Honeywell

MICRO SWITCH™ Pushbutton Switches Line Guide



Pushing industry innovation. Honeywell Sensing and Control (S&C) is the global leader in switching products. So you can be sure we offer the most comprehensive line of pushbutton switches — including touch feedback, short travel, panel sealed, watertight, hermetically sealed, and miniature switch series.

Excelling in applications ranging from light industrial to aerospace, these switches are compact, durable, and offer up to four poles — with momentary and alt-action, and with a choice of different colors, shapes and termination options. FAA and PMA approved listings are also offered, as well as listings with military specifications.

FEATURES

MICRO SWITCH™ PUSHBUTTON SWITCHES PB Series.

Features: Compact size • Up to four poles • Sealed versions available • 48 oz max. operating force • Expected 50000 operations of mechanical life

 Hermetically sealed pushbuttons are corrosion resistant per MIL-S-8805 and meets explosion proof requirements of MIL-S-8805

Benefits: Switches are available designed as touch feedback, short travel, panelsealed, hermetically sealed, and miniature sized. Potential applications include manual operations, such as control boards and panels in industrial and test equipment, computer mainframes and peripherals, process control, medical instrumentation, and flight deck controls.

AML Series.

Features: 1-, 2-, or 4-poles • Silver or gold contacts • Full guard bezel option
• Momentary or two-level alternate action (push-on, push-off) • Solid state, electronic, and power-duty control • Snapin surface mount or sub-panel (hidden bezel) mount with mounting hardware
• Lamps can be furnished installed or ordered separately • Lamp circuit independent of switch circuit • Optional diode protection for LEDs • 4.5 Vdc to 24

Vdc LED devices have an internal resistor

to maintain current at nominal 20 mA

Benefits: AML offers a choice of five legend sizes, four button heights, full-or-split section display, and illumination by incandescent lamps, LEDs or neons. Accommodates different functions and promotes operator efficiency. All terminations at the same shallow depth (43,1 mm [1.7 in]) for convenient wiring or PC board termination. Potential applications include manual operations, such as control boards and panels in industrial and test equipment, computer mainframes and peripherals, process control, and medical instrumentation.

MML Series.

Features: 1- or 2-poles • Silver or gold contacts • Printed wiring board (PWB) or panel-mounted switches • Momentary or two-level alternate action (push-on, push-off) • Solid state, electronic, and power-duty control • Snap-in surface mount or sub-panel (hidden bezel) mount with mounting hardware • Multi-unit strip mounting available • Single-level termination • Tactile feedback • Coordinated appearance enhances panel harmony • Illumination by long-life LEDs and incandescent lamps

Benefits: Complements AML pushbuttons and indicators with flexibility and design freedom for miniature manual. Breadth of line offers complete selection of pushbuttons and indicators to accommodate different functions and promote operator efficiency. Potential applications include manual operations, such as control boards and panels in industrial and test equipment, computer mainframes and peripherals, process control, and medical instrumentation.

continued on back page

MICRO SWITCH™ Pushbutton Switches Line Guide

The lineup of the leader.

Line up behind Honeywell S&C quality and performance, found in each pushbutton switch we offer:

Touch feedback: These momentary and alternate action switches offer a compact size and up to four poles.

Short travel: Resembling the touch-feedback design, these switches have a flexible leaf actuator for lower operating force and shorter button travel.

Panel sealed: An elastomer seal is bonded between actuating plunger and button collar — a two-piece design that enables buttons mounting separately. After wiring, the unit snaps into place from behind the panel.

Watertight: Facenut-to-panel, button-to-facenut, and bushing-to-facenut sealing prevents entry of water from the back of panels or over bushing walls. Switch units are potted in corrosion resistant metal enclosures.

Hermetically sealed: These switch units feature metal-to-metal fusion around the cover, actuator base and mounting holes. Terminals are sealed glass-to-metal, while vapor-proof construction enables use in damp locations without condensation on contacts.

Miniature size: These momentary action switches offer steel buttons for use under hinged plates or paddle levers.



