OMRON

Plateau Head Pushbutton Switch A3U

Easy connector enables less assembly and less wiring

- Highly reliable Major Omron basic switch, SS model built in.
- Possible cross over wiring on circuit construction.
- Easy one push to connect the Operation and Switch Units.
- 22 dia of the push button head size is suitable for operation.



Model Number Structure

Model Number Legend....For information on combinations, refer to Ordering Information.

A3U(1) -T(2) (3) -(4) A(5) C-(6) M

(1) Lighted/Non-lighted

Symbol

No symbol

В Μ

(2) Flange Color Symbol

(3) Color of Pushbutton and Light

| ngnioù | (c) color of a constant and angle | | | | |
|-------------|-----------------------------------|--------|------------------------|---------------------------|--|
| Туре | Symbol | Color | Lighted | Non-Lighted | |
| Non-lighted | Cymbol | 00101 | (Cap type/Color) | (Cap type/Color) | |
| Lighted | W | White | Transparent Cap/White | Non-Transparent Cap/White | |
| | S | White | - | Transparent Cap/White | |
| r | R | Red | Transparent Cap/Red | Transparent Cap/Red | |
| 0.1 | Y | Yellow | Transparent Cap/Yellow | Transparent Cap/Yellow | |
| Color | G | Green | Transparent Cap/Green | Transparent Cap/Green | |
| Black | U | Umber | Transparent Cap/White | _ | |
| Metallic | A | Blue | Transparent Cap/Blue | Transparent Cap/Blue | |
| | В | Black | - | Non-Transparent Cap/Black | |
| | К | Black | - | Transparent Cap/Black | |
| | | | | | |

(4) Voltage Used (LED)

| Symbol | Operating Voltage |
|-------------------------|-------------------|
| No symbol | Non-lighted |
| 1 | 5 VDC |
| 2 | 12 VDC |
| 3 | 24 VDC |
| (5) Contact | Configuration |
| | |
| Symbol | Туре |
| Symbol 1 | Type SPDT |
| Symbol 1 2 | 71 |
| 1 2 | SPDT |
| 1 2 | SPDT DPDT |

IP40 5 IP65 (Oil-proof type)

Ordering Information Plateau Head Pushbutton Switches

Degree of Protection : IP40

Flange Color: Black

| Lighting | Output | LED Voltage | Model | Pushbutton color symbol |
|----------|--------|----------------|-------------------|----------------------------|
| | | 5 VDC | A3UL-TB -1A1C-M | |
| | SPDT | 12 VDC | A3UL-TBD-2A1C-M | |
| | | 24 VDC | A3UL-TBD-3A1C-M | W, A |
| | | 5 VDC | A3UL-TB -1A2C-M | W, A |
| | DPDT | 12 VDC | A3UL-TB□-2A2C-M | |
| | | 24 VDC | A3UL-TBD-3A2C-M | |
| | | 5 VDC | A3UL-TBG-1A1C-M | |
| | | 12 VDC | A3UL-TBG-2A1C-M | G |
| | SPDT | 24 VDC | A3UL-TBG-3A1C-M | |
| | 5501 | 5 VDC | A3UL-TBU-1A1C-M-S | |
| | | 12 VDC | A3UL-TBU-2A1C-M-S | U |
| LED | | 24 VDC | A3UL-TBU-3A1C-M-S | |
| LLD | DPDT | 5 VDC | A3UL-TBG-1A2C-M | |
| | | 12 VDC | A3UL-TBG-2A2C-M | G |
| | | 24 VDC | A3UL-TBG-3A2C-M | |
| | | 5 VDC | A3UL-TBU-1A2C-M-S | |
| | | 12 VDC | A3UL-TBU-2A2C-M-S | U |
| | | 24 VDC | A3UL-TBU-3A2C-M-S | |
| | | 5 VDC | A3UL-TB -1A1C-M | |
| | SPDT | 12 VDC | A3UL-TB -2A1C-M | |
| - | | 24 VDC | A3UL-TB -3A1C-M | R, Y |
| | | 5 VDC | A3UL-TB -1A2C-M | п, т |
| | DPDT | 12 VDC | A3UL-TB□-2A2C-M | |
| | | 24 VDC | A3UL-TB□-3A2C-M | |
| Non- | SPDT | - | A3U-TB -A1C-M | W, S, R, Y, |
| lighted | DPDT | - | A3U-TB□-A2C-M | G, A, B, K |

Flange Color: Metallic

| Lighting | Output | LED Voltage | Model | □Pushbutton color symbol |
|----------|--------|----------------|-------------------|-----------------------------|
| | | 5 VDC | A3UL-TM□-1A1C-M | |
| | SPDT | 12 VDC | A3UL-TM□-2A1C-M | |
| | | 24 VDC | A3UL-TM□-3A1C-M | W. A |
| | | 5 VDC | A3UL-TM□-1A2C-M | VV, A |
| | DPDT | 12 VDC | A3UL-TM□-2A2C-M | |
| | | 24 VDC | A3UL-TM□-3A2C-M | |
| | | 5 VDC | A3UL-TMG-1A1C-M | |
| | | 12 VDC | A3UL-TMG-2A1C-M | G |
| | SPDT | 24 VDC | A3UL-TMG-3A1C-M | |
| | 5001 | 5 VDC | A3UL-TMU-1A1C-M-S | |
| | | 12 VDC | A3UL-TMU-2A1C-M-S | U |
| LED | | 24 VDC | A3UL-TMU-3A1C-M-S | |
| LED | DPDT | 5 VDC | A3UL-TMG-1A2C-M | |
| | | 12 VDC | A3UL-TMG-2A2C-M | G |
| | | 24 VDC | A3UL-TMG-3A2C-M | |
| | DFDI | 5 VDC | A3UL-TMU-1A2C-M-S | |
| | | 12 VDC | A3UL-TMU-2A2C-M-S | U |
| | | 24 VDC | A3UL-TMU-3A2C-M-S | |
| | | 5 VDC | A3UL-TM□-1A1C-M | |
| - | SPDT | 12 VDC | A3UL-TM□-2A1C-M | |
| | | 24 VDC | A3UL-TM□-3A1C-M | R, Y |
| | DPDT | 5 VDC | A3UL-TM□-1A2C-M | n, 1 |
| | | 12 VDC | A3UL-TM□-2A2C-M | 1 |
| | | 24 VDC | A3UL-TM□-3A2C-M | 1 |
| Non- | SPDT | - | A3U-TM□-A1C-M | W, S, R, Y, |
| lighted | DPDT | - | A3U-TM□-A2C-M | G, A, B, K |

