / 14VDC / 28VDC	● ● ● ● ● ●	●	N/A	✓	✗

Approval UL, CSA, VDE *Lens to be ordered separately

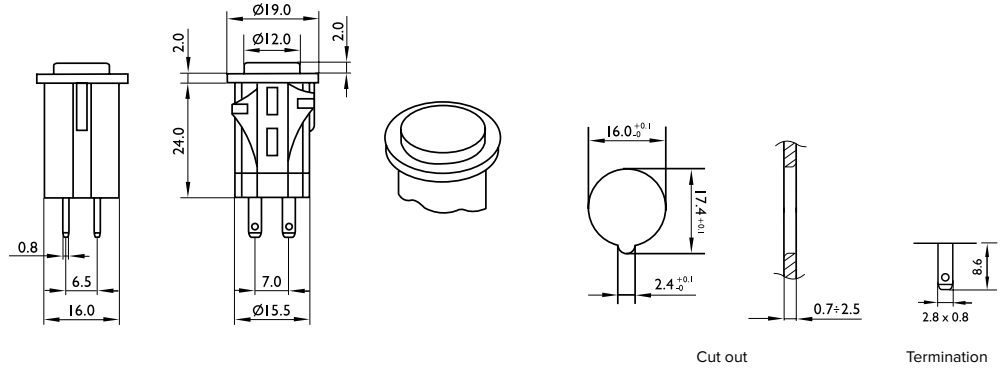
FLAT COLOUR LENS FOR D16 SERIES PUSH BUTTONS & PILOT LIGHTS



Part No.	Shape	Lens Colour	Part No.	Shape	Lens Colour	Part No.	Shape	Lens Colour
50-001-11	Round	●	50-002-11	Rectangular	●	50-003-11	Square	●
50-001-12	Round	●	50-002-12	Rectangular	●	50-003-12	Square	●
50-001-13	Round	●	50-002-13	Rectangular	●	50-003-13	Square	●
50-001-14	Round	●	50-002-14	Rectangular	●	50-003-14	Square	●
50-001-15	Round	○	50-002-15	Rectangular	○	50-003-15	Square	○
50-001-16	Round	●	50-002-16	Rectangular	●	50-003-16	Square	●

**P SERIES
PUSH BUTTON SWITCH**

16MM



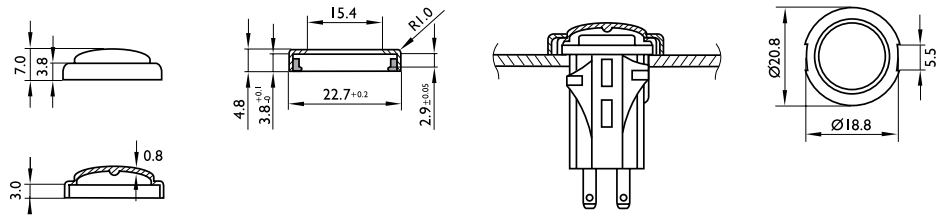
Cut out

Termination

Part No.	Rating	Actuator colour	Body colour	Marking	Switch action	Illuminated	Non-illuminated
P12431900000	3(1)A / 250VAC	●	●	N/A	SP momentary	✗	✓
P12731128000	3(1)A / 250VAC	●	●	☆	DP momentary	✗	✓
P12N31G00000	3(1)A / 250VAC	●	●	N/A	SP momentary	✓	✗
P12P31G00000	3(1)A / 250VAC	●	●	N/A	SP momentary	✓ With independant lamp	✗

Approval ENEC, UL, CE

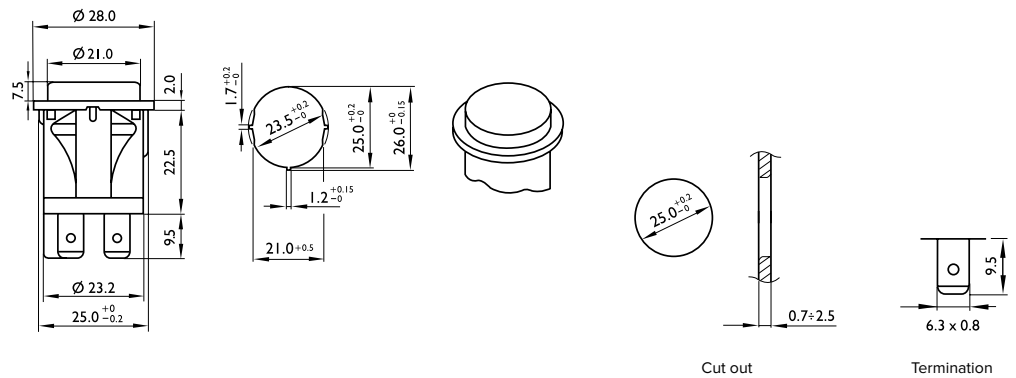
P1CAP1 CLEAR SPLASH PROOF CAP FOR P SERIES



Splash proof to IP65

**SP60 SERIES
PUSH BUTTON SWITCH**

25MM



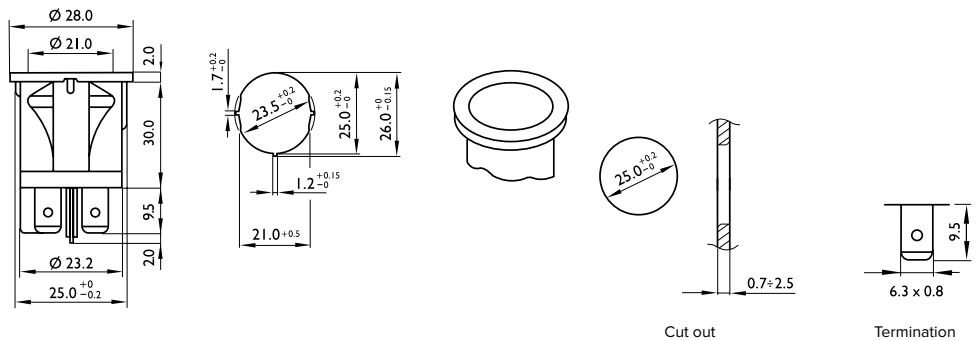
Cut out

Termination

Part No.	Rating	Actuator colour	Body colour	Marking	Switch action	Illuminated	Non-illuminated
SP6011C100000*	16(6)A / 250VAC	●	●	N/A	SP latching	✗	✓
SP6012C100000*	16(6)A / 250VAC	●	●	N/A	DP latching	✗	✓
SP6014C100000*	16(6)A / 250VAC	●	●	N/A	SP momentary	✗	✓
SP6017C100000*	16(6)A / 250VAC	●	●	N/A	DP momentary	✗	✓
SP6018C1E0000	16(6)A / 250VAC	●	●	N/A	DP latching	✓	✗
SP6018C1F0000	16(6)A / 250VAC	●	●	N/A	DP latching	✓	✗
SP6018C1G0000	16(6)A / 250VAC	●	●	N/A	DP latching	✓	✗

Approval ENEC, DEMKO, UL, CE *Cap to be ordered separately

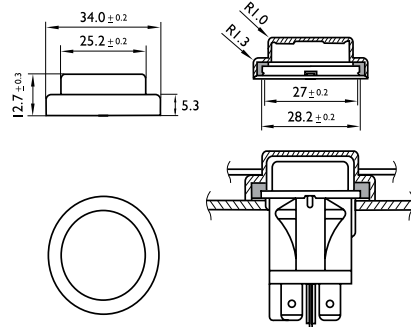
**SP60 SERIES FLUSH
PUSH BUTTON SWITCH**
25MM



Part No.	Rating	Actuator colour	Body colour	Marking	Switch action	Illuminated	Non-illuminated
SP6022C100000*	16(6)A / 250VAC	●	●	N/A	DP latching	✗	✓
SP6024C100000*	16(6)A / 250VAC	●	●	N/A	SP momentary	✗	✓
SP6028C1E0000	16(6)A / 250VAC	●	●	N/A	DP latching	✓	✗
SP6028C1G0000	16(6)A / 250VAC	●	●	N/A	DP latching	✓	✗

Approval ENEC, DEMKO, CE *Cap to be ordered separately

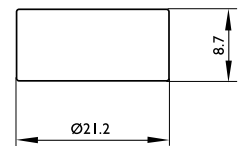
SP60PRT1 CLEAR SPLASH PROOF CAP FOR SP601 SERIES ONLY



Part No.	Colour
SP60PRT1	○

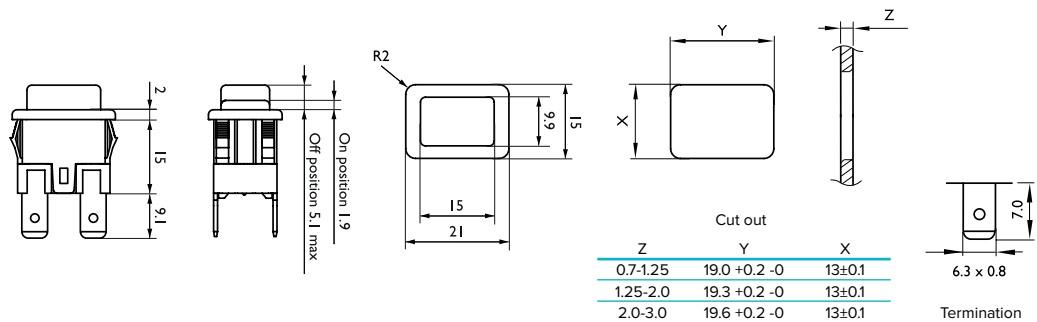
Approval ENEC, DEMKO
Splash proof to IP65

CAPS FOR SP60 SERIES



Part No.	Colour	Part No.	Colour
00570750	●	00570753	●
00570751	●	00570754	●
00570752	○	00570755	●

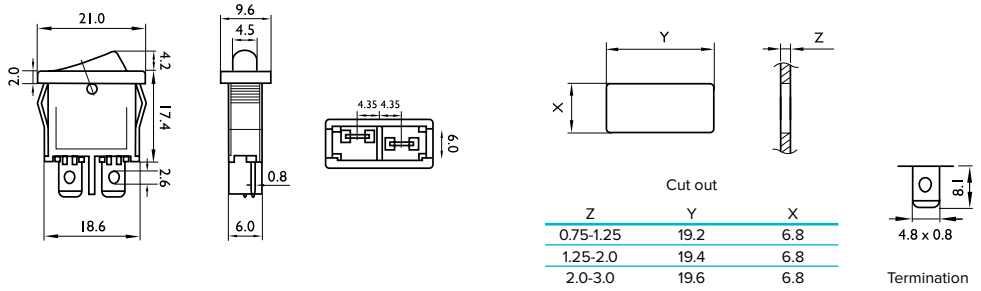
**SXL4 RECTANGULAR
PUSH BUTTON SWITCH**
13X19MM



Part No.	Rating	Actuator colour	Body colour	Marking	Switch action	Illuminated	Non-illuminated
SXL4121H1100000W	16(4)A / 250VAC	●	●	N/A	SP latching	✗	✓
SXL4126H1E00000W	16(4)A / 250VAC	●	●	N/A	SP latching	✓	✗
SXL4126H1G00000W	16(4)A / 250VAC	●	●	N/A	SP latching	✓	✗
SXL4127H1100000W	16(4)A / 250VAC	●	●	N/A	DP momentary	✗	✓

