

Ø30

Switches & Pilot Lights

TWN/TWND Series

Datasheet

Over 60 years of experience

Since 1958, IDEC has been relentlessly developing control switches that provide high level of safety and operability.



Plastic TWN Series

The all-time bestseller since first developed. Suitable for versatile applications.

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Diecast Zinc TWND series



Heavy-duty switches for tough industrial usage.







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| LED Ratings |
| Specifications |
| Degree of Protection |
| Ordering |
| Part No. Development |
| TWN Series |
| TWND Series Diecast Zinc |



| Function | Pushbutton | | | | | |
|----------|---|---|---|--|---|---|
| Category | Flush | | Extended | | Extended with Half Shroud | |
| | Momentary/Maintained | | Momentary/Maintained | | Momentary/Maintained | |
| Shape |  |  |  |  |  |  |
| Model | ABN1 AON1 | ABD1 AOD1 | ABN2 AON2 | ABD2 AOD2 | ABN2G AON2G | ABGD2 AOGD2 |
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| Function | Pushbutton | | | | | |
|----------|---|---|---|--|---|---|
| Category | Extended with Full Shroud | | Mushroom | | Mushroom with Full Shroud | |
| | Momentary/Maintained | | Momentary/Maintained | | Momentary/Maintained | |
| Shape |  |  |  |  |  |  |
| Model | ABN2F AON2F | ABFD2 AOFD2 | ABN3 AON3 | ABD3 AOD3 | ABN3G — | ABGD3 AOGD3 |
| Page | 14 | 30 | 15 | 31 | 15 | 31 |

| Function | Pushbutton | | | | | |
|----------|---|---|---|--|---|---|
| Category | Jumbo Mushroom | | Jumbo Mushroom with Shallow Shroud | | Jumbo Mushroom with Deep Shroud | |
| | Momentary | | Momentary | | Momentary | |
| Shape |  |  |  |  |  |  |
| Model | ABN4 | ABD4 | ABN4G | ABGD4 | ABN4F | ABFD4 |
| Page | 15 | 31 | 15 | 31 | 15 | 31 |


| |
|------------------------|
| Accessories |
| Instructions |
| Part No. Comparison |

| Function | Pushbutton | | | | | |
|----------|---|---|---|--|---|---|
| Category | Mushroom Pushlock Turn Reset (*1) | | Mushroom Push Turn Lock | | Mushroom Pull | |
| | Momentary | | Momentary | | Momentary | |
| Shape |  |  |  |  |  |  |
| Model | AVN3 | AVD3 | AJN3 | AJD3 | AZN3 | AZD3 |
| Page | 16 | 32 | 16 | 32 | 16 | 32 |




| Function | Pushbutton | | | |
|----------|--------------------|---|-----------|--|
| Category | Mushroom Push-Pull | | Pin Lock | |
| | Momentary | | Momentary | |
| Shape | — |  | — |  |
| Model | — | AYD3 | — | ABD8P |
| Page | — | 32 | — | 31 |




*1) Cannot be used as emergency stop switch based on ISO 13850 and IEC 60947-5-5.

| Function | LED Illuminated Pushbutton | | | | | |
|----------|---|---|---|-------------------|---|---|
| Category | Extended | | Extended with Half Shroud | | Extended with Full Shroud | |
| | Momentary/Maintained | | Momentary/Maintained | | Momentary/Maintained | |
| Shape |  | Diecast Zinc  |  | Diecast Zinc — |  | Diecast Zinc  |
| Model | ALN2 AOLN2 | ALD2 AOLD2 | ALGN2 AOLGN2 | — | ALFN2 AOLFN2 | ALFD2 AOLFD2 |
| Page | 17 | 33 | 17 | | 17 | 33 |

| Function | LED Illuminated Pushbutton | | | | | |
|----------|---|---|---|--|---|-------------------|
| Category | Mushroom | | Mushroom Pushlock Turn Reset (*1) | | Mushroom Push Turn Lock | |
| | Momentary/Maintained | | | | | |
| Shape |  | Diecast Zinc  |  | Diecast Zinc  |  | Diecast Zinc — |
| Model | ALN3 AOLN3 | ALD3 AOLD3 | AVLN3 | AVLD3 | AJLN3 | — |
| Page | 18 | 34 | 18 | 34 | 18 | |

