40 Series Ø16mm Switches & Pilot Lights



Switches and Indicators



WERNERS's 40 Series Switches & Indicator devices provide the widest selection of switch actions and applications in any series of switches combined with matching indicators in the industry and are the first choice for many of our very demanding industrial clients with a view on highest quality on reasonable prices.

Features Overview

| Ш | Choose between illuminated & non-illuminated switches & indicators with 16mm (5/8") sharts |
|---|--|
| | Choose from LED's between 6V, 12V, 24V, 110V and 220V for AC and DC |
| | Fitting any application with round, squared and rectangular bezelshapes |
| | |

- □ Very compact design to match in standard 16mm (5/8") drill holes
- In-built current limiting resistor and gasket lenses for LED's
- Double throw contacts provide perfect connectivity

Highlights

| Widest product variety such as pushbuttons, indicators, selectorswitches, key switches, | key reset |
|---|-----------|
| switches as well as push-lockversions | |

- ☐ All contacts of all models gold plated for best possible connectivity
- Internal snap action provides unfailing switching and positioning
- □ Very elegant, stylish and future looking product design
- ☐ Ideal product for to use in connection with PLC`s

40 Series Switches & Indicators by WERNER are the product of your choice if you have to satisfy your our your customers highest demands in view of product quality combined with high expectations on product & panel design using a complete series of matching products from only one full range supplier.

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40 Series Ø16mm Switches & Pilot Lights



Technical Data

Conventional free air thermal current Ith

5 A, as per EN IEC 60947-5-1

Switch rating

Switch rating AC with silver contact (gold plated), 250 VAC, 1A, services category AC-15, as per EN IEC 60947-5-1

Short-circuit protection

Series-connected blow-out fuse 5 A qL

Environmental conditions

Switching system

Self cleaning, double-break slow-make element with four-path contacts (contact opening width 2 x 1.5 mm). The slow-make elements are constructed as per EN IEC 60947-5-1.

Electrical characteristics

Conventional free air thermal current Ith

5 A, as per EN IEC 60947-5-1

the maximum current in continuous operation and at ambient temperature must not exceed the quoted maximum values.

Switch rating

Switch rating AC (inductive) with silver contact (gold plated), service category AC-13, as per EN IEC 60947-5-1

Switch rating AC (inductive) with silver contact (gold plated), service category AC-14, as per EN IEC 60947-5-1

Switch rating (non-inductive) with silver contact (gold-plated)

Switch rating DC with silver contact (gold plated), service category DC-13, as per EN IEC 60947-5-1

Recommended minimum operational data

Silver contact (Soldering terminal) 5V AC/DC, 1mA

Short-circuit protection

Series-connected blow-out fuse 10 A gL

Over voltage category

III, as per EN IEC 60947-5-1

Degree of pollution

3, as per EN IEC 60947-1

Material

Mushroom-head cap

Polyamide (PA)

Actuator housing

Polyetherimide (PEI), self-extinguishing

Switching element

Polyamide (PA), Polysulfon (PSU)

Material of contact

Silver (Ag)

Approvals

Approbations and Declaration of conformity

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Mechanical characteristics

Terminals

Soldering terminal

max.wire-cross section 2 x 1.0mm² max.wire-cross section of stranded cable 1 x 0.75 mm² also pluggable 2.8 x 0.5 mm

Actuating force

max. 65 N (measured on mushroom-head cap)

Unlock torque

15 Ncm

Actuating travel

5.5 mm

Rebound time

<u>≤</u>2 ms

| Contact Ratings | (Contact Block) |
|-----------------|-----------------|
|-----------------|-----------------|

| Rated Insulatio | 250V | | | | |
|---------------------------|----------------|--------------------|------|------|------|
| Rated Thermal | 5A | | | | |
| Operating Voltage (AC/DC) | | 12V | 24V | 110V | 220V |
| AC 50/60 Hz | Resistive Load | _ | _ | 1A | 0.7A |
| AC 50/60 HZ | Inductive Load | _ | - | 0.9A | 0.7A |
| DC | Resistive Load | 1A | 1A | 0.3A | _ |
| DC | Inductive Load | 0.9A | 0.9A | 0.7A | - |
| Contact Material | | Gold-plated silver | | | |