Approval ENEC, UL, CE

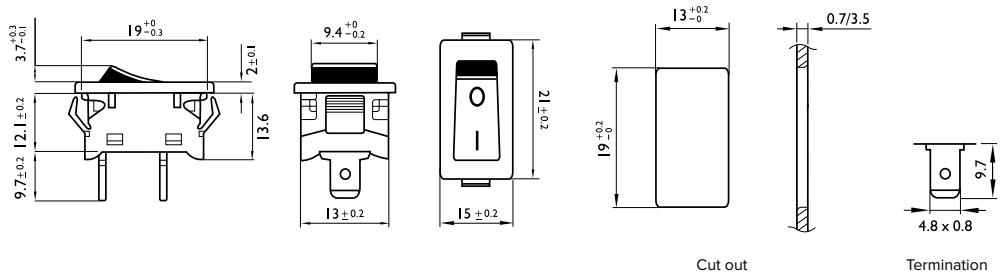
**ABSL SERIES SLIMLINE
ROCKER SWITCH**
19X6.8MM



Part No.	Rating	Actuator colour	Body colour	Marking	Switch action	Illuminated	Non-illuminated
ABSL-001	6(1)A / 250VAC	●	●	0 I	SPST latching	✗	✓

Approval VDE, UL

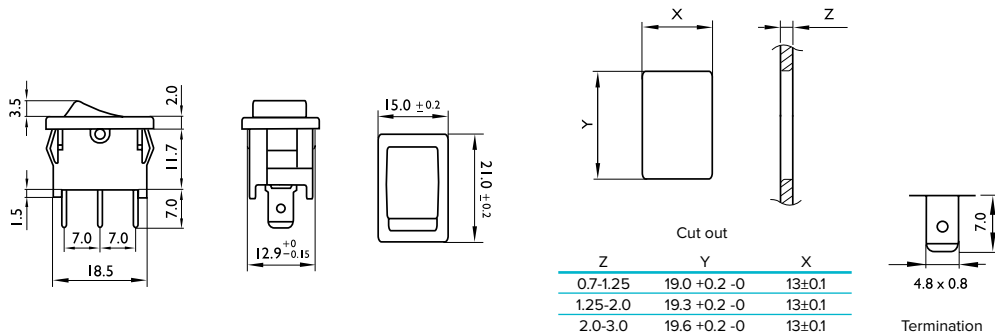
**TECNO SERIES
ROCKER SWITCH**
13X19MM



Part No.	Rating	Actuator colour	Body colour	Marking	Switch action	Illuminated	Non-illuminated
TECNO11131191000	10(4)A / 250VAC	● ●	●	0 I	SPST latching	✗	✓

Approval ENEC, UL, CE

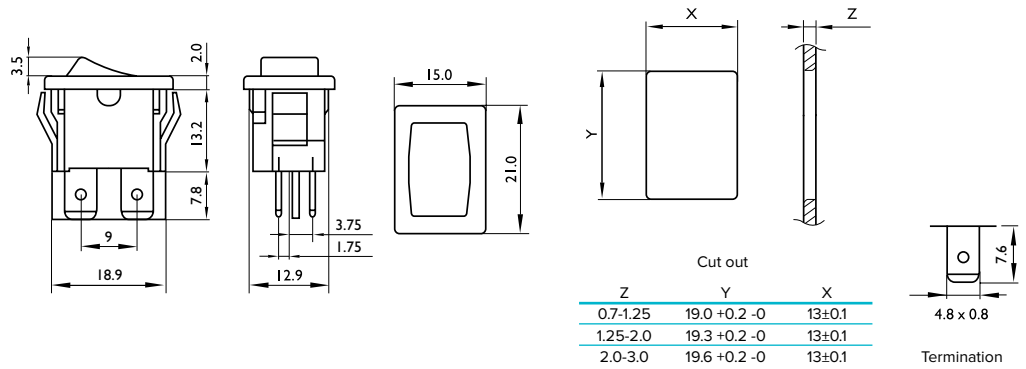
**A1 SERIES MINIATURE
ROCKER SWITCH**
13X19MM



Part No.	Rating	Actuator colour	Body colour	Marking	Switch action	Illuminated	Non-illuminated
A11131100000	10(4)A / 250VAC	●	●	N/A	SPST latching	✗	✓
A11131121000	10(4)A / 250VAC	●	●	0 I	SPST latching	✗	✓
A11132200000	10(4)A / 250VAC	○	○	N/A	SPST latching	✗	✓
A11331100000	10(4)A / 250VAC	●	●	N/A	SPDT latching changeover	✗	✓
A11332200000	10(4)A / 250VAC	○	○	N/A	SPDT latching changeover	✗	✓
A11561100000	10(2)A / 250VAC	●	●	N/A	SPDT centre off latching	✗	✓
A11B21100000	6(2)A / 250VAC	●	●	N/A	SPDT momentary changeover	✗	✓
A116B1E00000	13(4)A / 250VAC	●	●	N/A	SPST latching	✓	✗
A116B1G00000	13(4)A / 250VAC	●	●	N/A	SPST latching	✓	✗
AB-RS-007	12VDC	●	●	0 I	SPST latching	✓	✗
AB-RS-008	12VDC	●	●	0 I	SPST latching	✓	✗

Approval ENEC, VDE, UL, CSA

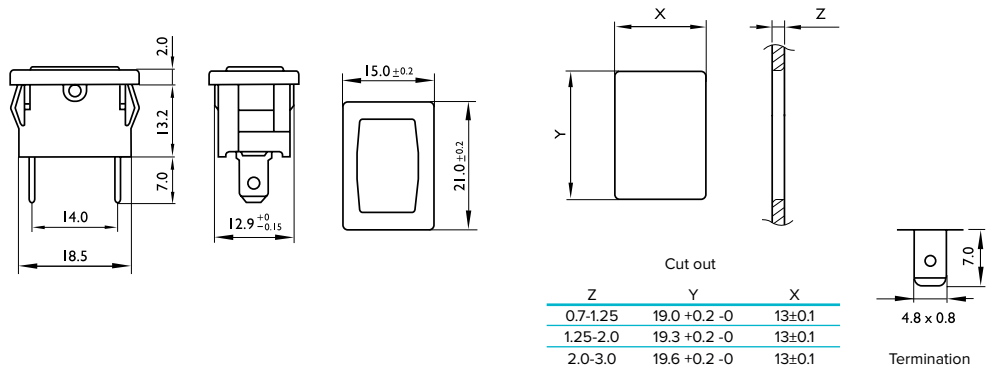
**A8 SERIES
ROCKER SWITCH
13X19MM**



Part No.	Rating	Actuator colour	Body colour	Marking	Switch action	Illuminated	Non-illuminated
A81231100000	10(4)A / 250VAC	●	●	N/A	DP latching	✗	✓
A81231121000	10(4)A / 250VAC	●	●	0 1	DP latching	✗	✓
A81831G00000	10(4)A / 250VAC	●	●	N/A	DP latching	✓	✗

Approval ENEC, UL, CSA, CE

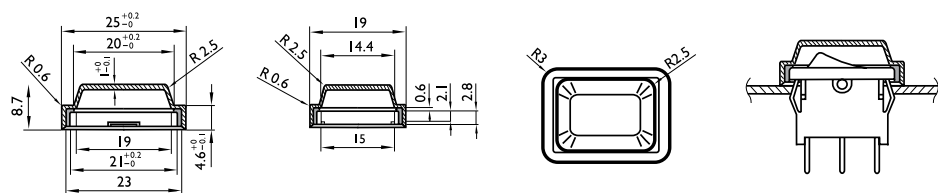
**A5 SERIES
INDICATOR LIGHT
13X19MM**



Part No.	Rating	Lens colour	Body colour	Marking	Switch action	Illuminated	Non-illuminated
A51121E00000	200-250VAC	●	●	N/A	N/A	✓	✗
A51121G00000	200-250VAC	●	●	N/A	N/A	✓	✗
A51121H00000	200-250VAC	●	●	N/A	N/A	✓	✗

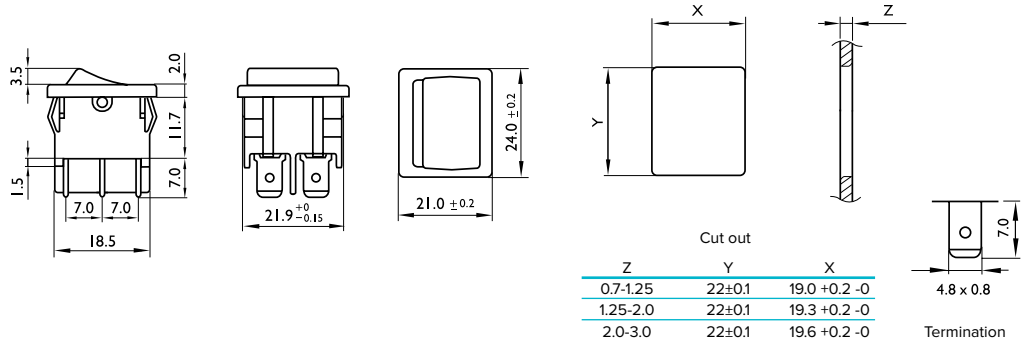
Approval VDE, UL, CSA, CE

A1PRT1 CLEAR SPLASH PROOF CAP FOR A SERIES



Splash proof to IP65

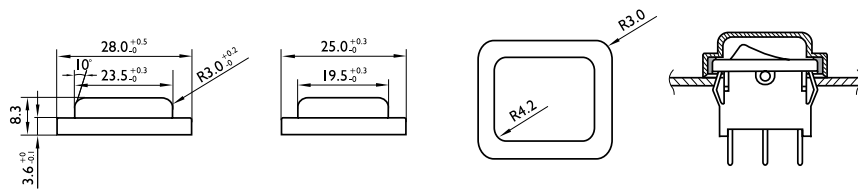
**A4 SERIES
ROCKER SWITCH**
22X19MM



Part No.	Rating	Actuator colour	Body colour	Marking	Switch action	Illuminated	Non-illuminated
A41231100000	10(4)A / 250VAC	●	●	N/A	DPST latching	✗	✓
A41831E00000	10(4)A / 250VAC	●	●	N/A	DPST latching	✓	✗
A41831G00000	10(4)A / 250VAC	●	●	N/A	DPST latching	✓	✗
A41L31100000	10(4)A / 250VAC	●	●	N/A	DPDT latching changeover	✗	✓

