

## PRODUCT-DETAILS

# LS45M31B11

## LS45M31B11 Limit Switch



### General Information

|                       |                                                                                                                                                                                                                                                                                                                       |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Extended Product Type | LS45M31B11                                                                                                                                                                                                                                                                                                            |
| Product ID            | 1SBV013131R1211                                                                                                                                                                                                                                                                                                       |
| EAN                   | 3471522613318                                                                                                                                                                                                                                                                                                         |
| Catalog Description   | LS45M31B11 Limit Switch                                                                                                                                                                                                                                                                                               |
| Long Description      | LS45M31B11 is a 40 mm wide, standard reinforced Limit Switch made of zinc alloy material (Zamak), with 4 mounting holes at the top and bottom, 1 1/2" NPT cable entry on the bottom, plastic roller lever (Ø22 mm) on steel plunger actuator for horizontal movement and 1 N.O + 1 N.C snap action (Zb type) contacts |

### Ordering

|                        |               |
|------------------------|---------------|
| EAN                    | 3471522613318 |
| Minimum Order Quantity | 1 piece       |
| Customs Tariff Number  | 85364900      |

### Dimensions

|                            |          |
|----------------------------|----------|
| Product Net Width          | 54 mm    |
| Product Net Height         | 134 mm   |
| Product Net Depth / Length | 44 mm    |
| Product Net Weight         | 0.252 kg |

## Container Information

|                                |               |
|--------------------------------|---------------|
| Package Level 1 Units          | box 1 piece   |
| Package Level 1 Width          | 45 mm         |
| Package Level 1 Height         | 140 mm        |
| Package Level 1 Depth / Length | 70 mm         |
| Package Level 1 Gross Weight   | 0.273 kg      |
| Package Level 1 EAN            | 3471522613318 |
| Package Level 2 Units          | 1 piece       |
| Package Level 2 Gross Weight   | 0.275 kg      |

## Environmental

|                                                |                                                                              |
|------------------------------------------------|------------------------------------------------------------------------------|
| Ambient Air Temperature                        | Operation -25 ... +70 °C<br>Storage -30 ... +80 °C                           |
| Resistance to Vibrations acc. to IEC 60068-2-6 | 25g (10 to 500 Hz) no change in position of contacts greater than 100 µs     |
| Resistance to Shock acc. to IEC 60068-2-27     | Half-sine Pulse for 11 ms, No Change in Contact Position 50 m/s <sup>2</sup> |
| RoHS Status                                    | Following EU Directive 2011/65/EU                                            |

## Technical UL/CSA

|                                           |              |
|-------------------------------------------|--------------|
| Pilot Duty of Contact Elements acc. UL508 | A600<br>Q600 |
|-------------------------------------------|--------------|

## Safety Information

|            |                        |
|------------|------------------------|
| B10d Value | 50 Millions operations |
|------------|------------------------|

## Additional Information

|                                                            |                                                                          |
|------------------------------------------------------------|--------------------------------------------------------------------------|
| Action Type of the Contact Element (acc. to IEC 60947-5-1) | Snap action contacts                                                     |
| Actuator Type                                              | Ø22 mm polyamide roller lever on stainless steel plunger                 |
| Actuating Force                                            | Minimum Force acc. to IEC 60947-5-1 12 N                                 |
| Actuation Speed                                            | acc. to IEC 60947-5-1 Max. 1.5 m/s<br>acc. to IEC 60947-5-1 Min. 0 m/s   |
| Angular Head Adjustment                                    | adjustable head every 90°                                                |
| Angular Lever Adjustment                                   | none                                                                     |
| Climatic Withstand                                         | according to IEC 68-2-3 and salty mist according to IEC 68-2-11          |
| Conventional Free-air Thermal Current (I <sub>th</sub> )   | acc. to IEC 60947-5-1, q = 40 °C 10 A                                    |
| Connecting Capacity                                        | Bar AWG 20 ... AWG 14 mm <sup>2</sup><br>Bar 0.5 ... 2.5 mm <sup>2</sup> |
| Consistency (Measured over 1 Million Operations)           | 0.05 mm                                                                  |
| Contact Element Form (acc. to IEC 60947-5-1)               | Zb                                                                       |
| Connecting Terminals (delivered in open position)          | M3.5 (+,-) pozidriv 2 screw with cable clamp                             |