Panel area

Colored buttons

Display

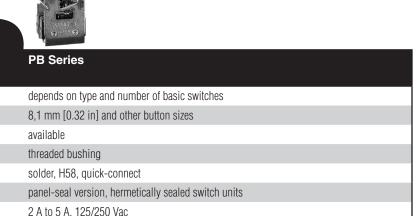
Mounting

Sealing

Termination

Electrical data

Approvals





Lit Pushbutton Switches

	1
1	111

Switches	0.40 0	7 1
	AML Series	MML Series
Panel area	20,5 mm [0.80 in] square, 20,5 mm x 30,5 mm [0.80 in x 1.20 in] rectangular	15 mm x 9,9 mm [0.59 in x 0.39 in] rectangular, 17,8 mm x 12,7 mm [0.70 in x 0.50 in] rectangular, 9,9 mm [0.39 in] square
Display	15,0 mm [0.59 in] square, 15 mm x 25 mm [0.59 in x 0.99 in] buttons	13 mm x 6,6 mm [0.51 in x 0.26 in] rectangular, 6,8 mm [0.27 in] square
Illumination	incandescent T-1-3/4 lamps – 6 V, 14 V, 28 V; leds – 2 V, 4 V, 5 V, 10 V, 15 V neon lamps – 125 V, 250 V	T-1 – 5 V, 28 V incandescent T-1-3/4 leds – 2.0 V, 2.5 V, 3.0 V
Behind panel depth	43,1 mm [1.7 in]	17,0 mm [0.67 in]
Mounting	snap-in individual, strip, matrix, sub-panel, pc board	snap-in individual, strip, sub-panel, pc board, bezel
Termination	solder, quick-connect, pc board, push-on	solder, quick-connect, printed wiring board
Sealing	Optional panel seal	_
Electrical data	solid state: 5 Vdc, 6 Vdc to 16 Vdc, 4.5 Vdc to 24 Vdc; electronic control: up to 3 A, 125 Vac	silver contacts: up to 1 A, 125 Vac; 6 A @ 125 Vac, 250 Vac; 2 A @ 30 Vdc; 1 A @ 125 Vdc; 1/10 hp @ 125 Vac gold contacts: up to 0.25 A, 30 Vdc; UL rating 0.10 A
Approvals	UL, CSA, CDE, and CE (selected products)	UL, CSA

UL, CSA, some meet MIL-S-8805 and MIL-STD-1080D

Warranty. Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. The foregoing is buyer's sole remedy and is in lieu of all warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

For more information about Sensing and Control products, visit www.honeywell. com/sensing or call +1-815-235-6847 Email inquiries to info.sc@honeywell.com

A WARNING PERSONAL INJURY

 DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.

A WARNING MISUSE OF DOCUMENTATION

- The information presented in this catalogue is for reference only. DO NOT USE this document as product installation information.
- Complete installation, operation and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.

Sensing and Control
Automation and Control Solutions
Honeywell
1985 Douglas Drive North
Golden Valley, MN 55422 USA
+1-815-235-6847

www.honeywell.com/sensing

Honeywell

005424-1-EN IL50 GLO
July 2008
Copyright © 2008 Honeywell International Inc. All rights reserved.

Honeywell

MICRO SWITCHTM Rocker Switches Line Guide



Miniature switches. Maximum value. Honeywell Sensing and Control (S&C) offers an unprecedented lineup of full-size, miniature, and subminiature rocker switches. But an impressive product line is only one part. We bring to bear engineering expertise and application knowledge no other company can offer.

That means we deliver switches with a variety of aesthetic and functional options: various circuit configurations, ac and dc ratings, industry-standard dimensions, and snap-in mountings. Additionally, we offer one-or-two-pole switches in numerous single throw and double throw maintained and momentary circuits. That's why we're unparalleled as the gold standard and unquestioned as your best value.

FEATURES

POWER-DUTY ROCKER SWITCHES AML Series.

Features: 2- or- 3-position operating action • Available with one or two lamps or nonlighted displays • Housings have black paddles and bezels • Lighted or non-lighted covers for switch housings • Terminals are 0.110 in by 0.020 in, or 0.025 in by 0.025 in • Silver or gold contacts • Available with or without diode protection for LEDs • Lamp circuit independent of switch circuit • Toggle type rocker operators permanently installed in rectangular housings • Lamps furnished installed or ordered separately

Benefits: AML features innovations designed by industrial designers to achieve the best balance of human factors and aesthetic appearance. Operator height, bezel size, and the compatibility of rectangular shapes blend with other components to harmonize the panel. Potential applications include industrial machinery and equipment, commercial aviation, construction equipment, test instruments, agricultural machinery, process control, and medical instrumentation

TP Series.