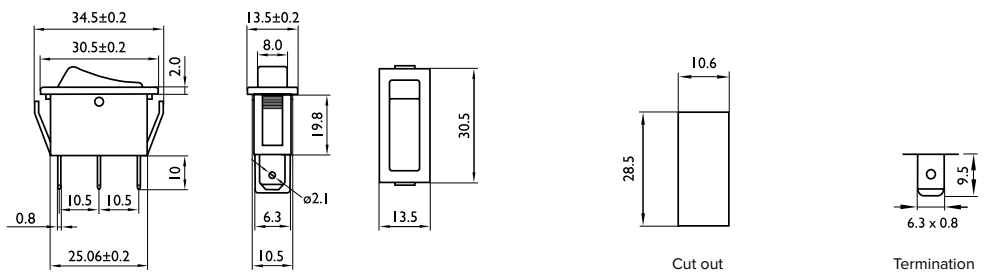
Approval ENEC, VDE, UL, CSA

A4CAP CLEAR SPLASH PROOF CAP FOR A4 SERIES



Splash proof to IP44

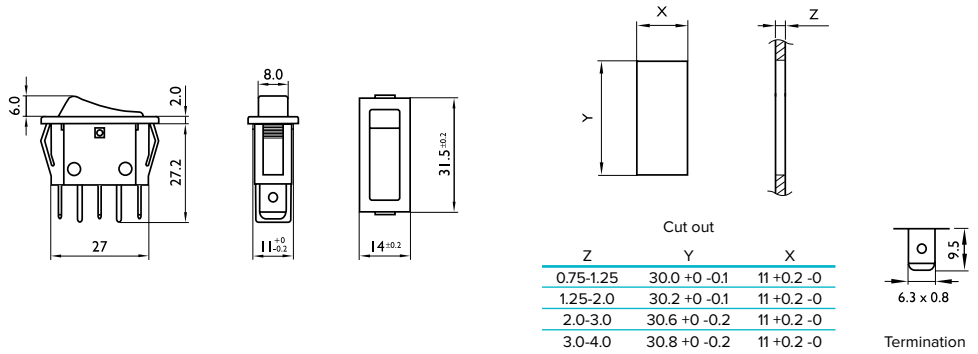
**AB-RS SERIES
ROCKER SWITCH**
28.5X10.6MM



Part No.	Rating	Actuator colour	Body colour	Marking	Switch action	Illuminated	Non-illuminated
AB-RS-011	16(4)A / 250VAC	○	○	0 I	SPST latching	✗	✓

Approval ENEC, VDE, UL, CSA

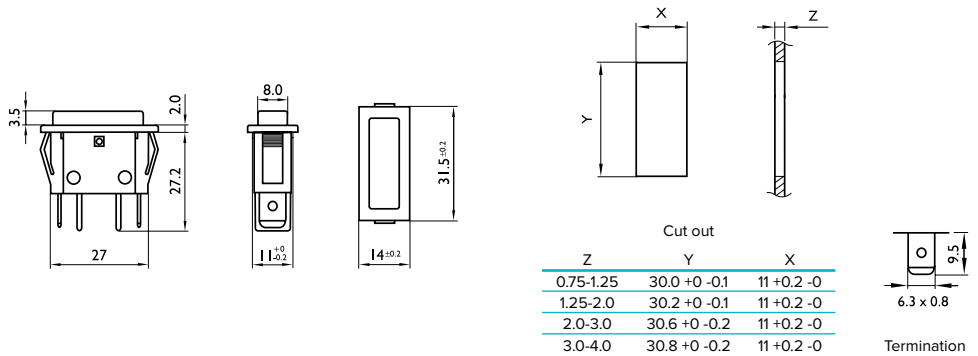
**B1 SERIES
ROCKER SWITCH
11X30MM**



Part No.	Rating	Actuator colour	Body colour	Marking	Switch action	Illuminated	Non-illuminated
B111C11000000	16(6)A / 250VAC	●	●	N/A	SPST latching	✗	✓
B111C11210000	16(6)A / 250VAC	●	●	0 I	SPST latching	✗	✓
B111C22110000	16(6)A / 250VAC	○	○	0 I	SPST latching	✗	✓
B113C11000000	16(6)A / 250VAC	●	●	N/A	SPST changeover	✗	✓
B114C11000000	16(6)A / 250VAC	●	●	N/A	SPST momentary	✗	✓
B115C11000000	16(6)A / 250VAC	●	●	N/A	SPST latching centre off	✗	✓
B115C11290000	16(6)A / 250VAC	●	●	I 0 II	SPST latching centre off	✗	✓
B116C1E000000	16(6)A / 250VAC	●	●	N/A	SPST latching	✓	✗
B116C1G000000	16(6)A / 250VAC	●	●	N/A	SPST latching	✓	✗
B11D411000000	16(6)A / 250VAC	●	●	N/A	SPDT momentary	✗	✓

Approval ENEC, IMQ, UL, CSA

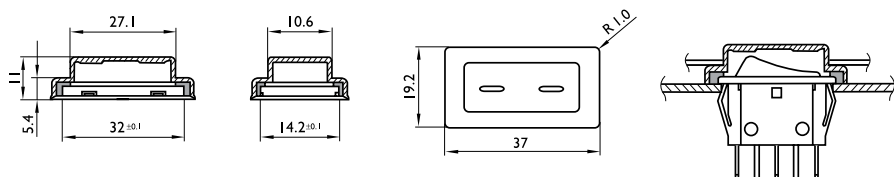
**B5 SERIES
INDICATOR LIGHT
11X30MM**



Part No.	Rating	Lens colour	Body colour	Marking	Switch action	Illuminated	Non-illuminated
B51121E000000	200-250VAC	●	●	N/A	N/A	✓	✗
B51121G000000	200-250VAC	●	●	N/A	N/A	✓	✗
B51121H000000	200-250VAC	●	●	N/A	N/A	✓	✗

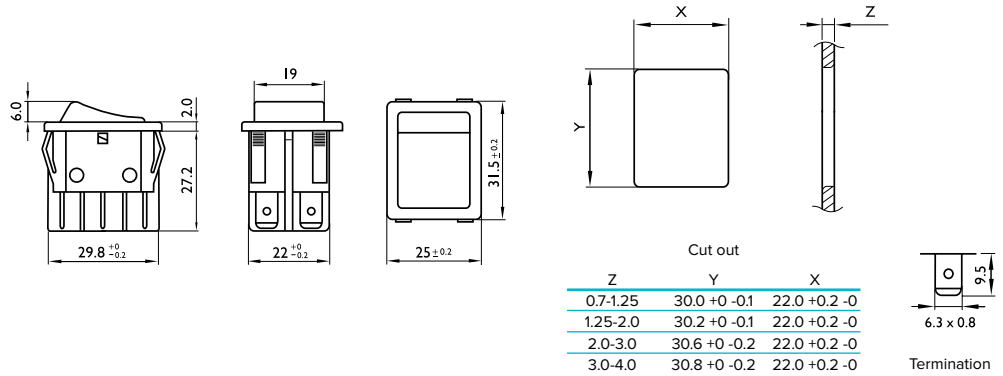
Approval ENEC, VDE, UL, CSA

B1PRT1 CLEAR SPLASH PROOF CAP FOR B1 & B5 SERIES



Splash proof to IP65

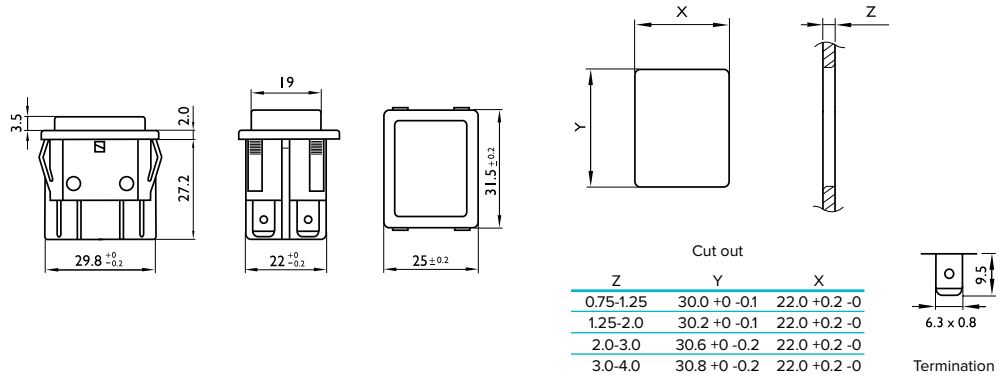
**B4 SERIES
ROCKER SWITCH**
22X30MM



Part No.	Rating	Actuator colour	Body colour	Marking	Switch action	Illuminated	Non-illuminated
B412C11000000	16(6)A / 250VAC	●	●	N/A	DPST latching	✗	✓
B412C11210000	16(6)A / 250VAC	●	●	O I	DPST latching	✗	✓
B417C11000000	16(6)A / 250VAC	●	●	N/A	DP momentary	✗	✓
B419C11000000	16(6)A / 250VAC	●	●	N/A	DPDT latching centre off	✗	✓
B41J411000000	16(6)A / 250VAC	●	●	N/A	DPDT centre off momentary	✗	✓
B41LC11000000	16(6)A / 250VAC	●	●	N/A	DPDT latching changeover	✗	✓
B418C1E000000	16(6)A / 250VAC	●	●	N/A	DPST latching	✓	✗
B418C1F000000	16(6)A / 250VAC	●	●	N/A	DPST latching	✓	✗
B418C1G000000	16(6)A / 250VAC	●	●	N/A	DPST latching	✓	✗

Approval ENEC, IMQ, UL, CSA

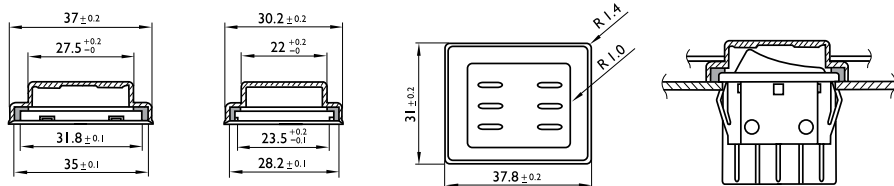
**B7 SERIES
INDICATOR LIGHT**
22X30MM



Part No.	Rating	Lens colour	Body colour	Marking	Switch action	Illuminated	Non-illuminated
B71121E000000	200-250VAC	●	●	N/A	N/A	✓	✗
B71121G000000	200-250VAC	●	●	N/A	N/A	✓	✗

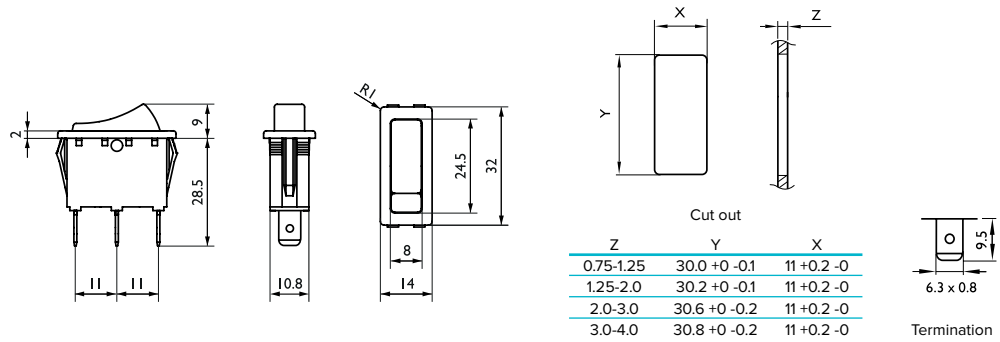
Approval ENEC, IMQ, UL, CSA

B4PRT1 CLEAR SPLASH PROOF CAP FOR B4 & B7 SERIES



Splash proof to IP65

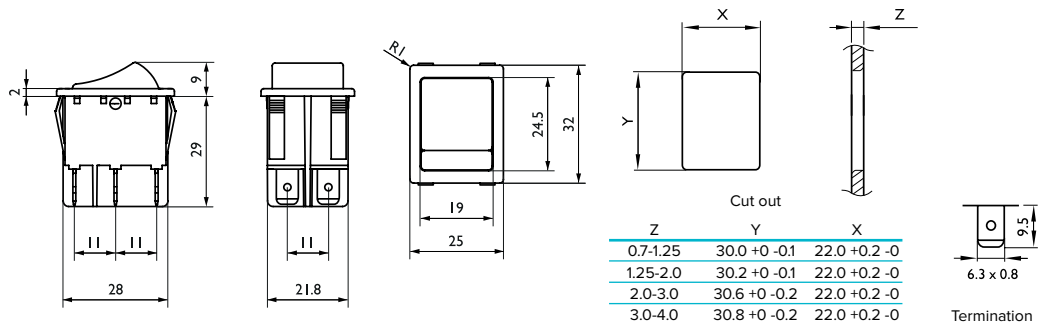
**SX81 SERIES
ROCKER SWITCH
11X30MM**



Part No.	Rating	Actuator colour	Body colour	Marking	Switch action	Illuminated	Non-illuminated
SX8111811000000	20(2)A / 250VAC	●	●	N/A	SPST latching	✗	✓
SX8111811210000	20(2)A / 250VAC	●	●	0 1	SPST latching	✗	✓
SX8111811000000	16(6)A / 250VAC	●	●	N/A	SP latching changeover	✗	✓
SX81115811000000	16(6)A / 250VAC	●	●	N/A	SP latching centre off	✗	✓
SX8111681G0000000	20(2)A / 250VAC	●	●	N/A	SPST latching	✓	✗
SX8111681E0000000	20(2)A / 250VAC	●	●	N/A	SPST latching	✓	✗

