Honeywell

# Interactive Catalog Supplements Catalog PDFs

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The Interactive Catalog provides an extensive collection of product specifications, application data, and technical literature that can be searched based on criteria you select.

This PDF catalog information was published in November 2000.

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**Sensing and Control**
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**www.honeywell.com/sensing**

# Manual Switches
## Miniature Manual Line

### FEATURES
- Breadth of line offers complete selection of pushbuttons, rockers, and indicators to accommodate different functions and promote operator efficiency.
- Printed wiring board (PWB) or panel mounted switches, plus multi-unit strip mounting, and single level termination for cost-effective installation.
- Tactile feedback imparts a definite feel of switching action.
- Coordinated appearance enhances panel harmony.
- Illumination by long-life LEDs and incandescent lamps—for lighted display versatility.
- Solid state, electronic control and power duty switching—for electrical versatility.
- Temperature range: –18° to 65°C (0° to 149°F).

### DESIGN FREEDOM
Rocker switches are available in the MICRO SWITCH MML Miniature Manual Line. They complement AML pushbuttons and indicators, providing you flexibility and design freedom to answer all your miniature manual control requirements. You can choose the actuator option that matches the switch function and natural habit pattern reflex of the operator. You no longer need to compromise quality, appearance, or human factors considerations, because of size constraints.

The MML pushbutton and indicator offering has also been expanded to include new square forms which are small enough to fit in the tightest places.

### MOUNTING FLEXIBILITY
Printed wiring board (PWB) mounted switches can be arranged in individual panel openings or multi-unit strips, in a common panel cutout. Optional support brackets provide added rigidity for standalone PWB mounted devices. Units with bezels and mounting clips can be snap-in mounted from the panel front.

Single level PWB or solder/quick-connect termination throughout makes wiring faster, easier, and more economical. Housings are designed to accommodate washing, before and after wave soldering, to help prevent contamination during printed wiring board installation.

### LIGHTED DISPLAY OPTIONS
Pushbuttons and indicators can be full-face illuminated by LEDs or incandescent lamps for high visibility of colors and legends. Inherently rugged, long-life LEDs reduce service and maintenance costs. Also, their low drive and inrush current (30 mA or less) reduces costs of drive circuitry.

Rockers can be furnished with colored lenses for illumination by LEDs or incandescent lamps.

### CONTROL VERSATILITY
Solid state pushbutton switches with Hall effect integrated circuits interface directly with microprocessors and other logic level devices. Time-proven for billions of cycles, Hall effect ICs provide the ultimate in reliability.

Electronic control pushbutton or rocker switches, with gold or silver contacts, handle up to 1 amp; power duty switches, up to 6 amps.

# Manual Switches
## Miniature Manual Line



**MML ENHANCES PANEL HARMONY**
The attractive clean line design of the total MML offering is coordinated to work in harmony and enhance the visual qualities of your product. MML will help make a good first impression with your customers by blending with other panel components. And also work hard over the long run to maintain operator satisfaction.

**HOW TO ORDER**
To specify MML catalog listings, refer to the order guides. They are based on a modular cataloging system which gives you the flexibility to choose the combination of feature options that best answers the requirements of your application.

**ORDER GUIDES**

**Solid State Switches**
MML11 Pushbutton Switches . . . . . 58
**Electronic Control Switches**
MML21 Pushbutton Switches . . . . . 60
MML24 Rocker Switches . . . . . 62
**Power Duty Switches**
MML31 Pushbutton Switches . . . . . 64
**Indicators**
MML41 Indicators/LED or Incandescent Display . . . . . 66
MML46 Indicators/LED or Incandescent Display . . . . . 66
**Lenses and Buttons**
MML51 Lenses/Incandescent or Non-lighted Display . . . . . 68
MML52 Lenses/LED or Neon Display . . . . . 68
**Mounting Hardware**
MML61 Strip Mounting Frames . . . . . 71
MML72/73 Bezels and Mounting Clips . . . . . 72
MML74 PWB Mount Support Brackets . . . . . 72
**LEDs, Lamps, Receptacles**
MML92/93 LED's/Receptacles . . . . . 73/76
MML91/93 Incandescent Lamps/Receptacles . . . . . 75/76

**MML medical application.** Intranvaneous fluid flow controller automatically dispenses fluids for medications, therapy, and nutrition.

**MML communications application.** Mobile radio control keeps businesses in touch with employees on the road.

### MML CHARACTERISTICS

| | MML 10 Series | MML 20 Series | MML 30 Series | MML 40 Series |
|---|---|---|---|---|
| Mechanical Lifetime* | | | | N/A |
| Pushbuttons–Momentary | 1,000,000 | 250,000 | 100,000 | --- |
| Pushbuttons–Alternate | 100,000 | 100,000 | 100,000 | --- |
| Rockers | 100,000 | 250,000 | 100,000 | --- |
| **Electrical Lifetime* **** | | | | N/A |
| Pushbuttons–Momentary | 1,000,000 | 25,000 | 25,000 | --- |
| Pushbuttons–Alternate | 100,000 | 25,000 | 25,000 | --- |
| Rockers | 100,000 | 25,000 | 25,000 | --- |
| **Agency Ratings** | | | | |
| UL | File E53576 | File E12252 | File E12252 | File E58932 |
| CSA | File L R4442 | File LR4442 | File LR4442 | File LR4442 |

* 95% Survival
* * Lifetime at Full Rated Load

### MML ELECTRICAL DATA
### MML10 SERIES

| | | |
|---|---|---|
| **Electrical Characteristics** | Integrated Circuit Function | 5-24 VDC Sinking |
| | Supply Current (Max.) | 7 mA (Released)<br>8 mA (Operated no load) |
| | Output Voltage (Operated) | 0.3 Volt (Sinking 10 mA) |
| | Output Leakage Current Max. (Released) | 5.0 μA |
| | Switching Time Max.<br>Rise 10% to 90%<br>Fall 90% to 10% | <br>1.5 μ sec (Sinking 10 mA)<br>0.5 μ sec (Sinking 10 mA) |
| | Rated Output Current | 10 mA Sinking |
| **Absolute Maximum Ratings** | Supply Voltage ($V_s$) | –28 to +28 VDC |
| | Voltage Externally Applied to Output | –0.5 Volt min.<br>+28 Volts max.<br>(Off condition) |
| | Loads to Output | 20 mA (Sinking) |
| | Storage Temperature | –40° to +85°C<br>(–40° to +185°F) |
| | Operating Temperature | –18° to +65°C<br>(0° to +149°F)<br>and supply voltage of 4.5 to 5.5 VDC |

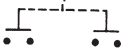
As with all solid state components, performance can be expected to deteriorate as rating limits are approached; however, they will not be damaged unless the limits are exceeded.

### MML20 SERIES

| | |
|---|---|
| **Electrical Rating (silver contacts)** | **Standard buttons**<br>Up to 1 amp, 125 VAC |
| | **1 piece plunger/lens cap buttons:**<br>Black—Up to 1 amp, 125 VAC<br>All others—Up to 0.5 amp, 125 VAC |
| **Electrical Rating Gold Contacts** | **All button styles:**<br>Up to 0.25 amp, 30 VDC<br>UL rating—0.10 amp, 30 VDC |
| | One pole Form C<br> |

### MML30 SERIES

**MML31:**

| | |
|---|---|
| **Electrical Rating** Silver Contacts | 6A @ 125 VAC, 250 VAC; 2A @ 30 VDC; 1A @ 125 VDC ''L''; 1/10 hp @ 125 VAC |
| **Contact Arrangement** | 1 or 2 poles Form X<br>  |

Manuals

**LED, INCANDESCENT, OR NON-LIGHTED DISPLAY**

PWB Mount

**FEATURES**

- Hall effect reliability
- Provides low voltage signals that interface with nearly all DC logic
- Accepts one LED or incandescent lamp
- Printed wiring board mounting
- UL recognized, CSA certified
- Bezels and mounting clips, LEDs and legended lenses can be furnished installed or ordered separately

**Example: MML11KK3AAKRSDR**
Furnished with black bezel; mounting clips (long sides); red LED, and red lens installed.

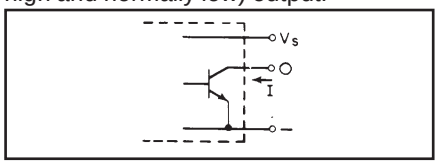
**MML11 ORDER GUIDE**

Catalog listing codes for switch, less assembled display options

| MML11K | A | 3 | AA |
|---|---|---|---|
| **Housing Type** (Rectangular) | **Mounting** | **Terminals** | **Circuitry/Action** |
| **MML11K** Black housing | **K** Black bezel, mtg. clip/long sides | **3** Printed wiring board | **AA** 5-24 VDC sinking mom. action |

| | |
|---|---|
| Electrical Data | page 56 |
| Strip and matrix mounting | page 71 |
| Mounting dimensions | page 79 |
| PWB pin locations | page 79 |
| LED/receptacle | pages 73/74 |
| Lamp/LED/Lens | pages 75/76 |


**Current Sinking Output**
A permanent magnet plunger moves adjacent to the Hall effect integrated circuit to give a digital, current sinking (normally high and normally low) output.




Order display options assembled to switch by adding codes below

**K**

**Plunger**
**K** Black

**RS**

**LED**
(Stanley Type)
**XX** No LED
**RS** Red*
**YS** Yellow*
**GS** Green*

* Permanently installed.

**DR**

**Lens**
For LED display:
**DR** Red
**DY** Yellow
**DG** Green

For incandescent or non-lighted display:
**LR** Red
**LY** Yellow
**LG** Green
**LW** White
**LK** Black

**Leave this space blank,**

**Legend**
**20** With Legend

Use Legend Order Sheet FO-74024 to cover each catalog listing (see page 69).

**CUSTOMER INSTALLATION:**

**LED**
1. Order LED and receptacle, page 73.
2. Installation instructions, page 74/76.

**Incandescent Lamp**
1. Order lamp/PWB receptacle or lamp/solder receptacle, page 75.
2. Installation instructions, page 76.

Manuals

# Manual Switches
## Electronic Control Pushbutton

**LED, INCANDESCENT, OR NON-LIGHTED DISPLAY**

PWB Mount
(Standard plunger)

Panel Mount
(Standard plunger)

PWB Mount
(One-piece plunger)

**FEATURES**
- Silver or gold contacts
- Choice of rectangular or square housings
- Accepts one LED or incandescent lamp
- Printed wiring board or snap-in panel mounting
- Bezels and mounting clips, LEDs and legended lenses can be furnished installed or ordered separately
- UL recognized, CSA certified

**Example: MML21KK3AAK**
Electronic control pushbutton switch with standard plunger; rectangular housing (black); bezel (black); mounting clips on long sides, PWB terminals; 1-pole, momentary action, silver contacts, black plunger.