Degree of Protection : IP65 (Oil-proof Type) Flange Color: Black

| Lighting | Output | LED Voltage | Model | □Pushbutton color symbol |
|----------|--------|----------------|--------------------|-----------------------------|
| | | 5 VDC | A3UL-TB -1A1C-5M | |
| | SPDT | 12 VDC | A3UL-TB -2A1C-5M | |
| | | 24 VDC | A3UL-TB -3A1C-5M | W.A |
| | | 5 VDC | A3UL-TB -1A2C-5M | VV, A |
| | DPDT | 12 VDC | A3UL-TB -2A2C-5M | |
| | | 24 VDC | A3UL-TB□-3A2C-5M | |
| | | 5 VDC | A3UL-TBG-1A1C-5M | |
| | | 12 VDC | A3UL-TBG-2A1C-5M | G |
| | SPDT | 24 VDC | A3UL-TBG-3A1C-5M | |
| | 3501 | 5 VDC | A3UL-TBU-1A1C-5M-S | |
| | | 12 VDC | A3UL-TBU-2A1C-5M-S | U |
| I FD | | 24 VDC | A3UL-TBU-3A1C-5M-S | |
| LLD | DPDT | 5 VDC | A3UL-TBG-1A2C-5M | |
| | | 12 VDC | A3UL-TBG-2A2C-5M | G |
| | | 24 VDC | A3UL-TBG-3A2C-5M | |
| | DFD1 | 5 VDC | A3UL-TBU-1A2C-5M-S | |
| | | 12 VDC | A3UL-TBU-2A2C-5M-S | U |
| | | 24 VDC | A3UL-TBU-3A2C-5M-S | |
| | | 5 VDC | A3UL-TB -1A1C-5M | |
| | SPDT | 12 VDC | A3UL-TB -2A1C-5M | |
| - | | 24 VDC | A3UL-TB -3A1C-5M | R.Y |
| | | 5 VDC | A3UL-TB -1A2C-5M | п, т |
| | DPDT | 12 VDC | A3UL-TB -2A2C-5M | 1 |
| | | 24 VDC | A3UL-TB□-3A2C-5M | 1 |
| Non- | SPDT | - | A3U-TB□-A1C-5M | W, S, R, Y, |
| lighted | DPDT | - | A3U-TB□-A2C-5M | G, A, B, K |

Flange Color: Metallic

| Lighting | Output | LED Voltage | Model | □Pushbutton color symbol |
|----------|--------|----------------|--------------------|-----------------------------|
| | | 5 VDC | A3UL-TM□-1A1C-5M | |
| | SPDT | 12 VDC | A3UL-TMD-2A1C-5M | |
| | | 24 VDC | A3UL-TMD-3A1C-5M | W, A |
| | | 5 VDC | A3UL-TM□-1A2C-5M | VV, A |
| | DPDT | 12 VDC | A3UL-TM□-2A2C-5M | |
| | | 24 VDC | A3UL-TM□-3A2C-5M | |
| | | 5 VDC | A3UL-TMG-1A1C-5M | |
| | | 12 VDC | A3UL-TMG-2A1C-5M | G |
| | SPDT | 24 VDC | A3UL-TMG-3A1C-5M | |
| | SFDI | 5 VDC | A3UL-TMU-1A1C-5M-S | |
| | | 12 VDC | A3UL-TMU-2A1C-5M-S | U |
| LED | | 24 VDC | A3UL-TMU-3A1C-5M-S | |
| LED | | 5 VDC | A3UL-TMG-1A2C-5M | |
| | | 12 VDC | A3UL-TMG-2A2C-5M | G |
| | DPDT | 24 VDC | A3UL-TMG-3A2C-5M | |
| | DFDT | 5 VDC | A3UL-TMU-1A2C-5M-S | |
| | | 12 VDC | A3UL-TMU-2A2C-5M-S | U |
| | | 24 VDC | A3UL-TMU-3A2C-5M-S | |
| | | 5 VDC | A3UL-TM□-1A1C-5M | |
| | SPDT | 12 VDC | A3UL-TMD-2A1C-5M | |
| | | 24 VDC | A3UL-TMD-3A1C-5M | R, Y |
| | | 5 VDC | A3UL-TM□-1A2C-5M | п, т |
| | DPDT | 12 VDC | A3UL-TM□-2A2C-5M | |
| | | 24 VDC | A3UL-TM□-3A2C-5M | |
| Non- | SPDT | - | A3U-TM□-A1C-5M | W, S, R, Y, |
| lighted | DPDT | - | A3U-TM□-A2C-5M | G, A, B, K |