Features: 2- or- 3-position operating action • Various button colors • One-, two-, and four-pole circuitry • Flush panel and above panel mounting • Dust and splash-proof sealed • Silver or gold contacts • Wide operation temperature range • UL recognized, CSA certified, CE approved

Benefits: Can be provided with or without buttons. Available as a flush or panel mount. Large selection of rocker colors, circuitries, and electrical terminations. Versions available with silver or gold contacts to meet a variety of electrical load requirements. Potential applications include industrial machinery and equipment, commercial aviation, construction equipment, test instruments, agricultural machinery, process control, and medical instrumentation

continued on back page

MICRO SWITCH™ Rocker Switches Line Guide

Power-duty

Take Action...

...to turn something on or off, sound an alarm, initiate a new procedure or just about anything else you can dream up. Honeywell S&C rocker switches meet the needs of a wide variety of industries — including yours.





Rocker Switches		
Hocker Switches	AML Series	TP Series
Housing type	non-lighted, rectangle 1 lamp circuit, rectangle 2 lamp circuits, rectangle	non-lighted, rectangle
Circuitry	SPST, SPDT, DPST, DPST, 4PDT	SPST, SPDT, DPDT
Action	2 position, 3 position	2 position, 3 position
Mounting	snap-in panel	flush mount; above panel mount
Termination	solder, quick connect, printed circuit, push-on	screw
Contacts	silver, gold	silver, gold
Light (if applicable)	incandescent (no lamp installed); incandescent 6 V, 14 V, 28 V; neon	-
LED/neon color	red, yellow, green	-

Warranty. Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. The foregoing is buyer's sole remedy and is in lieu of all warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

For more information about Sensing and Control products, visit www.honeywell. com/sensing or call +1-815-235-6847 Email inquiries to info.sc@honeywell.com



 DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.

WARNING MISUSE OF DOCUMENTATION

- The information presented in this catalogue is for reference only. DO NOT USE this document as product installation information.
- Complete installation, operation and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.

Sensing and Control Honeywell 1985 Douglas Drive North Golden Valley, MN 55422 USA +1-815-235-6847

www.honeywell.com/sensing

Honeywell

005425-2-EN IL50 GLO
May 2010
Copyright © 2010 Honeywell International Inc. All rights reserved.

Honeywell

MICRO SWITCH™ Toggle Switch Line Guide



Full-Scale Offering. Clean Slate Engineering. Plus equal parts common sense and creativity. Each part in Honeywell Sensing and Control's (S&C) robust offering of toggle switches comes complete with the amenities you'd expect from the industry leader: superior assembly techniques for stronger performance, longer productivity, full-line flexibility and increased safety.

Honeywell S&C delivers optimal operator interface features and value-added qualities for aerospace, air transport, armored fighting vehicles and self-propelled transportation systems, as well as manufacturing companies. For example, only Honeywell drives in a center pendulum for ultimate stabilization. This rubber-bonded steel pin is then sealed to withstand most of the highest and lowest temperature challenges in the wettest and most parched environs.

FEATURES

TOGGLE SWITCHES NT Series.

Features: Completely sealed switching chamber • IP67/IP68 • NEMA 3, 3R, 4, and 13 • Step-design case provides added space between terminals to prevent shorting • 2- and 3-position, maintained and momentary toggle action • Spring-loaded mechanism provides excellent tactile feedback • Features an "easy-start" threaded bushing and thermplastic case • High impact strength, non-tracking case enhances electrical stability

Benefits: Meets a variety of electrical load requirements. Switching chamber is completely sealed in a Thermoset case. Used in a wide variety of industrial and commercial settings. Potential applications include aerial lifts, scissor lifts, truck mounted tele-handlers/cranes, construction equipment, agriculture equipment, material-handling equipment, factory-floor control units, and machine tool equipment manufacturers.

TL Series.

Features: Environment-proof sealing ● Qualified to MIL-DTL-3950 ● 1-,2-, and 4-pole circuitry ● Standard and pull-to-unlock levers ● Silver alloy or gold-plated contacts ● 2- and 3-position, maintained and momentary toggle action ● Temperature range: -65 °C to 71 °C [-85 °F to 160 °F] ● Completely sealed switching chamber ● Step-design case provides added space between terminals to help prevent shorting ● Available with IWTS (Integrated Wire Termination System), a wired, plug-in connection method

Benefits: Meets a variety of electrical load requirements. Switching chamber is completely sealed in a Thermoset case. Used in military or commercial aviation application where a sealed toggle switch is required. Potential applications include industrial machinery and equipment, military and commercial aviation, construction equipment, test instruments, agricultural machinery, process control, and medical instrumentation.