| Function | Selector Switches | | | | | |
|----------|---|---|---|--|---|---|
| Category | Knob | | Lever | | Key | |
| Shape |  | Diecast Zinc  |  | Diecast Zinc  |  | Diecast Zinc  |
| Model | ASN | ASD | ASN□L | ASD□L | ASN□K | ASD□K |
| Page | 20 | 35 | 21 | 36 | 22 | 37 |

| Function | Selector Switch | | | Selector Pushbutton | |
|----------|---|---|---|--|---|
| Category | Key | LED Illuminated Knob | | Ring Operator | |
| Shape |  |  | Diecast Zinc  |  | Diecast Zinc  |
| Model | ASN□K-N024401 | ASLN | ASLD | ASBN2 | ASBD2 |
| Page | 23 | 24 | 38 | 27 | 39 |

| Function | LED Illuminated Pilot Light | | | |
|----------|---|---|---|---|
| Category | Dome | | Square Extended (IP40) | Rectangular (Marking) (IP40) |
| Shape |  | Diecast Zinc  |  |  |
| Model | APN1 | APD1 | UPQN3B | UPQN4 |
| Page | 28 | 40 | 28 | 28 |

*1) Cannot be used as emergency stop switch based on ISO 13850 and IEC 60947-5-5.

Selection Guide

Ratings/
Specifications

LED Ratings

Specifications

Degree of
Protection

Ordering

Part No.
Development

TWN Series

TWND Series
Diecast Zinc

Accessories

Instructions

Part No.
Comparison

**Heavy duty switches & pilot lights offer both variety and reliability.
Endures harsh environments.**

Equipped with HW-U contact blocks featuring finger-safe (IP20) structure and spring-up terminals.

ø30 TWN Series (plastic)



ø30 TWND Series (Diecast Zinc)

| Applicable Standards | Mark | File No. or Organization |
|----------------------|------|--|
| UL508 | | UL Listing File No.E68961 |
| CSA C22.2 No.14 | | CSA File No. LR 21451 |
| EN60947-5-1 | | TÜV Rheinland |
| EN60947-5-1 | | EU Low Voltage Directive and RoHS2 Directive (except for DC-DC converter unit) |
| GB14048.5 | | Contact IDEC for details. |

- Pilot light is not approved by EN standards.
- DC-DC converter unit is not approved by standards.

Ratings and Specifications

Contact ratings

| | | |
|-------------------------------|---|--------------|
| Pushbuttons | Rated insulation voltage | 600V |
| Illuminated Pushbuttons | Rated continuous current | 10A |
| Selector Switches | Contact ratings by utilization category | AC-15 (A600) |
| Illuminated Selector Switches | JIS C8201-5-1 | DC-13 |
| Selector Pushbuttons | IEC60947-5-1 | |

Contact ratings by utilization category

HW-U10 (NO contact), HW-U01 (NC contact)

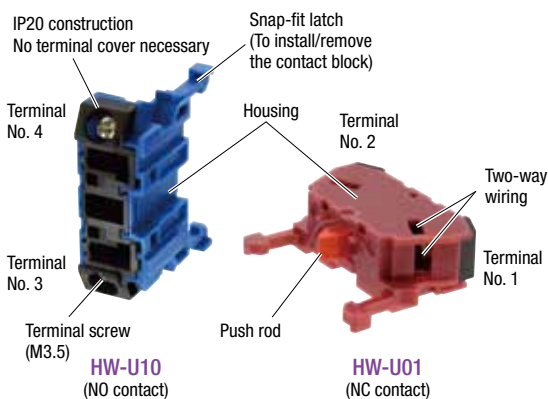
| Operating Voltage | | | 24V | 48V | 50V | 110V | 220V | 440V |
|-------------------|----------------|--|-----|-----|-----|------|------|------|
| Operating Current | AC 50/60 Hz | AC-12 Control of resistive loads and solid state loads | 10A | — | 10A | 10A | 6A | 2A |
| | | AC-15 Control of electromagnetic loads (> 72 VA) | 10A | — | 7A | 5A | 3A | 1A |
| | DC | DC-12 Control of resistive loads and solid state loads | 10A | 5A | — | 2.2A | 1.1A | — |
| | | DC-13 Control of electromagnets | 5A | 2A | — | 1.1A | 0.6A | — |