Accessories and Tools (Sold Separately) Accessories

| Accessory | Appearance | Туре | Model number | Remarks |
|----------------------------|------------|-------|--------------|--|
| Panel Plug | | | A22Z-3530 | Used to plug a panel cutout hole for fu- ture expansion. Do not use it on a panel cutout hole that will be used to position a Switch and en- sure that the Switch will not rotate. Use this Plug for a 25-dia. panel cutout hole. Refer to page 6 for information on panel cutout holes. The color is black. |
| 25-dia. Ring | 0 | Round | A22Z-R25 | Used together with a Panel Plug. |
| Cap Removal Suction Cup | | - | A3UZ-3010 | Used to remove a cap. |
| Harness | 1 | | A3UZ-5010-10 | Used to connect to a connector. Lead length: 1 m |

Tools

| Tool | Appearance | Туре | Model number | Remarks |
|-----------------|------------|------|--------------|---|
| Tightening Tool | | _ | A22Z-3905 | Used to tighten nuts from the back of the panel and to replace caps on Light- ed Emergency Stop Switches. |

Specifications

Approved Standard Ratings

| Certification Authority | UL (See Note: 1 and Note: 2) | CSA (See Note: 1 and Note: 2) | TÜV (See Note: 3) |
|-------------------------|------------------------------|-------------------------------|-------------------|
| Certification no | UL508 CSA C22.2 No.14 | CSA C22.2 No. 14 | EN60947-5-1 |
| Rating | 30 VDC 0.1 A | 30 VDC 0.1 A | 12 30 VDC 0.1 A |
| File no. | E41515 | 2650068 | J50236157 |

Note: 1. Only Switch Blocks are recognized by UL/CSA. (Surrounding air Temperature: 55 °C)
Note: 2. Please use the power supply specified in UL/CSA class 2.
Note: 3. Use 4A 250V as short-circuit protective device when using under EN-compliant rating standard (IEC60127-2 SS1).

Ratings

Contacts 30 VDC, 0.1 A (Resistive load) Minimum applicable load: 1 mA at 5 VDC

Rated values are obtained from tests conducted under the following conditions.