**Example: MML21KK3AAKRSDR**
As above, except furnished with red LED and red lens installed.

**MML21KK3AAHRSXX20** as above, legended.

**MML21 STANDARD PLUNGER SWITCHES ORDER GUIDE**

Catalog listing codes for switch, less assembled display options

**MML21K** | **K** | **3** | **AA**

| Housing Type | Mounting | | Terminals | Circuitry/Action (Each pole is double throw) | |
|---|---|---|---|---|---|
| | Rectangular | Square | | Rectangular | Square |
| **MML21K** Rectangular Black Housing<br>**MML21H** Square Black Housing | **A** No bezel (PWB mounting)<br>**K** Black bezel, mtg. clip/long sides | **A** No bezel (PWB mounting)<br>**R** Black bezel & mtg. clip | **3** Printed Wiring Board<br>**2** Solder | **Silver Contacts:**<br>**AA** 1 pole, mom. action<br>**AB** 1 pole, alt. action<br>**AC** 2 pole, mom. action<br>**AD** 2 pole, alt. action<br>**Gold Contacts:**<br>**BA** 1 pole, mom. action<br>**BB** 1 pole, alt. action<br>**BC** 2 pole, mom. action<br>**BD** 2 pole, alt. action | **Silver contacts:**<br>**AA** 1-pole, mom. action<br>**AB** 1-pole, alt. action<br>**Gold contacts**<br>**BA** 1-pole, mom. action<br>**BB** 1-pole, alt. action |

**MML21 ONE PIECE LENS/PLUNGER SWITCHES ORDER GUIDE**

Catalog listing codes for switch, less assembled display options

**MML21H** | **K** | **3** | **AA**

| Housing Type | Mounting | | Terminals | Circuitry/Action (Each pole is double throw) | |
|---|---|---|---|---|---|
| | Rectangular | Square | | Rectangular | Square |
| **MML21K** Rectangular Black Housing<br>**MML21H** Square Black Housing | **A** No bezel (PWB mounting)<br>**K** Black bezel, mtg. clip/long sides | **A** No bezel (PWB Mounting)<br>**R** Black bezel & mtg. clip | **3** Printed Wiring Board<br>**2** Solder | **Silver Contacts:**<br>**AA** 1 pole, mom. action<br>**AB** 1 pole, alt. action<br>**AC** 2 pole, mom. action<br>**AD** 2 pole, alt. action<br>**Gold Contacts:**<br>**BA** 1 pole, mom. action<br>**BB** 1 pole, alt. action<br>**BC** 2 pole, mom. action<br>**BD** 2 pole, alt. action | **Silver contacts:**<br>**AA** 1-pole, mom. action<br>**AB** 1-pole, alt. action<br>**Gold contacts**<br>**BA** 1-pole, mom. action<br>**BB** 1-pole, alt. action |

| | |
|---|---|
| Electrical Data | page 57 |
| Bezels | page 72 |
| Strip and matrix mounting | page 71 |
| PWB pin locations | page 79 |


Order display options assembled to switch by adding codes below[3]

## K — Plunger Type

| | |
|---|---|
| **K** | Black |
| **W** | White |

## RS — LED*

| | |
|---|---|
| **XX** | No Led[4] |
| **RS** | Red[5] |
| **YS** | Yellow[5] |
| **GS** | Green[5] |

## DR — Lens

| | |
|---|---|
| **XX** | No Lens |

| For LED Display | | For Incandescent or Unlighted Display | |
|---|---|---|---|
| **DR** | Red | **LR** | Red |
| **DY** | Yellow | **LY** | Yellow |
| **DG** | Green | **LG** | Green |
| | | **LW** | White |
| | | **LK** | Black |

## Legend

**20**
With Legend (Leave Blank if no legend needed

Use Legend Order Sheet FO-74024 to cover each catalog listing. (See page 69.)

**CUSTOMER INSTALLATION:**

**LED**
1. Order LED and receptacle, page 73.
2. Installation instructions, page 73/75.

**Incandescent Lamp**
1. Order lamp/PWB receptacle or lamp/solder receptacle, page 74.
2. Installation instructions, page 75.

Order display options assembled to switch by adding codes below

## H — Button Color (One Piece Plunger)

| For LED Display | | For Incandescent or non-light display | |
|---|---|---|---|
| **H** | Red | **R** | Red |
| **L** | Yellow | **Y** | Yellow |
| **N** | Green | **G** | Green |
| | | **Z** | Black |

## RS — LED*

| | |
|---|---|
| **XX** | No LED[4] |
| **RS** | Red[5] |
| **YS** | Yellow[5] |
| **GS** | Green[5] |

## Legend

**XX20**
With Legend (Leave Blank if no legend needed

Use Legend Order Sheet FO-74024 to cover each catalog listing. (See page 69.)

*** Notes:**
1. When an LED is specified in a **rectangular** MML21 listing, MICRO SWITCH will permanently install it in the housing.
2. MICRO SWITCH does **not** permanently install an LED in a **square** MML21 listing. To install an LED in a square housing, order a MML93L or MML93G receptacle and a MML92 LED (see pages 86 and 88).
3. Include four digits (XXXX or XX DR) when a legend is required.
4. For square or rectangular only.
5. For rectangular only.

Manuals

# Electronic Control Rocker Switches

**LED, INCANDESCENT, OR NON-LIGHTED DISPLAY**

PWB Mount

Panel Mount

PWB Mount
(Lighted rocker)

**FEATURES**

- Accepts one or two LEDs or incandescent lamps which are ordered separately
- Printed wiring board mounting or snap-in panel mounting
- Bezels and mounting clips can be furnished installed or ordered separately
- UL recognized, CSA certified

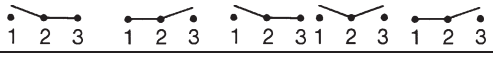
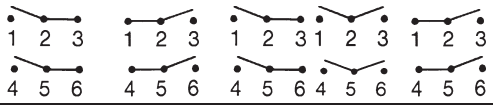
**MML24 ORDER GUIDE** (Catalog listing for switch, less assembled display options)

| MML24K | A | 3 | AA |
|---|---|---|---|
| **Housing Type** | **Mounting** | **Terminals** | **Circuitry** |
| **MML24K**<br>Black housing | **A** No bezel (PWB mounting)<br>**K** Black bezel, mtg. clip/long sides | **3** Printed wiring board<br>**2** Solder | Insert code letters from Circuitry Chart |

| | |
|---|---|
| Electrical Data | page 57 |
| Bezels | page 72 |
| Strip and matrix mounting | page 71 |
| Mounting dimensions | pages 85/86 |
| PWB pin locations | page 85 |

Rockers are permanently installed.

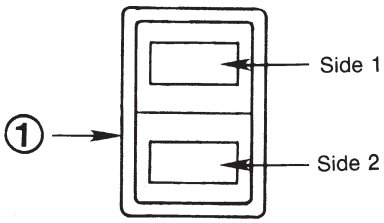
**CIRCUITRY**

| Silver Contacts | Gold Contacts | 2-Position | 3-Position |
|---|---|---|---|
| AA | BA |  | |
| AC | BC |  | |



⚠ The "MICRO SWITCH" identification is shown on this side of the switch housings.

**Example: MML24KA3AA01HDRXX**
Electronic control rocker switch with black housing, printed wiring board terminals; 1 pole, silver contacts; 2-position, maintained action; one circuit ON in each position; black rocker, red lens for LED display in Side 1 and no lens in Side 2.




**OPERATING ACTION**

| | | | | |
|---|---|---|---|---|
| 2-Position | **01** | Maint. | None | Maint. |
| | **02** | Mom. | None | Maint. |
| | **03** | Maint. | None | Mom. |
| 3-Position | **04** | Maint. | Maint. | Maint. |
| | **05** | Mom. | Maint. | Mom. |
| | **07** | Mom. | Maint. | Maint. |

Order display options assembled to switch by adding codes below.

**01**

**Action**
Insert code numbers from Operating Action Chart

**H**

**Rocker**
- **K** Black rocker, non-lighted
- **H** Black rocker, one lens*
- **F** White rocker, one lens*

* Lighted switches with solder terminals require MML93R receptacle to install lamps or LEDs. See page 76.

**DRXX**

**Lens**

| Side 1 | | Side 2 | |
|---|---|---|---|
| **XX** None | | **XX** None | |
| LED display: | Incand. display: | LED display: | Incand. display: |
| **DR** Red | **LR** Red | **DR** Red | **LR** Red |
| **DY** Yellow | **LY** Yellow | **DY** Yellow | **LY** Yellow |
| **DG** Green | **LG** Green | **DG** Green | **LG** Green |
| | **LW** White | | **LW** White |

**Leave blank, if legend not desired**

**Legend**
- **20** With legend

Use legend order sheet FO-74193 to cover each catalog listing (see page 70).

**CUSTOMER INSTALLATION:**

**LED**
1. Order LED and receptacle, page 73.
2. Installation instructions, pages 74/76.

**Incandescent Lamp**
1. Order lamp/PWB receptacle or lamp/solder receptacle, page 75.
2. Installation instructions, page 76.

Manuals

# Power Duty Pushbutton

**NON-LIGHTED DISPLAY**

PWB Mount

Panel Mount

**FEATURES**

- Printed circuit board or snap-in panel mounting
- Bezels and mounting clips, and legended lenses can be furnished installed or ordered separately
- UL recognized, CSA certified.

**Example: MML31KK2AAK**
Power duty pushbutton switch housing (black); bezel (black) and mounting clips; solder terminals; 1 pole, momentary action; black plunger.

**Example: MML31KK2AAKLR**
As above, except furnished with red lens.

**MML31 ORDER GUIDE**

Catalog listing codes for switch, less assembled display options

| MML31K | K | 2 | AA |
|---|---|---|---|
| **Housing Type** (Rectangular) | **Mounting** | **Terminals** | **Circuitry/Action** (Each pole is single-throw, normally open) |
| **MML31K** Black housing, non-lighted | **A** No bezel (PWB mounting)<br>**K** Black bezel, mtg. clip/long sides | **3** Printed wiring board<br>**2** Solder/Quick-connect | **AA** 1 pole, mom. action<br>**AB** 1 pole, alt. action<br>**AC** 2 poles, mom. action<br>**AD** 2 poles, alt. action |

| | |
|---|---|
| Electrical Data | page 57 |
| Bezels | page 72 |
| Strip and matrix mounting | page 71 |
| Mounting dimensions | pages 85/86 |
| PWB pin locations | page 85 |


Order display options assembled to switch by adding codes below

**K**

| Plunger |
|---|
| **K** Black |

**LR**

| Lens | |
|---|---|
| **LR** | Red |
| **LY** | Yellow |
| **LG** | Green |
| **LW** | White |
| **LK** | Black |

**Leave this space blank, if legend not desired**

| Legend | |
|---|---|
| **20** | With Legend |

Use Legend Order Sheet FO-74024 to cover each catalog listing (see page 69).