|                                                          |                                                                                      |
|----------------------------------------------------------|--------------------------------------------------------------------------------------|
| Degree of Protection                                     | acc. to IEC 60529 IP66                                                               |
| Electrical Shock Protection acc. to IEC 536              | Class I                                                                              |
| Maximum Electrical Switching Frequency                   | 3600 cycles per hour<br>(AC-15) 3600 cycles per hour<br>(DC-13) 3600 cycles per hour |
| Mechanical Durability                                    | 0 cycle                                                                              |
| Mounting by Screws (not supplied)                        | 2 or 4 x M5 screws                                                                   |
| Mounting Position                                        | all positions are authorised                                                         |
| Movement to be Detected                                  | 30° Unidirectional Cam Translation Movement                                          |
| Number of Auxiliary Contacts NC                          | 1                                                                                    |
| Number of Auxiliary Contacts NO                          | 1                                                                                    |
| Number and Type of Bottom Cable Glands                   | 1/2 NPT cable gland                                                                  |
| Order Multiple                                           | 1 piece                                                                              |
| Positive Opening Operation Force (Direct Opening Action) | Minimum Force acc. to IEC 60947-5-1 40 NEW                                           |
| Positive Opening Operation of NC Contact (s)             | Yes                                                                                  |
| Product Main Type                                        | LS40                                                                                 |
| Product Name                                             | Limit Switch                                                                         |
| Rated Frequency (f)                                      | Supply Circuit 50 60 Hz                                                              |
| Rated Impulse Withstand Voltage (U <sub>imp</sub> )      | 6 kV                                                                                 |
| Rated Insulation Voltage (U <sub>i</sub> )               | acc. to IEC 60947-5-1 and VDE 0110 (Gr. C) 500 V<br>acc. to UL/CSA 600 V             |
| Rated Operational Current AC-15 (I <sub>e</sub> )        | (230 V AC) 3.1 A<br>(400 V) NC 4<br>(24 V) 10 A<br>(130 V) 5.5 A<br>(240 V) 3 A      |
| Rated Operational Current DC-13 (I <sub>e</sub> )        | (24 V) 6 A<br>(110 V) 0.6 A<br>(125 V) 0.55 A<br>(250 V) 0.4 A                       |
| Resistance Between Contacts                              | 25 E45                                                                               |
| RoHS Date                                                | 20171115                                                                             |
| Standards                                                | IEC 60947-1, IEC 60947-5-1, EN 60947-1, EN 60947-5-1, UL 508 and CSA C22 -2 N°14     |
| Terminal Marking                                         | according to EN 50013                                                                |
| Terminal for Protective Conductor                        | M 3.5 (+,-) pozidriv 2 screw with cable clamp                                        |

## Certificates and Declarations (Document Number)

|                                   |                     |
|-----------------------------------|---------------------|
| CQC Certificate                   | CQC2004010305127663 |
| cUL Certificate                   | 9AKK107991A7379     |
| Data Sheet, Technical Information | 1SBC141157C0202     |
| Declaration of Conformity - CCC   | 2020980305001785    |
| Declaration of Conformity - CE    | 1SBD250883U1000     |
| Environmental Information         | 1SBD250102E1000     |

|                          |                 |
|--------------------------|-----------------|
| Instructions and Manuals | 1SBC141157C0202 |
| RoHS Information         | 1SBD250883U1000 |

**Classifications**

|               |                                                            |
|---------------|------------------------------------------------------------|
| ETIM 4        | EC001829 - Position switch modular                         |
| ETIM 5        | EC001829 - Position switch modular                         |
| ETIM 6        | EC000030 - End switch                                      |
| ETIM 7        | EC000030 - End switch                                      |
| UNSPSC        | 39121500                                                   |
| WEEE Category | 5. Small Equipment (No External Dimension More Than 50 cm) |

**Categories**

Low Voltage Products and Systems → Control Products → Sensors → Limit Switches