1. Load: Resistive load

2. Mounting conditions: No vibration and no shock

3. Temperature: 20 ± 2 °C

4. Operating frequency: 20 operations/min

Characteristics

| Item Pushbutton Switch Allowable operating frequency Mechanical 60 operations/minute max. Insulation resistance 30 operations/minute max. Insulation resistance 100 MΩ min. (at 500 VDC) Contact resistance 250 mΩ max. (initial value) Between terminals of same polarity 500 VAC, 50/60 Hz for 1 minute Between terminals of different polarity 500 VAC, 50/60 Hz for 1 minute Between each terminal and ground 1,500 VAC, 50/60 Hz for 1 minute Between alLED terminals and all the other terminals 500 VAC, 50/60 Hz for 1 minute Vibration resistance Malfunction 10 to 55 Hz, 1.5-mm double amplitude (malfunction within 1 ms) Shock resistance Malfunction 300 m/s² max. (malfunction within 1 ms) Durability Mechanical 1,000,000 operations min. Connector Holding force 40 N max. 40 N max. Rated insulation voltage (Ui) 30 V (EN60947-5-1) 800 V (EN60947-5-1) Impulse withstand voltage Between terminals of ame polarity Between each terminal and ground 800 V (EN60947-5-1) Conventional enclosed thermal current (Ithe) 0.1A (EN60947-5-1) 0.1A (EN60947-5-1) < | | | |
|---|----------------------|--|---|
| operating frequencyElectrical30 operations/minute max.Insulation resistance100 MΩ min. (at 500 VDC)Contact resistance250 mΩ max. (initial value)Between terminals of different polarity500 VAC, 50/60 Hz for 1 minuteBetween terminals of different polarity500 VAC, 50/60 Hz for 1 minuteBetween all LED terminals and all the other terminals and all the other terminals and all the other terminals and all the other terminals500 VAC, 50/60 Hz for 1 minuteVibration resistanceMalfunction10 to 55 Hz, 1.5-mm double amplitude (malfunction within 1 ms)Shock resistanceMalfunction300 m/s² max. (malfunction within 1 ms)DurabilityMechanical Electrical200,000 operations min.Connector inding force40 N max.Rated insulation voltage (Ui) Between terminals of different polarity Between terminals of different polarity000 V (EN60947-5-1)Conditional inclusional enclosed thermal current (Ithe)0.1A (EN60947-5-1)0.1A (EN60947-5-1)Ambient operating humidity35 % to 85 % RHAmbient operating humidity35 % to 85 % RHAmbient operating humidity35 % to 70 °C (with no icing or condensation) | | | |
| frequency Electrical 30 operations/minute max. Insulation resistance 100 MΩ min. (at 500 VDC) Contact resistance 250 mΩ max. (initial value) Between terminals of same polarity 500 VAC, 50/60 Hz for 1 minute Between terminals of different polarity 500 VAC, 50/60 Hz for 1 minute Between all LED terminals and all the other terminals and all the other terminals and all the other terminals 1,500 VAC, 50/60 Hz for 1 minute Vibration resistance Malfunction 10 to 55 Hz, 1.5-mm double amplitude (malfunction within 1 ms) Shock resistance Malfunction 300 m/s² max. (malfunction within 1 ms) Durability Mechanical 1,000,000 operations min. Connector Incling force 40 N max. Rated insulation voltage (Ui) 30 V (EN60947-5-1) Electrical 200,000 operations min. Durability Between terminals of same polarity Between each terminals of different polarity Inferent polarity 30 (EN60947-5-1) Electrical 100A (EN60947-5-1) Impulse withstand voltage Between terminals of different polarity Between terminals of different polarity 800 V (EN60947-5-1) Ondertifier | | Mechanical | 60 operations/minute max. |
| Contact resistance 250 mΩ max. (initial value) Dielectric Between terminals of different polarity 500 VAC, 50/60 Hz for 1 minute Between terminals of different polarity 500 VAC, 50/60 Hz for 1 minute Between each terminal and ground 1,500 VAC, 50/60 Hz for 1 minute Between all LED terminals and all the other terminals and all the other terminals and all the other terminals 500 VAC, 50/60 Hz for 1 minute Shock resistance Malfunction 10 to 55 Hz, 1.5-mm double amplitude (malfunction within 1 ms) Shock resistance Malfunction 300 m/s² max. (malfunction within 1 ms) Durability Mechanical 1,000,000 operations min. Electrical 200,000 operations min. 200,000 operations min. Connector holding force 40 N max. 40 N max. Rated insulation voltage (Ui) 30 V (EN60947-5-1) 800 V (EN60947-5-1) Electric shock protection class Class II 800 V (EN60947-5-1) Impulse with stand voltage Between terminals of different polarity Between ach terminals of different polarity Between ach terminals of different polarity Between terminals of different polarity Between ach terminal and ground 800 V (EN60947-5-1) Conditional =nolosed thermal current (Ithe) 0.1A (EN60947-5-1) 0.1A (EN60947-5-1) | frequency | | • |
| Between terminals of same polarity500 VAC, 50/60 Hz for 1 minuteDielectricBetween terminals of different polarity500 VAC, 50/60 Hz for 1 minuteBetween terminals of different polarity500 VAC, 50/60 Hz for 1 minuteBetween each terminal and ground1,500 VAC, 50/60 Hz for 1 minuteDistanceMalfunction10 to 55 Hz, 1.5-mm double amplitude (malfunction within 1 ms)Shock resistanceMechanical1,000,000 operations min.DurabilityMechanical1,000,000 operations min.Electrical200,000 operations min.Electrical200,000 operations min.DurabilityBetween terminals of alexa unplation voltage (Ui)30 V (EN60947-5-1)Electric shock protection classClass IIDegree of contamination3 (EN60947-5-1)Between terminals of alexa unplatityBetween terminals of different polarityBetween terminals of different polarityBetween terminals of alexa unplatityOUV (EN60947-5-1)Between terminals of alexa unplatity0 OV C (EN60947-5-1)Between terminals of different polarityBetween terminals of alexa unplatityOUV (EN60947-5-1)DurabilityApprox. 30 g< | Insulation re | esistance | 100 MΩ min. (at 500 VDC) |
| Same polaritySUU VAC, SU/SU H2 for 1 minuteDielectric strengthBetween terminals of different polarity500 VAC, 50/60 Hz for 1 minuteBetween each terminal and ground1,500 VAC, 50/60 Hz for 1 minuteBetween all LED terminals and all the other terminals500 VAC, 50/60 Hz for 1 minuteVibration resistanceMalfunction10 to 55 Hz, 1.5-mm double amplitude (malfunction within 1 ms)DurabilityMechanical Electrical1,000,000 operations min.DurabilityMechanical Electrical200,000 operations min.Connector ⊢olding force40 N max.Rated insulation voltage (Ui)30 V (EN60947-5-1)Electric shock with stand voltageSetween terminals of same polarity Between terminals of tifferent polarity Between terminals of tifferent polarity Between terminals of tifferent polarity Between terminal and ground800 V (EN60947-5-1)Conventional short-circuit current (tthe)100A (EN60947-5-1)Conventional enclosed thermal current (tthe)0.1A (EN60947-5-1)WeightApprox. 30 gDegree of protectionIP40, IP65 (Oil-proof type) -20 °C to 70 °C (Non-lighted type) -20 °C to 75 °C (lighted type) -20 °C to 70 °C (with no icing or condensation)Ambient operating humidity35 % to 85 % RHAmbient torperature40 °C to 70 °C (with no icing or condensation) | Contact res | istance | 250 m Ω max. (initial value) |