# Manual Switches
## Indicators/Pushbutton Style

MML41/46 Series

### LED OR INCANDESCENT DISPLAY

PWB Mount

Panel Mount

### FEATURES

- Accepts one LED or incandescent lamp

MML41 indicators resemble a pushbutton switch with the button in the ''down'' position.

### MML41 ORDER GUIDE

Catalog listing codes for indicator, less assembled display options

**MML41K**

| Housing Type (Rectangular) |
|---|
| **MML41K**<br>Black housing |

**A**

| Mounting |
|---|
| A No bezel (PWB mounting only)<br>**K** Black bezel, mtg. clip/long sides |

**3**

| Support Posts/Terminals |
|---|
| **3** PWB* (''A'' mtg. only)<br>**2** Solder<br>**0** None***<br>For panel mount and strip/matrix mount |

**K**

| Plunger |
|---|
| **K** Black |

# Indicators/Flush Mount
## MML46

### LED OR INCANDESCENT DISPLAY

PWB Mount

Panel Mount

PWB Mount

Panel Mount

### FEATURES

- Accepts one or two LEDs or incandescent lamps
- Bezels and mounting clips, LEDs and legended lenses can be furnished installed or ordered separately

### MML46 ORDER GUIDE

Catalog listing codes for indicator, less assembled display options

**MML46K**

| Housing Type | |
|---|---|
| **Rectangular*** (1 or 2 LEDs or incand. lamps) | **Square*** (1 LED or incand. lamp) |
| **MML46K** Black housing | **MML46H** Black housing |

**A**

| Mounting | |
|---|---|
| **Rectangular:**<br>**A** No bezel (PWB mounting only)<br>**K** Black bezel, mtg. clip/long sides | **Square:**<br>**A** No bezel (PWB mounting only)<br>**R** Black bezel, mounting clips |

**3**

| Support Posts |
|---|
| **3** PWB (''A'' mtg. only)<br>**2** Solder**<br>**0** None***<br>For snap-in and strip/matrix mount |

** Rectangular housings only.
*** No LEDs allowed.

*** Notes:**

1. When an LED is specified in a **rectangular** MML46 listing, MICRO SWITCH will permanently install it in the housing.
2. MICRO SWITCH does **not** permanently install an LED in a **square** MML46 listing. To install an LED in a square housing, order a MML93L or MML93G receptacle and a MML92 LED (see pages 74 and 76).

# Manual Switches
## Indicators/Pushbutton Style

**Example: MML41KA3K**
Pushbutton style indicator housing (black); no bezel; support posts; black plunger.

**Example: MML41KA3KRSDR**
As above, except furnished with one red LED and red lens.


| | |
|---|---|
| Electrical Data | page 57 |
| Lenses | page 68 |
| Bezels | page 72 |
| LEDs/Lamps | pages 73/75 |
| Strip and matrix mounting | page 71 |
| Mounting dimensions | pages 80/82/83 |
| PWB pin locations | pages 80/84 |


Order display options assembled to indicator by adding codes below

### RS

| **LED** (Stanley type) |
|---|
| **XX** None |
| **RS** Red |
| **YS** Yellow |
| **GS** Green |

**Example: MML46KA3**
Indicator housing, rectangular (black); no bezel; support terminals.

**Example: MML46KA3RSXXDR20**
As above, except furnished with red LED and red lens, with legend.

### DR

| **Lens** | |
|---|---|
| For LED display: | For incandescent or non-lighted display:* |
| **DR** Red | **LR** Red |
| **DY** Yellow | **LY** Yellow |
| **DG** Green | **LG** Green |
| | **LW** White |
| | **LK** Black |

* When ordering incandescent or non lighted display, LED field must be **XX**.

### Leave this space blank if legend not desired

| **Legend** |
|---|
| **20** With legend |
| Use Legend Order Sheet FO-74024 to cover each catalog listing (see page 69). Note: If legend is not desired, leave this space blank. |

**CUSTOMER INSTALLATION:**

**LED**
1. Order LED and receptacle, page 73.
2. Installation instructions, pages 74/76.

**Incandescent Lamp**
1. Order lamp/PWB receptacle or lamp/solder receptacle, page 75.
2. Installation instructions, page 76.

**LED TERMINATION**
If LEDs are to be permanently installed by MICRO SWITCH, please indicate by either a **2** (solder) or a **3** (PWB) for the Support Posts listing code. With MICRO SWITCH identification to the rear, the longest lead (+) anode will be to the left, closest to the double-pole circuit or support terminals.

Style 2

Style 3

Manuals

Order display options assembled to indicator by adding codes below

### RSXX

| **LED** (Stanley type) | | | |
|---|---|---|---|
| Available in rectangular housings only. | | | |
| **XXXX** No LED | | | |
| One LED*: | | Two LEDs: | |
| **RSXX** | Red | **RSRS** | Red |
| **YSXX** | Yellow | **YSYS** | Yellow |
| **GSXX** | Green | **GSGS** | Green |

Square housings accept only one LED. Only a two-character LED code is necessary. Example: MML46HR0**XX**DY.

### DR

| **Lens** | |
|---|---|
| For LED display: | For incandescent or non-lighted display:* |
| **DR** Red | **LR** Red |
| **DY** Yellow | **LY** Yellow |
| **DG** Green | **LG** Green |
| | **LW** White |
| | **LK** Black |

* When ordering incandescent or non-lighted display, LED field must be **XXXX.**

### Leave this space blank if legend not desired
### 20

| **Legend** |
|---|
| **20** With legend |
| Use Legend Order Sheet FO-74024 to cover each catalog listing. |

# Manual Switches

MML51 Series

## Button Lenses/Incandescent or Non-lighted Display

**MML51 ORDER GUIDE**
For standard plunger MML pushbuttons.

**MML51E** | **20** | **R**

| Lens Type | Display/Legend Type | Color |
|---|---|---|
| **Rectangular Lenses:**<br>**MML51E**<br>Switch lens*<br>**MML51G**<br>Indicator lens<br>**Square Lenses:**<br>**MML51C**<br>Switch lens<br>**MML51D****<br>Indicator lens | **Transmitted Color:**<br>**10** No legend<br>**20** With legend | **R** Red<br>**Y** Yellow<br>**G** Green<br>**W** White<br>**K** Black (Opaque) |

* Use MML51E with MML41 rectangular pushbutton style indicators.
** MML51D for use with MML41 square.

**Example: MML51E20R**
Incandescent or non-lighted display switch lens; red transmitted color, with legend.

**LEGENDING**
Use the MML Legend Order Sheets on pages 81 and 82 to specify legending.

## Button Lenses/LED MML52

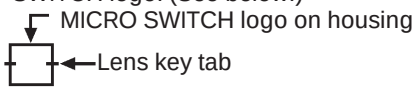
**MML52 ORDER GUIDE**
For standard plunger MML pushbuttons.

**MML52G** | **10** | **Y**

| Lens Type | Display/Legend Type | Color/ Illumination |
|---|---|---|
| **Rectangular Lenses:**<br>**MML52E**<br>Switch lens, LED display<br>**MML52G***<br>Indicator lens<br>LED display<br>**Square Lenses:**<br>**MML52C**<br>Switch lens, LED display<br>**MML52D****<br>Indicator lens, LED display | **Transmitted Color:**<br>**10** No legend<br>**20** With legend | **LED Display:**<br>**R** Red<br>**Y** Yellow<br>**G** Green<br>**C** Clear |

* Use MML52E with MML41 rectangular pushbutton style indicators.
** Use MML52D with MML41 square.

**Square** lenses have tabs on two sides. Before snapping in place, the tabs should be at right angles to the housing side with the MICRO SWITCH logo. (See below.)



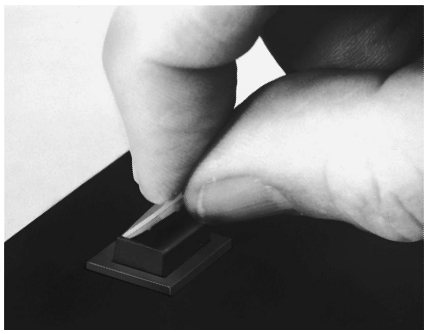

**Example: MML52G10Y**
LED display indicator lens; yellow transmitted color, no legend.

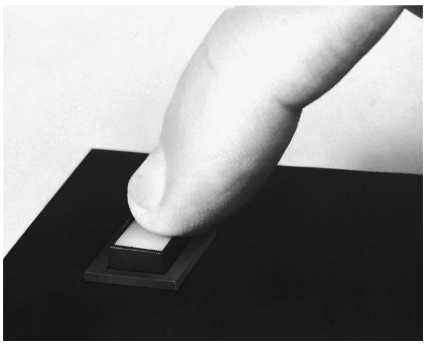
---

**HOW TO INSTALL LENSES**
Keytabs on two sides of the lenses mate with matching button slots.

**Rectangular** lenses have tabs on the long sides. Seat a long side before snapping in place.

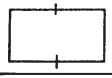
**HOW TO INSTALL LENSES**


1. Seat lens.


2. Snap in place.

# MML Pushbutton/Indicator Lens

## Legend Order Guide/Product Specification (PG____of____)

| Switch & Indicator Lense Type Orientation | | Figure No | Max Lines/Area 5/64 | 7/64 | 9/64 | 13/64 | Max Characters/Line 5/64 | 7/64 | 9/64 | 13/64 |
|---|---|---|---|---|---|---|---|---|---|---|
| | C | 1 | 2 | 1 | 1 | 1 | 3 | 2 | 2 | 1 |
|  | D | 2 | 2 | 1 | 1 | 1 | 4 | 3 | 2 | 2 |
| | E | 3 | 1 | 1 | 1 | 1 | 6 | 4 | 3 | 2 |
|  | G | 4 | 2 | 1 | 1 | 1 | 7 | 4 | 4 | 3 |

**Note**

1. For Proper Legend Orientation, MML housings (when viewed from front of panel) should have "MICRO SWITCH" logo oriented "UP"
2. All legends will be centered within Legend Area.
3. Please use black ink in filling out this form to help us process your order.

**LEGEND ORDER CHART**

| Customer Part No | Fig No | Type Size 5/64 | 7/64 | 9/64 | 13/64 | Ink Color Black | White | Button Qty | Legend Description 1st Line | 2nd Line |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
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| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

FO-74024-B

(Signature) (Date)

| Catalog Listing MML 5 _ | | |
|---|---|---|
| Customer P.O. No. | Customer Dwg. No. | |
| MICRO SWITCH Sales Order | Line Number | Schedule No. |

Customer: _____

Address: _____

(city) (state)

**Instructions**

1. Fill in appropriate catalog listing - one listing/sheet.
2. Check proper figure #. Type size, Type color.
3. Fill in quantity required.
4. Indicate legends desired — Do not exceed maximums shown in Legend Order Guide.