HW-U10R (EM contact/NO contact), HW-U01R (LB contact/NC contact)

| Operating Voltage | | | 24V | 48V | 50V | 110V | 220V | 440V |
|-------------------|----------------|--|------|------|------|-------|-------|------|
| Operating Current | AC 50/60 Hz | AC-12 Control of resistive loads and solid state loads | 5A | — | 5A | 5A | 3A | 1A |
| | | AC-15 Control of electromagnetic loads (> 72 VA) | 5A | — | 3.5A | 2.5A | 1.5A | 0.5A |
| | DC | DC-12 Control of resistive loads and solid state loads | 5A | 2.5A | — | 1.1A | 0.55A | — |
| | | DC-13 Control of electromagnets | 2.5A | 1A | — | 0.55A | 0.3A | — |

- The operating current represents the classification by making and breaking currents (IEC 60947-5-1).
- Silver contacts
- Minimum applicable load: 3V AC/DC, 5 mA (applicable range may vary with operating conditions and load types)
- For mono-lever switches and cam switches, see the brochures of each product.

HW-U Contact Block



| Part No. | HW-U10 | HW-U01 | HW-U10R | HW-U01R |
|----------------|-------------|----------------|---------|----------------|
| Contact | | | | |
| Terminal No. | 3-4 | 1-2 | 3-4 | 1-2 |
| Housing color | Blue | Reddish purple | Blue | Reddish purple |
| Push Rod color | Green | Red | Black | White |
| Weight | Approx. 11g | | | |








- Up to 4 contacts in two decks can be mounted onto each operator.
(AZN, AZD, AYD: Up to 2 contact blocks in one deck)
- Cannot be used on operators in dark gray or light gray color.
- Gold contact available (gold-plated silver)

LED Illuminated Unit Ratings

| Unit | | | | | LED lamp | | | |
|--|---|------------------|----------|-------------------|----------|-----------|----------|---------|
| | Color | Rated Voltage | | Operating Voltage | | Lamp Base | Part No. | |
| Illuminated pushbutton Illuminated selector switch Pilot light | R (red) G (green) Y (yellow) A (amber) W (white) S (blue) PW (pure white) | 6V AC/DC | | 6V AC/DC | ±10% | BA9S/13 | LSTD-6* | |
| | | 12V AC/DC | | 12V AC/DC | | | LSTD-1* | |
| | | 24V AC/DC | | 24V AC/DC | | | LSTD-2* | |
| | | 100/110V AC | 50/60 Hz | 100/110V AC | | | | LSTD-6* |
| | | 115/120V AC (*1) | | 115/120V AC (*1) | | | | |
| | | 120V AC (*2) | | 120V AC (*2) | | | | |
| | | 200/220V AC | | 200/220V AC | | | | |
| | | 230/240V AC (*1) | | 230/240V AC (*1) | | | | |
| | | 240V AC (*2) | | 240V AC (*2) | | | | |
| | | 380V AC | | 380V AC | | | | |
| | | 400/440V AC | | 400/440V AC | | | | |
| | | 480V AC | | 480V AC | | | | |
| | | 110V DC | | 90 to 140V DC | | | | |

- See LED lamps, see LED Lamp Ratings below.
- Specify a color code in place of *.
R (red), G (green), A (amber), W (white), S (blue), PW (pure white)
- Use a pure white (PW) LED for yellow (Y) illumination.
- Note the polarity for wiring when connecting to DC-DC converter unit.
- Color codes for units without LED lamps:
R (red), G (green), A (amber), Y (yellow), W (white), S (blue)
- When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape.
- Make sure of correct operation before installation. The operation of TWN/TWND series cannot be guaranteed when a commercially available lamp is used.
- *1) Illuminated pushbutton, illuminated selector switch
- *2) Pilot light

Power Unit Terminal

| Power Unit | Illuminated Unit | | | | Pilot Light | | |
|----------------|---|---|---|--|---|---|---|
| | Full voltage adapter | Transformer | | DC-DC converter | Full voltage adapter (unibody) | Transformer | DC-DC converter |
| Rated Voltage | 6V, 12V, 24V AC/DC | 100 to 240V AC | 380V AC min. | 110V DC | 6V, 12V, 24V AC/DC | 100 to 480V AC | 110V DC |
| Polarity | None | None | None | X1 (+) X2 (-) | None | None | X1 (+) X2 (-) |
| Shape/Terminal |  |  |  |  |  |  |  |