Approval ENEC, UL

**SX82 SERIES
ROCKER SWITCH
22X30MM**



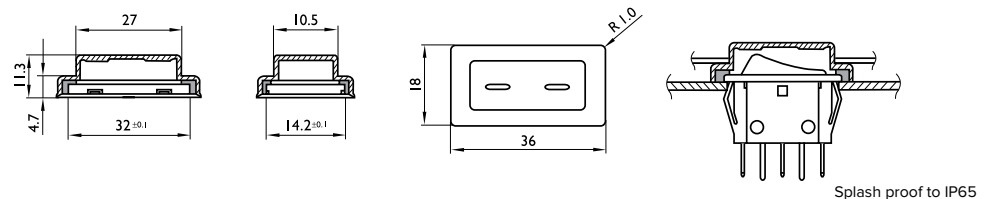
Part No.	Rating	Actuator colour	Body colour	Marking	Switch action	Illuminated	Non-illuminated
SX821128110000000	20(2)A / 250VAC	●	●	N/A	DPST latching	✗	✓
SX821128112100000	20(2)A / 250VAC	●	●	0 1	DPST latching	✗	✓
SX8211881G0000000	20(2)A / 250VAC	●	●	N/A	DPST latching	✓	✗
SX8211881G1100000	20(2)A / 250VAC	●	●	0 1	DPST latching	✓	✗
SX8211881E1100000	20(2)A / 250VAC	●	●	0 1	DPST latching	✓	✗
SX8231886626E0000	20(2)A / 250VAC	●	●	N/A	DPST latching	✓ ● dot	✗

Approval ENEC, UL, CE

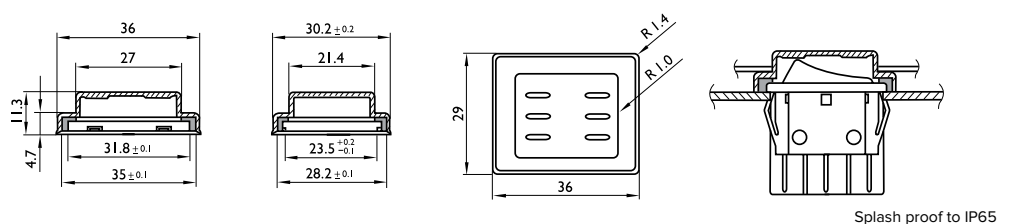
CLEAR SPLASH PROOF CAPS FOR SX81 & SX82 SERIES



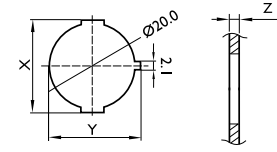
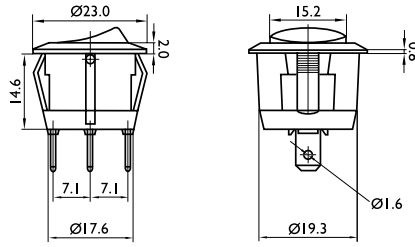
SX81CAP1 FOR SX81 SERIES



SX82PRT1 FOR SX82 SERIES

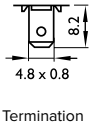


**ABRR SERIES ROUND
ROCKER SWITCH
20MM**



Cut out

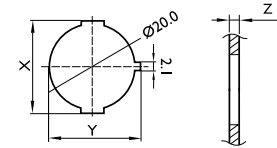
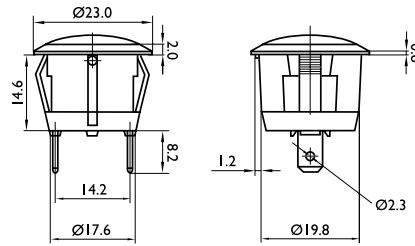
Z	Y	X
0.75-1.25	20.8	19.2
1.25-2.0	20.8	19.4
2.0-3.0	20.8	19.6



Part No.	Rating	Actuator colour	Body colour	Marking	Switch action	Illuminated	Non-illuminated
ABRR001	6A / 250VAC	●	●	0 I	SPST latching	✗	✓
ABRR002	6A / 250VAC	●	●	N/A	SPST momentary	✗	✓
ABRR003	6A / 250VAC	●	●	I O I I	SP centre-off latching	✗	✓
ABRR004	6A / 250VAC	●	●	0 I	DPDT latching	✗	✓
ABRR006	6A / 250VAC	●	●	N/A	SPST latching	✓ ● dot	✗
ABRR008	6A / 250VAC	●	●	I O I I	SPDT centre-off	✗	✓
ABRR010	6A / 250VAC	●	●	● ● dot	SPST latching	✗	✓
ABRR011	12VDC	●	●	N/A	SPST latching	✓	✗
ABRR012	24VDC	●	●	N/A	SPST latching	✓	✗
ABRR013	12VDC	●	●	N/A	SPST latching	✓	✗
ABRR014	24VDC	●	●	N/A	SPST latching	✓	✗
ABRR015	6A / 250VAC	●	●	N/A	SPST latching	✓	✗
ABRR016	6A / 250VAC	●	●	N/A	SPST latching	✓	✗
ABRR021	6A / 250VAC	●	●	N/A	SPST latching	✗	✓
ABRR022	6A / 250VAC	○	○	N/A	SPST latching	✗	✓
ABRR024	110VAC	●	●	N/A	SPST latching	✓	✗
ABRR025	6A / 250VAC	○	○	0 I	SPST momentary	✗	✓
ABRR026	10A / 250VAC	●	●	N/A	SPDT centre-off momentary both sides	✗	✓
ABRR601	24VDC	●	○	N/A	SPST latching	✓ ● dot	✗

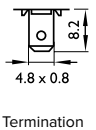
Approval ENEC, UL Double pole versions available

**ABRR SERIES
INDICATOR LIGHT
20X20MM**



Cut out

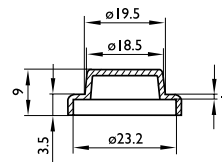
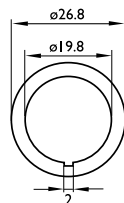
Z	Y	X
0.75-1.25	20.2	20.8
1.25-2.0	20.4	20.8
2.0-3.0	20.6	20.8



Part No.	Rating	Lens colour	Body colour	Marking	Switch action	Illuminated	Non-illuminated
ABRR027	12VDC	●	●	N/A	N/A	✓	✗
ABRR028	12VDC	●	●	N/A	N/A	✓	✗
ABRR029	220VAC	●	●	N/A	N/A	✓	✗

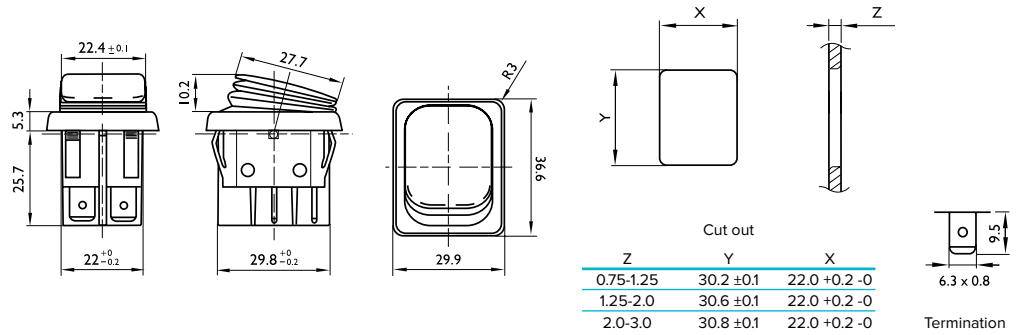
Approval ENEC, UL

ABRRCAP CLEAR SPLASH PROOF CAP FOR ABRR SERIES



Splash proof to IP55

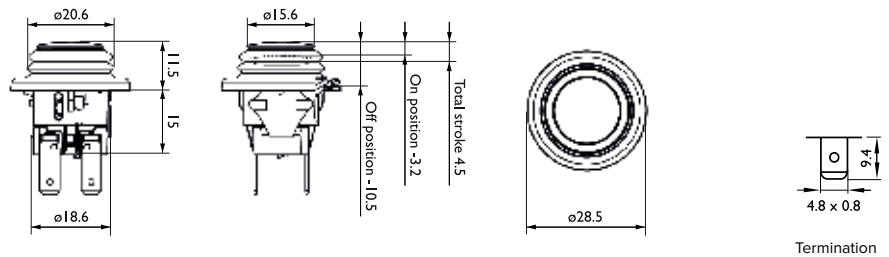
**B4 MASK SERIES IP65
SPLASH PROOF SWITCH**



Part No.	Rating	Actuator colour	Body colour	Marking	Switch action	Illuminated	Non-illuminated
B4MASK19C1129000	16(6)A / 250VAC	●	●	I 0 II	DPDT latching centre off	✗	✓
B4MASK48N1A00000	16(8)A / 250VAC	●	●	N/A	DPST latching	✓ Fluorescent coating	✗
B4MASK48N1B00000	16(8)A / 250VAC	●	●	N/A	DPST latching	✓ Fluorescent coating	✗
B4MASK48N1R00000	16(8)A / 250VAC	●	●	N/A	DPST latching	✓ Fluorescent coating	✗
B4MASK48N1V00000	16(8)A / 250VAC	●	●	N/A	DPST latching	✓ Fluorescent coating	✗
B4MASK52N1121000	16(8)A / 250VAC	●	●	0 I	DPST latching	✗	✓
B4MASK48X1R11002	24V - 20A	●	●	N/A	DPST latching	✓	✗
B4MASK48X1V11002	24V - 20A	●	●	N/A	DPST latching	✓	✗