### Hot Stamp Legending

| Modified Gothic lettering (A thru Z). numerals (0 thru 9) and Symbols below available in 5/64, 7/64, 9/64, and 13/64. | A3 Modified Gothic |
|---|---|

STANDARD SYMBOLS AVAILABLE

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| . | , | : | ; | ! | ? | ' | _ | " | / | ( | ) | * | & | |
| $ | ¢ | # | % | ° | + | - | ± | ÷ | x | = | ≠ | > | < | |
| → | ↑ | ↓ | ← | $C_R$ | 1/4 | 1/2 | 3/4 | 1/3 | 2/3 | @ | ∞ | | | |

**SPECIAL LEGENDS**

NOTE: Use this area to show special Legend Locations or Configurations NOT shown above. NON-STANDARD legends will involve additional charges and increased delivery time.

Fig. "A" Fig. "B"

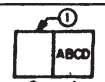
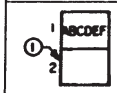




Manuals

Honeywell

# MML ROCKER LEGEND ORDER GUIDE/PRODUCT SPECIFICATION (PG____of____)

| Switch Type & Orientation | | Figure No | Max Lines/Area 5/64 | 7/64 | 9/64 | 13/64 | Max Characters/Line 5/64 | 7/64 | 9/64 | 13/64 |
|---|---|---|---|---|---|---|---|---|---|---|
| MML 24, 34 .4 x .6 Size | | 1 | 2 | 1 | 1 | 1 | 3 | 2 | 2 | 1 |
| | | 2 | 1 | 1 | 1 | 1 | 3 | 3 | 2 | 1 |
| MML 24, 34 .4 x .6 Size Umbrella and MML 34 .6 x .8 Size |   | 3 | 3 | 2 | 2 | 1 | 4 | 3 | 3 | 2 |
| |   | 4 | 2 | 1 | 1 | 1 | 6 | 4 | 4 | 2 |

**Note**

1. For Proper Legend Orientation, MML housings (when viewed from front of panel) should have "MICRO SWITCH" logo oriented to the left. For other Orientation, indicate the Housing Logo Location in Special Legend Area.
2. All legends will be centered within Legend Area.
3. Please use black ink in filling out this form to help us process your order.

| Catalog Listing **MML** | | |
|---|---|---|
| Customer P.O. No. | Customer Dwg. No. | |
| MICRO SWITCH Sales Order | Line Number | Schedule No. |

Customer: _____

Address: _____

_____

(city) (state)

**Instructions**

1. Fill in appropriate catalog listing - one listing/sheet.
2. Check proper figure #. Type size, Type color.
3. Fill in quantity required.
4. Indicate legends desired — Do not exceed maximums shown in Legend Order Guide.

Modified Gothic lettering (A thru Z). numerals (0 thru 9) and Symbols below available in 5/64, 7/64, 9/64, and 13/64.

A3
Modified Gothic

STANDARD SYMBOLS AVAILABLE

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| . | , | : | ; | ! | ? | ' | _ | " | / | ( | ) | * | & |
| $ | ¢ | # | % | ° | + | - | ± | ÷ | x | = | ≠ | > | < |
| → | ↑ | ↓ | ← | $C_R$ | 1/4 | 1/2 | 3/4 | 1/3 | 2/3 | @ | ∞ | | |

**LEGEND ORDER CHART**

| Customer Part No | Fig No | Side No | Type Size 5/64 | 7/64 | 9/64 | 13/64 | Ink Color Black | White | Button Qty | Legend Description 1st Line | 2nd Line |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |

**SPECIAL LEGENDS**

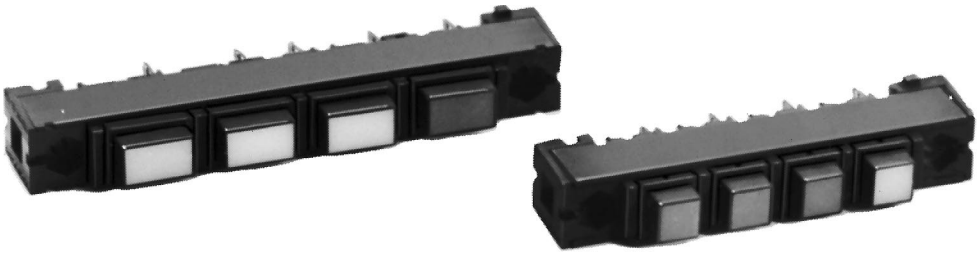
NOTE: Use this area to show special Legend Locations or Configurations NOT shown above. NON-STANDARD legends will involve additional charges and increased delivery time.

Fig. "A" Fig. "B"

FO-74193-B

_____
(Signature)

# Strip Mounting Frames



**MML61 ORDER GUIDE**

**MML61K** **5**

| Orientation/Color |
|---|
| **For Rectangular* Housings:** |
| **MML61K** |
| Horizontal strip, black |
| **MML61G** |
| Vertical strip, black |
| **For Square Housings** |
| **MML61J** |
| Black |

* * .4″ x .6″ housings only.

| No. of Stations | |
|---|---|
| **1** | One |
| **2** | Two |
| **3** | Three |
| **4** | Four |
| **5** | Five |
| **6** | Six |
| **7** | Seven |
| **8** | Eight |
| **9** | Nine |
| **10** | Ten |

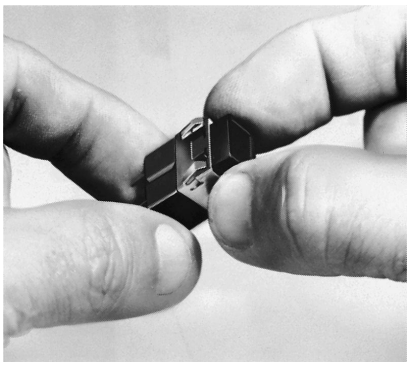
Note: Switches and indicators are ordered as separate items.

**FEATURES**

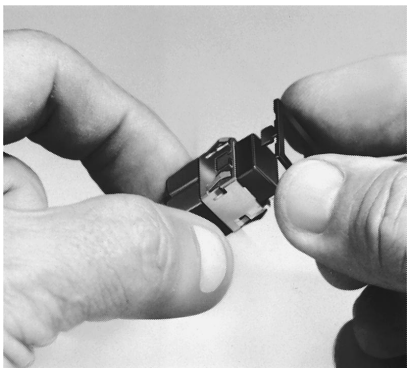
- Provides back of panel or printed wiring board mounting in a multi-unit strip of switches/indicators.
- Devices can be pre-wired prior to installation.
- Holes at each end of frame will accept No. 4 screws.
- Can be used for pushbutton or rocker type switches.

**Example: MML61K5**
Black 5-station strip mounting frame, horizontal orientation.

## Bezels/Mounting Clips



1. Slip mounting clip over top of switch/ indicator housing.



2. Snap bezel onto mounting clip.

Recommended panel thickness for panel mounted units is .050 to .094 in. (1,27 to 2,39 mm).

**MML72EEK**
(Black switch bezel, mounting clips on long sides)

**TO ORDER MOUNTING CLIPS SEPARATELY**

| For Rectangular Housings: | |
|---|---|
| **MML73EA** | (long sides) |
| **MML73EB** | (short sides) |

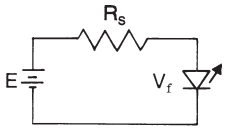
### LED APPLICATION INFORMATION

To insure stable conditions, suitable external control of the LED current must be provided. It is recommended that a minimum of 5 VDC open circuit voltage with an appropriate series resistance be used to drive LED devices. This minimizes current variation and its effect on temperature and forward voltage of the LED.

Maximum drive current is 30 mA. Reverse voltage breakdown of the LED's is 4 volts (min.).

Resistor values can be determined by supply voltage or current for LED:

$$R_S = \frac{E - V_f}{I_f}$$




WHERE: $R_S$ = Series Resistance
E = Supply Voltage
$V_f$ = Forward Voltage of LED
$I_f$ = Circuit Current

### MML92 ORDER GUIDE

LEDs should be the same color as the lenses they illuminate. They are packed 10 per listing, including stand-off spacers for use when solder terminating to a printed wiring board, per procedure 3 on page 74.

| LED Type | Use To Illuminate | Catalog Listing | LED Color | Forward Characteristics Typ. @ 20mA | Max. | LED Manufacturers' Part Numbers |
|---|---|---|---|---|---|---|
| T–1¾ | Rectangular button lens | | | | **Stanley:** | |
| | | MML92ERS | Red | 1.7 V | 2.0 V | ESBR5633 |
| | | MML92EGS | Green | 2.1 V | 2.5 V | ESBG5633 |
| | | MML92EYS | Yellow | 2.1 V | 2.5 V | ESAY5633 |
| | | | | | **Hewlett Packard:** | |
| | | MML92ERH | Red | 2.2 V | 3.0 V | HLMP-3366 |
| | | MML92EGH | Green | 2.3 V | 3.0 V | HLMP-3568 |
| | | MML92EYH | Yellow | 2.2 V | 3.0 V | HLMP-3466 |
| T–1 | Square button lens, MML24 rocker lens rectangular button lens | | | | **Stanley:** | |
| | | MML92HRS | Red | 1.7 V | 2.0 V | ESBR3901 |
| | | MML92HGS | Green | 2.1 V | 2.5 V | ESPY3901 |
| | | MML92HYS | Yellow | 2.2 V | 2.5 V | ESAY3901 |
| | | | | | **Hewlett Packard:** | |
| | | MML92HRH | Red | 2.2 V* | 3.0 V | HLMP-1340 |
| | | MML92HGH | Green | 2.3 V* | 3.0 V | HLMP-1540 |
| | | MML92HYH | Yellow | 2.2 V | 3.0 V | HLMP-1440 |

Long lead: Anode (+). Short lead: Cathode (–).
* @ 25 mA.

### MML93 LED PWB RECEPTACLE ORDER GUIDE

| LED Type | Use to Illuminate | Catalog Listing |
|---|---|---|
| T-1¾ | Rectangular button lens or umbrella button lens | MML93K |
| T-1 | Square button lens or MML24 rocker lens | MML93G |

### MML93 LED SOLDER TERMINAL ORDER GUIDE

| LED Type | Use to Illuminate | Catalog Listing |
|---|---|---|
| T-1 | Square button (base only) | MML93L |
| T-1 | MML24 rocker lens (base only) | MML93R |
| T-1 | Rectangular button (base and terminal) | MML93J |

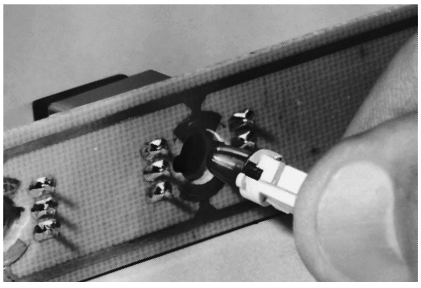
**Factory installed.** Certain MML switches and indicators can be furnished with LEDs **permanently** factory installed, where specified in the order guides.