| Dielectric strength different polarity 500 VAC, 50/60 Hz for 1 minute Between all LED terminals and all the other terminals and all the other terminals and all the other terminals 500 VAC, 50/60 Hz for 1 minute Vibration resistance Malfunction 10 to 55 Hz, 1.5-mm double amplitude (malfunction within 1 ms) Shock resistance Malfunction 300 m/s² max. (malfunction within 1 ms) Durability Mechanical 1,000,000 operations min. Electrical 200,000 operations min. Connector → Iolding force 40 N max. Rated insulation voltage (Ui) 30 V (EN60947-5-1) Electric shock protection class Class II Degree of cortamination 3 (EN60947-5-1) Impulse withstand voltage Between terminals of same polarity Between each terminal and ground 800 V (EN60947-5-1) Conditional short-circuit current 100A (EN60947-5-1) Conventional enclosed thermal current (Ithey 0.1A (EN60947-5-1) Weight Approx. 30 g Degree of protection IP40, IP65 (Oil-proof type) -20 °C to 70 °C (Non-lighted type) -20 °C to 70 °C (Non-lighted type) -20 °C to 70 °C (with no icing or condensation) Ambient op=rating humidity 35 % to 85 % RH | | | 500 VAC, 50/60 Hz for 1 minute |
| terminal and ground 1,500 VAC, 50/60 Hz for 1 minute Between all LED terminals and all the other terminals 500 VAC, 50/60 Hz for 1 minute Vibration resistance Malfunction 10 to 55 Hz, 1.5-mm double amplitude (malfunction within 1 ms) Shock resistance Malfunction 300 m/s² max. (malfunction within 1 ms) Durability Mechanical 1,000,000 operations min. Durability Itectrical 200,000 operations min. Connector holding force 40 N max. Rated insulation voltage (Ui) 30 V (EN60947-5-1) Electric shock protection class Class II Degree of contamination 3 (EN60947-5-1) Between terminals of same polarity 800 V (EN60947-5-1) Between terminals of vithstand voltage Same polarity Between terminals of same polarity 800 V (EN60947-5-1) Conditional short-circuit current 100A (EN60947-5-1) Conventional enclosed thermal current (Ithe) 0.1A (EN60947-5-1) Weight Approx. 30 g Degree of protection IP40, IP65 (Oil-proof type) -20 °C to 70 °C (Non-lighted type) -20 °C to 70 °C (Non-lighted type) -20 °C to 70 °C (Work no condensation) -20 °C to 70 °C (with no icing or cond | | | 500 VAC, 50/60 Hz for 1 minute |
| and all the other terminals500 VAC, 50/60 Hz for 1 minuteVibration resistanceMalfunction10 to 55 Hz, 1.5-mm double amplitude (malfunction within 1 ms)Shock resistanceMalfunction300 m/s² max. (malfunction within 1 ms)Durability DurabilityMechanical1,000,000 operations min.Durability Electrical200,000 operations min.Connector → loding force40 N max.Rated insulation voltage (Ui)30 V (EN60947-5-1)Electric shock protection classClass IIDegree of contamination3 (EN60947-5-1)Impulse with stand voltageBetween terminals of same polarity Between terminals of different polarity Between each terminal and ground100A (EN60947-5-1)Conventional enclosed thermal current (Ithe)0.1A (EN60947-5-1)Weight Ambient operating temperatureApprox. 30 g -20 °C to 70 °C (Non-lighted type) -20 °C to 70 °C (Non-lighted type) -20 °C to 70 °C (lighted type) (with no icing or condensation)Ambient operating humidity35 % to 85 % RHAmbient store-40 °C to 70 °C (with no icing or condensation) | strength | terminal and ground | 1,500 VAC, 50/60 Hz for 1 minute |
| resistance Marunction (malfunction within 1 ms) Shock resistance Malfunction 300 m/s² max. (malfunction within 1 ms) Durability Mechanical 1,000,000 operations min. Connector Iolding force 40 N max. Rated insulation voltage (Ui) 30 V (EN60947-5-1) Electric shock protection class Class II Degree of contamination 3 (EN60947-5-1) Impulse withstand voltage Between terminals of different polarity Between terminals of different polarity Between terminals of different polarity Between each terminal and ground 800 V (EN60947-5-1) Conditional short-circuit current 100A (EN60947-5-1) Conventional enclosed thermal and ground 0.1A (EN60947-5-1) Weight Approx. 30 g Degree of protection IP40, IP65 (Oil-proof type) -20 °C to 70 °C (Non-lighted type) -20 °C to 70 °C (lighted type) -20 °C to 55 °C (lighted type) -20 °C to 55 °C (lighted type) (with no icing or condensation) Ambient operating humidity 35 % to 85 % RH Ambient stores temperature -40 °C to 70 °C (with no icing or condensation) | | | 500 VAC, 50/60 Hz for 1 minute |
| resistance Marunction 300 m/s° max. (mainunction within 1 ms) Durability Mechanical 1,000,000 operations min. Connector → Ioling force 40 N max. Rated insulation voltage (Ui) 30 V (EN60947-5-1) Electric shock protection class Class II Degree of contamination 3 (EN60947-5-1) Between terminals of same polarity Between terminals of different polarity Between terminals of voltage Same polarity Between terminals of different polarity 800 V (EN60947-5-1) Conditional short-circuit current 100A (EN60947-5-1) Conventional enclosed thermal current (Ithe) 0.1A (EN60947-5-1) Weight Approx. 30 g Degree of protection IP40, IP65 (Oil-proof type) -20 °C to 70 °C (Non-lighted type) -20 °C to 55 °C (lighted type) (with no icing or condensation) Ambient operating humidity 35 % to 85 % RH -40 °C to 70 °C (with no icing or condensation) | resistance | Malfunction | |
| Durability Itectrical 200,000 operations min. Connector holding force 40 N max. Rated insulation voltage (Ui) 30 V (EN60947-5-1) Electric shock protection class Class II Degree of contamination 3 (EN60947-5-1) Impulse withstand voltage Between terminals of same polarity Between each terminal and ground 800 V (EN60947-5-1) Conditional short-circuit current 100A (EN60947-5-1) 800 V (EN60947-5-1) Conditional short-circuit current 100A (EN60947-5-1) 0.1A (EN60947-5-1) Veight Approx. 30 g 0.1A (EN60947-5-1) Weight Approx. 30 g -20 °C to 70 °C (Non-lighted type) -20 °C to 55 °C (lighted type) -20 °C to 55 °C (lighted type) (with no icing or condensation) Ambient operating humidity 35 % to 85 % RH -40 °C to 70 °C (with no icing or condensation) | | Malfunction | 300 m/s ² max. (malfunction within 1 ms) |