Approval ENEC, UL, CSA, CE

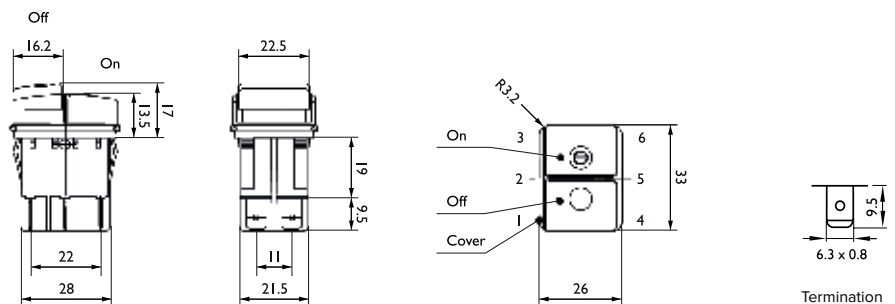
**R MASK SERIES IP65
SPLASH PROOF SWITCH**



Part No.	Rating	Actuator colour	Body colour	Marking	Switch action	Illuminated	Non-illuminated
RMASK122C1N00000	16(6)A / 250VAC	●	●	N/A	DP latching	✗	✓
RMASK128C1E00000	16(6)A / 250VAC	●	●	N/A	DP latching	✓	✗
RMASK128C1G00000	16(6)A / 250VAC	●	●	N/A	DP latching	✓	✗

Approval ENEC, UL, CE

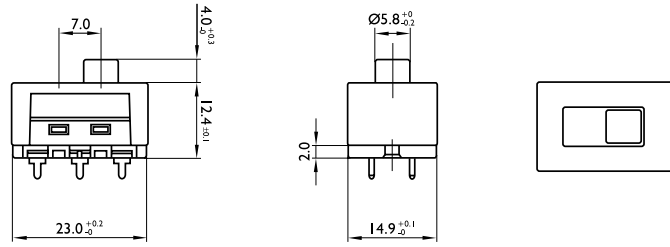
**SXA4 SERIES IP54
SPLASH PROOF SWITCH**



Part No.	Rating	Actuator colour	Body colour	Marking	Switch action	Illuminated	Non-illuminated
SXA4328211221000	16(8)A / 250VAC	●	○	I (On marking)	DPST	✗	✓
SXA4388211000G00	16(8)A / 250VAC	●	○	N/A	DPST	✓ ● dot	✗

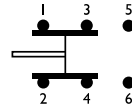
Approval ENEC, UL, CE

LF SERIES 2 POSITION SLIDE SWITCH

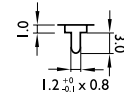


Part No.	Rating	Body colour
LF24A3000W	8(3)A / 250V	●

Approval ENEC, UL, CE

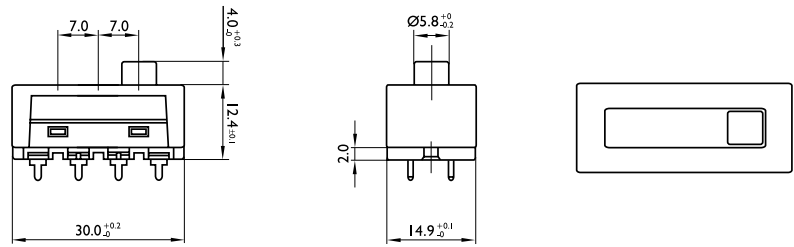


Switch action



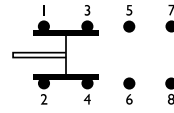
Termination

LF SERIES 3 POSITION SLIDE SWITCH

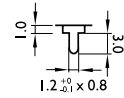


Part No.	Rating	Body colour
LF34A3000W	8(3)A / 250V	●

Approval ENEC, UL, CE

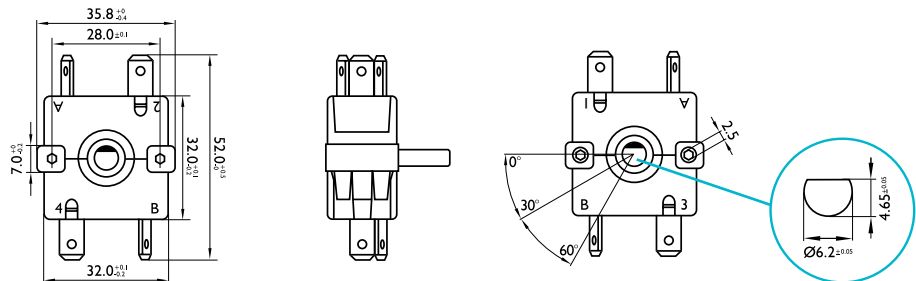


Switch action



Termination

R1 SERIES ROTARY SWITCH

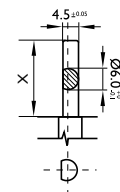


Part No.	Rating	Body colour	Shaft length
R1 SERIES	13(3)A / 250V	●	Various available

Approval ENEC, UL, CE

X = Shaft length

11.1
12.8
22.6
26.6

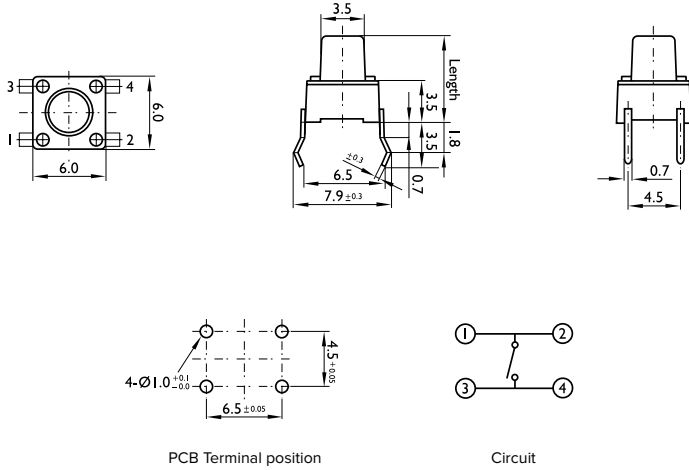


Shaft length



Termination

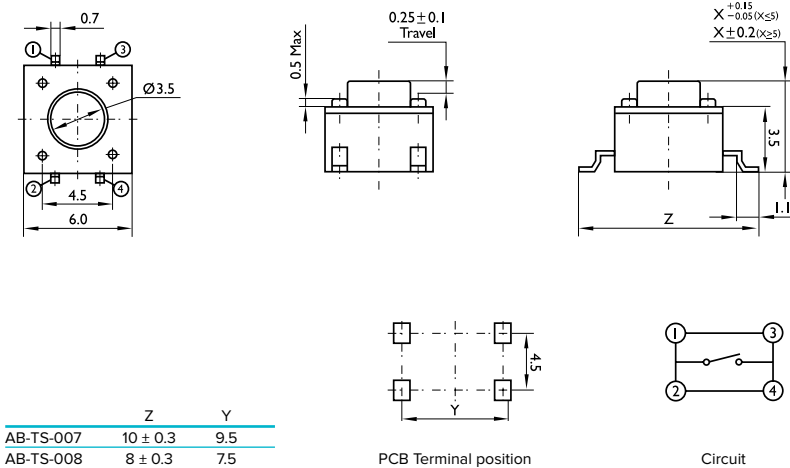
TACTILE SWITCH
6X6MM



Part No.	Rating @ resistance load	Maximum contact resistance @ DC 5V 100mA	Travel	Operating force	Length	Illuminated	Non-illuminated
AB-TS-001	DC 12V 50mA	100mΩ	0.3±0.1mm	160±30gf	9.5mm	✗	✓
AB-TS-004	DC 12V 50mA	100mΩ	0.3±0.1mm	160±30gf	4.3mm	✗	✓
AB-TS-005	DC 12V 50mA	100mΩ	0.3±0.1mm	160±30gf	5.0mm	✗	✓
AB-TS-006	DC 12V 50mA	100mΩ	0.3±0.1mm	160±30gf	7.0mm	✗	✓

Tape & reel available on request

SURFACE MOUNTED TACTILE SWITCH
6X6MM



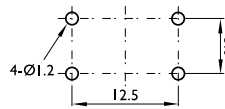
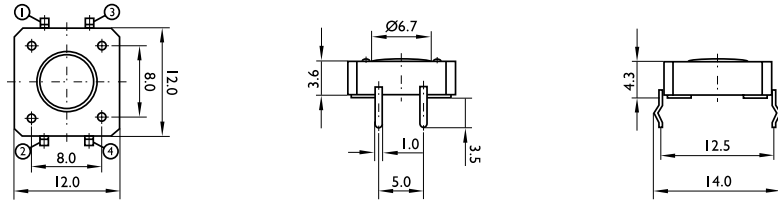
	Z	Y
AB-TS-007	10 ± 0.3	9.5
AB-TS-008	8 ± 0.3	7.5

Part No.	Rating @ resistance load	Maximum contact resistance @ DC 5V 100mA	Travel	Operating force	Length	Illuminated	Non-illuminated
AB-TS-007	DC 12V 50mA	100mΩ	0.3±0.1mm	250±30gf	4.3mm	✗	✓
AB-TS-008	DC 12V 50mA	100mΩ	0.3±0.1mm	250±160gf	4.3mm	✗	✓

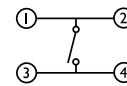
Tape & reel available on request

TACTILE SWITCH

12X12MM



PCB Terminal position

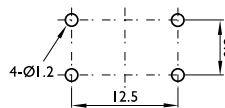
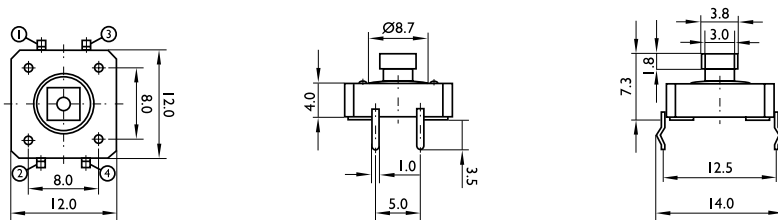


Circuit

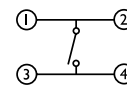
Part No.	Rating @ resistance load	Maximum contact resistance @ DC 5V 100mA	Travel	Operating force	Length	Illuminated	Non-illuminated
AB-TS-002	DC 12V 50mA	100mΩ	0.3±0.1mm	160±30gf	4.3mm	✗	✓

TACTILE SWITCH

12X12MM



PCB Terminal position



Circuit

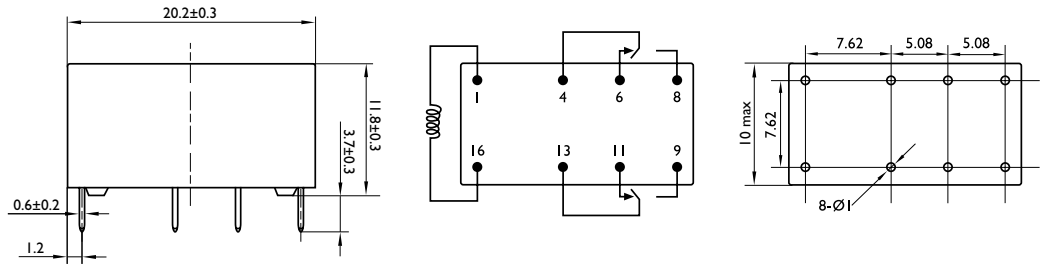
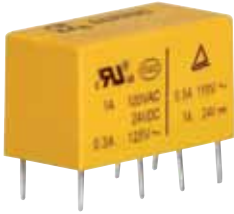
Part No.	Rating @ resistance load	Maximum contact resistance @ DC 5V 100mA	Travel	Operating force	Length	Illuminated	Non-illuminated
AB-TS-003	DC 12V 50mA	100mΩ	0.3±0.1mm	160±30gf	7.3mm	✗	✓