**User installed.** LEDs can also be ordered separately and installed in these products by the user, per the procedures described below.

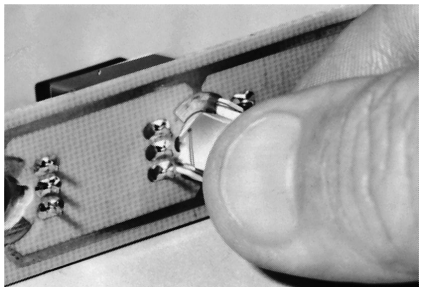
**LED INSTALLATION**

**1. With Printed Wiring Board Receptacle. (MML93K)**
PWB receptacle enables T-1 ¾ or T-1 LEDs to be added or replaced from behind the printed wiring board, without soldering. LEDs and receptacles are ordered separately. See page 75.

Printed wiring boards are not supplied.



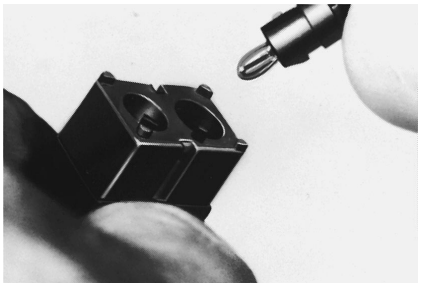
1. Insert the LED/PWB receptacle assembly through a hole in the printed wiring board.



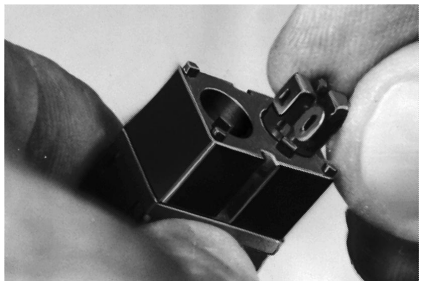
2. A ⅛–turn applied clockwise to the receptacle locks it in the printed wiring board and establishes the electrical connection.

**2. With Solder Terminal Receptacle. (MML93J)**
This receptacle attaches directly to the rear of panel-mounted units. It enables incandescent lamps to be added or replaced without rewiring. LEDs and receptacles are ordered separately.

This receptacle is for use with all rectangular pushbuttons and MML41 or MML46 rectangular indicators only.



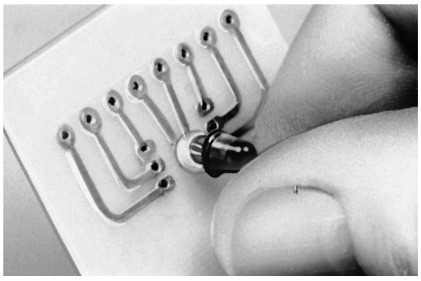
1. Insert solder terminal receptacle into hole in base of panel mount unit.



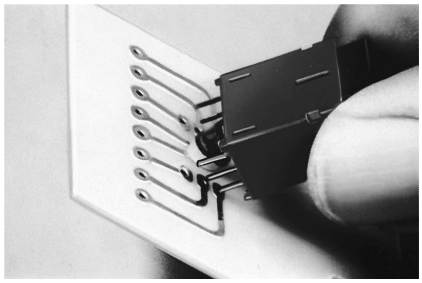
2. A ⅛–turn clockwise applied to the receptacle locks it in the base.

**3. By Soldering To Printed Wiring Board.**
In this procedure, the housing is mounted on the printed wiring board after the T-1 ¾ LED has been seated.

This procedure can be used with any MML having PWB terminals.

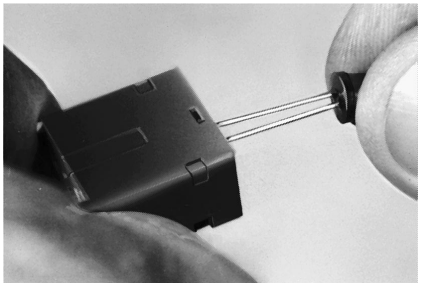


1. Assemble stand-off spacer to LED terminals and seat on printed wiring board.

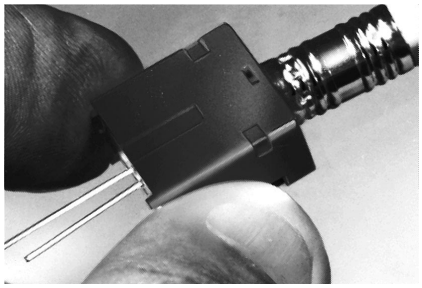


2. Seat housing on printed wiring board, with LED projecting into hole at the base of the housing.

**4. By Soldering to Printed Wiring Board or Leadwire (MML44 indicators only).**
T-1 ¾ LEDs are added to MML44 indicators via a procedure which is unique to this product. The LED is inserted from the top of the housing with the leadwires protruding through the housing base.



1. Assemble LED to MML44 indicator, with the LED terminals protruding through assembly slot in the middle of housing base.



2. Use pencil eraser to snap LED securely in place.

# Incandescent Lamp Assemblies

### MML91 LAMP/PWB RECEPTACLE ORDER GUIDE

| Lamp Type | Use To Illuminate | Voltage | Catalog Listing Incl. Lamp & PWB Receptacle | Industry Lamp No. |
|---|---|---|---|---|
| **T-1** ① (unbased) | **Rectangular** button lens | **5** 28 | MML91C MML91DC | 715 6838 |
| T-1 ② (bi-pin) | Square button lens and MML24 rocker lens | 5 28 | MML91E MML91DE | 7715 7839 |

Notes:
① To order PWB receptacle separately, specify **MML93H.**
② To order PWB receptacle separately, specify **MML93G.**

### MML91 LAMP/SOLDER RECEPTACLE ORDER GUIDE

| Lamp Type | Use To Illuminate | Voltage | Catalog Listing Incl. Lamp & Solder Receptacle | Industry Lamp No. |
|---|---|---|---|---|
| **T–1** ③ (bi-pin) | **Rectangular** button lens | **5** 28 | MML91D MML91DD | 7715 7839 |

| Lamp Type | Use To Illuminate | Voltage | Catalog Listing ④ Solder Receptacle | T-1 (Unbased) Lamp Only | Industry Lamp No. |
|---|---|---|---|---|---|
| **T-1** (unbased) | **Square** button lens | **5** 28 | MML93L MML93L | MML91A MML91DA | 715 6838 |
| T-1 (unbased) | MML24 rocker lens | 5 28 | MML93R MML93R | MML91A MML91DA | 715 6838 |

Notes:
③ To order solder receptacles separately, specify **MML93J.**
④ Order solder receptacles and T-1 lamp listings for complete assembly.

# LED/Incandescent Lamp Receptacles

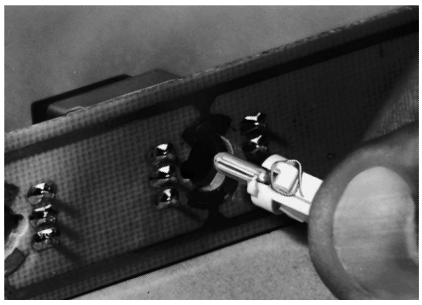
**User installed.** Certain MML switches and indicators will accept incandescent lamps, where specified in the order guides. These lamps are ordered separately and installed by the user, per the procedures described below.

**LAMP INSTALLATION**

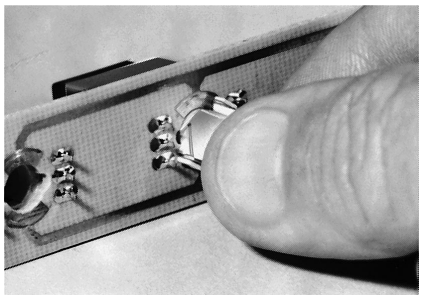
**1. With Printed Wiring Board Receptacle for MML93G and MML93H only.**
Use PWB receptacles to permit lamps to be added or replaced from behind the printed wiring board, without soldering.

These receptacles are for use with rectangular pushbuttons, square pushbuttons and MML24 rocker lens only.

Printed wiring boards are not supplied.



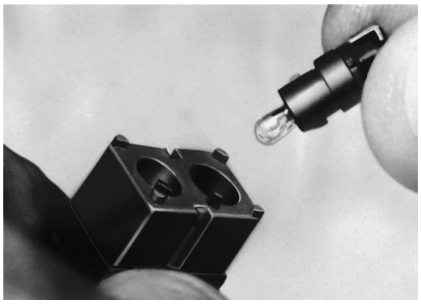
1. Insert the PWB receptacle/ incandescent lamp assembly through a hole in the printed wiring board.



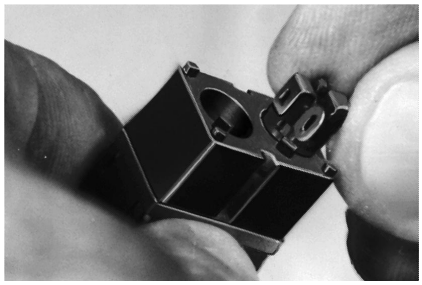
2. A ⅛–turn applied clockwise to the receptacle locks it in the printed wiring board and establishes the electrical connection.

**2. With Solder Terminal Receptacle for MML93J bi-pin only**
This receptacle attaches directly to the rear of panel-mounted units. It enables lamps to be added or replaced without rewiring.

This receptacle is for use with all rectangular pushbuttons and MML41 or MML46 rectangular indicators only.



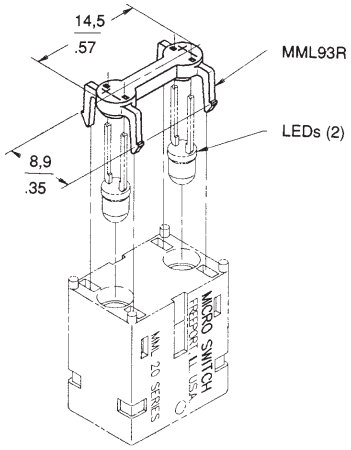
1. Insert solder terminal receptacle into hole in base of panel mount unit.

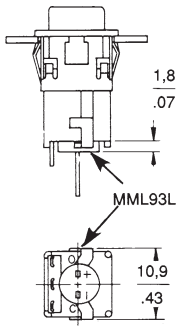


2. A ⅛–turn clockwise applied to the receptacle locks it in the base.

**3. With Solder Terminal Receptacles for MML93L/93R Unbased Only or T-1 LED.**
Use the receptacles shown at right to install T–1 LEDs or T–1 unbased lamps in panel-mounted MML21 square pushbutton switches and MML24 rocker switches.