 Minimum applicable load: 5V AC/DC, 1 mA (applicable range may vary with operating conditions and load types)

| Weight | | | | |
|------------------|-------|-----|--|--|
| Weight (approx.) | 40.24 | 10g | | |
| | 40.1 | 8g | | |
| | 40.21 | 9g | | |
| | 40.81 | 11g | | |
| | 40.42 | 11g | | |
| | 40.62 | 23g | | |

40 Series Ø16mm Switches & Pilot Lights



| Specifications | | | |
|--|-------------------|---|--|
| Operating Temperature | | -20 to +70°C (no freezing) | |
| Storage Temperature | | -30 to +80°C | |
| Operating Humidity | | 45 to 85% RH (no condensation) | |
| Contact Resistance | | 50 mΩ maximum (Initial value) | |
| Insulation Resistance | | 100 MΩ minimum | |
| Dielectric Strength | Switch Unit | Between live and dead metal parts: 2,000V AC, 1 minute Between terminals of different poles: 2,000V AC, 1 minute Between terminals of the same pole: 1,000V AC, 1 minute Between contact and lamp terminals:1,500V AC, 1 minute | |
| | Illumination Unit | Between live part and ground: 2,000V AC, 1 minute | |
| Vibration Resistance | | Operating extremes: 5 to 65 Hz, amplitude 1mm | |
| Shock Resistance | | Damage limits: 500 m/s2 (50G) Operating extremes: 200 m/s2 (20G) | |
| Mechanical Durability (minimum operations) | | Momentary: 1,250,000 operations Maintained: 250,000 operations Pushlock Turn Reset: 100,000 operations Selector Switch: 250,000 operations Key Selector Switch: 250,000 operations | |
| Electrical Durability (minimum operations) | | Other than Maintained: 1000,000 operations Maintained: 100,000 operations (Switching frequency 1200 operations/h) | |
| Degree of Protection | | Enclosed (IP40) Waterproof, dust-tight (IP65) | |

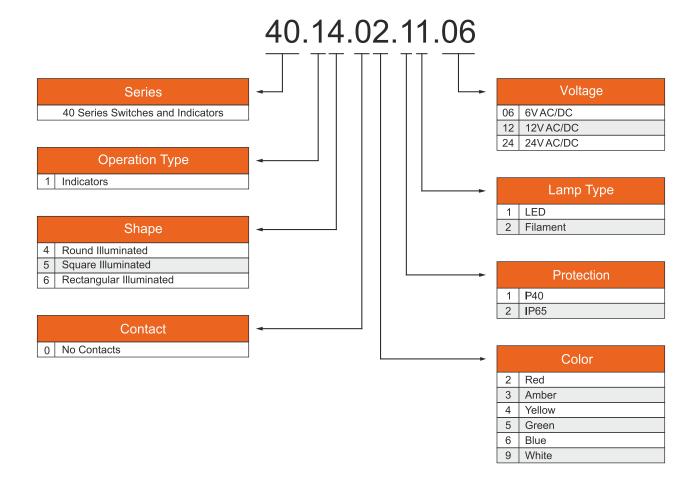
LED Lamp Ratings

| Type No. | 6V | 6V 12V 2 | | | |
|------------------------|---|---|---|--|--|
| Lamp Base | Exclusive for 40 series control units | Exclusive for 40 series control units | | | |
| Voltage Range | 6V DC ±5% | 12V AC/DC ±10 | 24V AC/DC ±10% | | |
| Ranged Voltage | 6V DC | 12V AC/DC | 24V AC/DC | | |
| O D | _ | 9mA | 9 mA | | |
| Current Draw | 8 mA | 8 mA | 8 mA | | |
| | | Red | | | |
| | | Amber | | | |
| 0-1 | | Yellow | | | |
| Color | | Green | | | |
| | | Blue | | | |
| | | White | | | |
| Lamp Base Color | Same as illumination color | Same as illumination color | | | |
| Voltage Marking | Stamped on the base | Stamped on the base | | | |
| Life (reference value) | Approx. 100,000 hours (The luminance is reduced to 50% the | Approx. 100,000 hours (The luminance is reduced to 50% the initial intensity when used on complete DC.) | | | |
| Internal Circuit | (+) (-) | | -K- LED Chip -K- Protection Diode -K- Zener Diode | | |