| Connector holding force 200,000 operations min. Connector holding force 40 N max. Rated insulation voltage (Ui) 30 V (EN60947-5-1) Electric shock protection class Class II Degree of contamination 3 (EN60947-5-1) Impulse withstand voltage Between terminals of different polarity Between terminals of different polarity Between each terminal and ground 800 V (EN60947-5-1) Conditional short-circuit current 100A (EN60947-5-1) Conventional enclosed thermal current (Ithe) 0.1A (EN60947-5-1) Weight Approx. 30 g Degree of protection IP40, IP65 (Oil-proof type) -20 °C to 70 °C (Non-lighted type) -20 °C to 75 °C (lighted type) -20 °C to 55 °C (lighted type) -20 °C to 70 °C (Non-lighted type) -20 °C to 70 °C (with no icing or condensation) Ambient operating humidity 35 % to 85 % RH -40 °C to 70 °C (with no icing or condensation) | Durability | Mechanical | |
| Rated insulation voltage (Ui) 30 V (EN60947-5-1) Electric shock protection class Class II Degree of contamination 3 (EN60947-5-1) Impulse withstand voltage Between terminals of same polarity Between terminals of different polarity Between terminal and ground 800 V (EN60947-5-1) Conditional short-circuit current 100A (EN60947-5-1) Conditional short-circuit current 100A (EN60947-5-1) Conventional enclosed thermal current (Ithe) 0.1A (EN60947-5-1) Weight Approx. 30 g Degree of protection IP40, IP65 (Oil-proof type) -20 °C to 70 °C (Non-lighted type) -20 °C to 55 °C (lighted type) (with no icing or condensation) Ambient operating humidity 35 % to 85 % RH Ambient storage temperature -40 °C to 70 °C (with no icing or condensation) | Durability | Electrical | 200,000 operations min. |
| Electric shock protection class Class II Degree of contamination 3 (EN60947-5-1) Impulse withstand voltage Between terminals of same polarity Between terminals of different polarity Between each terminal and ground 800 V (EN60947-5-1) Conditional short-circuit current 100A (EN60947-5-1) Conventional enclosed thermal current (Ithe) 0.1A (EN60947-5-1) Weight Approx. 30 g Degree of protection IP40, IP65 (Oil-proof type) -20 °C to 70 °C (Non-lighted type) -20 °C to 55 °C (lighted type) -20 °C to 55 % RH Ambient operating humidity 35 % to 85 % RH Ambient storage temperature -40 °C to 70 °C (with no icing or condensation) | | • | 40 N max. |
| Degree of contamination 3 (EN60947-5-1) Impulse withstand voltage Between terminals of same polarity Between terminals of different polarity Between each terminal and ground 800 V (EN60947-5-1) Conditional short-circuit current 100A (EN60947-5-1) Conventional enclosed thermal current (Ithe) 0.1A (EN60947-5-1) Weight Approx. 30 g Degree of protection IP40, IP65 (Oil-proof type) -20 °C to 70 °C (lighted type) (with no icing or condensation) 25 % to 85 % RH Ambient operating humidity 35 % to 85 % RH -40 °C to 70 °C (with no icing or condensation) | | | 30 V (EN60947-5-1) |
| Impulse withstand voltage Between terminals of same polarity Between terminals of different polarity Between each terminal and ground 800 V (EN60947-5-1) Conditional short-circuit current terminal and ground 100A (EN60947-5-1) Conventional enclosed thermal current (Ithe) 0.1A (EN60947-5-1) Weight Approx. 30 g Degree of protection IP40, IP65 (Oil-proof type) Ambient operating temperature -20 °C to 70 °C (Non-lighted type) (with no icing or condensation) Ambient operating humidity 35 % to 85 % RH -40 °C to 70 °C (with no icing or condensation) | Electric sho | ck protection class | Class II |
| Impulse withstand voltage same polarity Between terminals of different polarity Between each terminal and ground 800 V (EN60947-5-1) Conditional short-circuit current interminal and ground terminal and ground terminal and ground 100A (EN60947-5-1) Conditional enclosed thermal current (Ithe) 0.1A (EN60947-5-1) Weight Approx. 30 g Degree of protection IP40, IP65 (Oil-proof type) -20 °C to 70 °C (Non-lighted type) -20 °C to 75 °C (lighted type) -20 °C to 55 °C (lighted type) (with no icing or condensation) Ambient operating humidity 35 % to 85 % RH Ambient strage temperature -40 °C to 70 °C (with no icing or condensation) | Degree of co | ontamination | 3 (EN60947-5-1) |
| Conventional enclosed thermal current (Ithe) 0.1A (EN60947-5-1) Weight Approx. 30 g Degree of protection IP40, IP65 (Oil-proof type) -20 °C to 70 °C (Non-lighted type) -20 °C to 55 °C (lighted type) -20 °C to 70 °C (with no icing or condensation) | withstand voltage | same polarity Between terminals of different polarity Between each terminal and ground | , <i>,</i> |
| current (Ithe) 0.1A (EN60947-5-1) Weight Approx. 30 g Degree of protection IP40, IP65 (Oil-proof type) -20 °C to 70 °C (Non-lighted type) -20 °C to 55 °C (lighted type) -40 °C to 70 °C (with no icing or condensation) | Conditional | short-circuit current | 100A (EN60947-5-1) |
| Degree of protection IP40, IP65 (Oil-proof type) Ambient operating temperature -20 °C to 70 °C (Non-lighted type) -20 °C to 55 °C (lighted type) -20 °C to 55 °C (lighted type) -20 °C to 55 °C (lighted type) -20 °C to 55 °C (lighted type) -20 °C to 55 °C (lighted type) -20 °C to 55 °C (lighted type) -20 °C to 55 °C (lighted type) -20 °C to 55 °C (lighted type) -20 °C to 70 °C (with no icing or condensation) -40 °C to 70 °C (with no icing or condensation) | | | 0.1A (EN60947-5-1) |
| Ambient operating temperature -20 °C to 70 °C (Non-lighted type) -20 °C to 55 °C (lighted type) -20 °C to 55 °C (lighted type) (with no icing or condensation) Ambient operating humidity 35 % to 85 % RH -40 °C to 70 °C (with no icing or condensation) | Weight | | Approx. 30 g |
| Ambient operating temperature -20 °C to 55 °C (lighted type) (with no icing or condensation) Ambient operating humidity 35 % to 85 % RH Ambient storage temperature -40 °C to 70 °C (with no icing or condensation) | Degree of protection | | IP40, IP65 (Oil-proof type) |
| Ambient storage temperature -40 °C to 70 °C (with no icing or condensation) | | | -20 °C to 55 °C (lighted type) |
| (with no icing or condensation) | Ambient op | erating humidity | |
| | Ambient sto | orage temperature | |
| Ambient storage humidity 35 % to 85 % RH | Ambient sto | orage humidity | 35 % to 85 % RH |