**Procedure:**
1. Assemble LEDs or lamps to receptacles (leads first).
2. Snap receptacle into slots in housing base.
3. Solder directly to leads.

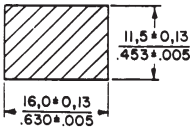


**MOUNTING DIMENSIONS** (For reference only)

**PANEL CUTOUTS FOR PUSHBUTTON SWITCHES AND INDICATORS/RECTANGULAR TYPE**

**INDIVIDUAL SNAP-IN PANEL MOUNT**

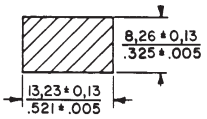



$\frac{1,27 — 2,39}{.050 — .094}$ Panel Thickness

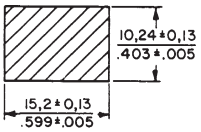
**PANEL PUNCH FOR MML SERIES**

A panel punch is manufactured by Greenlee-Textron Tool Co., Rockford, IL (815-926-3011).

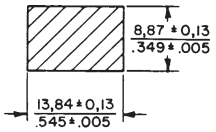
**INDIVIDUAL PRINTED WIRING BOARD (PWB) MOUNT**




Pushbutton Plunger Thru Panel

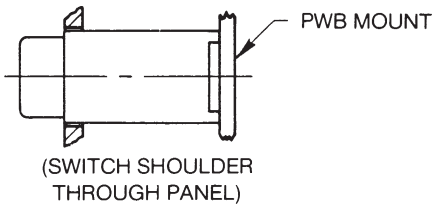



Housing Thru Panel

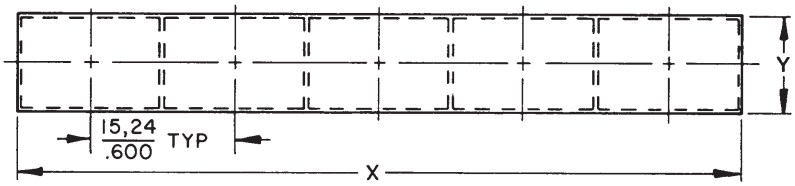



Indicator Lens Thru Panel

**MULTI-UNIT PRINTED WIRING BOARD (PWB) MOUNT**




**Horizontal Mount**




Establish tooling holes on X coordinate and use these holes to establish relationship between PWB and Panel

Terminals $\frac{0,20}{.008} \times \frac{0,76}{.030}$

Recommended hole size in PWB $\frac{1,17}{.046}$

N = Number of switches

$X = N\text{-}1 \times \frac{15,24}{.600} + \frac{15,11}{.595}$

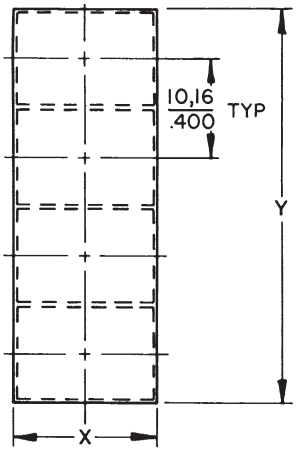
$Y = \frac{10,16}{.400}$

Example: N = 5 Switches

$X = 5\text{-}1 \times \frac{15,24}{.600} + \frac{15,11}{.595}$

$X = \frac{76,07}{2.995}$

**Vertical Mount**




N = Number of Switches

$Y = N \times \frac{10,16}{.400}$

$X = \frac{15,11}{.595}$

Example: N = 4

$Y = 4 \times \frac{10,16}{.400}$

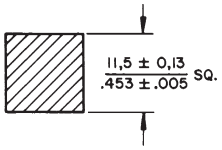
$Y = \frac{40,64}{1,600}$

Manuals

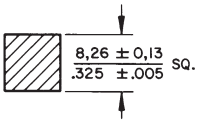
**MOUNTING DIMENSIONS** (For reference only)

**PANEL CUTOUTS FOR PUSHBUTTON SWITCHES AND INDICATORS/SQUARE TYPE**

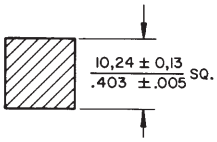
**Individual Snap-in Panel Mount**



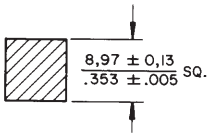

**Individual Printed Wiring Board PWB Mount**




Pushbutton Plunger Thru Panel



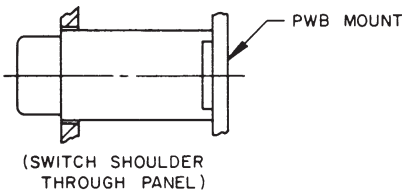

Housing Thru Panel




Indicator Lens Thru Panel

See page 77 for panel punch manufacturer.

**MULTI-UNIT PRINTED WIRING BOARD (PWB) MOUNT**

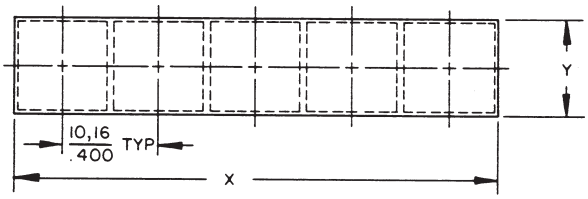



Establish tooling holes on X coordinate and use these holes to establish relationship between PWB and Panel

Terminals $\frac{0,20}{.008}$ x $\frac{0,76}{.030}$

Recommended hole size in PWB $\frac{1,17}{.046}$

**Horizontal Mounting**




Formula:
N = Number of switches

$X = N \times \frac{10,16}{.400}$

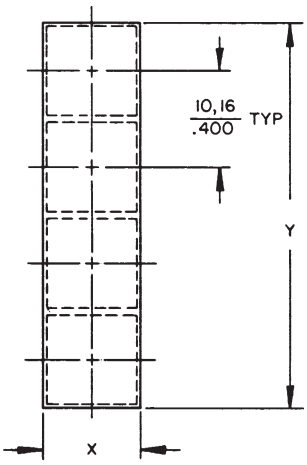
$Y = \frac{10,16}{.400}$

Example: N = 5 Switches

$X = 5 \times \frac{10,16}{.400}$

$X = \frac{50,80}{2.00}$

**Vertical Mounting**




N = Number of Switches

Formula: $Y = N \times \frac{10,16}{.400}$

$X = \frac{10,16}{.400}$

Example: N = 4

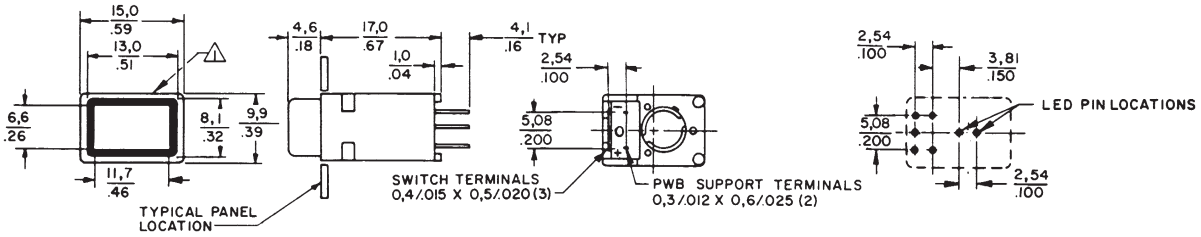
$Y = 4 \times \frac{10,16}{.400}$

$Y = \frac{40,64}{1.600}$

**MOUNTING DIMENSIONS** (For reference only)

**PRINTED WIRING BOARD MOUNT PUSHBUTTON SWITCHES/RECTANGULAR TYPE**

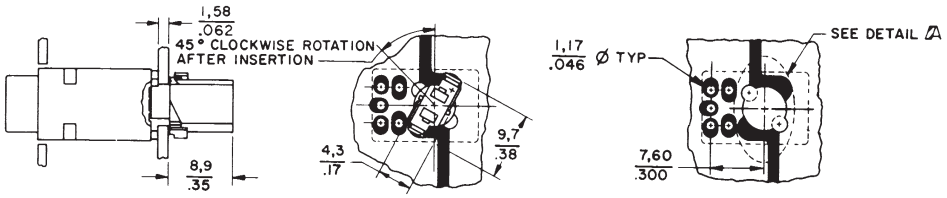
**MML11 Switches**



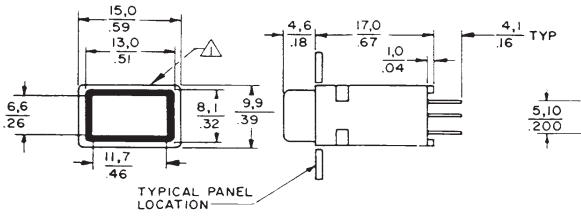

**PWB Pin Locations**

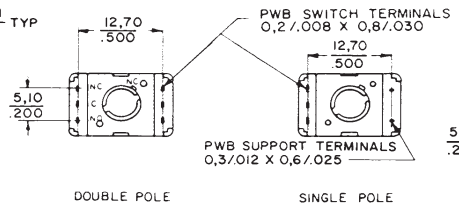



**PWB Receptacle Installed (LED or Incandescent Lamp)**

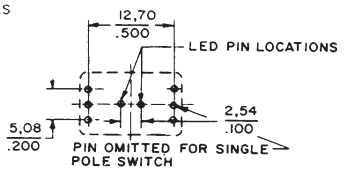



**MML21 Switches**

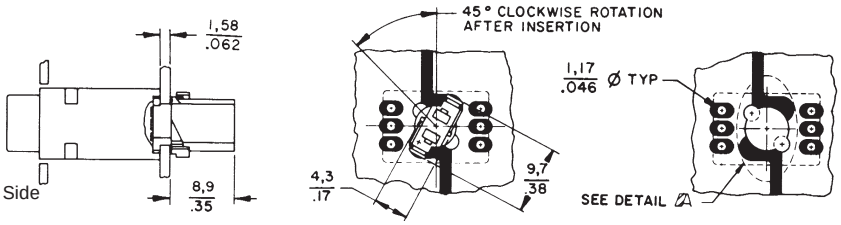



**PWB Pin Locations**

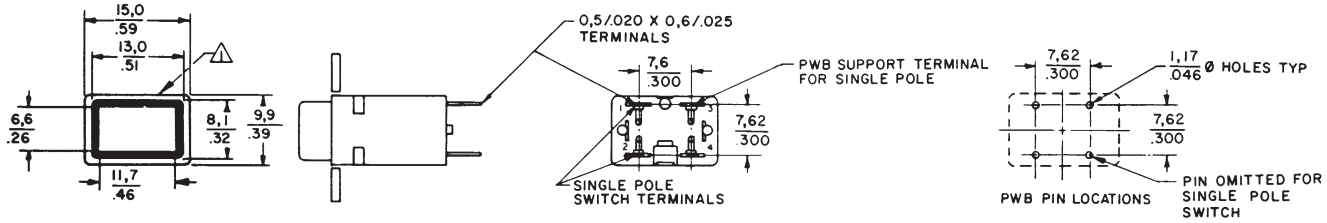



**PWB Receptacle Installed (LED or Incandescent Lamp)**




Notes:
⚠ MICRO SWITCH Identification This Side
2 – Linear measure mm/IN. or mm/IN.