RELAYS

- 70 DSY2Y Miniature Power Relay
- 70 SARL Automotive Relay
- 70 SRDH Miniature Power Relay
- 71 SMI 1 Pole Miniature Power Relay
- 71 SMI 2 Pole Miniature Power Relay
- 71 SYS1 Miniature Power Relay

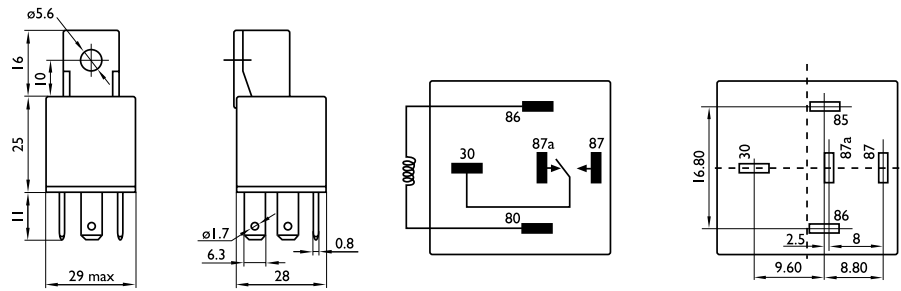
DSY2Y MINIATURE POWER RELAY



Part No.	Contact	Contact capacity	Maximum switching power	Coil voltage	Coil power	Contact resistance	Operating temperature
DSY2Y-S-205L	2C	1A 120VAC / 2A 24VDC	120VA / 72W	5V	0.20W	≤50mΩ	-30°C~+75°C
DSY2Y-S-212L	2C	1A 120VAC / 2A 24VDC	120VA / 72W	12V	0.20W	≤50mΩ	-30°C~+75°C
DSY2Y-S-224L	2C	1A 120VAC / 2A 24VDC	120VA / 72W	24V	0.20W	≤50mΩ	-30°C~+75°C

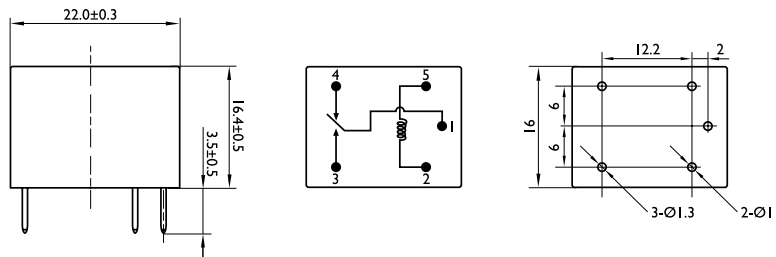
Approval CQC, UL, TUV

SARL AUTOMOTIVE RELAY



Part No.	Contact	Contact capacity	Maximum switching power	Coil voltage	Coil power	Contact resistance	Operating temperature
SARL-112DF	1C	40A 14VDC	500W	12V	1.8W	≤50mΩ	-40°C~+85°C
SARL-112DMF	1A	40A 14VDC	500W	12V	1.8W	≤50mΩ	-40°C~+85°C

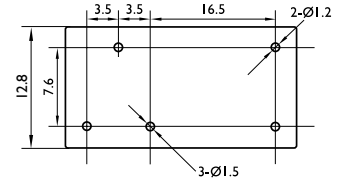
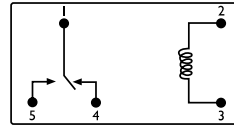
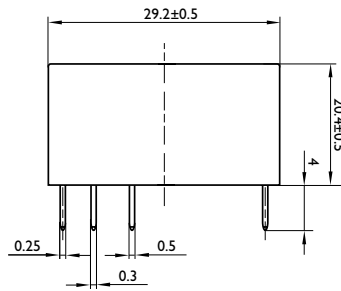
SRDH MINIATURE POWER RELAY



Part No.	Contact	Contact capacity	Maximum switching power	Coil voltage	Coil power	Contact resistance	Operating temperature
SRDH-S-105D	1C	10A 240VAC / 10A 120VAC / 10A 28VDC	2400VA / 240W	5V	0.36W	≤50mΩ	-40°C~+70°C
SRDH-S-112D	1C	10A 240VAC / 10A 120VAC / 10A 28VDC	2400VA / 240W	12V	0.36W	≤50mΩ	-40°C~+70°C
SRDH-S-124D	1C	10A 240VAC / 10A 120VAC / 10A 28VDC	2400VA / 240W	24V	0.36W	≤50mΩ	-40°C~+70°C

Approval CQC, UL, TUV

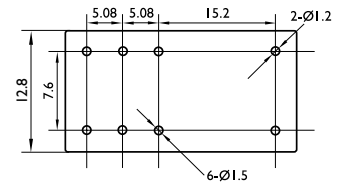
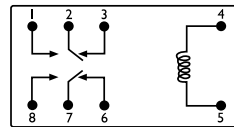
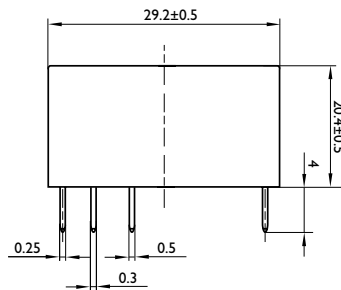
SMI 1 POLE MINIATURE POWER RELAY



Part No.	Contact	Contact capacity	Maximum switching power	Coil voltage	Coil power	Contact resistance	Operating temperature
SMI-S-105L	1C	10A 250VAC / 10A 30VDC	2500VA / 300W	5V	0.20W	≤50mΩ	-40°C~+85°C
SMI-S-112L	1C	10A 250VAC / 10A 30VDC	2500VA / 300W	12V	0.20W	≤50mΩ	-40°C~+85°C

Approval CQC, UL, TUV

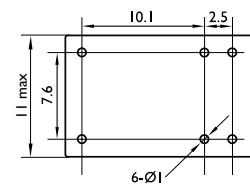
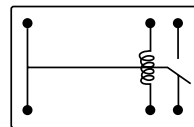
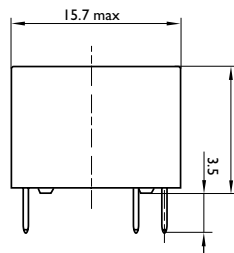
SMI 2 POLE MINIATURE POWER RELAY



Part No.	Contact	Contact capacity	Maximum switching power	Coil voltage	Coil power	Contact resistance	Operating temperature
SMI-S-205L	2C	5A 250VAC / 5A 24VDC	1250VA / 120W	5V	0.54W	≤50mΩ	-40°C~+85°C
SMI-S-212L	2C	5A 250VAC / 5A 24VDC	1250VA / 120W	12V	0.54W	≤50mΩ	-40°C~+85°C

Approval CQC, UL, TUV

SYS1 MINIATURE POWER RELAY



Part No.	Contact	Contact capacity	Maximum switching power	Coil voltage	Coil power	Contact resistance	Operating temperature
SYS1-S-105L	1C	3A 120VAC / 3A 24VDC	360VA / 72W	5V	0.20W	≤50mΩ	-30°C~+60°C

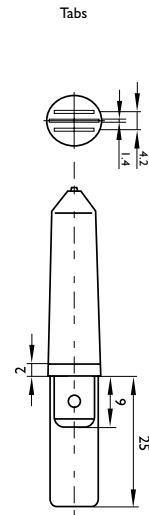
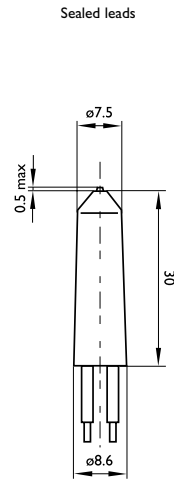
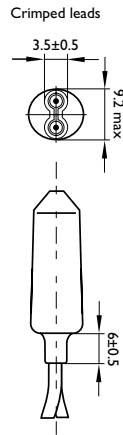
Approval CQC, UL



SIGNAL LAMPS

- 73 SX213 Series Signal Lamp
- 74 SX214 Series Signal Lamp
- 74 SX24 Series Signal Lamp
- 75 SX27 Series Signal Lamp
- 75 SX33 Series Signal Lamp
- 76 SL Series Signal Lamp

**SX213 SERIES
SIGNAL LAMP**

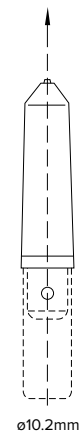
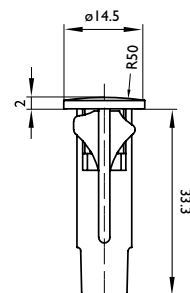
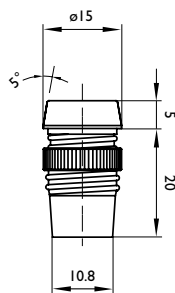
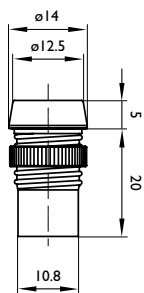


Part No.	Voltage	Temperature	Colour	Connections	Cut out	Light source
SX213 SERIES	2V / 12V / 24V / 125V / 250V / 400V	Range from T75°C - 150°C	● ● ● ○	Crimped leads / sealed leads / tabs	Custom	LED / Neon

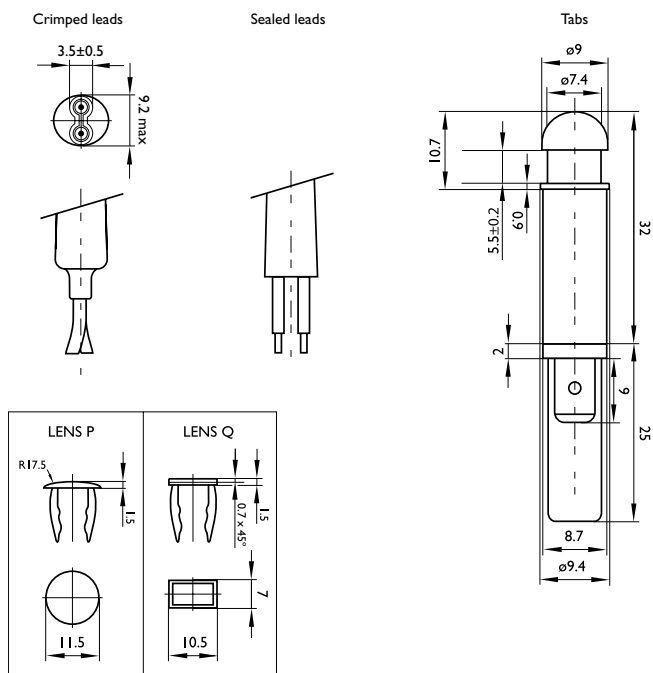
Approval VDE, UL, CE To be fitted with SX21T Lens