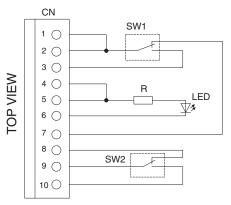
Super-bright LED

| Rated voltage | Rated current | Operating voltage |
|---------------|---------------|-------------------|
| 5 VDC | | 5 VDC \pm 5 % |
| 12 VDC | 15 mA | 12 VDC \pm 5 % |
| 24 VDC | | 24 VDC \pm 5 % |

Operating Characteristics

| Features | A3U |
|---------------------------|--------|
| Operating force (OF) max. | 4.5 N |
| Pretravel (PT) max. | 3.3 mm |
| Total travel (TT) max. | 3.7 mm |

Circuit Diagram

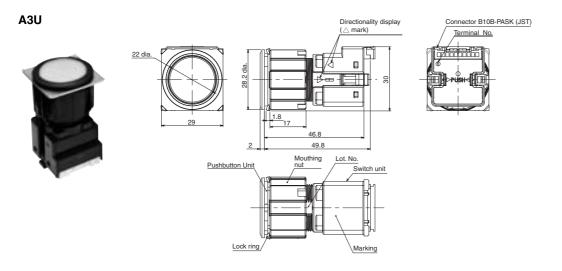


Note3

This circuits shows the lighted/bipolar type.
 SW2 isn't mounted on 1 pole type.

3. An LED and R aren't mounted on the non-lighted type.

A3U Dimensions

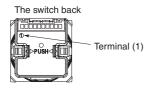


Safety Precautions

Refer to Safety Precautions for All Pushbutton Switches/Indicators.

Precautions for Safe Use

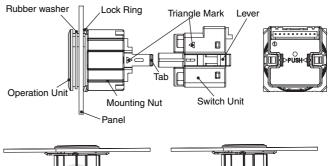
- Do not disassemble or modify the Switch under any circumstances. Doing so may cause malfunction.
- Do not drop or subject the Switch to extreme shock or force. This may prevent the Switch from functioning to its full capability.
- The durability of the Switch varies considerably depending on the switching conditions. Always test the switch under actual working conditions before application and use the Switch only for the number of switching operations allowed.
- Do not allow the load current to exceed the rated value. This may damage or burn out the Switch.
- Refer to the Circuit Diagram and make sure to wire correctly. Only the terminal (1) is printed and the right end of the terminal is read as (10).

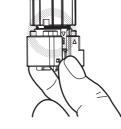


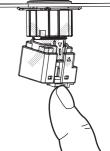
- Do not use the Switch in locations where explosive or flammable gases or liquid may be present or scattered. The electric ark or the heat caused by switching contacts may trigger off a fire or explosion.
- Do not use the Switch in locations where toxic gases, such as H2S, SO2, NH3, HNO3, and Cl2, may be present, or in locations subject to high temperature or humidity. Doing so may damage the Switch due to contact failure or corrosion.
- Do not let the Switch submerged in oil or water, or use in locations continuously subject to splashes of oil/water. Doing so may result in oil or water entering the Switch.
- Do not use the Switch in the following locations;
 - subject to severe temperature changes.
- subject to high humidity or condensation.
- subject to severe vibration or shock.
- where direct rays of the sun strike.
- where sea breeze may be present.
- When the Switch is exposed to the environment that are not required, or stored in locations where condensation presents, or damaged by fall out, or stored for more than an year, please test it under the usage conditions before application.
- Mounting and Removing the Switch
- Insert the Operation Unit from the front of the panel, insert the Lock Ring and Mounting Nut from the back of the panel, and tighten the Mounting Nut. Then, attach the Switch Unit to the

Operation Unit.

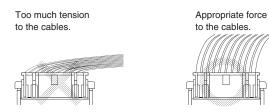
- 2. For a Switch with IP65 protection, make sure that the rubber washer is in place between the Operation Unit and the panel.
- 3. Align the Lock Ring with the slot on the case and insert it so that the edge is flush with the panel.
- 4. Tighten the Mounting Nut to between 0.98 and 1.96 N·m.
- 5. To mount the Switch Unit to the Operation Unit, align the the triangle marks on the Operation Unit and Switch Unit and insert the Switch Unit until it locks securely in place.
- 6. The push marks on both sides are only for removal. Do not push them when you insert the Switch Unit into the Pushbutton Unit. Otherwise, the Pushbutton Unit will be hooked incorrectly.
- To remove the Switch, press the levers on both sides in the direction indicated by PUSH marks. Applying too much force may damage the Switch.
- Remove the Switch Unit before you remove the Pushbutton Unit. If you loosen the mounting nut while the Switch Unit is still attached, you will damage the Pushbutton Unit.