LED Lamp Ratings (LSTD)

| Part No. | | LSTD-6* | | LSTD-1* | | LSTD-2* | |
|------------------------|-------|--|----------|-------------------|--|-------------------|--|
| Lamp Base | | BA9S/13 | | | | | |
| Rated Voltage | | 6V AC/DC | | 12V AC/DC | | 24V AC/DC | |
| Voltage Range | | 6V AC/DC ±10% | | 12V AC/DC ±10% | | 24V AC/DC ±10% | |
| Current Draw | Color | R, A, W | G, S, PW | R, G, A, W, S, PW | | R, G, A, W, S, PW | |
| | DC | 7mA | 5.5mA | 10mA | | 10mA | |
| | AC | 8mA | 8mA | 11mA | | 11mA | |
| Lamp Base Color | | Same as illumination color (PW: gray) | | | | | |
| Voltage Marking | | Die stamped on the base | | | | | |
| Life (reference value) | | Approx. 50,000 hours (The luminance is reduced to 50% the initial intensity when used on complete DC at 25°C.) | | | | | |
| Internal Circuit | | <div><div><div><div><div><div>X1</div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div><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| | | | | |

- Specify a color code in place of *.
R (red), G (green), A (amber), W (white), S (blue), PW (pure white)
- Use a pure white (PW) LED for yellow (Y) illumination.

Selection Guide

Ratings/
Specifications

LED Ratings

Specifications

Degree of
Protection

Ordering

Part No.
Development

TWN Series

TWND Series
Diecast Zinc

Accessories

Instructions

Part No.
Comparison

Specifications

| | | | | |
|--|-----------------------------|-----------------------------|--|-------------------|
| Operating Temperature | | | Non-illuminated: −25 to +70°C (no freezing) Illuminated: −25 to +50°C (no freezing) | |
| Storage Temperature | | | −40 to +80°C (no freezing) | |
| Operating Humidity | | | 45 to 85% RH (no condensation) | |
| Contact Resistance | | | 50 mΩ maximum (initial value) | |
| Insulation Resistance | | | 100 MΩ minimum (500V DC megger) | |
| Dielectric Strength | | | Between live and dead metal parts: 2,500V AC, 1 minute (Full voltage and pilot lights: 2,000V AC, 1 minute) 2000V AC, (pilot lights: 6V AC/DC, 12V, 24V) | |
| Vibration Resistance | Damage limits | | 30 Hz, amplitude 1.5 mm | |
| | Operation extremes | | 5 to 55 Hz, amplitude 0.5 mm | |
| Shock Resistance | Damage limits | | 1000 m/s ² | |
| | Operation extremes | | 100 m/s ² | |
| Mechanical Life (minimum operations) | Pushbutton | Momentary | 5,000,000 | |
| | | Maintained | 500,000 (over 3 contacts: 250,000) | |
| | | Push lock turn reset | 500,000 | |
| | | Pull | 500,000 | |
| | Illuminated pushbutton | Momentary | 2,500,000 | |
| | | Maintained | 500,000 (over 3 contacts: 250,000) | |
| | Selector switch | | 500,000 | |
| | Key selector switch | | 500,000 | |
| | Illuminated selector switch | | 500,000 | |
| | Selector pushbutton | | 250,000 | |
| Electrical Life (minimum operations) (*1) | Pushbutton | Momentary | 500,000 Switching frequency 1800 operations/h, duty ratio 40% | |
| | | Maintained | 500,000 (over 3 contacts: 250,000) Switching frequency 900 operations/h, duty ratio 40% | |
| | | Push lock turn reset | 500,000 Switching frequency 900 operations/h, duty ratio 40% | |
| | Illuminated pushbutton | Momentary | 500,000 Switching frequency 1800 operations/h, duty ratio 40% | |
| | | Maintained | 500,000 (over 3 contacts: 250,000) Switching frequency 900 operations/h, duty ratio 40% | |
| | Selector switch | | 500,000 Switching frequency 1200 operations/h, duty ratio 40% | |
| | Key selector switch | | 500,000 Switching frequency 1200 operations/h, duty ratio 40% | |
| | Illuminated selector switch | | 500,000 Switching frequency 1200 operations/h, duty ratio 40% | |
| | Selector pushbutton | | 250,000 Switching frequency 900 operations/h, duty ratio 40% | |
| | Weight (approx.) | TWN series | Pushbutton | ABN122: 82g |
| Illuminated pushbutton | | | ALN22222DN: 106g | ALN21622DN: 163g |
| Selector switch | | | ASN222N: 83g | ASN2K22N: 120g |
| Illuminated selector switch | | | ASLN22222DN: 106g | ASLN21622DN: 163g |
| Pilot light | | | APN122DN: 46g | APN116DN: 125g |
| TWND series | | Pushbutton | ABD122: 108g | ABD322: 113g |
| | | Illuminated pushbutton | ALD22222DN: 132g | ALD21622DN: 189g |
| | | Selector switch | ASD222N: 110g | ASD2K22N: 147g |
| | | Illuminated selector switch | ASLD22222DN: 133g | ASLD21622DN: 190g |
| | | Pilot light | APD122DN: 75g | APD116DN: 152g |