SX21T LENS FOR SX213 SERIES

*Other lens shapes available, please contact us for more information



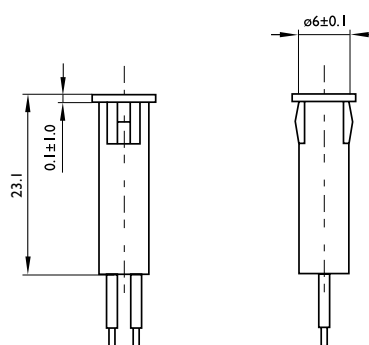
SX214 SERIES SIGNAL LAMP



Part No.	Voltage	Temperature	Colour	Connections	Cut out	Light source
SX214 SERIES	2V / 12V / 24V / 125V / 250V / 400V	Range from T75°C - 150°C	● ● ● ○	Crimped leads / sealed leads / tabs	5.4x9mm	LED / Neon

Approval VDE, UL, CE To be fitted with Lens P or Lens Q

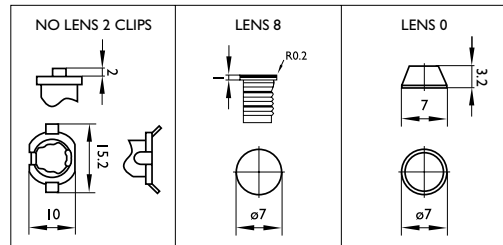
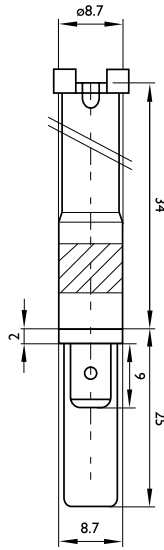
SX24 SERIES SIGNAL LAMP



Part No.	Voltage	Temperature	Colour	Connections	Cut out	Light source
SX24 SERIES	2V / 12V / 24V / 125V / 250V / 400V	Range from T75°C - 150°C	● ● ● ○	Crimped leads / sealed leads / tabs	6mm	LED / Neon

Approval VDE, UL, CE

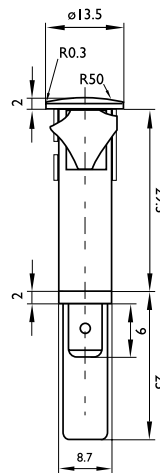
**SX27 SERIES
SIGNAL LAMP**



Part No.	Voltage	Temperature	Colour	Connections	Cut out	Light source
SX27 SERIES	2-400V	T75-T150	● ● ● ○	Crimped leads / sealed leads / tabs	6mm	LED / Neon
SX27811F2G00000	230V	T120	●	6.3mm tab	6mm	Neon with Lens 8
SX270R1F2G14300	230V	T120	●	Wire leads	6mm	Neon with Lens 0

Approval VDE, UL, CE

**SX33 SERIES
SIGNAL LAMP**



Cut out

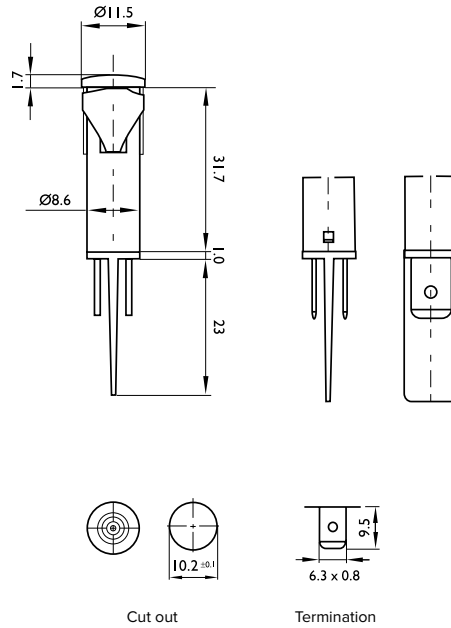


Termination

Part No.	Voltage	Temperature	Colour	Connections	Cut out	Light source
SX33 SERIES	2-400V	T75-T150	● ● ● ○	Crimped leads / sealed leads / tabs	10mm	LED / Neon
SX33211F2E00000	240V	T120	●	6.3mm tab	10mm	Neon
SX33211F2G00000	240V	T120	●	6.3mm tab	10mm	Neon
SX33211F2H00000	240V	T120	●	6.3mm tab	10mm	Neon
SX33C167XE00013	250V	T80	●	6.3mm tab	10mm (with anti rotation rib)	LED

Approval VDE, CE

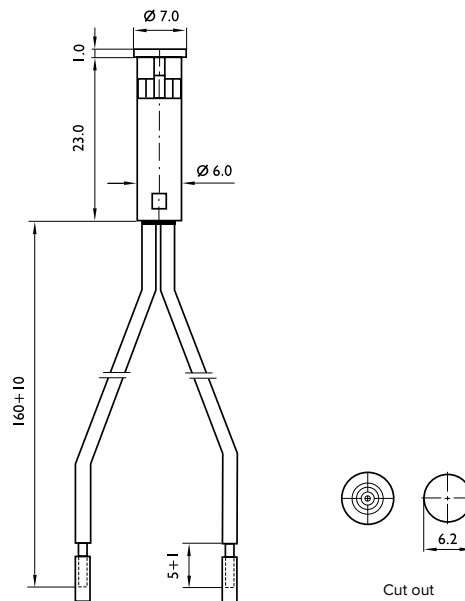
SL SERIES
SIGNAL LAMP



Part No.	Voltage	Temperature	Colour	Connections	Cut out	Light source
SL-656NZ8-01	250VAC	T120	●	6.3mm tab	10mm	Neon

Approval VDE

SL SERIES
SIGNAL LAMP



Part No.	Voltage	Temperature	Colour	Connections	Cut out	Light source
SL-641E3	250VAC	T90	●	Leads	6.2mm	Neon

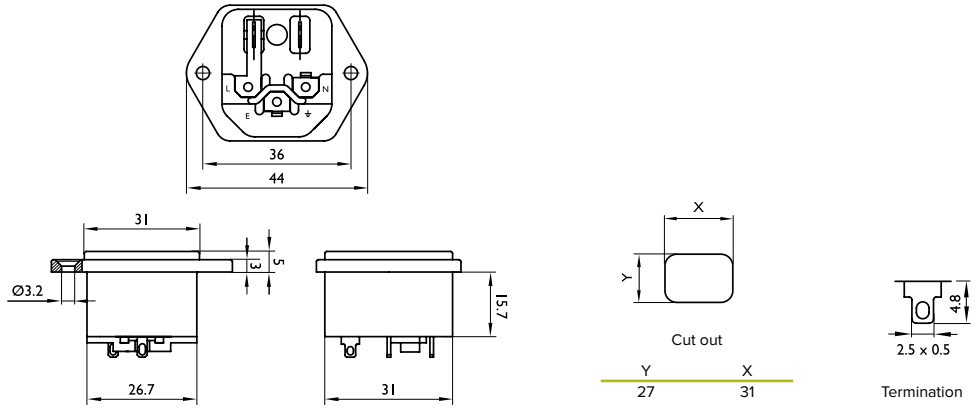
Approval VDE



IEC CONNECTORS

- 78 SST11A3 IEC Connector
- 78 STF302A1 IEC Connector
- 78 STF95A1 IEC Connector
- 79 STS350A1 IEC Connector
- 79 STS550A1 IEC Connector

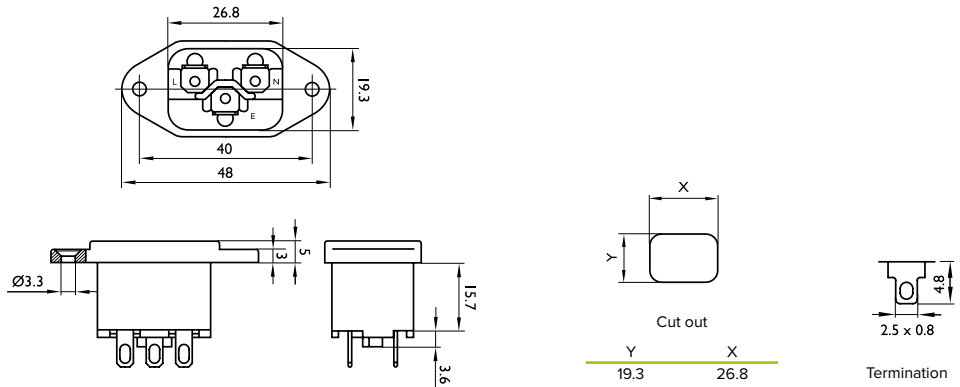
SST11A3
IEC CONNECTOR



Part No.	Rating	Type	Body colour	GWT	Termination	Fixings
SST11A3	10A / 250VAC C14 Class 1 / T70°C	IEC connector with fuse holder*	●	850°	Solder tabs	Mounting holes

Approval EN60320, UL498 *SW901A1 fuse holder to be ordered separately

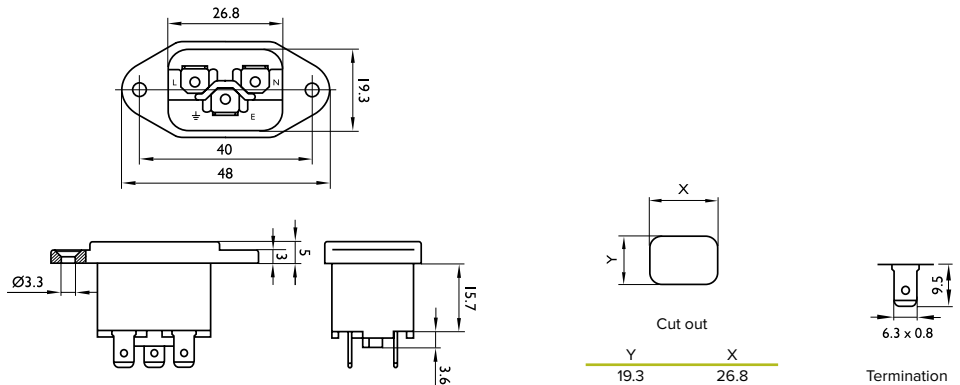
STF302A1
IEC CONNECTOR



Part No.	Rating	Type	Body colour	GWT	Termination	Fixings
STF302A1	10A / 250VAC C14 Class 1 / T70°C 15A / 125VAC	2-pole + earth contact	●	850°	2.5mm solder tabs	Mounting holes with 90° countersink

Approval EN60320, UL498

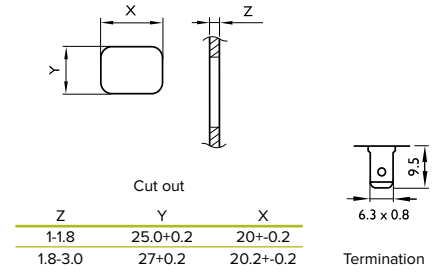
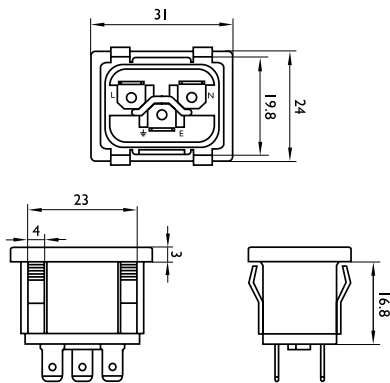
STF95A1
IEC CONNECTOR