TS Series.

Features: 2- or 3-position, momentary and maintained action ● 1- and 2-pole circuitry ● Special on-on-on circuitry can be furnished ● Solder, screw, or quick-connect terminals ● Rated up to 20 A

Lever-to-bushing seal

Benefits: Generally used in low-cost commercial applications. Not recommended for use where sealing is critical. Potential applications include industrial machinery and equipment, military and commercial aviation, construction equipment, test instruments, agricultural machinery, process control, and medical instrumentation.

TW Series.

Features: Qualified to MIL-S-83731

• IWTS (Integrated Wire Termination
System) • Saves space and weight •
SPDT and DPDT circuitry • Temperature
range: -65 °C to 71 °C [-85 °F to 160 °F]

• Silver alloy or gold-plated contacts •
Sealed bushing versions • Choice of 1/4 in
or 15/32 in bushing • Color tab available
on 15/32 in bushing

continued on back page

MICRO SWITCH™ Toggle Switches Line Guide

Toggle

Toggle

The most powerful part: Possibilities.

Honeywell S&C offers one-stop convenience for every toggle switch need:

NT Series: Cost-effective, industrial-grade design meets NEMA and IP requirements. Features an "easy-start" threading bushing, plus optional panel stand off with O-ring seal, eliminating additional behind-the-panel hardware and seal.

TL Series: Military-grade design, environmentally sealed and qualified to MIL-S-3950. Featuring a large selection of circuitries, lever designs and electrical terminations, with silver or gold contacts.

TS Series: Used for manual operation, with special on-on-on circuitry available. TS series switches have 2- or 3-position, momentary and maintained action switches with 1- and 2-pole circuitry.

TW Series: Miniature military-grade design and environmentally sealed switches. A large selection of circuitries, electrical terminations, levers and bushing designs, with silver or gold contacts.





Switches		
	NT Series	TL Series
Туре	industrial-grade toggle	military-grade toggle
Action	2- or 3-position momentary and maintained action	2- or 3-position momentary and maintained action
Levers	standard, locking, special design, tab	standard, special design, tab, paddle, no lever
Mounting	bushing 15/32 in	bushing 15/32 in
Termination	solder, screw, quick-connect	IWTS, solder, screw, quick-connect, leadwire
Approvals	UL, CSA, CE	UL, CSA, CE, qualified to MIL-S-3950
Circuitry	SPST, SPDT, DPST, DPDT 4PST, 4PDT	SPST, SPDT, DPST, DPDT 3PST, 3PDT, 4PST, 4PDT
Contacts	silver alloy	silver alloy, gold-plated





Switches	-06	T. F.
	TS Series	TW Series
Туре	commercial grade toggle	miniature toggle
Action	2- or 3-position momentary and maintained action	2- or 3-position momentary and maintained action
Levers	standard	standard, locking, special design, tab
Mounting	bushing 15/32 in	bushing 15/32 in or 1/4 in
Termination	solder, screw, quick-connect	IWTS, solder, screw, quick-connect, H58, T2
Approvals	UL, CSA, CE	UL, qualified to MIL-S-83781
Circuitry	SPST, SPDT, DPST, DPDT	SPST, SPDT, DPST, DPDT
Contacts	silver cadmium oxide	silver alloy, gold-plated

Benefits: Low profile switches and generally used where space behind the panel is limited. Used in control panel or equipment operation applications where a panel-mount switch with an environment-proof sealing rating is needed.

Potential applications include industrial machinery and equipment, military and commercial aviation, construction equipment, test instruments, agricultural machinery, process control, and medical instrumentation.

Warranty. Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. The foregoing is buyer's sole remedy and is in lieu of all warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

For more information about Sensing and Control products, visit www.honeywell. com/sensing or call +1-815-235-6847 Email inquiries to info.sc@honeywell.com

WARNING PERSONAL INJURY

 DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.

WARNING MISUSE OF DOCUMENTATION

- The information presented in this catalogue is for reference only. DO NOT USE this document as product installation information.
- Complete installation, operation and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.

Sensing and Control
Automation and Control Solutions
Honeywell
1985 Douglas Drive North
Golden Valley, MN 55422 USA
+1-815-235-6847

www.honeywell.com/sensing

Honeywell

005423-1-EN IL50 GLO
June 2008
Copyright © 2008 Honeywell International Inc. All rights reserved.