*1) Load condition 220V AC 3A (AC-15)

Degree of Protection

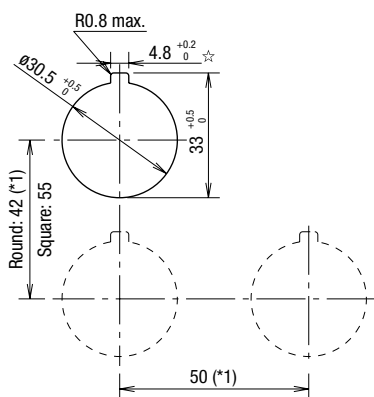
| Series | Unit | Model | IEC 60529 | JIS C 0920 |
|-----------------------------|-----------------------------|-----------------|-----------|----------------------|
| TWN series | Pushbutton | ABN, AON, AVN | IP65 | Dust-proof/jet-proof |
| | Illuminated pushbutton | ALN, AOLN, AVLN | | |
| | Selector switch | ASN, ASN□L | | |
| | Key selector switch | ASN□K | | |
| | Illuminated selector switch | ASLN | | |
| | Selector pushbutton | ASBN | | |
| | Round pilot light | APN | | |
| | Square pilot light | UPQN | IP40 | — |
| TWND series Diecast zinc | Pushbutton | ABD, AOD, AVD | IP65 | Dustproof/jet-proof |
| | Illuminated pushbutton | ALD, AOLD, AVLD | | |
| | Selector switch | ASD, ASD□L | | |
| | Key selector switch | ASD□K | | |
| | Illuminated selector switch | ASLD | | |
| | Selector pushbutton | ASBD | | |
| | Round pilot light | APD | | |

- Switches/pilot lights have been tested in a test room in accordance with the degree of protection standards, by installing on an enclosure to evaluate the effect on the enclosure or inside the switch or pilot light.

For harsh environment such as torrid/frigid area

TWN/TWND series for harsh environment such as tropical/frigid area is also available (not approved by standards). Contact IDEC for details.

Mounting Hole Layout/Mounting Centers



All dimensions in mm.

- The minimum mounting centers are applicable to pilot lights with one layer of contact blocks (one to two contact blocks). When two layers of contact blocks (four contact blocks) are mounted, determine the minimum mounting centers in consideration of convenience for wiring.

*1) Mushroom with shroud: 50 mm minimum

*1) Jumbo mushroom: 67 mm minimum

*1) Jumbo mushroom with shroud: 77 mm minimum

- The 4.8 $\begin{smallmatrix} +0.2 \\ -0 \end{smallmatrix}$ mm recess is for preventing rotation and is not necessary when the nameplate or anti-rotation ring is not used.

Note: For mounting hole layout of mono-lever switches and cam switches, see IDEC's website.

Notes for Ordering

Standard models

- Specify Ordering No. when ordering.
- Specify a color code in place of *
- Pilot lights, illuminated pushbuttons, and illuminated selector switches have an LED lamp installed.
- Pilot lights are equipped with a terminal cover.
- Color codes for units without LED lamps:
R (red), G (green), A (amber), Y (yellow), W (white), S (blue)
- When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape.
Make sure of correct operation before installation. The operation of TWN/TWND series cannot be guaranteed when a commercially available lamp is used.
- Terminal covers, nameplates, and accessories for mono-lever switch and cam switch are ordered separately.
- For terminal cover, nameplate and other accessories of mono-lever switches and cam switches, see IDEC's website.