Part No.	Rating	Type	Body colour	GWT	Termination	Fixings
STF95A1	10A / 250VAC 15A / 125VAC C16 Class 1 / T120°C	2-pole + earth contact	●	850°	6.3mm fast on tab	Mounting holes with 90° countersink

Approval EN60320, UL498

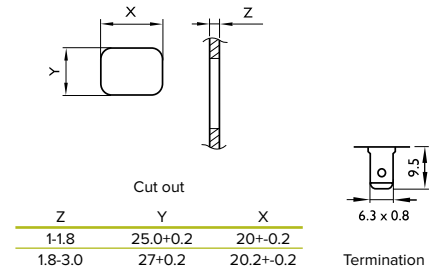
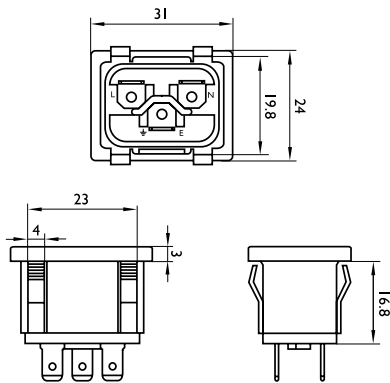
STS350A1
IEC CONNECTOR



Part No.	Rating	Type	Body colour	GWT	Termination	Fixings
STS350A1	10A / 250VAC C14 Class 1 / T70°C 15A / 125VAC	2-pole + earth contact	●	850°	6.3mm fast on tab	Snap fit

Approval EN60320, UL498

STS550A1
IEC CONNECTOR



Part No.	Rating	Type	Body colour	GWT	Termination	Fixings
STS550A1	10A / 250VAC C16 Class 1 / T120°C 15A / 125VAC	2-pole + earth contact	●	850°	6.3mm fast on tab	Snap fit

Approval EN60320, UL498

TERMS & CONDITIONS OF SALE

1. General/Variation

1.1 In these Conditions:

"Buyer" means the person who accepts a quotation of the Seller for the sale of the Goods or whose order for the Goods is accepted by the Seller;

"Goods" mean the Goods which the Seller is to supply in accordance with these Conditions;

"Seller" means Alan Butcher Components Limited;

"Conditions" means the standard terms and conditions of sale set out in this document including any special terms and conditions agreed in writing between the Buyer and the Seller; and

"Contract" means the contract for the purchase and sale of Goods.

1.2 Goods are sold by the Seller on the terms set out in these Conditions. No alterations or variations to these Conditions will apply unless specifically agreed in writing by the Seller.

2. The Contract

2.1 A Contract comes into effect only when the Seller sends an acceptance or acknowledgement to the Buyer or supplies the Goods pursuant to an order.

2.2 Delivery periods indicated by the Seller are estimates only and run from the date of the Seller's acceptance of an order. The Seller will use all reasonable efforts to achieve its estimated delivery date but will not be liable if it is not able to do so.

2.3 Quotations issued by the Seller are valid for 30 days and are not binding until accepted in an acknowledgement of order from the Seller.

3. Orders

3.1 No order which has been accepted by the Seller can be cancelled or altered by the Buyer without written agreement from the Seller.

3.2 The Seller reserves the right to refuse to accept any order. The Seller may also cancel an order or refuse to deliver Goods if the Buyer has failed to pay a sum due to the Seller.

3.3 The Buyer will be notified a delivery schedule by the Seller and must co-operate in accepting deliveries on the timetable indicated.

3.4 The Buyer must ensure that Goods ordered are suitable for its purposes.

3.5 The Seller reserves the right to discontinue any product, or make design changes to product specifications, or use different suppliers or manufacturers to those stated in its catalogue or other promotional material or on its website, without prior notice, as part of its continuous process of product and service improvement, or to improve product availability. The information contained in the Seller's catalogue or other promotional material or on its website is correct to the best of its knowledge at time of going to press. All images are used for illustration purposes only.

4. Prices

4.1 Prices quoted by the Seller are "ex warehouse" and exclude delivery or postage charges unless otherwise agreed in writing by the Seller.

4.2 The Seller reserves the right to increase the price of any Goods by notice in writing to the Buyer prior to delivery if there is an increase in the cost to the Seller for any reason outside its control.

4.3 Minimum or maximum order quantities will be as quoted by the Seller.

4.4 All prices of the Seller are exclusive of VAT and all payments to the Seller are to be in Pounds Sterling or other currency agreed in writing by the Seller.

5. Payment Terms

5.1 Payment of the Contract price will be due 30 days from the date of invoice, unless other terms are agreed in writing by the Seller. The Seller reserves the right to require a deposit or the price to be paid with order.

5.2 All payments to the Seller are to be made without any deduction withholding or set-off whatsoever.

5.3 If the Buyer fails to make any payment on the due date then without prejudice to any other right or remedy available to it, the Seller shall be entitled to:

(i) cancel the Contract or suspend any further deliveries to the Buyer;

(ii) appropriate any payment made by the Buyer to such of the Goods (or the goods supplied under any other contract between the Buyer and the Seller) as the Seller may think fit (notwithstanding any purported appropriation by the Buyer); and

(iii) charge the Buyer interest (both before and after any judgement) on the amount unpaid, at the rate of 4 per cent per annum above Barclays Bank plc base rate from time to time until payment in full is made.

6. Damage or Loss in Delivery

6.1 Damage to or loss of Goods in the course of delivery must be notified to the Seller within 7 working days of delivery, or the projected date of delivery if Goods are lost in transit. Claims notified outside that time will not be accepted.

6.2 The risk in all Goods supplied will pass to the Buyer on delivery.

7. Warranty

7.1 The Seller warrants that the Goods will be free from any defects in materials or workmanship for a period of 12 months from despatch by the Seller.

7.2 The Seller will not be liable under the above warranty:-

7.2.1 unless the Buyer gives notice of any defect within 7 days of becoming aware of it;

7.2.2 if the Goods are not used or stored in accordance with the manufacturer's recommendations; or

7.2.3 if the Goods are altered or repaired by the Buyer or any third party.

7.3 If any Goods do not conform to the warranty in Condition 7.1, the Seller will at its option repair or replace the Goods affected or refund the price of such Goods provided the Buyer returns the defective Goods to the Seller.

7.4 Provided the Seller complies with the above warranty it will have no further liability under the warranty in respect of the Goods affected by it.

8. Limitation of Liability

8.1 Subject to Condition 7, the following provisions set out the entire financial liability of the Seller (including any liability for the acts or omissions of its employees, agents and sub-contractors) to the Buyer in respect of:

(a) any breach of these Conditions;

(b) any use made or resale by the Buyer of any of the Goods, or of any product incorporating any of the Goods; and

(c) any representation, statement or tortious act or omission including negligence arising under or in connection with the Contract.

8.2 All warranties, conditions and other terms implied by statute or common law (save for the conditions implied by section 12 of the Sale of Goods Act 1979) are, to the fullest extent permitted by law, excluded from the Contract.

8.3 Nothing in these Conditions excludes or limits the liability of the Seller:

(a) for death or personal injury caused by the Seller's negligence; or

(b) under section 2(3), Consumer Protection Act 1987; or

(c) for any matter which it would be illegal for the Seller to exclude or attempt to exclude its liability; or

(d) for fraud or fraudulent misrepresentation.

8.4 Subject to Condition 8.2 and Condition 8.3:

(a) the Seller's total liability in contract, tort (including negligence or breach of statutory duty), misrepresentation, restitution or otherwise, arising in connection with the performance or contemplated performance of the Contract shall be limited to the Contract price; and

(b) the Seller shall not be liable to the Buyer for any pure economic loss, loss of profit, loss of business, depletion of goodwill or otherwise, in each case whether direct, indirect or consequential, or any claims for consequential compensation whatsoever (howsoever caused) which arise out of or in connection with the Contract.

9. Force Majeure

The Seller will have no liability for any delay in delivering, or failure to deliver, Goods or for any other non performance of the Contract if the delay, failure or non-performance is caused by any events or circumstances outside the reasonable control of the Seller.

10. Retention of Title

10.1 Ownership of the Goods will not pass to the Buyer until the Seller has received in full (in cash or cleared funds) all payments due to it from the Buyer in respect of:

(a) the Goods; and

(b) all other amounts payable to the Seller by the Buyer.

10.2 Until ownership has passed to the Buyer, the Seller retains full legal and beneficial title to the Goods and reserves the right at any time to require the Buyer

to deliver up the Goods to it and, if the Buyer fails to do so forthwith upon the Seller's request, to permit the Seller to enter upon any of the Buyer's premises or of any third party where the Goods are stored and repossess the Goods.

11. Export Orders

11.1 In the case of export sales:

(a) payment for the Goods must be made in advance by bank draft or telegraphic transfer of funds and any additional or associated banking costs are to be met by the Buyer;

(b) freight and insurance charges are charged at cost to the Buyer.

11.2 For export sales, the Buyer must pay any import, export or other customs duties becoming payable and obtain any necessary import permits or licences required for the importation of the Goods.

12. Intellectual Property

All trademarks, copyright, designs and any other intellectual property used on or in relation to the Goods or the Seller's website or catalogue are the property of the Seller or licensed for use to the Seller by a third party and these Conditions do not confer upon the Buyer any rights in or title to such intellectual property.

13. Assignment

13.1 The Seller may assign or sub-contract the Contract or any part of it to any person, firm or company.

13.2 The Buyer will not be entitled to assign the Contract without the prior written consent of the Seller.

14. Termination

14.1 The Seller may by notice to the Buyer terminate the Contract immediately if:

(i) the Buyer commits any breach of the terms of the Contract or fails to pay on the due date any sum due to the Seller; or

(ii) a receiver, administrator or manager is appointed over any of the property or assets of the Buyer;

(iii) the Buyer makes any voluntary arrangement with its creditors or becomes subject to an administration order; or

(iv) the Buyer goes into liquidation (except for the purposes of amalgamation or reconstruction); or

(v) the Buyer ceases or threatens to cease to carry on business.

14.2 Upon termination all outstanding sums payable by the Buyer to the Seller must be paid immediately.

15. General

15.1 The unenforceability or invalidity of any provision of these Conditions will not affect the validity of the remaining provisions.

15.2 No third parties are intended to have any rights to rely on or enforce the Contract.

15.3 The Contract shall be governed by the laws of England and any dispute arising under or in connection with these Conditions or the sale of the Goods shall be subject to the jurisdiction of the English courts.

15.4 The Seller may at any time by notice in writing to the Buyer amend or alter these Conditions but no such amendment or alteration will affect any Contract in existence at the time of notification.

16. Notices

16.1 All communications or notices between the parties about the Contract shall be in writing in the English language and delivered by hand or sent by pre-paid first class post or sent by fax:

(a) (in case of communications to the Seller) to its registered office or such changed address as shall be notified to the Buyer by the Seller; or

(b) (in the case of the communications to the Buyer) to the registered office of the addressee (if it is a company) or (in any other case) to any address of the Buyer set out in any document which forms part of the Contract or such other address as shall be notified to the Seller by the Buyer.

16.2 Communications shall be deemed to have been received:

(a) if sent by pre-paid first class post, two days (excluding Saturdays, Sundays and bank and public holidays) after posting (exclusive of the day of posting); or

(b) if delivered by hand, on the day of delivery; or

(c) if sent by fax on a working day prior to 4.00pm, at the time of transmission and otherwise on the next working day.

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