**MML31 Switches**



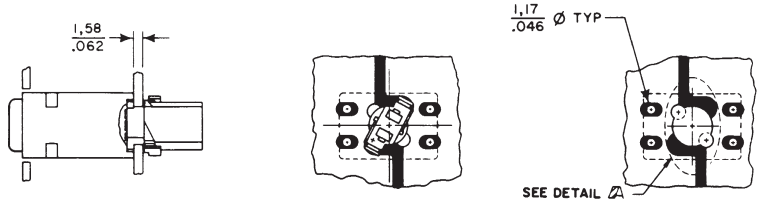

Manuals

**MOUNTING DIMENSIONS** (For reference only)

**PRINTED WIRING BOARD MOUNT INDICATORS/RECTANGULAR TYPE**

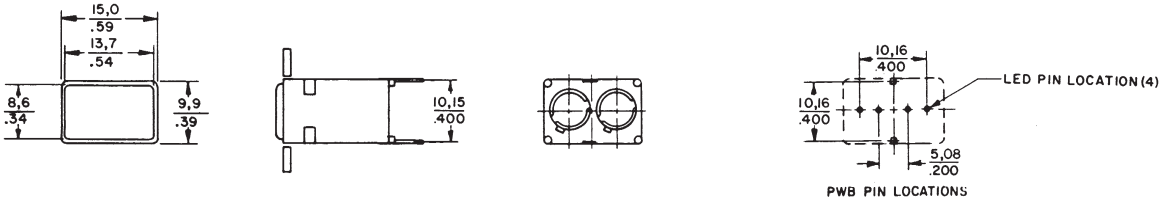
**MML41 Indicators**

**PWB Receptacle Installed (LED or Incandescent Lamp)**

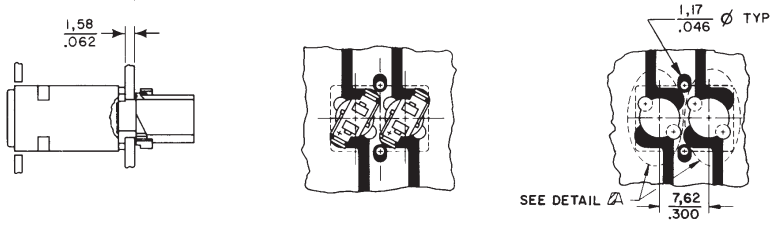



Notes:
⚠ MICRO SWITCH Identification This Side
2 – Linear measure mm/IN. or mm/IN.

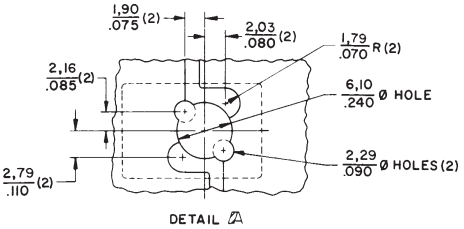
MML46 Indicators




**PWB Receptacle Installed (LED or Incandescent Lamp)**



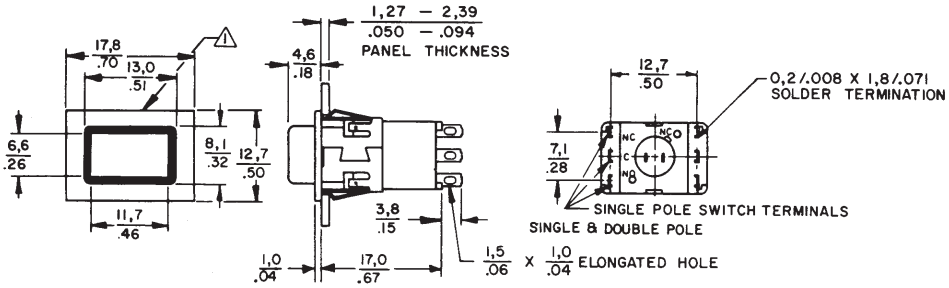

**PWB Pad Location For Receptacle (LED or Incandescent Lamp)**



**MOUNTING DIMENSIONS** (For reference only)

**PANEL MOUNT PUSHBUTTON SWITCHES/RECTANUGLAR TYPE**

**MML21 Switches**




**Solder Receptacle Installed (LED or Incandescent Lamp)**

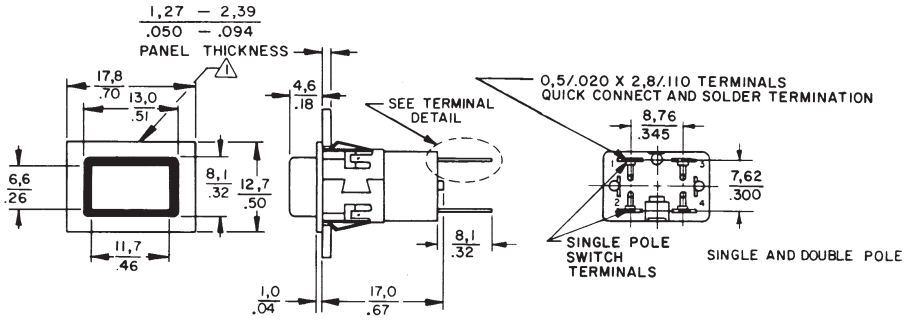
Notes:

⚠1 MICRO SWITCH Identification This Side

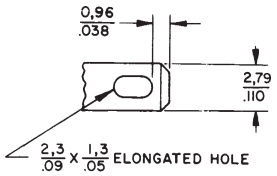
2 – Linear measure mm/IN. or mm/IN.

⚠3 Rotate 45° counter clockwise for removal from switch or indicator

**MML31 Switches**




**Terminal Detail**

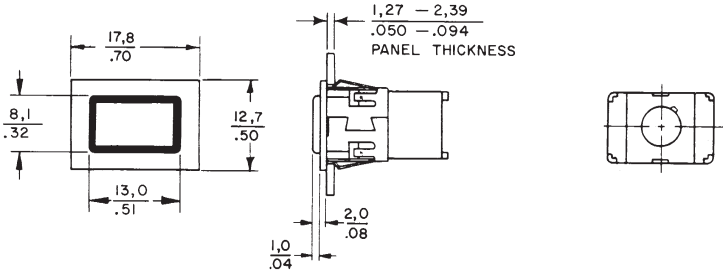



Manuals

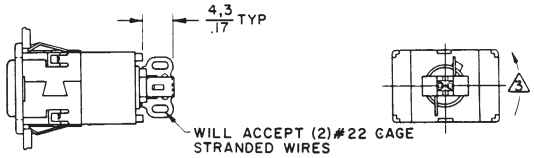
**MOUNTING DIMENSIONS** (For reference only)

**PANEL MOUNT INDICATORS/RECTANGULAR TYPE**

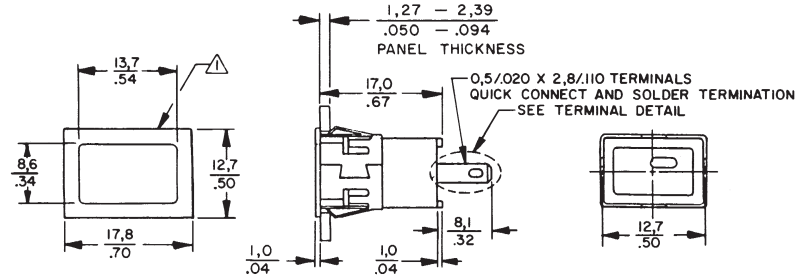
**MML41 Indicators**



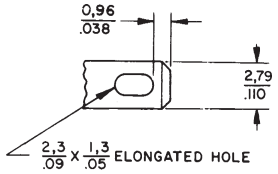

**Solder Receptacle Installed (LED or Incandescent Lamp)**




**MML43 Indicators**

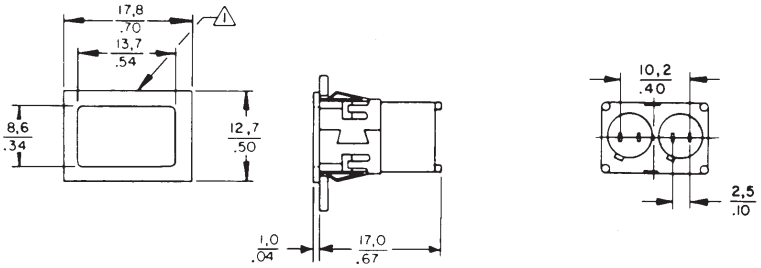



**Terminal Detail**

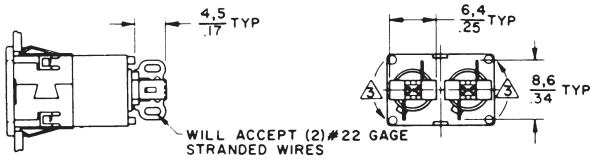



Notes:
⚠ MICRO SWITCH Identification This Side
2 – Linear measure mm/IN. or mm/IN.