Ordering Information

Pushbutton

When specifying gold-plated silver contact and contact configuration:

TWN series (Page 14 to 16)

ABN 2 11 R - MAU

- ① Optional contact
- ② Contact configuration

TWND series (Page 30 to 32)

ABD 2 11 NR - MAU

- ① Optional contact
- ② Contact configuration

<Codes>

① Optional contact

MAU: Gold-plated silver

② Contact configuration

- 10: 1NO
- 01: 1NC
- 11: 1NO1NC
- 20: 2NO
- 02: 2NC
- 22: 2NO2NC
- 40: 4NO
- 04: 4NC
- 13: 1NO3NC
- 31: 3NO1NC
- 30: 3NO
- 03: 3NC
- 12: 1NO2NC
- 21: 2NO1NC

Note:

- Pushbutton with one or three contact blocks contains a dummy block.
- Mushroom pull pushbuttons AZN, AZD and mushroom push-pull AYD have up to two contacts in one layer.

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Illuminated Pushbutton

When specifying gold-plated silver contact, contact configuration, and LED operating voltage:

TWN series (Page 17 to 19)

ALFN 2 126 13 DN R - MAU

- ① Optional contact
② Contact configuration
③ Operating voltage

TWND series (Page 33 to 34)

ALFD 2 126 13 DN R - MAU

- ① Optional contact
② Contact configuration
③ Operating voltage

<Codes>

① Optional contact
MAU: Gold-plated silver

② Contact configuration

10: 1NO
01: 1NC
11: 1NO1NC
20: 2NO
02: 2NC
31: 3NO1NC
22: 2NO2NC
13: 1NO3NC
40: 4NO
04: 4NC

③ Operating voltage

99: Without LED lamp
66: 6V AC/DC
11: 12V AC/DC
22: 24V AC/DC
16: 100/110V AC
126: 115/120V AC
26: 200/220V AC
246: 230/240V AC
386: 380V AC
46: 400/440V AC
486: 480V AC

Note:

- Odd number of contact blocks, such as 1NO, 1NC, 3NO, 2NO-1NC, 1NO-2NC, and 3NC, are not available for models of 100V AC or over.
- Illuminated pushbuttons of 24V AC/DC and below with two or four contact blocks contain a dummy block.
- See page 13 for how to specify 110V DC model (DC-DC converter).
- Color codes for units without LED lamps:
R (red), G (green), A (amber), Y (yellow), W (white), S (blue)
- When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape.

Selector Switch

When specifying gold-plated silver contact and contact configuration:

TWN series (Page 20 to 23)

ASN 2 11 N - MAU

- ① Optional contact
② Contact configuration

TWND series (Page 35 to 37)

ASD 2 11 N - MAU

- ① Optional contact
② Contact configuration

<Codes>

① Optional contact
MAU: Gold-plated silver

Key removable position code (example)