- Wiring
 - Do not wire the Switch while power is being supplied. Doing so may result in electric shock.
 - 2. Make sure to insert the connector to the end. This may prevent the Switch from functioning to its full capability.
 - Do not subject the Switch to an excessive force when wiring. Fix the cables first to avoid the connector and cables from being pulled with. Otherwise, the connector may be disassembled or damaged, resulting in the contact damages.



 Refer to specification of each connector or catalogue for details of installing or wiring the terminal side of the connector.

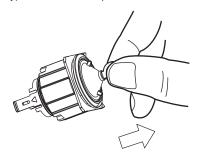
Recommended connector;

| Manufacture | Name | Model | Applicable lead wire |
|----------------|---------|----------------|----------------------|
| J.S.T. Mfg Co. | Contact | SPHD-002T-P0.5 | AWG#28 to 24 |
| | | SPHD-001T-P0.5 | AWG#26 to 22 |
| | Housing | PAP-10V-S | AWG#28 to 22 |

• Choose the applicable contact to the wire.

Precautions for Correct Use

- Attaching and Removing Caps and Legend Plungers Removal
 - 1) Use the A3UZ-3010 Cap Removal Suction Cup (sold separately) to remove the cap.

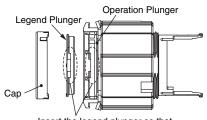


 After you remove the cap, you can remove the legend plunger and engrave it.

You cannot remove the legend plungers from Switches with IP65 protection.

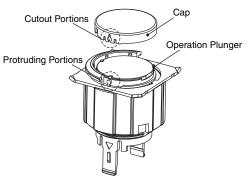
Attachment

 The legend plunger fits in only one direction. Align the tabs on the legend plunger with the slots on the operation plunger and press the cap onto the operation plunger.

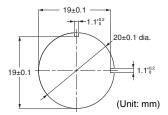


Insert the legend plunger so that the groove widths are lined up.

Attach the cap, aligning the slots on the slot on the cap with the tab on the operation plunger.



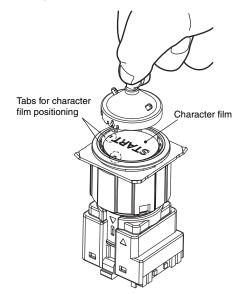
- Character Films
 - In addition to engraving characters on legend plungers, you can insert a character film to display characters.
 Applicable Character Film Size



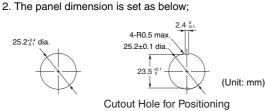
Thickness: 0.2 mm max.

Recommended material: Polyethylene

- Note: A Character Film is not included with the product.
- 2)The following figure shows the tabs on the legend plunger that are used to position the character film.

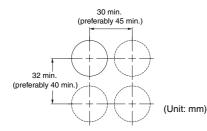


- Operating Environment
 - 1. This Switch is intended for indoor use only. Do not use the Switch outdoors.
 - 2. Do not set the Switch in locations where powders, mud, or any other substances may be piled, or subject to any splashes of oil or water. Always test the switch under actual working conditions before application.
 - 3. The Switches with oil-resistant IP65 protection use NBR rubber and are resistant to general cutting oils and cooling oils. Some special oils, however, cannot be used with these Switches. Contact your OMRON representative for details.
- Mounting panels
 - 1. Set mounting panel thickness to be 0.8 to 3.2 mm.



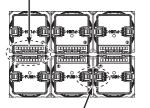
and to Prevent Switch Rotation

- The value in () indicated below is the minimum value suggested for easy detaching of the Switch.
- Minimum panel pitch is 30/32 mm. Consider the flexibility and allowance of detaching and wiring, set the pitch to the appropriate value.
- Leave some spaces for a finger between panels, so as to pinch the levers.
- Place the panels in the same direction. Do not set the connectors face to face for easy removal.



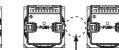
Wrong setup : Connectors are too closely placed.

Right setup : Same direction



Levers are too close and cannot be pushed.





Some rooms for fingers to push.

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OMRON Corporation Tokyo, JAPAN

Industrial Automation Company

Contact: www.ia.omron.com

Regional Headquarters OMRON EUROPE B.V.

Wegalaan 67-69, 2132 JD Hoofddorp The Netherlands Tel: (31)2356-81-300/Fax: (31)2356-81-388

OMRON ASIA PACIFIC PTE. LTD. No. 438A Alexandra Road # 05-05/08 (Lobby 2), Alexandra Technopark, Singapore 119967

Tel: (65) 6835-3011/Fax: (65) 6835-2711

OMRON ELECTRONICS LLC 2895 Greenspoint Parkway, Suite 200 Hoffman Estates, IL 60169 U.S.A Tel: (1) 847-843-7900/Fax: (1) 847-843-7787

OMRON (CHINA) CO., LTD. Room 2211, Bank of China Tower, 200 Yin Cheng Zhong Road, PuDong New Area, Shanghai, 200120, China Tel: (86) 21-5037-2222/Fax: (86) 21-5037-2200 Authorized Distributor:

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Телефон: 8 (812) 309 58 32 (многоканальный) **Факс:** 8 (812) 320-02-42 **Электронная почта:** <u>org@eplast1.ru</u> **Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.