**MML46 Indicators**



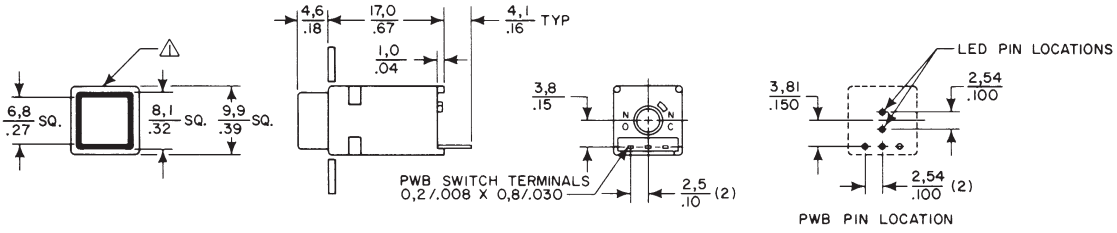

**Solder Receptacle Installed (LED or Incandescent Lamp)**



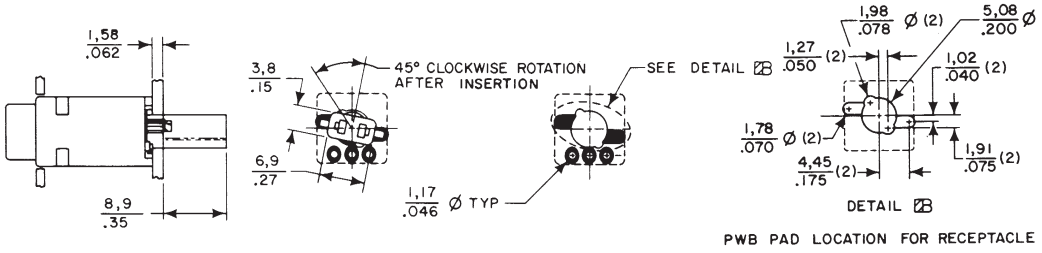
**MOUNTING DIMENSIONS** (For reference only)

**PRINTED WIRING BOARD MOUNT PUSHBUTTON SWITCHES AND INDICATORS/SQUARE TYPE**

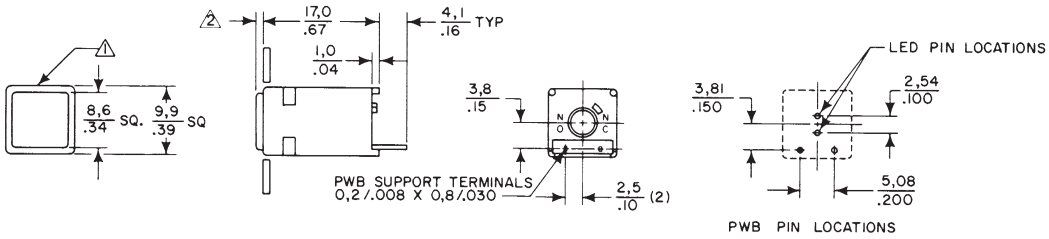
**MML21 Switches**



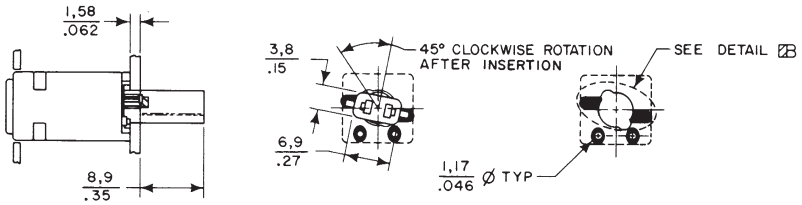

**PWB Receptacle Installed (LED or Incandescent Lamp)**




**MML46 Indicators**



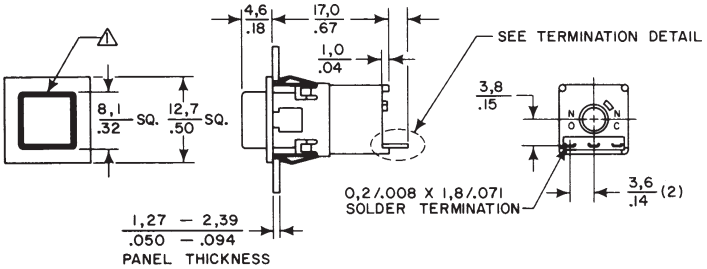

**PWB Receptacle Installed (LED or Incandescent Lamp)**



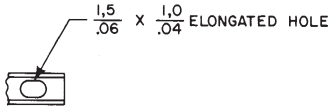

NOTES
⚠ MICRO SWITCH IDENTIFICATION THIS SIDE
⚠ MML41: 2,0/.08
MML46: 1,0/.04
3–LINEAR MEASURE mm/IN OR mm/IN

**PANEL MOUNT PUSHBUTTON SWITCHES/SQUARE TYPE**

**MML21 Switches**




**Termination Detail**



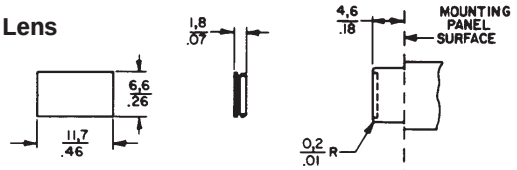

NOTE:
To install LED or lamp, use MML93L receptacle shown on page 76.

Manuals

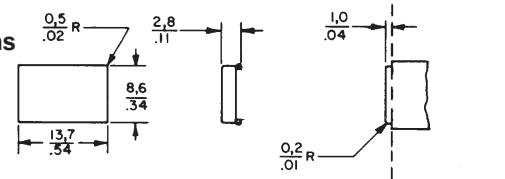
**MOUNTING DIMENSIONS** (For reference only)

**LENSES**

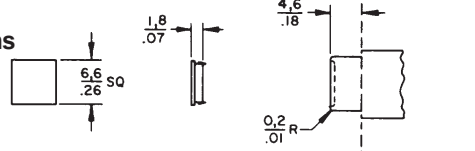
**Rectangular Pushbutton Lens**



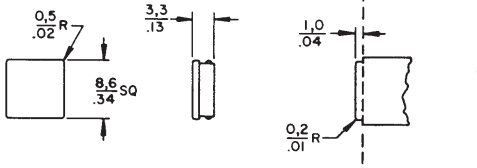

**Rectangular Indicator Lens**




**Square Pushbutton Lens**




**Square Indicator Lens**

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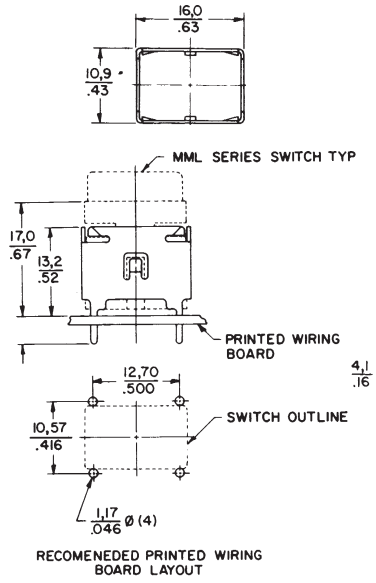
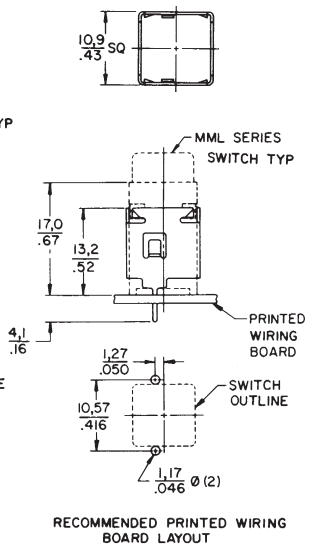
**PWB SUPPORT BRACKETS**

**Rectangular**

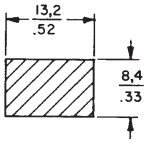



**Square**

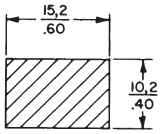


**MOUNTING DIMENSIONS** (For reference only)

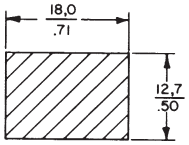
**PANEL CUTOUTS FOR PWB MOUNT PADDLE AND ROCKER SWITCHES**



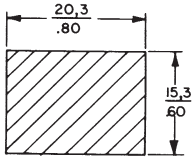

**Actuator Thru Panel**




**Housing Thru Panel**




**2-Pole MML33, 34 Actuator**

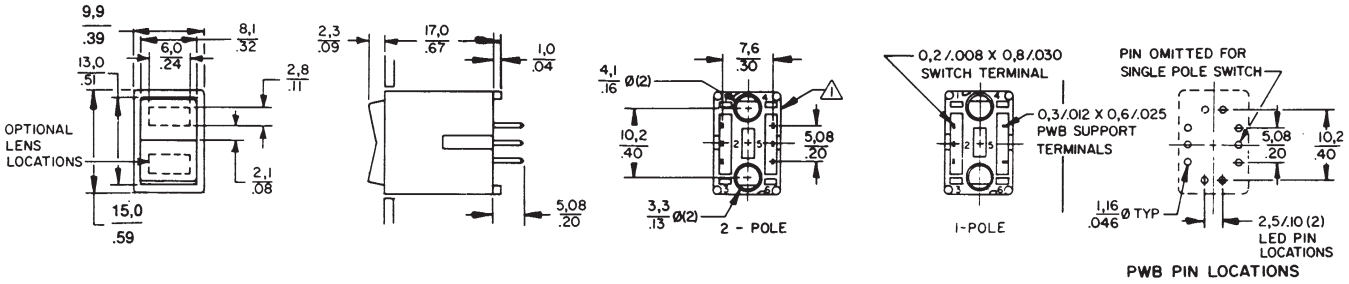



**2-Pole MML33, 34 Thru Panel**

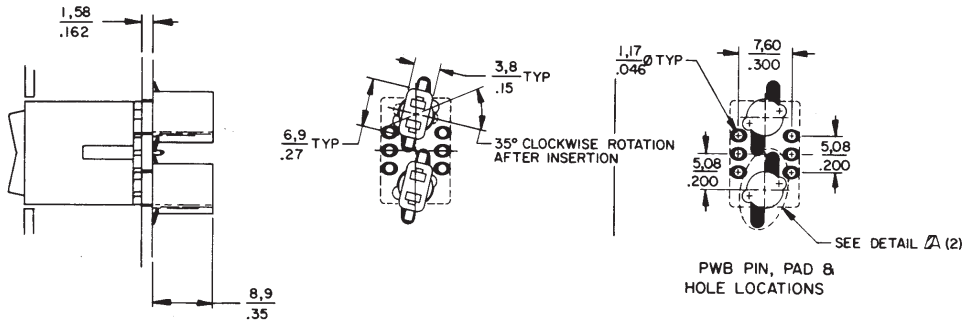
**Housing Thru Panel**

**See page 77 for panel punch manufacturer.**

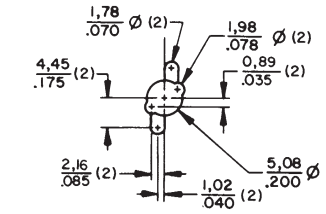
**MML24 Rocker Switches**




**With PWB Receptacle Installed (LED or Incandescent Lamp)**



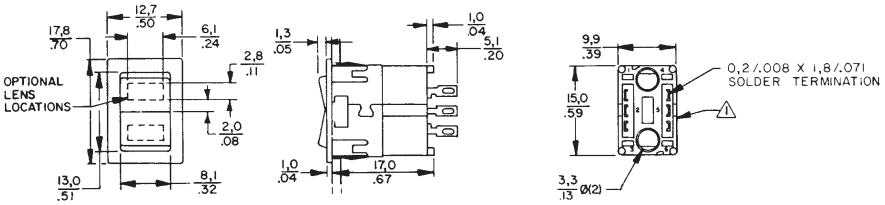

Notes:
⚠ MICRO SWITCH Identification This Side
2 – Linear measure mm/IN. or mm/IN.



**MOUNTING DIMENSIONS** (For reference only)

**PANEL MOUNT ROCKER SWITCHES**

**MML24 Rocker Switches**




Notes:
1 MICRO SWITCH Identification This Side
2 – Linear measure mm/IN. or mm/IN.

NOTE:
To install LED or lamp, use MML93R receptacle shown on page 75.