| Position | | Key removable position | Key removable position code | Part No. Example | | |
|------------|--------------------------|-------------------------------|-----------------------------|------------------|--------------------|-------------|
| | | | | TWN series | | TWND series |
| 2-position | Maintained | Removable in all positions | (blank) | ASN2K20N | ASN2K20N-N024401 | ASD2K20N |
| | | Removal in left only | B | ASN2K20NB | ASN2K20NB-N024401 | ASD2K20NB |
| | | Removable in right only | C | ASN2K20NC | ASN2K20NC-N024401 | ASD2K20NC |
| | Spring return from right | Removal in left only | (blank) | ASN21K20N | ASN21K20N-N024401 | ASD21K20N |
| | Spring return from left | Removable in right only | (blank) | ASN22K20N | ASN22K20N-N024401 | ASD22K20N |
| 3-position | Maintained | Removable in all positions | (blank) | ASN3K20N | ASN3K20N-N024401 | ASD3K20N |
| | | Removable in left and center | B | ASN3K20NB | ASN3K20NB-N024401 | ASD3K20NB |
| | | Removable in right and center | C | ASN3K20NC | ASN3K20NC-N024401 | ASD3K20NC |
| | | Removable in center only | D | ASN3K20ND | ASN3K20ND-N024401 | ASD3K20ND |
| | | Removable in right and left | E | ASN3K20NE | ASN3K20NE-N024401 | ASD3K20NE |
| | | Removal in left only | G | ASN3K20NG | ASN3K20NG-N024401 | ASD3K20NG |
| | | Removable in right only | H | ASN3K20NH | ASN3K20NH-N024401 | ASD3K20NH |
| | Spring return from right | Removable in left and center | (blank) | ASN31K20N | ASN31K20N-N024401 | ASD31K20N |
| | | Removable in center only | D | ASN31K20ND | ASN31K20ND-N024401 | ASD31K20ND |
| | | Removal in left only | G | ASN31K20NG | ASN31K20NG-N024401 | ASD31K20NG |
| | Spring return from left | Removable in right and center | (blank) | ASN32K20N | ASN32K20N-N024401 | ASD32K20N |
| | | Removable in center only | D | ASN32K20ND | ASN32K20ND-N024401 | ASD32K20ND |
| | | Removable in right only | H | ASN32K20NH | ASN32K20NH-N024401 | ASD32K20NH |
| | Spring return two-way | Removable in center only | (blank) | ASN33K20N | ASN33K20N-N024401 | ASD33K20N |

- The key cannot be removed in spring return positions.

Ordering Information

Illuminated Selector Switch

When specifying gold-plated silver contact, contact configuration, and LED operating voltage:

TWN series (Page 24)

ASLN 2 16 22 DN - MAU

① Optional contact

② Contact configuration (see page 25 to 26)

③ Operating voltage

TWND series (Page 38)

ASLD 2 16 22 DN - MAU

① Optional contact

② Contact configuration

③ Operating voltage

<Codes>

① Optional contact

MAU: Gold-plated silver

③ Operating voltage

99: Without LED lamp

66: 6V AC/DC

11: 12V AC/DC

22: 24V AC/DC

16: 100/110V AC

136: 115/120V AC

26: 200/220V AC

256: 230/240V AC

386: 380V AC

46: 400/440V AC

486: 480V AC

Note:

- Odd number of contact blocks, such as 1NO, 1NC, 3NO, 2NO-1NC, 1NO-2NC, and 3NC, is not available for models of 100V AC or over.
- Illuminated selector switches of 24V AC/DC and below with two or four contact blocks contain a dummy block.
- See below for how to specify 110V DC model (DC-DC converter).
- Color codes for units without LED lamps: R (red), G (green), A (amber), Y (yellow), W (white), S (blue)

When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape.

Pilot Light (LED)

When specifying LED operating voltage:

TWN series (Page 28 to 29)

APN1 26 DN R

① Operating voltage

UPQN3B 22 D R

① Operating voltage

TWND series (Page 40)

APD1 26 DN R

① Operating voltage

<Codes>

① Operating voltage

99: Without LED lamp

66: 6V AC/DC

11: 12V AC/DC

22: 24V AC/DC

16: 100/110V AC

126: 115/120V AC

26: 200/220V AC

246: 230/240V AC

386: 380V AC

46: 400/440V AC

486: 480V AC

- See below for how to specify 110V DC model (DC-DC converter).

- Color codes for units without LED lamps: R (red), G (green), A (amber), Y (yellow), W (white), S (blue)

When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape.

DC-DC Converter Model (110V DC)

When specifying DC-DC converter type on illuminated pushbuttons, illuminated selector switches, and pilot lights:

TWN series

ALN2 16 22D DN G

① Operating voltage

ASLN2 16 11D DN Y

① Operating voltage

APN1 16 D DN R

① Operating voltage

TWND series

ALD2 16 22D DN G

① Operating voltage

ASLD2 16 11D DN Y

① Operating voltage

APD1 16 D DN R

① Operating voltage

<Codes>

① Operating voltage

16 □ D: 110V DC

- See 110V DC model (DC-DC converter) is not approved by standards (operating voltage: 90 to 140V DC).

- Odd number of contact blocks, such as 1NO, 1NC, 3NO, 2NO-1NC, 1NO-2NC, and 3NC, is not available for 100V DC model (DC-DC converter).

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