Model Number Structure - Indicators

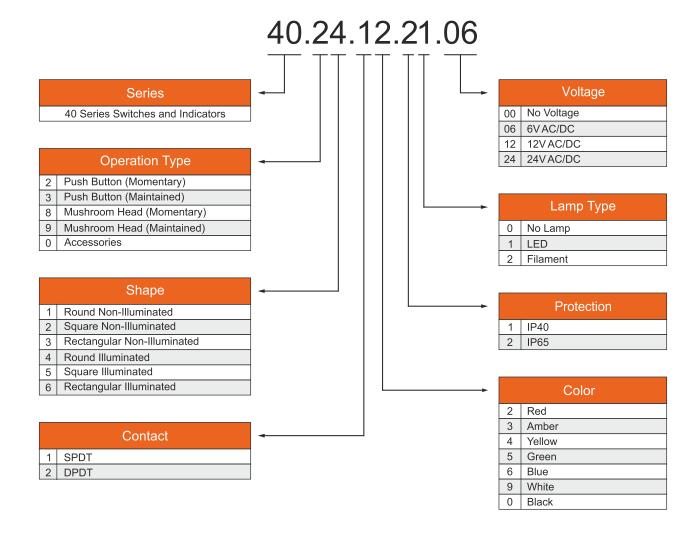






Model Number Structure - Pushbuttons

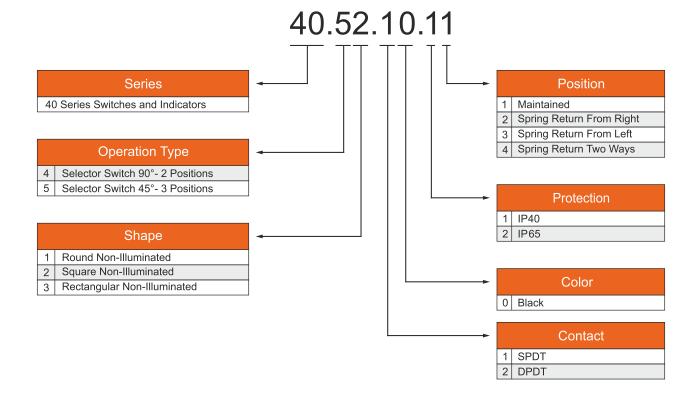






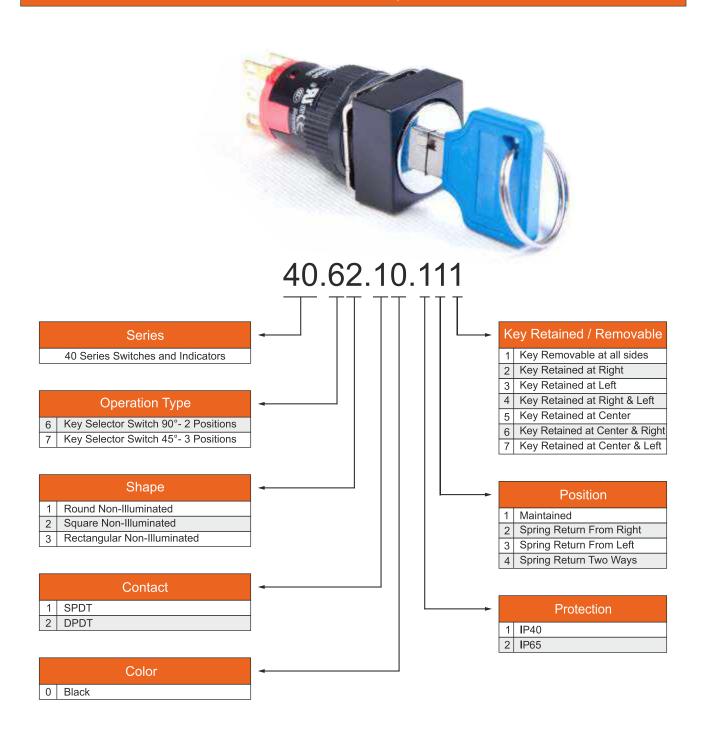
Model Number Structure - Selector Switch







Model Number Structure - Key Selector Switch





Model Number Structure - Illuminated Selector Switch



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