

## Switches and Indicators



WERNER'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

- Choose between illuminated & non-illuminated switches & indicators with 16mm (5/8") shafts
- Choose from LED's between 6V, 12V, 24V, 110V and 220V for AC and DC
- Fitting any application with round, squared and rectangular bezel shapes
- 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, selector switches, key switches, key reset switches as well as push-lock versions
- 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.

## Technical Data

### Conventional free air thermal current I<sub>th</sub>

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 gL

### 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 I<sub>th</sub>

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

CE

CE

### Mechanical characteristics

#### Terminals

Soldering terminal

max.wire-cross section 2 x 1.0mm<sup>2</sup>

max.wire-cross section of stranded cable

1 x 0.75 mm<sup>2</sup> 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

≤2 ms

### Contact Ratings (Contact Block)

Rated Insulation Voltage		250V			
Rated Thermal Current		5A			
Operating Voltage (AC/DC)		12V	24V	110V	220V
AC 50/60 Hz	Resistive Load	—	—	1A	0.7A
	Inductive Load	—	—	0.9A	0.7A
DC	Resistive Load	1A	1A	0.3A	—
	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

## 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/s <sup>2</sup> (50G) Operating extremes: 200 m/s <sup>2</sup> (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	12V	24V
Lamp Base	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
Current Draw	—	9mA	9 mA
	8 mA	8 mA	8 mA
Color	Red		
	Amber		
	Yellow		
	Green		
	Blue		
	White		
Lamp Base Color	Same as illumination color		
Voltage Marking	Stamped on the base		
Life (reference value)	Approx. 100,000 hours (The luminance is reduced to 50% the initial intensity when used on complete DC.)		
Internal Circuit			<ul style="list-style-type: none"> <li> LED Chip</li> <li> Protection Diode</li> <li> Zener Diode</li> </ul>

## Model Number Structure - Indicators



40.14.02.11.06

Series	
40	Series Switches and Indicators

Operation Type	
1	Indicators

Shape	
4	Round Illuminated
5	Square Illuminated
6	Rectangular Illuminated

Contact	
0	No Contacts

Voltage	
06	6V AC/DC
12	12V AC/DC
24	24V AC/DC

Lamp Type	
1	LED
2	Filament

Protection	
1	P40
2	IP65

Color	
2	Red
3	Amber
4	Yellow
5	Green
6	Blue
9	White

## Model Number Structure - Pushbuttons



40.24.12.21.06

Series	
40 Series Switches and Indicators	

Operation Type	
2	Push Button (Momentary)
3	Push Button (Maintained)
8	Mushroom Head (Momentary)
9	Mushroom Head (Maintained)
0	Accessories

Shape	
1	Round Non-Illuminated
2	Square Non-Illuminated
3	Rectangular Non-Illuminated
4	Round Illuminated
5	Square Illuminated
6	Rectangular Illuminated

Contact	
1	SPDT
2	DPDT

Voltage	
00	No Voltage
06	6V AC/DC
12	12V AC/DC
24	24V AC/DC

Lamp Type	
0	No Lamp
1	LED
2	Filament

Protection	
1	IP40
2	IP65

Color	
2	Red
3	Amber
4	Yellow
5	Green
6	Blue
9	White
0	Black

## Model Number Structure - Selector Switch



40.52.10.11

Series	
40	Series Switches and Indicators

Operation Type	
4	Selector Switch 90° - 2 Positions
5	Selector Switch 45° - 3 Positions

Shape	
1	Round Non-Illuminated
2	Square Non-Illuminated
3	Rectangular Non-Illuminated

Position	
1	Maintained
2	Spring Return From Right
3	Spring Return From Left
4	Spring Return Two Ways

Protection	
1	IP40
2	IP65

Color	
0	Black

Contact	
1	SPDT
2	DPDT

## Model Number Structure - Key Selector Switch



### 40.62.10.111

Series	
40	Series Switches and Indicators

Operation Type	
6	Key Selector Switch 90°- 2 Positions
7	Key Selector Switch 45°- 3 Positions

Shape	
1	Round Non-Illuminated
2	Square Non-Illuminated
3	Rectangular Non-Illuminated

Contact	
1	SPDT
2	DPDT

Color	
0	Black

Key Retained / Removable	
1	Key Removable at all sides
2	Key Retained at Right
3	Key Retained at Left
4	Key Retained at Right & Left
5	Key Retained at Center
6	Key Retained at Center & Right
7	Key Retained at Center & Left

Position	
1	Maintained
2	Spring Return From Right
3	Spring Return From Left
4	Spring Return Two Ways

Protection	
1	IP40
2	IP65

## Model Number Structure - Illuminated Selector Switch



40.45.12.112.12

Series	
40	Series Switches and Indicators

Operation Type	
4	Selector Switch 90°- 2 Positions
5	Selector Switch 45°- 3 Positions

Shape	
4	Round Illuminated
5	Square Illuminated
6	Rectangular Illuminated

Contact	
1	SPDT
2	DPDT

Color	
2	Red
3	Amber
4	Yellow
5	Green
6	Blue
9	White

Voltage	
06	6V AC/DC
12	12V AC/DC
24	24V AC/DC

Lamp Type	
1	LED
2	Filament

Position	
1	Maintained
2	Spring Return From Right
3	Spring Return From Left
4	Spring Return Two Ways

Protection	
1	IP40
2	IP65